Hello,

This is David Kelly.

I'm Chief Strategist here at J.P. Morgan Asset Management and I head the team that produces the Guide to the Markets. Welcome to the Economic and Market Update for the third quarter of 2023.

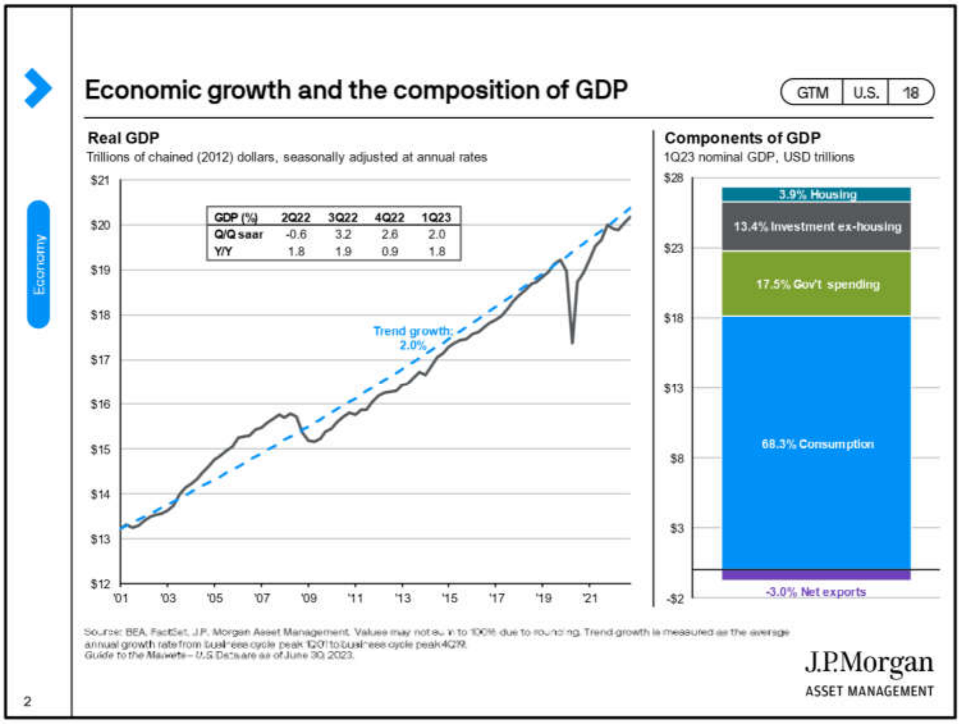
The U.S. economy proved more resilient than many anticipated in the first half of 2023. Stronger-than-expected economic data and resilient corporate earnings have also supported markets and pushed expectations for a U.S. recession out to 2024. However, despite a rosier start to the year, the outlook for the economy going forward is still for slow growth, as the tightening in credit conditions will likely pose a greater headwind to economic activity in the quarters ahead. The consumer has held up remarkably so far, but the resumption of student loan payments and the depletion of savings may lead to more conservative consumer spending ahead.

Meanwhile, the Fed has maintained a hawkish tone. At its May meeting, the Fed kept rates unchanged at 5.00-5.25% for the first time during this tightening cycle, but forward guidance suggested the potential for additional rate hikes this year. Regardless, the Fed does seem to be near the end of tightening, and the growing drags on the U.S. economy should soon convince them to stay on the sidelines and potentially ease monetary policy next year by more than they are currently expecting.

Even considering the twists and turns of this year, many sectors of the markets have posted solid gains year-to-date and volatility has been relatively benign. However, considering last year's large market corrections, valuations are still at very attractive levels compared to history. The questions, for investors, are when to take advantage of these better valuations and which areas to overweight or underweight in a very complicated macro environment.

The Guide to the Markets is constructed to try to address these questions. However, it is important to do this concisely. There are over 60 pages in the Guide, but that is far too many for any conversation about the markets.

So, what we do here is boil it down to just 10 slides. In particular, we assess the performance of this past year for the markets and economy, considering trends in growth, jobs, inflation, profits, the rest of the world, and the U.S. dollar. This is followed by comments on the outlook for monetary policy. Finally, we consider the implications of all of this for those investing across asset classes and highlight the importance of taking a balanced view to asset allocation.



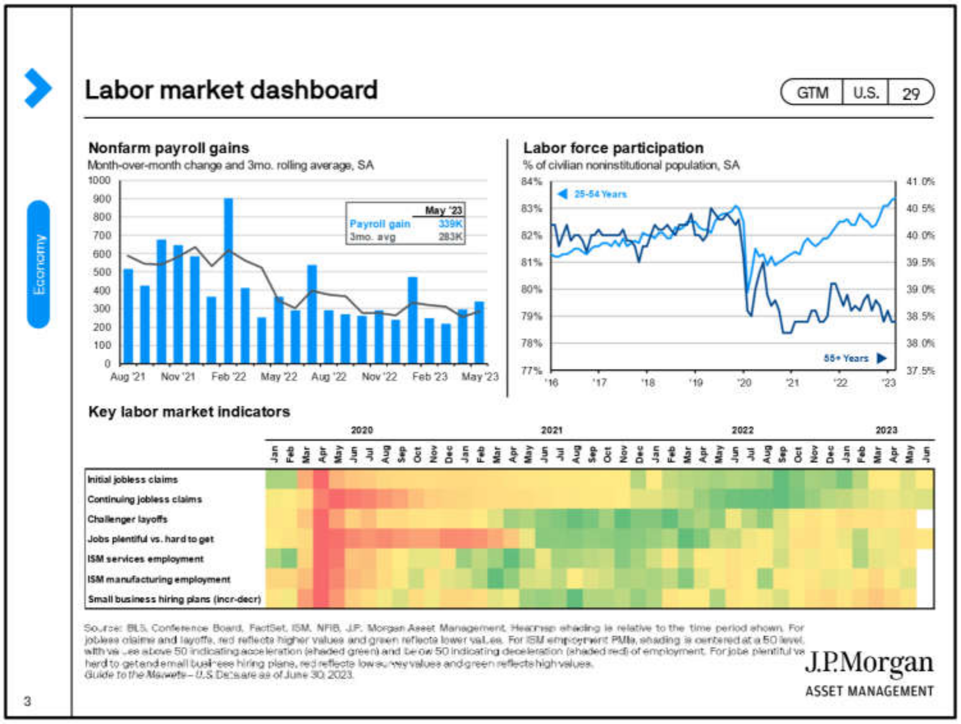
The U.S. economy remained resilient in the second quarter of 2023 and this has widened the runway for a potential soft-landing. However, a quick look across each sector of the economy tells us that economic momentum is still slowing.

Business spending appears to be one of the most “at risk” areas of the economy. Recent layoffs in the tech sector could weigh on R&D spending while increased caution among lenders and slowing corporate profits could constrain capital expenditures. Additionally, elevated vacancies in the office and retail sectors should weigh on construction spending, but this could be partially offset by rising demand in warehousing and data centers.

Consumers are still feeling the lagged effects of less fiscal stimulus and higher inflation, depleting their savings balances and taking on more debt to maintain their current lifestyles. The personal savings rate has fallen to 4.2% this year, well below its long-term average of 8.9%, suggesting saving will need to increase over the next few years. This, along with the forthcoming resumption of student loan payments, should weigh on consumer spending in the coming months.

The housing market appears to be stabilizing, albeit at low levels, as tight housing supply and steadying mortgage rates are signaling that the worst is behind us. Trade should be a mild drag on the economy due to the lagged impact of a strong dollar. However, the global economy has been gaining steam and the trade-weighted dollar has now fallen by 10% from its peak, which should limit the damage of deteriorating trade moving forward.

Overall, the U.S. economy should continue to grow at a tempered pace from here, and while a recession is not guaranteed, a slower-moving economy will be increasingly sensitive to shocks. There remain risks on the horizon, most notably weakness in commercial real estate, that could push this slow moving economy into a recession within the next year.

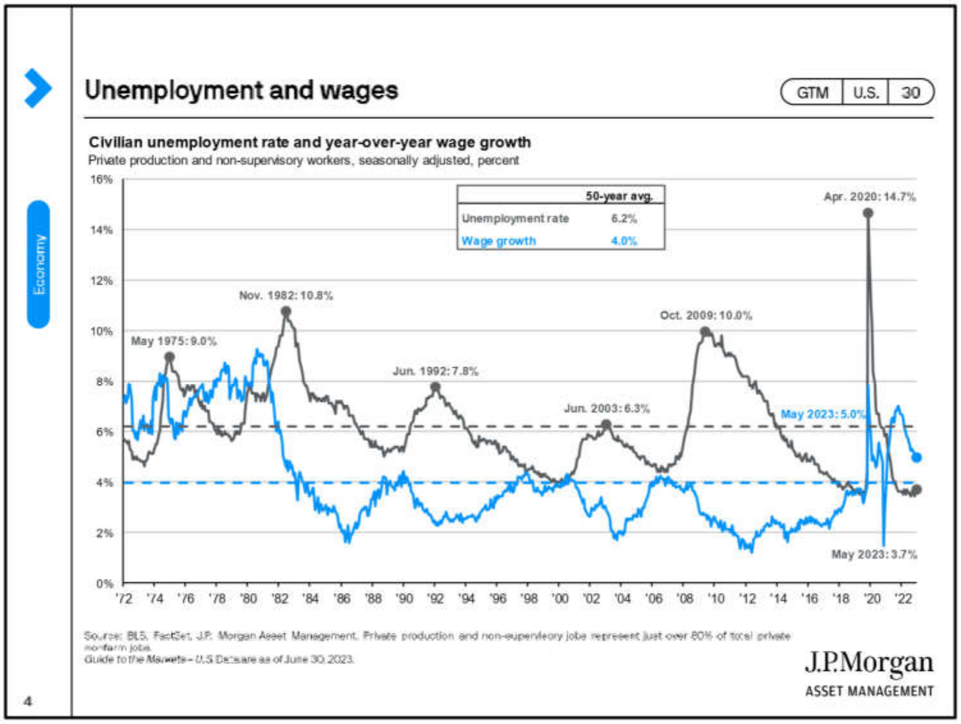


The labor market has been a bright spot throughout this economic expansion, but cracks are beginning to emerge.

Recent employment reports have shown the economy continues to add jobs at a robust pace, but the trend of job gains has been slowing over the past year. Improved labor force participation has so far supported job growth, with the participation rate for adults aged 25 to 54 having fully recovered to pre-pandemic levels. However, while the short-term impacts of the pandemic have now abated, aging demographics continue to place a structural limit on labor supply growth. The participation rate for adults aged 55 and over has remained depressed, reflecting an aging baby-boomer population that has permanently left the workforce. Even with higher wages and low unemployment, the labor force participation rate may be at its peak.

Other labor market data also suggest a trend of normalization, as shown by the wave of yellow on the heatmap. In particular, weekly initial claims for unemployment have been trending higher to average 240 thousand in the second quarter, compared to an annual average of 214 thousand in 2022. While this modest increase is still indicative of a healthy labor market, claims may begin picking up more rapidly if layoff announcements become more widespread. Employees are also losing some confidence in their job prospects, as shown by recent declines in the Conference Board survey measure that asks individuals if jobs are plentiful versus hard to get. Business surveys are showing similar trends, with the PMI measures of services and manufacturing employment and small business hiring plans moderating in recent months.

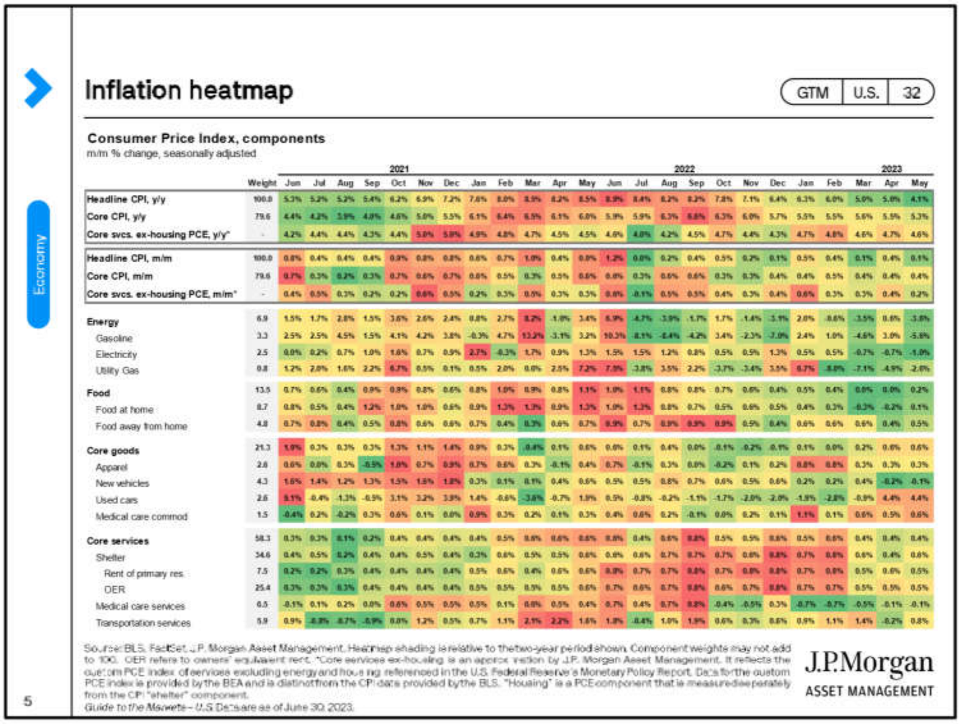
Tying this all together, cooling demand for labor suggests that job growth should decelerate in the coming months. Indeed, it may even turn negative, which would signal the economy is likely entering into a recession.



A tight labor market has allowed the unemployment rate to hover around its 50-year lows despite cooling demand, averaging at 3.5% this year after an uptick to 3.7% in May. Importantly, cooling labor market conditions has contributed to a moderation in wages, which only grew by 0.3% month-over-month in May for all private workers. Year-over-year wage growth has now come down to 4.3% from a peak of 5.9% in March of 2022.

There is also a limit to how much the unemployment rate could rise going forward, as U.S. businesses still face a structurally smaller labor force than prior decades. Diminished legal immigration, particularly over the course of the pandemic, and baby-boomers reaching retirement age have left the economy short of workers.

As businesses reel back hiring efforts in the face of slower demand and higher costs, we may see unemployment rise further by the end of the year, but only modestly. However, wage growth should continue to decelerate and help give the Federal Reserve confidence that inflation is sustainably coming down.

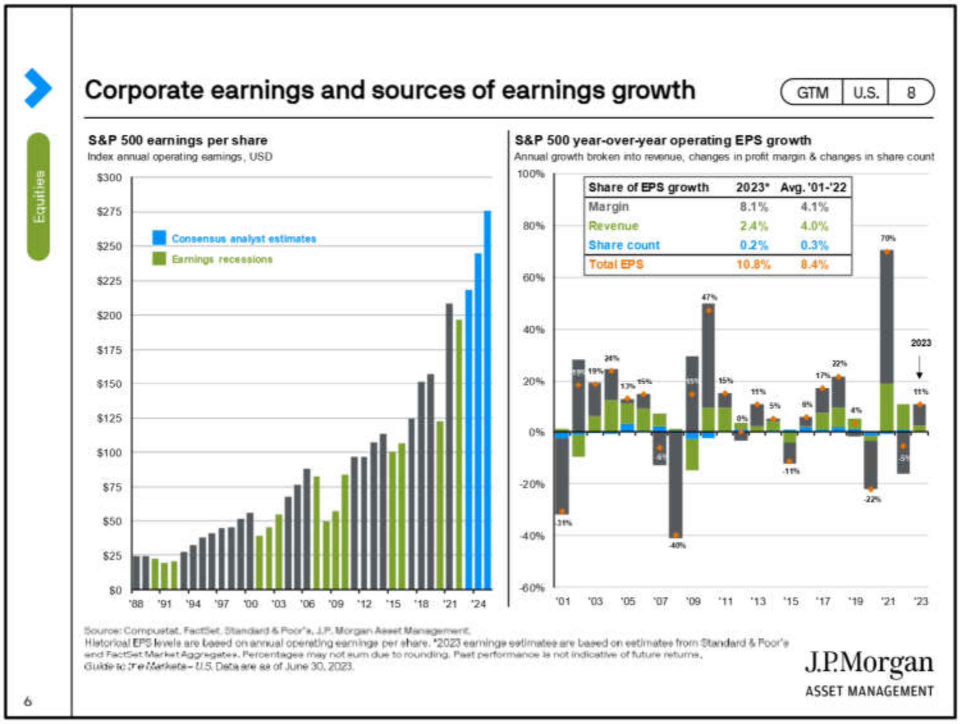


Inflation is now steadily declining after hot inflation squeezed consumer wallets for the better part of the last two years and contributed to a swift rise in interest rates. Headline CPI inflation has come down from its peak of 8.9% year-over-year last June to 4.1% in May. As we show on page 32, a modest monthly pace of core inflation has been sustained for the better part of the last 7 months.

Importantly, the major hotspots of inflation from the last two years have now turned and are contributing to disinflation in many of the key components of inflation. After Russia's invasion of Ukraine sent global commodity prices soaring early in 2022, energy prices have been declining since the second half of last year. Improved supply chains and lower consumer demand have also allowed inflation to ease across core goods categories. Shelter inflation has been the stickiest part of core inflation but is now starting to ease. Since it reflects market conditions with a significant lag, it should continue to decline over the next year to reflect the stall in price increases for new transactions in the rental market.

The remaining problem for inflation, therefore, is core services prices outside of housing, a measure Chairman Powell has frequently quoted when referencing inflationary pressures. This measure remains elevated. However, it seems to reflect the lagged effect of the same supply chain issues that impacted core goods prices, as transportation services account for the bulk of remaining inflation. Fortunately, improved supply chains and easing labor market tightness should allow this measure of inflation to come down, particularly in 2024.

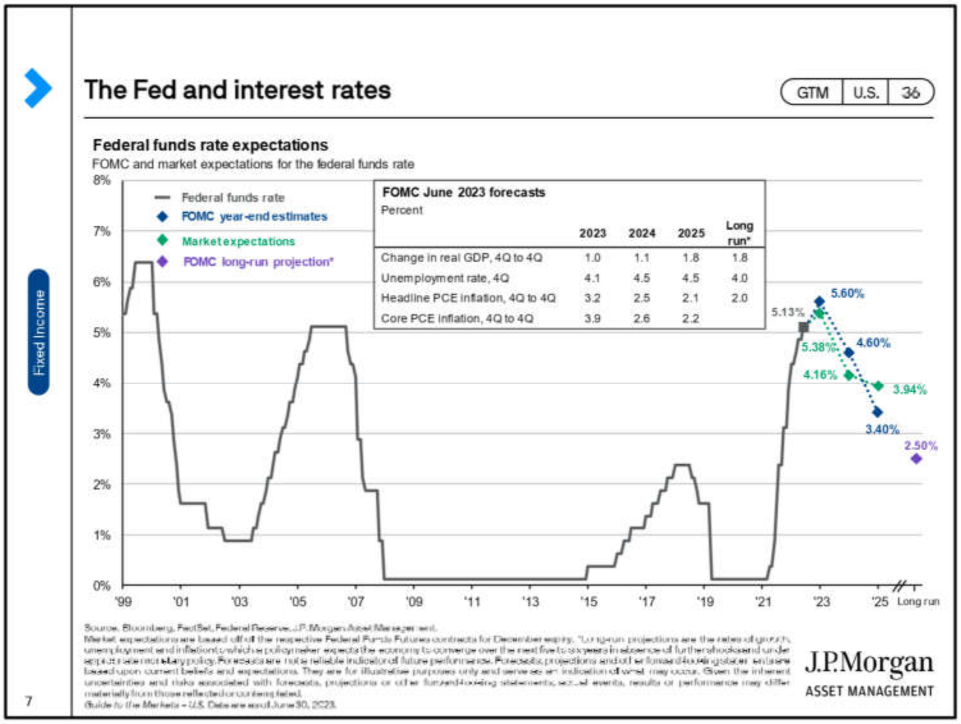
While inflation may not be falling as fast as the Fed would like, it is gradually falling to much more manageable levels. We expect CPI inflation will decline to 3.5% year-over-year by the end of this year and towards 2-3% by the end of 2024, even without a U.S. recession.



Despite economic headwinds, equity markets have had a solid 2023 so far, supported by a better-than-expected first quarter earnings season and expectations for a forthcoming end to Fed tightening. S&P 500 operating earnings per share rose 6.4% from a year earlier and 4.3% from the fourth quarter. Profit margins also rose to 11.7%, indicating that companies have had success in defending margins. That said, risks to earnings remain to the downside. With heightened risk of recession in the coming year, profit estimates should come under further pressure.

Current commentary also suggests that firms plan on reining in investment, although cuts will not be evenly distributed. Investment in equipment tends to see the largest pullback in investment as the economy slows, suggesting we may see cuts within the manufacturing and mining sectors. However, investment in technology, specifically artificial intelligence, should continue to rise as companies seek to optimize processes for long-term cost savings.

At the current juncture, it is difficult to be overly bullish in equities. While performance this year has been better, it has been entirely driven by valuation expansion on the back of lower interest rate expectations, with the top 10 companies in the S&P 500 accounting for 13.8 percentage points of the 14.9% price return year-to-date. Expectations for policy easing may also be too optimistic. As expectations adjust, multiples could come under further pressure. This, along with slowing growth weighing on earnings expectations, creates a challenging backdrop for equities ahead. Given this, we prefer a defensive stance in equities with a focus on quality and cash flow generation.

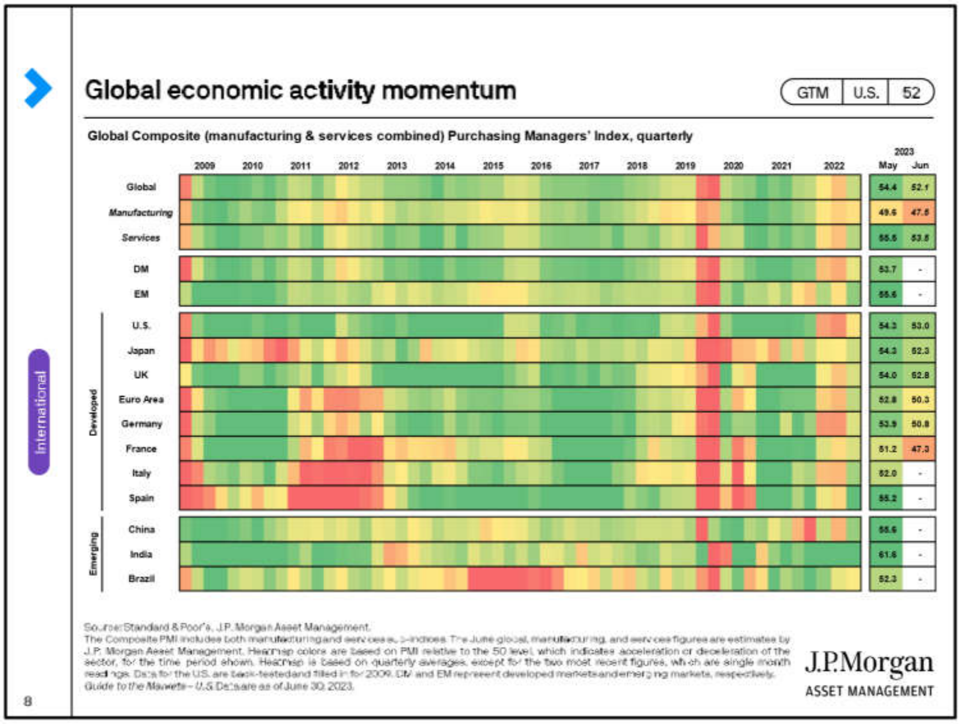


Since the beginning of 2022, the Federal Reserve has hiked rates by a cumulative 500 basis points in an attempt to combat persistent and high inflation. At their June meeting, the Fed voted to leave the federal funds rate unchanged at a target rate of 5.00% - 5.25% for the first time since tightening began. While this move was widely telegraphed, forward guidance was decidedly hawkish.

The Fed's updated "dot plot" suggested that the "pause" in June may just be a "skip". The median FOMC member now expects a year-end federal funds rate of 5.6%, implying two more rate hikes this year with no cuts until 2024. The committee also increased their forecast for rates in 2024 and 2025, reflecting the committee's concern that elevated inflation may warrant highly restrictive monetary policy for longer.

This more hawkish outlook also stems from the Fed's expectations of a more resilient U.S. economy. Compared to the March Summary of Economic Projections, the median expectation for real GDP and core PCE inflation increased materially, while the median forecast for the unemployment rate fell to 4.1% from 4.5%. The committee does acknowledge inflation is trending in the right direction, but emphasized that they need further evidence that inflation is under control before calling an end to tightening.

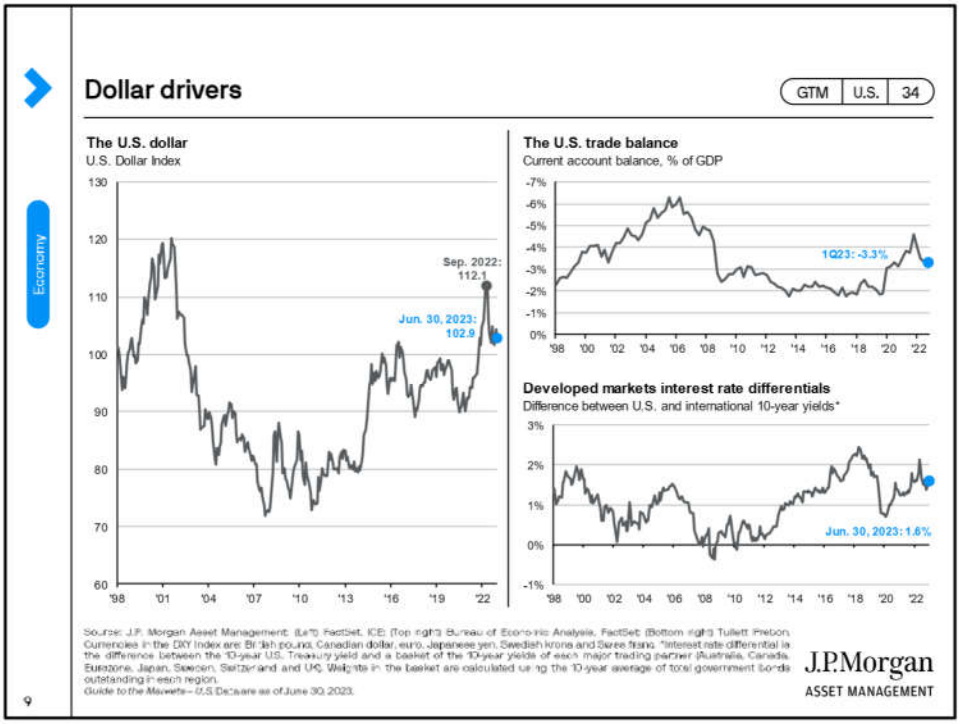
In light of the Fed's continued hawkishness, market expectations have become more in-line with Fed guidance. Following the May FOMC meeting, futures markets were pricing in three cuts and a year-end rate near 4.25%, whereas now, there are no more cuts priced in for this year and year-end rate expectations have risen above 5%.



At the end of last year, the global economy was losing steam with only 27% of the countries we show on slide 52 registering a manufacturing PMI above 50 in the fourth quarter of 2022, which is the level associated with accelerating economic momentum. At the time, energy troubles left Europe at heightened risk of recession and zero-Covid policies were dragging on activity in China.

In 2023, however, the global economy has gained speed. Now all of the countries shown on this page have a manufacturing PMI above 50 while the global services PMI is at an 18-month high. Fortunately, the two risks in Europe and China have turned in the other direction. In Europe, energy prices fell after a mild winter allowed natural gas inventories to improve and fiscal stimulus is further supporting Eurozone economies. In China, the lifting of Zero-COVID policies has allowed for a rebound in consumption after three years of sheltered activities. Travel and leisure spending have bounced back strongly, but a rebound in other services and goods spending remains dependent on a recovery in private business and consumer confidence, which has so far been tepid.

Still, China’s recovery will act as a strong tailwind for its trading partners and tourist destinations across Europe and Asia. As such, divergent paths of growth across the global economy are beginning to emerge with the U.S. slowing while Europe, China and broader Asia accelerate.

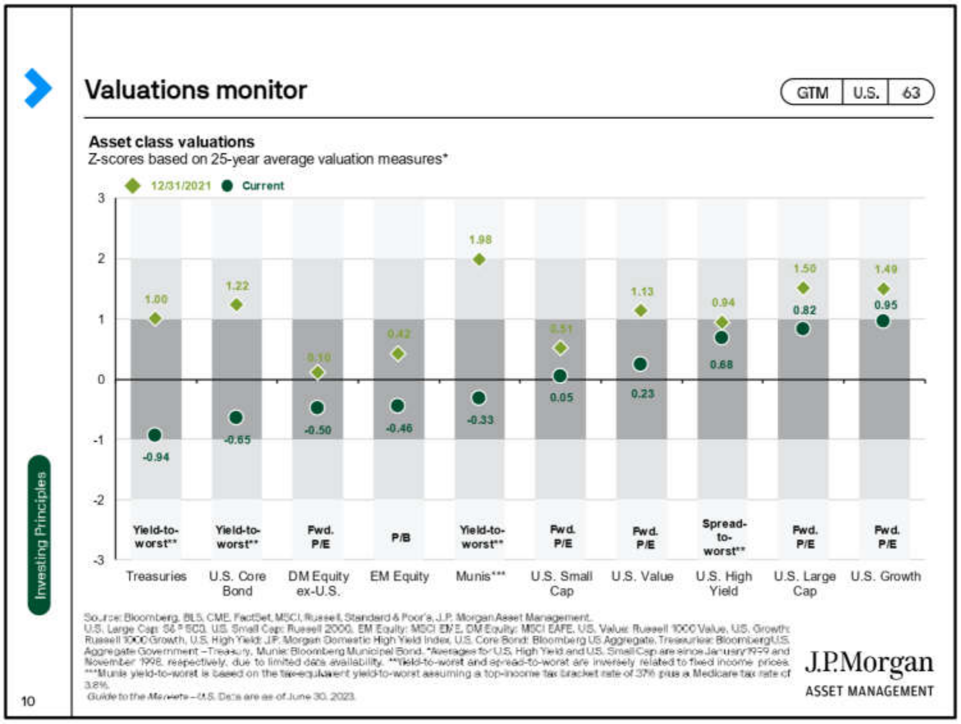


The trade-weighted dollar has weakened by roughly 10% since it reached a 20-year high last September. Although the dollar stabilized during the second quarter, economic forces point to further declines ahead.

Specifically, narrowing interest rate differentials and widening growth rate differentials should continue to weigh on the dollar. After the Fed's aggressive tightening campaign caused interest rate differentials to widen in 2022, the Fed pause in June and continued global tightening efforts have led to a narrowing in differentials.

Additionally, better-than-expected growth in China and Europe and slowing growth in the U.S. suggest further downward pressure on the dollar as global growth outpaces the U.S. Moreover, long-term fundamentals still pose headwinds. While the dollar has fallen from its peak, it is still trading near 20-year highs and remains expensive versus fair value. Moreover, the U.S. trade deficit now amounts to 3.2% of GDP. This partly reflects the negative impact of the dollar on the competitiveness of U.S. manufacturing and should help push the dollar down going forward, as U.S. demand for overseas goods, services and assets increases the demand for other currencies.

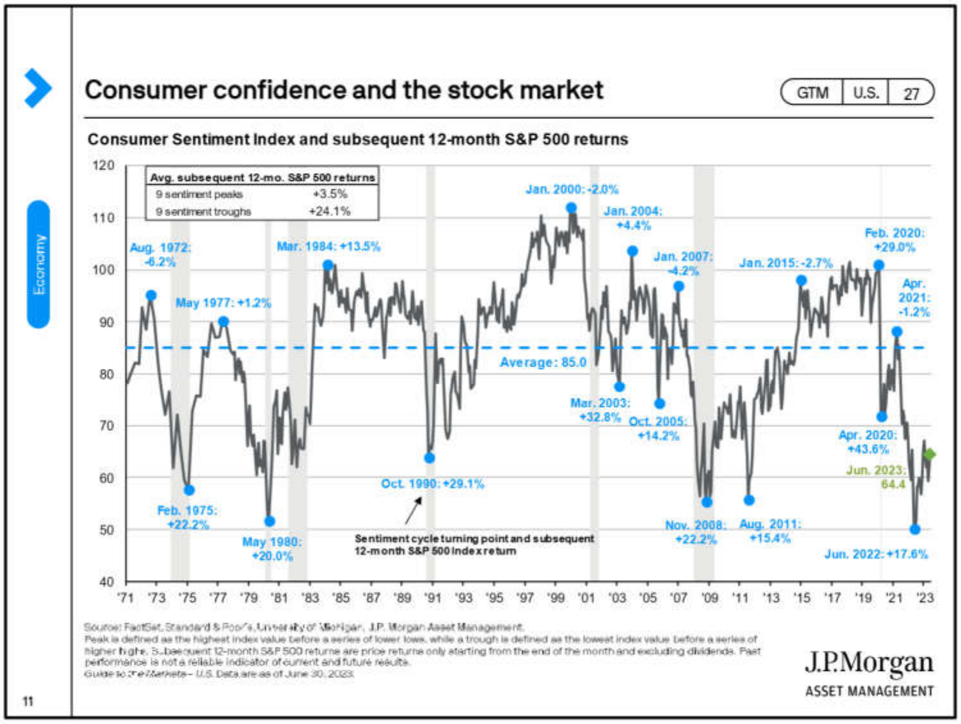
Over the long run, we expect economic forces to gradually drive the dollar down. In the near term, narrowing growth and interest rate differentials should prevent any sustained periods of appreciation. However, the dollar remains a safe-haven asset and could still see bouts of strong performance during periods of uncertainty.



In the wake of last year's broad market sell-off, lower valuations presented investors with a new slate of opportunities across asset classes. While markets have recovered from their lows, current valuations still look more attractive compared to lofty levels at the end of 2021.

On Page 63, we show 10 of the major asset classes and styles and their valuations, expressed as z-scores versus their respective 25-year history. This allows us to illustrate how normal or abnormal current valuations are. As you can see, asset classes across the board are much cheaper today compared to the end of 2021, but by varying degrees. Fixed income continues to look attractive as U.S. Treasuries, core bonds and municipal bonds remain below their average valuation levels. International equities continue to trade at a historic discount while some areas of the U.S. market, specifically large cap and growth, still look expensive after strong performances in the second quarter.

When positioning portfolios for the remainder of 2023 and beyond, it is important to assess both the remaining risks on the horizon as well as the menu of opportunities presented in the aftermath of last year's market corrections. Within equities, investors may want to lean into international markets and focus on finding the attractively valued companies within the U.S. style spectrum. Moreover, the current opportunity presented in fixed income could pass rather quickly once the Fed begins lowering rates, and investors would be well served to take advantage of current yields.



Consumer sentiment has since staged a modest recovery since hitting a new trough in June of last year. However, banking sector turmoil, fears of a U.S. default and the growing weight of the Fed's aggressive tightening campaign kept consumer sentiment depressed in the second quarter. Looking ahead, increased risk of recession and weakening in the labor market could keep consumer sentiment depressed this year.

When investors feel gloomy and worried about the outlook, their natural tendency is to sell risk assets in general and stocks in particular. However, history suggests that trying to time markets in this way is a mistake. Page 27 of the Guide shows the University of Michigan index of Consumer Sentiment stretching back over the past 50 years with nine distinct peaks and troughs noted. We also show how much the S&P 500 went up or down in the 12 months following the peaks or troughs. On average, buying at a confidence peak yielded a return of 3.5% while buying at a trough returned 25.0%.

This is not to argue that U.S. stocks will return anything like a 25.0% return in the year ahead. Many other factors will determine that outcome. However, it does suggest that in planning for the remainder of 2023 and beyond, investors should focus on what they own and valuations rather than when to buy and sell and how they feel about the world.

J.P. Morgan Asset Management – Index definitions

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

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

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

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

Definitions:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

J.P.Morgan
ASSET MANAGEMENT

J.P. Morgan Asset Management – Risks & disclosures

The Market Insights program provides comprehensive data and commentary on global markets without reference to products. Designed as a tool to help clients understand the markets and support investment decision-making, the program explores the implications of current economic data and changing market conditions.

For the purposes of MiFID II, the JPM Market Insights and Portfolio Insights programs are marketing communications and are not in scope for any MiFID II / MiFIR requirements specifically related to investment research. Furthermore, the J.P. Morgan Asset Management Market Insights and Portfolio Insights programs, as non-independent research, have not been prepared in accordance with legal requirements designed to promote the independence of investment research, nor are they subject to any prohibition on dealing ahead of the dissemination of investment research.

This document is a general communication being provided for informational purposes only. It is educational in nature and not designed to be taken as advice or a recommendation for any specific investment product, strategy, plan feature or other purpose in any jurisdiction, nor is it a commitment from J.P. Morgan Asset Management or any of its subsidiaries to participate in any of the transactions mentioned herein. Any examples used are generic, hypothetical and for illustration purposes only. This material does not contain sufficient information to support an investment decision and it should not be relied upon by you in evaluating the merits of investing in any securities or products. In addition, users should make an independent assessment of the legal, regulatory, tax, credit, and accounting implications and determine, together with their own financial professional, if any investment mentioned herein is believed to be appropriate to their personal goals. Investors should ensure that they obtain all available relevant information before making any investment. Any forecasts, figures, opinions or investment techniques and strategies set out are for information purposes only, based on certain assumptions and current market conditions and are subject to change without prior notice. All information presented herein is considered to be accurate at the time of production, but no warranty of accuracy is given and no liability in respect of any error or omission is accepted. It should be noted that investment involves risks, the value of investments and the income from them may fluctuate in accordance with market conditions and taxation agreements and investors may not get back the full amount invested. Both past performance and yields are not reliable indicators of current and future results.

J.P. Morgan Asset Management is the brand for the asset management business of JPMorgan Chase & Co. and its affiliates worldwide.

To the extent permitted by applicable law, we may record telephone calls and monitor electronic communications to comply with our legal and regulatory obligations and internal policies. Personal data will be collected, stored and processed by J.P. Morgan Asset Management in accordance with our privacy policies at https://am.jpmorgan.com/global/privacy.

This communication is issued by the following entities:

In the United States, by J.P. Morgan Investment Management Inc. or J.P. Morgan Alternative Asset Management, Inc., both regulated by the Securities and Exchange Commission; in Latin America, for intended recipients' use only, by local J.P. Morgan entities, as the case may be. In Canada, for institutional clients' use only, by JPMorgan Asset Management (Canada) Inc., which is a registered Portfolio Manager and Exempt Market Dealer in all Canadian provinces and territories except the Yukon and is also registered as an Investment Fund Manager in British Columbia, Ontario, Quebec and Newfoundland and Labrador. In the United Kingdom, by JPMorgan Asset Management (UK) Limited, which is authorized and regulated by the Financial Conduct Authority; in other European jurisdictions, by JPMorgan Asset Management (Europe) S.à r.l. In Asia Pacific ("APAC"), by the following issuing entities and in the respective jurisdictions in which they are primarily regulated: JPMorgan Asset Management (Asia Pacific) Limited, or JPMorgan Funds (Asia) Limited, or JPMorgan Asset Management Real Assets (Asia) Limited, each of which is regulated by the Securities and Futures Commission of Hong Kong; JPMorgan Asset Management (Singapore) Limited (Co. Reg. No. 197601586K), this advertisement or publication has not been reviewed by the Monetary Authority of Singapore; JPMorgan Asset Management (Taiwan) Limited; JPMorgan Asset Management (Japan) Limited, which is a member of the Investment Trusts Association, Japan, the Japan Investment Advisers Association, Type II Financial Instruments Firms Association and the Japan Securities Dealers Association and is regulated by the Financial Services Agency (registration number "Kanto Local Finance Bureau (Financial Instruments Firm) No. 330"); in Australia, to wholesale clients only as defined in section 761A and 761G of the Corporations Act 2001 (Commonwealth), by JPMorgan Asset Management (Australia) Limited (ABN 55143832080) (AFSL 376919). For all other markets in APAC, to intended recipients only.

For U.S. only: If you are a person with a disability and need additional support in viewing the material, please call us at 1-800-343-1113 for assistance.

Prepared by: David P. Kelly, Jordan K. Jackson, David M. Lebovitz, 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 June 30, 2023 or most recently available.

Guide to the Markets – U.S.

JP-LITTLEBOOK | 0903c02a81c3897b

J.P.Morgan
ASSET MANAGEMENT

Market Insights

Guide to the Markets®

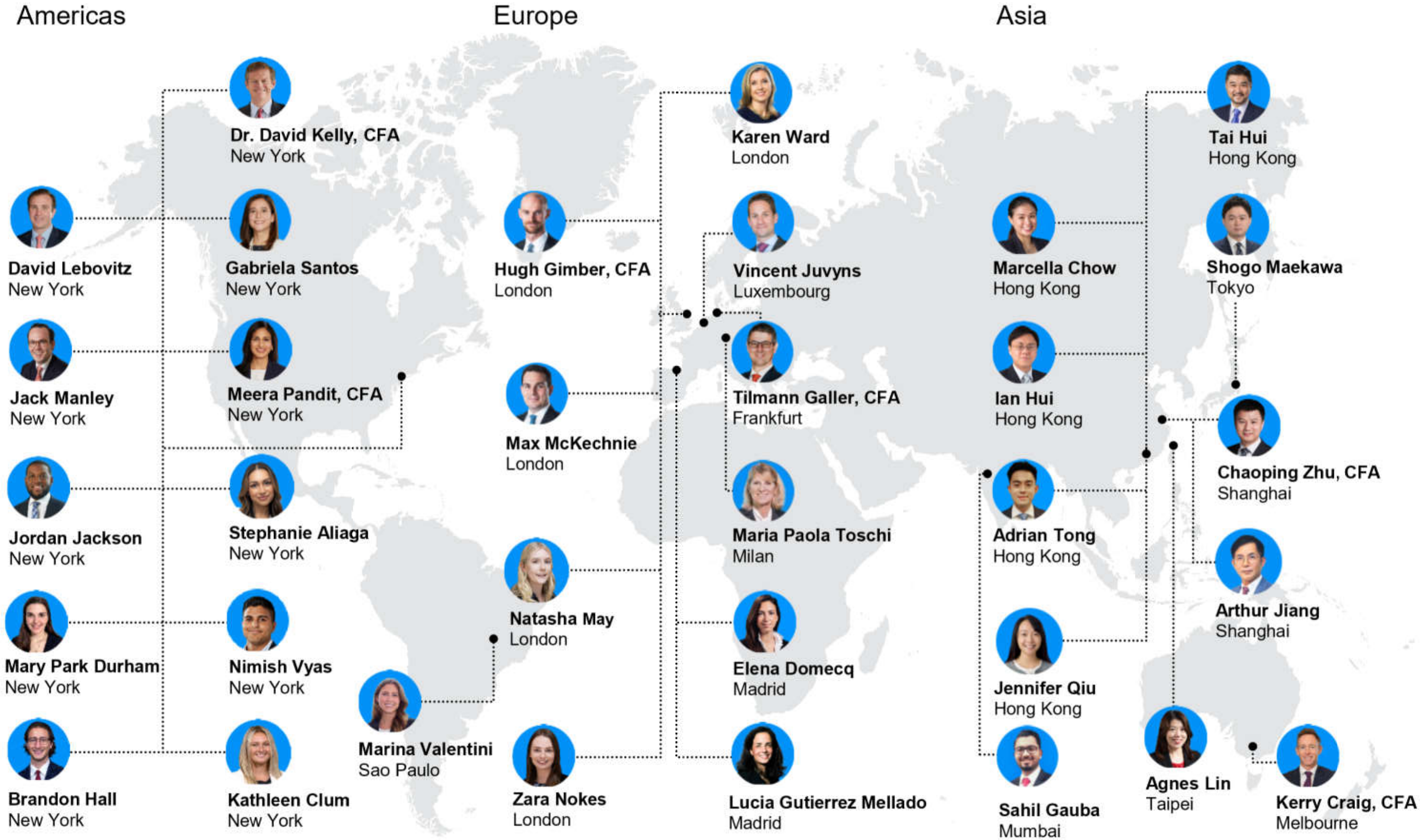
U.S. | 3Q 2023

As of June 30, 2023

J.P.Morgan

ASSET MANAGEMENT

Global Market Insights Strategy team



J.P.Morgan
ASSET MANAGEMENT

Page reference

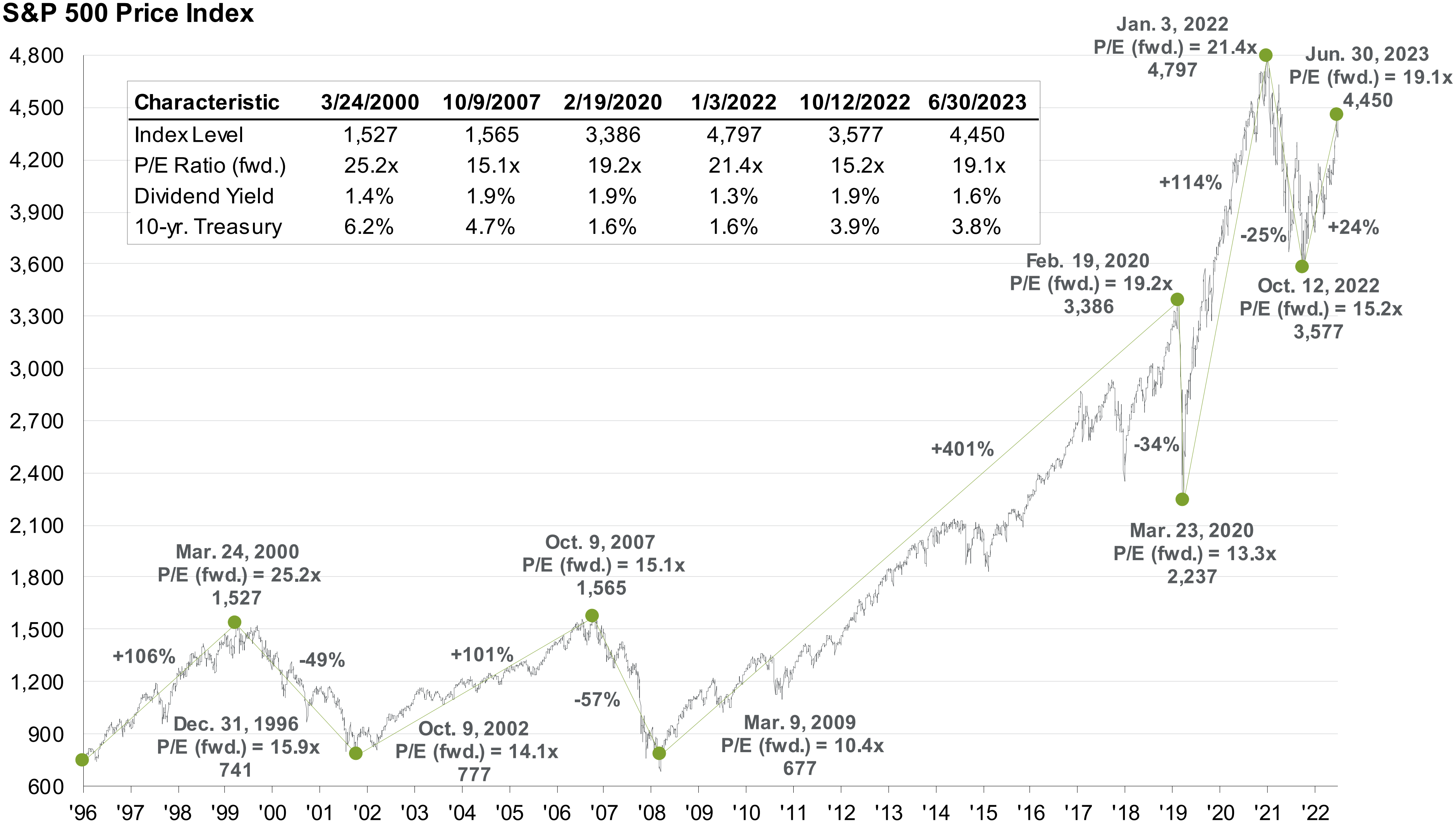
J.P.Morgan
ASSET MANAGEMENT

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	10/12/2022	6/30/2023
Index Level	1,527	1,565	3,386	4,797	3,577	4,450
P/E Ratio (fwd.)	25.2x	15.1x	19.2x	21.4x	15.2x	19.1x
Dividend Yield	1.4%	1.9%	1.9%	1.3%	1.9%	1.6%
10-yr. Treasury	6.2%	4.7%	1.6%	1.6%	3.9%	3.8%



Source: Compustat, FactSet, Federal Reserve, Refinitiv Datastream, Standard & Poor's, J.P. Morgan Asset Management.
Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by Compustat. Forward price-to-earnings ratio is a bottom-up calculation based on IBES estimates and FactSet estimates since January 2022. Returns are cumulative and based on S&P 500 Index price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns.
Guide to the Markets – U.S. Data are as of June 30, 2023.

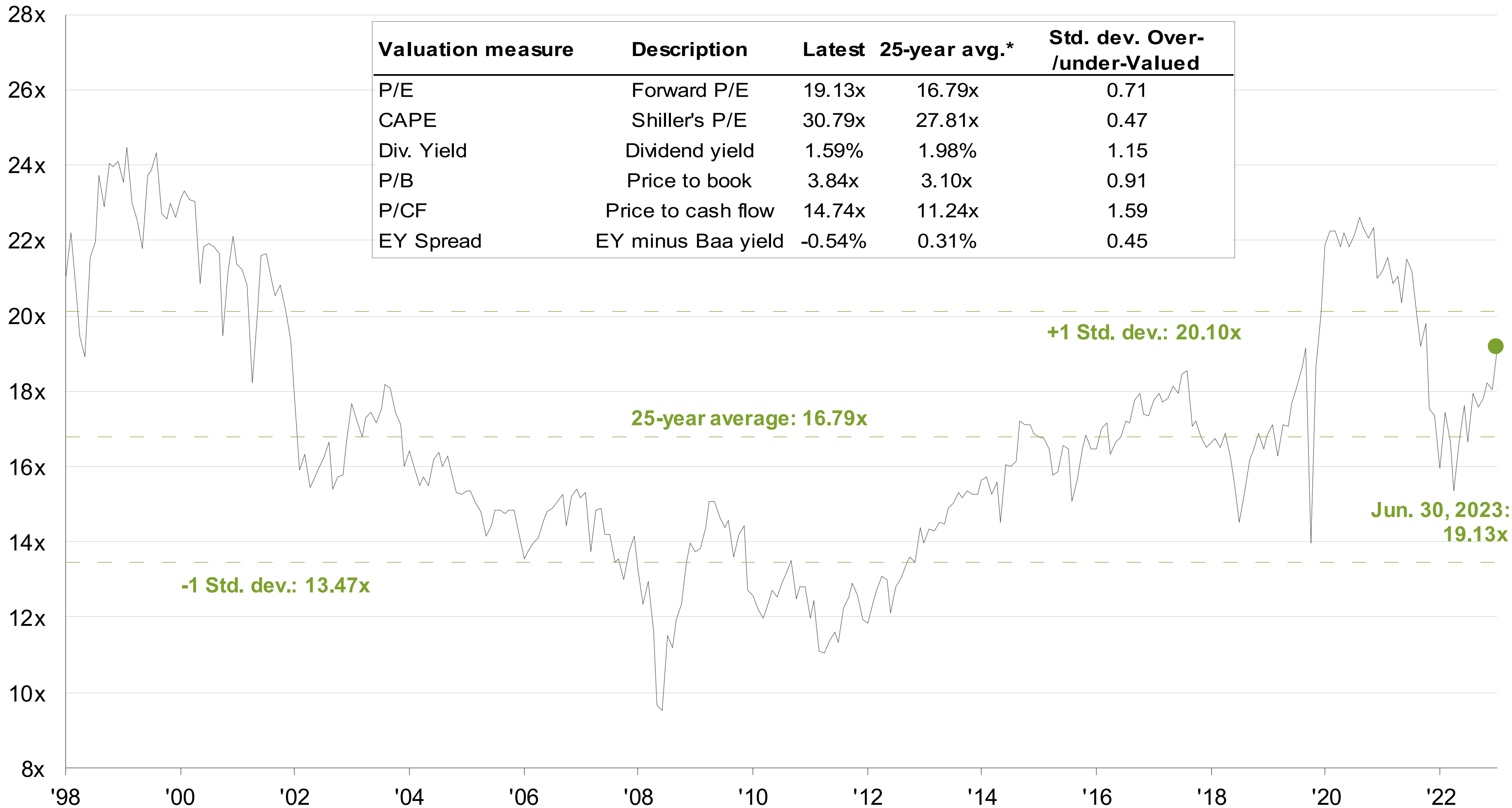
J.P.Morgan
ASSET MANAGEMENT

Equities

S&P 500 valuation measures

S&P 500 Index: Forward P/E ratio

Valuation measure	Description	Latest	25-year avg.*	Std. dev. Over-/under-Valued
P/E	Forward P/E	19.13x	16.79x	0.71
CAPE	Shiller's P/E	30.79x	27.81x	0.47
Div. Yield	Dividend yield	1.59%	1.98%	1.15
P/B	Price to book	3.84x	3.10x	0.91
P/CF	Price to cash flow	14.74x	11.24x	1.59
EY Spread	EY minus Baa yield	-0.54%	0.31%	0.45



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 June 1998 and by FactSet since January 2022. Current next 12-months consensus earnings estimates are $233. 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 June 30, 2023.

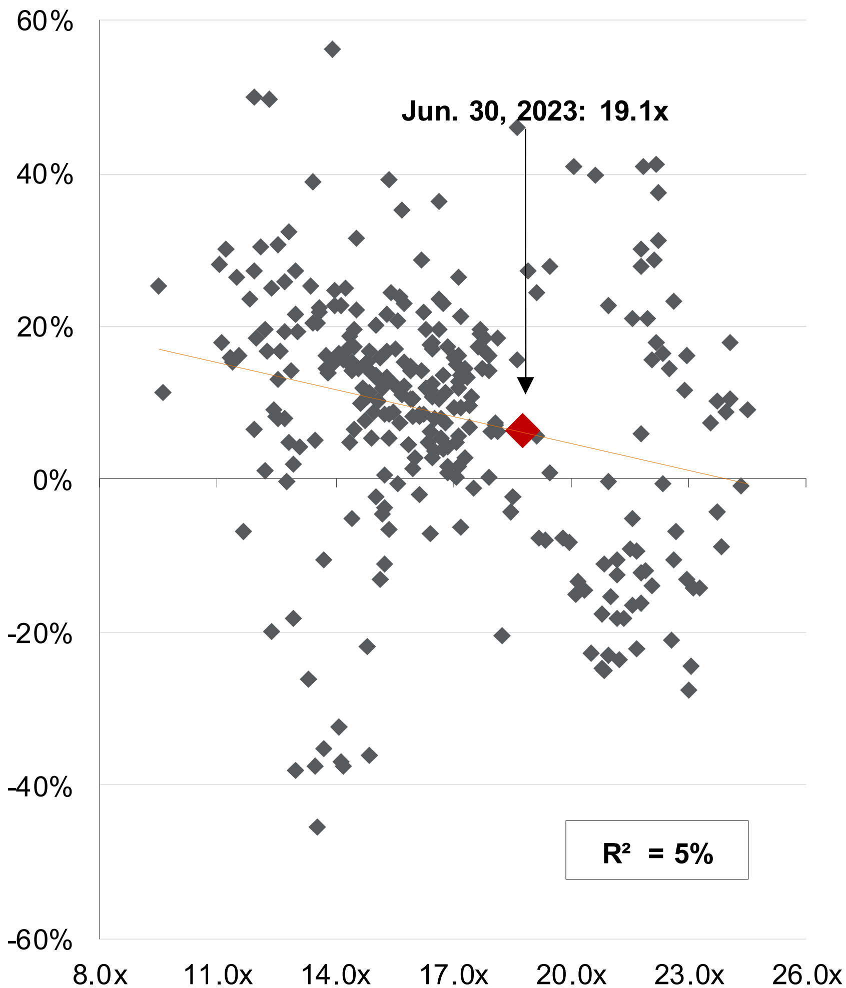
J.P.Morgan ASSET MANAGEMENT

P/E ratios and equity returns

Equities

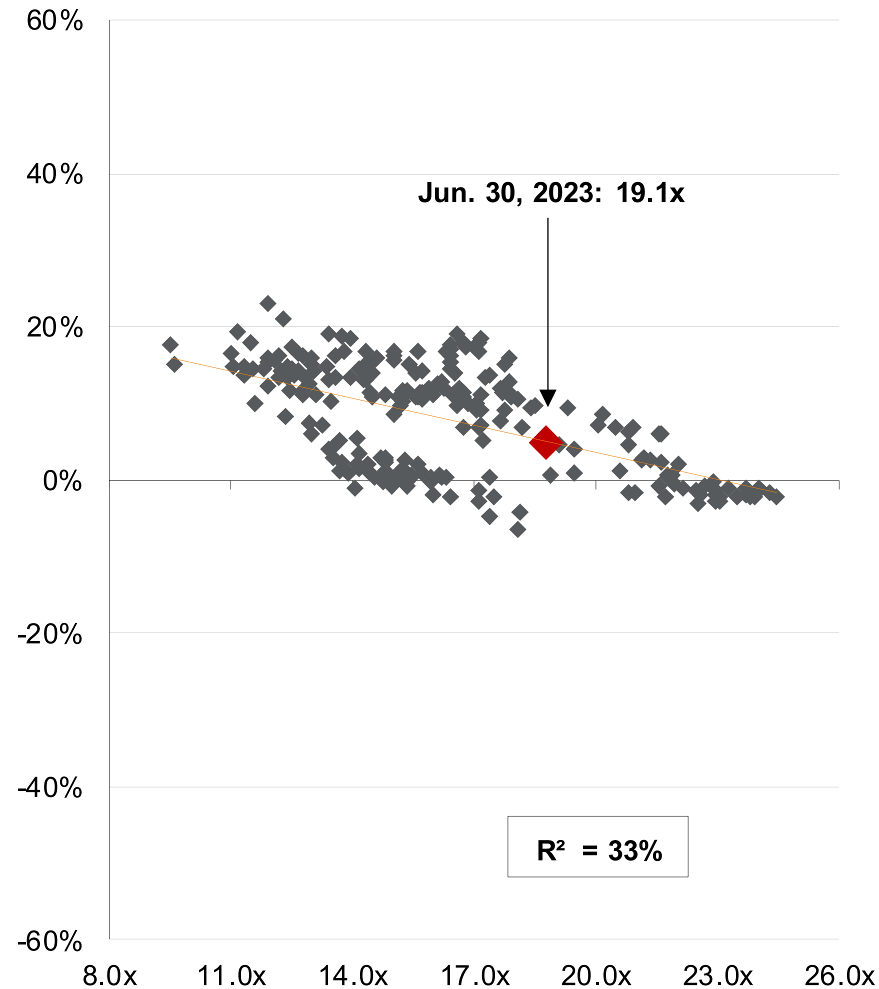
Forward P/E and subsequent 1-yr. returns

S&P 500 Total Return Index



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

S&P 500 Total Return Index

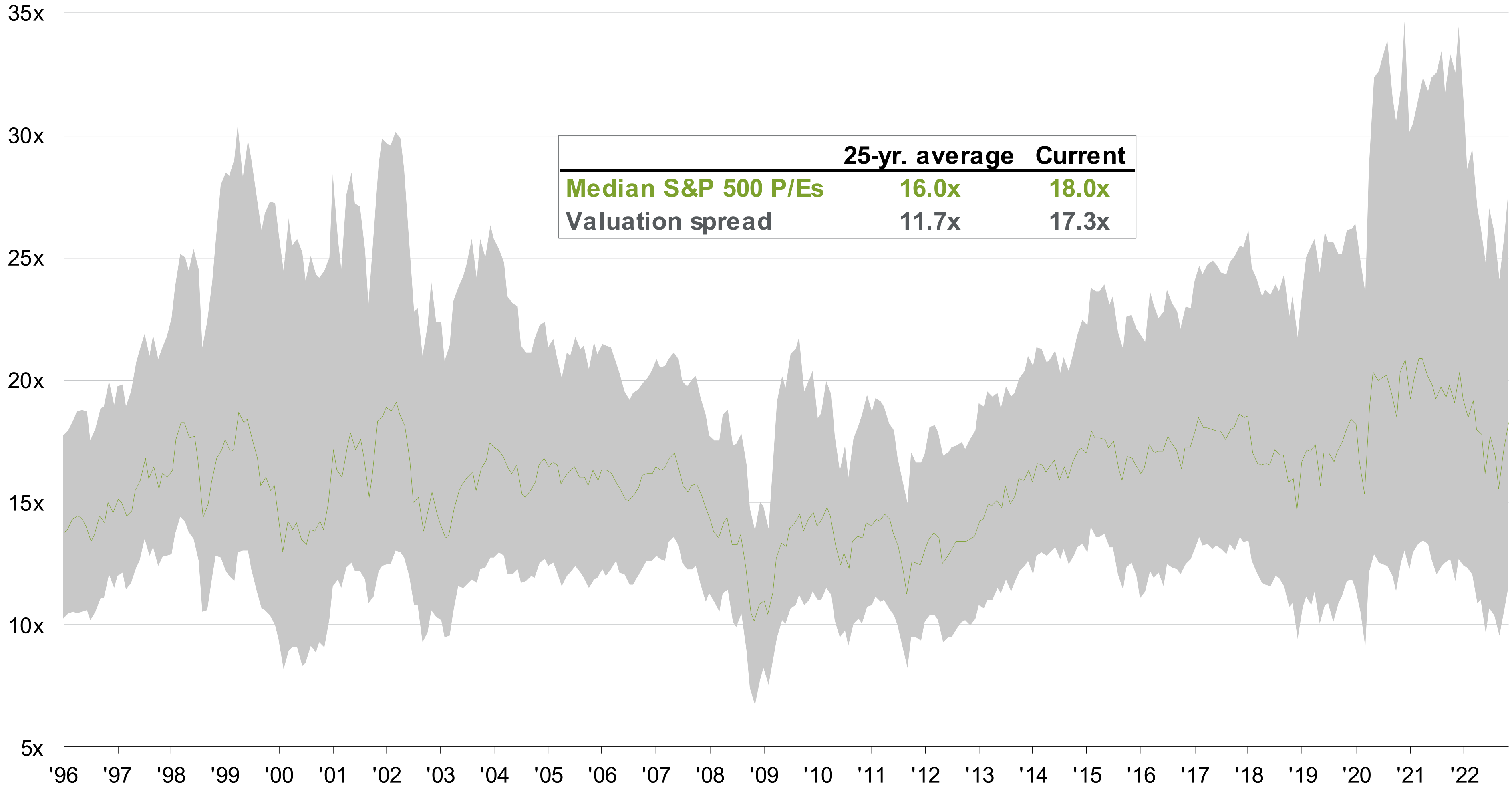


Source: FactSet, Refinitiv Datastream, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.
Returns are 12-month and 60-month annualized total returns, measured monthly, beginning 5/31/1998. R^2 represents the percent of total variation in total returns that can be explained by forward price-to-earnings ratios. Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since February 1998 and by FactSet since January 2022.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

S&P 500: Valuation dispersion

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



	25-yr. average	Current
Median S&P 500 P/Es	16.0x	18.0x
Valuation spread	11.7x	17.3x

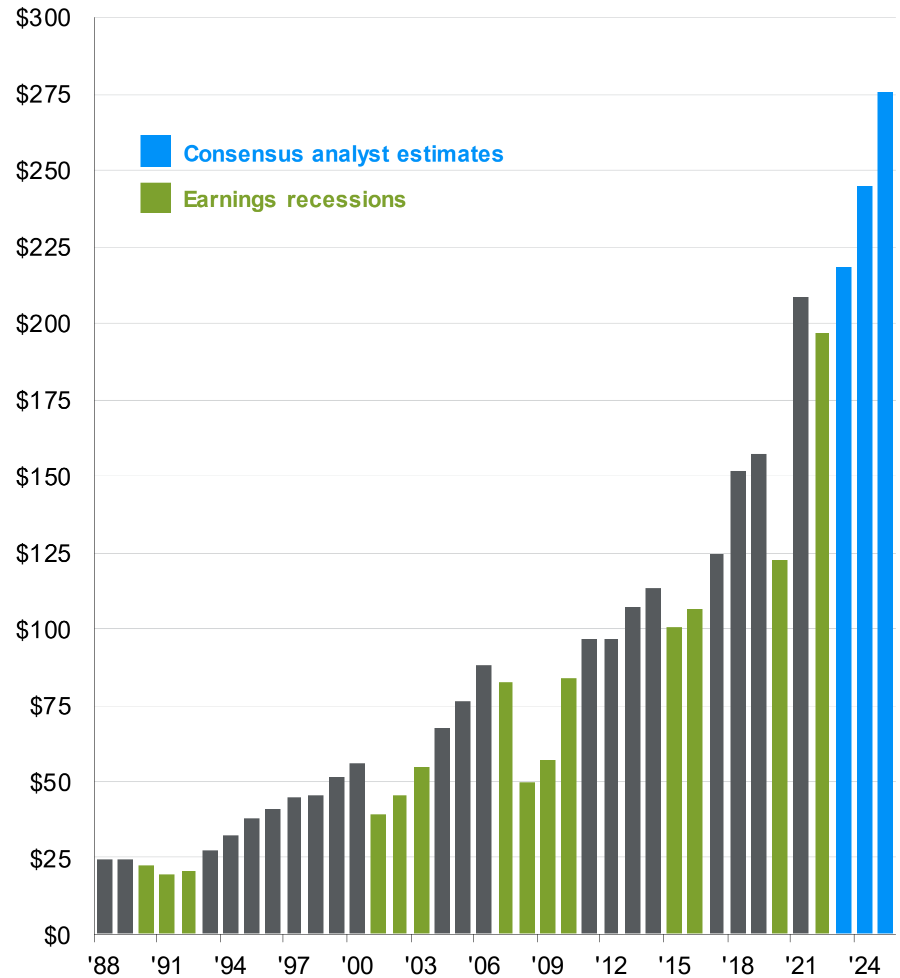
Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan
ASSET MANAGEMENT

Corporate earnings and sources of earnings growth

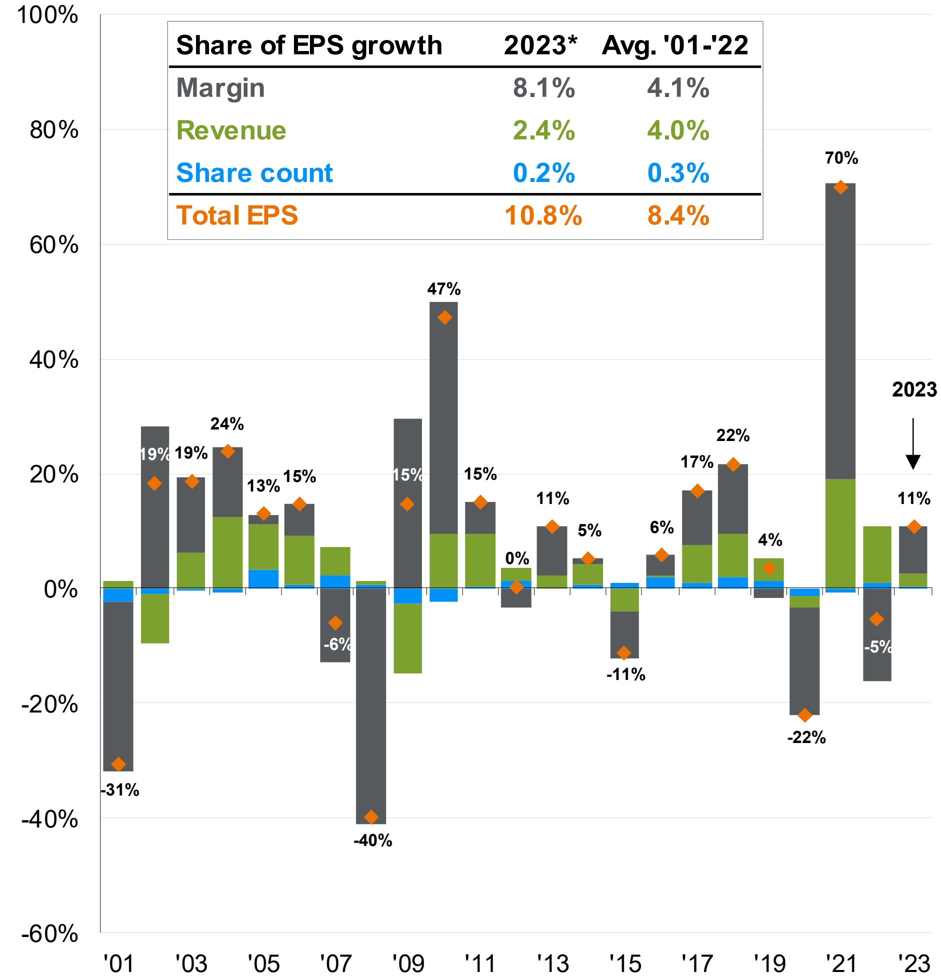
S&P 500 earnings per share

Index annual operating earnings, USD



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

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



Share of EPS growth	2023*	Avg. '01-'22
Margin	8.1%	4.1%
Revenue	2.4%	4.0%
Share count	0.2%	0.3%
Total EPS	10.8%	8.4%

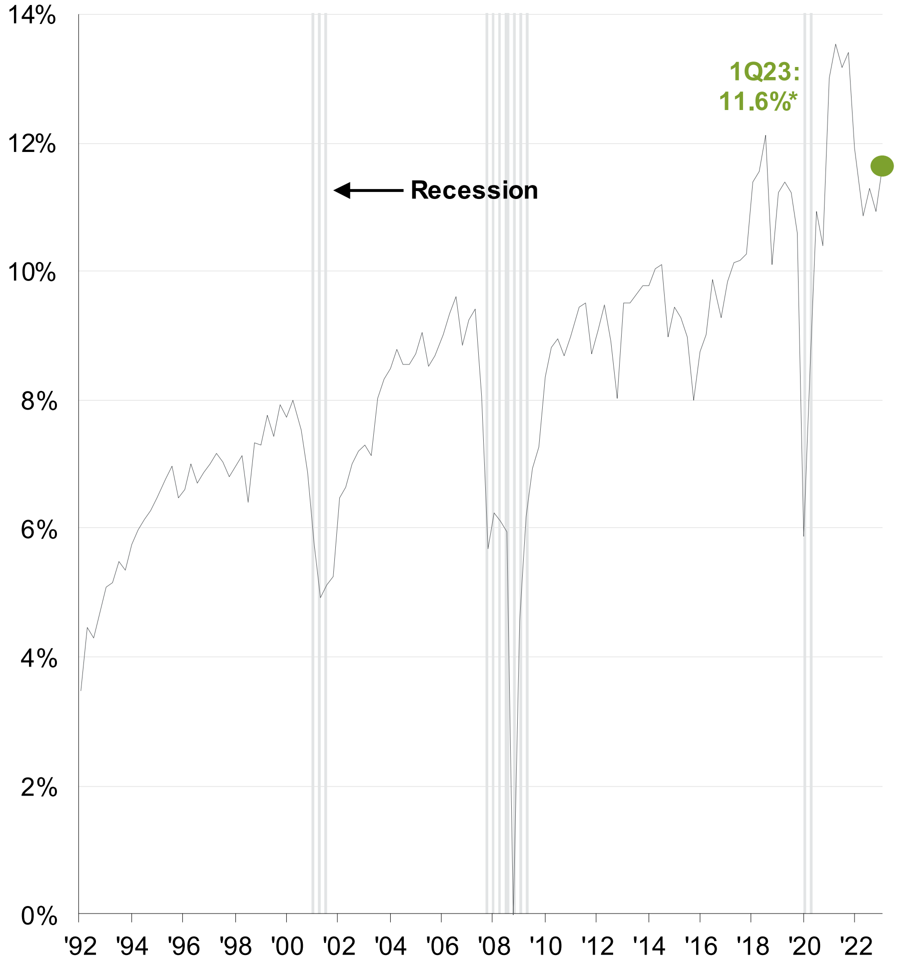
Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management.
Historical EPS levels are based on annual operating earnings per share. *2023 earnings estimates are based on estimates from Standard & Poor's and FactSet Market Aggregates. Percentages may not sum due to rounding. Past performance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

J.P.Morgan
ASSET MANAGEMENT

Profit margins

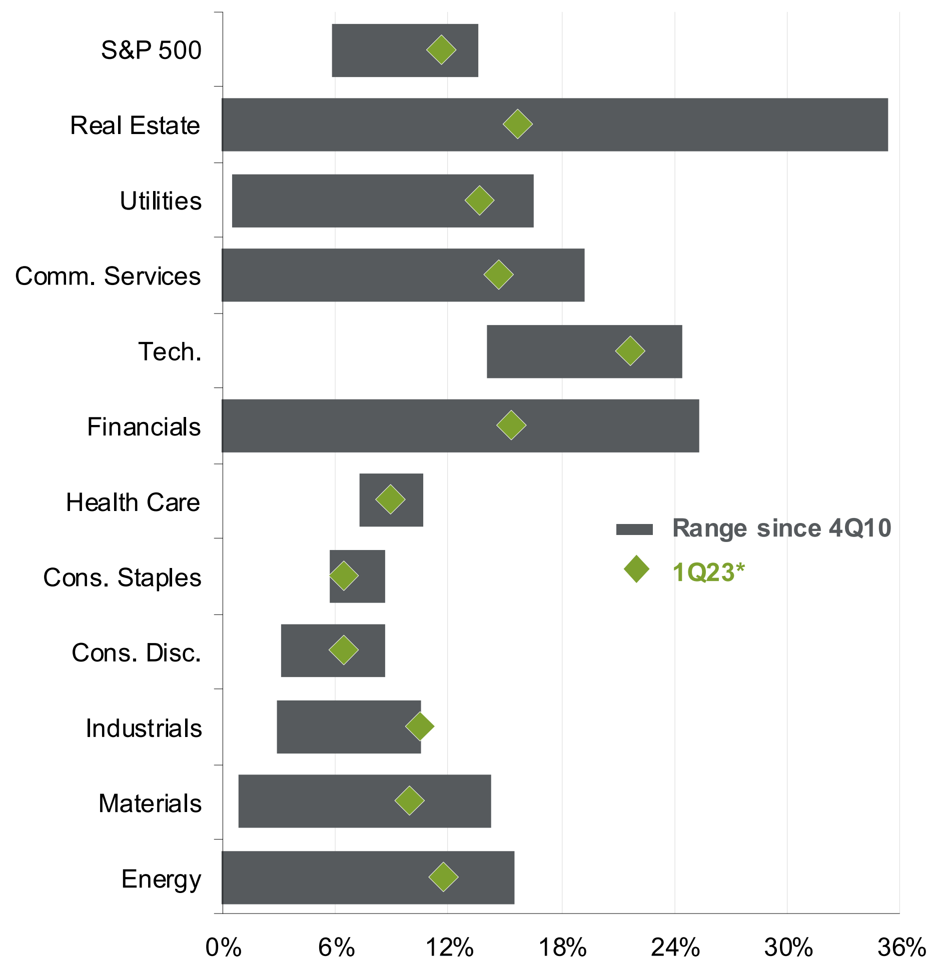
S&P 500 profit margins

Quarterly operating earnings/sales



S&P 500 operating margins by sector

Current operating margins versus historical range**



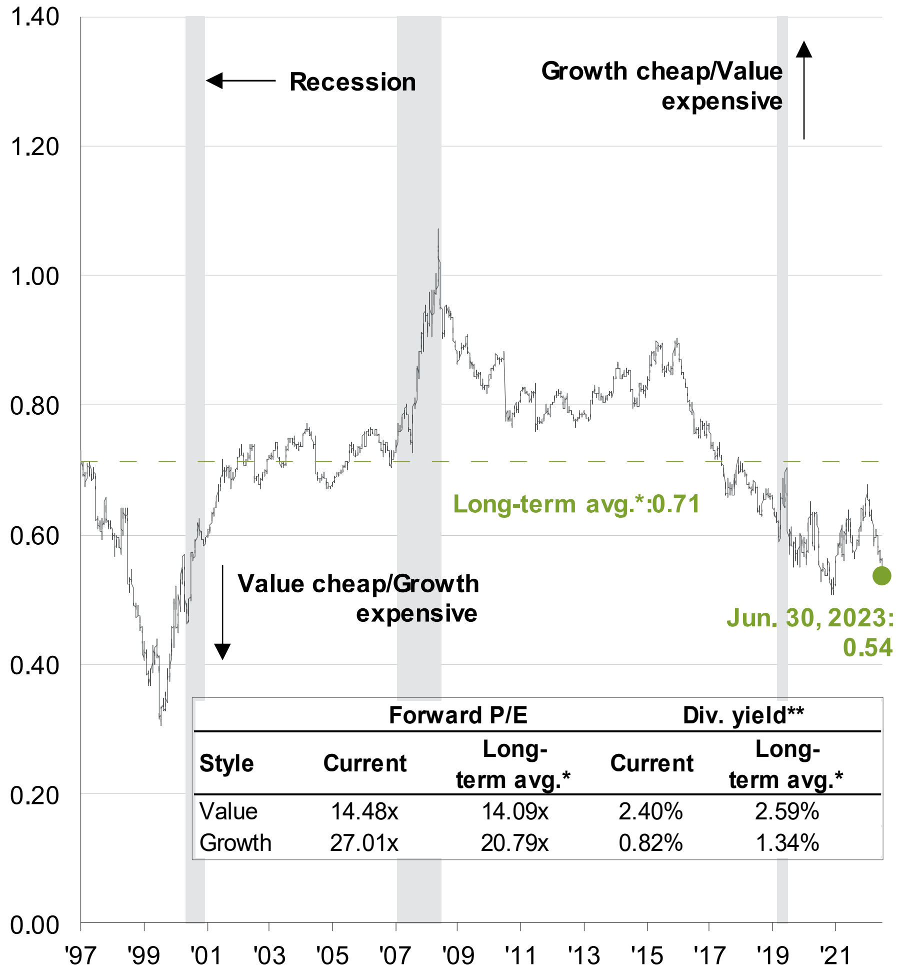
Source: Compustat, FactSet, NFIB, Standard & Poor's, J.P. Morgan Asset Management. Past performance is not indicative of future returns. *Current 1Q23 profit margin is a preliminary estimate. **Quarters with negative operating margins are not shown, with zero set as the lower bound for troughs.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan
ASSET MANAGEMENT

Value vs. Growth

Value vs. Growth relative valuations

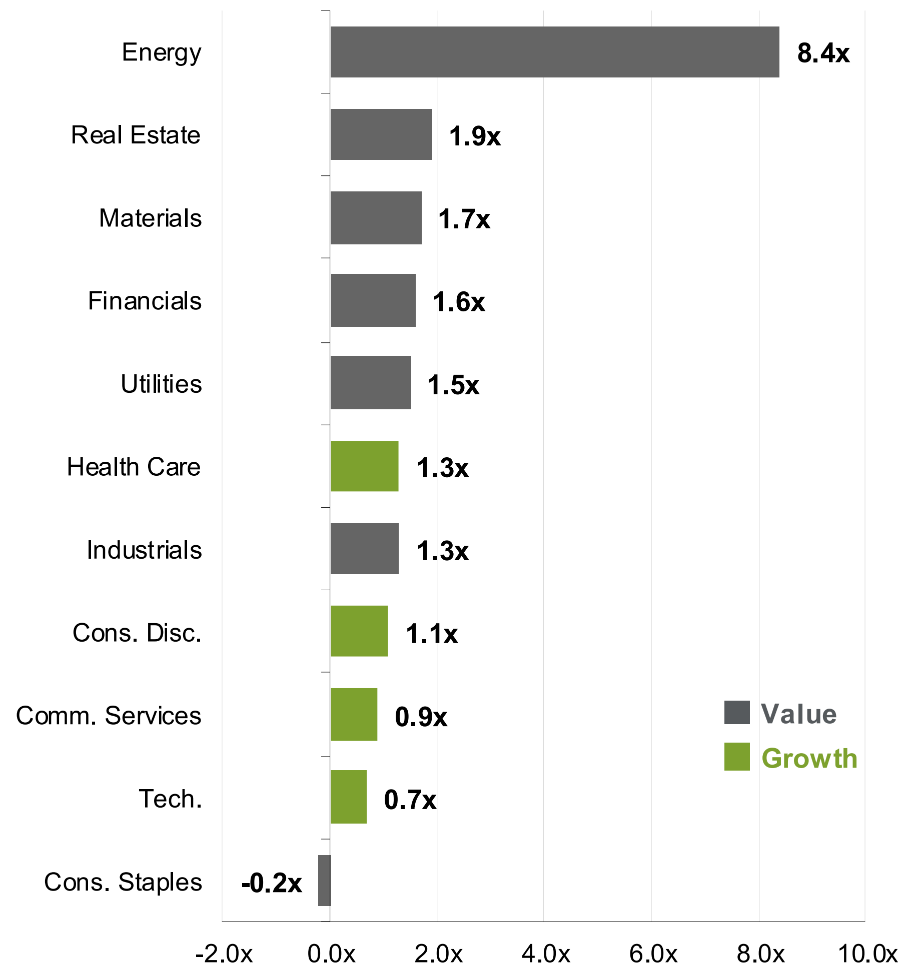
Rel. fwd. P/E ratio of Value vs. Growth, 1997 - present



	Forward P/E		Div. yield**	
Style	Current	Long-term avg.*	Current	Long-term avg.*
Value	14.48x	14.09x	2.40%	2.59%
Growth	27.01x	20.79x	0.82%	1.34%

S&P 500 operating leverage by sector

Impact on operating income from a 1% rise in revenues



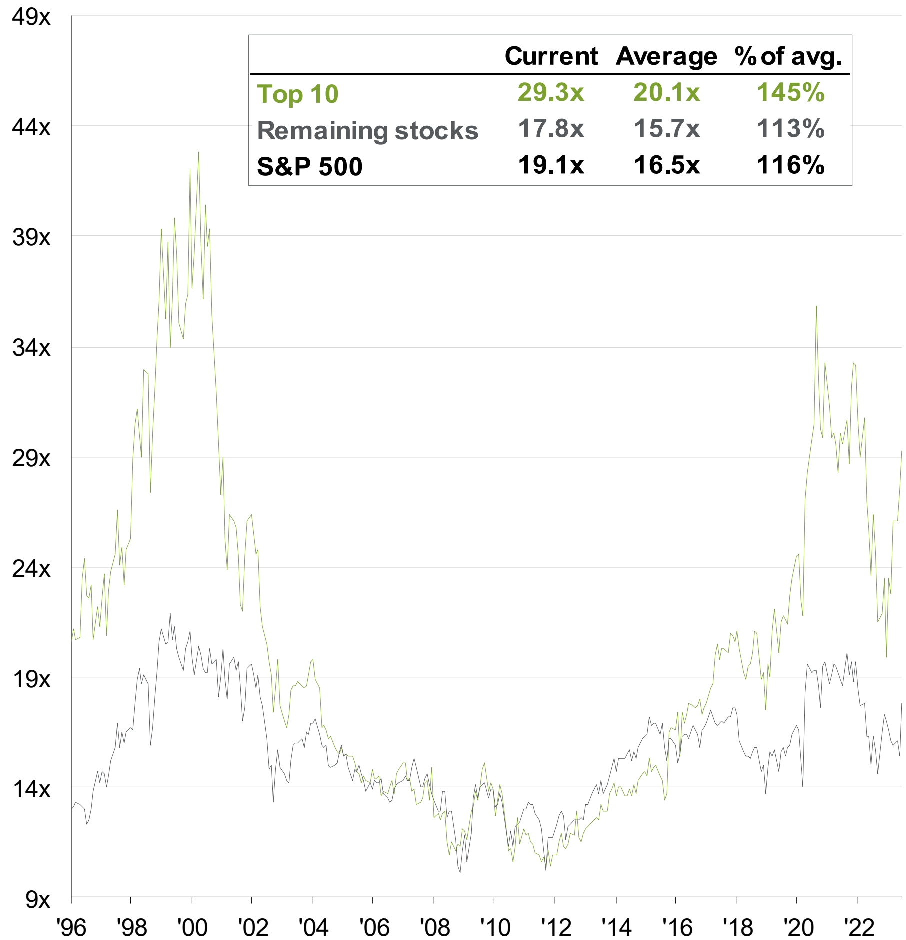
Source: FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management.
(Left) Growth is represented by the Russell 1000 Growth Index and Value is represented by the Russell 1000 Value Index. *Long-term averages are calculated monthly since December 1997. **Dividend yield is calculated as the next 12-month consensus dividend divided by most recent price. (Right) Operating leverage is a bottom-up calculation based on the 10-year compounded annual growth rate (CAGR) in EBIT divided by the 10-year CAGR in revenue at the constituent level within each sector. Sector level aggregates are computed using a weighted sum of each constituent's operating leverage. Weights are determined using market capitalization. Calculations use EBIT and revenue over the 10-year period from 2013 to 2022. The constituent level analysis accounts for outlier data points.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

S&P 500: Index concentration, valuations and earnings

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

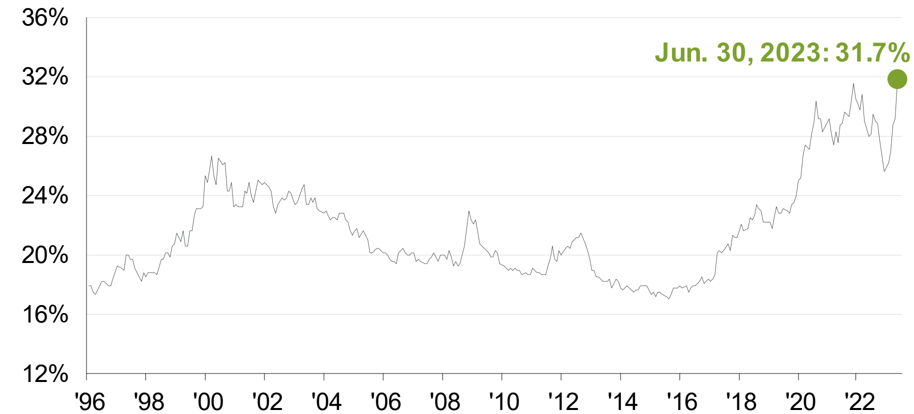
Next 12 months, 1996 - present



	Current	Average	% of avg.
Top 10	29.3x	20.1x	145%
Remaining stocks	17.8x	15.7x	113%
S&P 500	19.1x	16.5x	116%

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

% of market capitalization of the S&P 500



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

Based on last 12 months' earnings

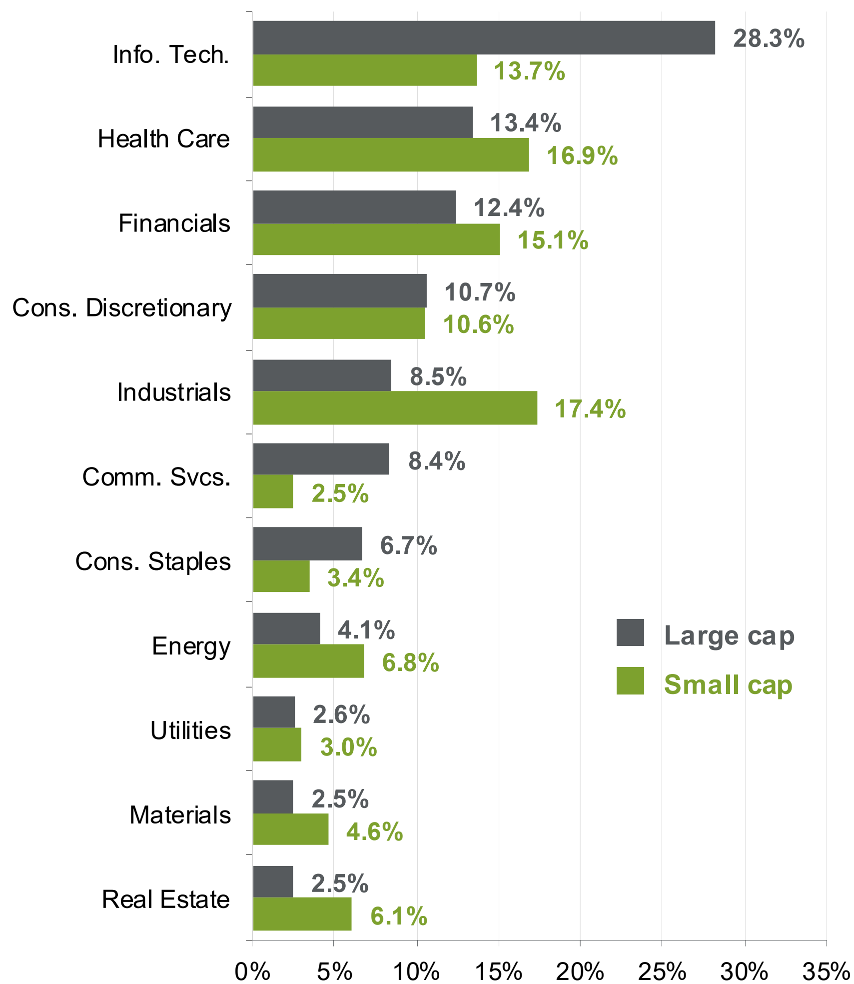
Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.
The top 10 S&P 500 companies are based on the 10 largest index constituents at the beginning of each month. As of 5/31/2023, the top 10 companies in the index were AAPL (7.5%), MSFT (7.0%), AMZN (3.1%), NVDA (2.7%), GOOGL (2.1%), GOOG (1.8%), Meta (1.7%), BRK.B (1.7%), TLSA (1.6%), UNH (1.3%) and XOM (1.2%). The remaining stocks represent the rest of the 494 companies in the S&P 500.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

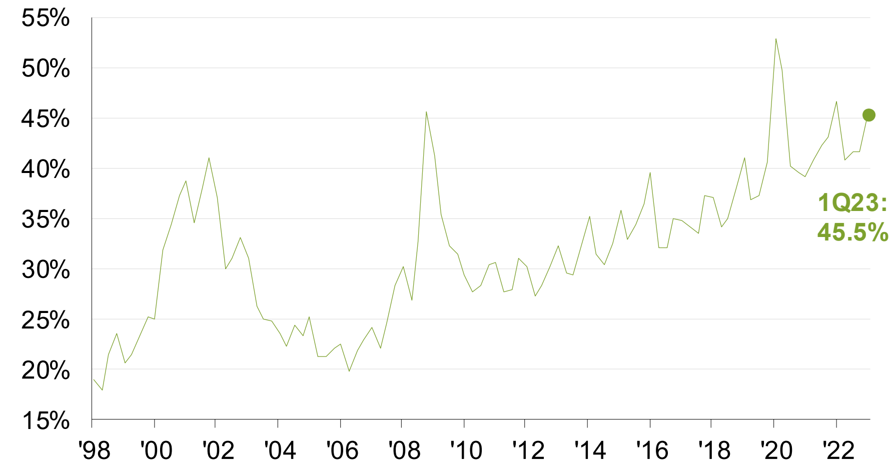
Equities

Small cap vs. large cap stocks

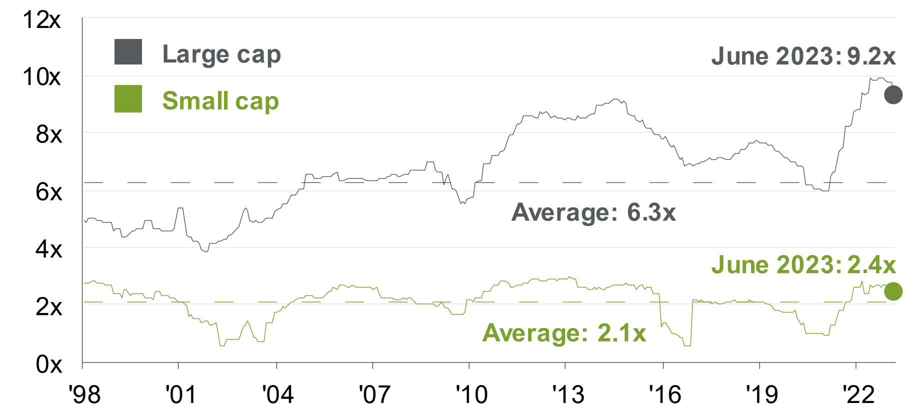
Sector composition
% of index market capitalization



Percent of unprofitable companies in the Russell 2000
1Q98 – 1Q23, pro-forma EPS



Interest rate coverage ratio
EBIT/interest expense on debt, monthly, LTM, 1998-present



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

J.P.Morgan
ASSET MANAGEMENT

Returns and valuations by style

10-year annualized

	Value	Blend	Growth
Large	9.2%	12.9%	15.7%
Mid	9.0%	10.3%	11.5%
Small	7.3%	8.3%	8.8%

YTD

	Value	Blend	Growth
Large	5.1%	16.9%	29.0%
Mid	5.2%	9.0%	15.9%
Small	2.5%	8.1%	13.6%

Since market peak (February 2020)

	Value	Blend	Growth
Large	23.5%	38.8%	47.9%
Mid	22.6%	24.6%	21.4%
Small	20.2%	16.6%	10.2%

Since market low (March 2020)

	Value	Blend	Growth
Large	99.8%	109.7%	115.7%
Mid	116.7%	108.6%	88.8%
Small	111.3%	96.5%	79.0%

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

	Value	Blend	Growth
Large	14.5 / 13.7	19.1 / 15.5	27.0 / 18.7
Mid	14.3 / 14.5	16.4 / 16.4	26.0 / 20.4
Small	14.9 / 16.8	21.2 / 21.4	36.9 / 22.9

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

	Value	Blend	Growth
Large	105.7%	123.1%	144.2%
Mid	98.6%	100.4%	127.6%
Small	89.0%	99.3%	160.9%

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 6/30/2023. Since market low represents period from 3/23/2020 to 6/30/2023. Returns are cumulative returns, not annualized. For all time periods, total return is based on Russell style indices except for the large blend category, which is based on the S&P 500 Index. Past performance is not indicative of future returns. The price-to-earnings is a bottom-up calculation based on the most recent index price, divided by consensus estimates for earnings in the next 12 months (NTM) and is provided by FactSet Market Aggregates and J.P. Morgan Asset Management.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan
ASSET MANAGEMENT

Returns and valuations by sector

	Energy	Materials	Financials	Industrials	Cons. Disc.	Tech.	Comm. Services*	Real Estate	Health Care	Cons. Staples	Utilities	S&P 500 Index	
S&P weight	**4.1%**	**2.5%**	**12.4%**	**8.5%**	**10.7%**	**28.3%**	**8.4%**	**2.5%**	**13.4%**	**6.7%**	**2.6%**	**100.0%**	Weight
Russell Growth weight	0.5%	0.7%	6.4%	6.0%	16.0%	43.3%	10.7%	1.0%	11.0%	4.4%	0.1%	100.0%	Weight
Russell Value weight	7.9%	4.8%	20.1%	13.5%	5.3%	9.0%	5.1%	4.9%	15.8%	8.4%	5.2%	100.0%	Weight
Russell 2000 weight	6.8%	4.6%	15.1%	17.4%	10.5%	13.7%	2.5%	6.1%	16.9%	3.4%	3.0%	100.0%	Weight
QTD	-0.9%	3.3%	5.3%	6.5%	14.6%	17.2%	13.1%	0.3%	3.0%	0.5%	-2.5%	8.7%	Return
YTD	-5.5%	7.7%	-0.5%	10.2%	33.1%	42.8%	36.2%	1.5%	-1.5%	1.3%	-5.7%	16.9%	Return
Since market peak (February 2020)	76.3%	47.4%	16.8%	35.7%	30.6%	77.1%	15.6%	-7.8%	35.4%	28.9%	4.3%	38.8%	Return
Since market low (March 2020)	300.0%	130.7%	104.7%	132.7%	91.3%	157.2%	61.8%	48.7%	87.8%	69.7%	62.0%	109.7%	Return
Beta to S&P 500	1.3	1.1	1.1	1.1	1.2	1.1	1.0*	0.8	0.8	0.6	0.5	1.0	β
Correl. To Treas. Yields	0.0	-0.5	-0.3	-0.5	-0.6	-0.7	-0.8	-0.6	-0.4	-0.4	-0.5	-0.6	ρ
Foreign % of sales	37.8	55.2	21.3	32.3	34.3	57.6	42.8	15.9	35.7	42.0	1.8	39.5	%
NTM earnings growth	-15.1%	-6.9%	4.1%	13.1%	21.1%	8.4%	17.4%	2.5%	-0.9%	6.1%	7.4%	6.1%	EPS
20-yr. avg.	**99.9%**	**15.4%**	**20.7%**	**14.1%**	**17.0%**	**13.1%**	**10.3%***	**6.8%**	**8.1%**	**7.7%**	**4.4%**	**11.1%**	EPS
Forward P/E ratio	10.7x	17.5x	13.4x	18.8x	26.9x	27.6x	17.2x	16.6x	17.2x	20.0x	17.0x	19.1x	P/E
20-yr. avg.	**13.6x**	**14.8x**	**12.5x**	**16.3x**	**19.3x**	**17.9x**	**18.7x***	**16.8x**	**15.0x**	**17.4x**	**15.5x**	**15.5x**	P/E
Buyback yield	5.0%	2.4%	2.8%	2.5%	1.9%	2.0%	4.1%	-1.7%	1.6%	1.2%	-1.1%	2.2%	Bbk
20-yr. avg.	**1.7%**	**0.9%**	**0.4%**	**2.2%**	**2.4%**	**3.0%**	**1.6%**	**-1.4%**	**2.0%**	**1.8%**	**-0.8%**	**1.8%**	Bbk
Dividend yield	3.4%	2.0%	2.0%	1.8%	0.9%	0.9%	0.9%	3.9%	1.8%	2.7%	3.5%	1.6%	Div
20-yr. avg.	**2.8%**	**2.4%**	**2.3%**	**2.2%**	**1.4%**	**1.2%**	**1.2%**	**3.9%**	**1.9%**	**2.8%**	**3.9%**	**2.1%**	Div

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 3/31/2023. Since market low represents period from 3/23/2020 to 3/31/2023. 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.

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

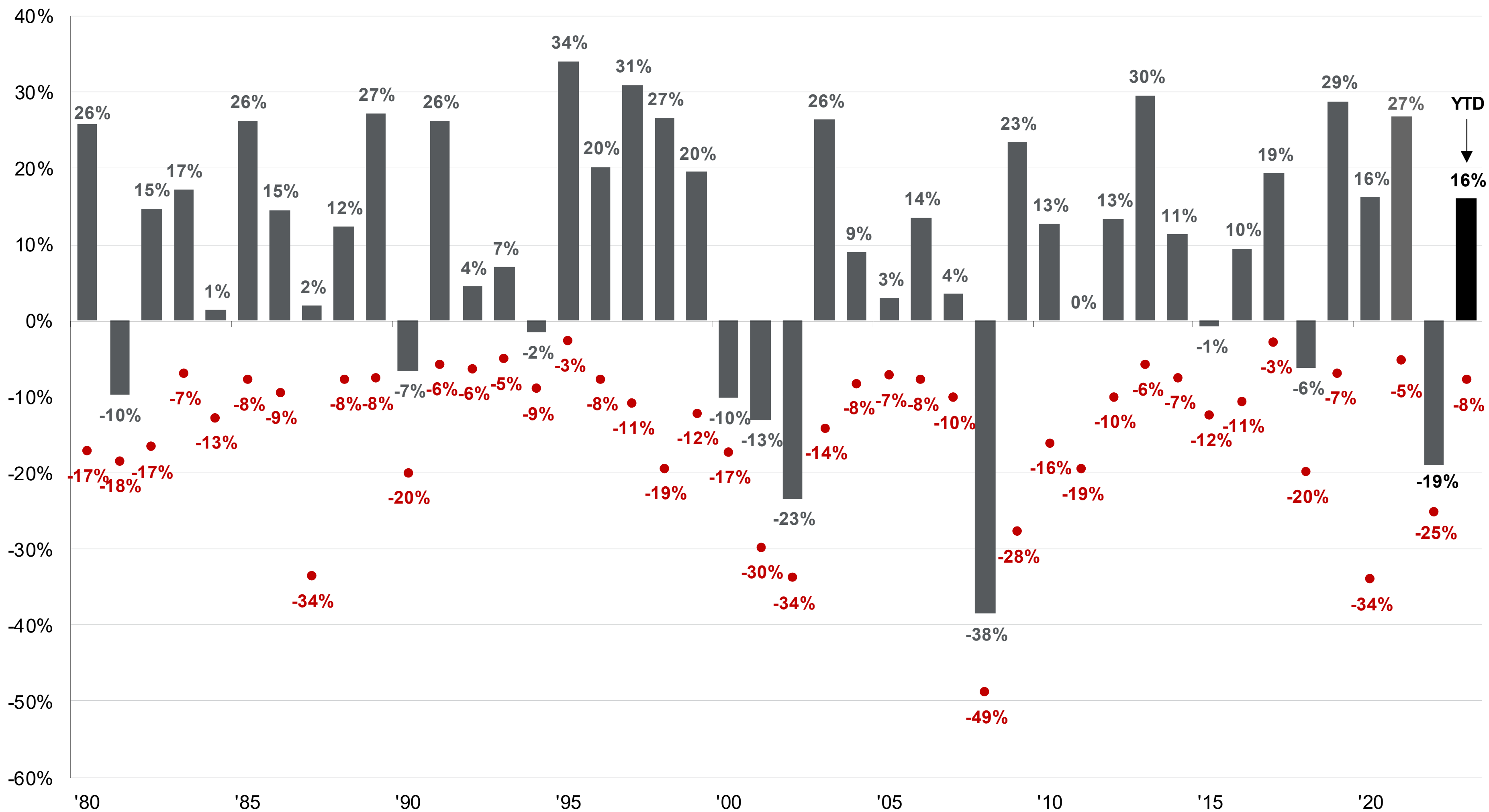
J.P.Morgan ASSET MANAGEMENT

Equities

Annual returns and intra-year declines

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

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



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

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

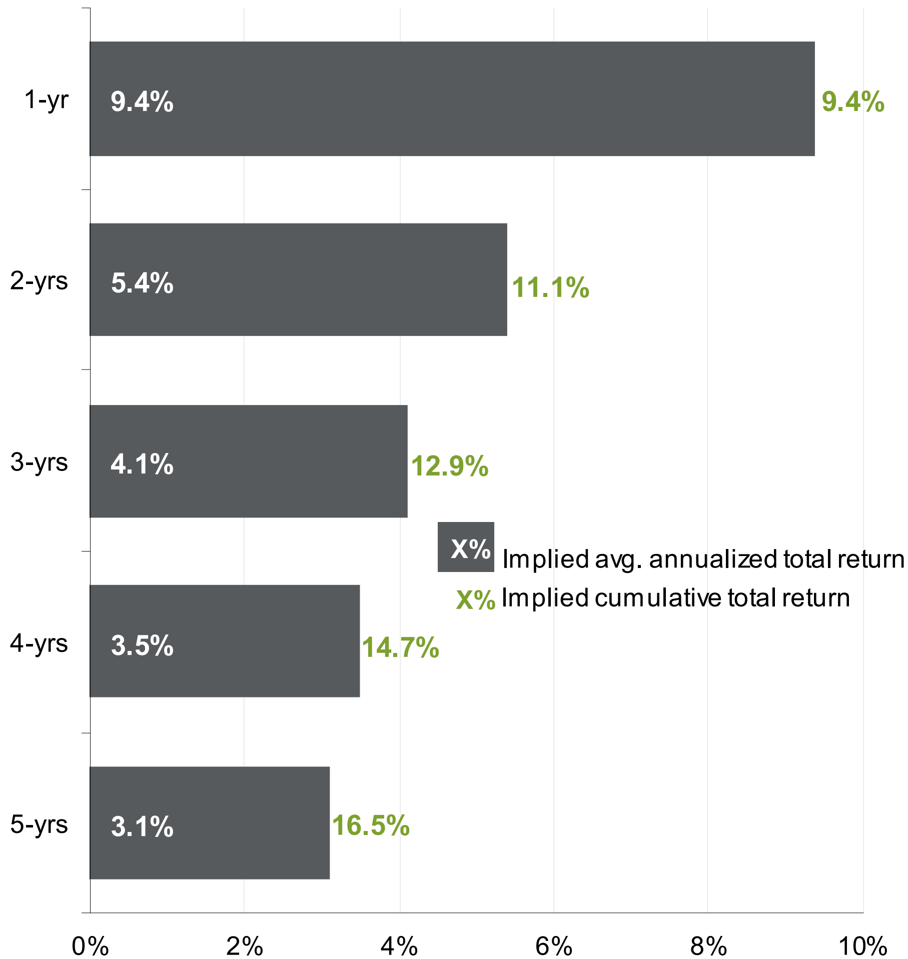
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

Equity scenarios: Bull, bear and in-between

Return needed to reach January 2022 peak of 4,797

S&P 500 level as of 6/30/2023 is 4,450



Bull and bear markets

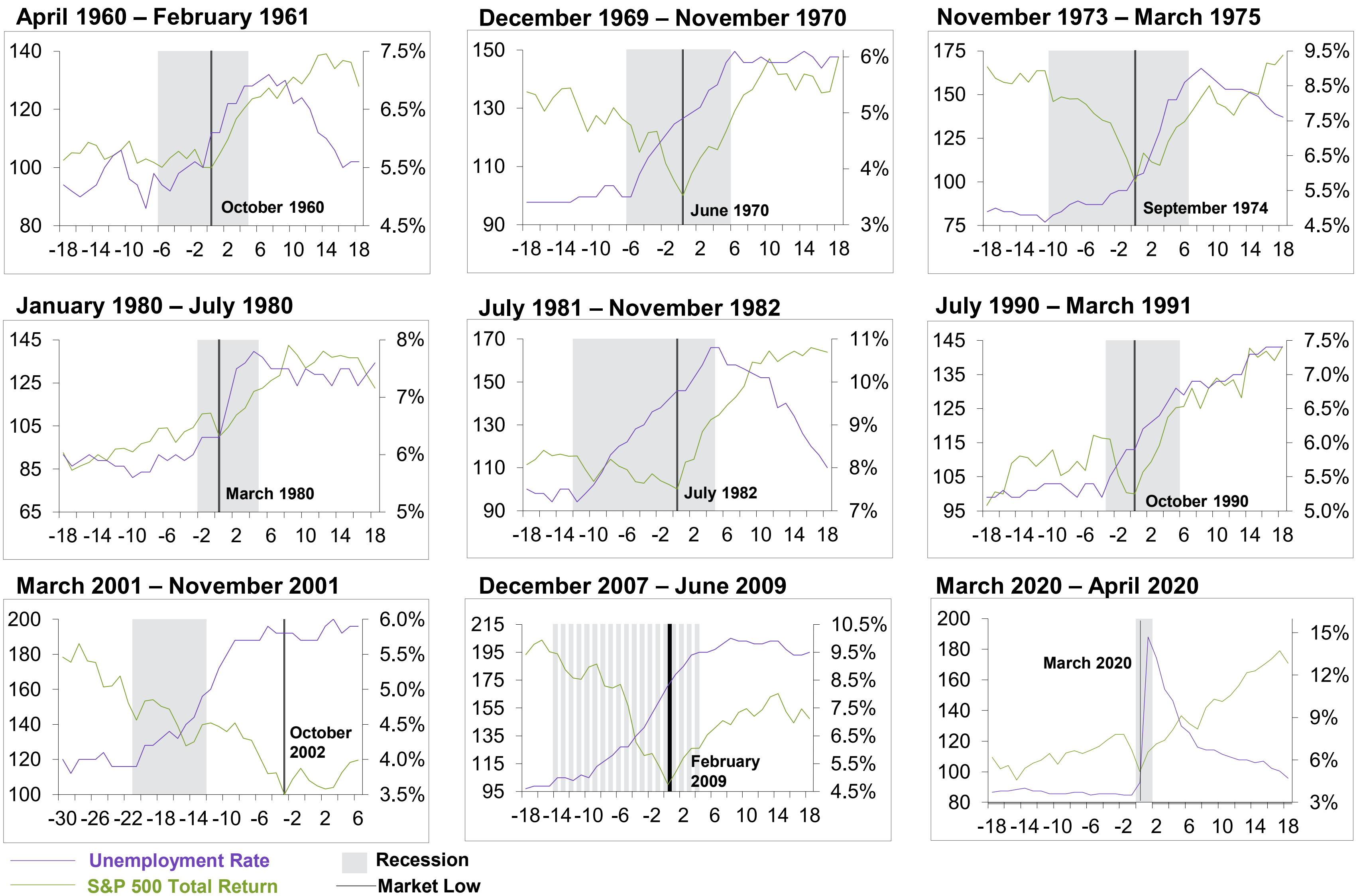
Bull markets			Bear markets		
Bull begin date	Bull return	Duration (months)	Market peak	Bear return*	Duration (months)*
Jul 1926	152%	37	Sep 1929	-86%	32
Mar 1935	129%	23	Mar 1937	-60%	61
Apr 1942	158%	49	May 1946	-30%	36
Jun 1949	267%	85	Aug 1956	-22%	14
Oct 1960	39%	13	Dec 1961	-28%	6
Oct 1962	76%	39	Feb 1966	-22%	7
Oct 1966	48%	25	Nov 1968	-36%	17
May 1970	74%	31	Jan 1973	-48%	20
Mar 1978	62%	32	Nov 1980	-27%	20
Aug 1982	229%	60	Aug 1987	-34%	3
Oct 1990	417%	113	Mar 2000	-49%	30
Oct 2002	101%	60	Oct 2007	-57%	17
Mar 2009	401%	131	Feb 2020	-34%	1
Mar 2020	114%	21	Jan. 2022**	-25%	9
Averages	**162%**	**51**	**-**	**-41%**	**20**

Source: FactSet, NBER, Robert Shiller, Standard & Poor's, J.P. Morgan Asset Management. (Left) The current peak of 4,797 was observed on 1/3/2022. (Right) *A bear market is defined as a 20% or more decline from the previous market high. The related market return is the peak to trough return over the cycle. Bear and bull returns are price returns. **The bear market beginning in January 2022 is currently ongoing, with the "bear return" and duration for this period calculated from the January 2022 market peak through the current trough in October 2022. Averages for the bear market return and duration do not include figures from the current cycle.

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

J.P.Morgan ASSET MANAGEMENT

Market inflection points, recessions and the unemployment rate



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 gray 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 June 30, 2023.

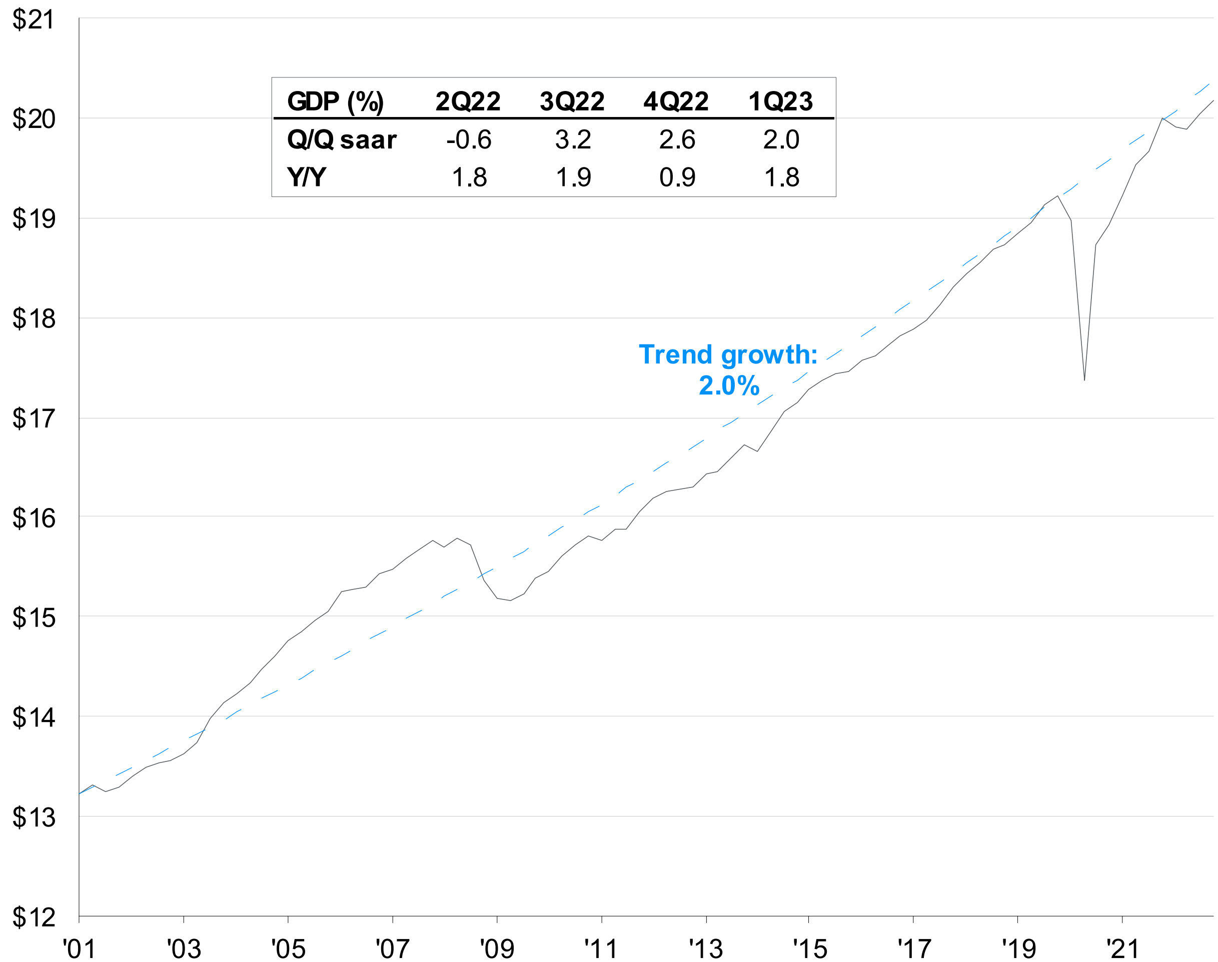
J.P.Morgan
ASSET MANAGEMENT

Economic growth and the composition of GDP

Economy

Real GDP

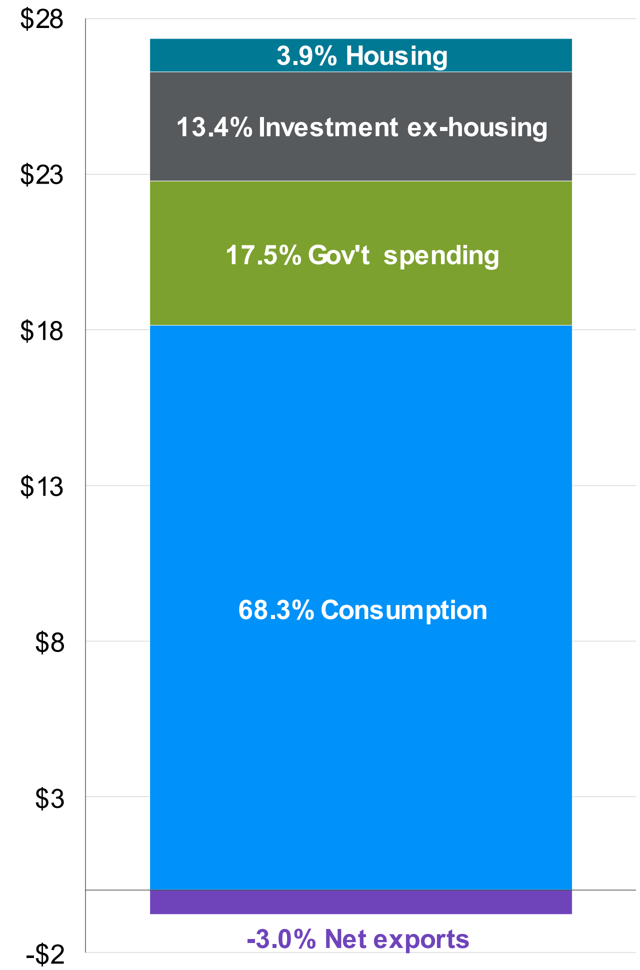
Trillions of chained (2012) dollars, seasonally adjusted at annual rates



GDP (%)	2Q22	3Q22	4Q22	1Q23
Q/Q saar	-0.6	3.2	2.6	2.0
Y/Y	1.8	1.9	0.9	1.8

Components of GDP

1Q23 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 June 30, 2023.

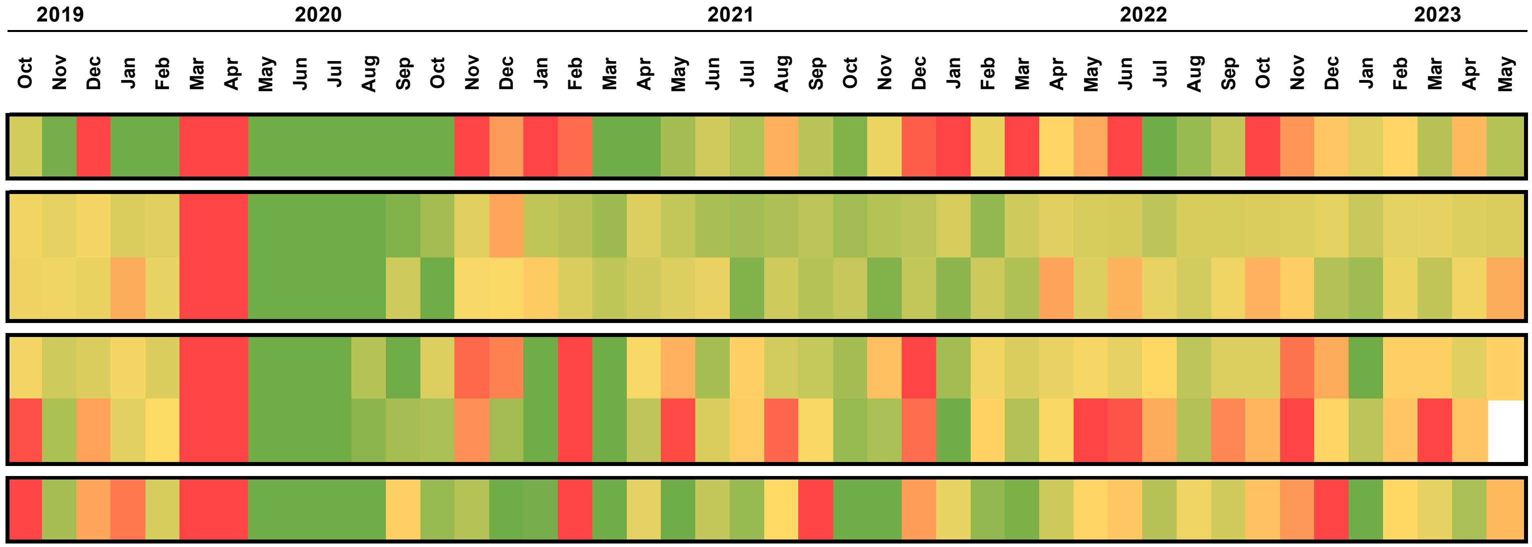
J.P.Morgan
ASSET MANAGEMENT

Economy

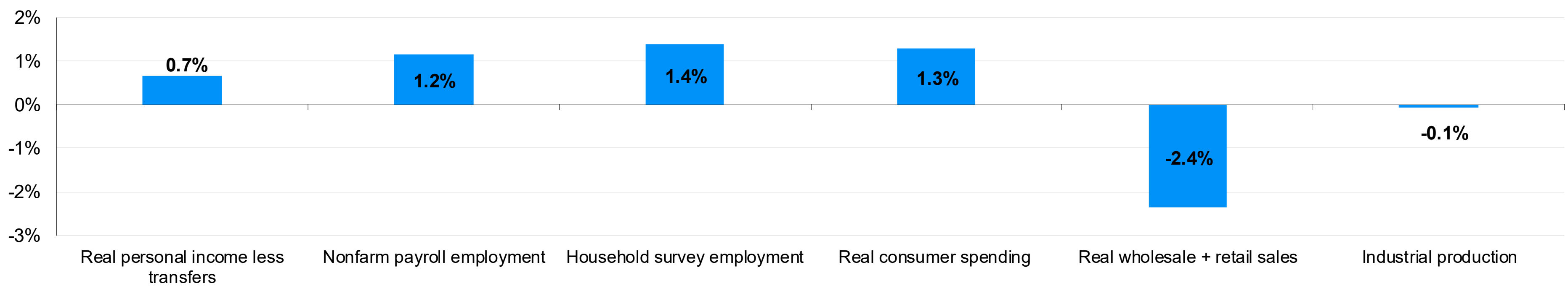
Recession determinants

Variables used by the NBER in making recession determination*

% change month-over-month



% change, last six months



Source: Bureau of Economic Analysis, Bureau of Labor Statistics, 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".

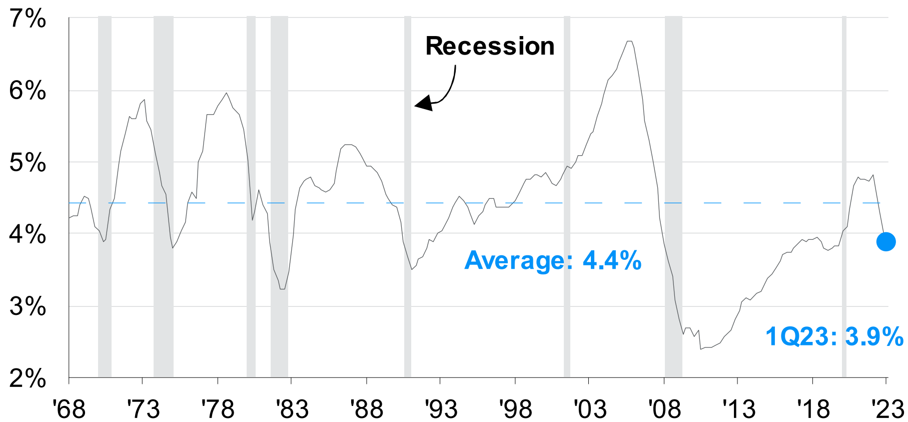
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

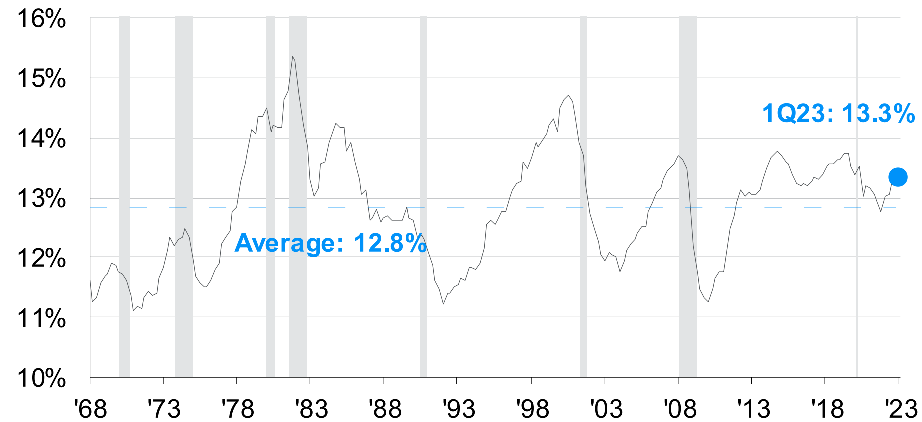
Cyclical sectors

Economy

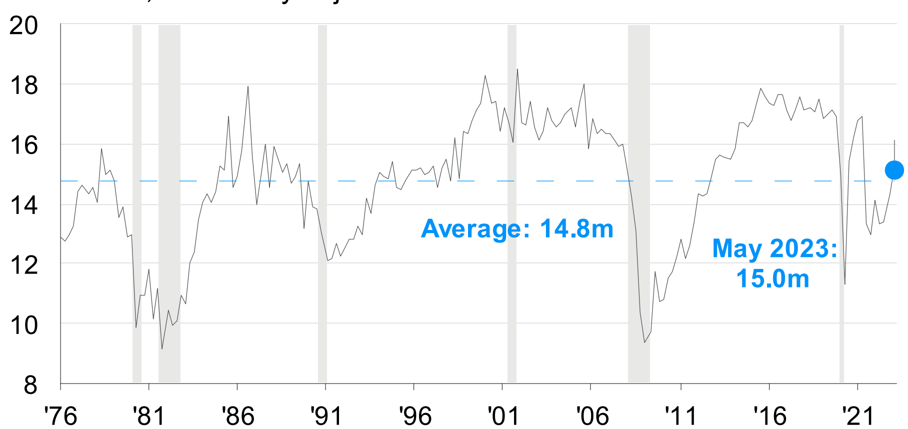
Residential investment as a % of GDP
Quarterly, seasonally adjusted



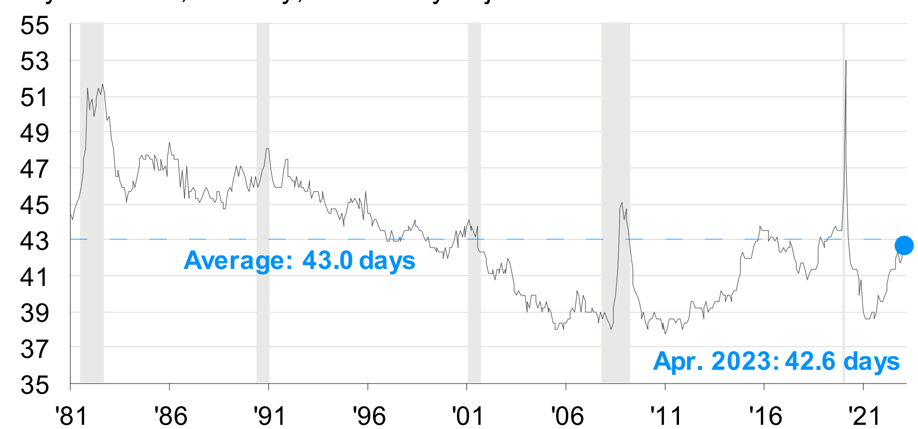
Business fixed investment as a % of GDP
Quarterly, seasonally adjusted



Light vehicle sales
Mil vehicles, seasonally adjusted ann. rate



Total business inventory/sales ratio
Days of sales, monthly, seasonally adjusted



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

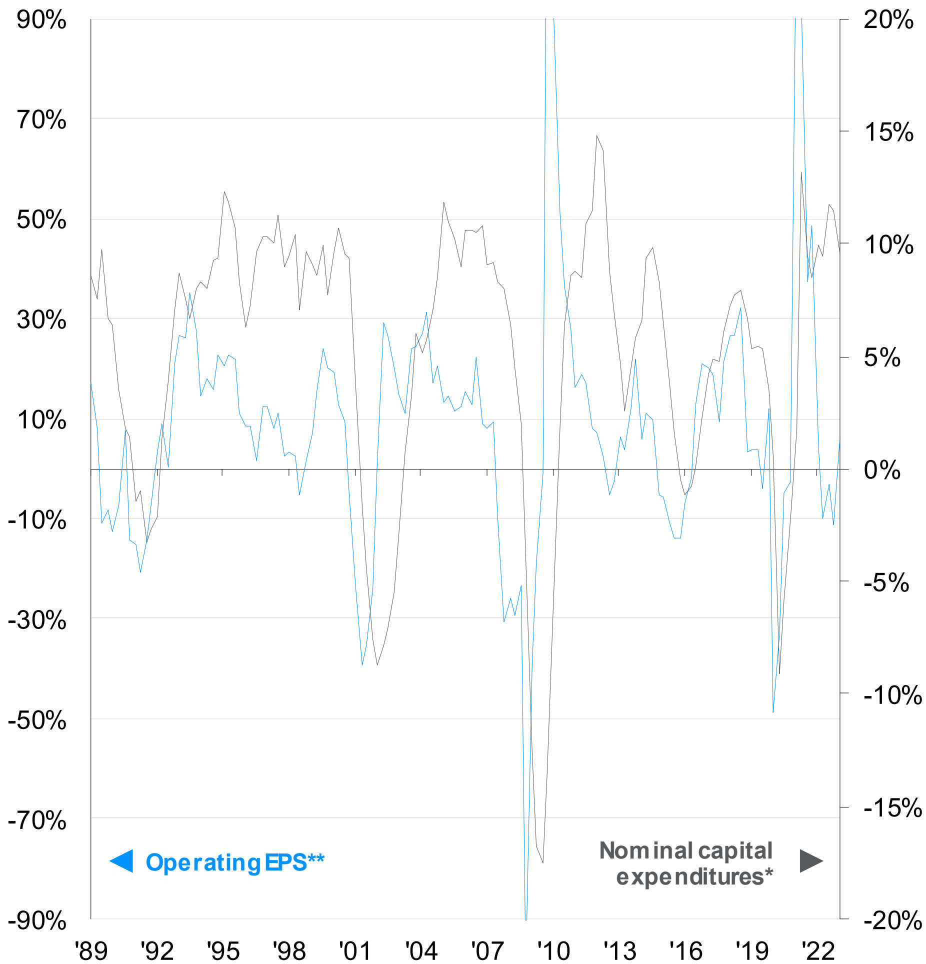
J.P.Morgan
ASSET MANAGEMENT

Economy

Capital spending leading indicators

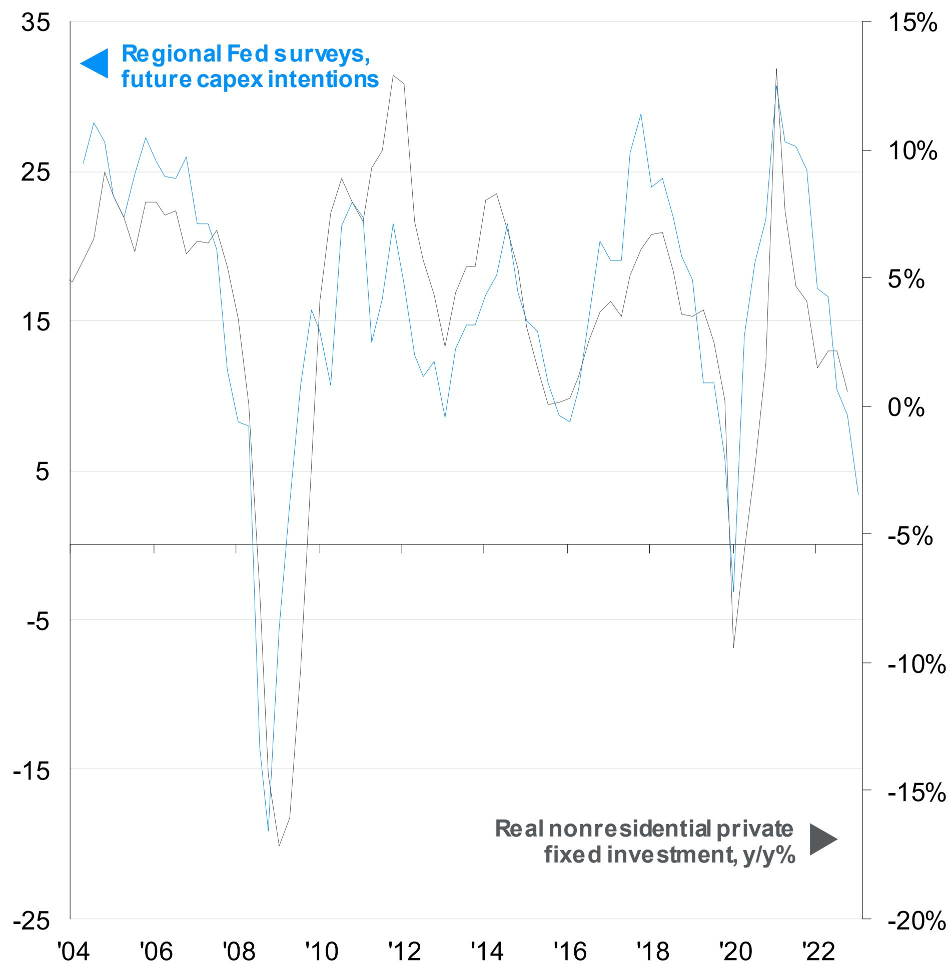
Profit growth and capital expenditures

Year-over-year %



Capital spending intentions over the next 6 months

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



Source: BEA, FactSet, Federal Reserve, Standard & Poor's, J.P. Morgan Asset Management. *Capital expenditures reflect seasonally adjusted nominal gross private domestic nonresidential fixed investment. **Historical operating EPS growth is adjusted to account for periods with outlier growth rates. ***Average includes the Chicago Fed, Philly Fed, Richmond Fed, Dallas Fed, Kansas City Fed and NY Fed manufacturing surveys of future capital expenditures. Most recent quarter reflects quarter-to-date average data.

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

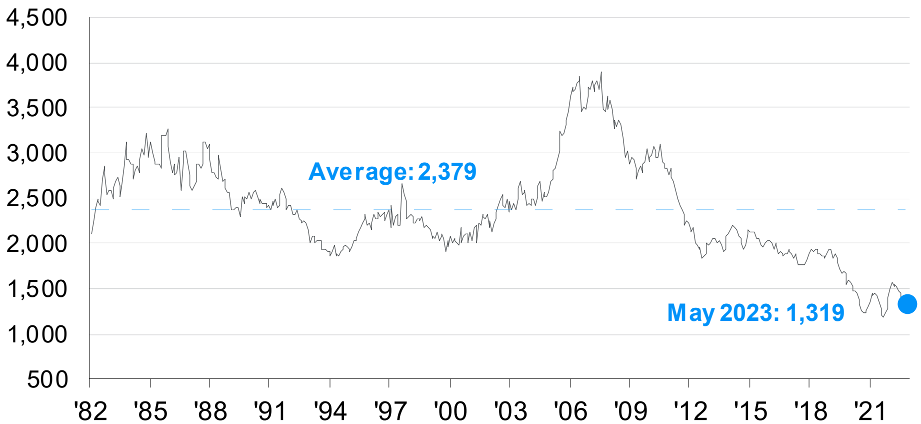
J.P.Morgan ASSET MANAGEMENT

Economy

Residential real estate

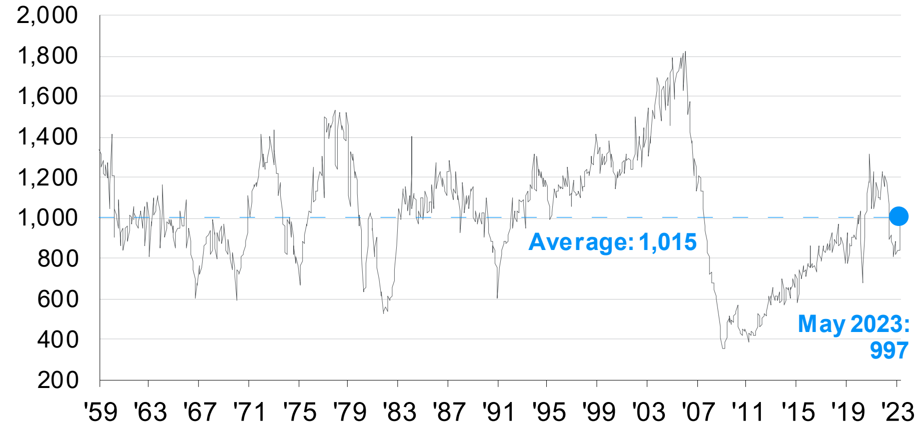
Housing inventories

Inventory of new and existing single family homes for sale, thous, SA*



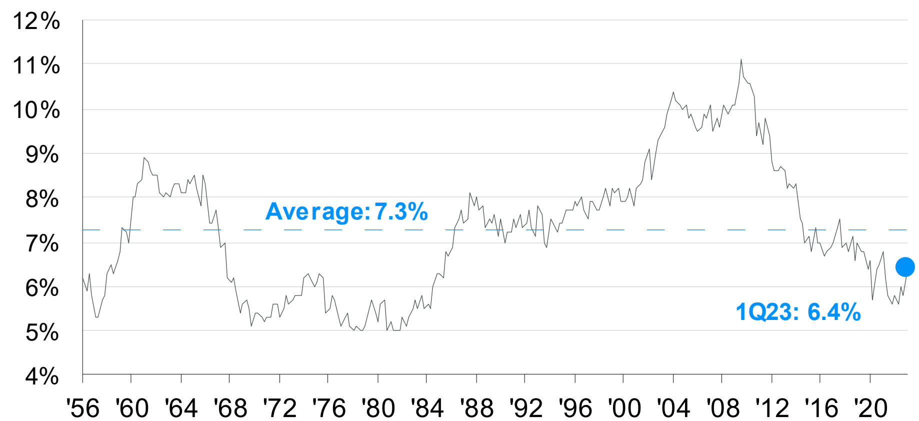
Single-family housing starts

Seasonally adjusted annual rate (SAAR), thous houses



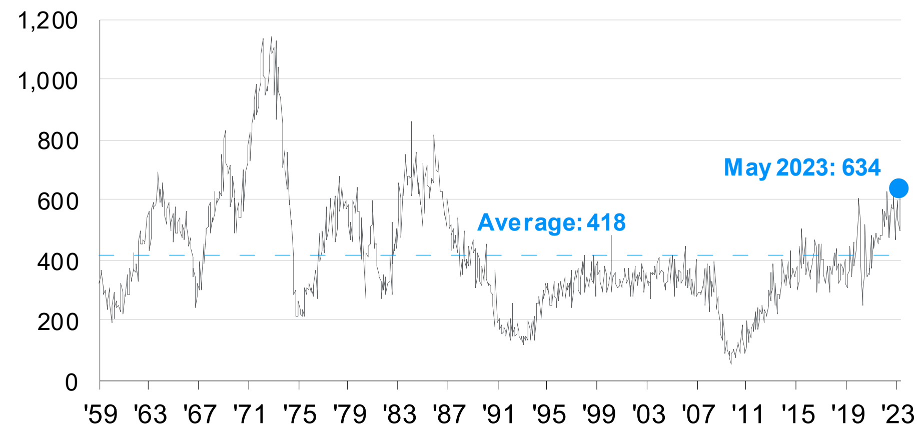
Rental vacancy rate

Percent



Multi-family housing starts

Total multi-family, SAAR, thous houses



Source: U.S. Census Bureau, U.S. National Association of Realtors, J.P. Morgan Asset Management. *Inventory of new and existing single family homes for sale is seasonally adjusted by J.P. Morgan Asset Management.
Guide to the Markets – U.S. Data are as of June 30, 2023.

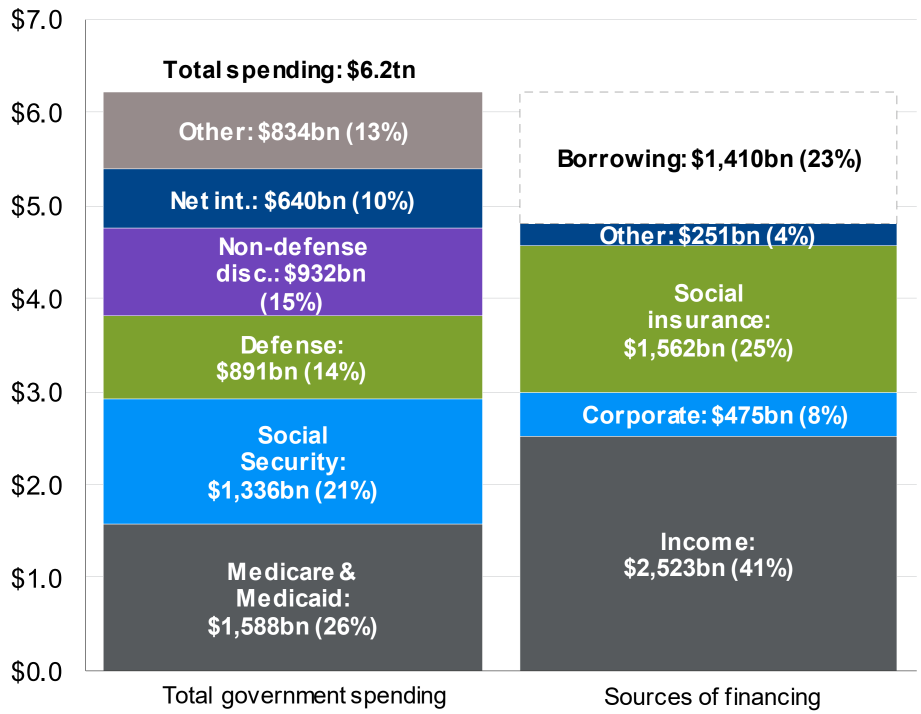
J.P.Morgan
ASSET MANAGEMENT

Economy

Federal finances

The 2023 federal budget

CBO Baseline forecast, USD trillions

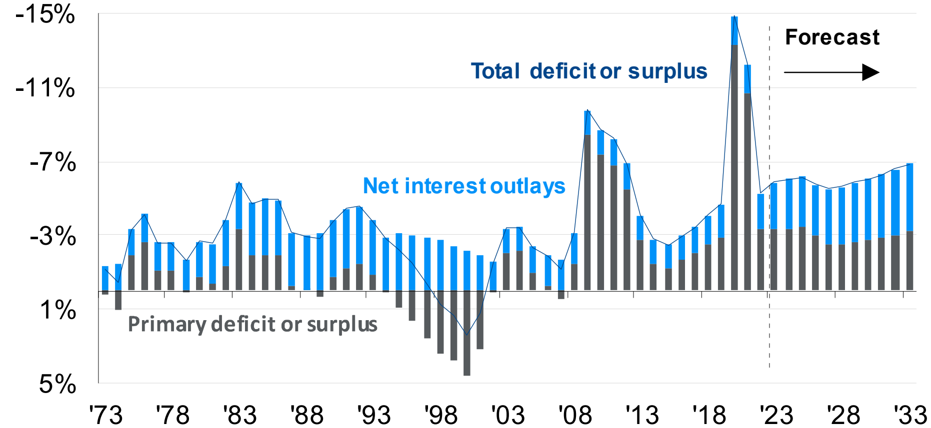


CBO's Baseline economic assumptions

	2023	'24-'25	'26-'27	'28-'33
Real GDP growth	0.3%	1.9%	2.4%	1.9%
10-year Treasury	3.8%	3.8%	3.8%	3.8%
Headline inflation (CPI)	5.7%	2.8%	2.1%	2.2%
Unemployment	4.3%	4.9%	4.5%	4.5%

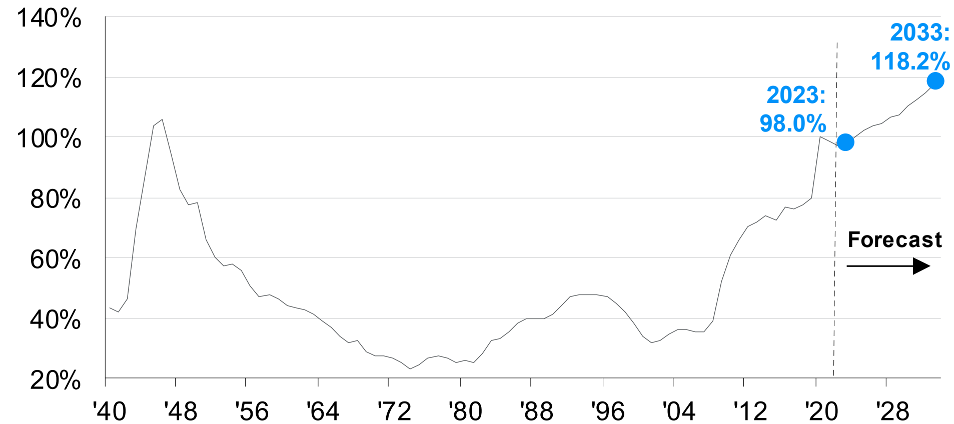
Federal deficit and net interest outlays

% of GDP, 1973-2033, CBO Baseline Forecast



Federal net debt (accumulated deficits)

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



Source: CBO, J.P. Morgan Asset Management; (Top and bottom right) BEA, Treasury Department.
Estimates are based on the Congressional Budget Office (CBO) February 2023 Update to the Budget and Economic Outlook. Other spending includes, but is not limited to, health insurance subsidies, income security and federal civilian and military retirement. Note: Years shown are fiscal years. Forecasts are not a reliable indicator of future performance. Forecasts, projections and other forward-looking statements are based upon current beliefs and expectations. They are for illustrative purposes only and serve as an indication of what may occur. Given the inherent uncertainties and risks associated with forecasts, projections or other forward-looking statements, actual events, results or performance may differ materially from those reflected or contemplated.
Guide to the Markets – U.S. Data are as of June 30, 2023.

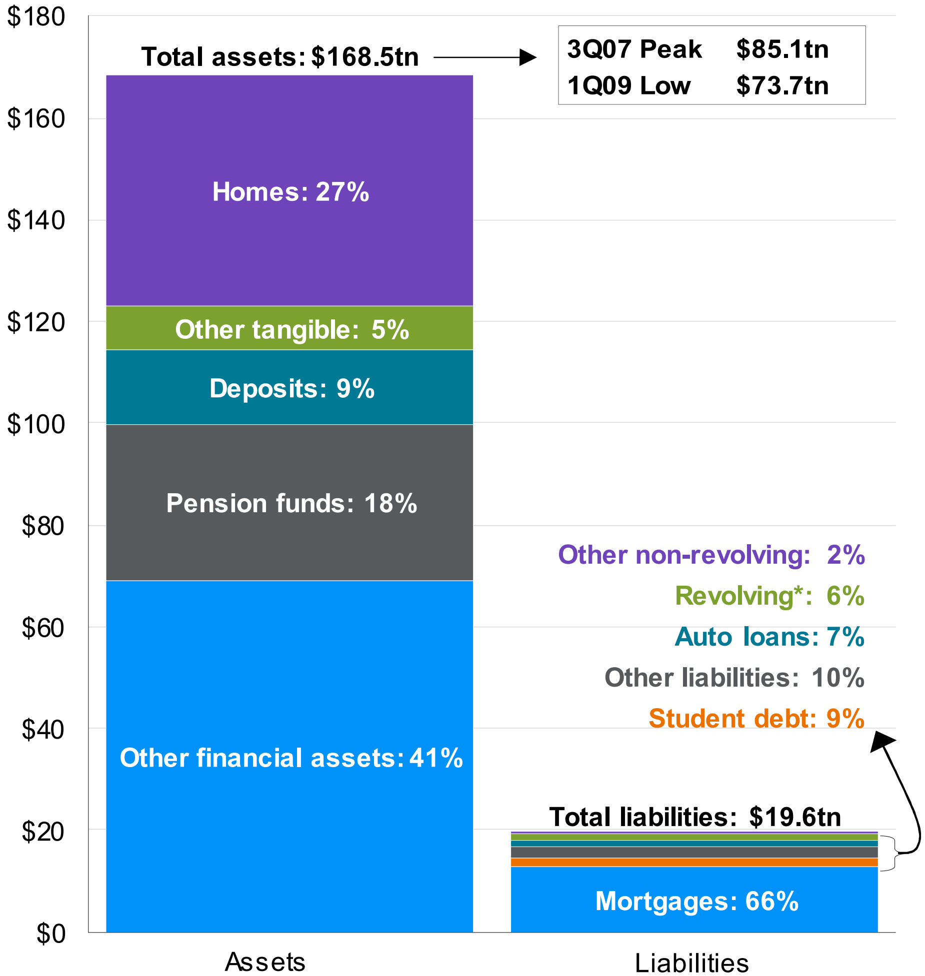
J.P.Morgan ASSET MANAGEMENT

Economy

Consumer finances

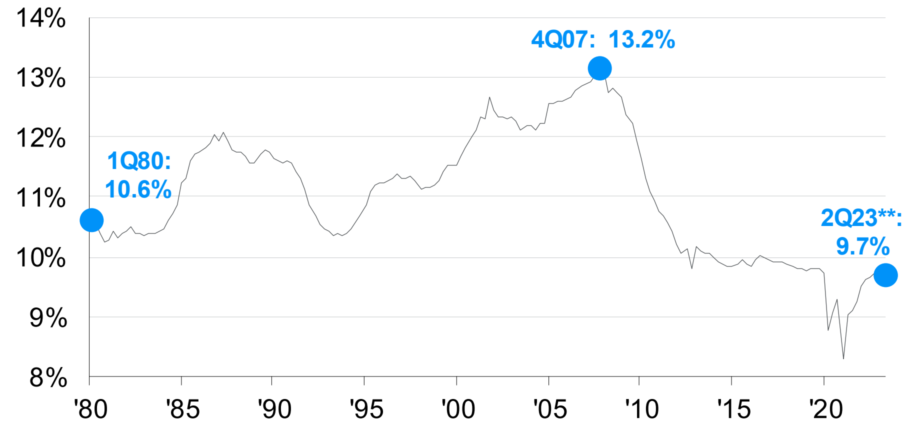
Consumer balance sheet

1Q23, USD trillions, not seasonally adjusted



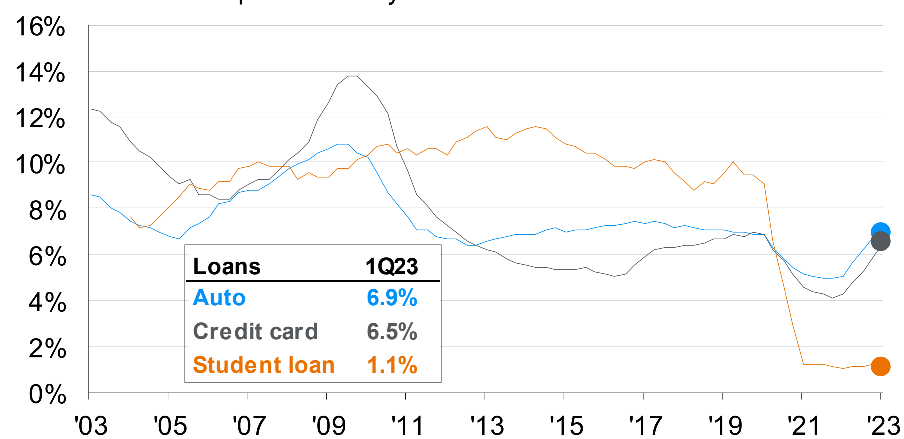
Household debt service ratio

Debt payments as % of disposable personal income, SA



Flows into early delinquencies

% of balance delinquent 30+ days



Loans	1Q23
Auto	6.9%
Credit card	6.5%
Student loan	1.1%

Source: FactSet, FRB, J.P. Morgan Asset Management; (Top and bottom right) BEA.
Data include households and nonprofit organizations. SA – seasonally adjusted. *Revolving includes credit cards. Values may not sum to 100% due to rounding.
**2Q23 figures for debt service ratio are J.P. Morgan Asset Management estimates.
Guide to the Markets – U.S. Data are as of June 30, 2023.

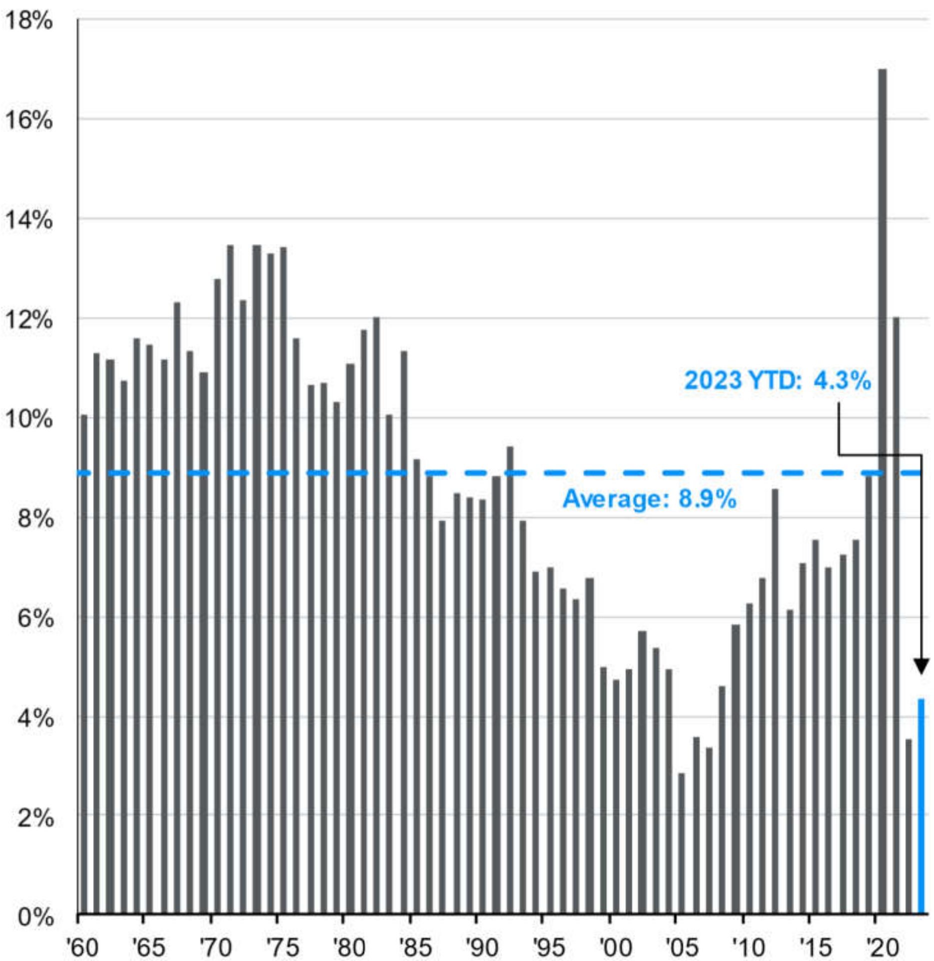
J.P.Morgan ASSET MANAGEMENT

Economy

Consumer saving and borrowing

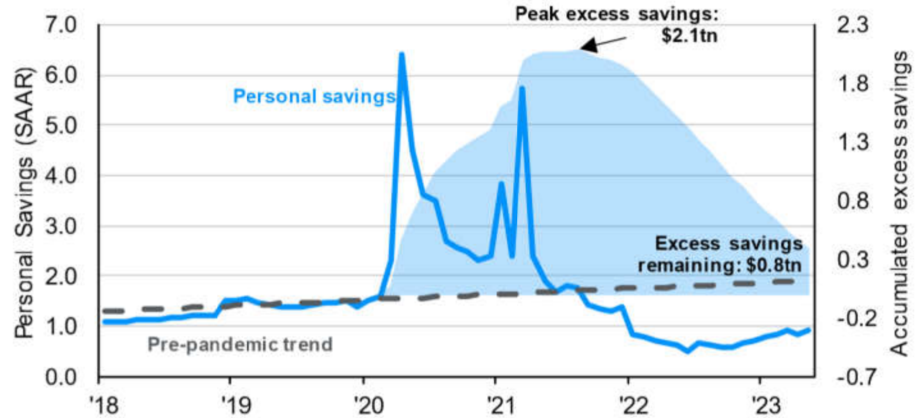
Personal saving rate

Personal savings as a % of disposable personal income, annual



Household excess savings

Trillions of USD



Revolving consumer credit outstanding

% of disposable income, SAAR

Source: BEA, Federal Reserve, J.P. Morgan Asset Management. From March 2020 to August 2021, consumers amassed a peak $2.1 trillion in excess savings relative to the pre-pandemic trend. Since August 2021, consumers have drawn down on those excess savings, with the remaining reflected in the chart annotation.
Guide to the Markets – U.S. Data are as of June 30, 2023.

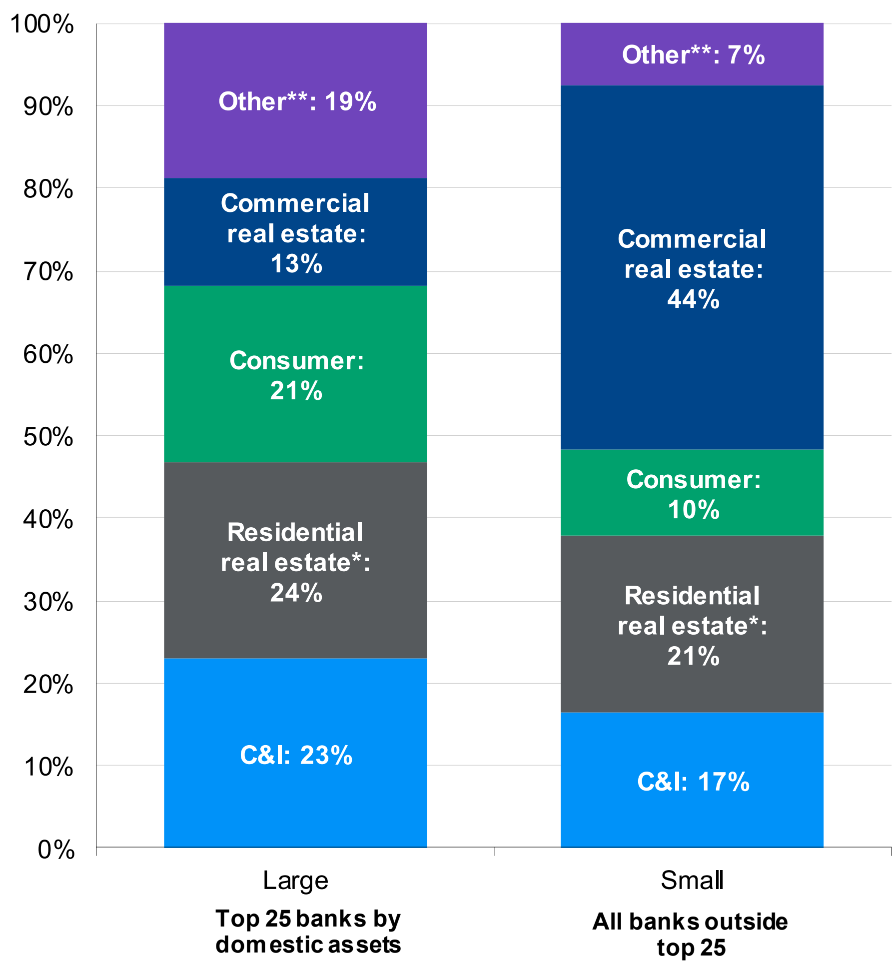
J.P.Morgan
ASSET MANAGEMENT

Economy

Bank assets and liabilities

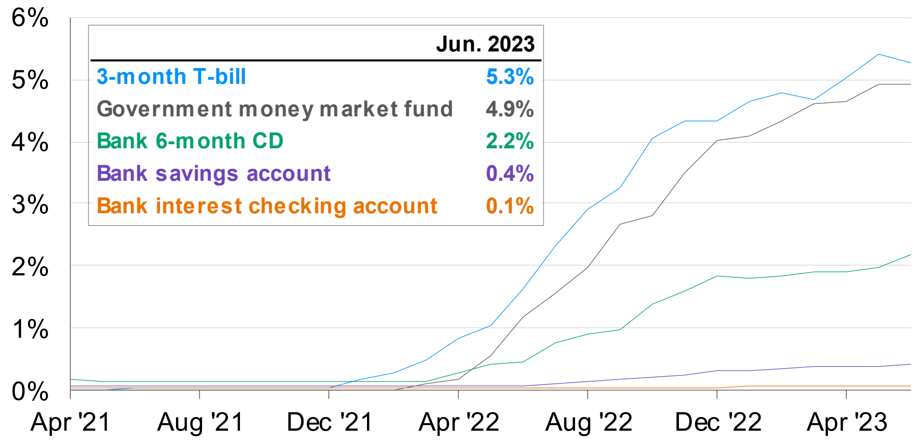
Asset exposure by bank size

% of total loans and leases, domestically chartered commercial banks



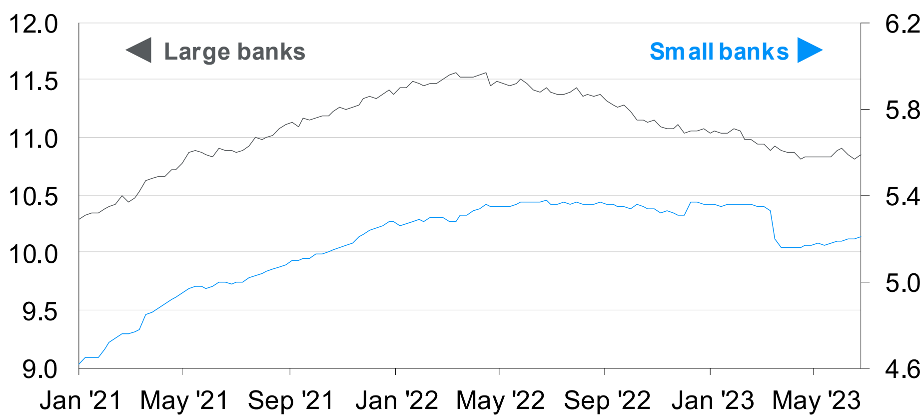
Important market interest rates

Monthly



Bank deposits by bank size

Trillions of USD



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

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

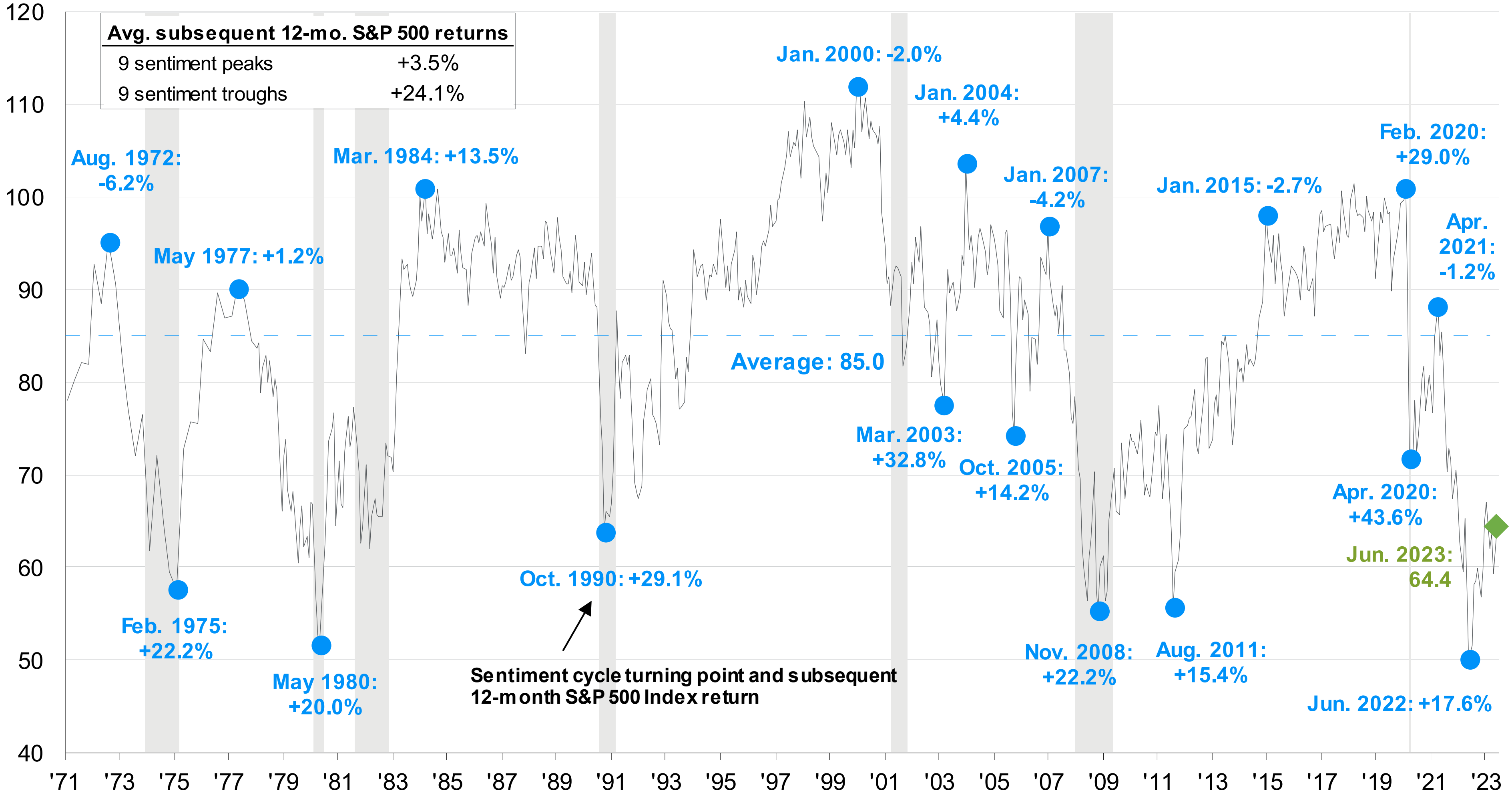
J.P.Morgan ASSET MANAGEMENT

Economy

Consumer confidence and the stock market

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%



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

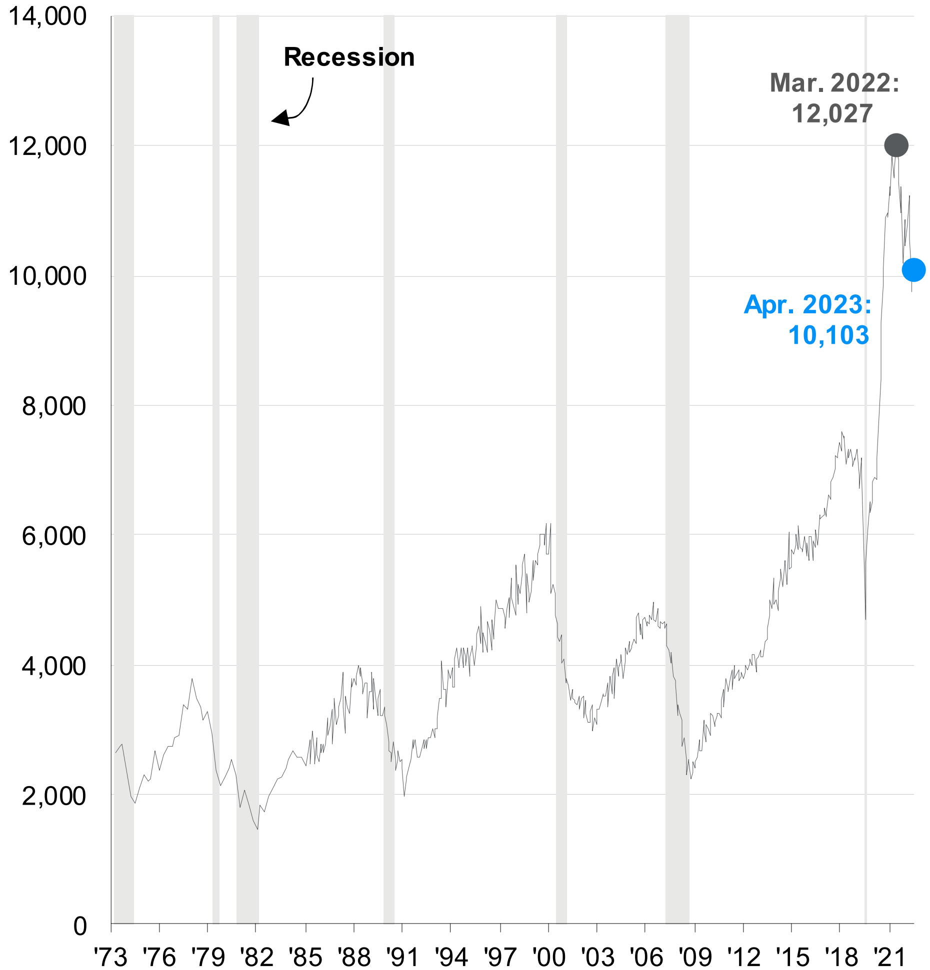
J.P.Morgan ASSET MANAGEMENT

Economy

Labor demand

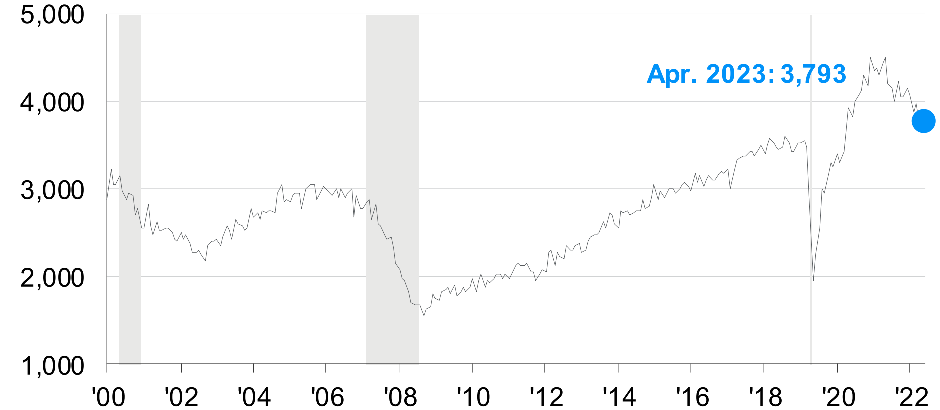
JOLTS job openings*

Total job openings, thousands, seasonally adjusted



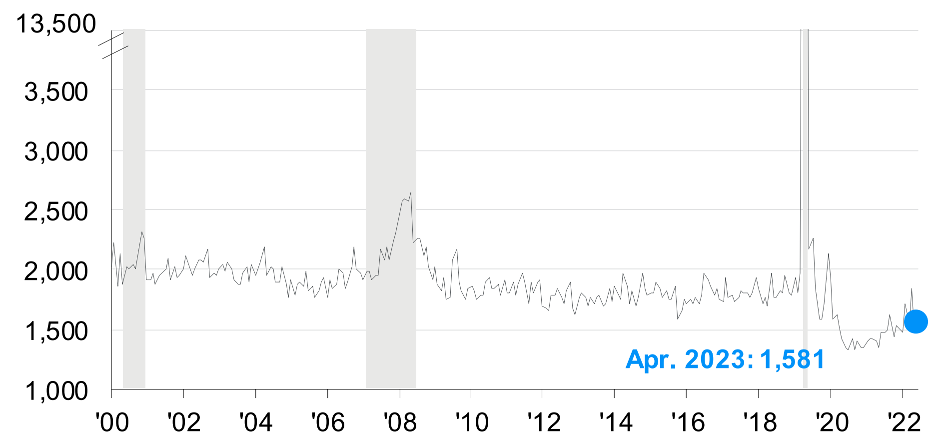
JOLTS quits

Total nonfarm quits, thousands, seasonally adjusted



JOLTS layoffs

Total nonfarm layoffs, thousands, seasonally adjusted



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

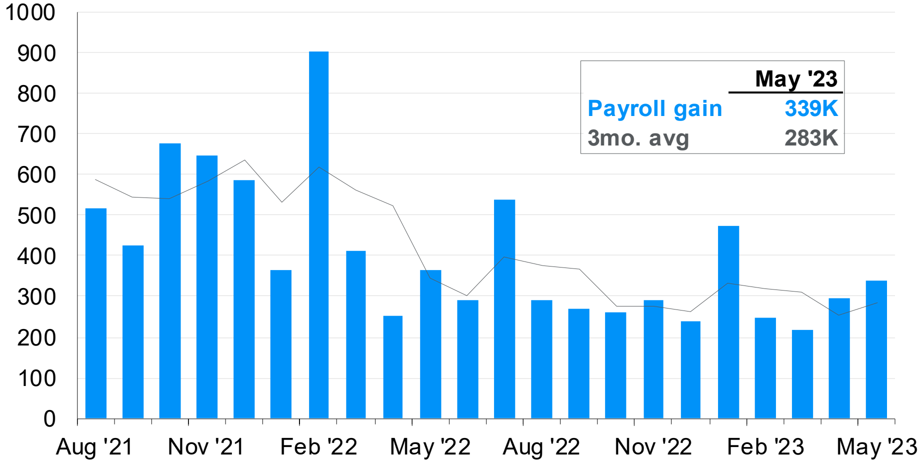
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

Labor market dashboard

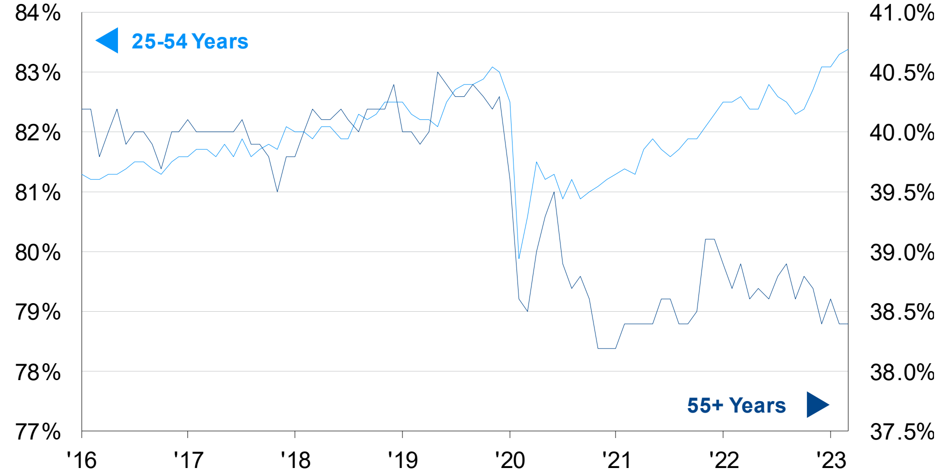
Nonfarm payroll gains

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

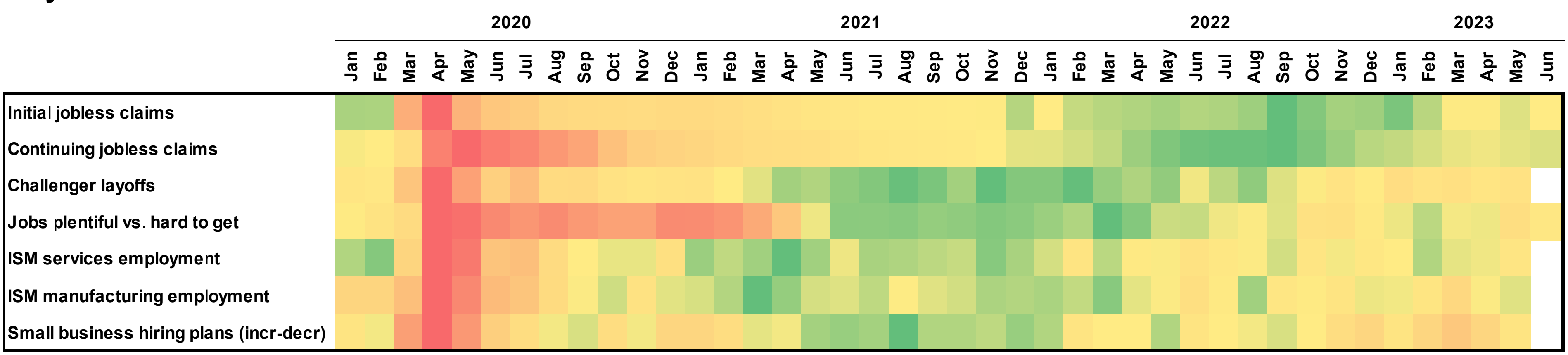


Labor force participation

% of civilian noninstitutional population, SA



Key labor market indicators



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

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

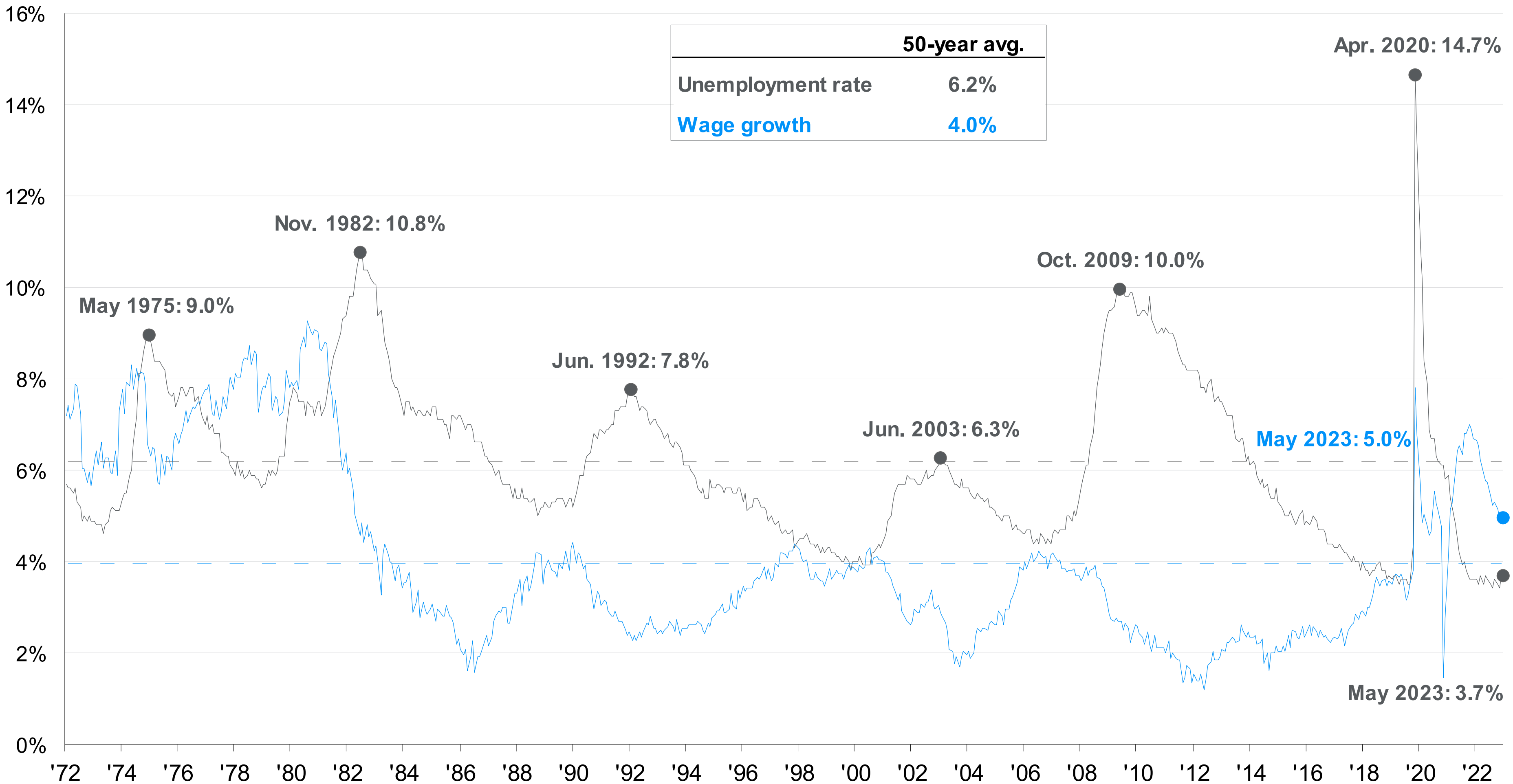
J.P.Morgan ASSET MANAGEMENT

Unemployment and wages

Economy

Civilian unemployment rate and year-over-year wage growth

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



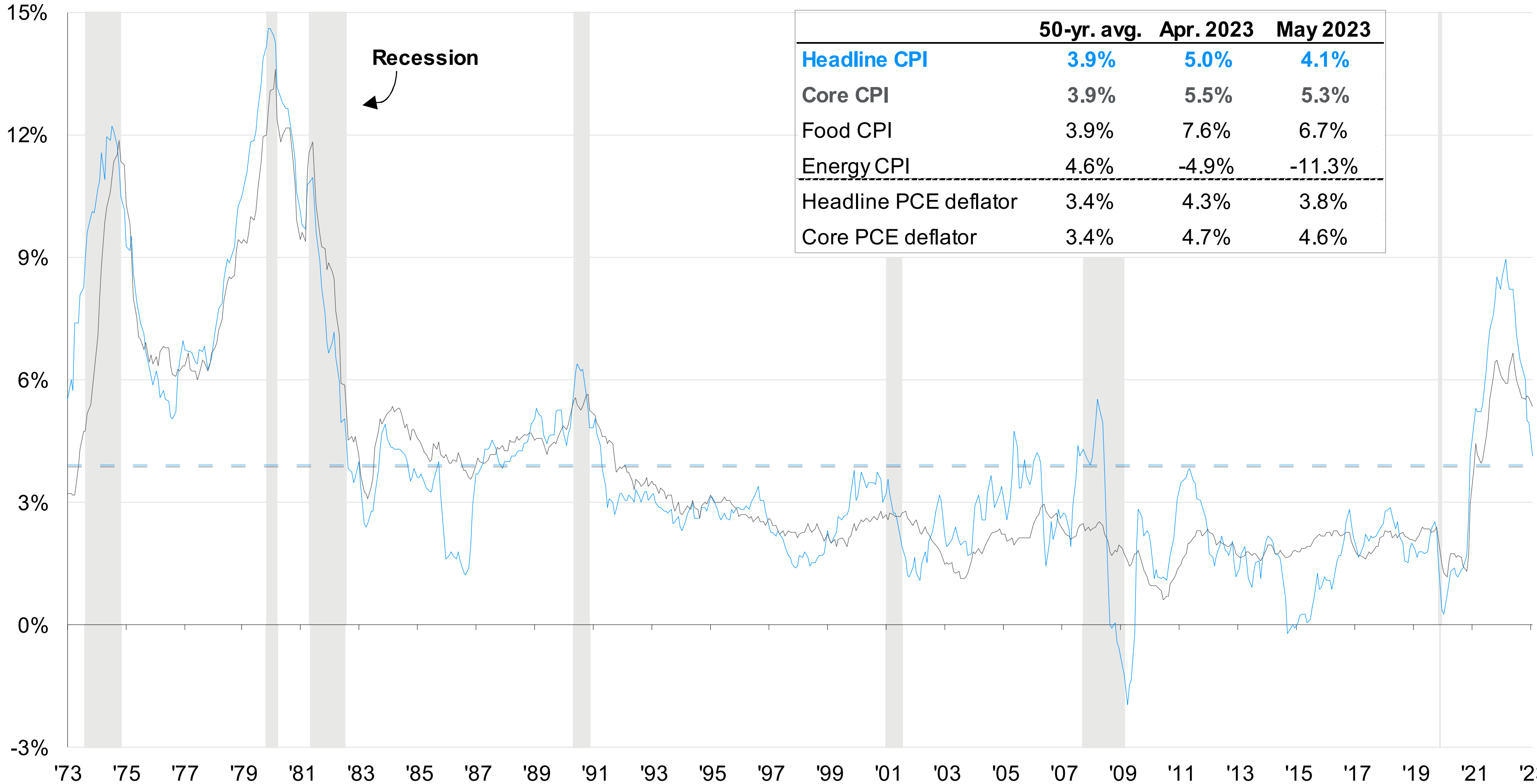
Source: BLS, FactSet, J.P. Morgan Asset Management. Private production and non-supervisory jobs represent just over 80% of total private nonfarm jobs.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan
ASSET MANAGEMENT

Inflation

CPI and core CPI

% change vs. prior year, seasonally adjusted



	50-yr. avg.	Apr. 2023	May 2023
Headline CPI	3.9%	5.0%	4.1%
Core CPI	3.9%	5.5%	5.3%
Food CPI	3.9%	7.6%	6.7%
Energy CPI	4.6%	-4.9%	-11.3%
Headline PCE deflator	3.4%	4.3%	3.8%
Core PCE deflator	3.4%	4.7%	4.6%

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 June 30, 2023.

Inflation heatmap

GTM | U.S. | 32

Consumer Price Index, components

m/m % change, seasonally adjusted

	Weight	2021 Jun	Jul	Aug	Sep	Oct	Nov	Dec	2022 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2023 Jan	Feb	Mar	Apr	May
Headline CPI, y/y	100.0	5.3%	5.2%	5.2%	5.4%	6.2%	6.9%	7.2%	7.6%	8.0%	8.5%	8.2%	8.5%	8.9%	8.4%	8.2%	8.2%	7.8%	7.1%	6.4%	6.3%	6.0%	5.0%	5.0%	4.1%
Core CPI, y/y	79.6	4.4%	4.2%	3.9%	4.0%	4.6%	5.0%	5.5%	6.1%	6.4%	6.5%	6.1%	6.0%	5.9%	5.9%	6.3%	6.6%	6.3%	6.0%	5.7%	5.5%	5.5%	5.6%	5.5%	5.3%
Core svcs. ex-housing PCE, y/y*	-	4.2%	4.4%	4.4%	4.3%	4.4%	5.0%	5.0%	4.9%	4.8%	4.7%	4.5%	4.5%	4.6%	4.0%	4.2%	4.5%	4.7%	4.4%	4.3%	4.7%	4.8%	4.6%	4.7%	4.6%
Headline CPI, m/m	100.0	0.8%	0.4%	0.4%	0.4%	0.9%	0.8%	0.8%	0.6%	0.7%	1.0%	0.4%	0.9%	1.2%	0.0%	0.2%	0.4%	0.5%	0.2%	0.1%	0.5%	0.4%	0.1%	0.4%	0.1%
Core CPI, m/m	79.6	0.7%	0.3%	0.2%	0.3%	0.7%	0.6%	0.7%	0.6%	0.5%	0.3%	0.5%	0.6%	0.6%	0.3%	0.6%	0.6%	0.3%	0.3%	0.4%	0.4%	0.5%	0.4%	0.4%	0.4%
Core svcs. ex-housing PCE, m/m*	-	0.4%	0.5%	0.3%	0.2%	0.2%	0.6%	0.5%	0.2%	0.3%	0.5%	0.3%	0.3%	0.6%	-0.1%	0.5%	0.5%	0.4%	0.3%	0.4%	0.6%	0.3%	0.3%	0.4%	0.2%
Energy	6.9	1.5%	1.7%	2.8%	1.5%	3.6%	2.6%	2.4%	0.8%	2.7%	8.2%	-1.0%	3.4%	6.9%	-4.7%	-3.9%	-1.7%	1.7%	-1.4%	-3.1%	2.0%	-0.6%	-3.5%	0.6%	-3.6%
Gasoline	3.3	2.5%	2.5%	4.5%	1.5%	4.1%	4.2%	3.8%	-0.3%	4.7%	13.2%	-3.1%	3.2%	10.3%	-8.1%	-8.4%	-4.2%	3.4%	-2.3%	-7.0%	2.4%	1.0%	-4.6%	3.0%	-5.6%
Electricity	2.5	0.0%	0.2%	0.7%	1.0%	1.6%	0.7%	0.9%	2.7%	-0.3%	1.7%	0.9%	1.3%	1.5%	1.5%	1.2%	0.8%	0.5%	0.5%	1.3%	0.5%	0.5%	-0.7%	-0.7%	-1.0%
Utility Gas	0.8	1.2%	2.0%	1.6%	2.2%	6.7%	0.5%	0.1%	0.5%	2.0%	0.6%	2.5%	7.2%	7.5%	-3.8%	3.5%	2.2%	-3.7%	-3.4%	3.5%	6.7%	-8.0%	-7.1%	-4.9%	-2.6%
Food	13.5	0.7%	0.6%	0.4%	0.9%	0.9%	0.8%	0.6%	0.8%	1.0%	0.9%	0.8%	1.1%	1.0%	1.1%	0.8%	0.8%	0.7%	0.6%	0.4%	0.5%	0.4%	0.0%	0.0%	0.2%
Food at home	8.7	0.8%	0.5%	0.4%	1.2%	1.0%	1.0%	0.6%	0.9%	1.3%	1.3%	0.9%	1.3%	1.0%	1.3%	0.8%	0.7%	0.5%	0.6%	0.5%	0.4%	0.3%	-0.3%	-0.2%	0.1%
Food away from home	4.8	0.7%	0.8%	0.4%	0.5%	0.8%	0.6%	0.6%	0.7%	0.4%	0.3%	0.6%	0.7%	0.9%	0.7%	0.9%	0.9%	0.9%	0.5%	0.4%	0.6%	0.6%	0.6%	0.4%	0.5%
Core goods	21.3	1.9%	0.3%	0.3%	0.3%	1.3%	1.1%	1.4%	0.9%	0.3%	-0.4%	0.1%	0.6%	0.6%	0.1%	0.4%	0.0%	-0.1%	-0.2%	-0.1%	0.1%	0.0%	0.2%	0.6%	0.6%
Apparel	2.6	0.6%	0.0%	0.3%	-0.5%	1.0%	0.7%	0.9%	0.7%	0.6%	0.3%	-0.1%	0.4%	0.7%	-0.1%	0.3%	0.0%	-0.2%	0.1%	0.2%	0.8%	0.8%	0.3%	0.3%	0.3%
New vehicles	4.3	1.6%	1.4%	1.2%	1.3%	1.5%	1.6%	1.8%	0.3%	0.1%	0.1%	0.4%	0.6%	0.5%	0.5%	0.8%	0.7%	0.6%	0.5%	0.6%	0.2%	0.2%	0.4%	-0.2%	-0.1%
Used cars	2.6	9.1%	-0.4%	-1.3%	-0.5%	3.1%	3.2%	3.9%	1.4%	-0.6%	-3.6%	-0.7%	1.9%	0.5%	-0.8%	-0.2%	-1.1%	-1.7%	-2.0%	-2.0%	-1.9%	-2.8%	-0.9%	4.4%	4.4%
Medical care commod	1.5	-0.4%	0.2%	-0.2%	0.3%	0.6%	0.1%	0.0%	0.9%	0.3%	0.2%	0.1%	0.3%	0.4%	0.6%	0.2%	-0.1%	0.0%	0.2%	0.1%	1.1%	0.1%	0.6%	0.5%	0.6%
Core services	58.3	0.3%	0.3%	0.1%	0.2%	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%	0.6%	0.6%	0.6%	0.4%	0.6%	0.8%	0.5%	0.5%	0.6%	0.5%	0.6%	0.4%	0.4%	0.4%
Shelter	34.6	0.4%	0.5%	0.2%	0.4%	0.4%	0.5%	0.4%	0.3%	0.6%	0.5%	0.5%	0.6%	0.6%	0.6%	0.7%	0.7%	0.7%	0.6%	0.8%	0.7%	0.8%	0.6%	0.4%	0.6%
Rent of primary res.	7.5	0.2%	0.2%	0.3%	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%	0.4%	0.6%	0.6%	0.8%	0.7%	0.7%	0.8%	0.7%	0.8%	0.8%	0.7%	0.8%	0.5%	0.6%	0.5%
OER	25.4	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.6%	0.7%	0.6%	0.7%	0.8%	0.6%	0.7%	0.8%	0.7%	0.7%	0.5%	0.5%	0.5%
Medical care services	6.5	-0.1%	0.1%	0.2%	0.0%	0.6%	0.5%	0.5%	0.5%	0.1%	0.6%	0.5%	0.4%	0.7%	0.4%	0.7%	0.8%	-0.4%	-0.5%	0.3%	-0.7%	-0.7%	-0.5%	-0.1%	-0.1%
Transportation services	5.9	0.9%	-0.8%	-0.7%	-0.9%	0.0%	1.2%	0.5%	0.7%	1.1%	2.1%	2.2%	1.6%	1.8%	-0.4%	1.0%	1.9%	0.6%	0.3%	0.6%	0.9%	1.1%	1.4%	-0.2%	0.8%

Source: BLS, FactSet, J.P. Morgan Asset Management. Heatmap shading is relative to the two-year period shown. Component weights may not add to 100. OER refers to owners' equivalent rent. *Core services ex-housing is an approximation by J.P. Morgan Asset Management. It reflects the custom PCE index of services excluding energy and housing referenced in the U.S. Federal Reserve's Monetary Policy Report. Data for the custom PCE index is provided by the BEA and is distinct from the CPI data provided by the BLS. "Housing" is a PCE component that is measured separately from the CPI "shelter" component.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

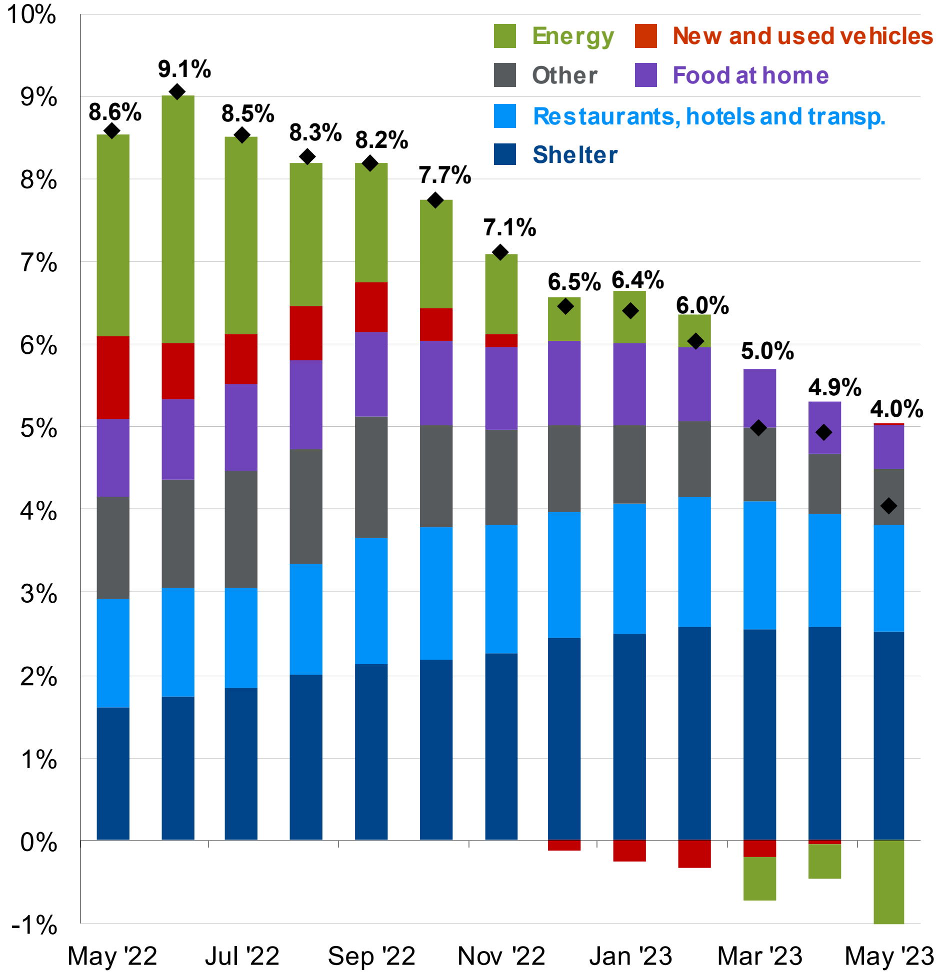
Economy

Economy

Inflation components

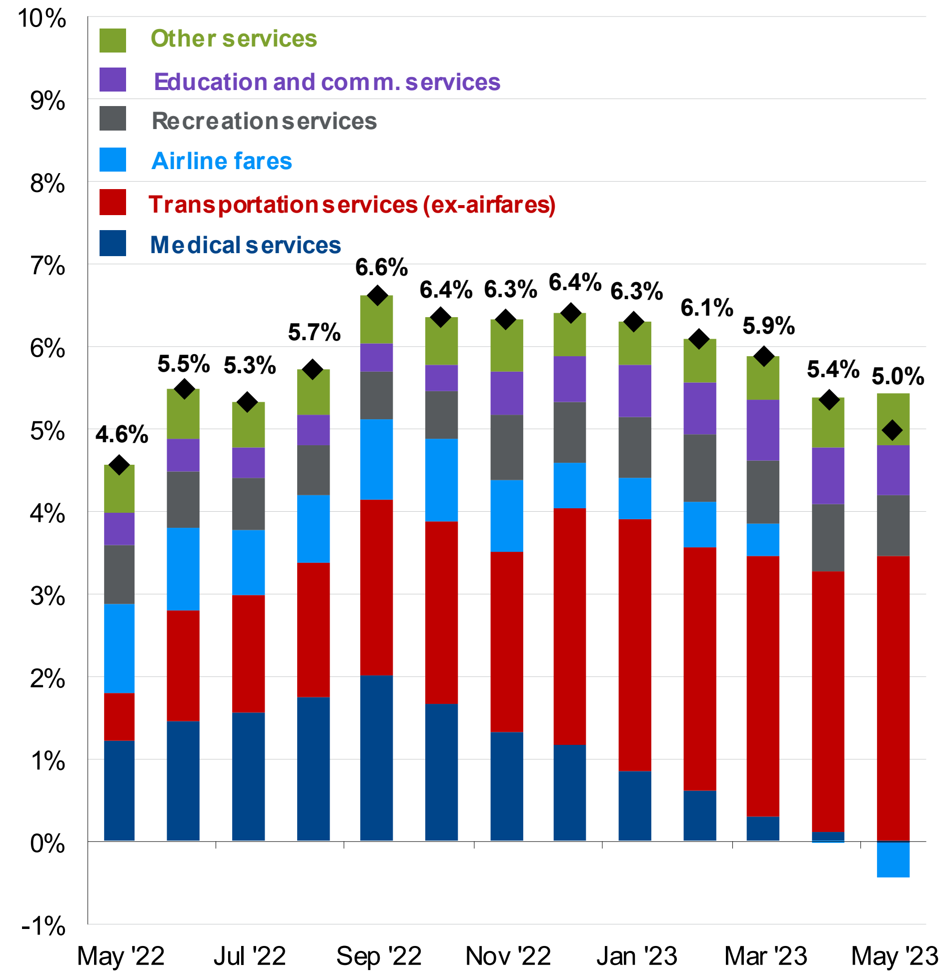
Contributors to headline CPI inflation

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



Contributors to core services ex-shelter CPI inflation*

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



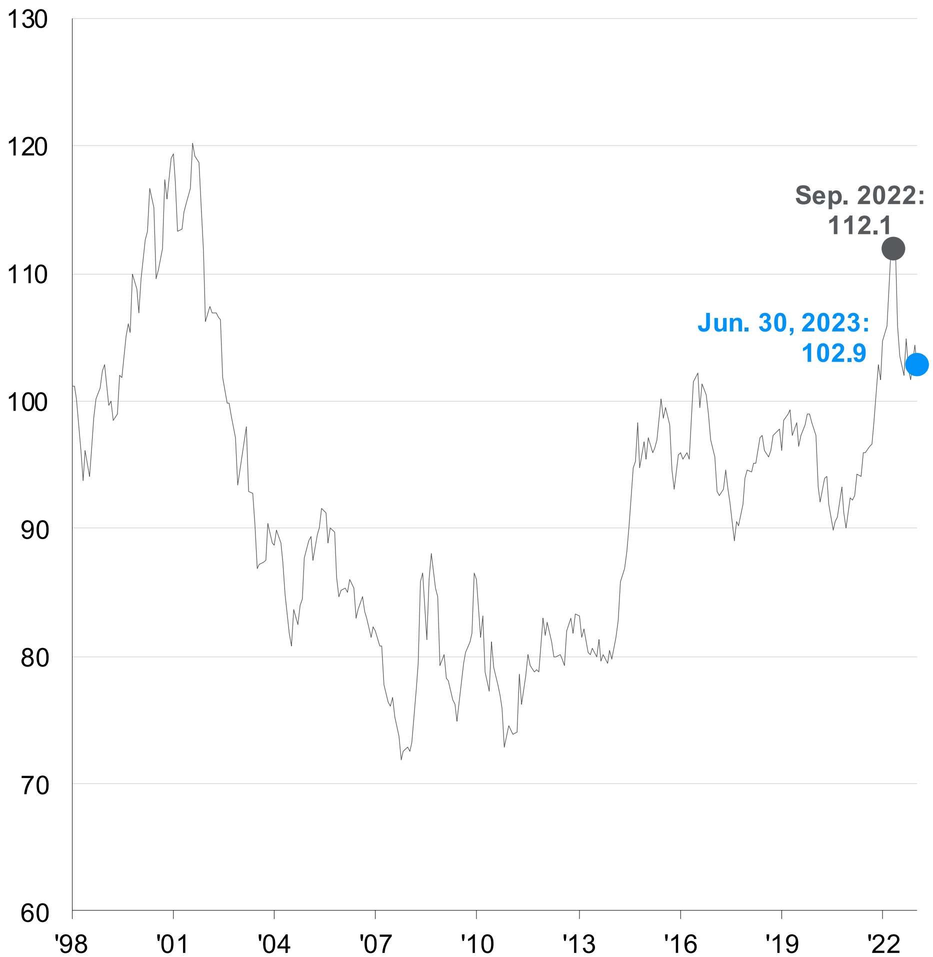
Source: Bureau of Labor Statistics, FactSet, J.P. Morgan Asset Management. Contributions mirror the BLS methodology on Table 7 of the CPI report. Values may not sum to headline CPI figures due to rounding and underlying calculations. *Core services ex-shelter CPI is a custom index using CPI components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

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

J.P.Morgan ASSET MANAGEMENT

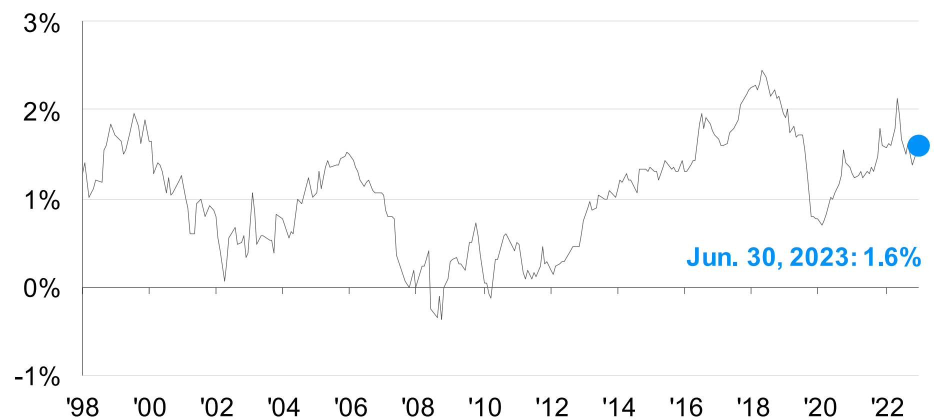
Dollar drivers

The U.S. dollar
U.S. Dollar Index



The U.S. trade balance
Current account balance, % of GDP

Developed markets interest rate differentials
Difference between U.S. and international 10-year yields*



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

J.P.Morgan
ASSET MANAGEMENT

Economy

Oil markets

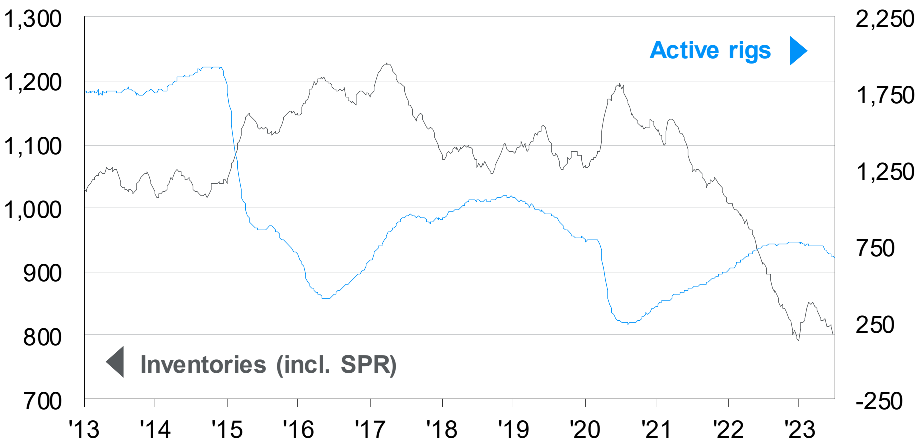
Change in production and consumption of liquid fuels

Production, consumption and inventories, millions of barrels per day

Production	2019	2020	2021	2022	2023*	Growth since '19
U.S.	19.5	18.6	19.0	20.2	21.3	8.8%
OPEC	34.6	30.7	31.7	34.2	33.5	-3.2%
Russia	11.5	10.5	10.8	10.9	10.7	-6.7%
Global	**100.3**	**93.9**	**95.7**	**99.9**	**101.4**	**1.1%**
Consumption						
U.S.	20.5	18.2	19.9	20.3	20.4	-0.5%
China	14.0	14.4	15.3	15.2	16.0	13.8%
Global	**100.9**	**91.6**	**97.1**	**99.4**	**101.0**	**0.1%**
Inventory Change	-0.6	2.3	-1.4	0.4	0.4	

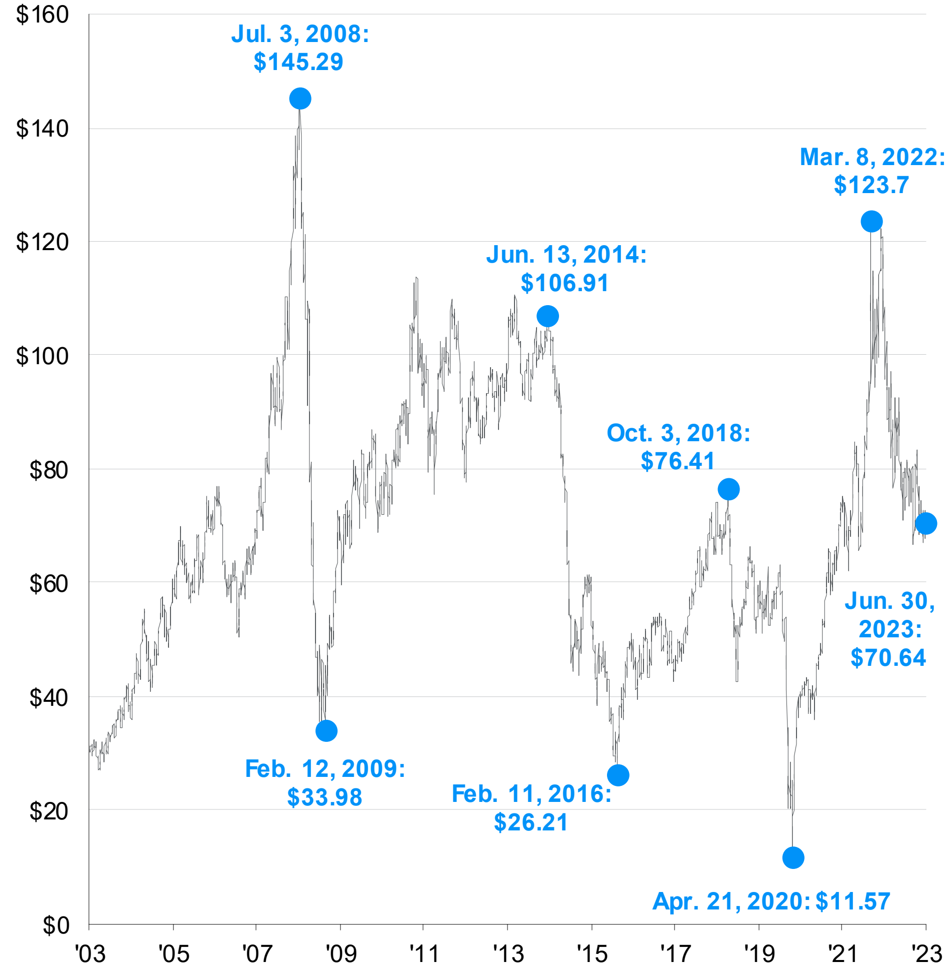
U.S. crude oil inventories and rig count**

Million barrels, number of active rigs



Price of oil

WTI crude, nominal prices, USD/barrel



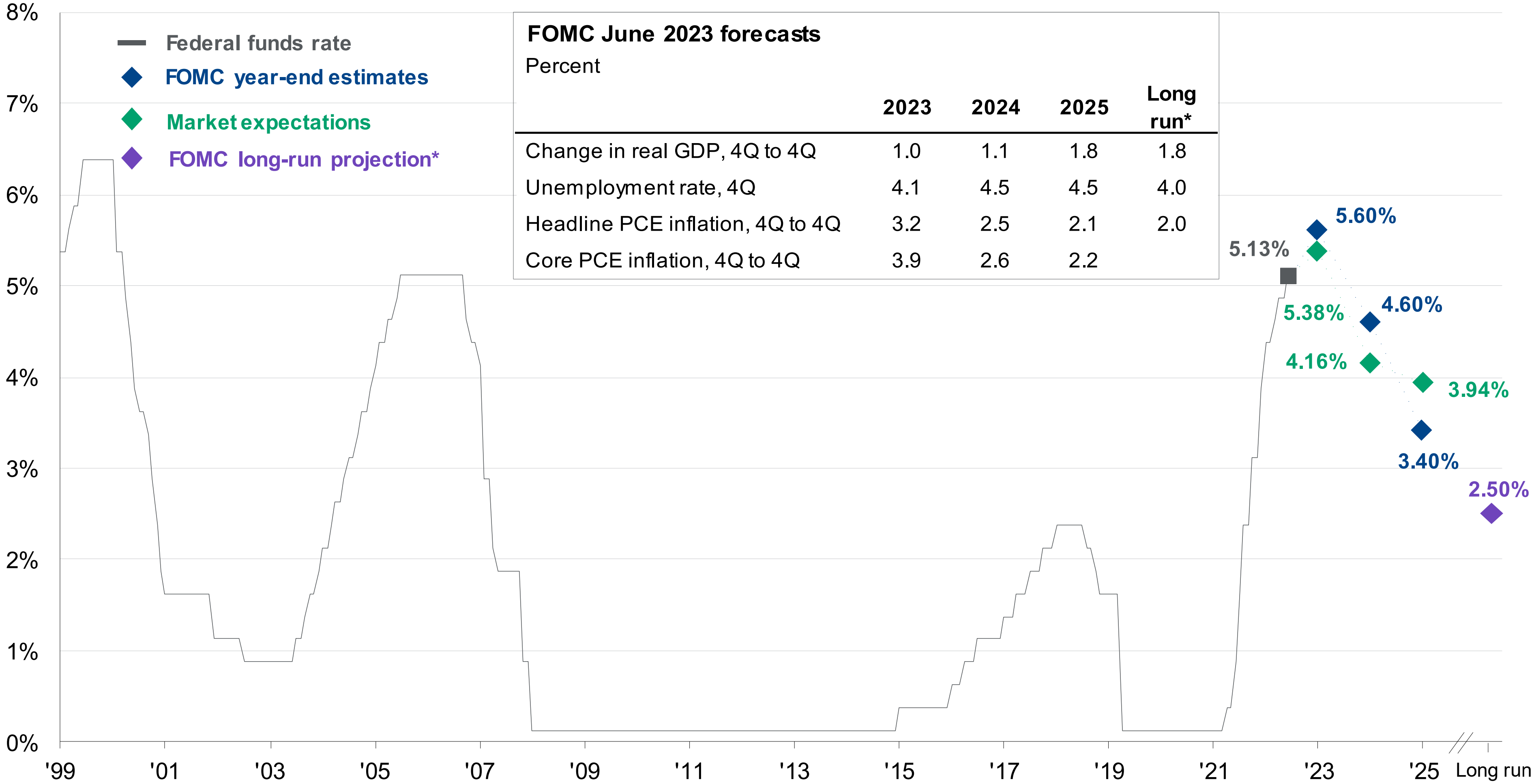
Source: J.P. Morgan Asset Management; (Top and bottom left) EIA; (Right) FactSet; (Bottom left) Baker Hughes.
*Forecasts are from the June 2023 EIA Short-Term Energy Outlook and start in 2023. **U.S. crude oil inventories include the Strategic Petroleum Reserve (SPR). Liquid fuels include crude oil, natural gas, biodiesel and fuel ethanol. Active rig count includes both natural gas and oil rigs. WTI crude prices are continuous contract NYM prices in USD.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

The Fed and interest rates

Federal funds rate expectations

FOMC and market expectations for the federal funds rate



FOMC June 2023 forecasts

Percent

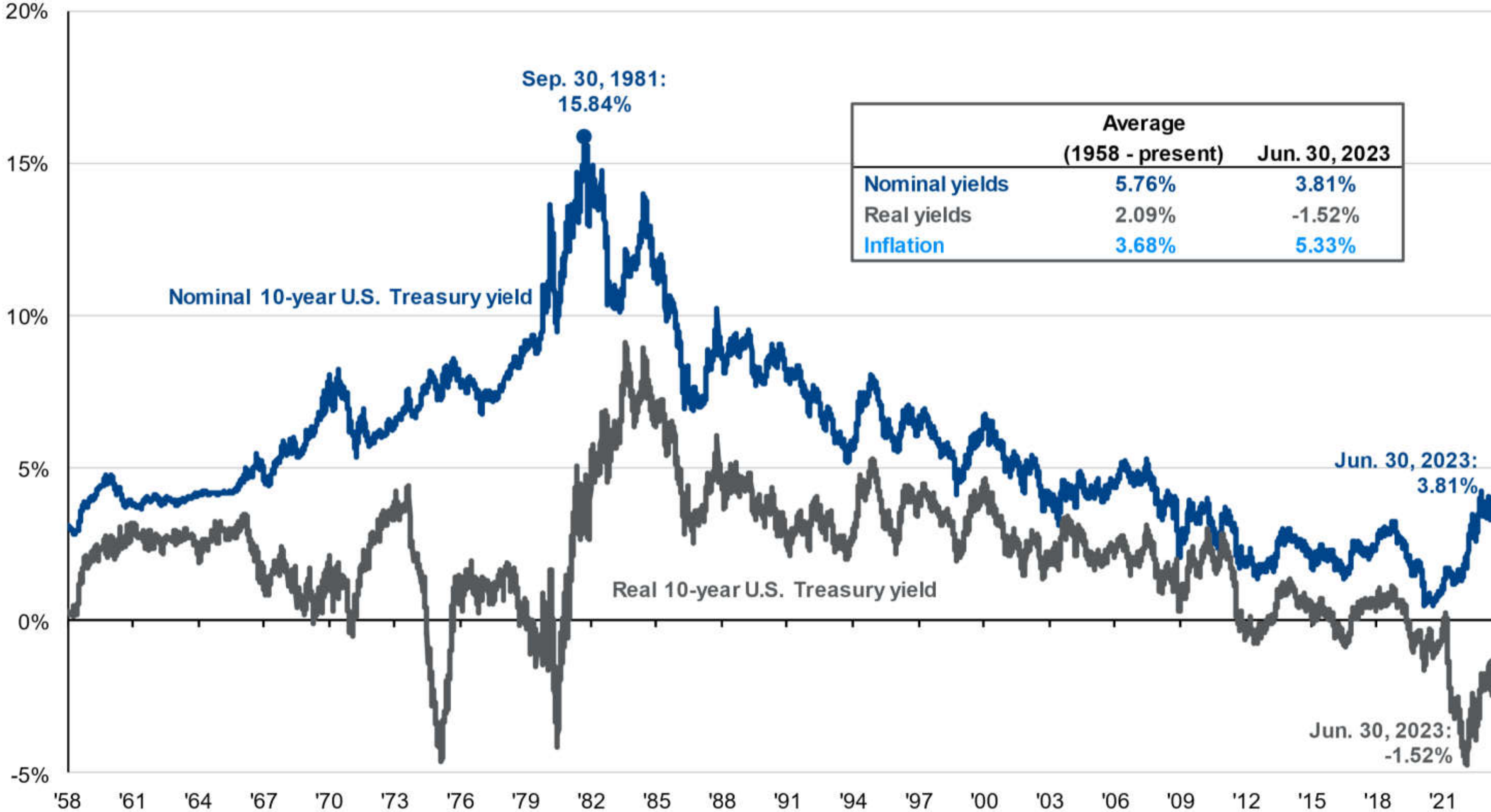
	2023	2024	2025	Long run*
Change in real GDP, 4Q to 4Q	1.0	1.1	1.8	1.8
Unemployment rate, 4Q	4.1	4.5	4.5	4.0
Headline PCE inflation, 4Q to 4Q	3.2	2.5	2.1	2.0
Core PCE inflation, 4Q to 4Q	3.9	2.6	2.2	

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 June 30, 2023.

J.P.Morgan
ASSET MANAGEMENT

Interest rates and inflation

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



	Average (1958 - present)	Jun. 30, 2023
Nominal yields	5.76%	3.81%
Real yields	2.09%	-1.52%
Inflation	3.68%	5.33%

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

J.P.Morgan
ASSET MANAGEMENT

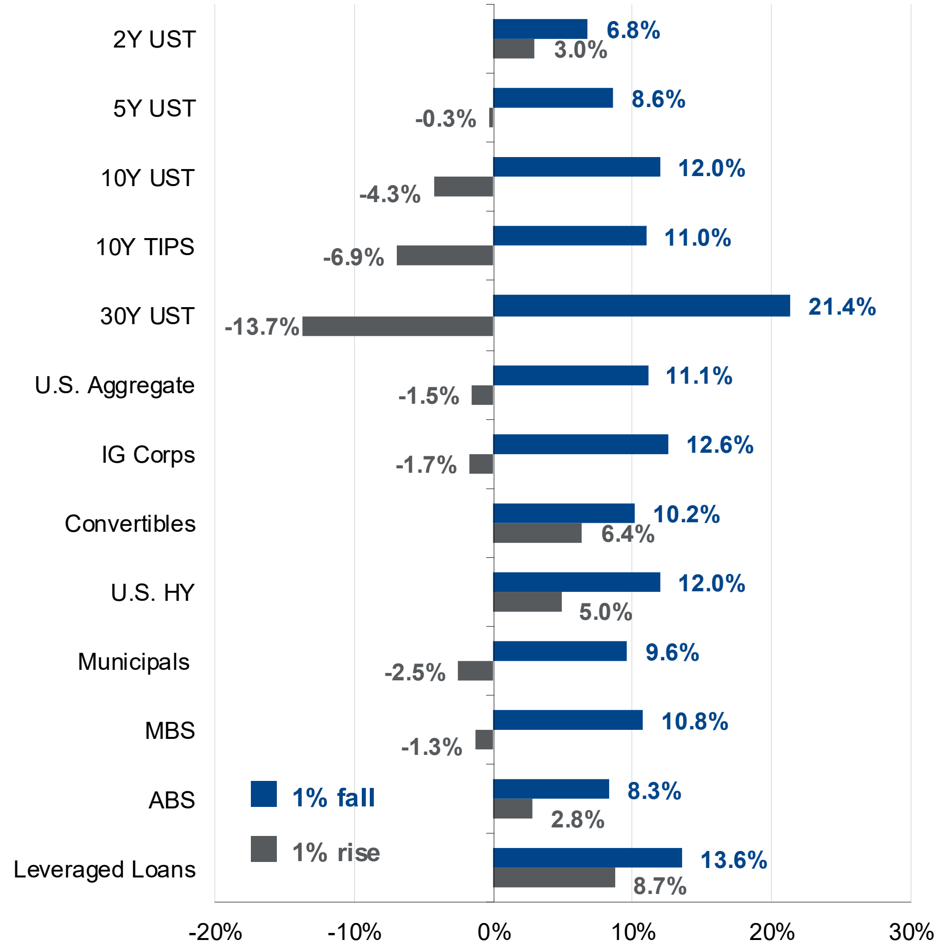
Fixed Income

Fixed income market dynamics

U.S. Treasuries	Yield 6/30/2023	Yield 12/31/2022	Return 2023 YTD	Avg. Maturity	Correlation to 10-year	Correlation to S&P 500
2-Year	4.87%	4.41%	0.56%	2 years	0.73	-0.15
5-Year	4.13%	3.99%	0.66%	5	0.93	-0.13
10-Year	3.81%	3.88%	1.78%	10	1.00	-0.13
10-Year TIPS*	1.60%	1.53%	2.21%	10	0.78	0.31
30-Year	3.85%	3.97%	3.49%	30	0.93	-0.17
Sector						
U.S. Aggregate	4.81%	4.68%	2.09%	8.6	0.86	0.22
IG Corps	5.48%	5.42%	3.21%	11.1	0.54	0.47
Convertibles	7.87%	7.58%	8.39%	-	-0.13	0.87
U.S. HY	8.50%	8.96%	5.38%	5.1	-0.09	0.74
Municipals	3.52%	3.55%	2.67%	13.1	0.54	0.21
MBS	4.78%	4.71%	1.87%	7.8	0.78	0.14
ABS	6.17%	5.89%	2.38%	3.5	0.07	0.08
Leveraged Loans	11.16%	11.41%	6.54%	2.4	-0.33	0.60

Impact of a 1% rise or fall in interest rates

Total return, assumes a parallel shift in the yield curve



Source: Bloomberg, FactSet, Standard & Poor's, U.S. Treasury, J.P. Morgan Asset Management. Sectors shown above are provided by Bloomberg unless otherwise noted and are represented by – U.S. Aggregate; MBS: U.S. Aggregate Securitized - MBS; ABS: J.P. Morgan ABS Index; Corporates: U.S. Corporates; Municipals: Muni Bond; High Yield: Corporate High Yield; Leveraged Loans: J.P. Morgan Leveraged Loan Index; 10-Year TIPS: Bloomberg 10-Year TIPS On-The-Run Index; Convertibles: U.S. Convertibles Composite. Convertibles yield is as of most recent month-end and is based on U.S. portion of Bloomberg Global Convertibles Index. Yield and return information based on bellwethers for Treasury securities. Sector yields reflect yield-to-worst. Convertibles yield is based on U.S. portion of Bloomberg Global Convertibles. Correlations are based on 15-years of monthly returns for all sectors unless stated otherwise. Past performance is not indicative of future results. *10-Year TIPS yields and calculations are based on on-the-run real yields. 10-Year TIPS correlations are based on monthly returns since 2011 due to data availability.

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

J.P.Morgan ASSET MANAGEMENT

Yield curve

U.S. Treasury yield curve

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

J.P.Morgan
ASSET MANAGEMENT

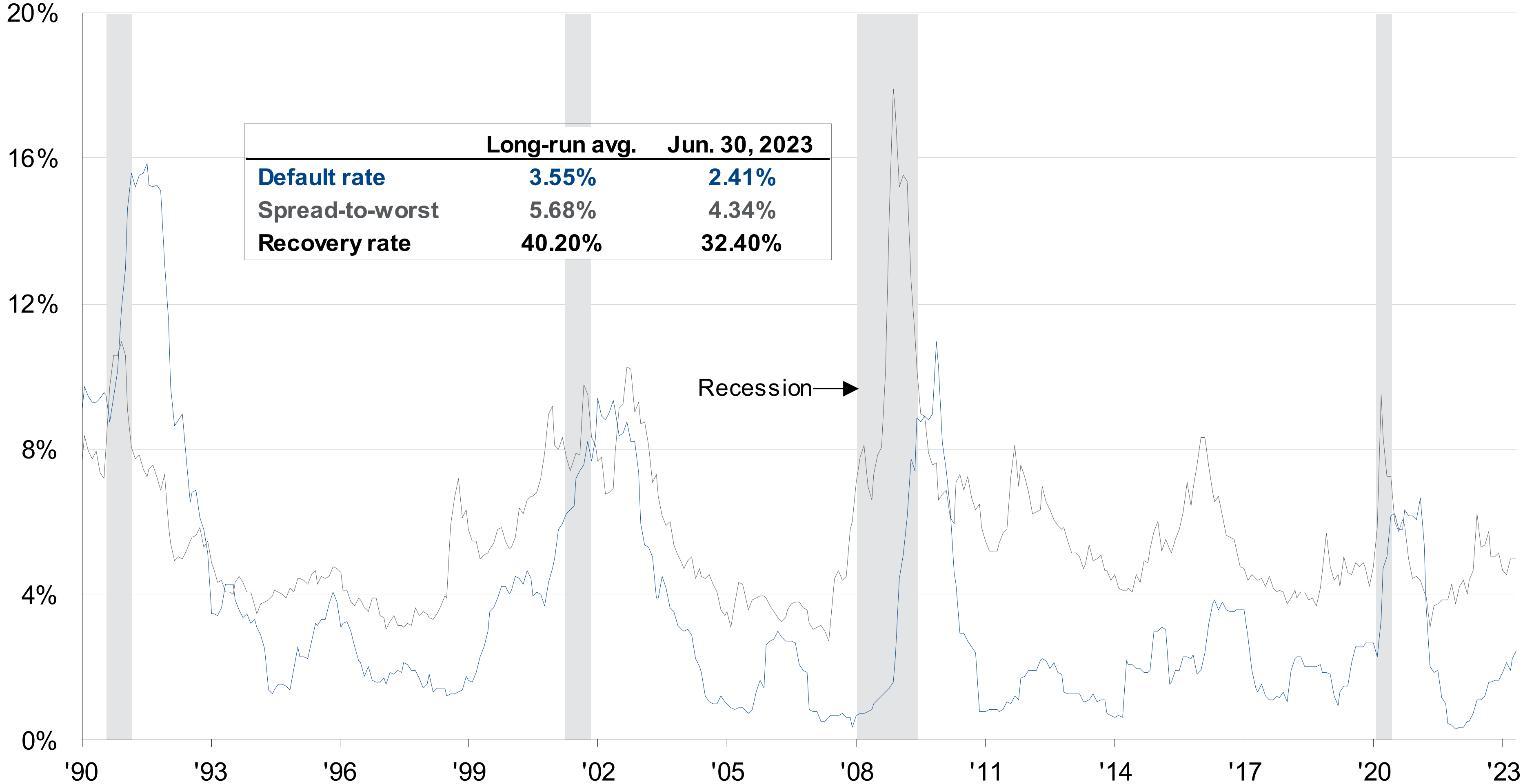
Fixed Income

High yield bonds

Default rate and spread-to-worst

Percent

	Long-run avg.	Jun. 30, 2023
Default rate	3.55%	2.41%
Spread-to-worst	5.68%	4.34%
Recovery rate	40.20%	32.40%



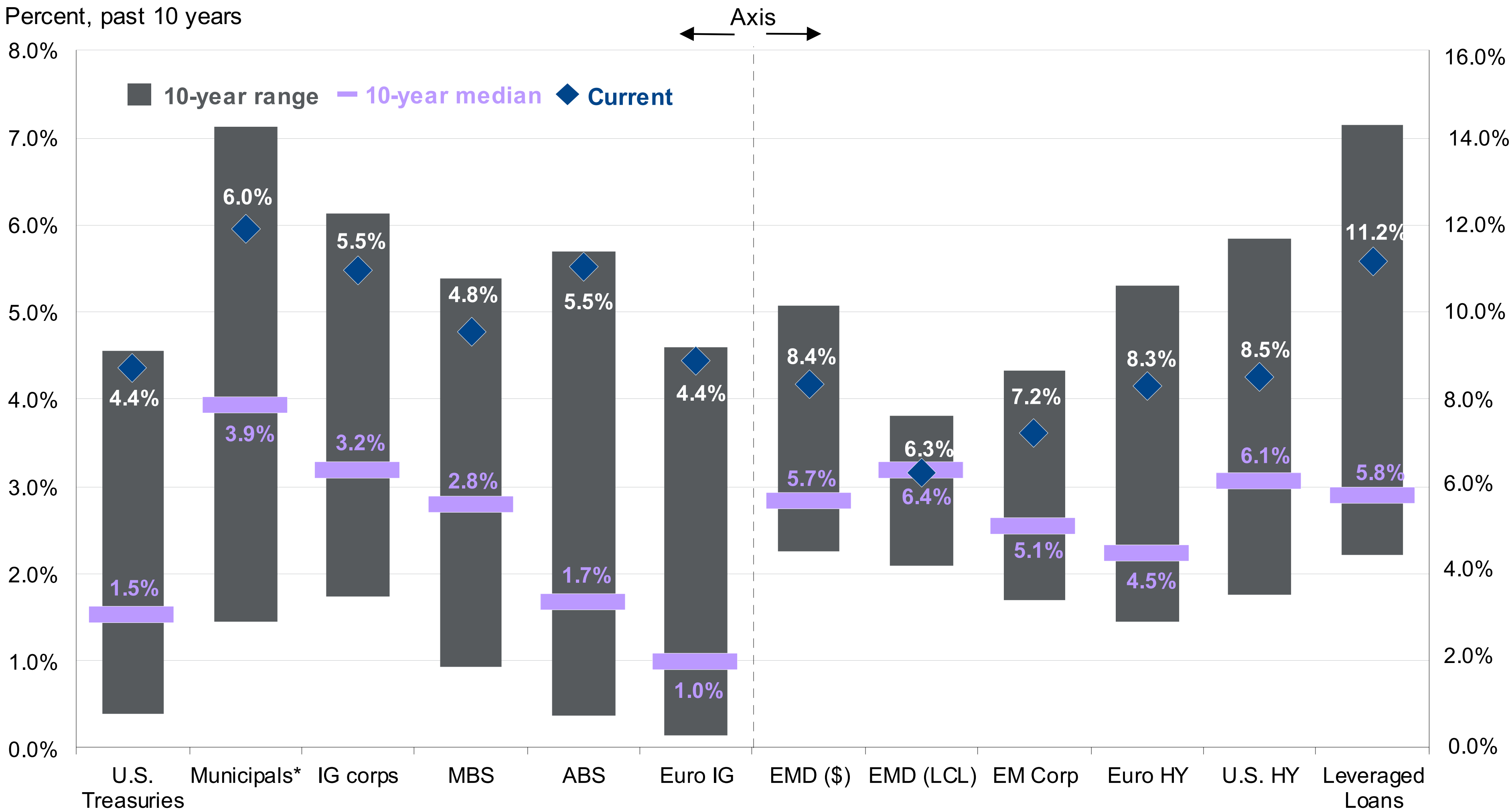
Source: J.P. Morgan Global Economic Research, J.P. Morgan Asset Management.
Long-run average is based on monthly historical data beginning in January 1990. Default rates are defined as the par value percentage of the total market trading at or below 50% of par value and include any Chapter 11 filing, prepackaged filing or missed interest payments. The default rate is an LTM figure (last 12 months) and tracks the % of defaults over the period. Recovery rates are based on the price of the defaulted bonds or loans 30 days post the default date. Default and recovery rates are as of most recent month-end. Spread-to-worst indicated are the difference between the yield-to-worst of a bond and yield-to-worst of a U.S. Treasury security with a similar duration. High yield is represented by the J.P. Morgan Domestic High Yield Index.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

Fixed income valuations

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

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

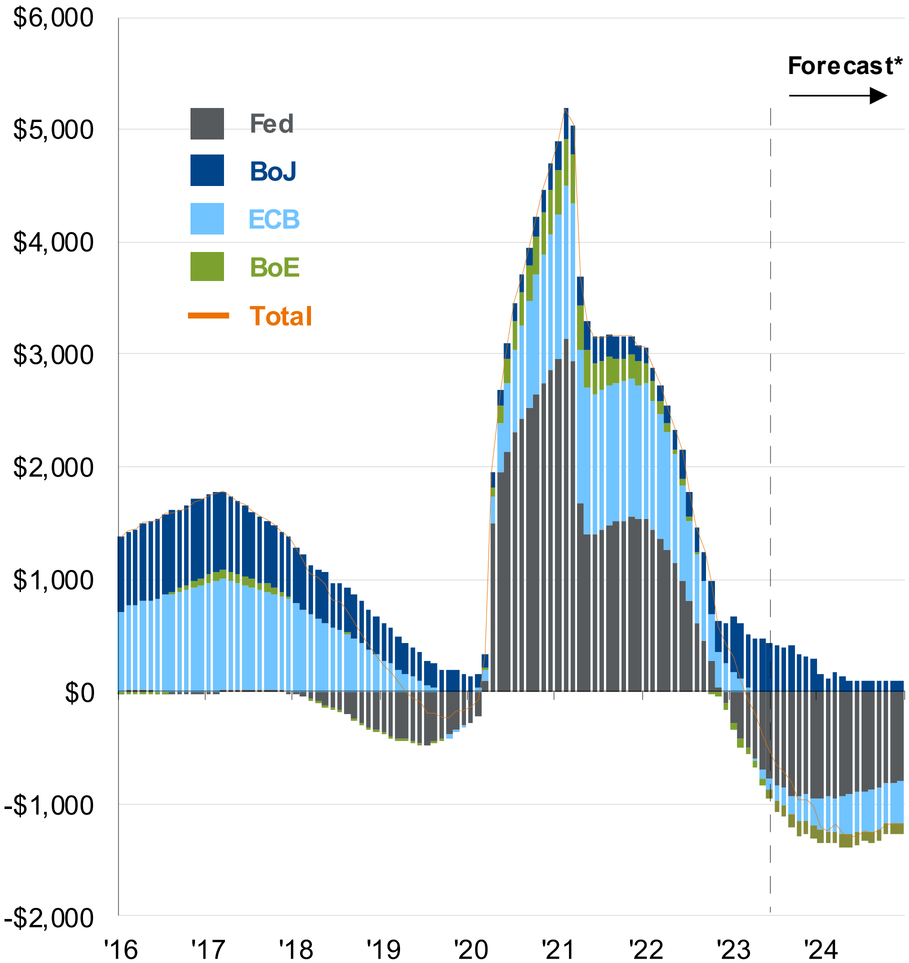
J.P.Morgan ASSET MANAGEMENT

Developed market monetary policy

Fixed Income

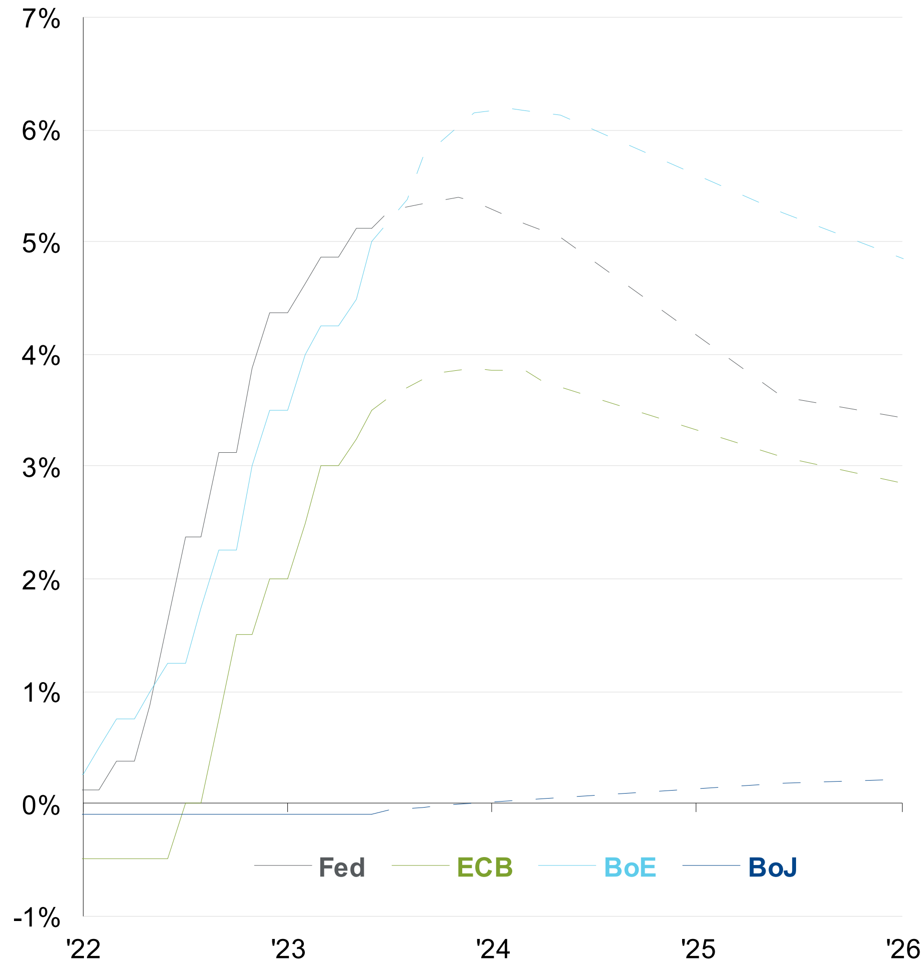
Developed market central bank bond purchases

USD billions, 12-month rolling flow



Historical policy rates and forward curves

Target policy rates and market implied forward rates



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

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

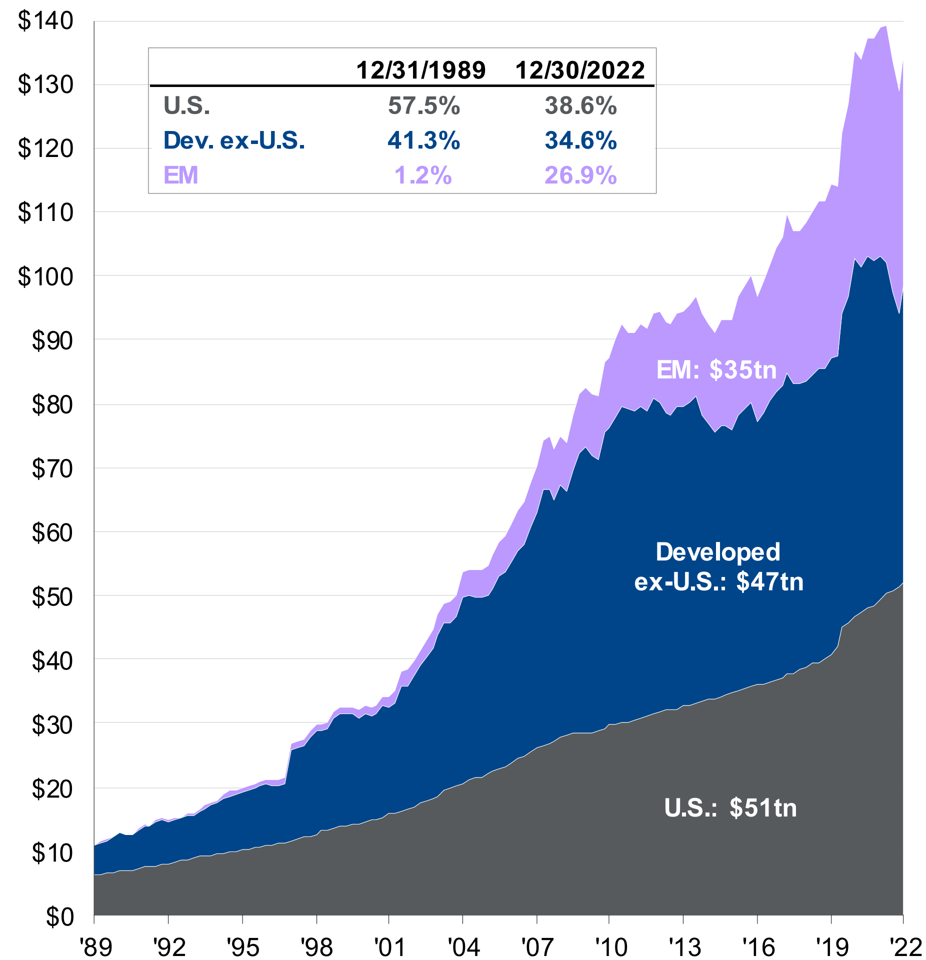
J.P.Morgan ASSET MANAGEMENT

Global fixed income

	Yield		2023 Return			
Aggregates	**6/30/2023**	**12/31/2022**	**Local**	**USD**	**Duration**	**Correlation to U.S. 10yr**
U.S.	4.81%	4.68%	2.09%	2.09%	6.3 years	0.91
Gbl. ex-U.S.	3.22%	3.13%	-	0.98%	7.10	0.58
Japan	0.60%	0.75%	3.14%	-5.84%	9.40	0.62
Germany	3.35%	3.22%	1.47%	3.73%	6.20	0.49
UK	4.99%	4.29%	-3.13%	2.38%	8.00	0.49
Italy	3.99%	4.10%	4.32%	6.64%	6.10	0.36
China	2.74%	2.94%	2.91%	-1.52%	5.90	0.55
Sector						
Euro Corp.	4.44%	4.32%	2.18%	4.46%	4.5 years	0.42
Euro HY	8.29%	8.32%	4.79%	7.12%	3.10	0.01
EMD (USD)	8.36%	8.55%	-	4.09%	6.00	0.31
EMD (LCL)	6.32%	6.86%	5.73%	7.79%	5.00	0.20
EM Corp.	7.23%	7.28%	-	3.64%	4.90	0.22

Global bond market

USD trillions



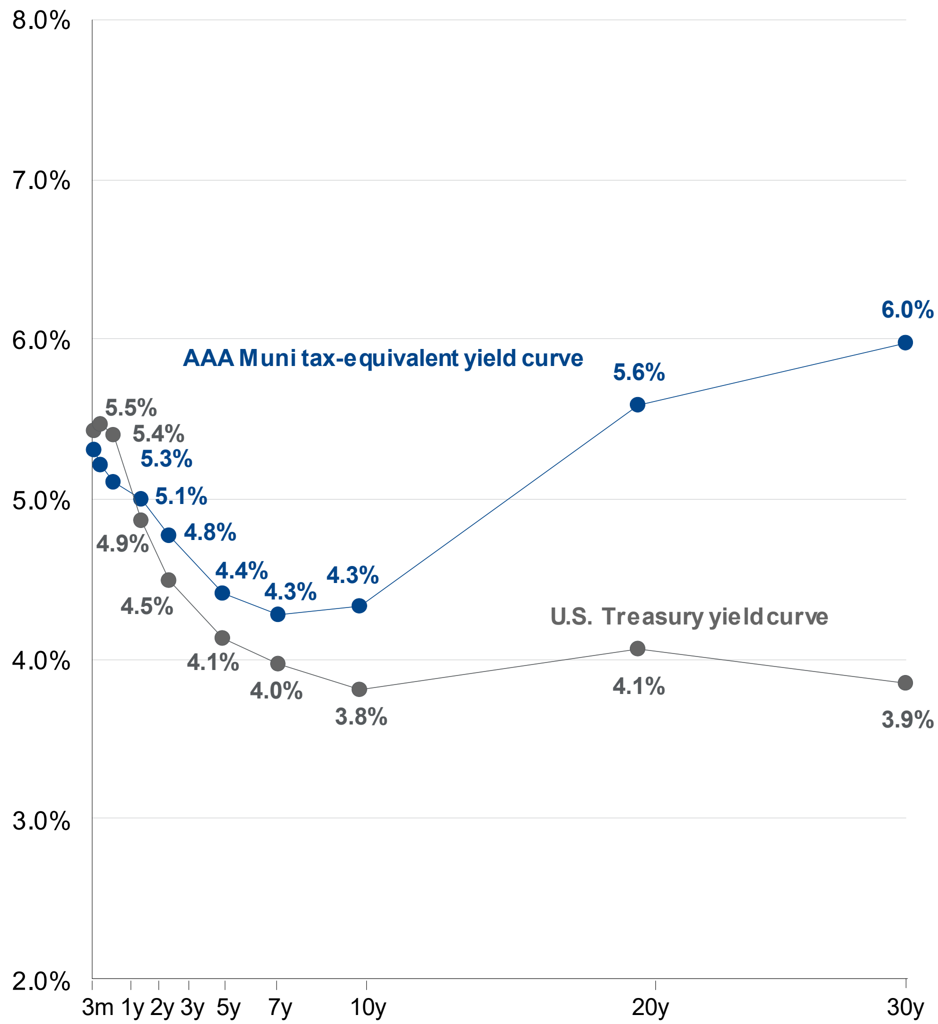
Source: J.P. Morgan Asset Management; (Left) Bloomberg, FactSet; (Right) BIS.
Fixed income sectors shown above are provided by Bloomberg and are represented by the global aggregate for each country except where noted. EMD sectors are represented by the J.P. Morgan EMBIG Diversified Index (USD), the J.P.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

J.P.Morgan ASSET MANAGEMENT

Fixed Income

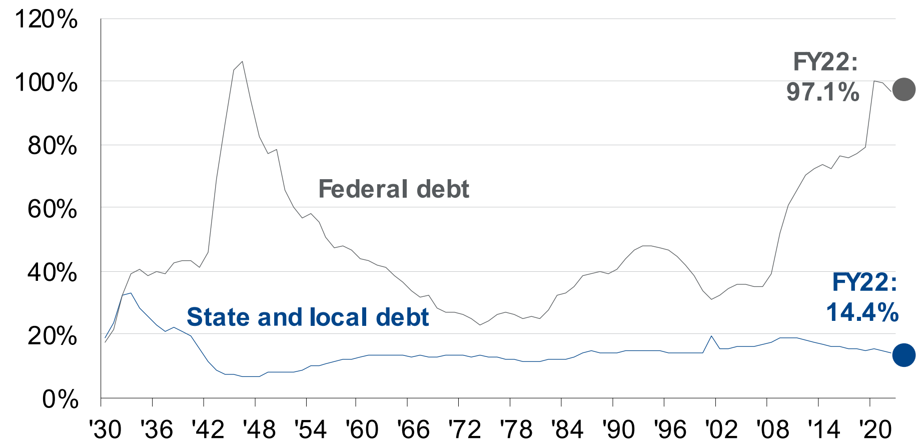
Municipal finance

Muni tax-equivalent and Treasury yield curves



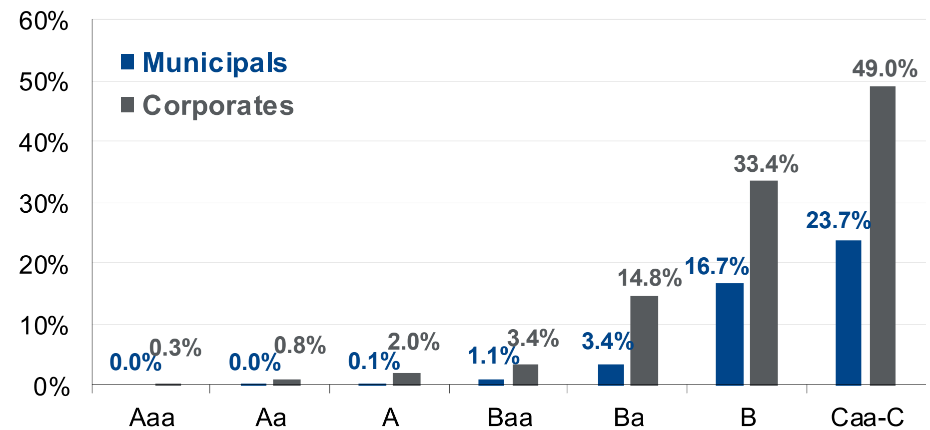
State and local and federal net debt

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



Muni and corporate default rates

% of issuers defaulting within 10 years, 1970-2021



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 2021. Municipal tax-equivalent yield is calculated based on an AAA-rated municipal bond curve and assumes 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 2012.

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

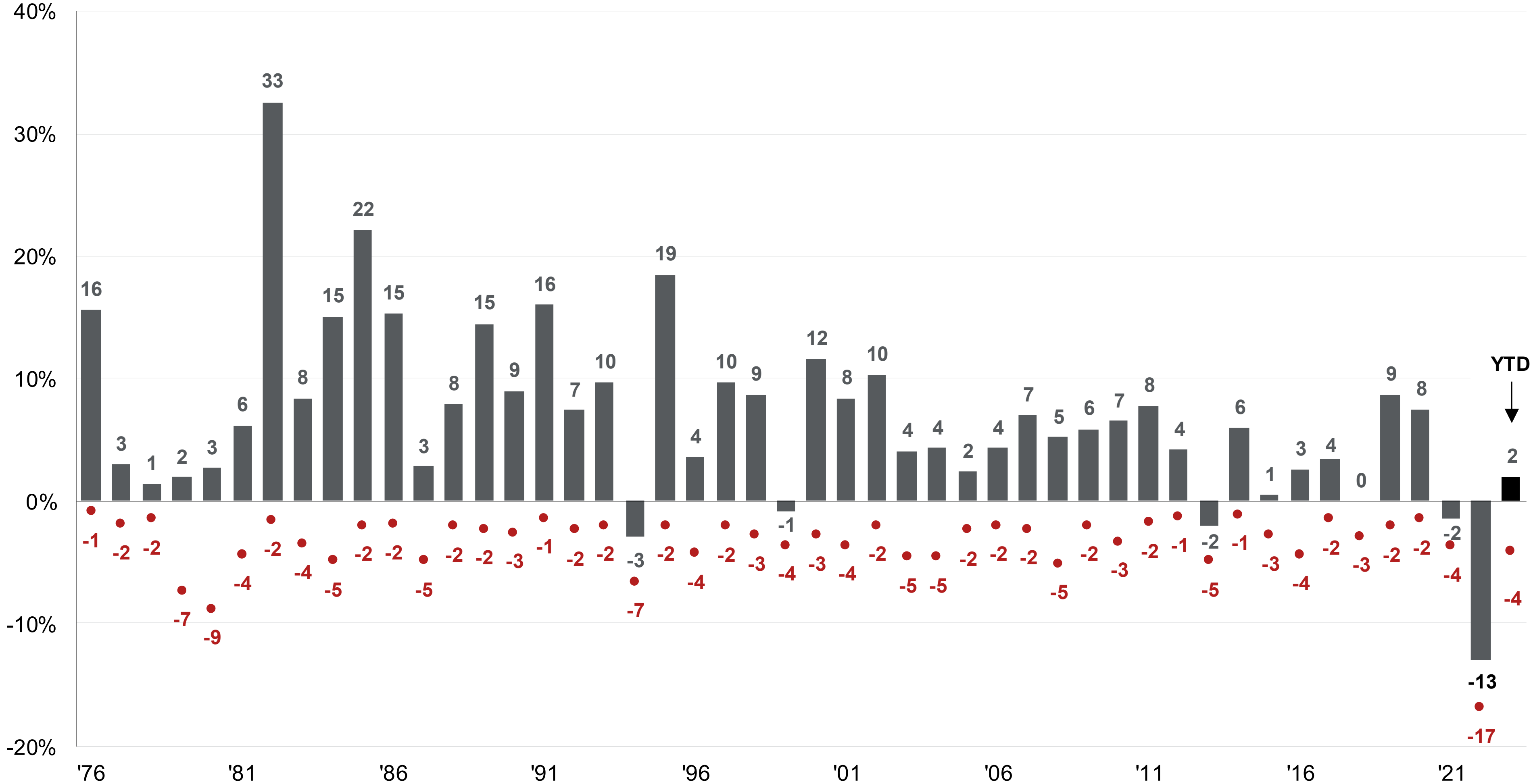
J.P.Morgan ASSET MANAGEMENT

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

Fixed Income

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

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



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

J.P.Morgan
ASSET MANAGEMENT

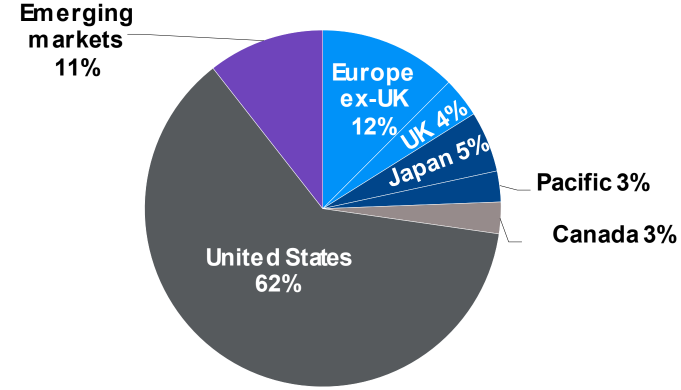
International

Global equity markets

Returns	2023		2022		15-years	
	Local	USD	Local	USD	Ann.	Beta
Regions						
U.S. (S&P 500)	-	16.9	-	-18.1	8.8	0.9
AC World ex-U.S.	10.1	9.9	-9.2	-15.6	2.0	1.0
EAFE	12.6	12.1	-6.5	-14.0	2.3	1.0
Europe ex-UK	13.8	16.0	-12.2	-17.3	2.4	1.2
Emerging markets	5.8	5.1	-15.2	-19.7	1.0	1.1
Selected Countries						
Japan	24.0	13.2	-4.1	-16.3	2.5	0.7
United Kingdom	2.6	8.4	7.2	-4.8	1.4	1.0
France	16.5	19.1	-6.9	-12.7	2.8	1.2
Canada	6.1	8.6	-5.8	-12.2	3.0	0.7
Germany	16.2	18.8	-16.5	-21.6	0.9	1.3
China	-4.3	-5.4	-20.6	-21.8	0.6	1.0
India	4.4	5.3	3.0	-7.5	2.4	1.2
Korea	19.4	14.6	-24.4	-28.9	1.6	1.3
Brazil	7.0	17.1	8.6	14.6	-2.1	1.4

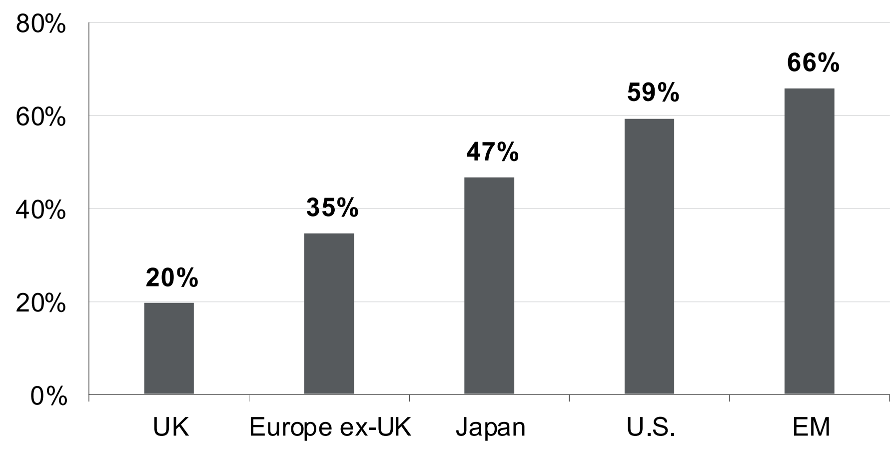
Weights in MSCI All Country World Index

% global market capitalization, float adjusted



Revenue exposure vs. country of listing

% of total revenue from home countries



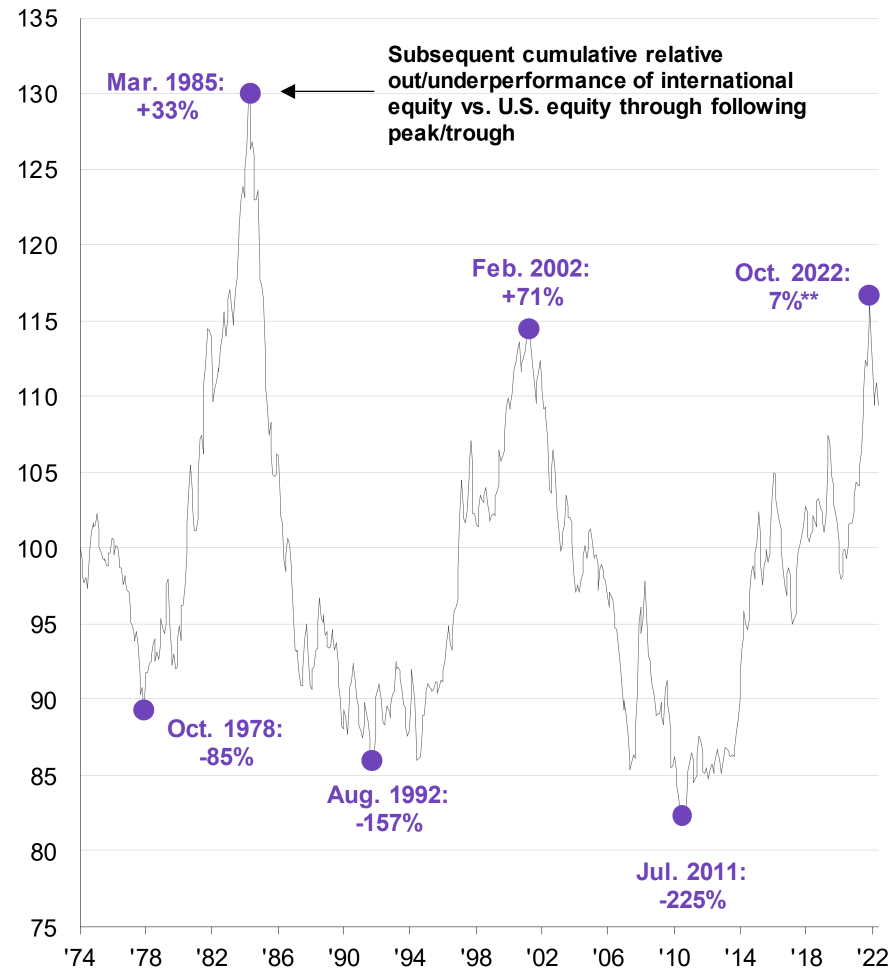
Source: FactSet, Federal Reserve, MSCI, Standard & Poor's, J.P. Morgan Asset Management. All return values are MSCI Gross Index data. 15-year history based on USD returns. 15-year return and beta figures are calculated for the time period 12/31/2007 to 12/31/2022. Beta is for monthly returns relative 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. Revenue exposure vs. country of listing is as of 3/31/2023.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

Currency and international equity returns

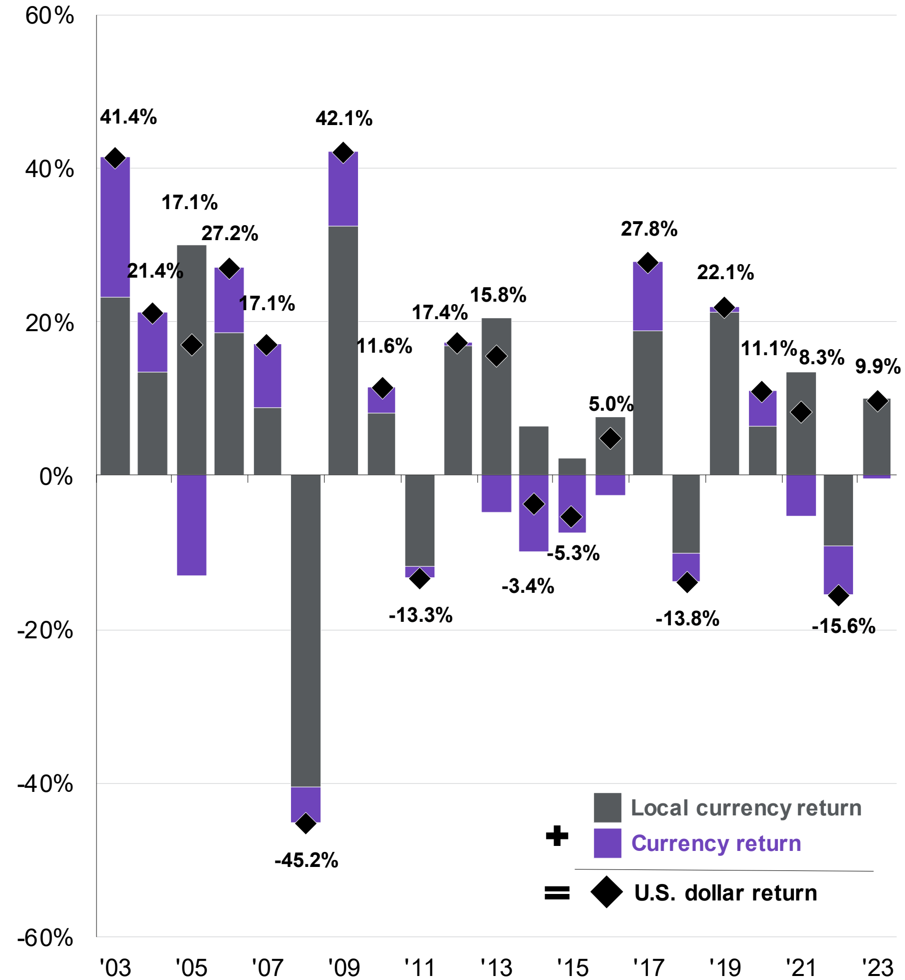
U.S. dollar and relative international equity returns

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



Currency impact on international returns

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



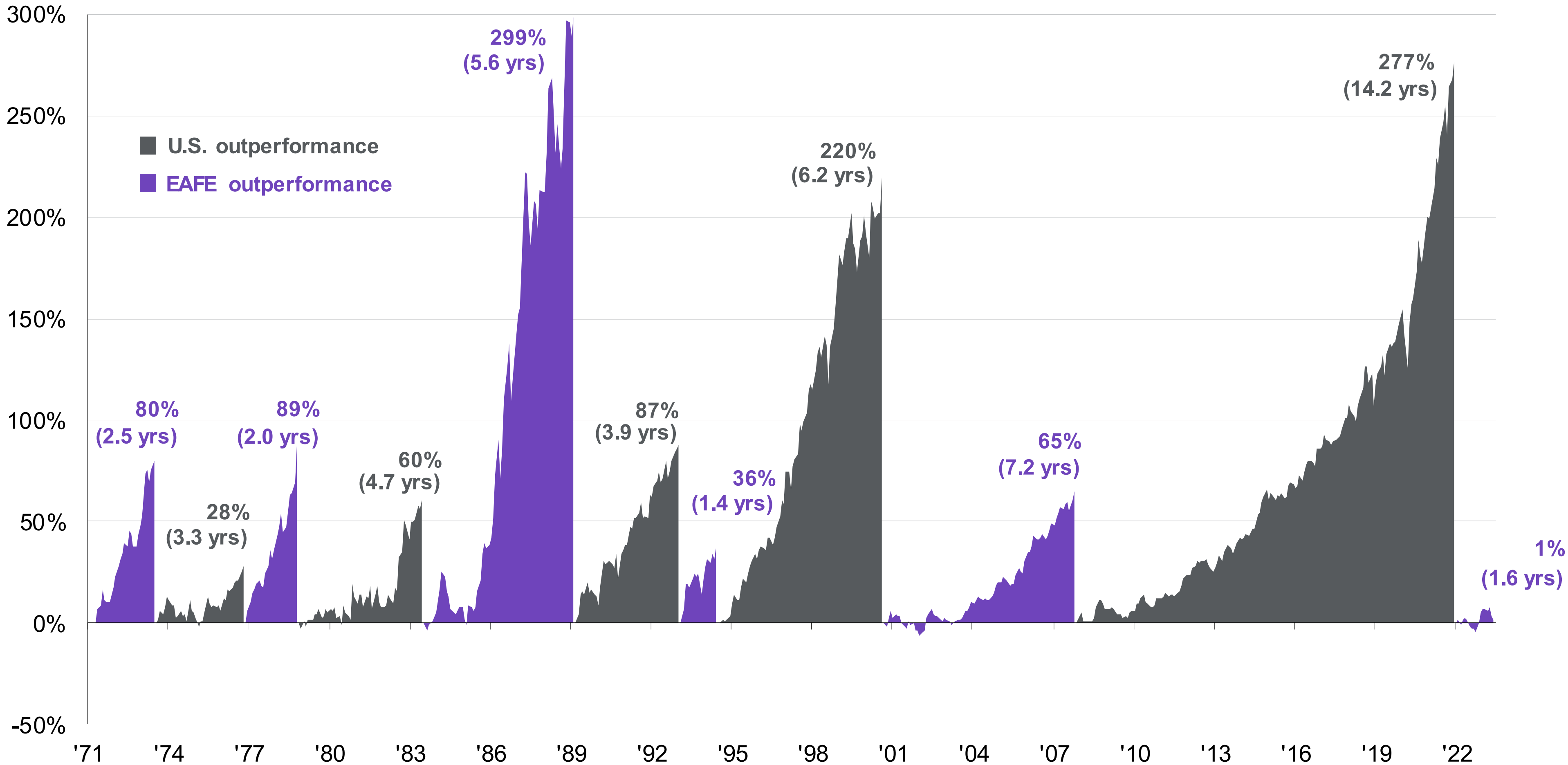
Source: MSCI, J.P. Morgan Asset Management; (Left) J.P. Morgan Global Economic Research.
*U.S. dollar is the J.P. Morgan Global Economic Research real broad effective exchange rate (CPI) indexed to 100 in 1974. Relative international equity returns are cumulative, total returns in U.S. dollars and are calculated as MSCI World ex.-U.S. minus S&P 500 for each period of U.S. dollar peak/trough. **Data since Oct. 2022 represents the relative outperformance to the latest month end. Past performance is not a reliable indicator of current and future results.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

Cycles of U.S. equity outperformance

MSCI EAFE and MSCI USA relative performance

U.S. dollar, total return, cumulative outperformance



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

J.P.Morgan
ASSET MANAGEMENT

International

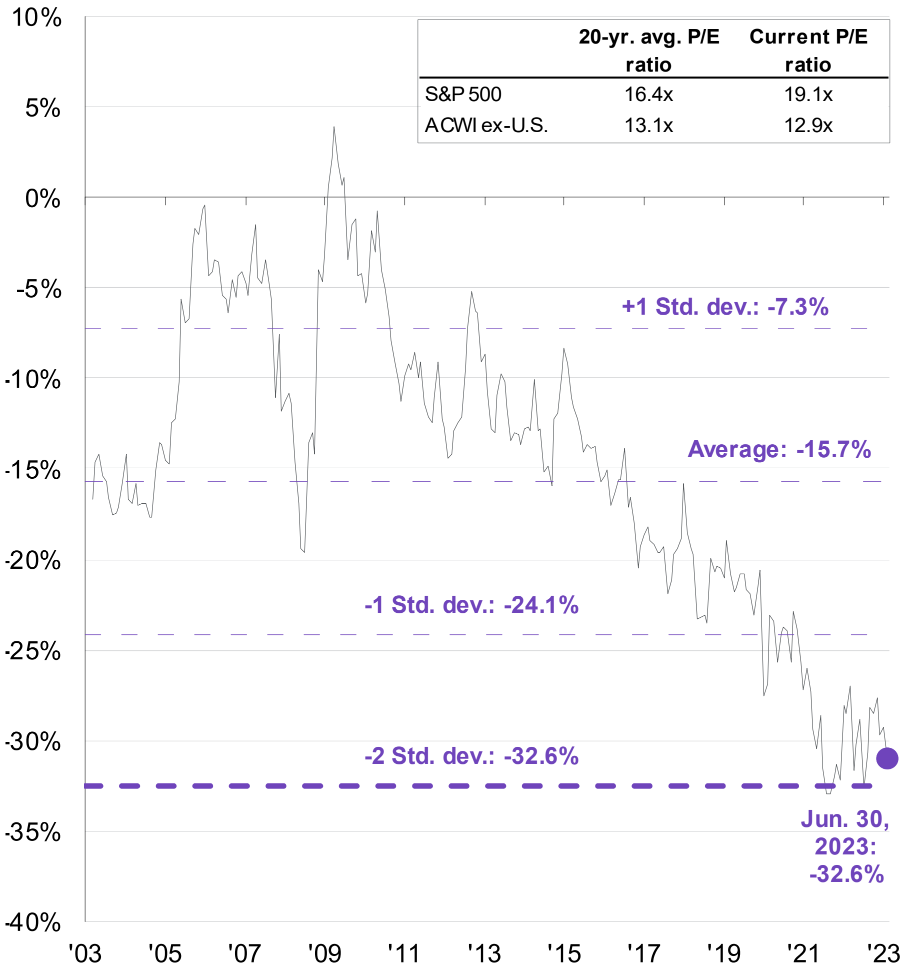
International valuations and dividend yields

International

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

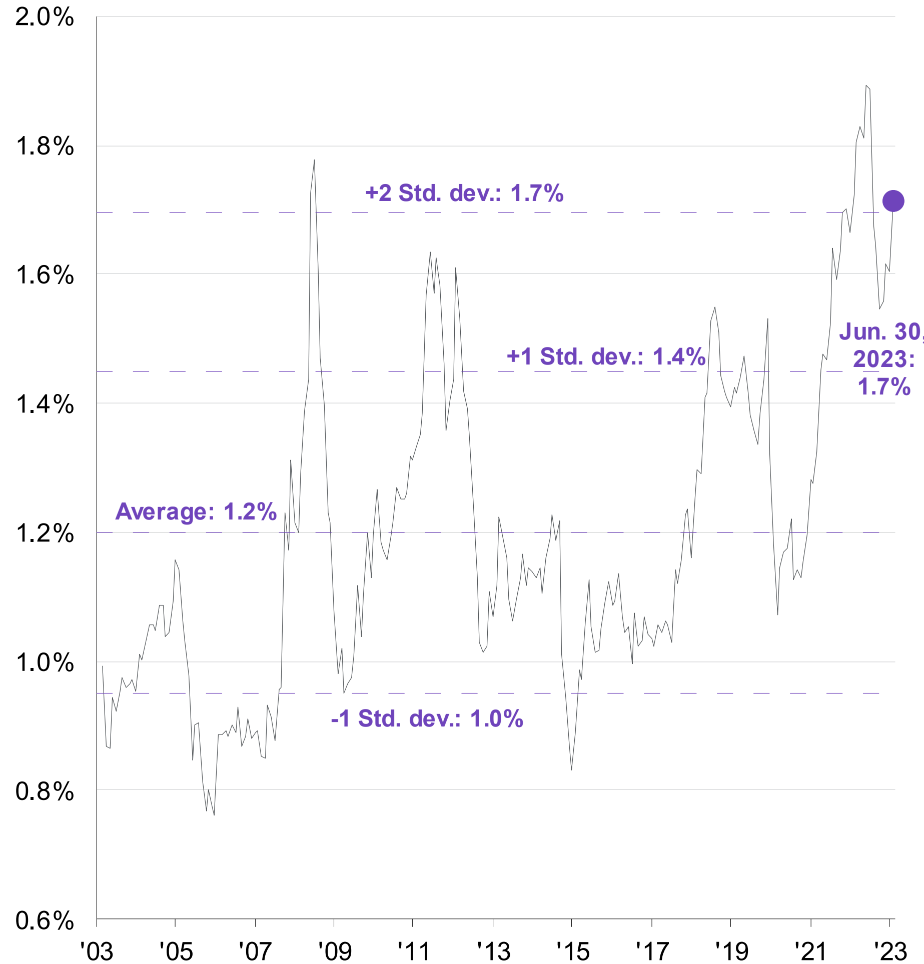
MSCI All Country World ex-U.S. vs. S&P 500, next 12 months

	20-yr. avg. P/E ratio	Current P/E ratio
S&P 500	16.4x	19.1x
ACWI ex-U.S.	13.1x	12.9x



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

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



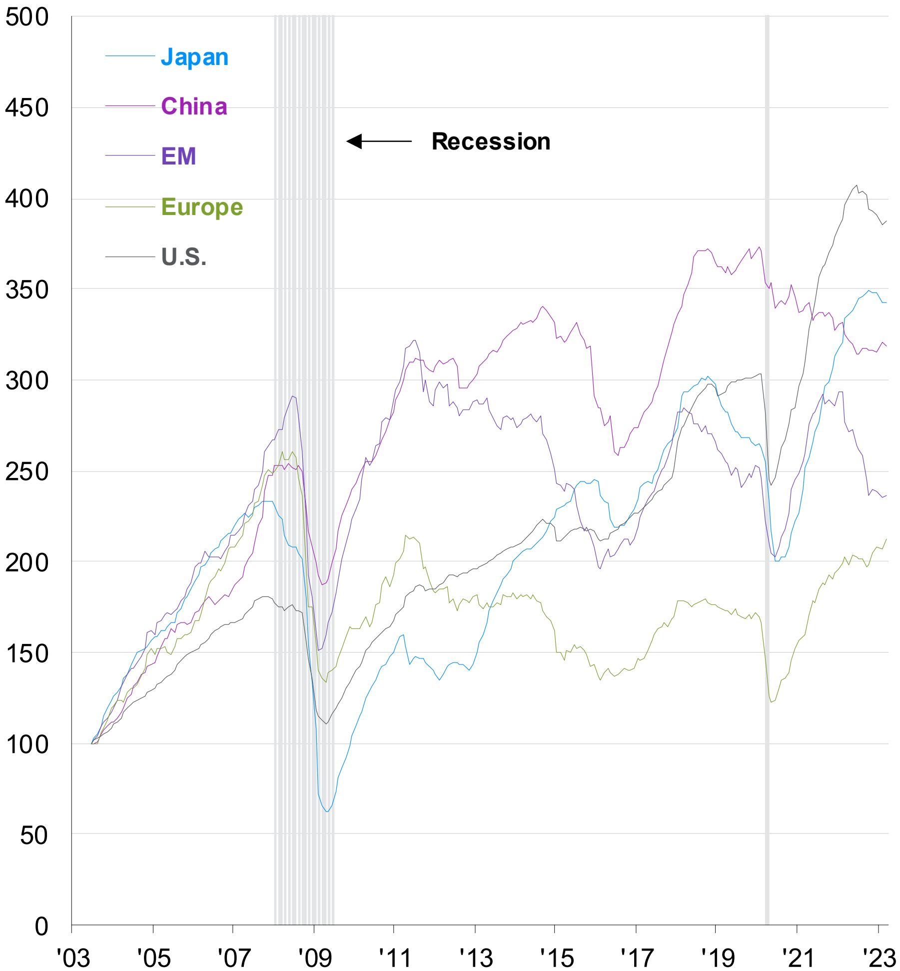
Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan
ASSET MANAGEMENT

International equity earnings and valuations

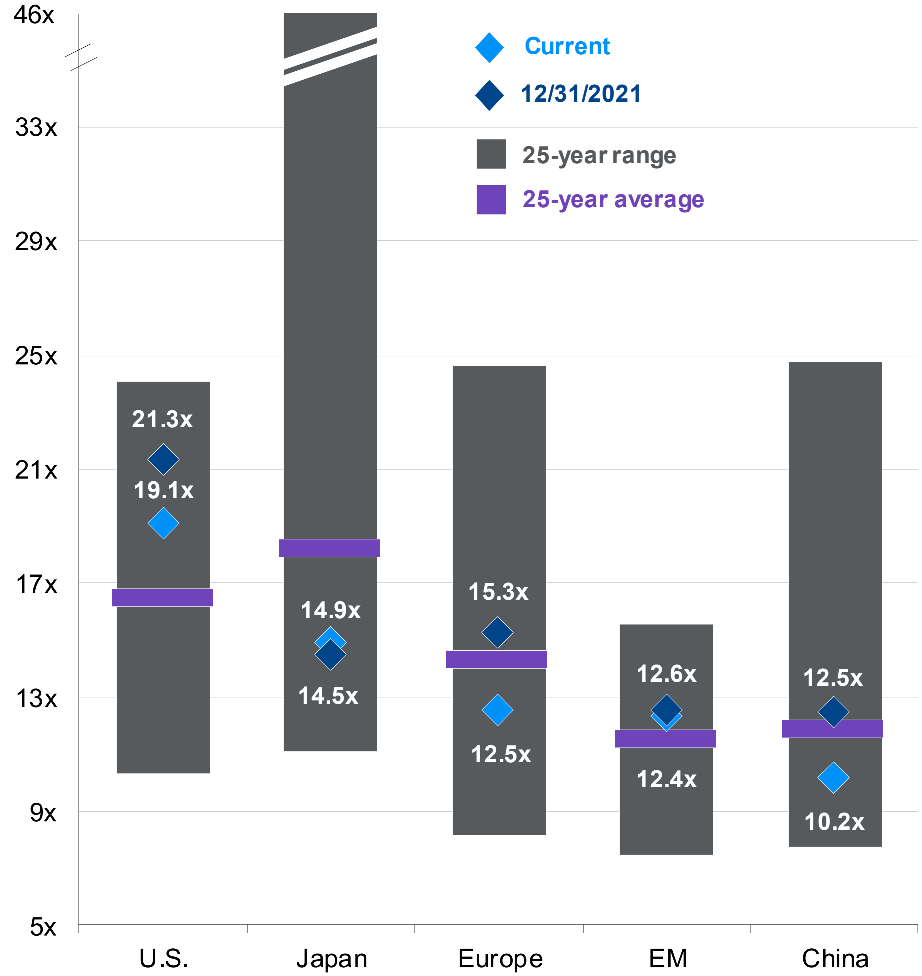
Global earnings estimates

Jun. 2003 = 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, Thomson Reuters, 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 44% of the overall index). The purple lines for EM and China show 20-year averages due to a lack of available data. Past performance is not a reliable indicator of current and future results.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

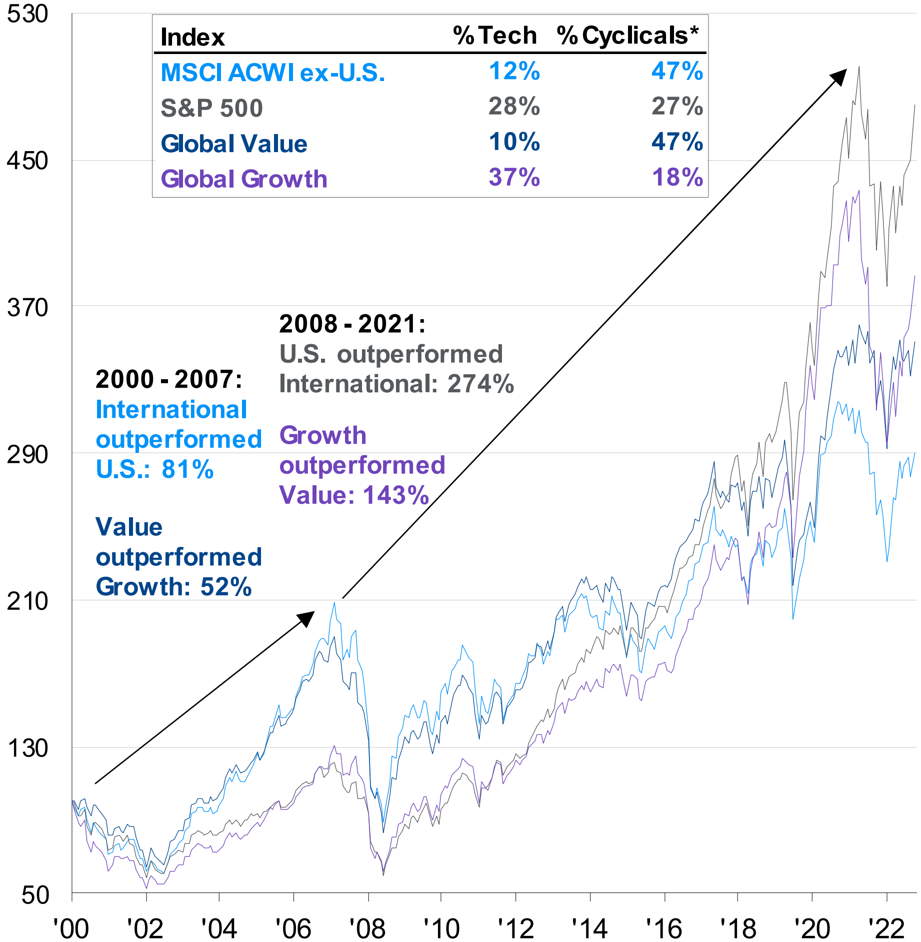
International

International markets: Value vs. Growth

Regional and style leadership

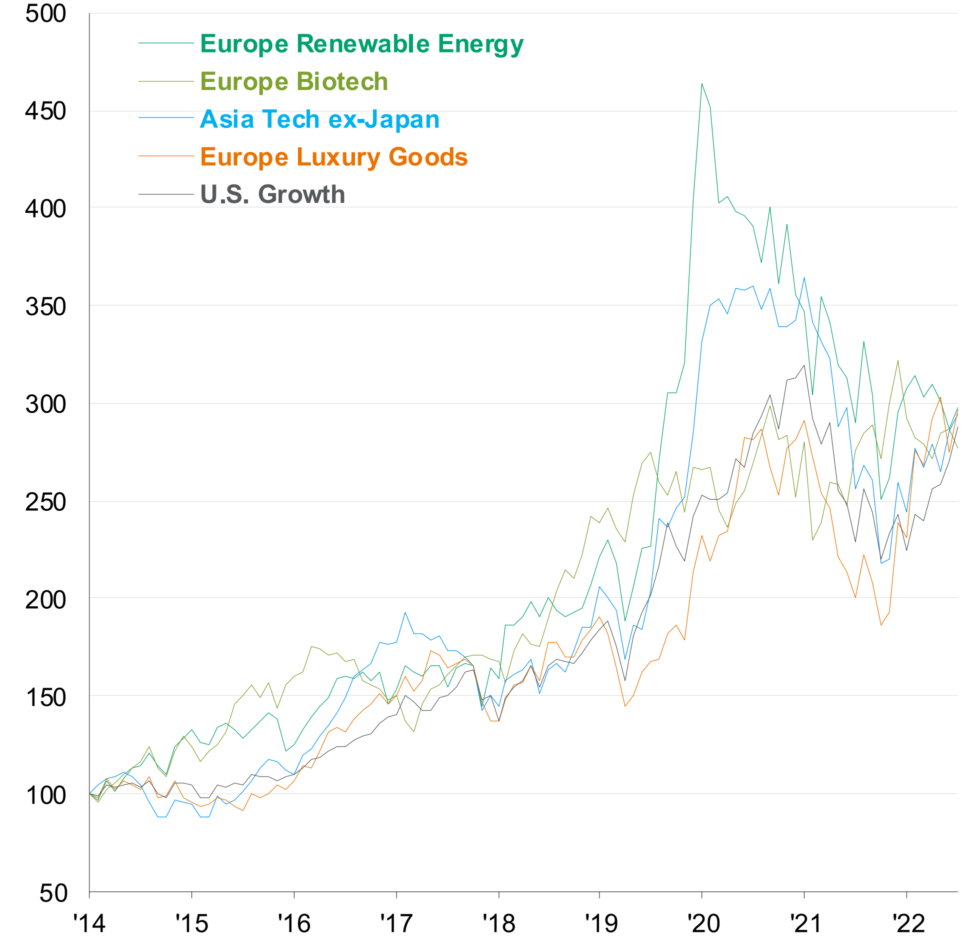
Sep. 2000 = 100, total return, U.S. dollars

Index	% Tech	% Cyclicals*
MSCI ACWI ex-U.S.	12%	47%
S&P 500	28%	27%
Global Value	10%	47%
Global Growth	37%	18%



International growth sectors vs. U.S.

Total return, U.S. dollar, Dec. 31, 2014 = 100



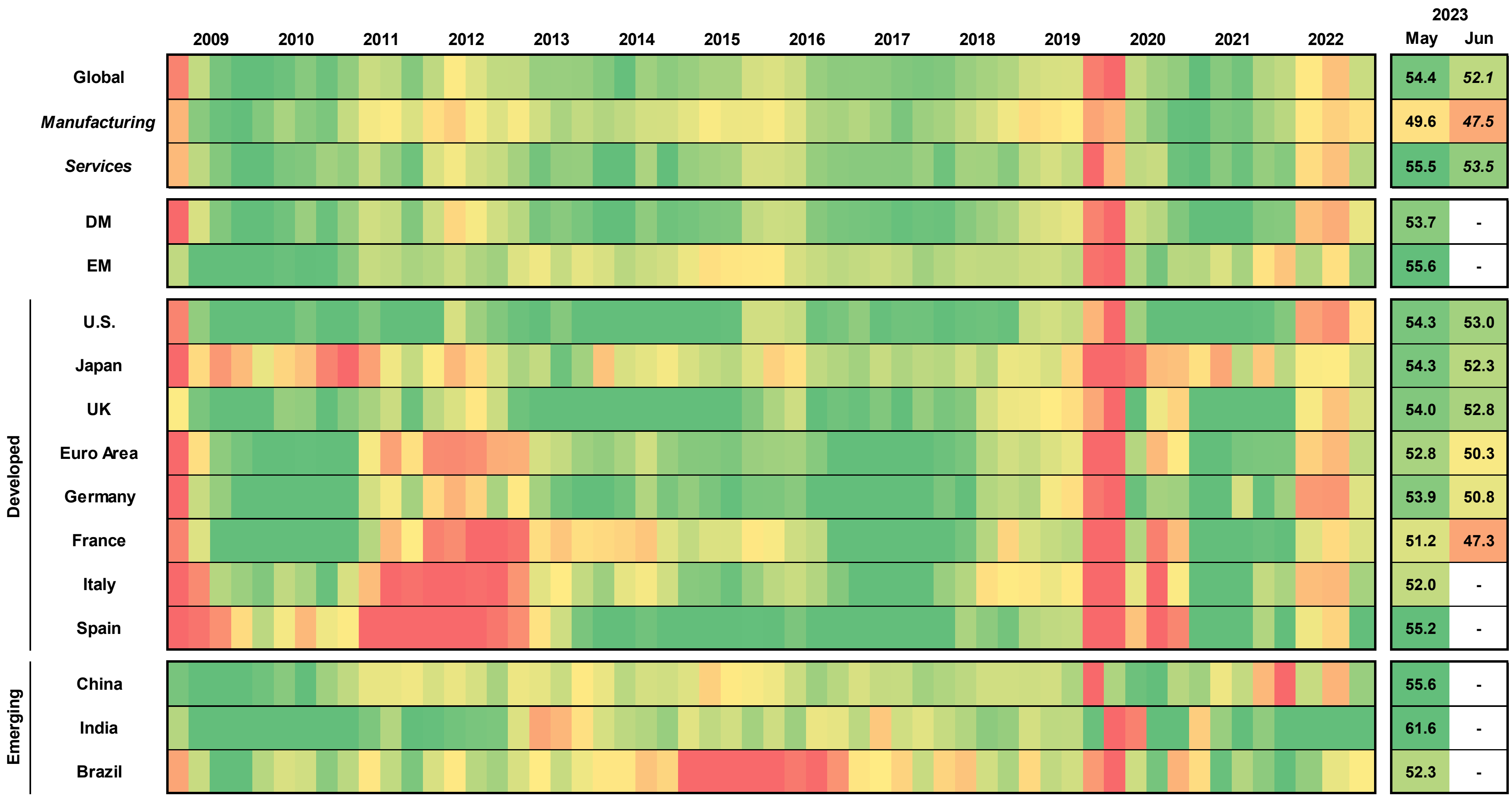
Source: Bloomberg, FactSet, MSCI, Russell, Societe Generale, J.P. Morgan Asset Management.
(Left) *"Cyclicals" are defined as Energy, Financials, Industrials and Materials. Global Growth and Global Value are represented by the corresponding MSCI AC World indices.
(Right) Asia ex-Japan Tech: MSCI AC Asia ex-Japan Information Technology, European Luxury Goods: MSCI Europe Textiles, Apparel and Luxury Goods, U.S. Growth: Russell 1000 Growth, European Renewable Energy: Societe Generale European Renewable Energy, Europe Biotech: MSCI Europe Biotechnology.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

Global economic activity momentum

GTM | U.S. | 52

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



Source: Standard & Poor's, J.P. Morgan Asset Management.
The Composite PMI includes both manufacturing and services sub-indices. The June global, manufacturing, and services figures 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 2009. DM and EM represent developed markets and emerging markets, respectively.
Guide to the Markets – U.S. Data are as of June 30, 2023.

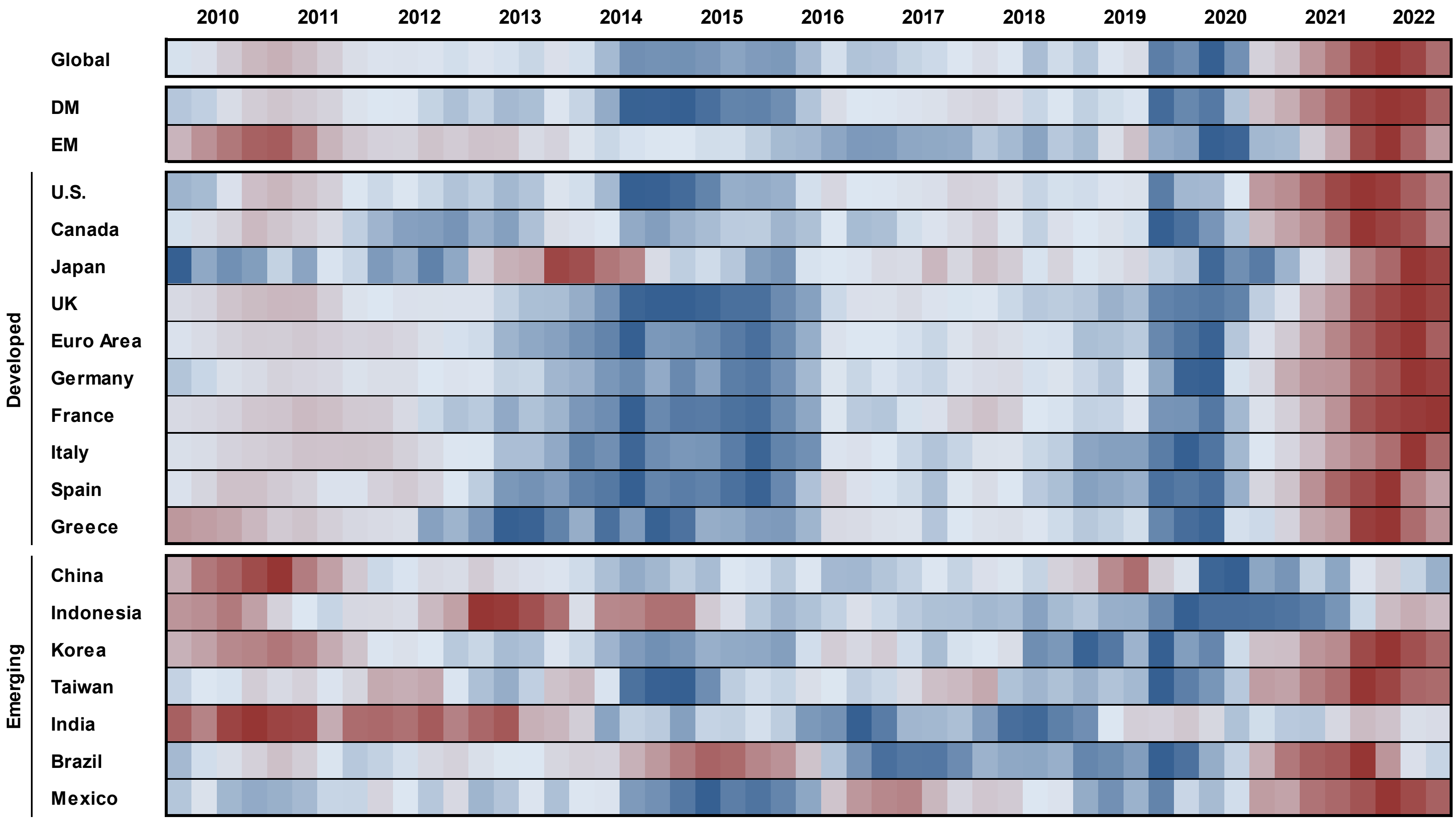
J.P.Morgan ASSET MANAGEMENT

International

Global inflation

International

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



	2023 Apr	2023 May
Global	4.7%	-
DM	5.7%	-
EM	3.4%	-
U.S.	4.9%	4.0%
Canada	4.4%	3.4%
Japan	3.5%	3.2%
UK	8.7%	8.7%
Euro Area	6.9%	6.1%
Germany	7.1%	6.0%
France	5.9%	5.1%
Italy	8.2%	7.6%
Spain	4.1%	3.1%
Greece	3.0%	2.8%
China	0.1%	0.2%
Indonesia	4.3%	4.0%
Korea	3.7%	3.3%
Taiwan	2.5%	2.2%
India	4.7%	4.3%
Brazil	4.2%	3.9%
Mexico	6.3%	5.8%

Source: Bank of Mexico, DGBAS, Eurostat, FactSet, Federal Reserve, IBGE, India Ministry of Statistics & Programme Implementation, Japan Ministry of Internal Affairs & Communications, Korean National Statistical Office, Melbourne Institute, 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.

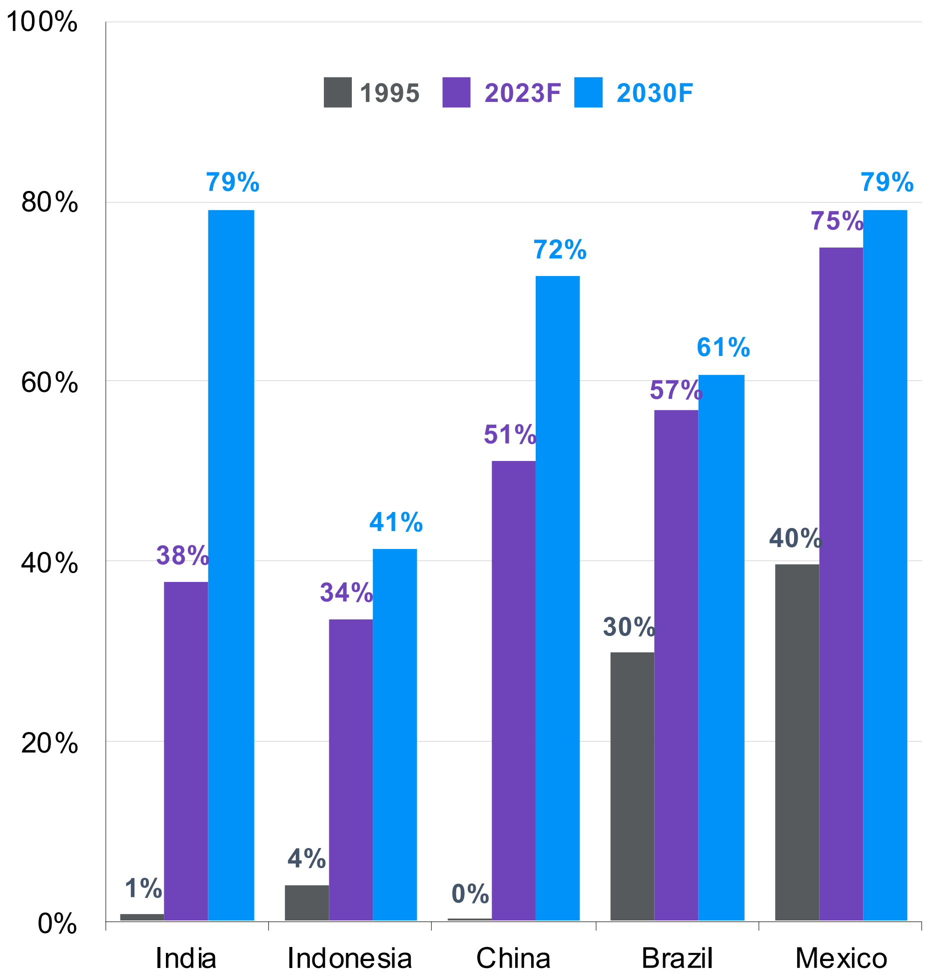
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

The emergence of the EM middle class

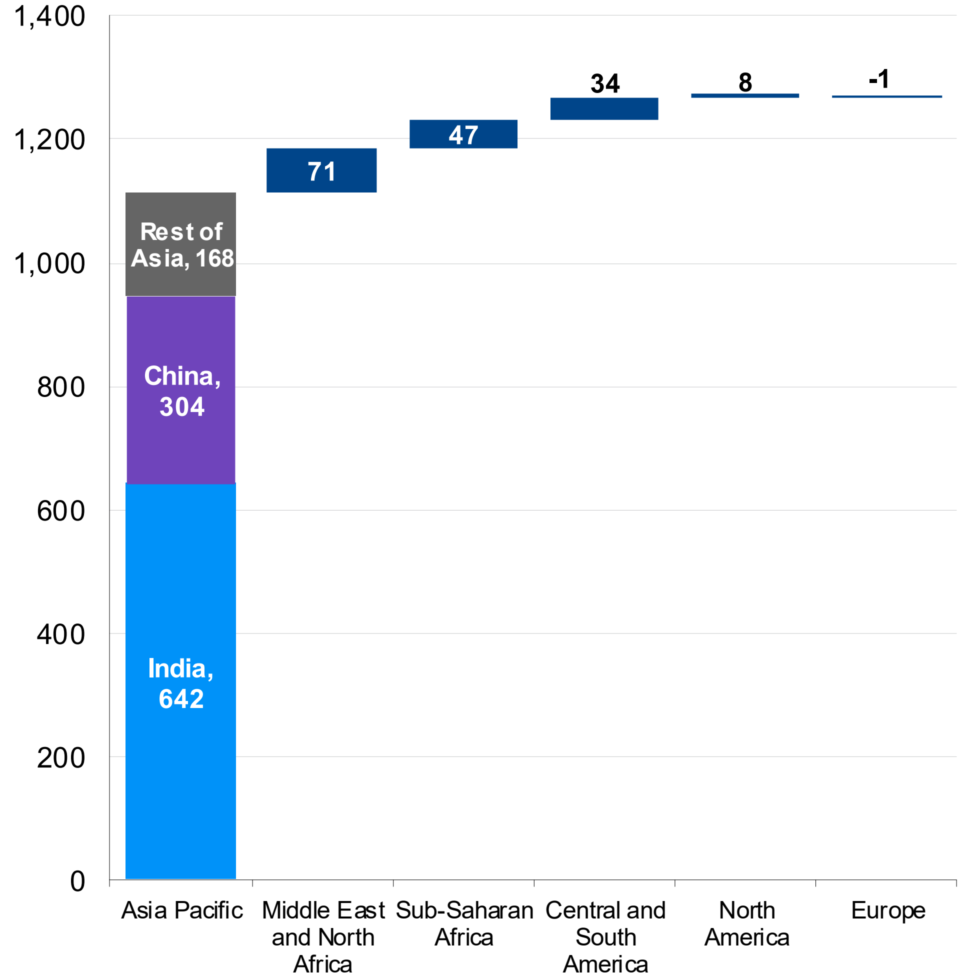
Growth of the middle class

Percent of total population



Regional contribution to middle class growth: 2023 to 2030

Millions of people



Source: Brookings Institution, J.P. Morgan Asset Management. Estimates for regional contribution are from Kharas, Homi. The Unprecedented Expansion of the Global Middle Class, An Update. Brookings Institution, 2017. Middle class is defined as households with per capita incomes between USD 11 and USD 110 per person per day in 2011 PPP terms. 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 June 30, 2023.

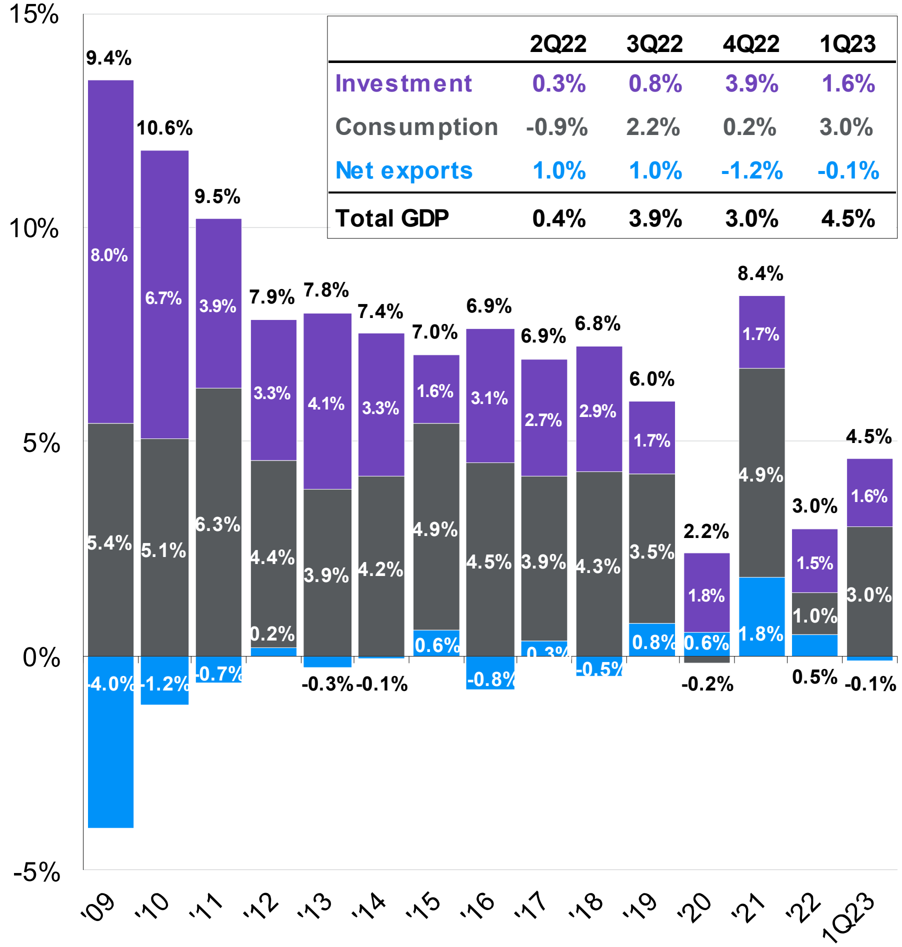
J.P.Morgan ASSET MANAGEMENT

China: Economic growth

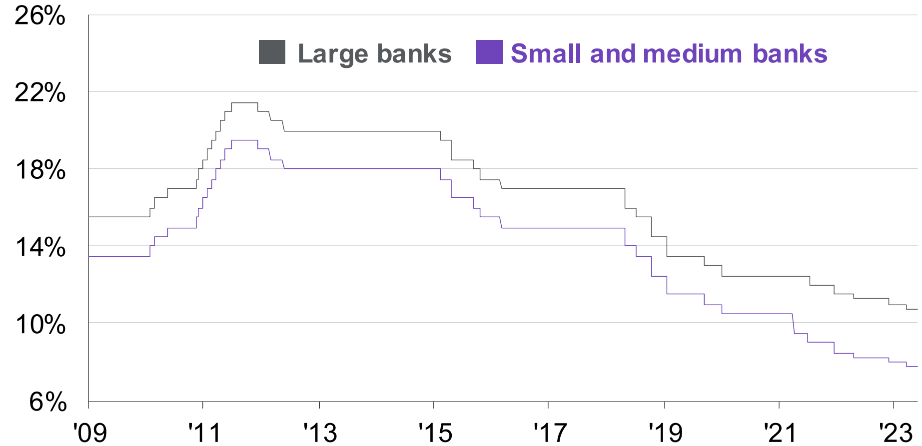
China real GDP contribution

Year-over-year % change for GDP, contribution to GDP for components

	2Q22	3Q22	4Q22	1Q23
Investment	0.3%	0.8%	3.9%	1.6%
Consumption	-0.9%	2.2%	0.2%	3.0%
Net exports	1.0%	1.0%	-1.2%	-0.1%
Total GDP	0.4%	3.9%	3.0%	4.5%

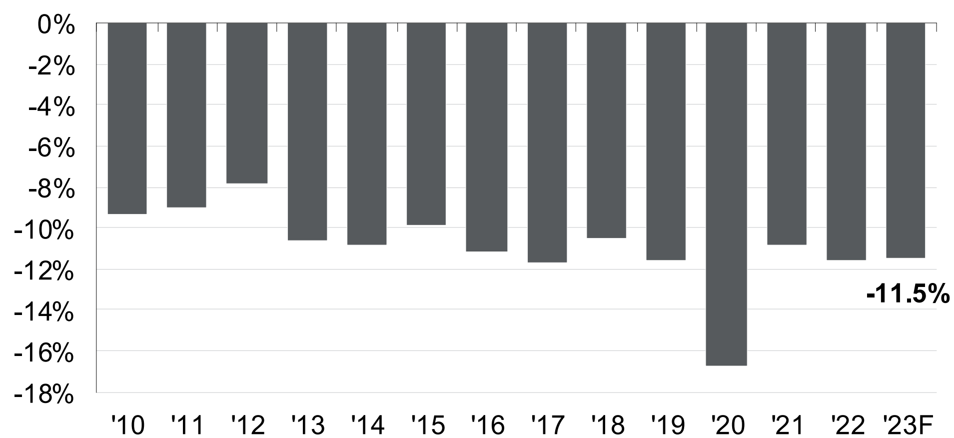


Monetary stimulus: Reserve requirement ratio



Fiscal stimulus: Fiscal deficit*

% GDP



Source: FactSet, J.P. Morgan Asset Management; (Left) CEIC; (Top right) People's Bank of China; (Bottom right) China Agriculture Development Bank, China Development Bank, Ministry of Finance, People's Bank of China, Wind. *The fiscal deficit is a J.P. Morgan Global Economic Research estimate of the augmented fiscal deficit. It measures the aggregate resources controlled by the government and used to support economic growth. It consists of the official budgetary deficit of the central and local governments, and additional funding raised and spent by local governments through Local Government Financing Vehicles and various government-guided funds, whose activities are considered quasi-fiscal. Large banks are six major banks in China, including Industrial and Commercial Bank of China, Agricultural Bank of China, Bank of China, China Construction Bank, Bank of Communications, Postal Savings Bank of China. The other banks are categorized as small and medium-sized banks. PBoC sets favorable required reserve ratio (RRR) for banks that have met specific criteria, such as loans to small and medium-sized enterprises and agricultural sectors. These measures have significantly brought down the actual RRR for banks. According to the PBoC, when the latest RRR cut took effect on 12/5/2022, the realized weighted average RRR was 7.8% (4/25/2022: 8.1%). 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.

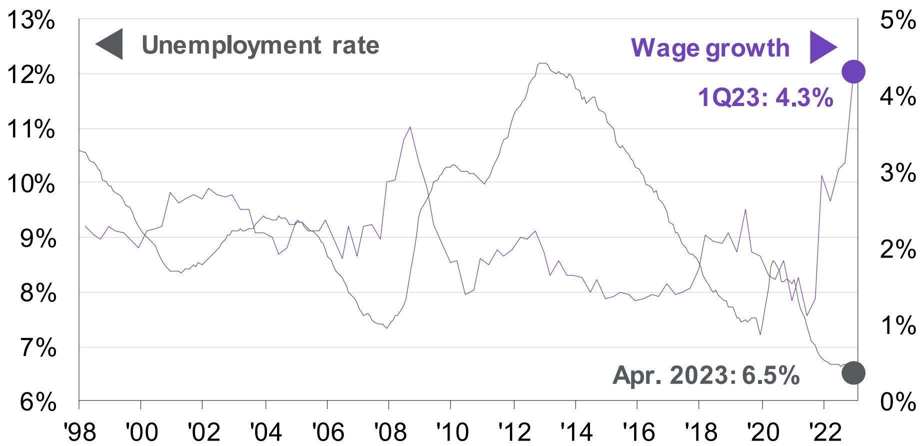
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

Eurozone economy

Eurozone unemployment rate and wage growth

Year-over-year

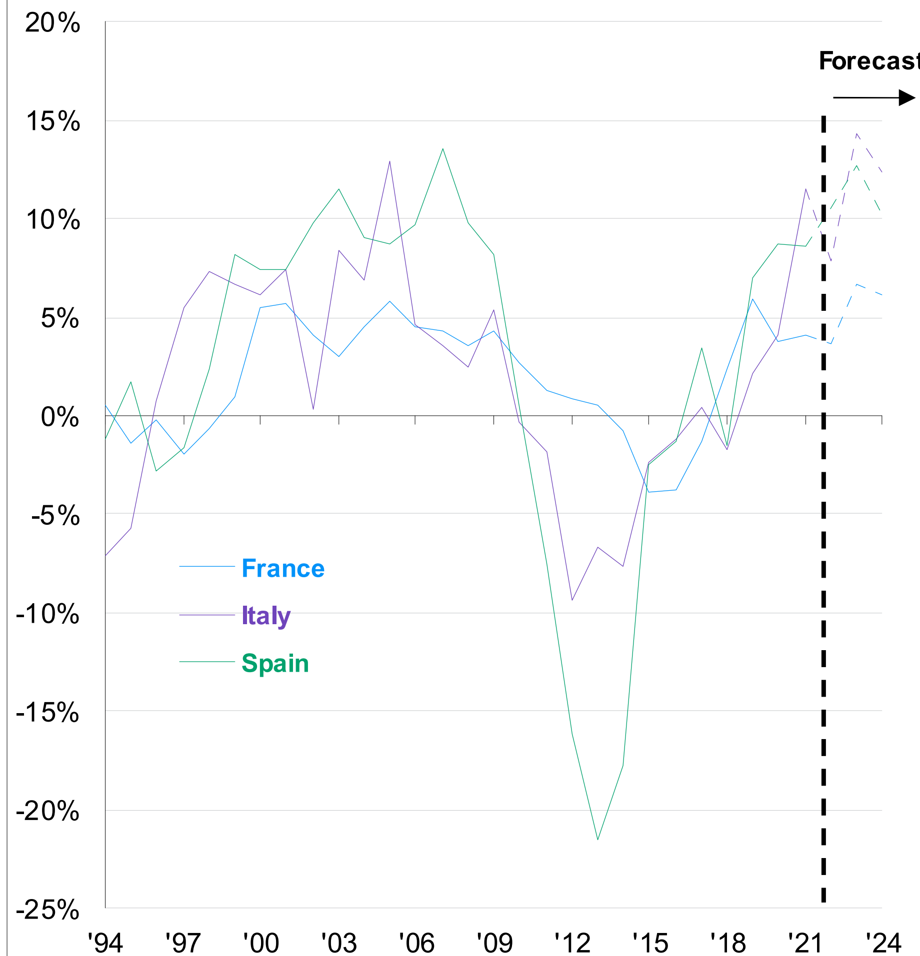


Eurozone interest rate and inflation expectations

5y5y swaps

Government capital spending

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



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

J.P.Morgan
ASSET MANAGEMENT

Correlations and volatility

	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	0.88	0.79	0.26	0.87	0.35	-0.46	0.72	0.41	0.76	0.83	0.80	0.11	15%
EAFE		1.00	0.89	0.28	0.85	0.43	-0.63	0.77	0.45	0.61	0.80	0.79	0.24	15%
EME			1.00	0.31	0.83	0.44	-0.69	0.80	0.49	0.54	0.77	0.77	0.39	18%
Bonds				1.00	0.38	0.85	-0.35	0.66	-0.21	0.42	-0.02	0.13	0.58	4%
Corp. HY					1.00	0.46	-0.50	0.87	0.50	0.69	0.79	0.75	0.29	8%
Munis						1.00	-0.39	0.75	-0.13	0.54	0.13	0.26	0.51	4%
Currencies							1.00	-0.59	-0.41	-0.22	-0.31	-0.56	-0.56	6%
EMD								1.00	0.27	0.64	0.56	0.60	0.51	8%
Commodities									1.00	0.34	0.64	0.58	0.29	17%
REITs										1.00	0.60	0.61	0.20	16%
Hedge funds											1.00	0.80	0.03	5%
Private equity												1.00	0.09	8%
Gold													1.00	15%

Source: Bloomberg, Burgiss, Credit Suisse/Tremont, FactSet, Federal Reserve, MSCI, Standard & Poor's, J.P. Morgan Asset Management.
Indices used – Large Cap: S&P 500 Index; Currencies: Federal Reserve Trade-Weighted Dollar; EAFE: MSCI EAFE; EME: MSCI Emerging Markets; Bonds: Bloomberg Aggregate; Corp HY: Bloomberg Corporate High Yield; EMD: Bloomberg Emerging Market; Cmdty.: Bloomberg Commodity Index; REITs: NAREIT All Equity Index; Hedge funds: CS/Tremont Hedge Fund Index; Private equity: Time weighted returns from Burgiss; Gold: Gold continuous contract ($/oz). Private equity data are reported on a one- to two-quarter lag. All correlation coefficients and annualized volatility are calculated based on quarterly total return data for period from 3/31/2013 to 3/31/2023, except for Private equity, which is based on the period from 9/30/2012 to 9/30/2022. This chart is for illustrative purposes only.
Guide to the Markets – U.S. Data are as of June 30, 2023.

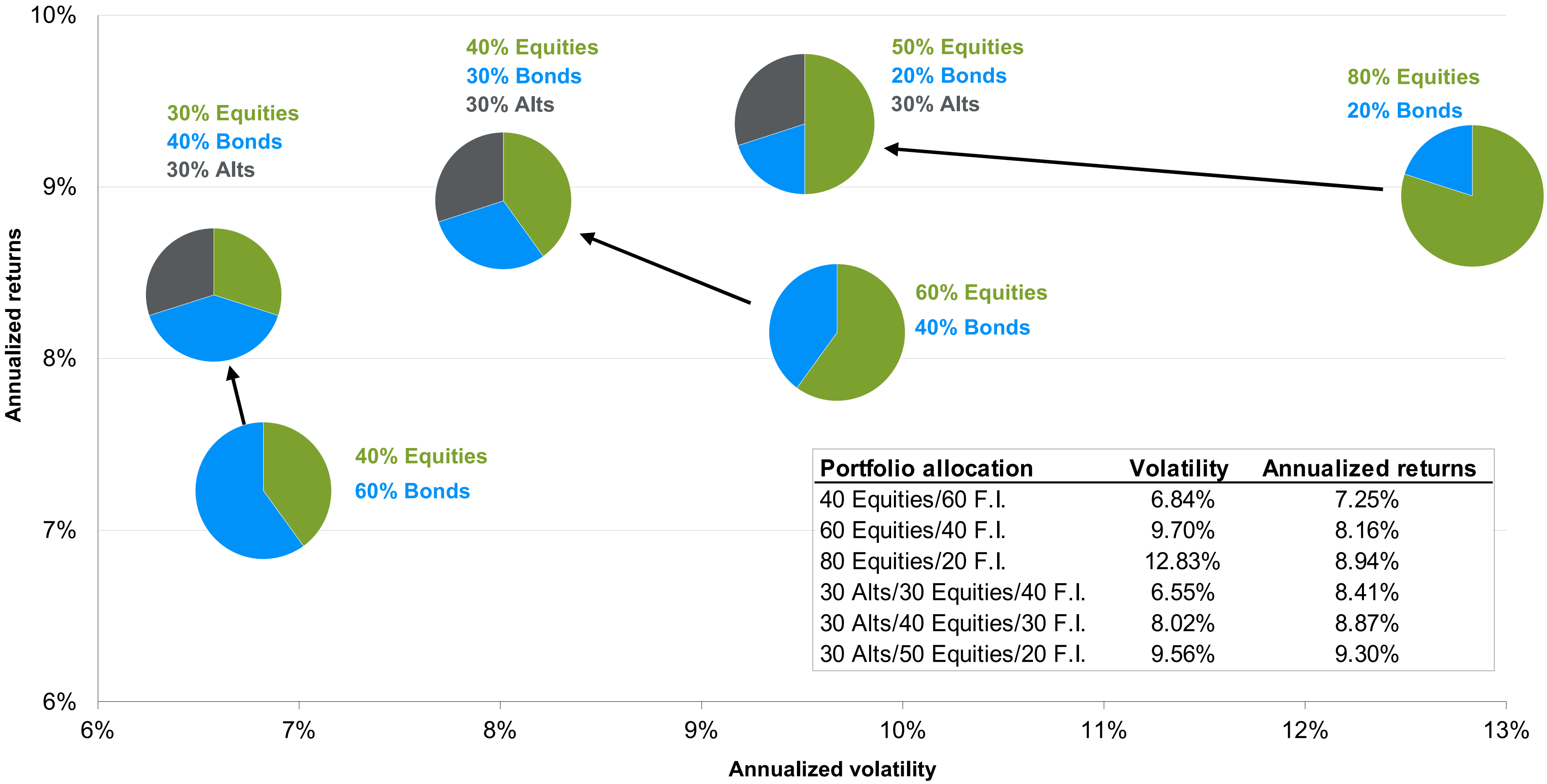
J.P.Morgan ASSET MANAGEMENT

Alternatives

Portfolio diversification

Alternatives and portfolio risk/return

Annualized volatility and returns, 1989 – 3Q22



Portfolio allocation	Volatility	Annualized returns
40 Equities/60 F.I.	6.84%	7.25%
60 Equities/40 F.I.	9.70%	8.16%
80 Equities/20 F.I.	12.83%	8.94%
30 Alts/30 Equities/40 F.I.	6.55%	8.41%
30 Alts/40 Equities/30 F.I.	8.02%	8.87%
30 Alts/50 Equities/20 F.I.	9.56%	9.30%

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

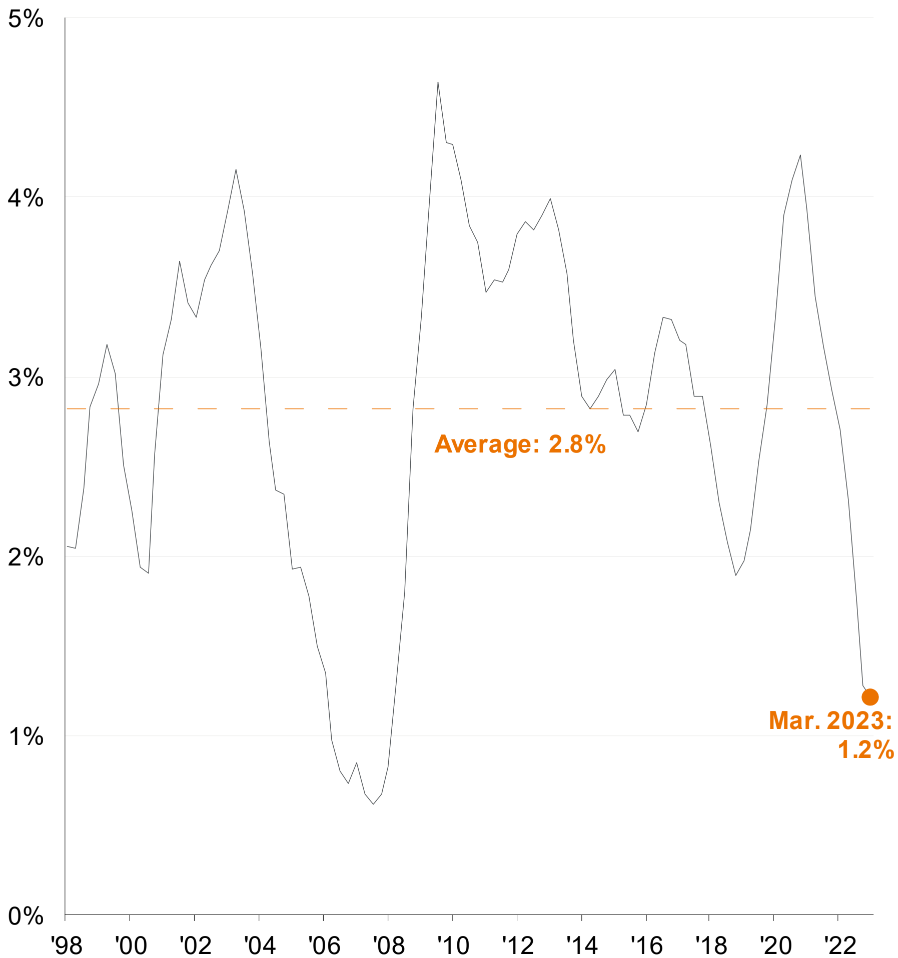
Alternatives

J.P.Morgan ASSET MANAGEMENT

U.S. real estate dynamics

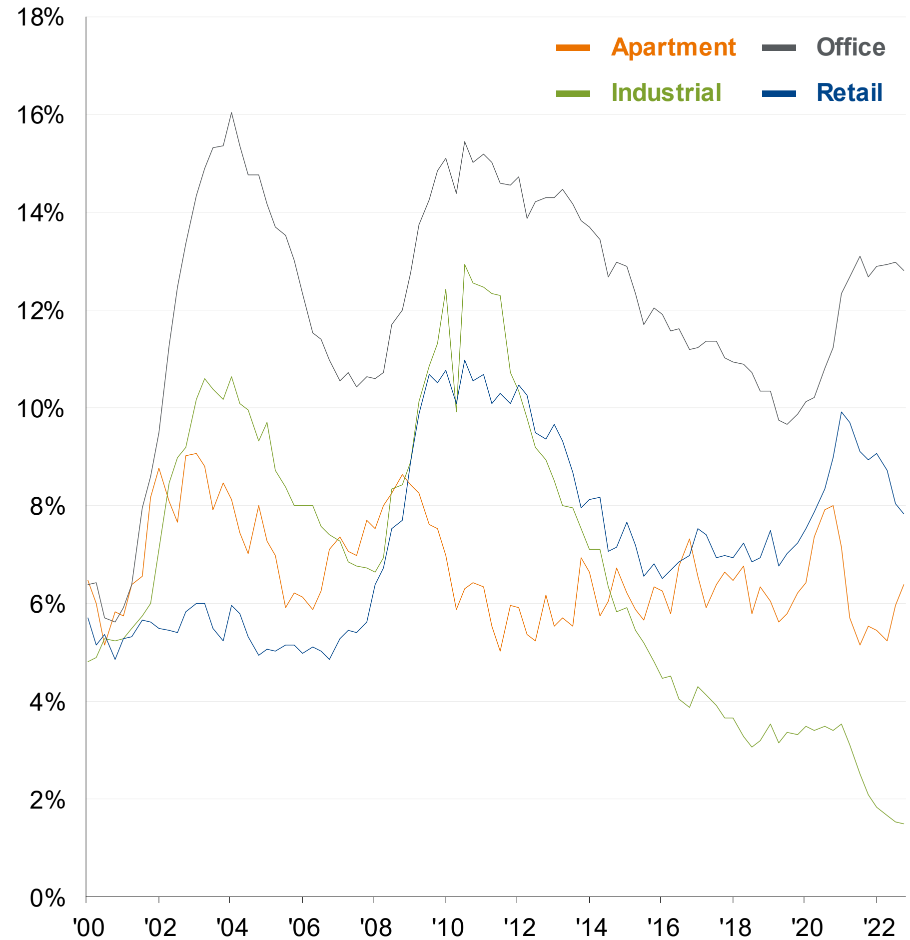
U.S. real estate cap rate spreads

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



U.S. vacancy rates by property type

Percent



Source: NAREIT, NCREIF, Statista, J.P. Morgan Asset Management.
The cap rate, which is computed as the net operating income over sales price, is the rate of return on a real estate investment property. Vacancy rate data is as of 12/31/2022. This slide comes from our Guide to Alternatives.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan
ASSET MANAGEMENT

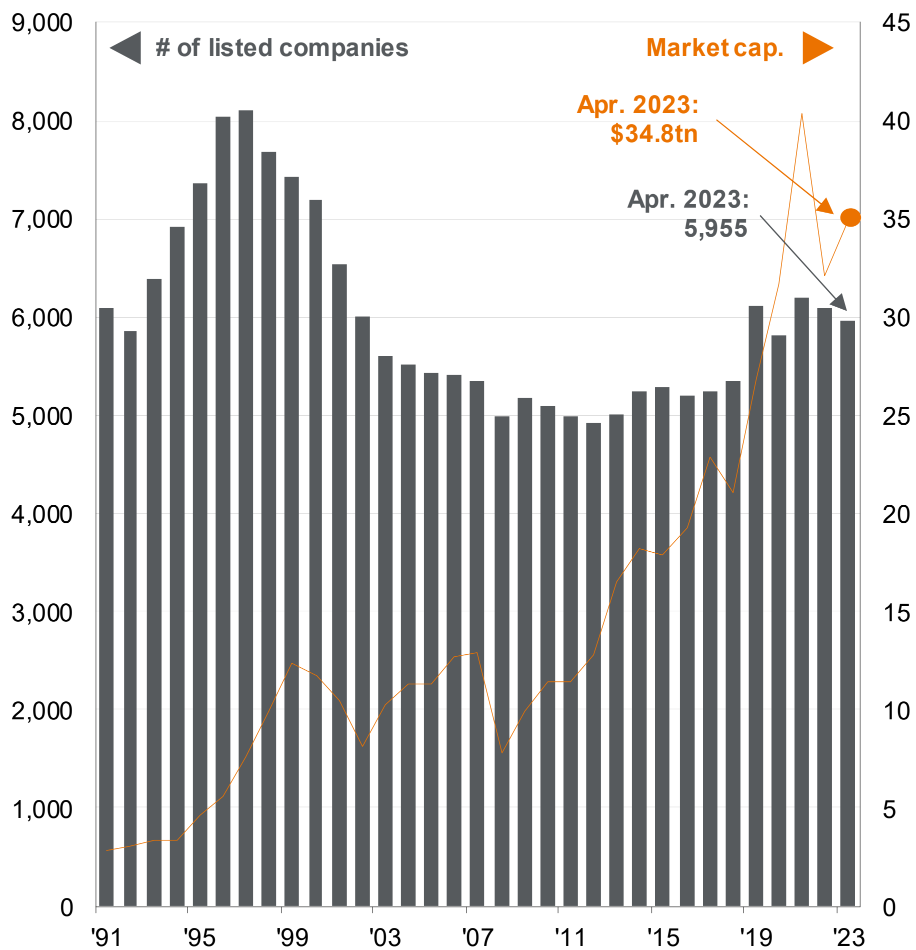
Alternatives

U.S. public vs. private equity

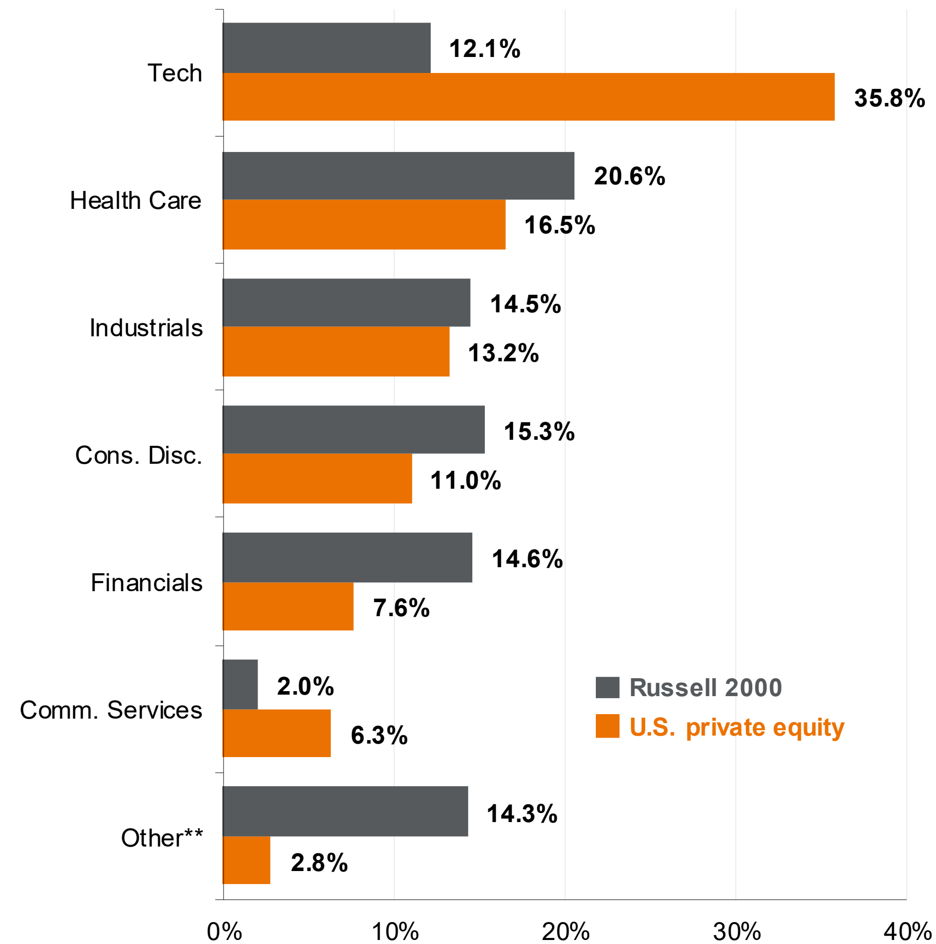
Alternatives

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

Number, S&P 500 market capitalization in USD trillions



Private vs. public equity sector weights



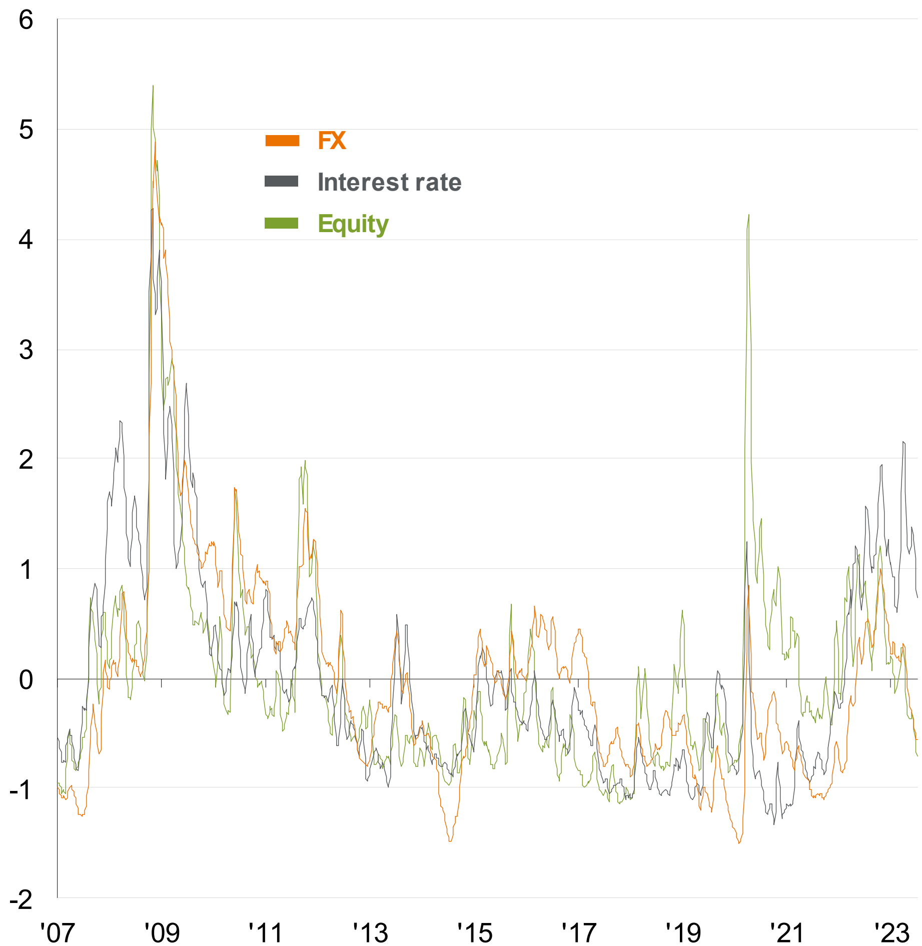
Sources: Cambridge Associates, Russell, World Federation of Exchanges, J.P. Morgan Asset Management.
*Number of listed U.S. companies is represented by the sum of number of companies listed on the NYSE and the NASDAQ. **Other includes real estate, utilities and energy. Percentages may not sum due to rounding. Sector weights are as of 6/30/2021. This slide comes from our Guide to Alternatives.
Guide to the Markets – U.S. Data are as of June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

Market volatility and hedge funds

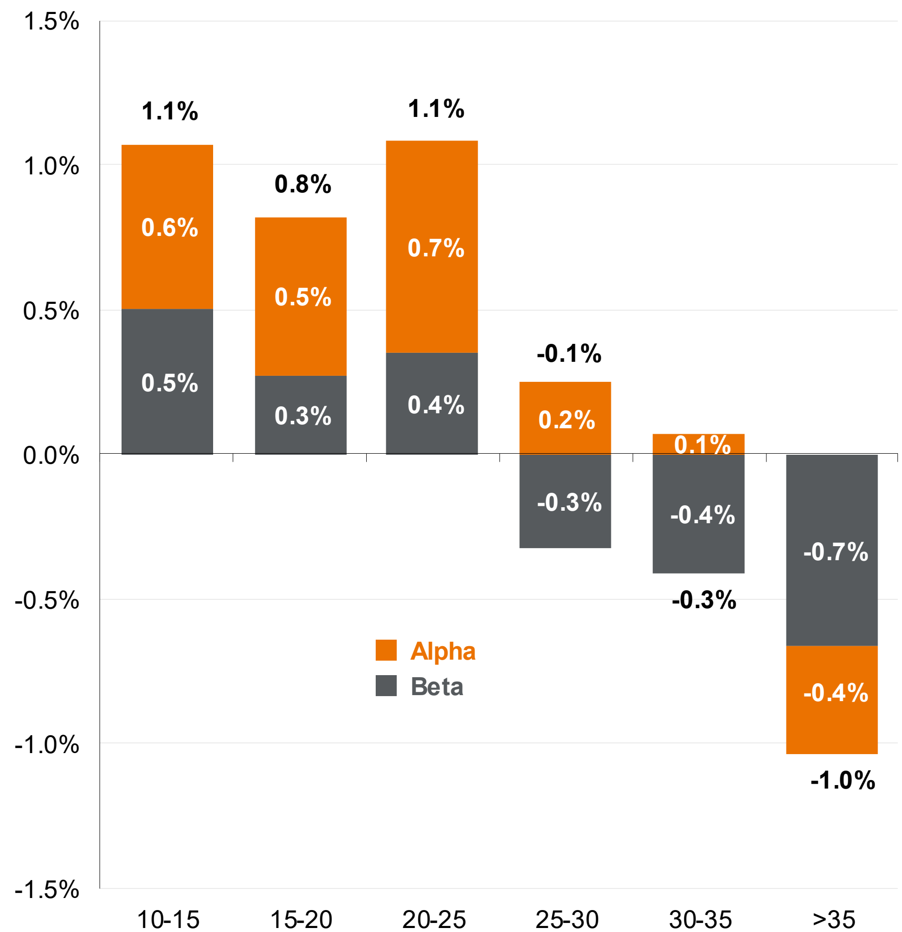
Equity, interest rate and foreign exchange volatility

Z-score, 4-week moving average, 2007 - present



Hedge funds and volatility

Average monthly hedge fund returns by VIX level, 1990 - present



Source: CBOE, FactSet, HFRI, ICE BofA, J.P. Morgan Index Research, MSCI, J.P. Morgan Asset Management. (Left) Equity volatility is represented by the VIX Index, interest rate volatility is represented by the MOVE Index and foreign exchange volatility is represented by the J.P. Morgan Global FX Volatility Index. (Right) Historical beta is based on regression analysis, where the HFRI is the dependent variable and the MSCI AC World Index is the independent variable. Monthly VIX reading is an average. Numbers may not sum to 100% due to rounding. This slide comes from our Guide to Alternatives.

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

J.P.Morgan ASSET MANAGEMENT

Alternatives

Asset class returns

																2008 - 2022	
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD	Ann.	Vol.
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 16.9%	Large Cap 8.8%	REITs 23.4%
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 12.1%	Small Cap 7.2%	Small Cap 23.2%
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 8.1%	REITs 6.6%	EM Equity 23.0%
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. 7.8%	Asset Alloc. 6.1%	Comdty. 20.2%
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 5.2%	High Yield 5.4%	DM Equity 20.0%
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%	EM Equity 5.1%	Fixed Income 2.7%	Large Cap 17.7%
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%	REITs 3.0%	DM Equity 2.3%	High Yield 13.0%
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%	Cash 2.3%	EM Equity 1.0%	Asset Alloc. 12.4%
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%	Fixed Income 2.1%	Cash 0.6%	Fixed Income 4.2%
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. -7.8%	Comdty. -2.6%	Cash 0.4%

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 June 30, 2023.

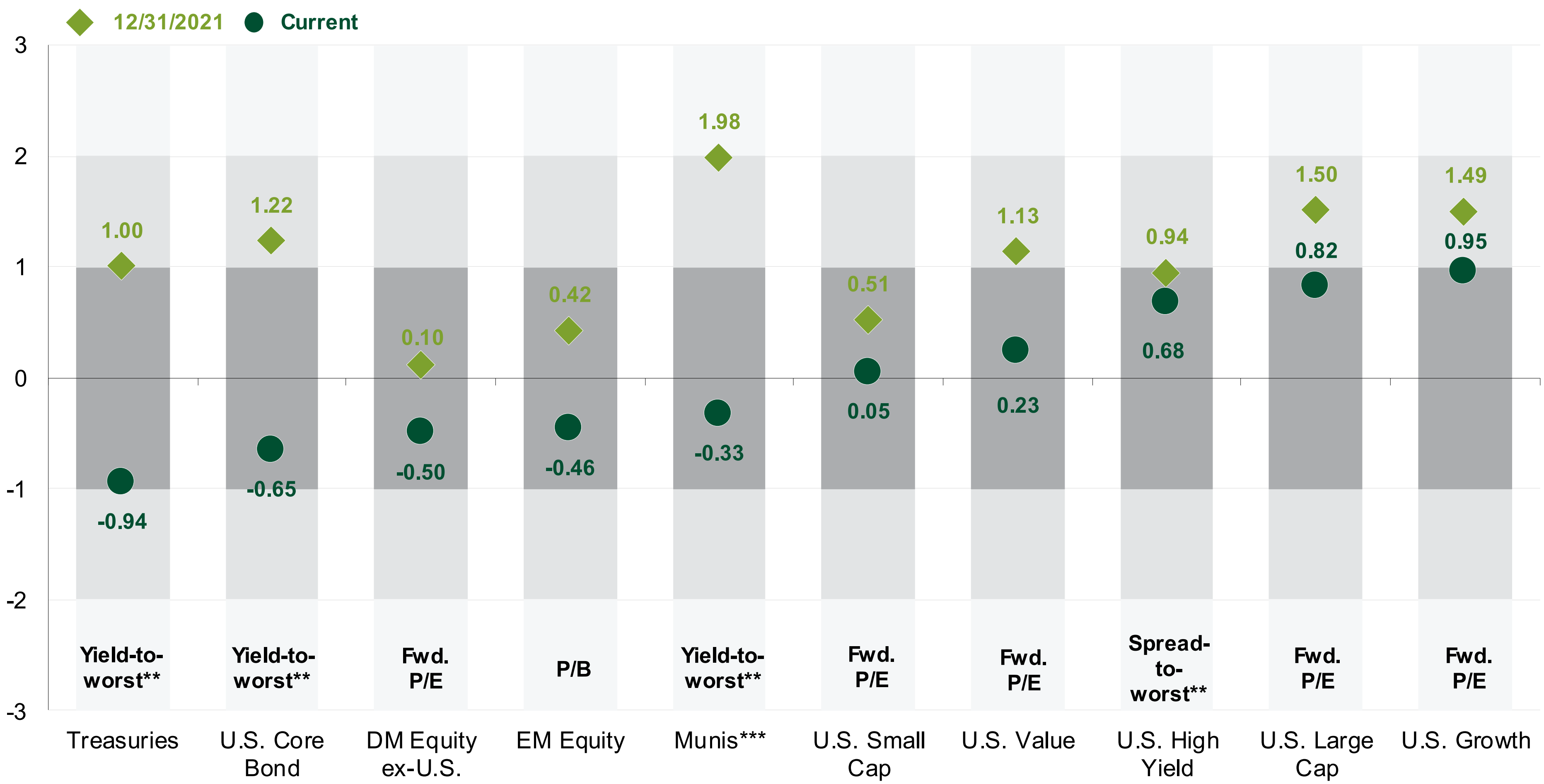
J.P.Morgan ASSET MANAGEMENT

Investing Principles

Valuations monitor

Asset class valuations

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



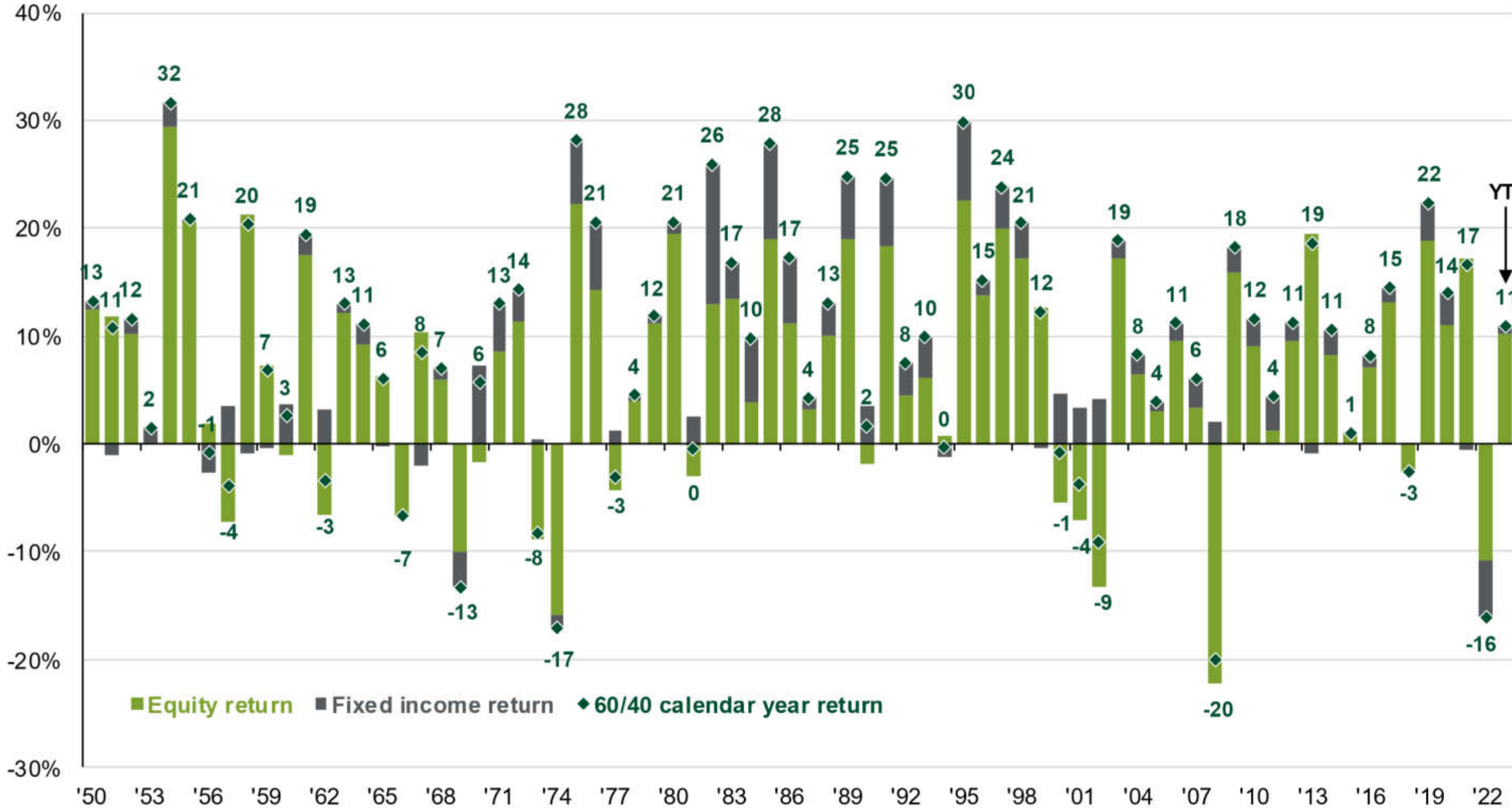
Source: Bloomberg, BLS, CME, FactSet, MSCI, Russell, Standard & Poor's, J.P. Morgan Asset Management.
U.S. Large Cap: S&P 500, U.S. Small Cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, U.S. Value: Russell 1000 Value, U.S. Growth: Russell 1000 Growth, U.S. High Yield: J.P. Morgan Domestic 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 June 30, 2023.

J.P.Morgan ASSET MANAGEMENT

60/40 annual returns

60/40 annual return decomposition

Total returns, 1950 – present



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

J.P.Morgan
ASSET MANAGEMENT

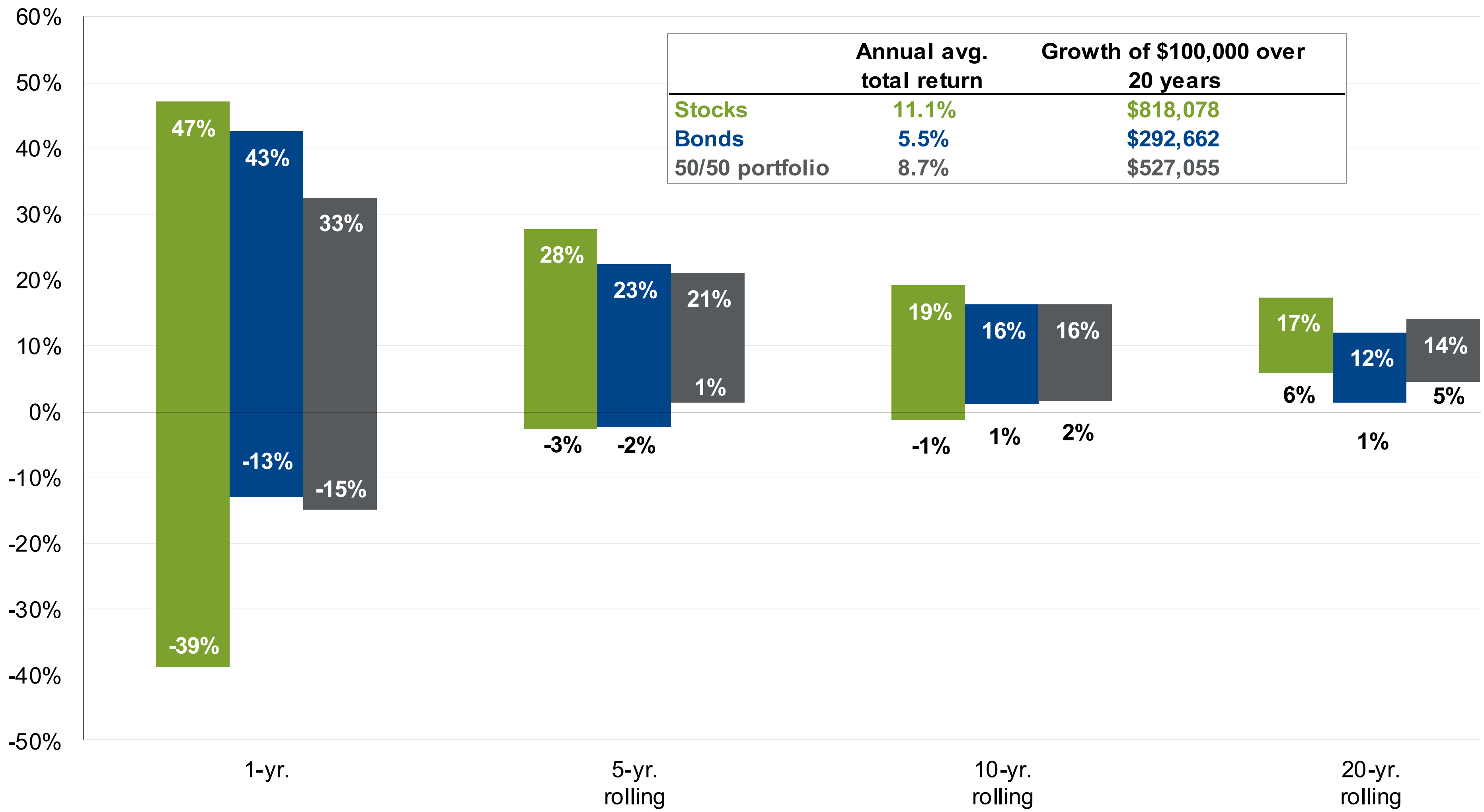
Investing Principles

Time, diversification and the volatility of returns

Range of stock, bond and blended total returns

Annual total returns, 1950-2022

	Annual avg. total return	Growth of $100,000 over 20 years
Stocks	11.1%	$818,078
Bonds	5.5%	$292,662
50/50 portfolio	8.7%	$527,055



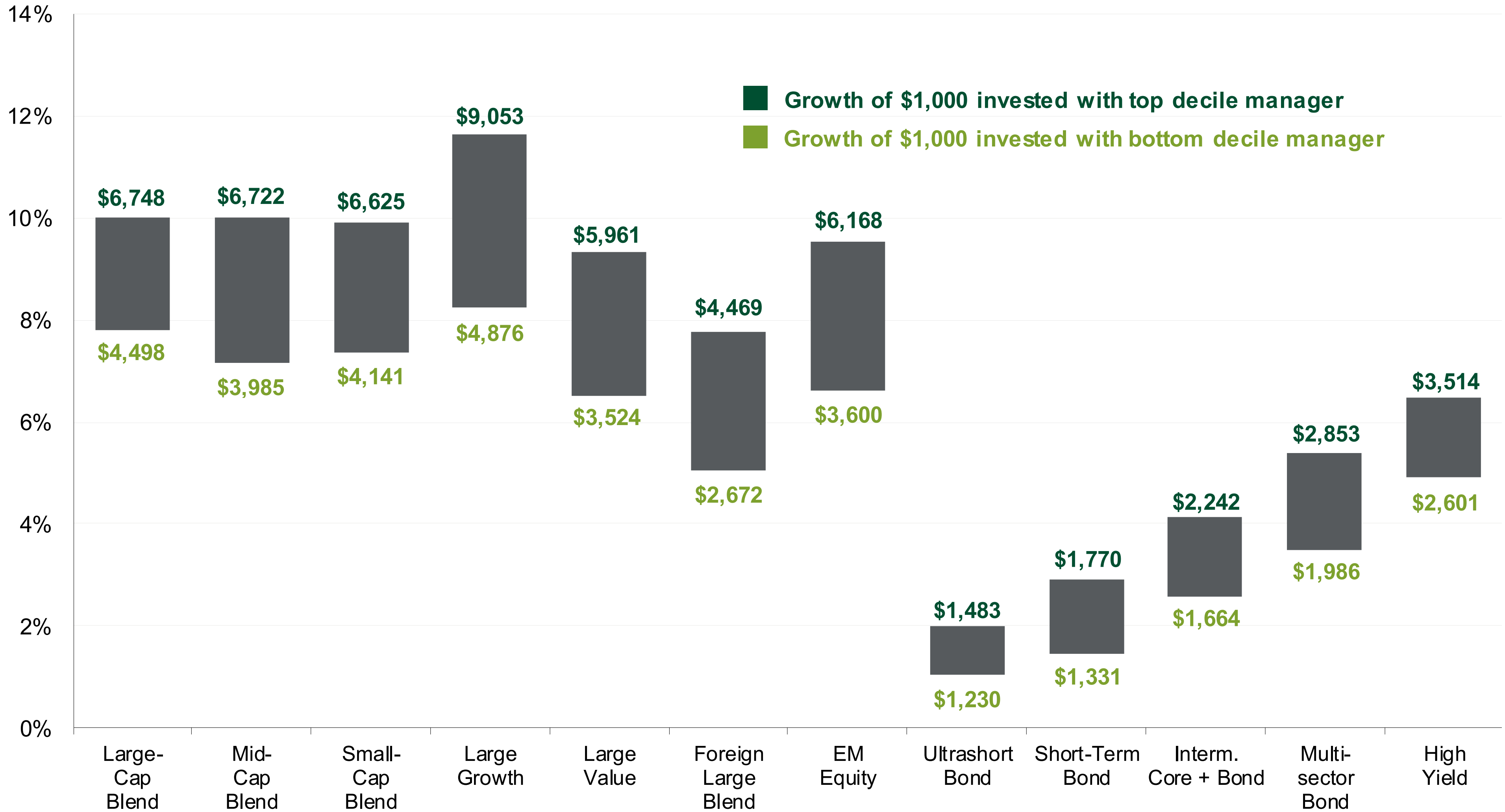
Source: Bloomberg, FactSet, Federal Reserve, Robert Shiller, Strategas/Ibbotson, J.P. Morgan Asset Management.
Returns shown are based on calendar year returns from 1950 to 2021. Stocks represent the S&P 500 Shiller Composite and Bonds represent Strategas/Ibbotson for periods from 1950 to 2010 and Bloomberg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

J.P.Morgan ASSET MANAGEMENT

Manager dispersion

20-year manager return dispersion and growth of capital

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



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 May 31, 2023. This information is for illustrative purposes only, does not reflect actual investment results, is not a guarantee of future results and is not a recommendation.
Guide to the Markets – U.S. Data are as of June 30, 2023.

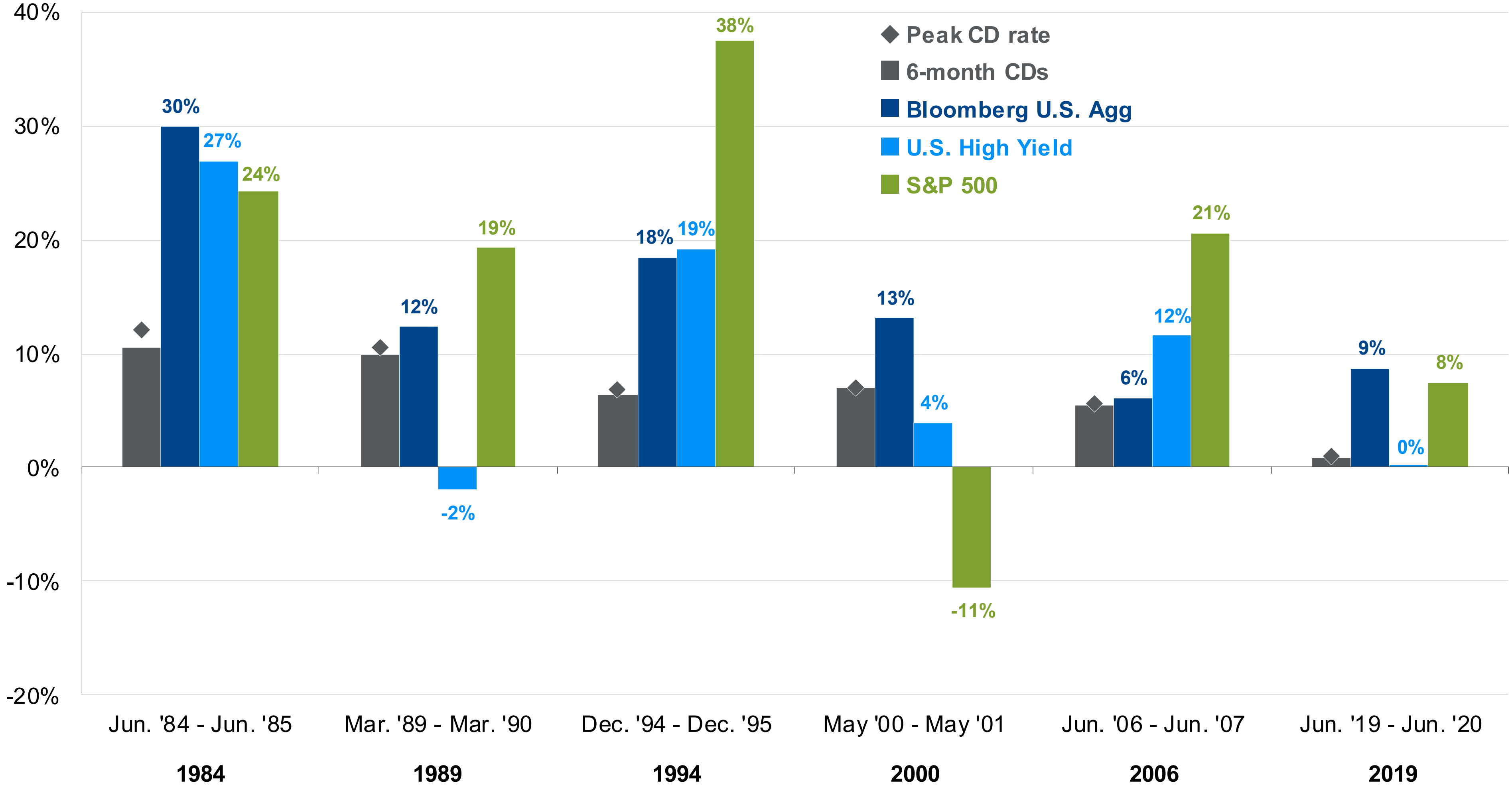
J.P.Morgan ASSET MANAGEMENT

Investing Principles

CD rates and other investment opportunities

Fixed income opportunities outside of CDs

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



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

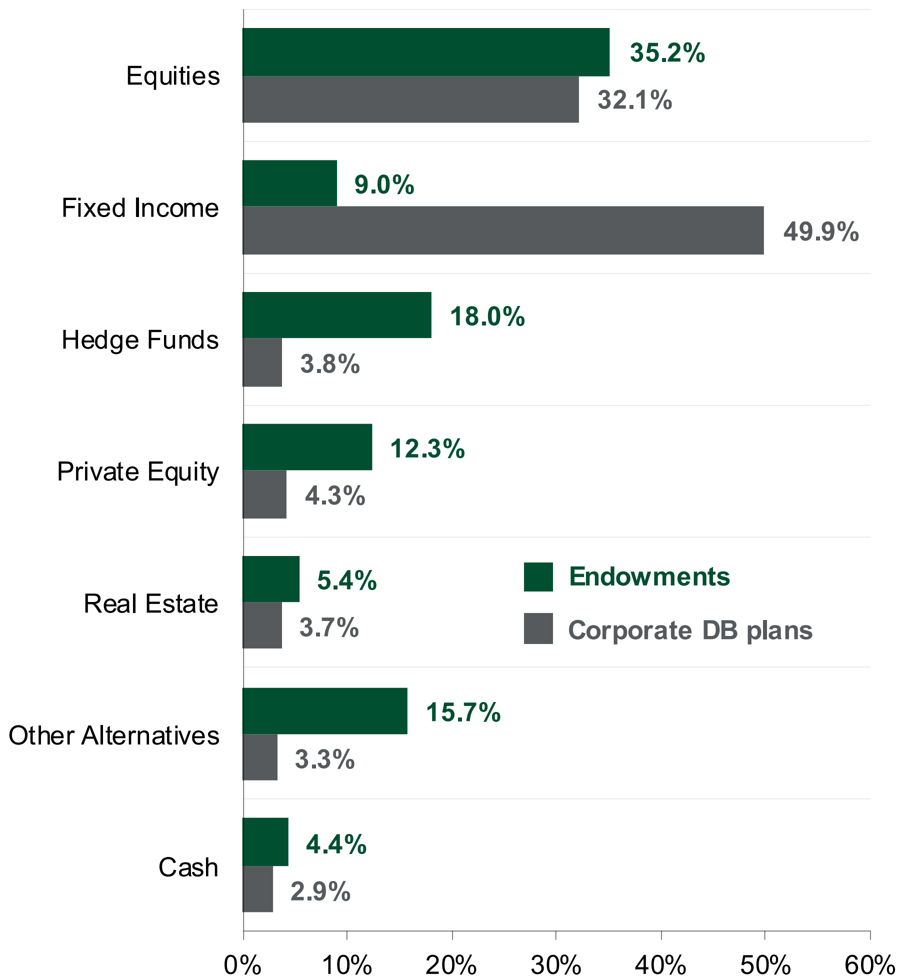
U.S. High Yield: Bloomberg U.S. Corporate High Yield Index. The S&P 500 total return figure from the 1984 period was calculated using data from Robert Shiller. The analysis references the month in which the 6-month average CD rate peaked during previous rate hiking cycles. CD rate data prior to 2013 are sourced from the Federal Reserve whereas data from 2013 to 2023 are sourced from Bankrate. CD subsequent 12-month return calculation assumes reinvestment at the prevailing 6-month rate when the initial CD matures. U.S. High Yield performance does not appear for the 2019 period because returns were flat at 0.03%.

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

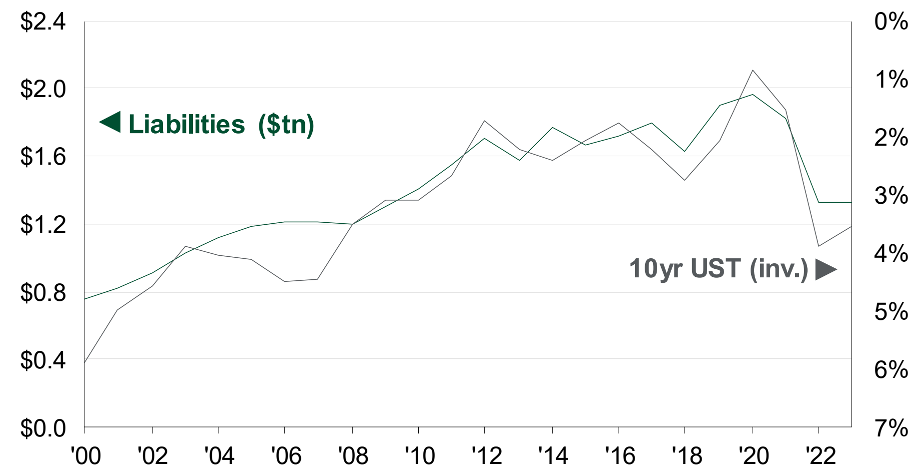
J.P.Morgan ASSET MANAGEMENT

Institutional investor behavior

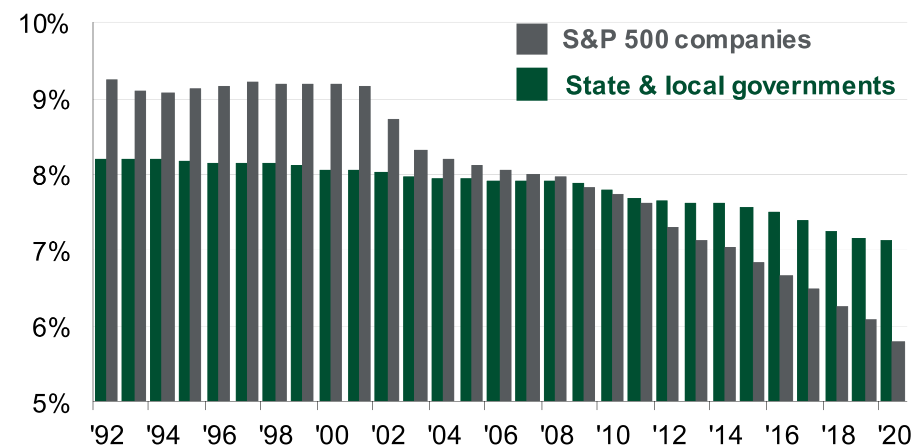
Asset allocation: Corporate DB plans vs. endowments



Corporate pension liabilities and 10-year UST yield



Pension return assumptions



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

J.P.Morgan ASSET MANAGEMENT

J.P. Morgan Asset Management – Index definitions

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

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.

J.P.Morgan ASSET MANAGEMENT

J.P. Morgan Asset Management – Risks & disclosures

The Market Insights program provides comprehensive data and commentary on global markets without reference to products. Designed as a tool to help clients understand the markets and support investment decision-making, the program explores the implications of current economic data and changing market conditions.

For the purposes of MiFID II, the JPM Market Insights and Portfolio Insights programs are marketing communications and are not in scope for any MiFID II / MiFIR requirements specifically related to investment research. Furthermore, the J.P. Morgan Asset Management Market Insights and Portfolio Insights programs, as non-independent research, have not been prepared in accordance with legal requirements designed to promote the independence of investment research, nor are they subject to any prohibition on dealing ahead of the dissemination of investment research.

This document is a general communication being provided for informational purposes only. It is educational in nature and not designed to be taken as advice or a recommendation for any specific investment product, strategy, plan feature or other purpose in any jurisdiction, nor is it a commitment from J.P. Morgan Asset Management or any of its subsidiaries to participate in any of the transactions mentioned herein. Any examples used are generic, hypothetical and for illustration purposes only. This material does not contain sufficient information to support an investment decision and it should not be relied upon by you in evaluating the merits of investing in any securities or products. In addition, users should make an independent assessment of the legal, regulatory, tax, credit, and accounting implications and determine, together with their own financial professional, if any investment mentioned herein is believed to be appropriate to their personal goals. Investors should ensure that they obtain all available relevant information before making any investment. Any forecasts, figures, opinions or investment techniques and strategies set out are for information purposes only, based on certain assumptions and current market conditions and are subject to change without prior notice. All information presented herein is considered to be accurate at the time of production, but no warranty of accuracy is given and no liability in respect of any error or omission is accepted. It should be noted that investment involves risks, the value of investments and the income from them may fluctuate in accordance with market conditions and taxation agreements and investors may not get back the full amount invested. Both past performance and yields are not reliable indicators of current and future results.

J.P. Morgan Asset Management is the brand for the asset management business of JPMorgan Chase & Co. and its affiliates worldwide.

To the extent permitted by applicable law, we may record telephone calls and monitor electronic communications to comply with our legal and regulatory obligations and internal policies. Personal data will be collected, stored and processed by J.P. Morgan Asset Management in accordance with our privacy policies at https://am.jpmorgan.com/global/privacy.

This communication is issued by the following entities:

In the United States, by J.P. Morgan Investment Management Inc. or J.P. Morgan Alternative Asset Management, Inc., both regulated by the Securities and Exchange Commission; in Latin America, for intended recipients' use only, by local J.P. Morgan entities, as the case may be. In Canada, for institutional clients' use only, by JPMorgan Asset Management (Canada) Inc., which is a registered Portfolio Manager and Exempt Market Dealer in all Canadian provinces and territories except the Yukon and is also registered as an Investment Fund Manager in British Columbia, Ontario, Quebec and Newfoundland and Labrador. In the United Kingdom, by JPMorgan Asset Management (UK) Limited, which is authorized and regulated by the Financial Conduct Authority; in other European jurisdictions, by JPMorgan Asset Management (Europe) S.à r.l. In Asia Pacific ("APAC"), by the following issuing entities and in the respective jurisdictions in which they are primarily regulated: JPMorgan Asset Management (Asia Pacific) Limited, or JPMorgan Funds (Asia) Limited, or JPMorgan Asset Management Real Assets (Asia) Limited, each of which is regulated by the Securities and Futures Commission of Hong Kong; JPMorgan Asset Management (Singapore) Limited (Co. Reg. No. 197601586K), this advertisement or publication has not been reviewed by the Monetary Authority of Singapore; JPMorgan Asset Management (Taiwan) Limited; JPMorgan Asset Management (Japan) Limited, which is a member of the Investment Trusts Association, Japan, the Japan Investment Advisers Association, Type II Financial Instruments Firms Association and the Japan Securities Dealers Association and is regulated by the Financial Services Agency (registration number "Kanto Local Finance Bureau (Financial Instruments Firm) No. 330"); in Australia, to wholesale clients only as defined in section 761A and 761G of the Corporations Act 2001 (Commonwealth), by JPMorgan Asset Management (Australia) Limited (ABN 55143832080) (AFSL 376919). For all other markets in APAC, to intended recipients only.

For U.S. only: If you are a person with a disability and need additional support in viewing the material, please call us at 1-800-343-1113 for assistance.

Prepared by: David P. Kelly, Jordan K. Jackson, David M. Lebovitz, 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 June 30, 2023 or most recently available.

Guide to the Markets – U.S.

JP-LITTLEBOOK | 0903c02a8264cfd3

J.P.Morgan
ASSET MANAGEMENT