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OUR MISSION

Smith Shellnut Wilson is a registered investment adviser* specializing in managing investment portfolios for banks, individuals, corporations, foundations and public entities. Smith Shellnut Wilson offers its clients skilled investment management and unremitting client service. Smith Shellnut Wilson is dedicated to the premise that client relationships and performance, not transactions, are the ultimate goals.

*Registration of an Investment Adviser does not imply any certain level of skill or training.

ECONOMIC AND MARKET COMMENTARY

3rd Quarter 2023

I. THIRD-QUARTER 2023 EQUITY MARKET RECAP

After a surge in equities in the 2nd quarter, stocks fell throughout the world with only a few exceptions (notably the United Kingdom's FTSE 100 was +2.07%). In the U.S., the S&P 500 Index was down 3.27%. The equal-weight version of the S&P 500 was down 4.90% again demonstrating that broad base stocks are underperforming relative to a few mega-capitalization names (more on this topic later). The Russell 2000 Index was down the most of the major U.S. indices falling 5.14%. The Russell 2000 with its many smaller companies is the best gauge of the full broad domestic market.

On the international front, the Chinese Hang Seng led the decliners falling 4.19%. The Japanese Nikkei was down 3.36%. The French CAC and the German DAX fell 3.43% and 4.71% respectively. As mentioned before, only the UK's FTSE broke the trend with a positive 2.07%.

In the last two quarterly commentaries, we have noted the divergence of seven mega-capitalization names in the U.S. In the 3rd quarter, three of the seven had positive returns, and four of the seven had negative returns .

Alphabet's (formerly known as Google) two classes of stocks led the group with GOOG Class A shares up 9.32%, and GOOG Class C shares up 8.99%. Meta Platforms (formerly known as Facebook) was up 4.61%, and Nvidia rose 2.84%. On the declining side, Amazon fell 2.49% but still beat the S&P 500 Index while Telsa, Microsoft and Apple all underperformed the S&P 500 falling 4.41%, 7.08% and 11.61% respectively.

In the 4th quarter, we are expecting a rise in financial market volatility as interest rates continue to rise, corporate profits continue to fall, and Washington D.C. is showing increasing levels of partisanship and disorganization.

II. THIRD-QUARTER 2023 BOND MARKET RECAP

As we approach the final quarter of 2023, the rate rally that rescued stocks during through first half of the year lost its vigor in the third quarter. "Higher for longer" solidified itself as the prevailing mantra. Throughout the third quarter, markets settled into the expectation that both short-term and now, more notably, longer-term rates will maintain their elevated status for a more extended period than initially anticipated. Consequently, bondholders are on the brink of a third consecutive year of losses.

During the quarter, the Federal Reserve implemented a rate hike, pushing the short-term fed funds rate from 5.25% to 5.50% at its July meeting. There was no August meeting and the September gathering brought a pause, but was accompanied by a decidedly hawkish tone from Chairman Powell and other Fed governors. The resounding message was that short-term rates would remain elevated for an extended period, effectively eliminating hopes of any near-term rate cut.

However, the Fed controls shorter rates, but longer-term rates also experienced a significant spike. The Fed's assertive stance is partly responsible, but growing uncertainty in other sectors of the economy unnerved bond investors, leading them to demand higher duration premiums, or in simpler terms, greater returns for holding longer-dated bonds. Consequently, while the two-year Treasury yield increased by 19 basis points, the 10-year Treasury yield surged by a considerable 78 basis points. This pronounced shift resulted in a flattening yield curve, transitioning from -106 basis points to -47 basis points (see Chart 1) during the quarter, characterized as a "bear flattening curve" – a clear market signal that interest rates are expected to remain elevated for an extended period.

Chart 1 - 2023 Rates

	Sep-23	Jun-23	Dec-22
Prime	8.50	8.25	7.50
Fed Funds (Upper)	5.50	5.25	4.50
2yr UST	5.09	4.90	4.43
10yr UST	4.62	3.84	3.87
2-10yr UST Spread	-0.47	-1.06	-0.56
2y AAA Muni/10y UST	72.2%	60.4%	60.4%
10y AAA Muni/10y UST	75.2%	68.1%	68.1%

Chart 1 source: Bloomberg

The impact of rising rates was not confined to Treasuries and taxable bonds; the tax-free municipal market faced even greater adversity. Ten-year AAA municipal yields escalated by 40 basis points in September, following a similar 40 basis point increase in the first two months of

the quarter. But when tax-effected (21% tax rate and higher) the ten-year tax equivalent yield increased by more than 100 basis points during the quarter. This can be seen in Chart 1 as Muni to Treasury ratios increased substantially.

The silver lining to the tumultuous third quarter is that bond investors are currently witnessing yields at their highest levels in 16 years.

III. WILL THE FED MANUFACTURE A "SOFT LANDING"?

Current Economic Perspective and the Looming Recession Threat

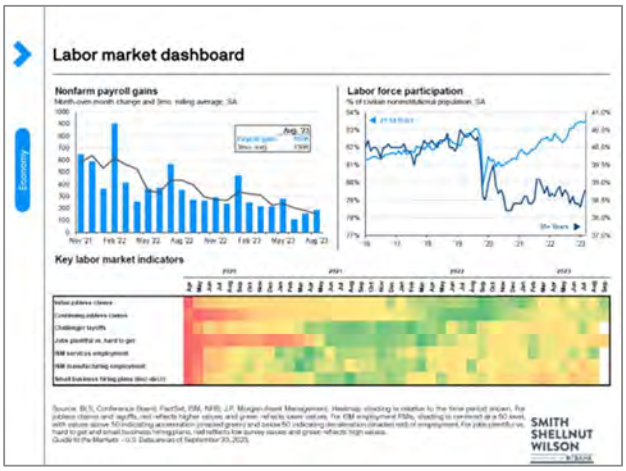
The economy demonstrated resilience in the third quarter, benefiting from decreasing inflation and heightened growth, sparking optimism about a "soft landing." However, recent economic data suggests a reduction in economic strength, which calls for caution.

While corporate investments exceeded expectations, the diminishing profitability of companies could impede further growth. Consumer activity remained robust, supported by strong employment figures and improved wages. Nevertheless, factors such as declining savings, increasing debt levels, upcoming student loan repayments, and other considerations may dampen consumer spending.

Although the housing market has stabilized somewhat, trade could slow down due to the impact of a strong dollar and a global economic slowdown. Forecasts point to the potential for moderate but decelerating growth, with the possibility of a recession by 2024 or 2025 still looming on the horizon.

Labor Market: A Transition to Stabilization

The strength of the labor market has been gradually diminishing. Despite ongoing job creation, the momentum has been on the decline since 2022. The participation rate of the labor force has remained relatively stable, but demographic changes could limit future expansion. Early indicators such as preliminary unemployment claims and other metrics suggest a potential return to equilibrium, with the possibility of an uptick in the future. Although the current condition still reflects robustness, there is an expectation of a forthcoming slowdown in employment growth.

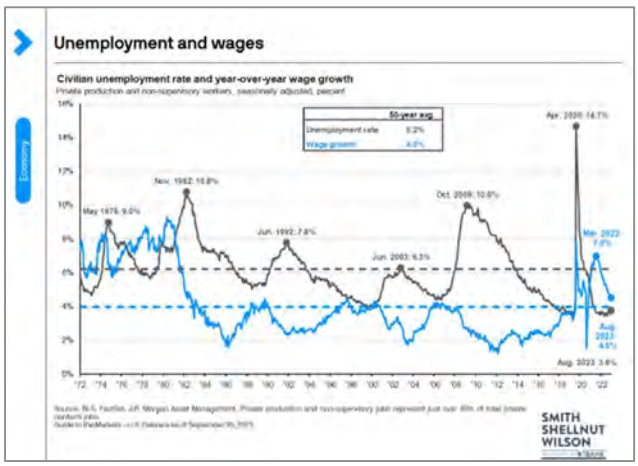


Unemployment Predictions Amid Economic Shifts

The neutral or natural unemployment rate represents the point at which the economy is operating at its potential or equilibrium output. It's the unemployment rate at which there are no cyclical or demand-related pressures pushing it either up or down. This rate encompasses frictional unemployment (individuals transitioning between jobs or entering the workforce) and structural unemployment (mismatches between job seekers' skills and employers' requirements). However, it excludes cyclical unemployment stemming from economic downturns.

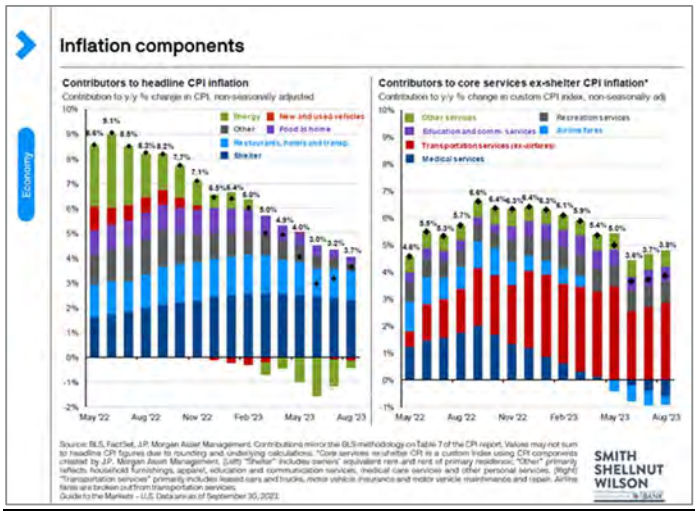
When the unemployment rate falls below the neutral rate, it signifies that the economy is overheating. In such a scenario, employers may struggle to find enough available or qualified workers to fill their job openings, potentially leading them to offer higher wages to attract talent. While this can bring short-term benefits to workers, such as increased incomes and better job opportunities, it can also contribute to inflationary pressures in the broader economy. Rapidly rising wages can result in price increases as businesses pass on higher costs to consumers. Central banks often closely monitor this situation, as prolonged periods of unemployment below the neutral rate may prompt adjustments in monetary policy to prevent runaway inflation or economic imbalances.

Currently, the unemployment rate is near historic lows, and while there is some debate, few argue that we are currently below the neutral unemployment rate. Recent data, however, suggest a stabilization in wage dynamics. While the unemployment rate may experience a marginal uptick due to a combination of slower demand and increased expenses, significant spikes are unlikely unless there is a broader economic downturn.



Trends in Inflation: A Shift Towards Stability

After an extended period of elevated inflation, there are now indications that inflation is starting to moderate. Several factors that had been contributing to heightened inflationary pressures are stabilizing, with the exception of the energy sector, which remains a notable outlier. While inflation still sits slightly above the desired levels, there is a clear path toward a reduction in inflation to more sustainable levels.



Federal Reserve's Policy Trajectory

The Federal Reserve has recently opted to keep its policies unchanged following a series of rate hikes aimed at addressing inflation. However, the guidance from the Fed suggests a cautious approach, and there is an expectation of a gradual economic slowdown. As the emphasis shifts from rate hikes to the possibility of rate reductions, different economic scenarios could potentially have a positive impact on fixed-income investment opportunities.

International Economic Pulse: A Varied Landscape

At the close of the previous year, the global economy appeared to be slowing down, but recent developments have reignited hopes for a resurgence. However, economic giants like the Eurozone and China have not met the expectations for their performance. In contrast, India and Japan have displayed promising trends, providing a counterbalance to the global economic narrative. With these varying growth trajectories, international economic efforts may encounter potential challenges. Nevertheless, the evolving global landscape presents a range of investment opportunities, particularly in emerging markets and the technology sector.

What's to come?

As we look back on the economic narratives of recent quarters, it's clear that the global economy is delicately poised. The resilience displayed in the third quarter is noteworthy, but underlying data suggests the possibility of a slowdown in momentum. The complex interplay of factors such as the labor market, inflation, global economic trends, and the Federal Reserve's strategic stance highlights the challenges on the horizon.

Examining the historical track record of the Fed reveals that achieving a "soft landing" is the exception rather than the rule. However, there is a growing belief among economists that the Fed might be able to accomplish it this time.

IV. CENTRAL BANKS NEAR END OF RATE HIKES AS US, EUROPEAN ECONOMIES DIVERGE

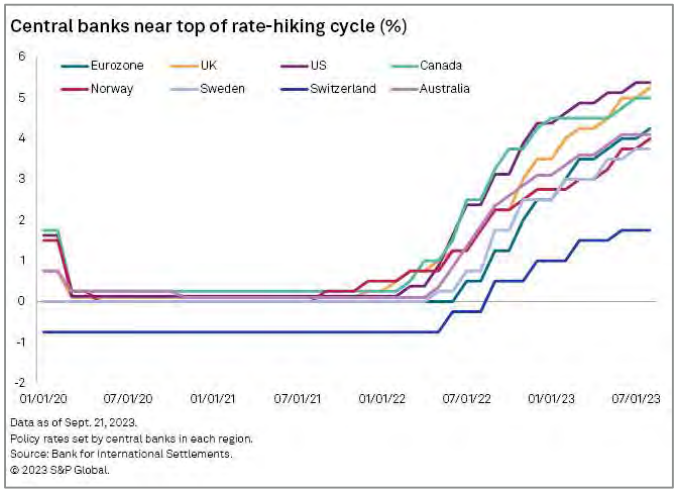
Peter Brennan
Market Intelligence

Central banks in the US and Europe are signaling they are near or at the end of hikes to benchmark interest rates amid diverging economic prospects.

The US Federal Reserve and Bank of England both passed on the opportunity to raise rates at policy meetings in September and they have suggested that a series of increases since early 2022 may be almost over. The European Central Bank and Swedish Riksbank have hinted that increases this month might be their last. S&P Global Market Intelligence economists expect rates in major economies to be already at, or close to, peak levels.

The prospect of a near-term end to one of the most aggressive rate-hiking cycles in history comes as the US economy shows surprising strength and Fed officials await further evidence of how action so far is affecting inflation, employment and consumer spending. That contrasts with Europe, where policymakers face the prospect that any further moves to fight inflation through rate hikes will exacerbate an economic slowdown.

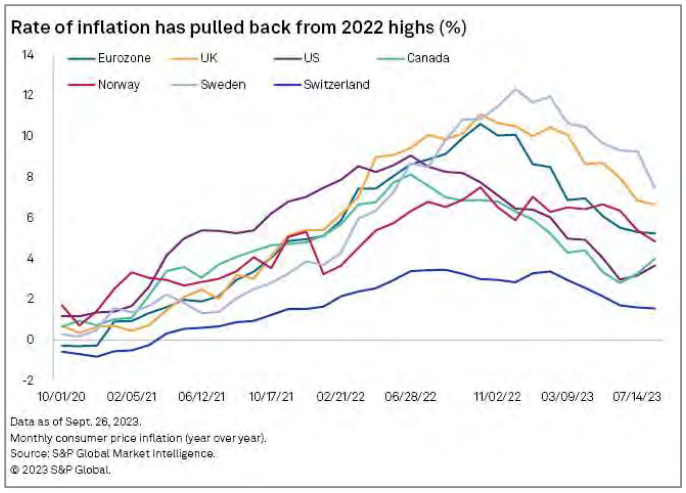
"Europe may already be in recession. The US certainly is not. So, on that basis, it may be that the Fed gets in another one or two rate hikes," said Nigel Jenkins, managing director at Payden & Rygel, a global asset management firm. "It could easily be that the European Central Bank is already finished with its rate hikes."



Rate rises take their toll

Higher rates have already helped to cool once sky-high inflation, along with a post-COVID-19 recovery of supply chains, a decline in commodity prices and a loosening of tight labor markets. The Bank of Norway kickstarted rate rises in the developed world in September 2021 as inflation pressures mounted. The Federal Reserve and others followed in early 2022.

The Fed has gone furthest among major Western central banks in raising rates, reaching a target range of 525-550 basis points before pausing. US consumer price inflation has fallen to 3.7% annually from a peak of 9.1% in June 2022.



The Fed's latest economic projections show expectations for just a single further rate rise in 2023 before cuts over the next three years. Even then, policymakers would only consider that additional hike if it is needed to hit a 2% inflation target.

"We are in a position to proceed carefully in determining the extent of additional policy firming that may be appropriate," Fed Chairman Jerome Powell said during a Sept. 20 press conference following the central bank's decision to pause rates. "We have covered a lot of ground, and the full effects of our tightening have yet to be felt."

Investors are predicting the Fed is done raising rates. The futures market signals a more than 50% chance that the benchmark federal funds rate will not rise above its current level in 2023 or 2024, according to the CME FedWatch Tool, a key gauge of market sentiment on monetary policy.

In Europe, Switzerland's national bank paused rate increases because of concerns about demand and economic growth. The Bank of England narrowly voted to hold rates at 5.25% following a surprise drop in the consumer prices index to 6.7% in August from 6.8% in July.

"The majority of the Monetary Policy Committee has interpreted this as the beginning of a decreasing price trend," said Katrin Löhken, an economist at DWS. "The BoE is now likely to wait and see attentively to see whether this assessment is correct."

Tightening too far?

While a resilient economy has given the Fed some breathing room, UK policymakers, like their counterparts in the eurozone, face slow growth and the risk of tightening too far.

Purchasing managers' index data for the UK and euro area are in contractionary territory. The UK services PMI slipped to 49.5 in August, below the stability level of 50.0, according to data compiled by S&P Global. In the euro area, composite PMI was again negative at a 33-month low figure of 46.7, while quarter-on-quarter GDP growth for April to June was revised down to 0.1% from 0.3%.

By contrast, economists at Market Intelligence upgraded their outlook for 2023 US growth from 1.8% to 2.2% in August.

High inflation led the European Central Bank and the central banks of Sweden and Norway to hike by a further 25 bps in September.

"Inflation is high enough to justify this restrictive monetary policy decision, but the ECB is playing with fire," said Eric Vanraes, portfolio manager at Eric Sturdza Investments. "The slowdown has already turned into a recession in some regions."

The source for the information in this commentary is SSW, S&P Capital IQ, and Bloomberg.

Chad McKeithen | Research Department
Smith Shellnut Wilson, LLC
661 Sunnybrook Rd, Ste 130
Ridgeland, MS 39157
601.315.8134
www.ssw1776.com

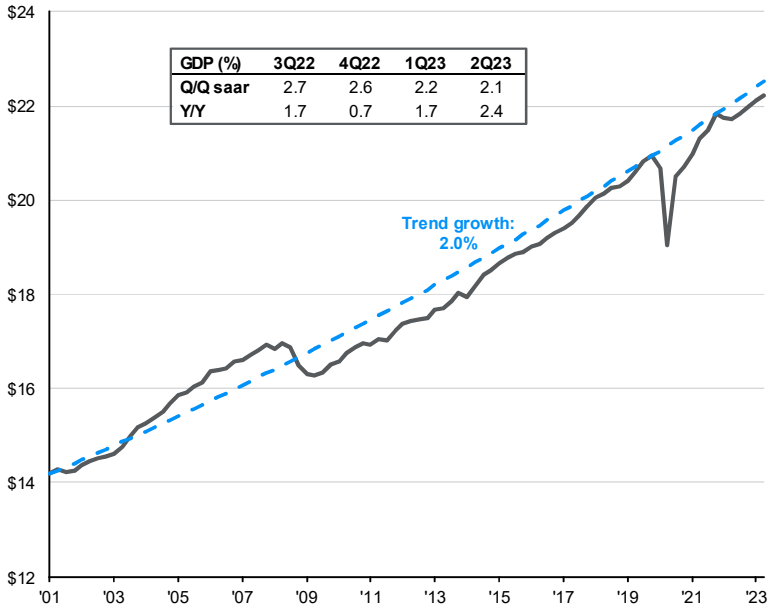
Unsubscribe

Economy

Economic growth and the composition of GDP

Real GDP

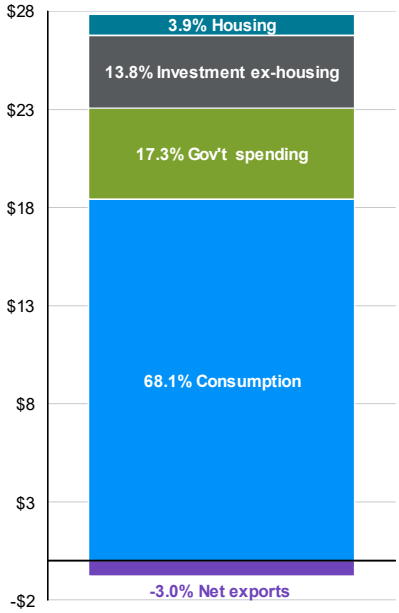
Trillions of chained (2017) dollars, seasonally adjusted at annual rates



GDP (%)	3Q22	4Q22	1Q23	2Q23
Q/Q saar	2.7	2.6	2.2	2.1
Y/Y	1.7	0.7	1.7	2.4

Components of GDP

2Q23 nominal GDP, USD trillions



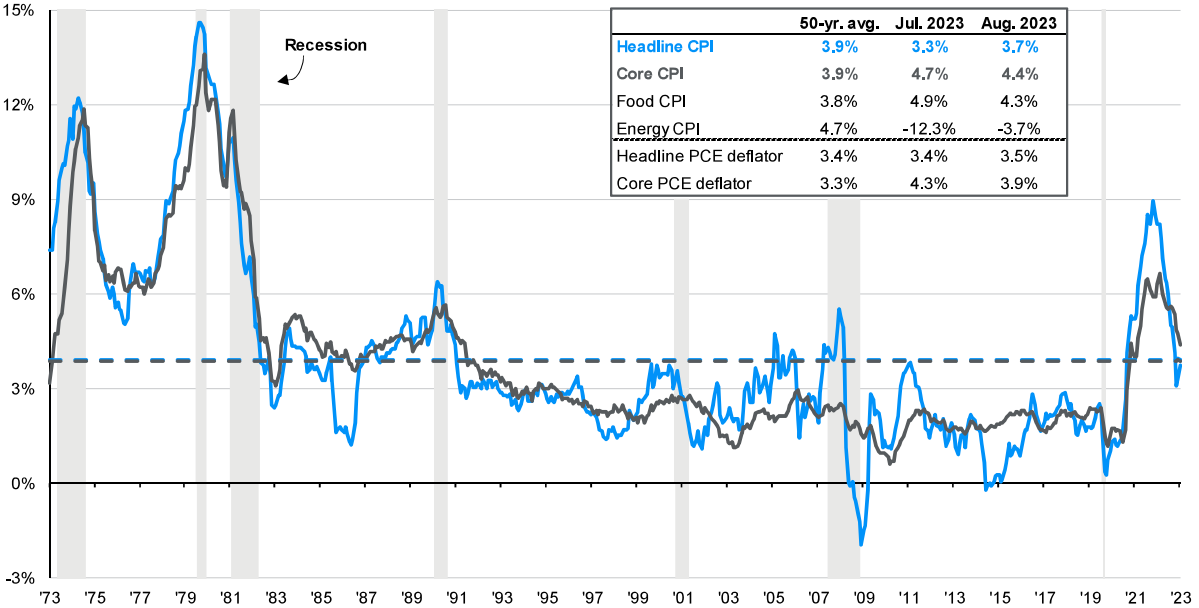
Source: BEA, FactSet, J.P. Morgan Asset Management. Values may not sum to 100% due to rounding. Trend growth is measured as the average annual growth rate from business cycle peak 1Q01 to business cycle peak 4Q19.
Guide to the Markets – U.S. Data are as of September 30, 2023.

Economy

Inflation

CPI and core CPI

% change vs. prior year, seasonally adjusted



	50-yr. avg.	Jul. 2023	Aug. 2023
Headline CPI	3.9%	3.3%	3.7%
Core CPI	3.9%	4.7%	4.4%
Food CPI	3.8%	4.9%	4.3%
Energy CPI	4.7%	-12.3%	-3.7%
Headline PCE deflator	3.4%	3.4%	3.5%
Core PCE deflator	3.3%	4.3%	3.9%

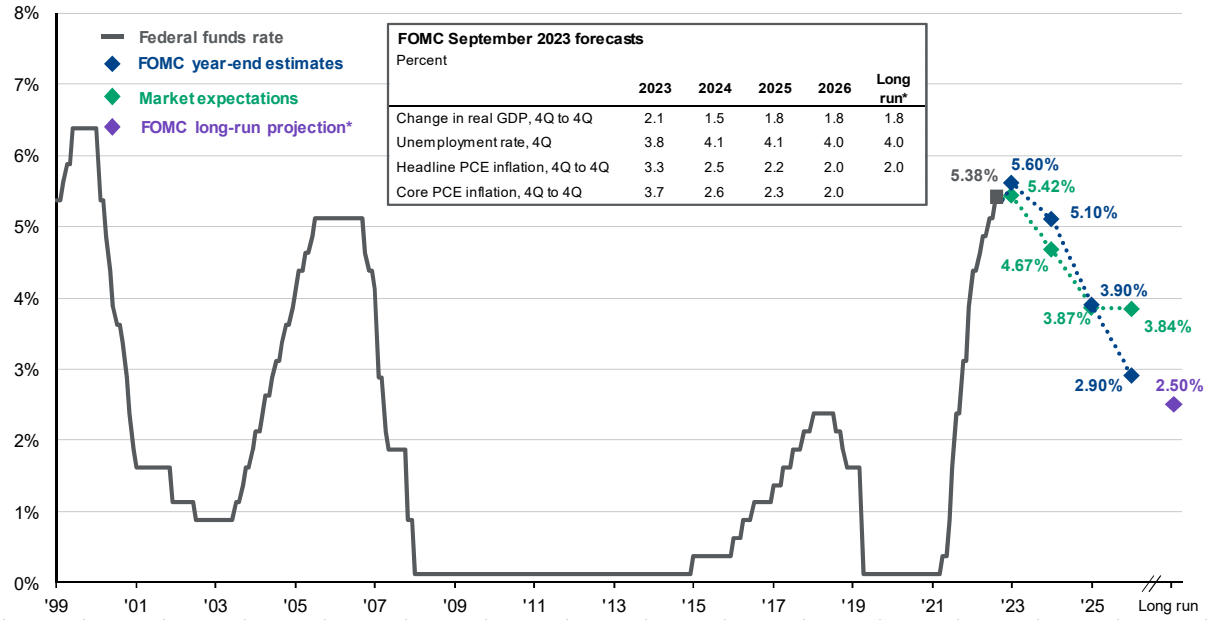
Source: BLS, FactSet, J.P. Morgan Asset Management.
CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead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

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The Fed and interest rates

Federal funds rate expectations

FOMC and market expectations for the federal funds rate



FOMC September 2023 forecasts

Percent

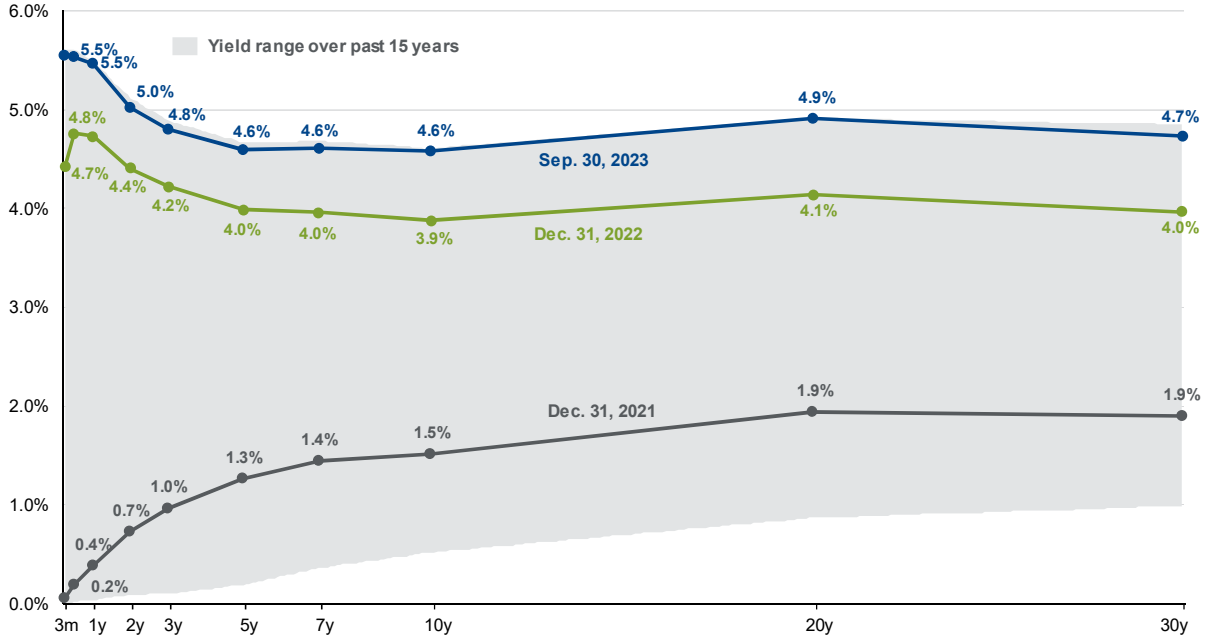
	2023	2024	2025	2026	Long run*
Change in real GDP, 4Q to 4Q	2.1	1.5	1.8	1.8	1.8
Unemployment rate, 4Q	3.8	4.1	4.1	4.0	4.0
Headline PCE inflation, 4Q to 4Q	3.3	2.5	2.2	2.0	2.0
Core PCE inflation, 4Q to 4Q	3.7	2.6	2.3	2.0	

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

Fixed Income

Yield curve

U.S. Treasury yield curve



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

S&P 500 valuation measures

S&P 500 Index: Forward P/E ratio



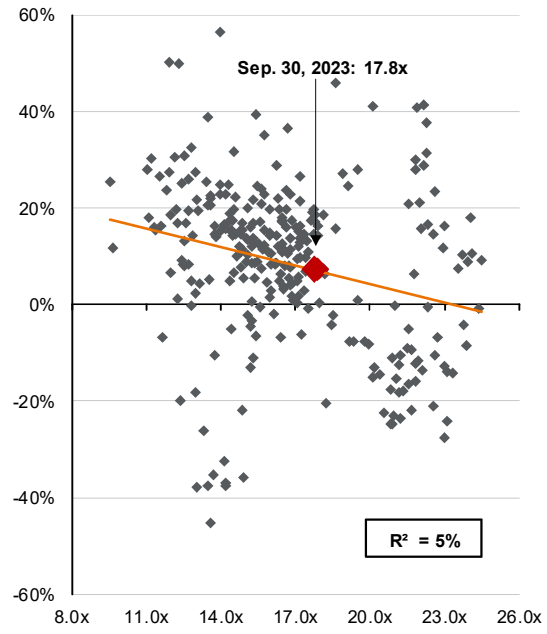
Valuation measure	Description	Latest	25-year avg.*	Std. dev. Over-/under-Valued
P/E	Forward P/E	17.83x	16.76x	0.32
CAPE	Shiller's P/E	29.53x	27.73x	0.29
Div. Yield	Dividend yield	1.69%	1.98%	0.85
P/B	Price to book	3.61x	3.10x	0.63
P/CF	Price to cash flow	13.54x	11.27x	1.03
EY Spread	EY minus Baa yield	-0.78%	0.33%	0.58

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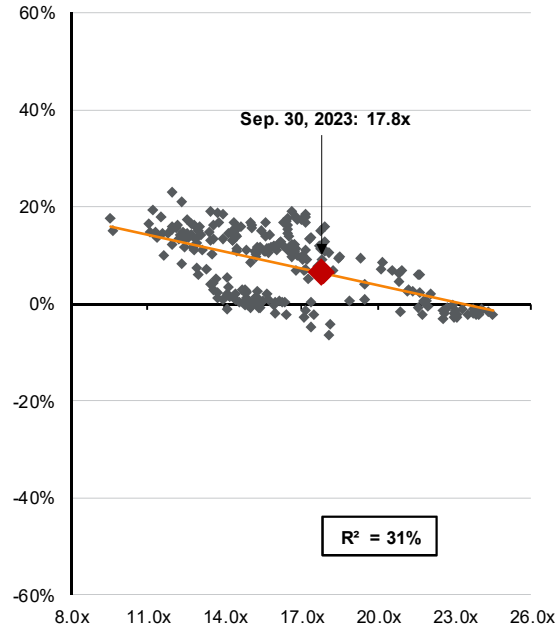
Equities

P/E ratios and equity returns

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



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



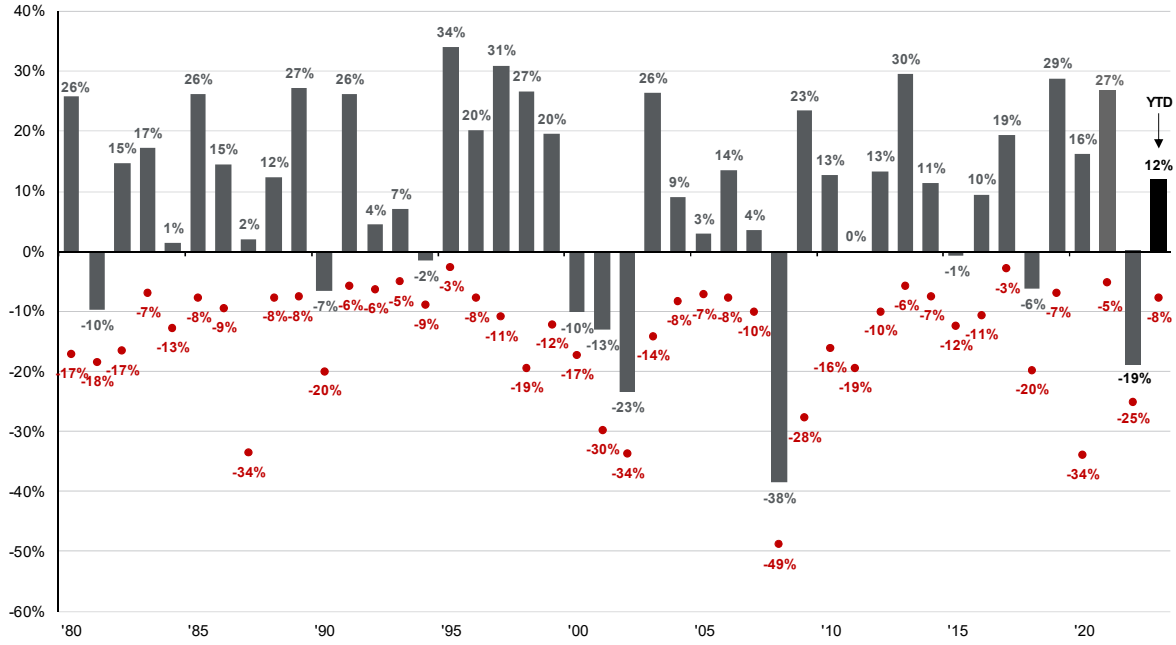
Source: FactSet, Refinitiv Datastream, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.
Returns are 12-month and 60-month annualized total returns, measured monthly, beginning 9/30/1998. R^2 represents the percent of total variation in total returns that can be explained by forward price-to-earnings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



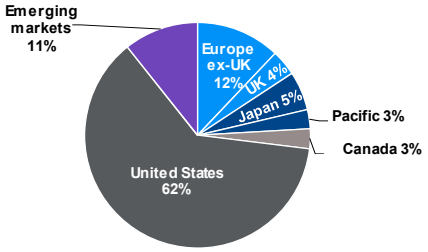
Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.
Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1980 to 2022, over which time period the average annual return was 8.7%.
Guide to the Markets – U.S. Data are as of September 30, 2023.

International

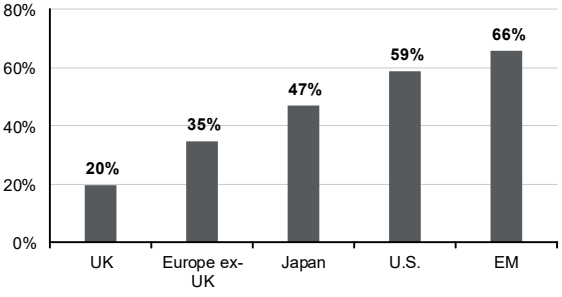
Global equity markets

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

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



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



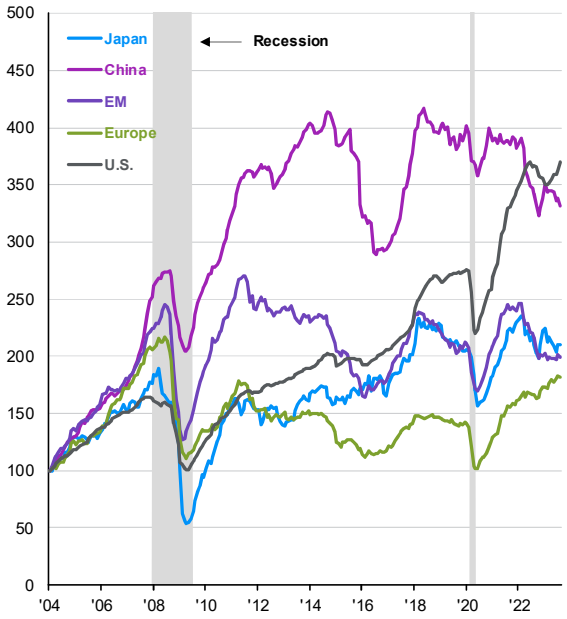
Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. (Left) All return values are MSCI Total Return Index (Gross) data. 15-year history based on USD returns. 15-year return and beta figures are calculated using a rolling 12-month time period ending with the previously completed month.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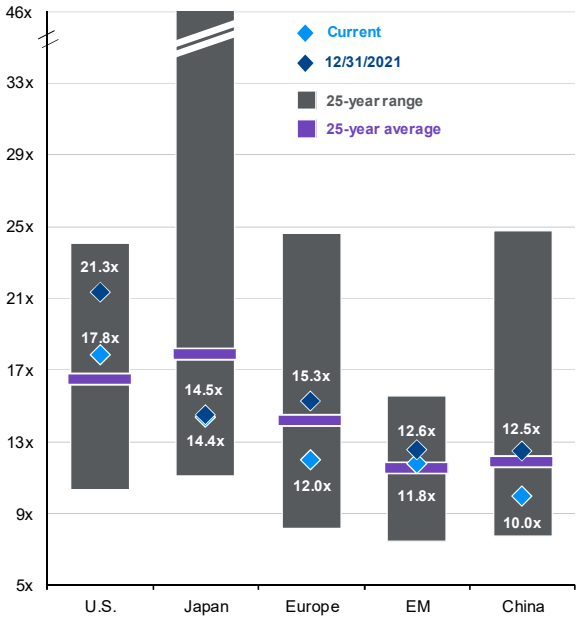
International

International equity earnings and valuations

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



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

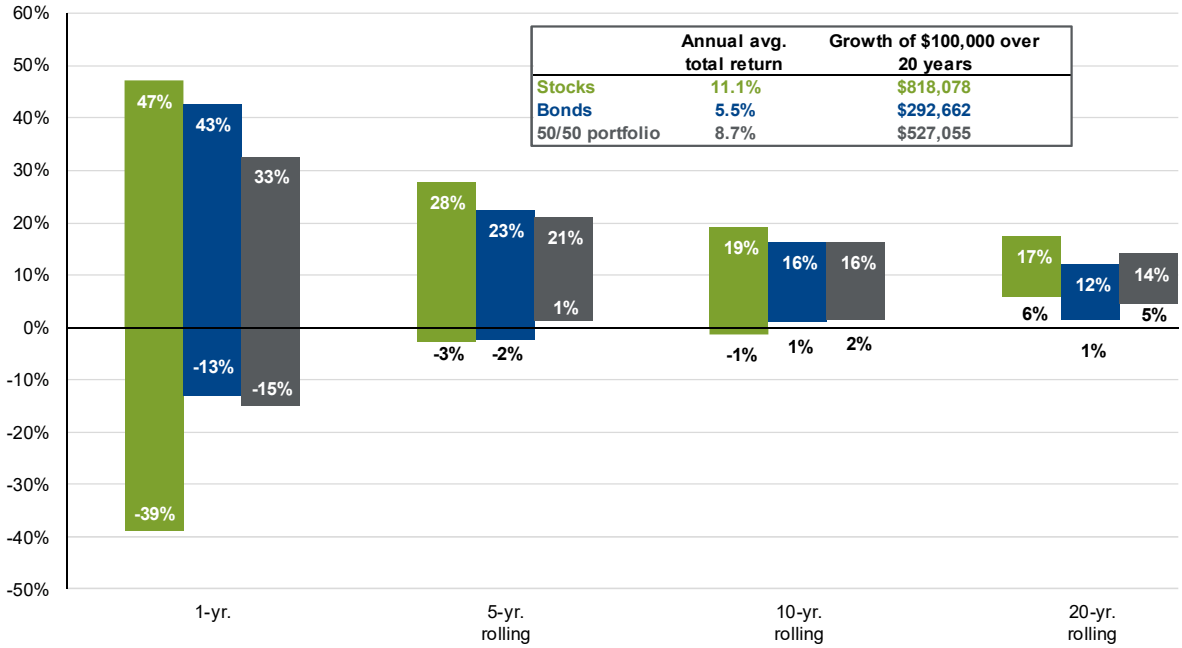


Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Next 12 months consensus estimates are based on pro-forma earnings and are in U.S. dollars. MSCI Europe includes the eurozone as well as countries not in the currency bloc, such as Norway, Sweden, Switzerland and the UK (which collectively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

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Annual total returns, 1950-2022



	Annual avg. total return	Growth of $100,000 over 20 years
Stocks	11.1%	$818,078
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Source: Bloomberg, FactSet, Federal Reserve, Robert Shiller, Strategas/Ibbotson, J.P. Morgan Asset Management.
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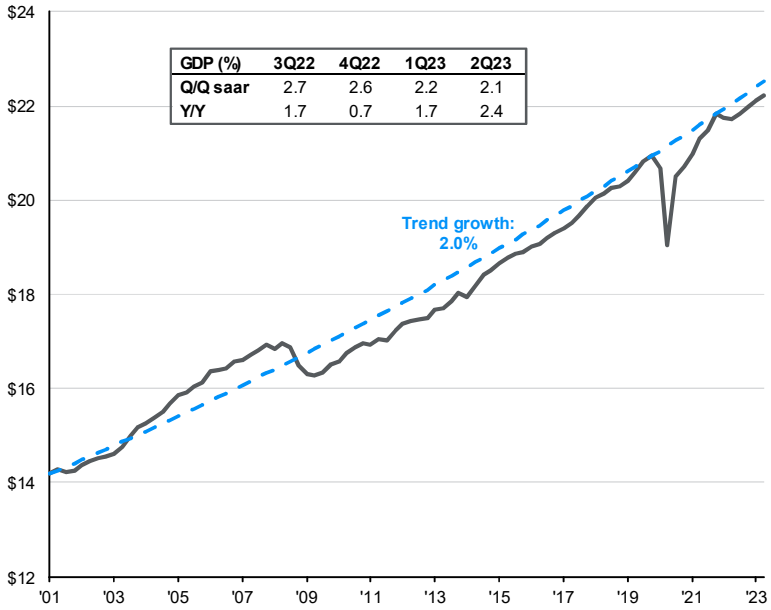
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Economy

Economic growth and the composition of GDP

Real GDP

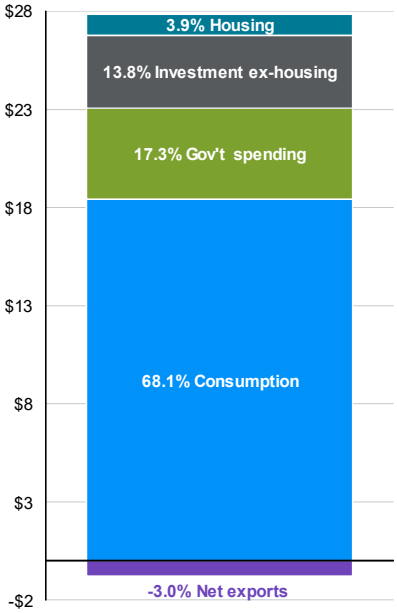
Trillions of chained (2017) dollars, seasonally adjusted at annual rates



GDP (%)	3Q22	4Q22	1Q23	2Q23
Q/Q saar	2.7	2.6	2.2	2.1
Y/Y	1.7	0.7	1.7	2.4

Components of GDP

2Q23 nominal GDP, USD trillions



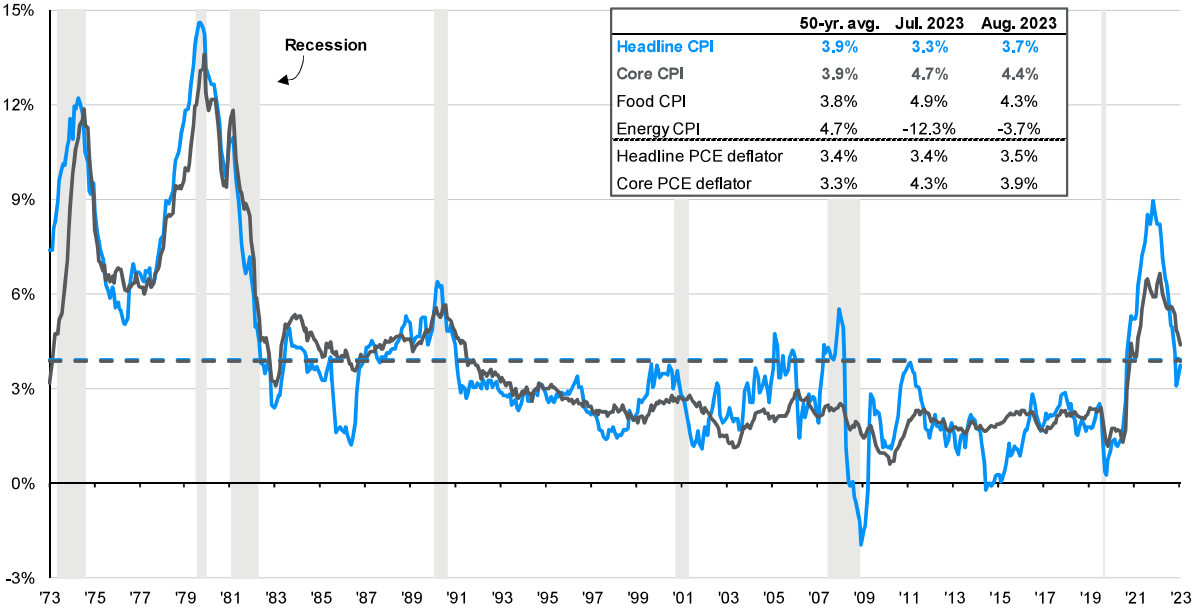
Source: BEA, FactSet, J.P. Morgan Asset Management. Values may not sum to 100% due to rounding. Trend growth is measured as the average annual growth rate from business cycle peak 1Q01 to business cycle peak 4Q19.
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Economy

Inflation

CPI and core CPI

% change vs. prior year, seasonally adjusted



	50-yr. avg.	Jul. 2023	Aug. 2023
Headline CPI	3.9%	3.3%	3.7%
Core CPI	3.9%	4.7%	4.4%
Food CPI	3.8%	4.9%	4.3%
Energy CPI	4.7%	-12.3%	-3.7%
Headline PCE deflator	3.4%	3.4%	3.5%
Core PCE deflator	3.3%	4.3%	3.9%

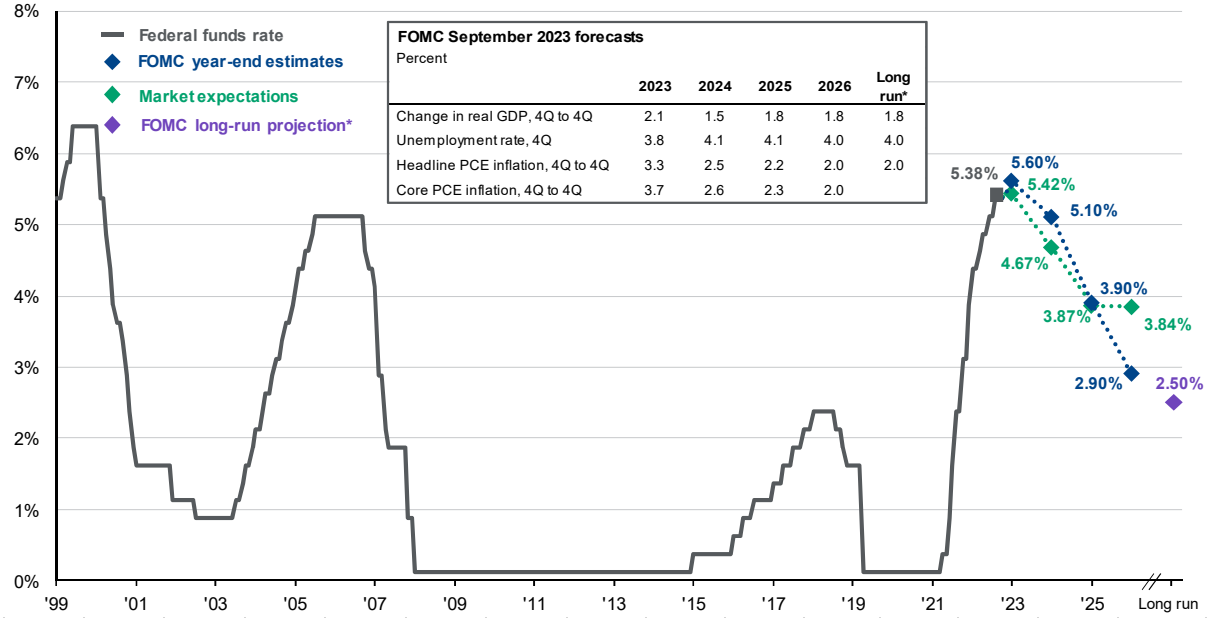
Source: BLS, FactSet, J.P. Morgan Asset Management.
CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead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

The Fed and interest rates

Federal funds rate expectations

FOMC and market expectations for the federal funds rate



FOMC September 2023 forecasts

Percent

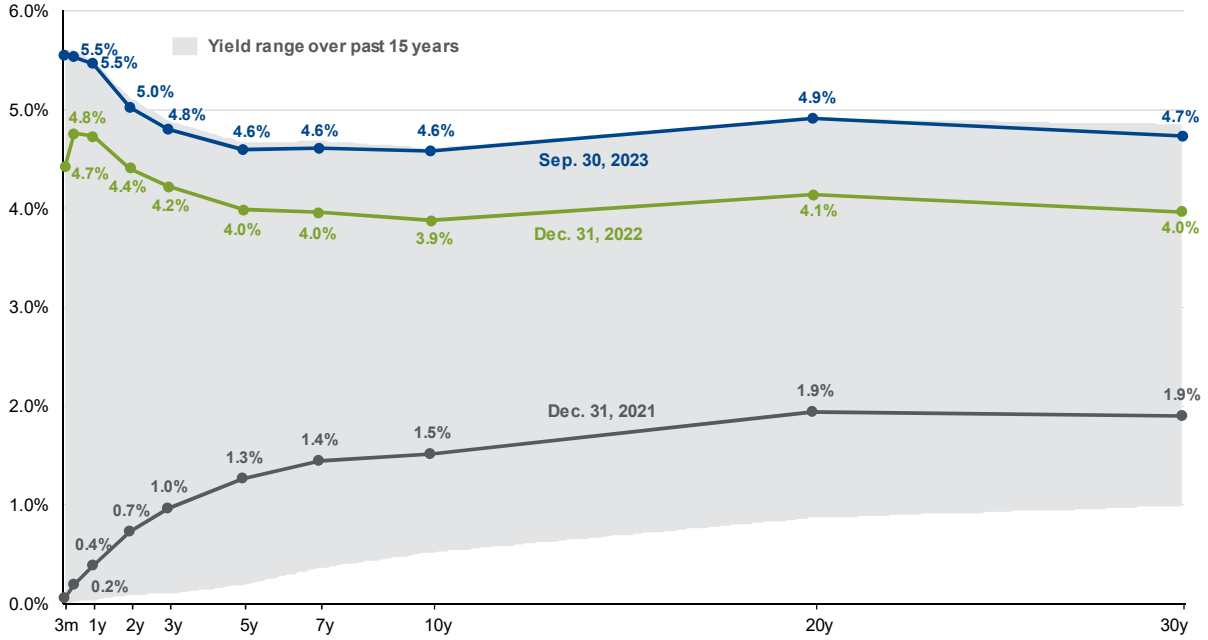
	2023	2024	2025	2026	Long run*
Change in real GDP, 4Q to 4Q	2.1	1.5	1.8	1.8	1.8
Unemployment rate, 4Q	3.8	4.1	4.1	4.0	4.0
Headline PCE inflation, 4Q to 4Q	3.3	2.5	2.2	2.0	2.0
Core PCE inflation, 4Q to 4Q	3.7	2.6	2.3	2.0	

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

Fixed Income

Yield curve

U.S. Treasury yield curve



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

S&P 500 valuation measures

S&P 500 Index: Forward P/E ratio



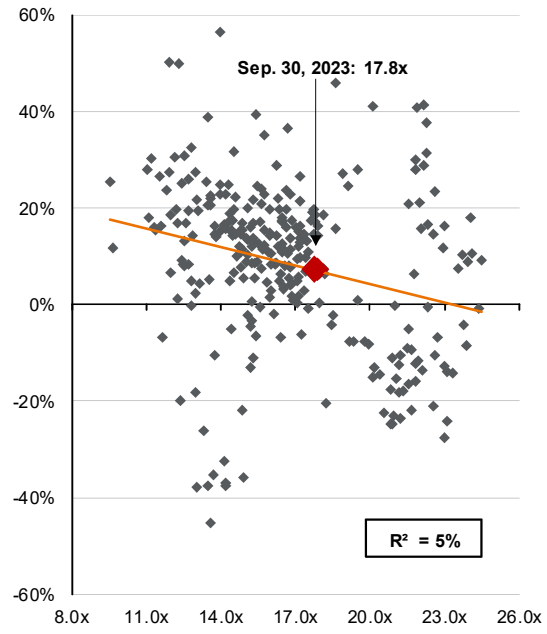
Valuation measure	Description	Latest	25-year avg.*	Std. dev. Over-/under-Valued
P/E	Forward P/E	17.83x	16.76x	0.32
CAPE	Shiller's P/E	29.53x	27.73x	0.29
Div. Yield	Dividend yield	1.69%	1.98%	0.85
P/B	Price to book	3.61x	3.10x	0.63
P/CF	Price to cash flow	13.54x	11.27x	1.03
EY Spread	EY minus Baa yield	-0.78%	0.33%	0.58

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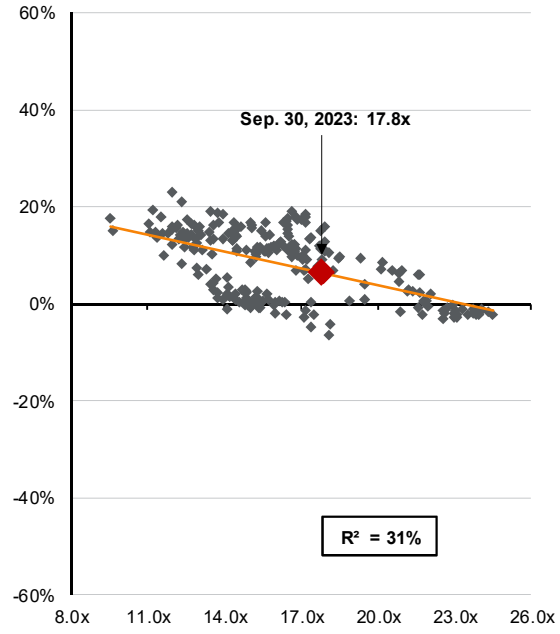
Equities

P/E ratios and equity returns

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



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

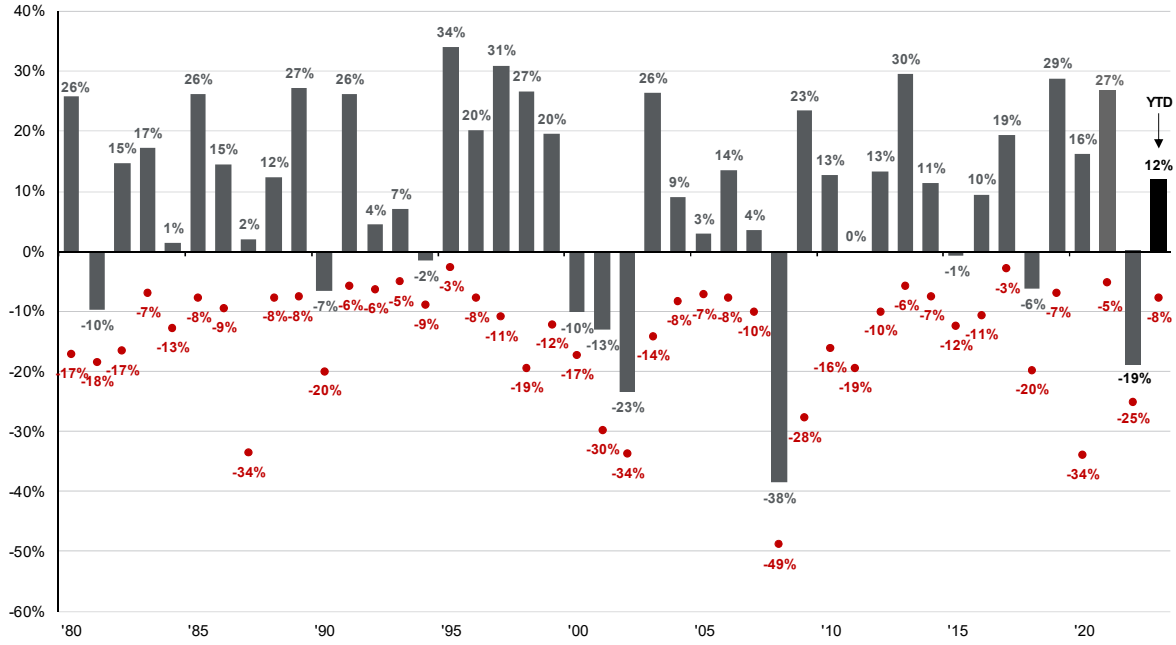


Source: FactSet, Refinitiv Datastream, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.
Returns are 12-month and 60-month annualized total returns, measured monthly, beginning 9/30/1998. R^2 represents the percent of total variation in total returns that can be explained by forward price-to-earnings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

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



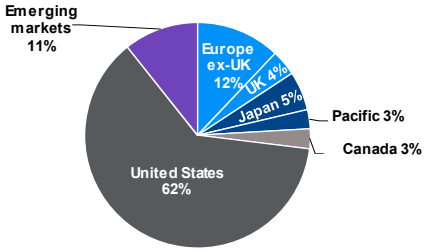
Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.
Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1980 to 2022, over which time period the average annual return was 8.7%.
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International

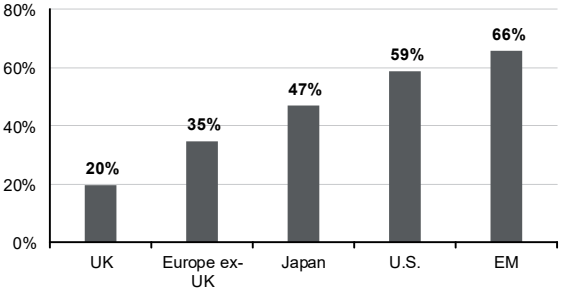
Global equity markets

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

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



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



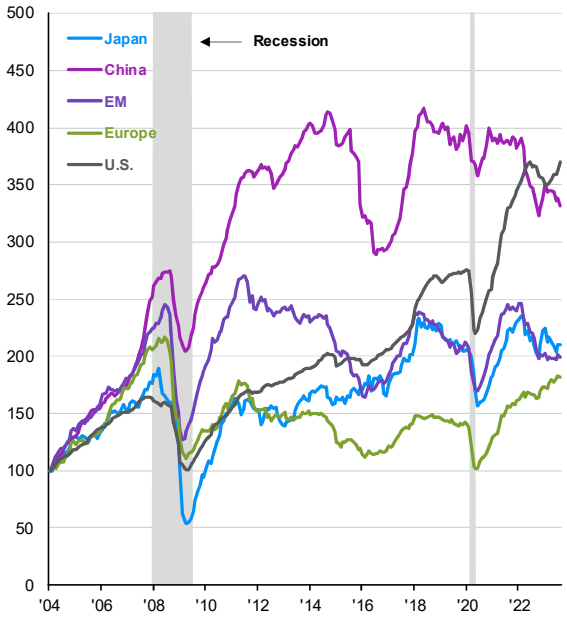
Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. (Left) All return values are MSCI Total Return Index (Gross) data. 15-year history based on USD returns. 15-year return and beta figures are calculated using a rolling 12-month time period ending with the previously completed month.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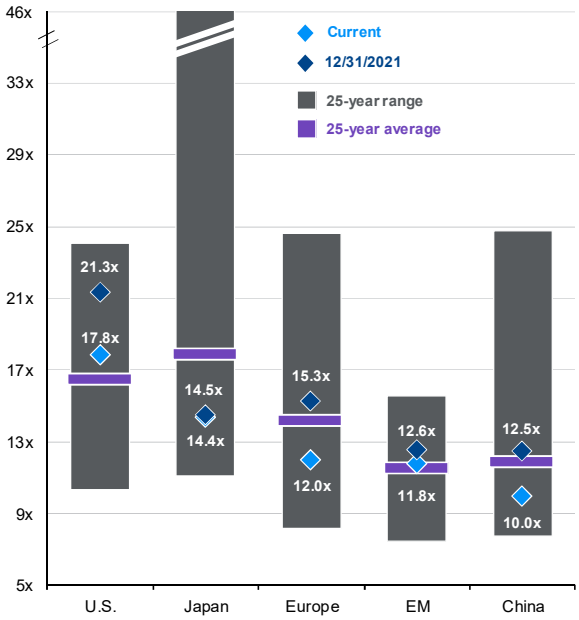
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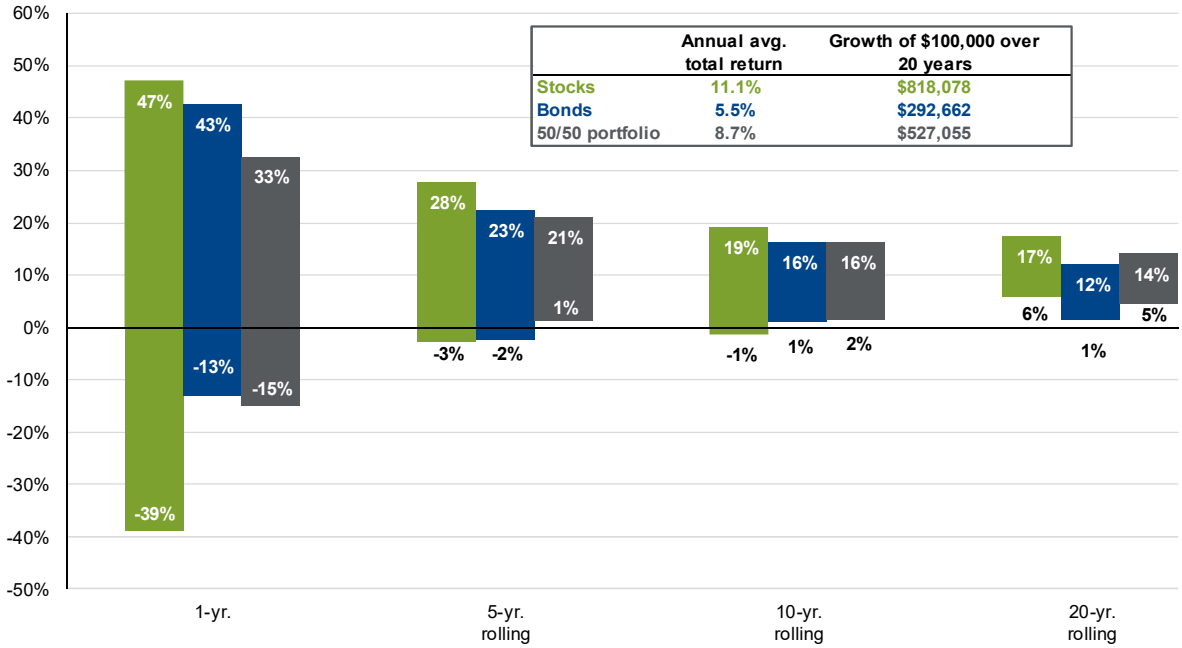


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