



# Market Intel Exchange

Market data and insights from Lincoln and industry asset management partners

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**Market Intel Exchange.**

A special *thank you* to this quarter's featured contributors:



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**ClearBridge**  
Investments



**J.P.Morgan**  
Asset Management



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# On the minds of investors

## Three key themes on the minds of investors

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Why haven't higher rates caused the economy to slow more?



What might come next for interest rates?



Is now a good time to consider adding fixed income to portfolios?

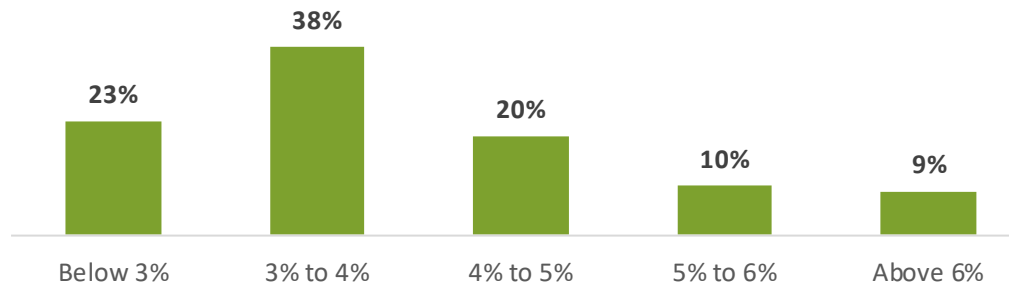
# Why haven't higher rates caused the economy to slow more?

## Many consumers and businesses locked in lower rates and extended debt maturities



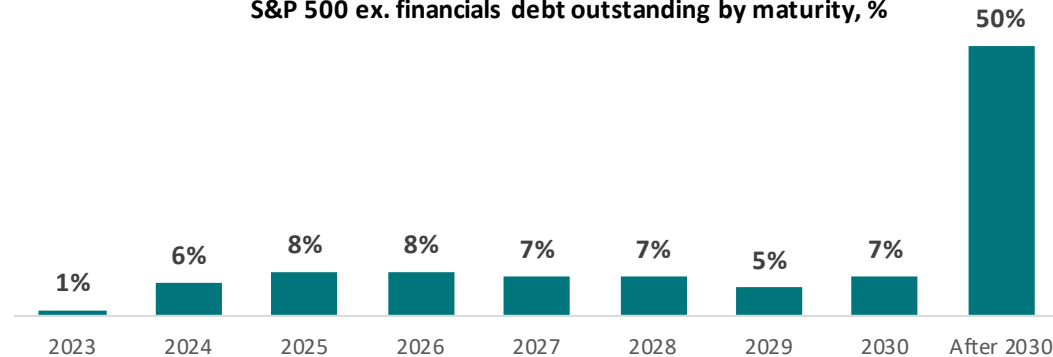
**61%**  
of outstanding mortgages have an interest rate below 4%

Share of mortgages outstanding by interest rate at origination, 2023 Q1



**50%**  
of S&P 500 debt won't mature until after 2030

S&P 500 ex. financials debt outstanding by maturity, %



### What is this chart showing?

The top chart shows the distribution of mortgages by interest rate at origination, and the bottom chart shows the distribution of debt of S&P 500 companies by maturity date.

### Why is it important?

Many American consumers and businesses alike took advantage of record-low interest rates during the pandemic to significantly lower their debt service burden and insulate themselves from the impact of higher rates for years to come.

On the consumer side, this meant locking in low fixed-rate mortgages.

On the business side, many of the largest companies in the U.S. also took advantage of low rates in recent years – lowering their interest expense and pushing maturities out into the next decade while they earn more on cash holdings.

That said, interest rates are likely to remain high for some time and may eventually impact the economy in a more meaningful way.

Source (top chart): FHFA, Apollo Chief Economist as of Q1, 2023. <https://apolloacademy.com/the-distribution-of-mortgage-interest-rates-outstanding/>

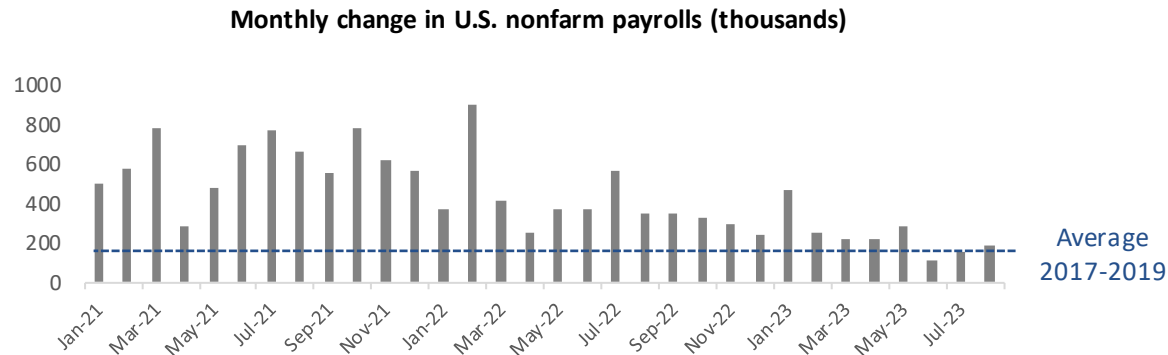
Source (bottom chart): Bloomberg - S&P 500 ex. financials debt outstanding as of 9/30/23, expressed as a percentage of total. Numbers may not add up to 100 due to rounding and exclusion of perpetual debt - which totaled 0.25% of outstanding.

# The impact of higher rates is likely to eventually be felt

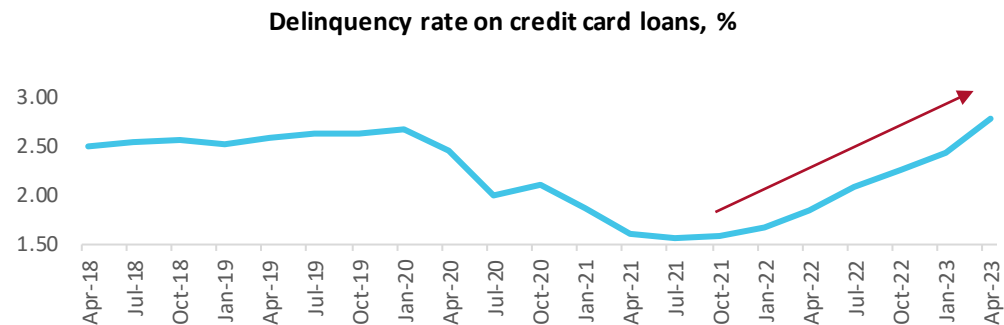
## Job growth slowing, along with signs of potential consumer stress



Labor market strong, but job growth is slowing



Credit card delinquency above pre-pandemic levels



### What is this chart showing?

The top chart shows the monthly change in U.S. nonfarm payrolls, while the bottom chart shows the recent trend in credit card delinquencies.

### Why is it important?

The economy to this point has proven resilient in the face of rapidly rising rates. However, some cracks are starting to form.

While the labor market remains strong, the pace of job growth has continued to trend downwards – falling below the pre-pandemic average in recent months.

Additionally, delinquency rates on credit cards are now above pre-pandemic levels, a sign that some consumers may be overextending themselves.

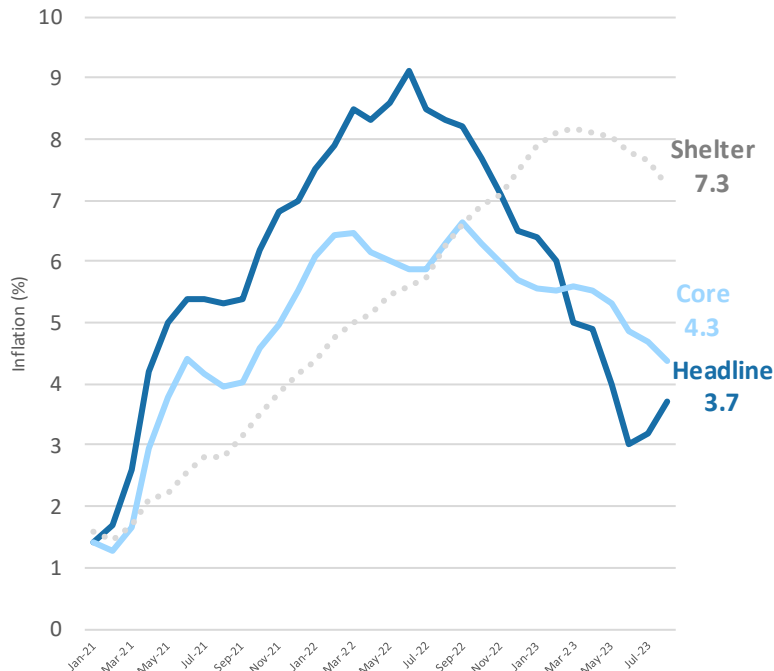
These trends may continue under the pressure of sustained high interest rates, and when combined with additional factors such as the resumption of student loan payments and decreased availability of credit, could contribute to a material slowdown in economic activity.

Source (top chart): Federal Reserve Bank of St. Louis: all employees, total nonfarm, change, thousands of persons, monthly, seasonally adjusted retrieved on 9/29/23.

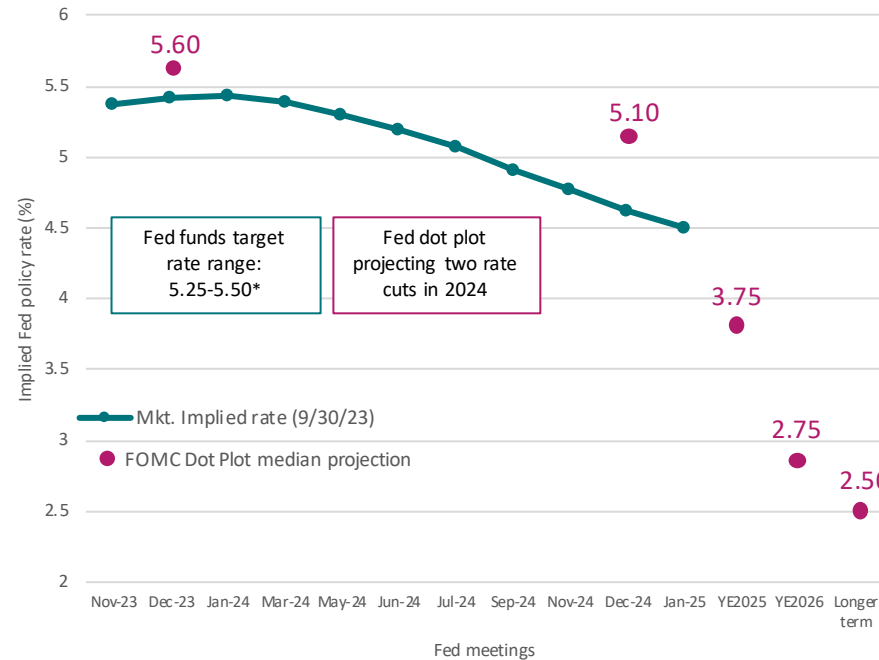
Source Federal Reserve Bank of St. Louis: delinquency rate on credit card loans, all commercial banks. Retrieved on 9/29/23.

# Hikes are mostly behind us, but higher rates are likely to persist

## Progress on inflation supports Fed pause...



## ...but rates are expected to remain elevated



## What is this chart showing?

The chart on the left shows recent trends in U.S. inflation, while the chart on the right shows future expectations for the fed funds rate.

## Why is it important?

Inflation continues to cool, supporting an eventual pause in the Fed’s interest rate hiking cycle. Both core and headline inflation have retracted meaningfully from peak levels, and even shelter prices, which put upward pressure on inflation in recent months, is trending lower.

Following their September meeting, the FOMC signaled through their “dot plot” one additional 0.25% rate hike before they pause, though market participants are split as to whether hikes are already behind us.

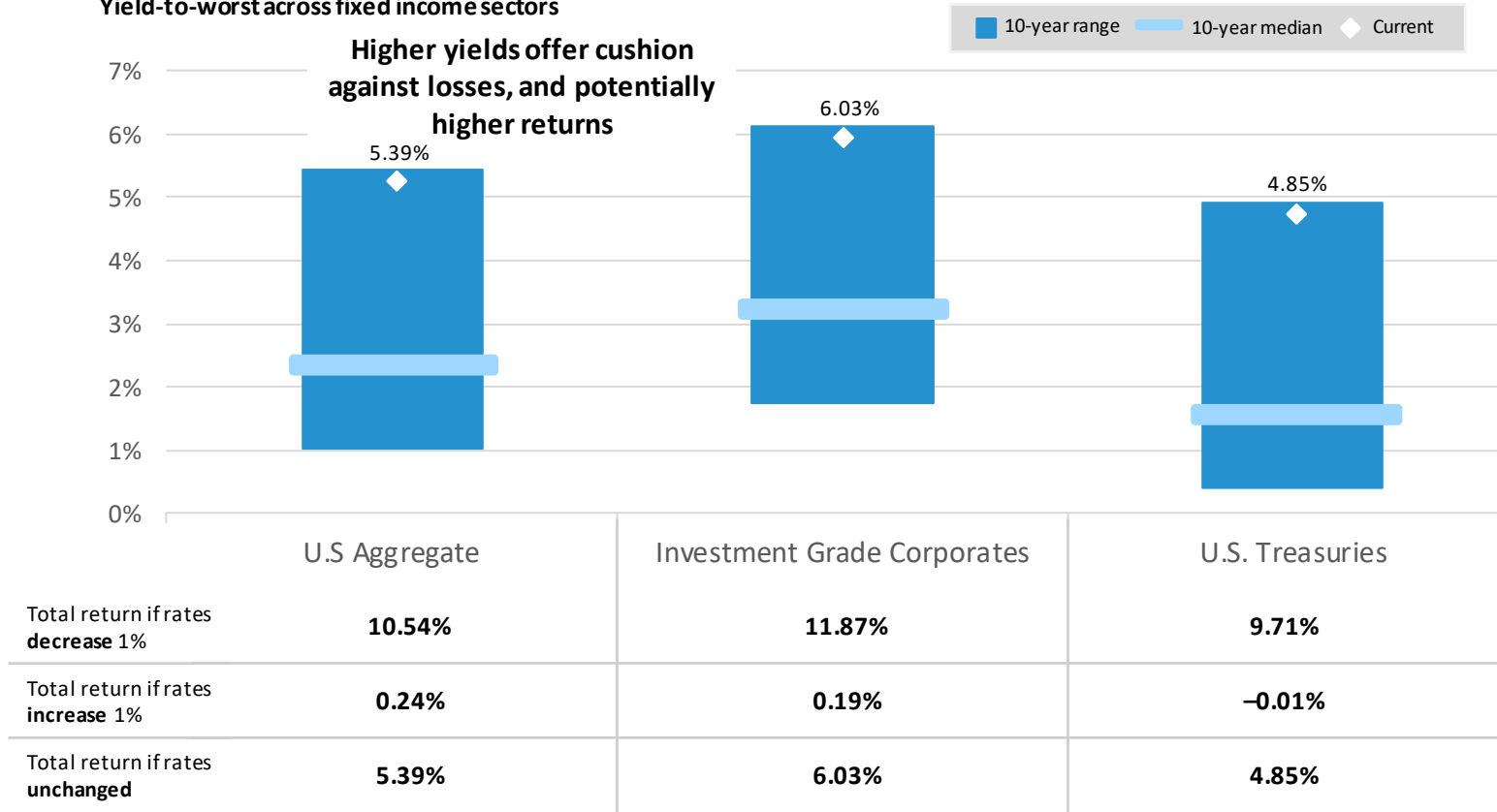
One thing both the Fed and market seem to agree on is that the central bank won’t be in a rush to cut rates. Given the underlying economic strength, absent a shock, rates are likely to remain higher for longer – a reality that has begun being priced into longer-term Treasury markets, with the yield on the 10-Year U.S. Note rising about 0.5% in September.

Source: Bureau of Labor Statistics, headline and core inflation represent the change from the previous year in the Consumer Price Index and the Consumer Price Index excluding food and energy, respectively. As of August 31, 2023. FOMC= Federal Open Market Committee. Market implied rate sourced from Bloomberg as of 9/30/2023. \*Fed funds target rate range as of 9/30/23.



# Fixed income yields are near their highest levels in the last decade

Yield-to-worst across fixed income sectors



## What is this chart showing?

This chart shows the historical 10-year yield range, the median yield over that timeframe, and the yield as of the end of September 2023 for several fixed income sectors.

The table below shows how different interest rate scenarios could impact that total return of the respective fixed income investment.

## Why is it important?

Fixed income yields are at some of the highest levels seen in the last decade, making bonds a more attractive investment.

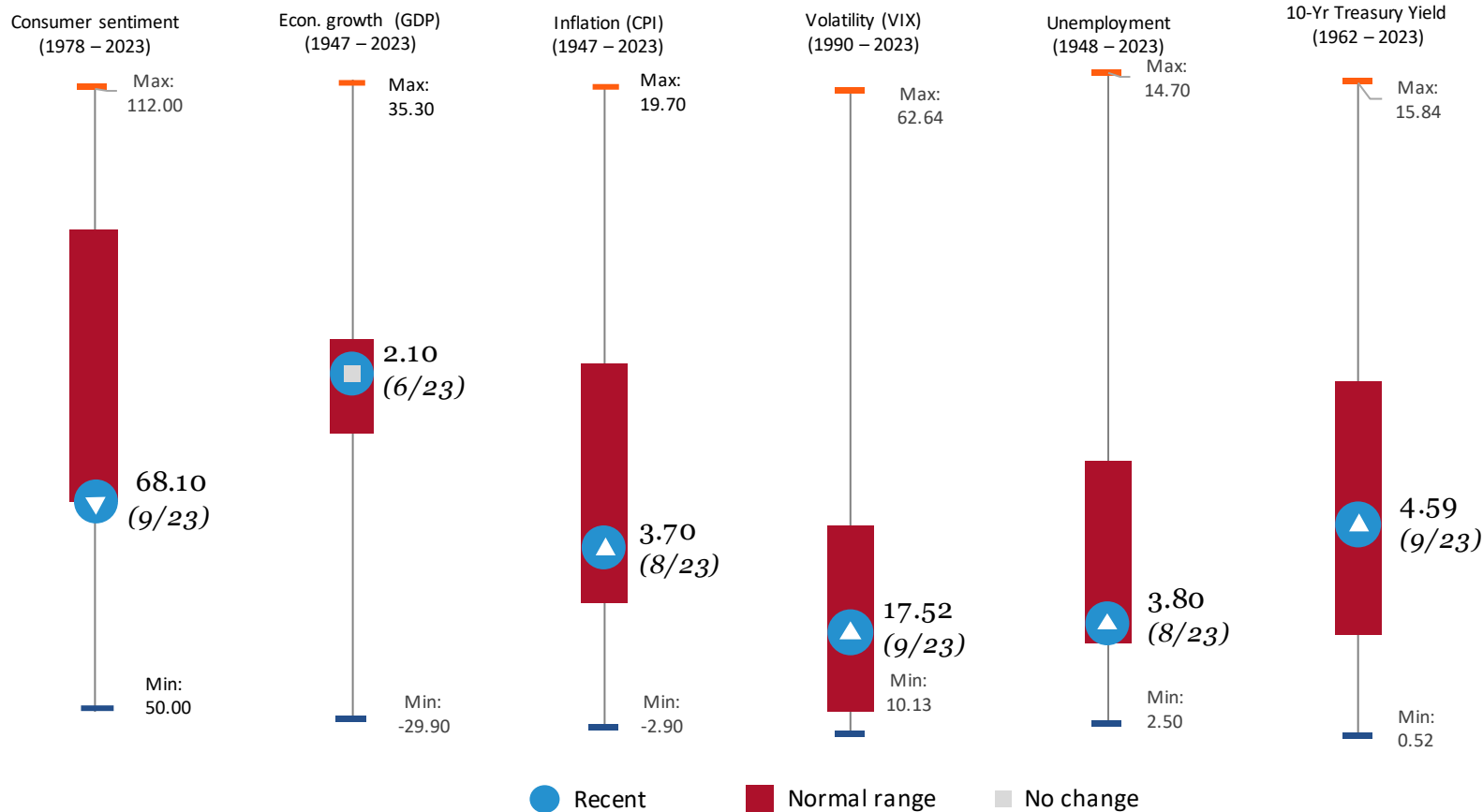
Not only do higher yields provide investors with more meaningful income and the potential for higher returns, since bond prices move inversely to changes in interest rates, they help provide a cushion against price losses if rates were to rise.

**Past performance is not indicative of future returns.** Index performance is for illustrative purposes only. You cannot invest directly in the index.

Source: FactSet as of 9/30/2023. Hypothetical total return scenarios are estimates and assume the following: interest rate changes occur at the beginning of the period before any reinvestment occurs, spreads remain constant, and convexity is not considered. U.S. Aggregate as represented by the Bloomberg U.S. Aggregate Bond Index with a yield of 5.39% and duration of 6.15 years. Investment grade corporates as represented by Bloomberg U.S. Corporate 1% Cap Index with a yield of 6.03% and duration of 6.84 years. U.S. Treasuries as represented by the Bloomberg Global U.S. Treasury Index with a yield of 4.85% and duration of 5.86 years.

# Economy

# Key economic and market metrics



## What is this chart showing?

This chart shows the historical range and recent level of six key economic and market indicators.

## Why is it important?

Investors can use this chart to quickly determine if economic indicators are at, above, or below historical ranges. Indicators that are outside of their normal range may provide insight into the health or direction of the economy and the market.

**Consumer Sentiment** as measured by the Michigan Consumer Sentiment Index is calculated each month on the basis of a household survey of consumers' opinions on current conditions and future expectations of the economy.

**Economic Growth (GDP)** is the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period.

**Inflation (CPI)** is a measure of inflation that calculates the change in the prices of a basket of goods and services. This measure includes food and energy. Core CPI (excludes food and energy) was +4.3% YOY August 2023.

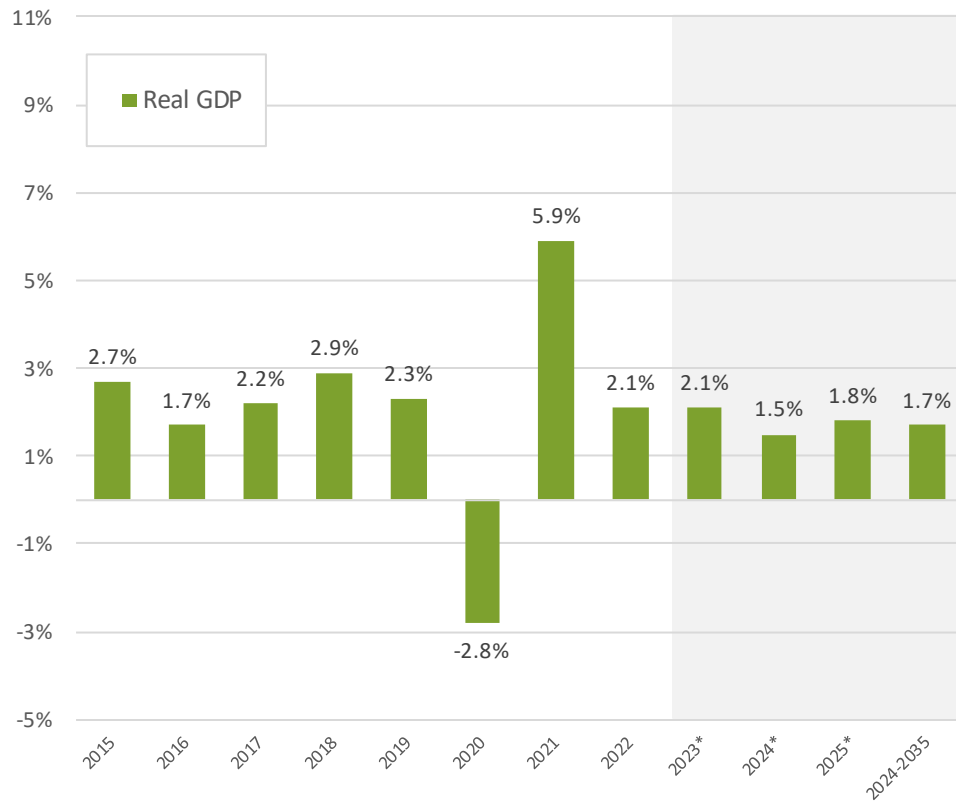
**Volatility VIX** is a real-time market index representing the market's expectations for volatility over the coming 30 days.

**Unemployment** rate as measured by the U.S. Bureau of Labor Statistics.

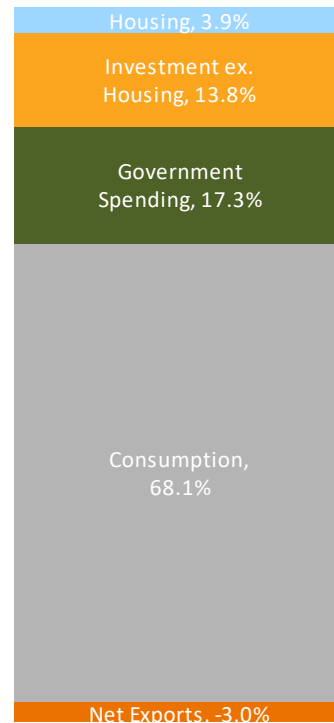
Source: Most recent data available as of 9/30/2023. Bloomberg. Arrows in the blue circles are indicative of most recent three-month trend, with exception of GDP, which is based on quarter-over-quarter trend. Normal range represents +/- one standard deviation to the mean over timeframe referenced. See Additional Information for more details. **Past performance is not indicative of future returns.**

# U.S. gross domestic product

Real gross domestic product, actuals and future projections



Components of GDP as of 2Q23



## What is this chart showing?

The chart on the left shows historical real GDP, as well as the most recently reported economic growth projections prepared by the Federal Open Market Committee.

The chart on the right shows the components of GDP as of the latest available data.

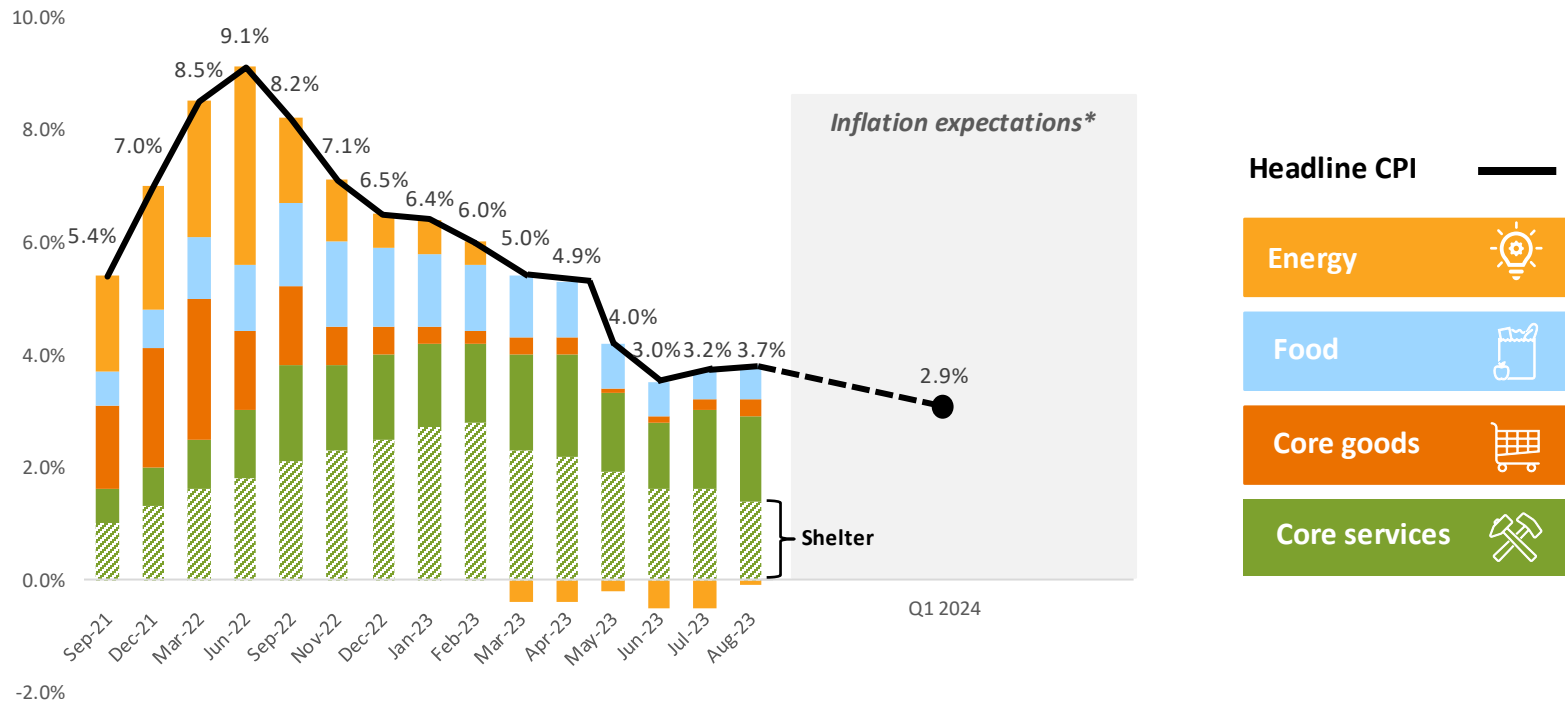
## Why is it important?

Economic growth influences many factors that can impact the long-term performance of the markets, including interest rates and corporate earnings growth. As such, these GDP projections can be a valuable input for investors looking to set future portfolio return expectations.

Source: Federal Reserve Bank of St. Louis Economic Research, Federal Open Market Committee, The Conference Board. \*Indicates future projections as of September 2023. 2024-2035 long-term projections are as of July 2023. Components of GDP depicted as 2Q23 nominal. Values may not sum to 100% due to rounding.

# Inflation trends and components

Headline CPI and contributions to CPI inflation (Year-Over-Year)



## What is this chart showing?

This chart shows the recent trend in year-over-year U.S. inflation, along with analyst forecasts for the first quarter of 2024.

## Why is it important?

Headline inflation has continued to fall from June’s 40-year high, and market expectations are for CPI to fall to 2.9% by the end of Q1 2024.

Since hitting a more than two-year low of 3% in June, headline inflation ticked higher in both July and August – with rising energy prices mostly to blame.

Under the surface though, there were some positive signs. Core inflation, which excludes food and energy from the index, has continued its downward trajectory.

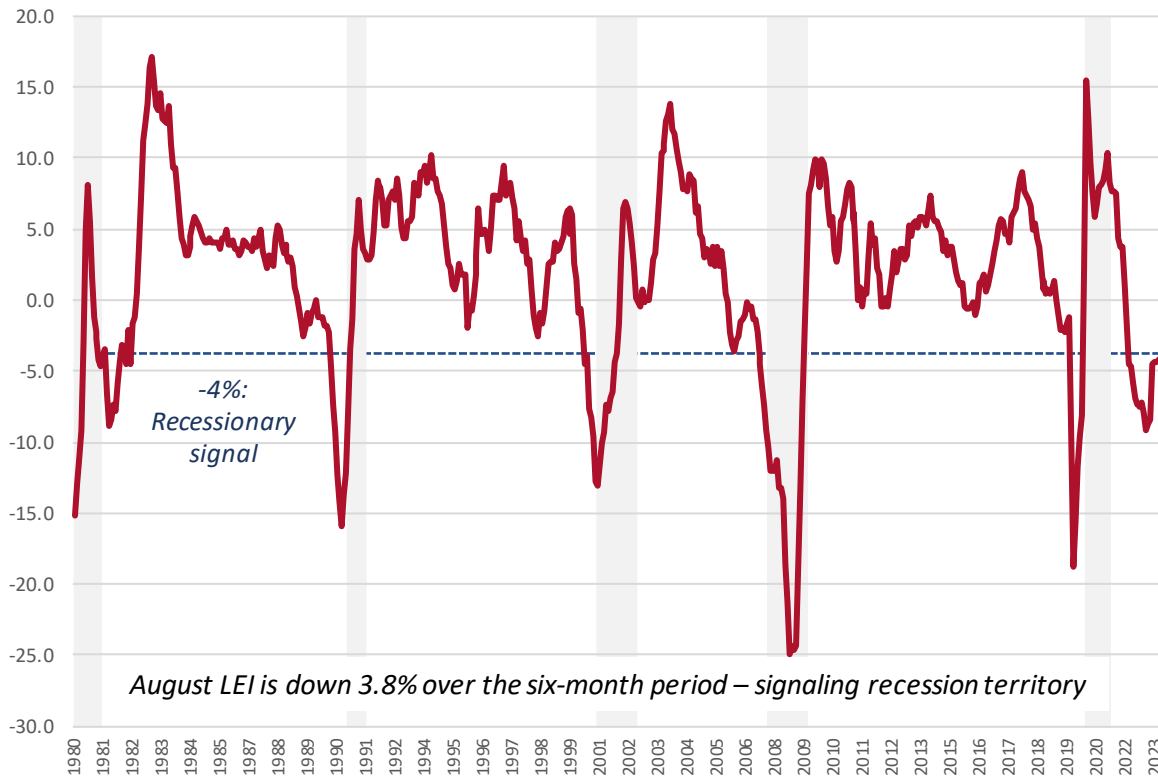
An additional sign of progress can be seen within shelter prices, which have begun to move lower after peaking in the first half of 2023.

This progress on inflation should support the Fed pausing their rate hiking cycle by year-end.

Source: U.S. Bureau of Labor Statistics. The Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. This measure includes food and energy, which tend to have more price volatility and whose price shocks cannot be damped through monetary policy. Percentages may not sum due to rounding. \*Inflation projections for Q1 2024 represent median analyst expectations compiled by Bloomberg as of 9/30/2023.

# The U.S. LEI continues to signal a recession within the next 12 months

CB Leading Economic Index, 6-months % change



### LEI Constituents (Ranked by Weightings in the Index)

Weekly manufacturing hours worked	▲
ISM index of new orders	▼
Consumer expectations	▼
Yield spread	▼
Leading credit index	▼
New orders of consumer goods and materials	▲
New orders of nondefense capital goods	▼
Stock prices	▲
Building permits	▲
Weekly initial claims, unemployment	▼

### What is this chart showing?

This chart shows the 6-month percentage change in the Leading Economic Index (LEI), published by the Conference Board. LEI aggregates 10 individual leading indicators into one index, attempting to cut through the volatility of individual economic indicators.

### Why is it important?

The LEI Index can be a helpful data point to look to for forecasting turning points in the economy. Historically, when the index has fallen more than 4 percent over a span of six months, a recession has followed not long after.

While financial markets and the economy are not the same, they do move similarly. However, the stock market tends to lead the economy, as investors often anticipate turning points in the economy – both to the upside and downside.

Source: The Conference Board. Leading Economic Index weightings reported 6 mo. ending August 2023.

# Leading economic indicators show that recession may still be likely

**ClearBridge**  
Investments



This chart shows ClearBridge Investments' U.S. Recession Risk Dashboard, which uses twelve different economic indicators to assess the overall risk of recession.

Each individual indicator can signal expansion, caution or recession in the economy. The signals from each of the twelve indicators are then combined into an overall dashboard signal of green, yellow or red.

	August 31, 2023	2020	2007–2009	2001	
Consumer	Housing Permits	✘	↑	✘	●
	Job Sentiment	✘	●	✘	✘
	Jobless Claims	●	↑	●	✘
	Retail Sales	✘	↑	✘	✘
	Wage Growth	✘	✘	✘	✘
Business Activity	Commodities	✘	↑	✘	✘
	ISM New Orders	✘	●	✘	✘
	Profit Margins	✘	✘	✘	✘
	Truck Shipments	●	↑	●	✘
Financial	Credit Spreads	✘	↑	✘	✘
	Money Supply	✘	↑	✘	✘
	Yield Curve	✘	✘	✘	✘
<b>Overall Signal</b>	✘	●	✘	✘	

↑ Expansion     
 ● Caution     
 ✘ Recession

Source: ClearBridge Investments, BLS, Federal Reserve, Census Bureau, ISM, BEA, American Chemistry Council, American Trucking Association, Conference Board, and Bloomberg. Data as of August 31, 2023. The ClearBridge Recession Risk Dashboard was created in January 2016. References to the signals it would have sent in the years prior to January 2016 are based on how the underlying data was reflected in the component indicators at the time.






# The range of potential outcomes for the U.S. economy remains wide

Probabilities from our Network:

12%

88%

0%

	Hard landing (deep recession)	Soft landing (mild or no recession)	No landing (no recession near term)
 <b>Inflation</b>	<ul style="list-style-type: none"> <li>Disinflationary process slows</li> </ul>	<ul style="list-style-type: none"> <li>Eases and returns to pre-2022 levels</li> </ul>	<ul style="list-style-type: none"> <li>Inflation remains high despite aggressive fed policy action</li> </ul>
 <b>Fed</b>	<ul style="list-style-type: none"> <li>Overtightens policy or acts too aggressively; subsequent cuts could be needed</li> </ul>	<ul style="list-style-type: none"> <li>Pauses rate hikes, then slowly lowers back down to neutral</li> </ul>	<ul style="list-style-type: none"> <li>Further hikes necessary and higher for longer rates</li> </ul>
 <b>Labor</b>	<ul style="list-style-type: none"> <li>Spike in unemployment</li> </ul>	<ul style="list-style-type: none"> <li>Moderate increase in unemployment, but no spike</li> <li>Job openings decline</li> </ul>	<ul style="list-style-type: none"> <li>Tight and resilient labor market; absorbs rate increases</li> </ul>
 <b>Consumer</b>	<ul style="list-style-type: none"> <li>Broad pullback in spending, credit and increased delinquencies</li> </ul>	<ul style="list-style-type: none"> <li>Mild spending declines</li> </ul>	<ul style="list-style-type: none"> <li>Spending remains resilient, driving sticky inflation</li> </ul>
 <b>Economy</b>	<ul style="list-style-type: none"> <li>Steeply negative GDP growth</li> </ul>	<ul style="list-style-type: none"> <li>Moderate, but positive growth</li> </ul>	<ul style="list-style-type: none"> <li>Positive GDP growth, but uncertainty around a recession persists</li> </ul>
 <b>Market</b>	<ul style="list-style-type: none"> <li>Increased volatility and price pressure</li> </ul>	<ul style="list-style-type: none"> <li>Restored price stability</li> </ul>	<ul style="list-style-type: none"> <li>Increased volatility; potential for sideways/choppy price action</li> </ul>

## What is this chart showing?

This chart shows three potential outcomes for the U.S. economy, and what each could potentially mean for various segments of both the economy and markets.

Probabilities for the likelihood of each outcome from our network of asset manager partners are based on recent survey results.

## Why is it important?

The term “landing” is frequently used when discussing whether an economy will enter a recession at the conclusion of rate hiking cycles. By raising rates, central banks seek to slow the economy to bring price stability while avoiding a recession.

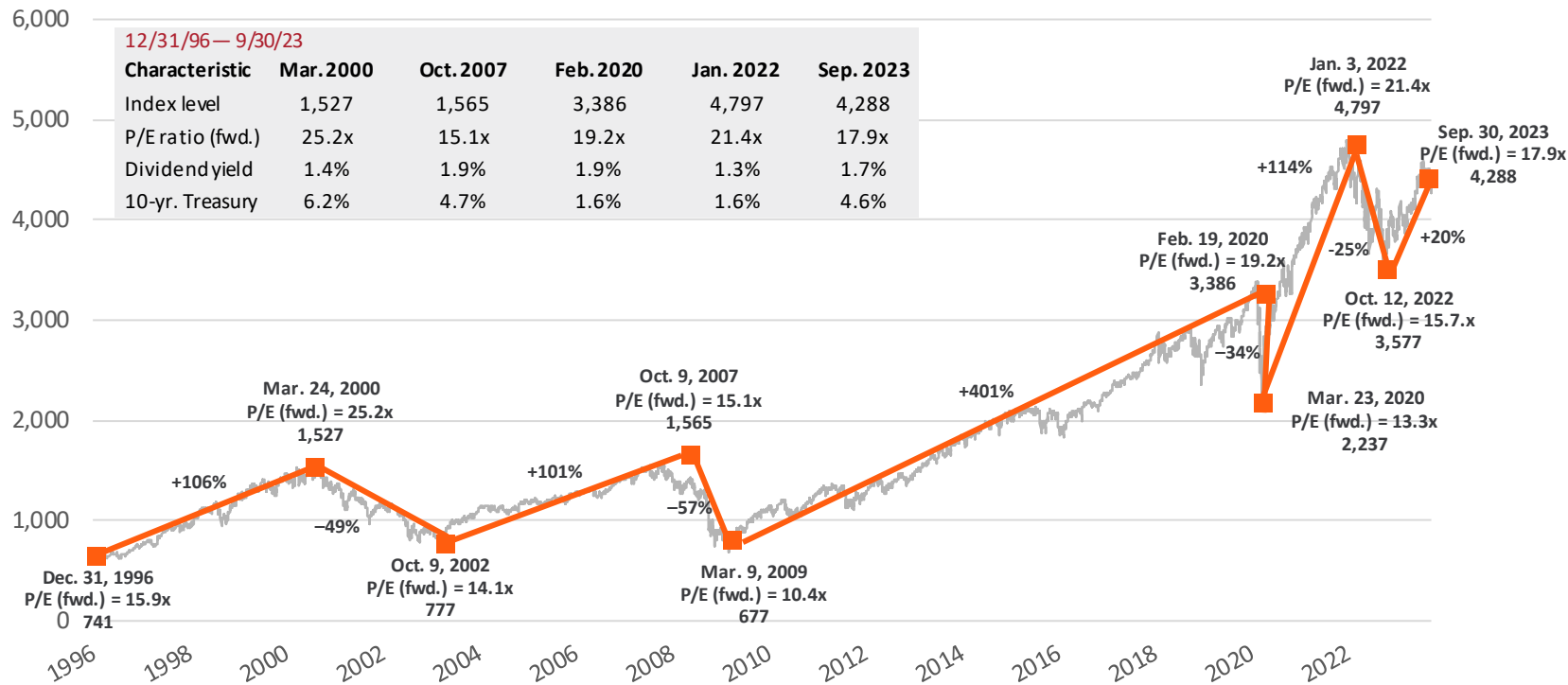
Recession expectations are varied and have shifted quite a bit over time. Given structural stability in the overall economy, the majority of our asset manager partners believe a soft landing is the most likely outcome.

The probabilities expressed above are those of select asset managers surveyed as of 6/30/23 and not necessarily that of any Lincoln Financial Group affiliate. Results are not based on any particularized financial situation, or need, and are not intended to be, and should not be construed as, a forecast, research, investment advice or a recommendation for any specific strategy, product or service from any of the participating investment managers.



# Equities

# S&P 500: Cumulative returns



## What is this chart showing?

This chart shows the cumulative return of the S&P 500 Index from 1996 to present. It also highlights the return of major expansionary and contraction periods during this time.

## Why is this important?

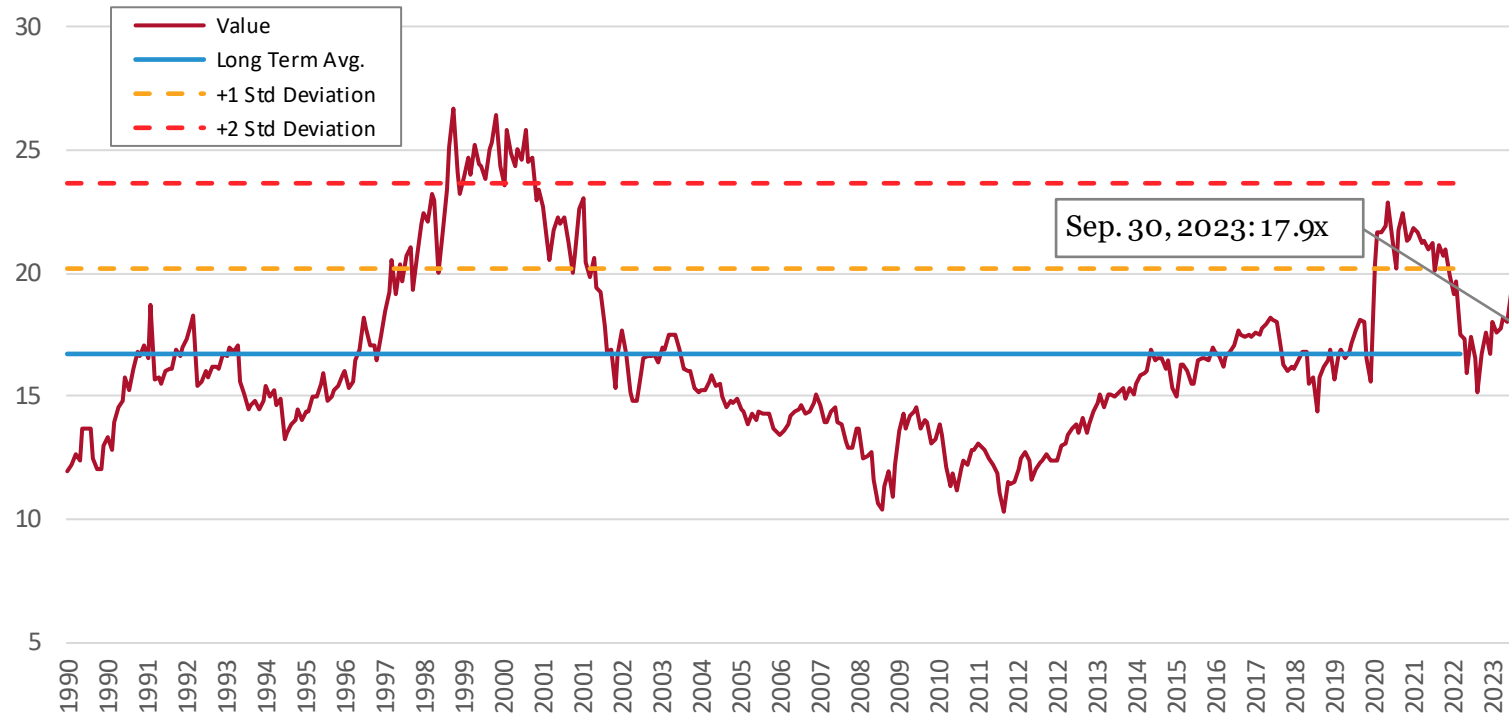
This chart can help put market cycles in context by comparing the magnitude and duration of bull and bear markets, along with the long-term trend of the S&P 500.

**Past performance is not indicative of future returns.** You cannot invest directly in an index. All indices are unmanaged and do not include fees or expenses. Please see the back of this presentation for index definitions and disclosures.

Source: FactSet, Standard & Poor's. Data as of September 30, 2023. **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 the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM). The S&P 500® Price Return Index tracks the stock performance of 500 large U.S. companies. The index used is a price index and does not reflect dividends paid on the underlying stocks.

# S&P 500: Valuation measures

## Forward P/E ratio valuation



Source: FactSet, S&P, Robert Shiller, Bloomberg. Data as of September 30, 2023.

**Forward P/E ratio** (or forward price-to-earnings ratio) is the most-recent stock price divided by the forward-looking EPS estimate. **Shiller's P/E ratio** is the most recent stock price divided by the average of 10 years of inflation-adjusted earnings. **Dividend yield** is the percentage of its stock price that a company is projected to pay out as dividends. It is calculated by dividing estimated annual dividends per share for the current fiscal year by the company's most recent month-end stock price. **Price-to-book** compares a firm's market capitalization to its book value. It's calculated by dividing the company's stock price per share by its book value per share (BVPS). **Price-to-cash flow** is a valuation indicator or multiple that measures the value of a stock's price relative to its operating cash flow per share. **Standard deviation** is a statistical measurement of dispersion about an average, which, for a mutual fund, depicts how widely the returns varied over a certain period of time.

Valuation measures	Recent	20-year average
Forward P/E	17.9x	15.6x
Shiller's P/E	29.5	25.9
Dividend yield	1.7%	2.1%
Price-to-book	3.7	2.6
Price-to-cash flow	13.6	11.0

## What is this chart showing?

This chart shows the historical trend of the S&P 500 forward P/E ratio compared to the modern-era historical average.

## Why is it important?

Equity valuation measures, like the forward P/E, can help investors gauge if the market is overvalued or undervalued relative to the historical average.

# S&P 500: Index concentration, valuations and earnings

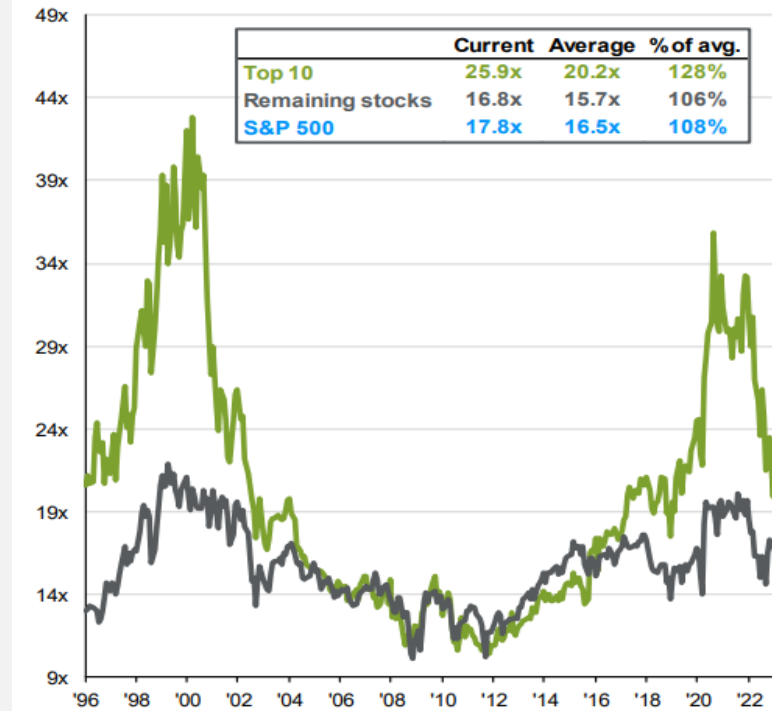
## J.P.Morgan Asset Management

The left-hand side chart shows how inflated the P/E valuations are for the top 10 stocks in the S&P 500 relative to the rest. This trend has been strong year-to-date as growth stocks have rallied. The right side shows how the market capitalization of the top 10 stocks has increased recently despite the earnings contribution remaining muted.

Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management. The top 10 S&P 500 companies are based on the 10 largest index constituents at the beginning of each month. As of 9/30/2023, the top 10 companies in the index were AAPL (7.0%), MSFT (6.5%), AMZN (3.2%), NVDA (3.0%), GOOGL (2.2%), TSLA (1.9%), META (1.9%), GOOG (1.9%), BRK.B (1.8%), XOM (1.3%), and UNH (1.3%). The remaining stocks represent the rest of the 494 companies in the S&P 500.

**Past performance is not indicative of future returns.** Index performance is for illustrative purposes only. You cannot invest directly in the index.  
Source: JP Morgan, as of September 30, 2023.

**P/E ratio of the top 10 and remaining stocks in the S&P 500**  
Next 12 months, 1996 - present



**Weight of the top 10 stocks in the S&P 500**  
% of market capitalization of the S&P 500



**Earnings contribution of the top 10 in the S&P 500**  
Based on last 12 months' earnings



# S&P 500: Calendar returns and intra-year declines

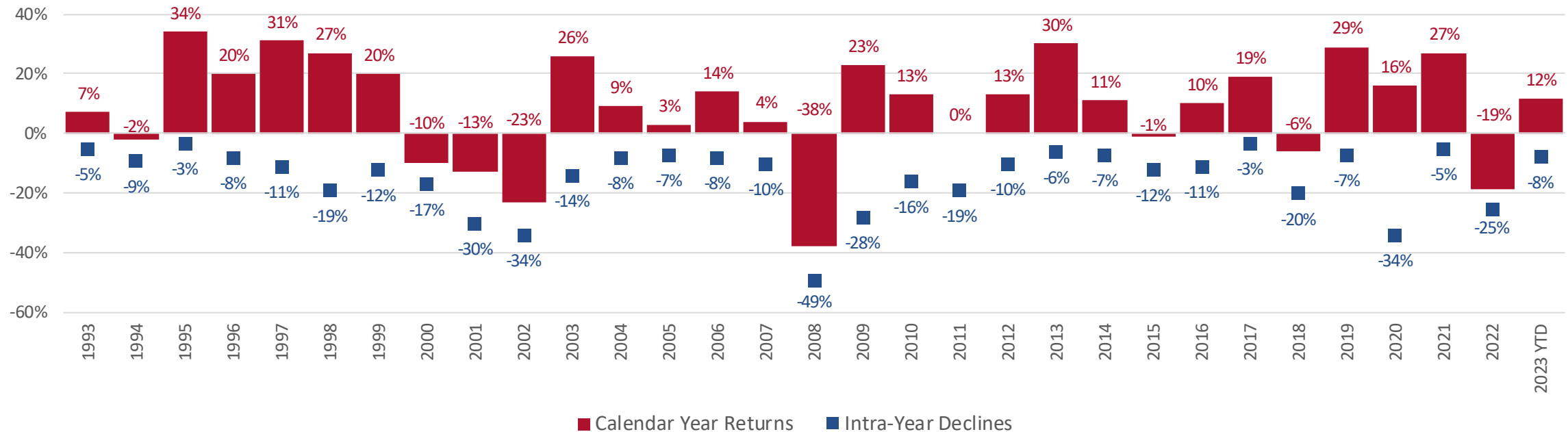
## What is this chart showing?

This chart shows calendar year returns of the S&P 500 Price Index from 1992 to present. It also shows the largest intra-year declines (lows) for each year.

## Why is it important?

Investors can use this to understand how looking at annual returns alone can hide that there are often large drops that occur within the year.

Despite average intra-year drops of 14.9%, annual returns were positive in 21 of 30 years.



You cannot invest directly in an index. All indices are unmanaged and do not include fees or expenses. Please see the back of this presentation for index definitions and disclosures.

Source: Morningstar, Standard & Poor's. Data as of September 30, 2023. Returns are based on price index only and do not include dividends. Intra-year declines refer to the largest market drops from a peak to a trough during the year. For illustrative purposes only. **Past performance is not indicative of future returns.**

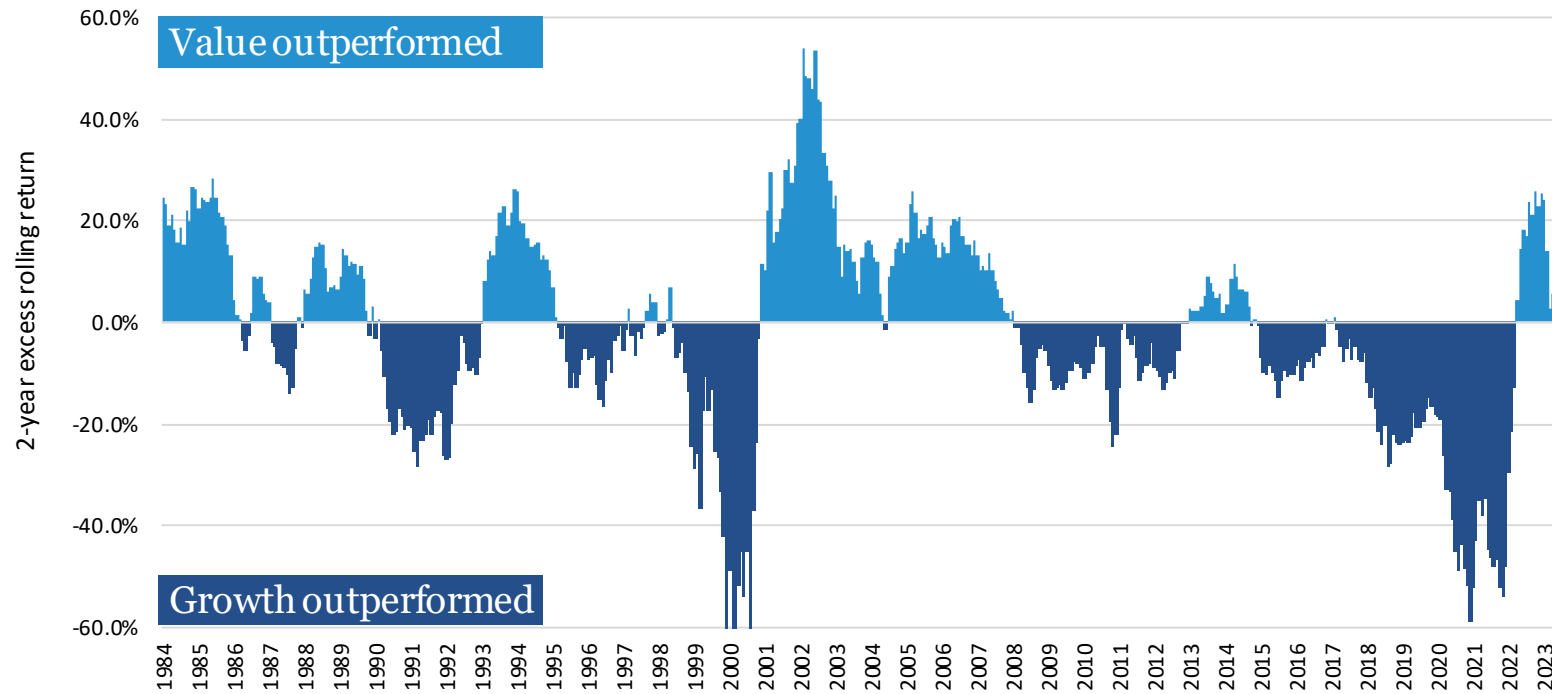
# Growth vs. Value leadership rotation

## What is this chart showing?

Growth and Value styles have rotated leadership during different market and economic environments.

## Why is it important?

Historically, Value has led early in the economic recovery and when rates are rising, where Growth has led when interest rates are falling, and earnings are strong.



### Value sectors

- Industrials
- Financials
- Energy
- Manufacturing
- Real Estate
- Utilities
- Consumer Staples

### Growth sectors

- Communication Services
- Technology
- Healthcare
- Consumer Discretionary

Source: Morningstar; Value represented by Russell 1000 Value Index, Growth represented by Russell 1000 Growth Index. Both indices are total return. Data through 9/30/2023. Past performance is not indicative of future returns.

# International vs. domestic equity valuations

Discount of International vs. U.S. stock market, based on forward P/E valuation measure



## What is this chart showing?

This chart shows the relative valuations of International and U.S. stocks.

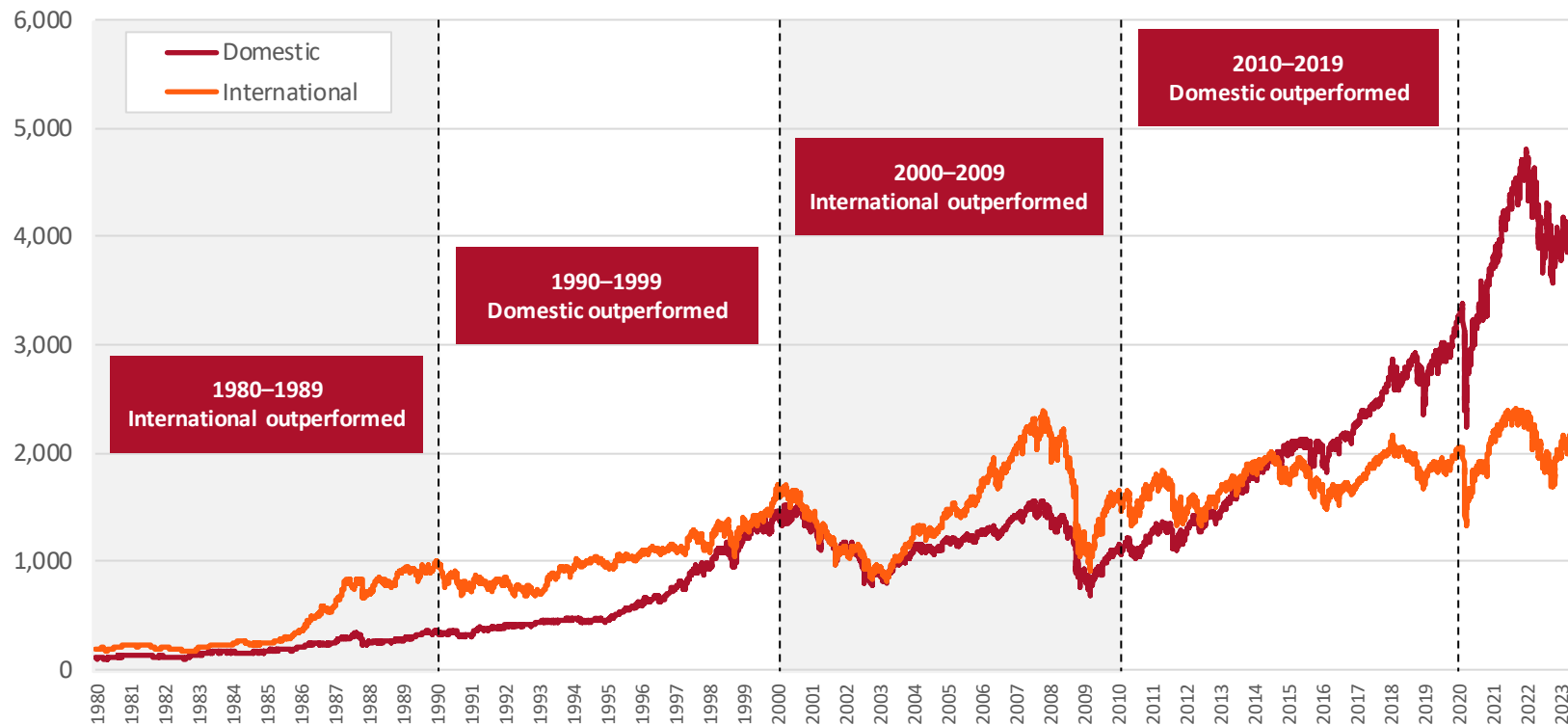
## Why is it important?

Compared to the long-term average, International stocks are currently priced at a steep discount to U.S. stocks. This is worth noting for investors considering their strategic allocations.

Source: FactSet, MSCI, and S&P. Data as of September 30, 2023. Based on MSCI All Country World Index ex. U.S. vs. S&P 500 Indices, forward price-to-earnings comparison. **Forward P/E ratio** (or forward price-to-earnings ratio) is the most-recent stock price divided by the forward-looking EPS estimate.

# International vs. domestic equity returns

International vs. U.S. equity returns (1980–2023)



## What is this chart showing?

This chart shows the cumulative growth of international equities versus domestic equities from 1980 through the most recent quarter end.

## Why is it important?

While one may outperform the other for long periods of time, leadership between international and domestic equity has rotated in each of the last four decades. Investors can use this information to help inform future investment decisions when considering portfolio allocations to domestic and international stocks.

You cannot invest directly in an index. All indices are unmanaged and do not include fees or expenses. Please see the back of this presentation for index definitions and disclosures.

Source: Morningstar, S&P, MSCI as of September 30, 2023. Returns are cumulative and based on 1) S&P 500 Index price movement only, and do not include the reinvestment of dividends and 2) MSCI World ex USA PR USD. **Past performance is not indicative of future returns.**



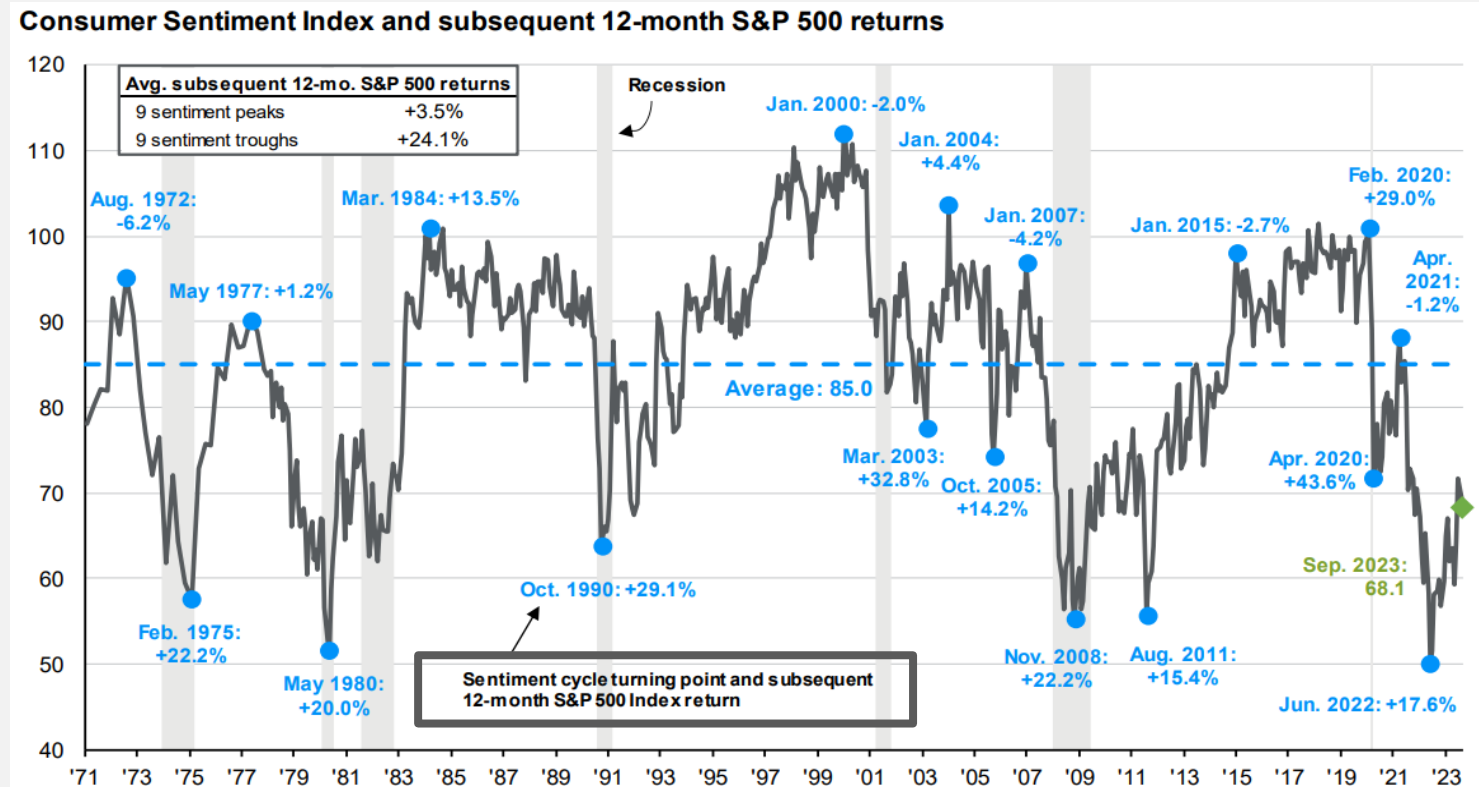
# Consumer confidence and subsequent S&P returns

## J.P.Morgan Asset Management

This chart shows consumer sentiment over the past 50 years and how much the S&P 500 gained or lost on average 12 months after eight distinct peaks and troughs. Buying at a confidence peak returned on average 3.5%, while buying at a trough returned 24.1%.

This underscores that when investors feel gloomy and worried about the outlook, history shows they should consider resisting the temptation to sell risk assets.

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 as of September 30, 2023.



Source: JP Morgan, as of September 30, 2023.

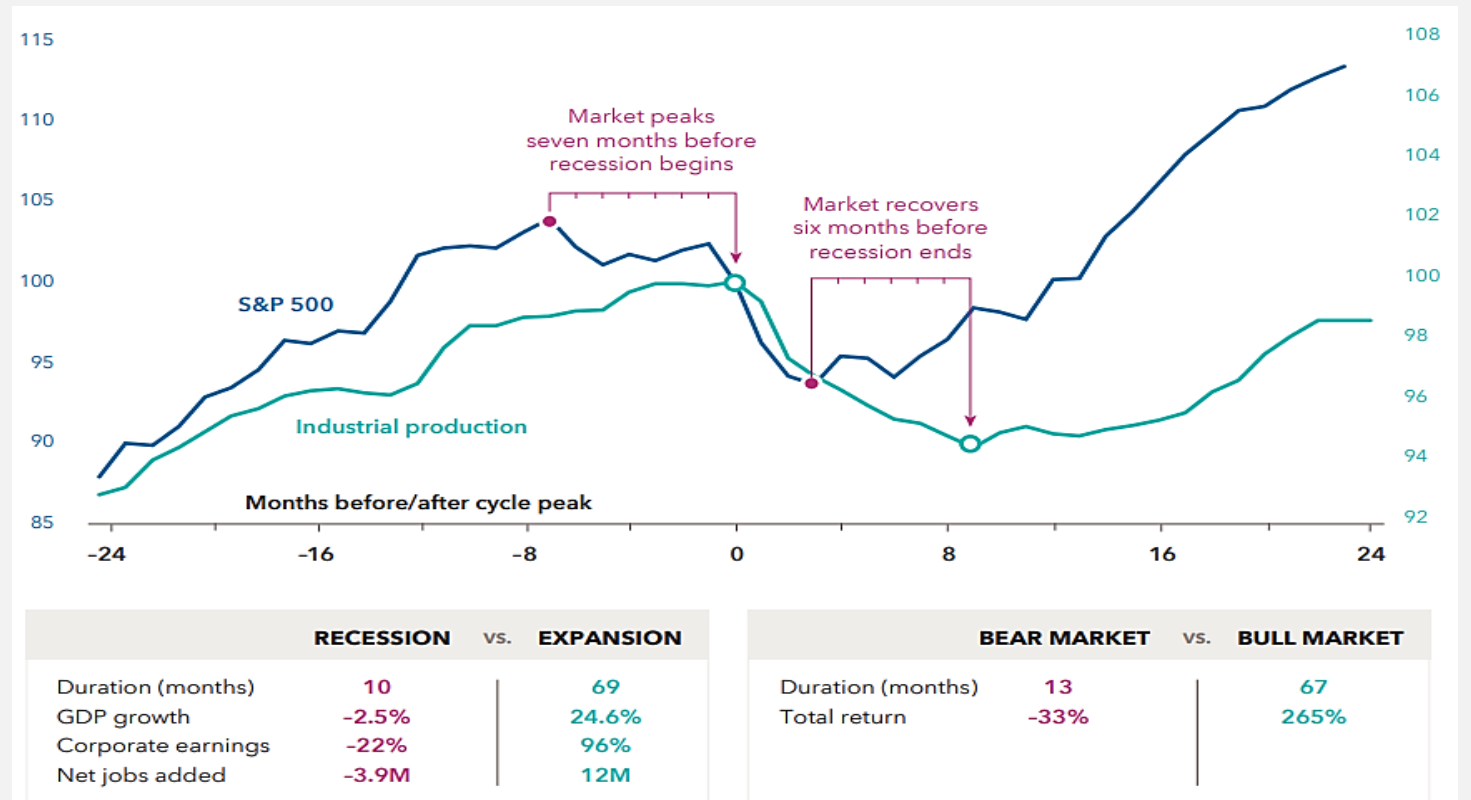
# Equities have typically peaked months before a recession, but can bounce back quickly



Markets have historically led the economy both on the upside and downside.

The benefits of capturing a full market recovery can be powerful. In all cycles since 1950, bull markets had an average return of 265%, compared to a loss of 33% for bear markets.

Because the strongest gains have often occurred immediately after a bottom, waiting on the sidelines for an economic turnaround is typically not a winning strategy.



Source: Capital Group, Federal Reserve Board, Haver Analytics, National Bureau of Economic Research, RIMES, Standard and Poor's. Data reflects the average of completed cycles in the U.S. from 1950 to 2021, indexed to 100 at each cycle peak. Corporate earnings calculated by Strategas for all completed cycles from 1/1/28-11/30/22. Other data includes all completed cycles from 1/1/50-11/30/22. Industrial production measures the change in output produced by manufacturers, mines and utilities and is used here as a proxy for the economic cycle. Past results are not predictive of results in future periods. <https://www.capitalgroup.com/advisor/insights/articles/2023-us-market-outlook.html>.

# Equity performance around U.S. recessions

## S&P 500 price return

Recession Start Date	Duration (Months)	Return During Recession	Return 1 Yr. After Recession	Return 3 Yrs. After Recession	Return 5 Yrs. After Recession
July 1953	10	18%	30%	62%	101%
August 1957	8	-4%	33%	50%	61%
April 1960	10	17%	10%	23%	44%
December 1969	11	-5%	8%	10%	5%
November 1973	16	-13%	23%	7%	22%
January 1980	6	7%	8%	34%	57%
July 1981	16	6%	20%	46%	66%
July 1990	8	5%	8%	19%	72%
March 2001	8	-2%	-18%	3%	23%
December 2007	18	-38%	12%	48%	113%
February 2020	2	-1%	44%	43%	N/A
<b>Average return</b>		<b>-1%</b>	<b>+16%</b>	<b>+31%</b>	<b>+56%</b>
<b>Number of positive periods (%)</b>		<b>45%</b>	<b>91%</b>	<b>100%</b>	<b>100%</b>

## Did you know?

**+16%**  
Average S&P return  
1 year after  
recession

**+31%**  
Average S&P return  
3 years after  
recession

**+56%**  
Average S&P return  
5 years after  
recession

## What is this chart showing?

This chart shows performance of the S&P 500 in the periods during and after past U.S. recessions.

## Why is it important?

Although recessions can be a time of uncertainty, investors likely shouldn't let the prospect of a bumpy landing for the economy keep them from staying invested.

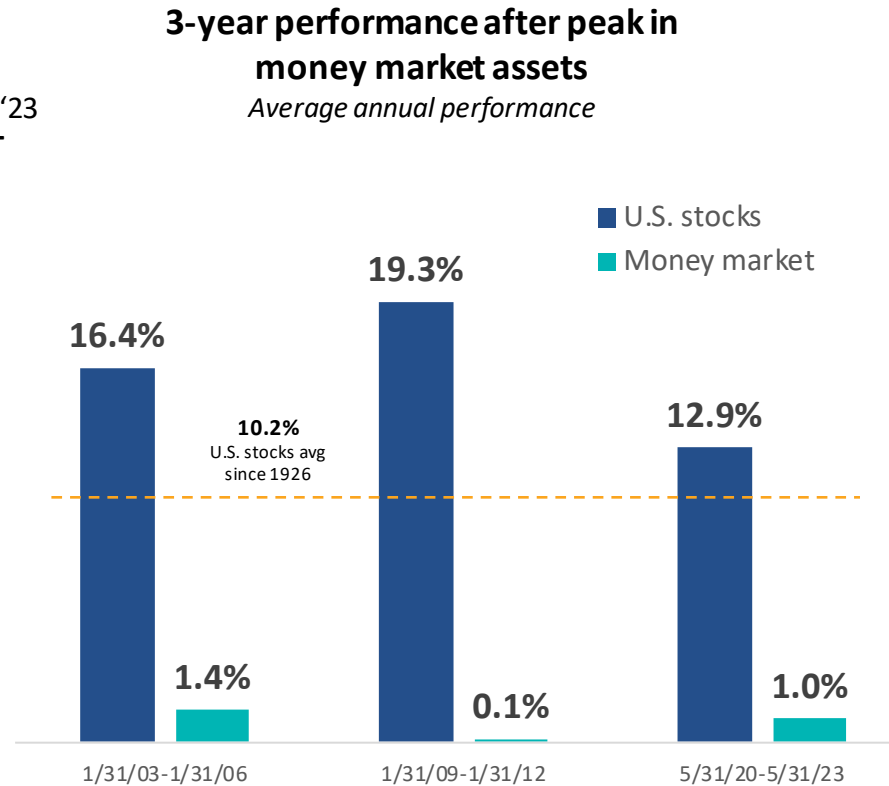
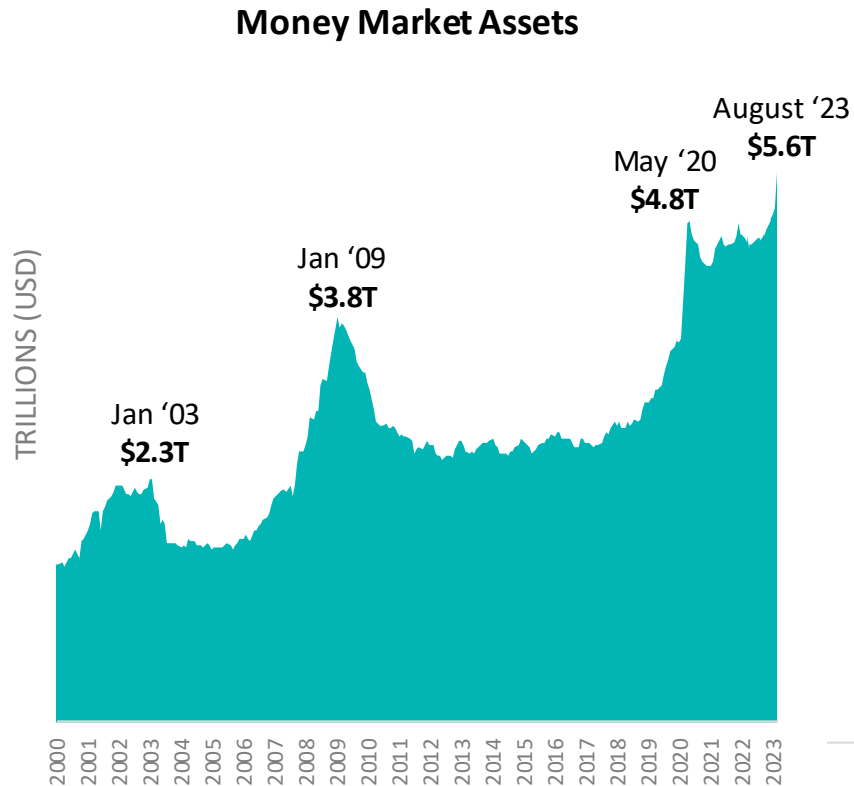
History shows that returns during recessionary periods have been relatively mixed, lending itself to the adage that the stock market is not the economy.

Returns following recessions have been strong, with cumulative gains 1, 3 and 5 years later of 16%, 31%, and 56%.

Additionally, the S&P 500 was negative only one time twelve months following the end of a recession and generated a positive return 100% of the time both 3 and 5 years later.

Source: Morningstar, NBER. Cumulative price return of the S&P 500 index. Past performance is not indicative of future returns. Recession duration is measured from the first day of the month following the peak month, to the end of the trough month.

# Returns following money market asset peaks



## What is this chart showing?

This chart shows the rise in money market assets over time, and how money markets and U.S. stocks performed over the 3-year period following peak money market assets.

## Why is it important?

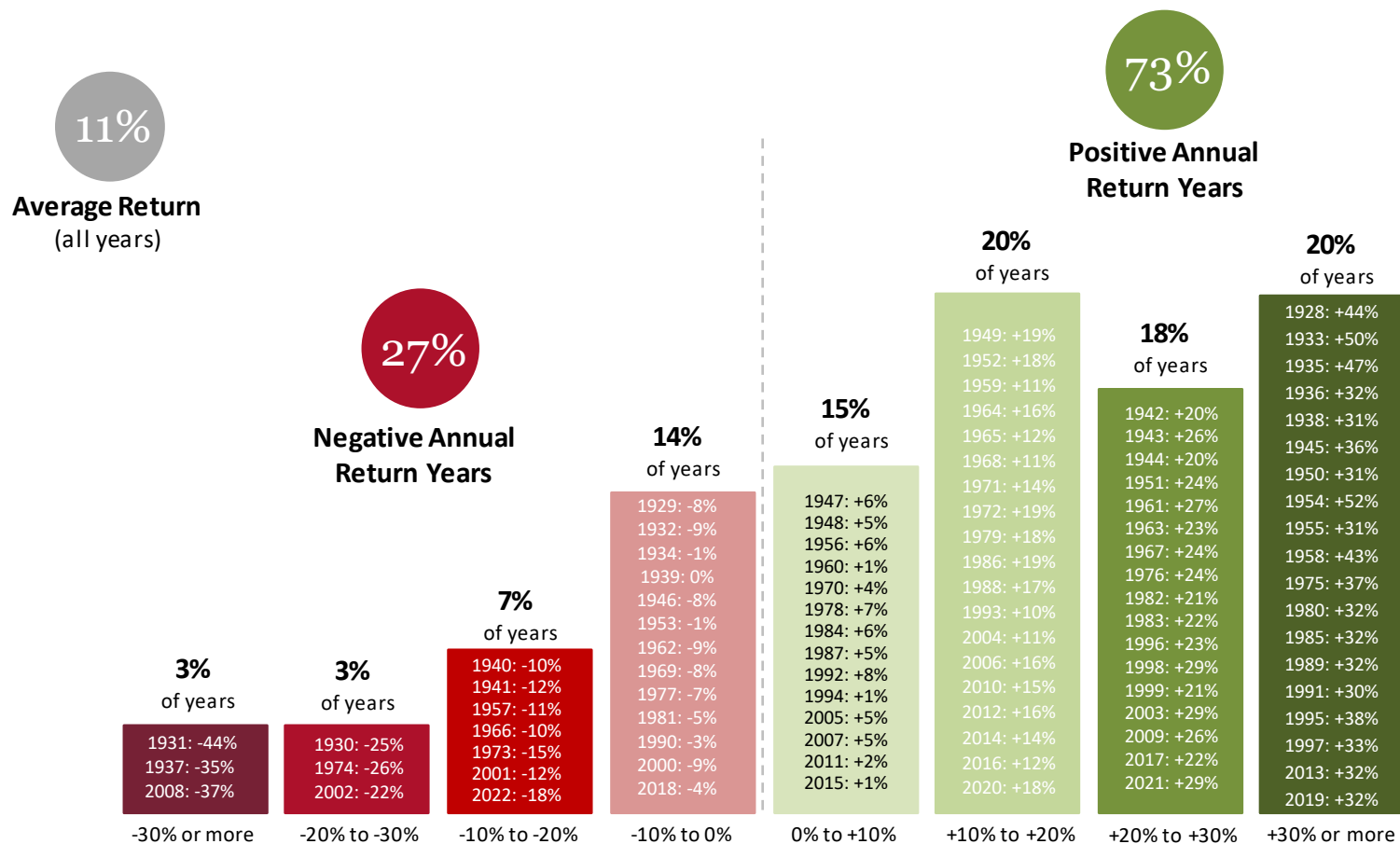
While it can be beneficial for investors to hold cash for preservation or liquidity purposes, holding too much can lead to suboptimal results.

Money market fund assets continue to reach new all-time highs in 2023.

Historically, this has been a bullish sign for stocks as they have performed better than average following periods of peak money market assets.

Source: Chart (left): Morningstar. Data most recently available as of 9/30/23. Chart (right): Morningstar, BlackRock Student of the Markets, Lincoln Financial Group. Returns calculated from end of peak month listed. US Stocks = S&P 500 TR; Money Market = Morningstar taxable money market category average returns. Past performance does not guarantee or predict future performance.

# Stocks rise far more often than they fall



## What is this chart showing?

This chart shows the distribution of calendar year returns for the S&P 500 from 1928 through 2022.

## Why is it important?

While the market has certainly suffered down years, they've been far outweighed by good – and even great – ones.

From 1928 to 2022, the average calendar year return for the S&P 500 was 11%.

Over that timeframe, 73% of yearly returns were positive while only 27% experienced a negative return.

Not only has the market risen far more often than it has fallen, many of the worst years for stocks were followed by strong rallies – rewarding investors who chose to stay the course.

**Past performance is not indicative of future returns.** Index performance is for illustrative purposes only. You cannot invest directly in the index.

Source: NYU.edu for S&P 500 returns (including dividends) from 1928-1936. Morningstar for returns from 1937-2022.

# Embrace the opportunity for the next bull

Drawdown period	Total drawdown	Drawdown length (in months)	-20% date	Return 1 yr. later	Return 3 yrs. later	Return 5 yrs. later
05/29/46 – 05/17/47	-28.8%	11.6	09/09/46	-0.8%	2.7%	56.8%
06/15/48 – 06/13/49	-20.6%	11.9	06/13/49	42.1%	79.4%	110.9%
08/02/56 – 10/22/57	-21.6%	14.7	10/21/57	31.0%	37.6%	42.0%
12/12/61 – 06/26/62	-28.0%	6.4	05/28/62	26.1%	58.3%	63.9%
02/09/66 – 10/07/66	-22.2%	7.9	08/29/66	24.6%	27.3%	34.8%
11/29/68 – 05/26/70	-36.1%	17.9	01/29/70	11.9%	35.9%	-11.3%
01/11/73 – 10/03/74	-48.2%	20.7	11/27/73	-26.9%	7.8%	0.1%
11/28/80 – 08/12/82	-27.1%	20.4	02/22/82	30.4%	61.5%	155.8%
08/25/87 – 12/04/87	-33.5%	3.3	10/19/87	24.3%	36.0%	83.1%
03/24/00 – 09/21/01	-36.8%	17.9	03/12/01	-1.2%	-6.2%	8.6%
01/04/02 – 10/09/02	-33.8%	9.1	07/10/02	7.4%	31.7%	66.4%
10/09/07 – 11/20/08	-51.9%	13.4	07/07/08	-29.6%	8.1%	30.3%
01/06/09 – 03/09/09	-27.6%	2.0	02/23/09	47.3%	83.4%	147.0%
02/19/20 – 03/23/20	-33.9%	1.1	03/12/20	59.0%	55.7%	-
01/03/22 – 10/12/22	-25.4%	9.4	06/13/22	16.5%	-	-
<b>Average</b>	<b>-31.7%</b>	<b>11.2</b>		<b>+17.5%</b>	<b>+37%</b>	<b>+61%</b>

## What is this chart showing?

This chart shows bear markets since WWII with the total decline during the drawdown period, total length of drawdown, the date when the drawdown hit 20%, and the 1-, 3-, and 5-year returns following the point that the S&P 500 fell 20% from its recent high.

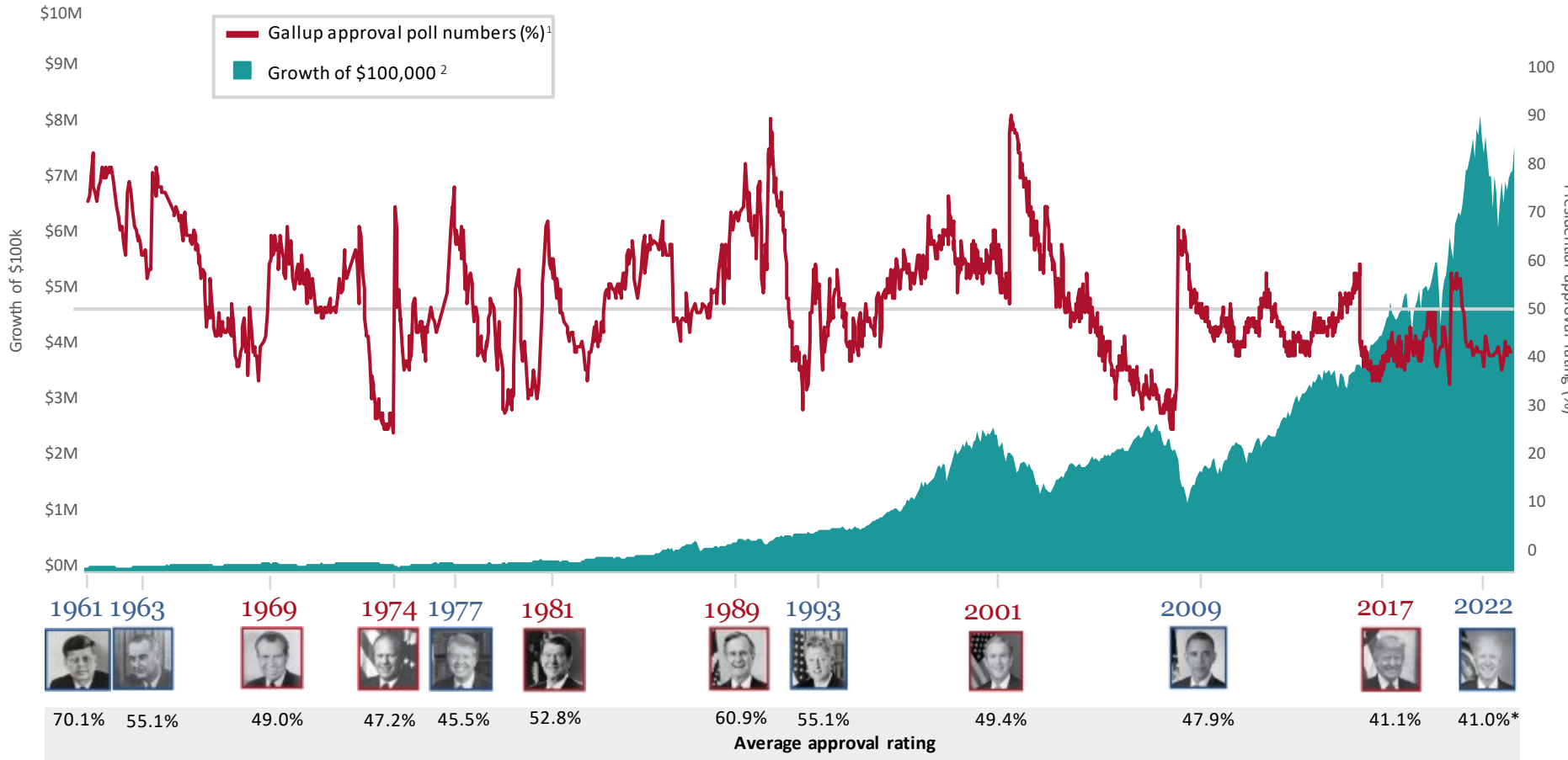
## Why is it important?

Although bear markets can be a time of uncertainty and panic, they have historically represented an opportunity for investors.

While it is tough to time the bottom, those who invested when the market fell 20%, regardless of how much deeper the decline got, saw an average return 1 year later of +17.5%, 3-year cumulative return of +37%, and 5-year cumulative return of +61%.

Source: Bloomberg, Lincoln Financial Group. S&P 500 Price Return Index. Does not include dividends. All returns are cumulative. Return 1 yr., 3 yrs. and 5 yrs. later are measured from the -20% date. Past performance is not indicative of future returns.

# Markets don't belong to a political party



## What is this chart showing?

This chart shows the growth of \$100,000 invested in the S&P 500, as well as average presidential approval ratings from 1961 through the most recent quarter end.

## Why is it important?

Whether you're watching TV, browsing the web or connecting on social, you're bound to find many opinions surrounding the president, political actions and agendas. Amid all the media coverage and varying points of view, it's reassuring to remember that markets are impartial and have produced strong returns regardless of which party is in office or the popularity of a president.

**Past performance is not indicative of future returns.** Index performance is for illustrative purposes only. You cannot invest directly in the index.

Source: Presidential portraits. Library of Congress, <https://www.loc.gov/free-to-use/presidential-portraits>.

<sup>1</sup> Gallup: <https://news.gallup.com/interactives/185273/presidential-job-approval-center.aspx>. \*Approval rating as of 9/30/23.

<sup>2</sup> Source: Morningstar, Lincoln Financial Group. S&P 500 Price Return Index growth of \$100,000, January 2, 1961, through September 30, 2023. Return rounded to nearest whole number.

# Fixed income



# U.S. Treasury yield

## What is this chart showing?

This chart shows the historical yield for the 10-year Treasury, along with an expanded view of yield movements this year and their impact on several bond asset class returns.

U.S. 10-year Treasury yield



### Past performance is not indicative of future returns.

Core bonds represented by Bloomberg US Aggregate Bond Index; Intermediate Treasuries represented by ICE BofA 5-10Y US Trsy TR USD; Long-term Treasuries represented by ICE BofA 10+Y US Trsy TR USD.

You cannot invest directly in an index. All indices are unmanaged and do not include fees or expenses. See index definitions and disclosures at back of presentation.

Source: Morningstar, Bloomberg, J.P. Morgan. Data as of September 30, 2023. \*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.

## Why is it important?

Experts view the 10-year Treasury yield as a benchmark for the state of the economy and investor confidence. It drives interest rates throughout the market, making money more or less expensive to borrow. Movements can signal a need to reevaluate stock valuations and portfolio investment risks.

U.S. 10-year Treasury yield, EOY December 2021 thru September 2023

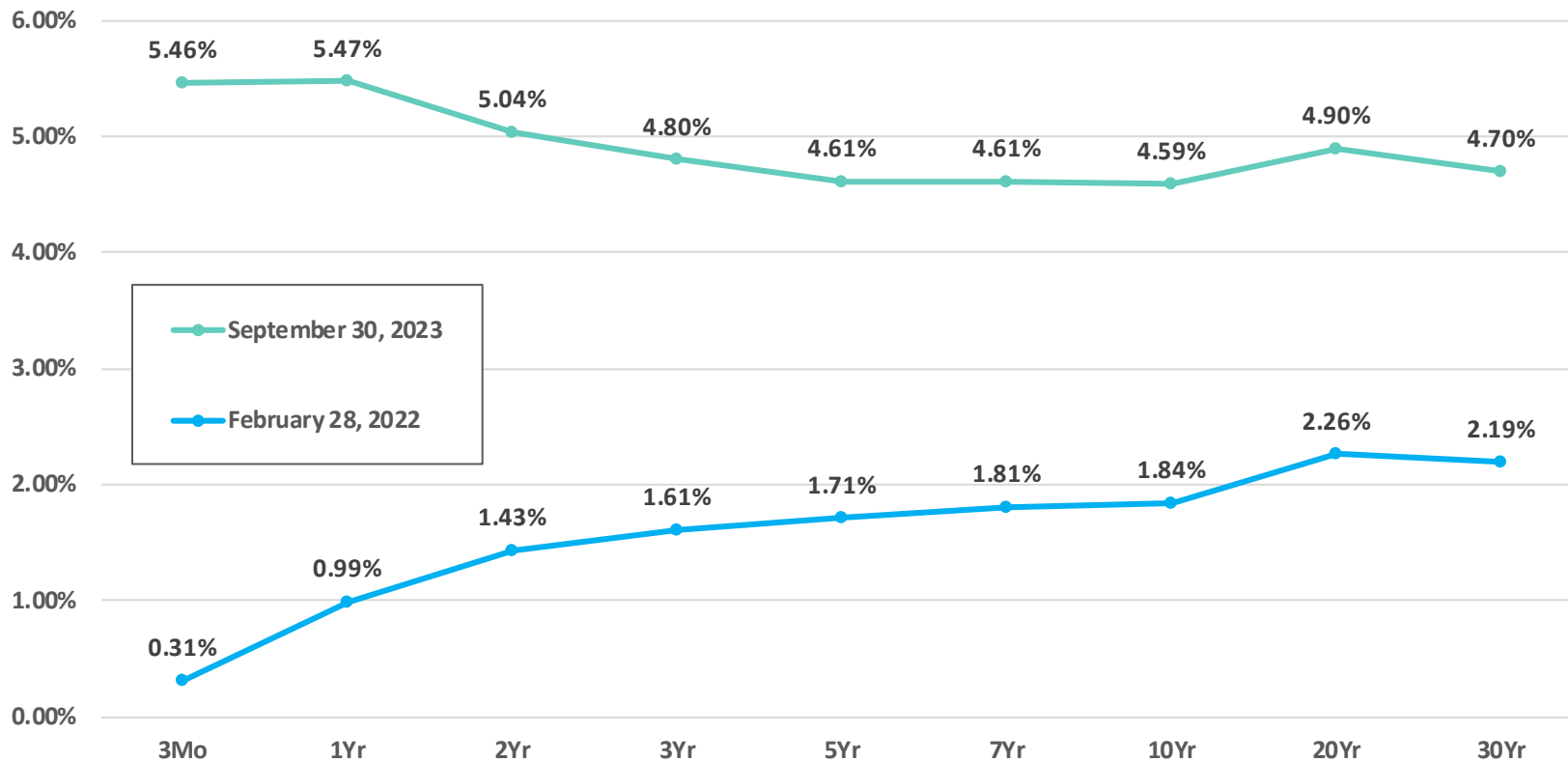


	YTD return (thru 9/30/2023)
Core bonds	-1.21%
Intermediate Treasuries	-1.70%
Long-term Treasuries	-8.25%

	Nominal yield	Core inflation*	Real yield
10-year Treasury	4.59%	4.39%	0.20%

# Yield curve

## U.S. Treasury yield curve



Source: FactSet, U.S. Department of the Treasury. Data as of September 30, 2023.

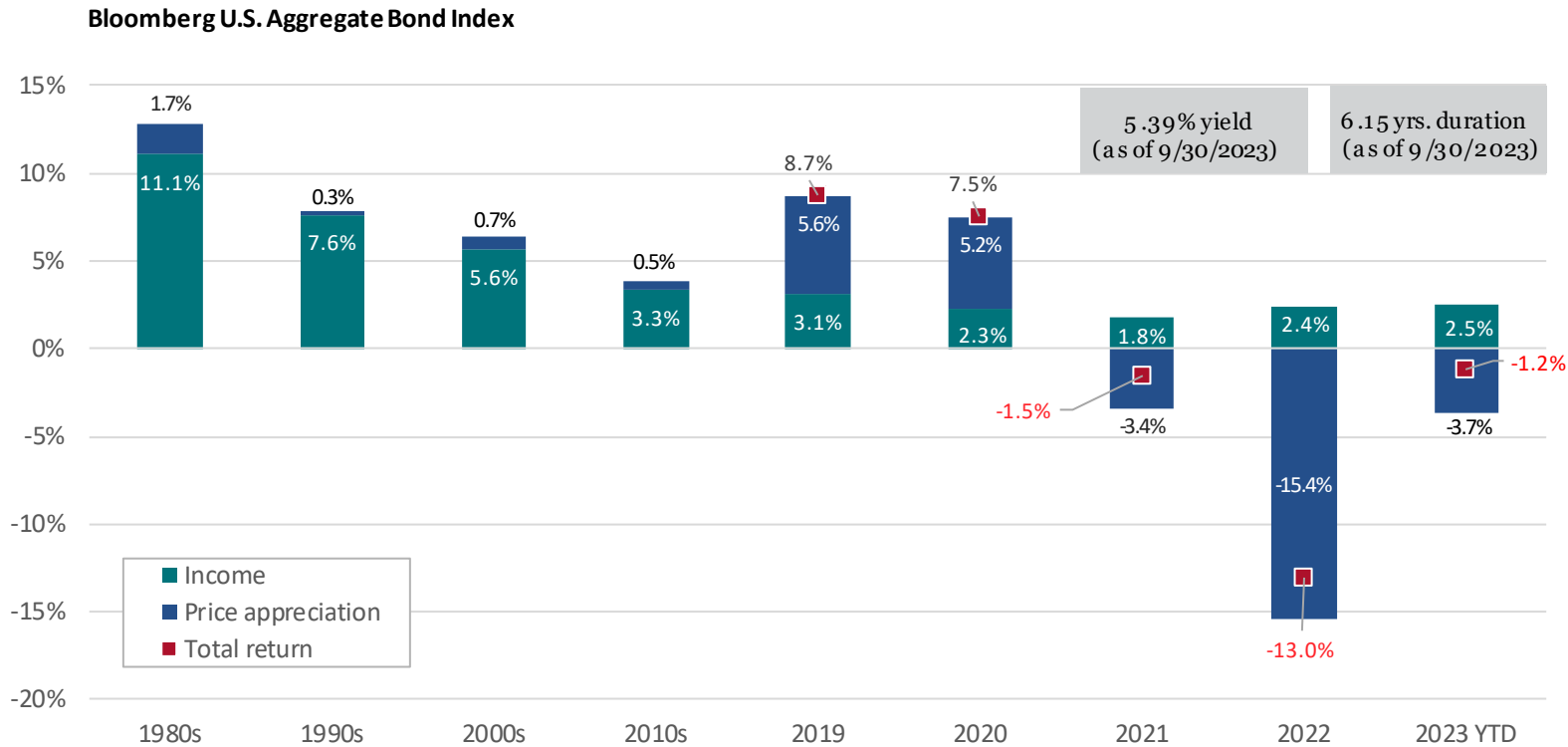
## What is this chart showing?

This chart shows the U.S. Treasury yield curve as of the latest month end, as well as in February 2022—just before the Federal Reserve began raising interest rates.

## Why is it important?

The yield curve is an economic indicator as it is a representation of investors' expectations for future interest rates, economic growth and inflation. The yield curve is currently inverted, meaning shorter rates are higher than longer rates. This tends to happen when investors believe the economy could be weakening and likely to slow down in the future.

# Core bonds: Total return breakdown



## What is this chart showing?

This chart breaks down the total return of the Barclays U.S. Aggregate Bond Index into separate income and price appreciation components throughout different time periods.

## Why is it important?

Investors can use this to see what has historically driven the total return of bonds, and how it has shifted over the decades. In 2022, a spike in interest rates resulted in significant price declines in core bonds. With little income to offset the price declines, the asset class ended the year deeply in the red.

The outlook entering 2023 looked more promising, with yields at their highest levels in more than a decade, however, returns on bonds are negative YTD, as interest rates continued to rise.

You cannot invest directly in an index. All indices are unmanaged and do not include fees or expenses. Please see the back of this presentation for index definitions and disclosures.

Source: Bloomberg, Morningstar. YTD data as of September 30, 2023. **Past performance is not indicative of future returns.**

# Core bond yields have fallen quickly when the Fed stops hiking

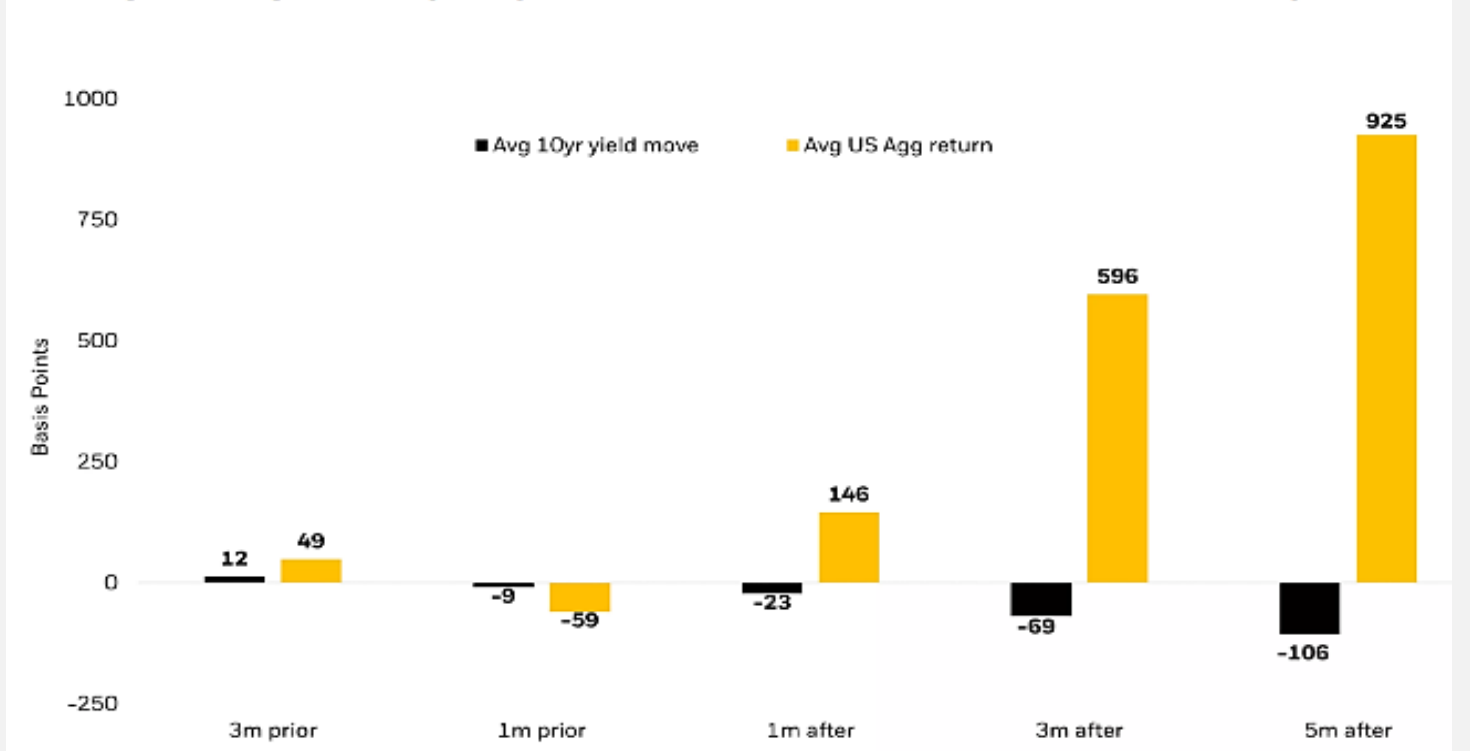
## BlackRock

With yields at current levels, bond funds can lock in longer term yields, offer price appreciation potential and overall serve as a hedge against a possible hard landing.

Though elevated cash balances worked during the Fed's hiking cycle, now may represent an opportunity for clients to consider adding duration given the potential for a Fed pause.

While investors are not penalized for being early to adding duration, there is a potential cost to being late.

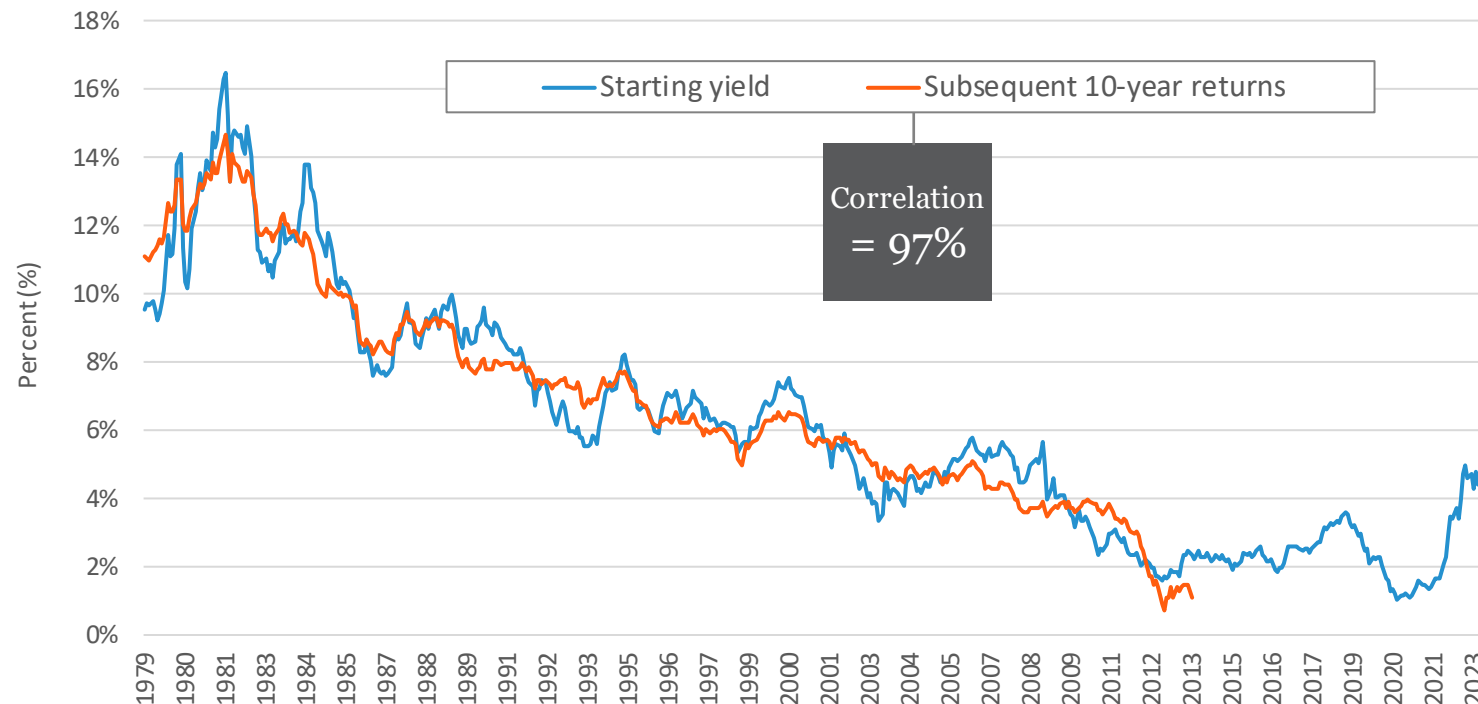
Average change in 10-year yield in months around last Fed rate hike cycle (%)



Source: BlackRock as of March 30, 2023, Bloomberg. Time period as of 1979-2019. Past performance is no guarantee of future results. Index performance is shown for illustrative purposes only. It is not possible to invest directly in an index

# Core bonds: Starting yields and subsequent returns

Bloomberg U.S. Aggregate Bond Index



## What is this chart showing?

This chart shows the starting yield of U.S. core bonds for the past 40+ years, along with the subsequent 10-year total returns from that point.

## Why is it important?

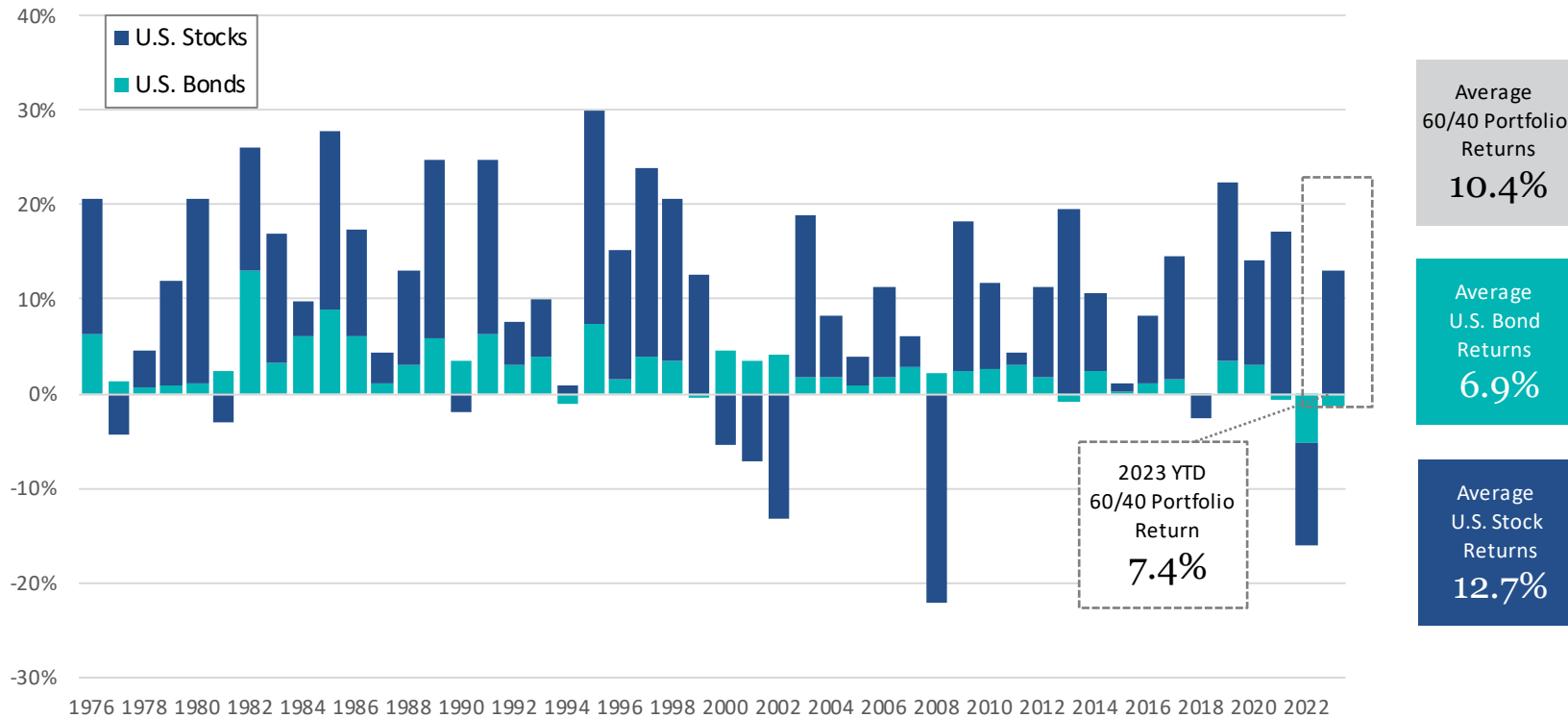
Investors commonly look to current yields to inform their total return expectations, as historically, the starting yield is an accurate predictor of future bond returns (97% correlation).

You cannot invest directly in an index. All indices are unmanaged and do not include fees or expenses. Please see the back of this presentation for index definitions and disclosures.

Source: Research affiliates based on data from Bloomberg and FactSet as of September 30, 2023. Proxy: Bloomberg U.S. Aggregate Bond Index. **Past performance is not a guarantee or a reliable indicator of future results.**

# Asset allocation

# 60/40 portfolio returns



## What is this chart showing?

This chart shows both the annual and long-term average returns of a portfolio consisting of 60% U.S. stocks and 40% U.S. bonds.

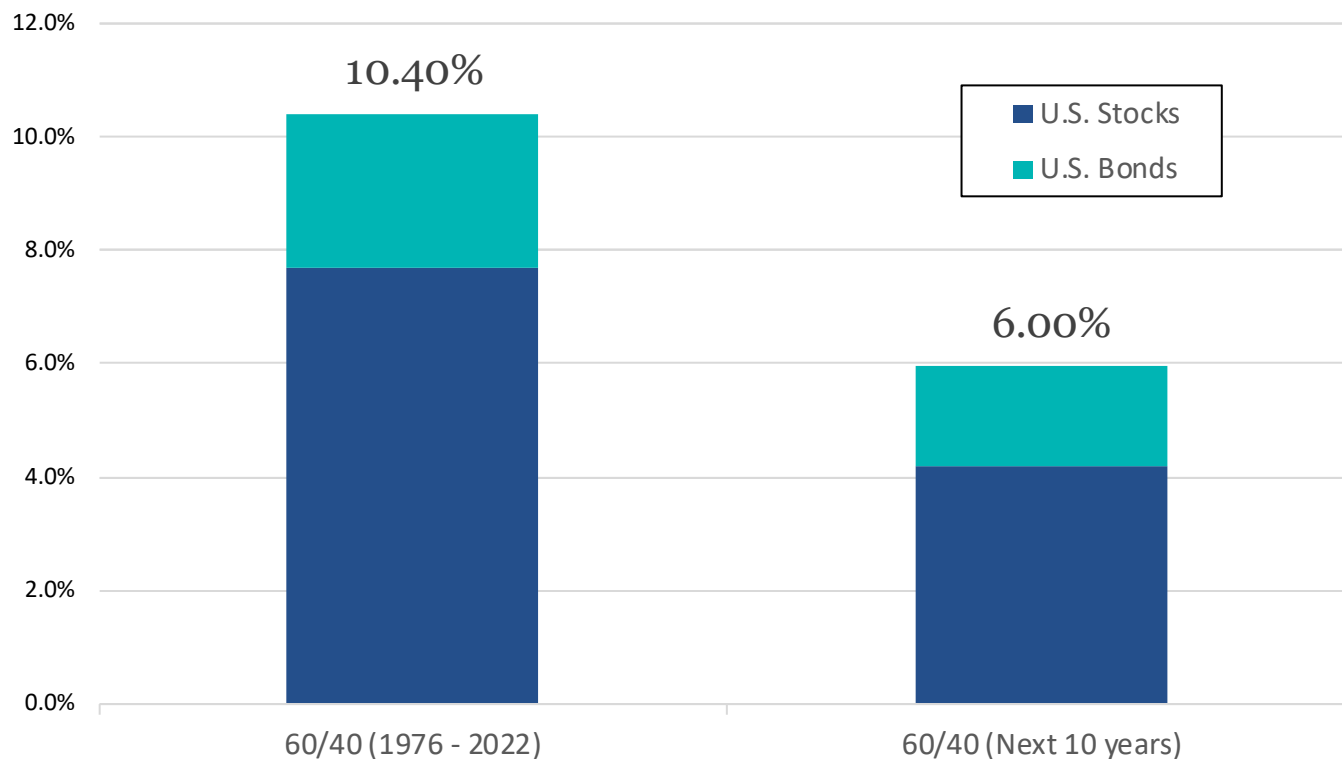
## Why is it important?

Investors can use this to compare the performance of a domestic 60/40 portfolio to other strategies, as well as view the respective contribution to total return from both stocks and bonds.

Stocks are represented by the S&P 500 Index. Bonds are represented by the Bloomberg Barclays U.S. Aggregate Bond Index. You cannot invest directly in an index. All indices are unmanaged and do not include fees or expenses. Please see the back of this presentation for index definitions and disclosures.

Source: Data from Morningstar, Stocks = S&P 500 TR, Bonds = Barclays US Aggregate Bond Index, 1976 through September 30, 2023; 60/40 Portfolio = 60% S&P 500 TR + 40% Barclays US Aggregate Index. Arithmetic averages used. **Past performance is not indicative of future returns. Asset allocation does not ensure a profit nor protect against loss.**

# 60/40 portfolio return expectations



Stocks are represented by the S&P 500 Index. Bonds are represented by the Bloomberg U.S. Aggregate Bond Index.

You cannot invest directly in an index. All indices are unmanaged and do not include fees or expenses. Please see the back of this presentation for index definitions and disclosures. **Past performance is not indicative of future returns. This market forecast is based on the latest forward-looking expectations from select fund partners and is not intended as a recommendation to invest in any particular asset class or strategy or as a promise — or even estimate — of future performance.**

Source: Morningstar, S&P, Bloomberg. Data as of September 30, 2023. 60/40 Portfolio Then = 60% S&P 500 TR + 40% Barclays US Aggregate Index; 60/40 (Next 10 years) = Average Equity and bond returns based on capital market expectations shown in the table. Core equity = US Equity, Core bonds = US aggregate bonds. **See Additional Information for more information.**

Capital market expectations	U.S. Stocks	U.S. Bonds
J.P. Morgan Asset Management	9.07%	4.68%
Goldman Sachs Asset Management	7.70%	4.20%
BlackRock	5.90%	4.20%
State Street	5.80%	4.30%
<b>Average</b>	<b>7.12%</b>	<b>4.35%</b>

## What is this chart showing?

This chart shows the average historical return of a portfolio allocated to 60% equity and 40% bonds, compared to the projected 10-year future return of a similarly weighted portfolio based on the average of capital market expectations from several of our asset management partners.

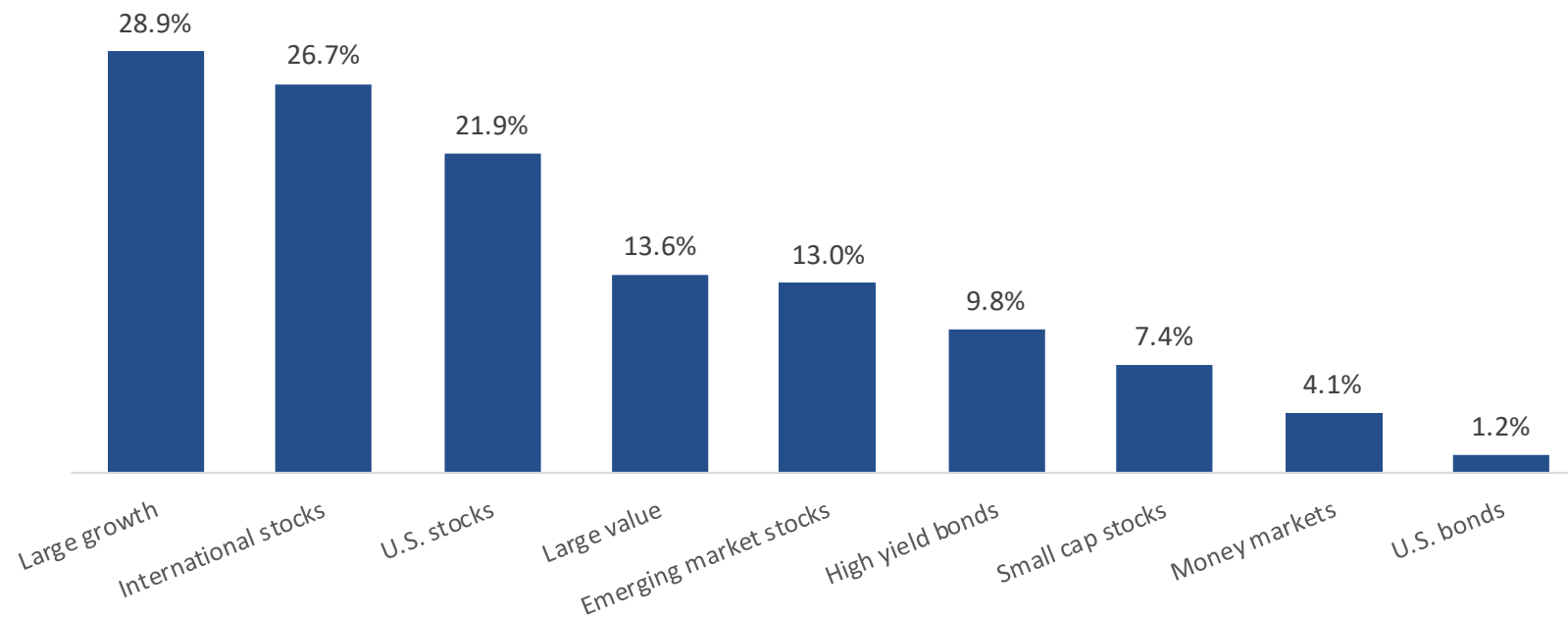
## Why is it important?

Understanding what future returns may look like relative to the past can help inform investment decisions and be a valuable input for planning purposes.



# Asset class returns since October 2022 market lows

**Performance since the low in U.S. stocks last year**  
(10/13/22 –9/30/23)



## What is this chart showing?

This chart shows the performance of various equity, fixed income and cash proxy asset classes since the market lows in October 2022.

## Why is it important?

Given the economic backdrop of high inflation, rising interest rates and the regional banking stress experienced early in 2023, the resiliency of financial markets surprised many investors.

Despite this strength, assets have been flooding into money market funds that have meaningfully lagged other asset classes shown. This demonstrates the benefit of staying invested even through uncertain times.

Source: Morningstar. Data as of September 30, 2023. Large Growth = Russell 1000 Growth TR; International stocks = MSCI EAFE NR; US Stocks = S&P 500 TR; Large value = Russell 1000 Value TR; Emerging market stocks = MSCI EM NR; Small cap stocks = Russell 2000 TR; High Yield Bonds = Bloomberg US HY 2% Issuer Cap TR; US Bonds = US Bloomberg Barclays Agg; Bond TR; Money Markets = Morningstar category average, US Taxable Money Market Funds. **Past performance is not indicative of future results.**

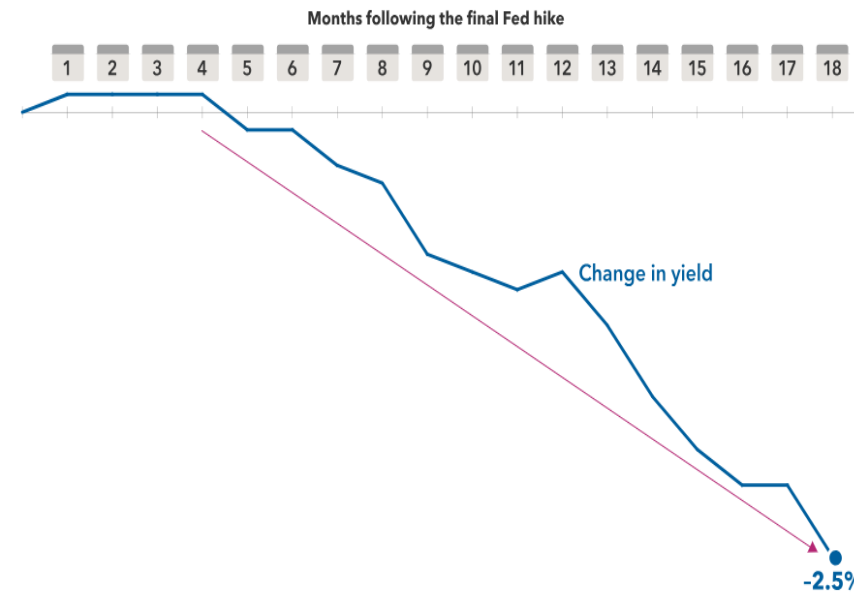
# History shows cash has lagged when Fed hikes end



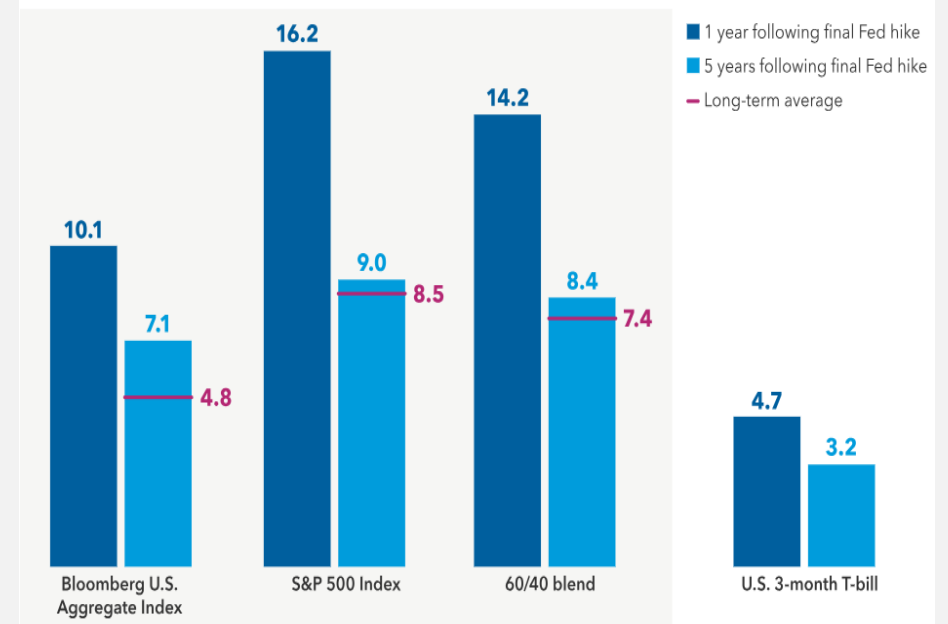
Cash-like holdings may see little additional upside as the Fed finishes hiking rates. History shows that in the 18 months after the Fed ended hikes in the last four cycles, yields on cash-like investments have decayed rapidly. The 3-month Treasury yield, a benchmark Treasury security with a yield similar to cash-like investments, fell an average of 2.5%.

If history were to repeat, money market yields are likely to decline, and investors may be better served by being invested in stocks and bonds.

3-month T-bill yields declined sharply following the Fed's final hike in the last four cycles



Results have been front-loaded following the final Federal Reserve hike in the last four cycles (%)



Source: Capital Group, (Left chart): Bloomberg, Federal Reserve. As of 6/30/23. Chart represents the average decline in 3-month Treasury bills starting in the month of the last Fed hike in the last four transition cycles from 1995 to 2018. Past results are not predictive of results in future periods. (Right chart): Capital Group, Morningstar. Chart represents the average returns across respective sector proxies in a forward extending window starting in the month of the last Fed hike in the last four transition cycles from 1995 to 2018 with data through 6/30/23. The 60/40 blend represents 60% S&P 500 Index and 40% Bloomberg U.S. Aggregate Index, rebalanced monthly. Long-term averages represented by the average five-year annualized rolling returns from 1995. Past results are not predictive of results in future periods. <https://www.capitalgroup.com/advisor/insights/articles/rate-hikes-near-end-historic-investor-opportunity-may-begin.html>.

# What's the real return on 12-month CDs?

## HARTFORDFUNDS

Our benchmark is the investor.\*

Twelve-month rates on certificates of deposit (CDs) were below 3% from 2008 to 2022 but have recently increased.

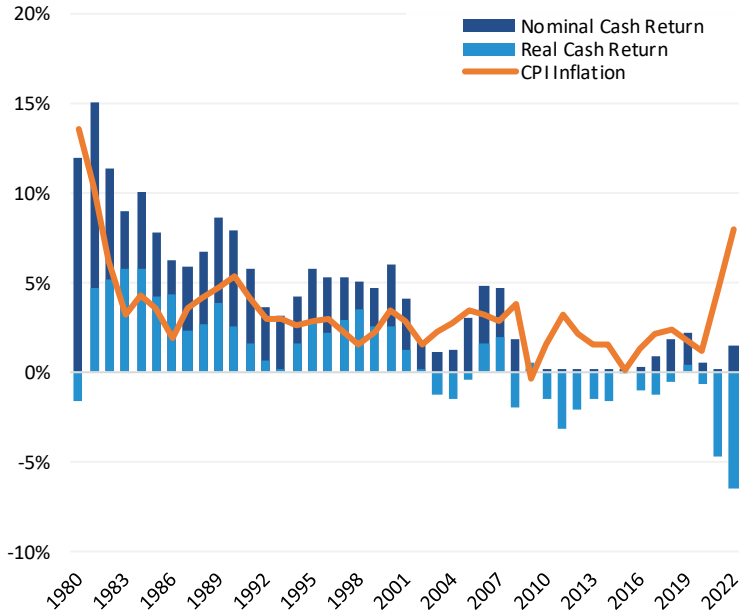
However, when taxes and inflation are factored in, 12-month CDs have provided negative real returns in 17 out of the last 20 years.

**Inflation and Taxes Have Had a Significantly Negative Effect on CD Return Rates**

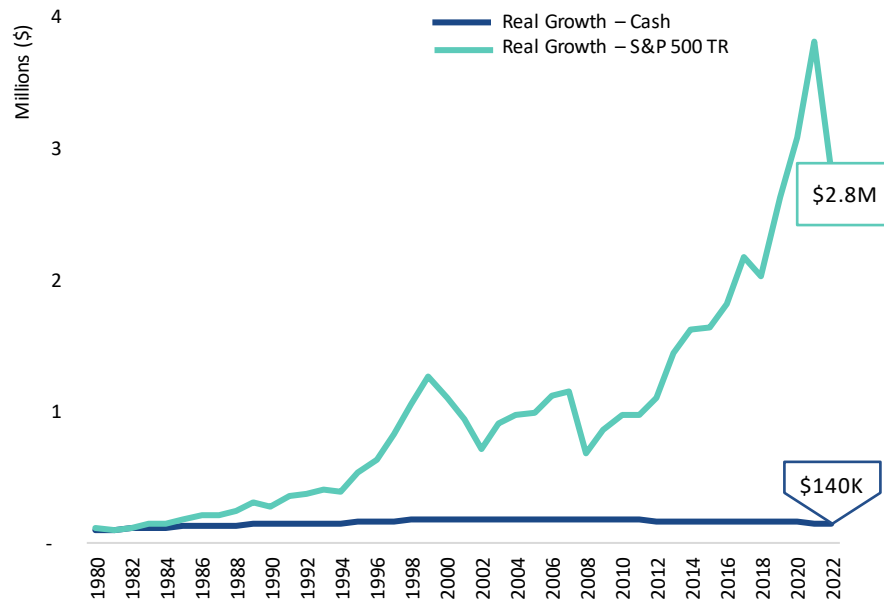
Year	12-Month CD Yield (%) <sup>1</sup>	Taxes (%) <sup>2</sup>	Inflation (%)	Real Return After Taxes & Inflation (%)
2004	2.58	25	3.34	-1.41
2005	4.22	25	3.34	-0.18
2006	4.91	25	2.52	1.16
2007	4.43	25	4.11	-0.79
2008	2.65	25	-0.02	2.01
2009	1.44	25	2.81	-1.73
2010	0.96	25	1.44	-0.72
2011	0.77	25	3.06	-2.48
2012	0.69	25	1.76	-1.24
2013	0.67	25	1.51	-1.01
2014	0.70	25	0.65	-0.13
2015	0.62	25	0.64	-0.18
2016	0.59	25	2.05	-1.61
2017	0.80	25	2.10	-1.50
2018	1.29	22	1.92	-0.91
2019	1.14	22	2.26	-1.37
2020	0.39	24	1.28	-0.98
2021	0.28	24	7.10	-6.89
2022	2.35	24	6.42	-4.63
6/30/2023	5.36	24	3.09	0.98

Source: Hartford Funds, Bloomberg, FactSet. Past performance does not guarantee future results, 7/23.

# The impact of inflation on cash over time



Average Return (1980–2022)	
Cash	S&P 500
Nominal: 4.2%	Nominal: 12.9%
Real: 0.9%	Real: 9.6%



Growth of \$100K (1980–2022)	
Cash	S&P 500
Nominal: \$560K	Nominal: \$10.8M
Real: \$140K	Real: \$2.8M

## What is this chart showing?

The chart on the left shows the nominal and real return of cash from 1980–2022.

The chart on the right shows the real growth of \$100,000 invested in cash versus the S&P 500.

## Why is it important?

Cash can be an appropriate part of any plan, but holding too much can keep investors from reaching their long-term investing goals.

Despite average nominal returns of 4.2% since 1980, after inflation, cash returned less than 1% per year. On the other hand, the average inflation-adjusted return for the S&P 500 was 9.6%.

Keeping too much cash on the sidelines may cause investors to miss out on years of healthy growth while inflation eats away at their purchasing power.

Source: Morningstar 1980–2022. Cash: FTSE Treasury Bill 3 Mon USD, S&P 500: S&P 500 TR. Nominal represents returns before inflation, and real represents inflation adjusted returns. Past performance does not guarantee or indicate future results. Index performance is for illustrative purposes only. You cannot invest directly in the index.

# Periodic table of investment returns

## What is this chart showing?

This chart shows the annual performance of major asset classes. Each category is color-coded and listed from best-performing to worst in each year. Additionally, the returns of a diversified asset allocation are shown in each year for reference.

## Why is it important?

Investors can easily see that from year to year, performance of the asset categories tends to rotate, making it very difficult to select the top performing asset. Investors who own a diversified asset allocation tend to experience positive returns over the long-term.

2008 – 2022																Annualized	Volatility
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Annualized	Volatility	
US Core Bond 5.2%	EM Stocks 79.1%	REITs 28.0%	REITs 8.3%	REITs 19.7%	US Sm Cap 38.9%	REITs 28.0%	REITs 2.8%	US Sm Cap 21.3%	EM Stocks 37.8%	Cash 1.8%	US Lg Cap 31.5%	US Sm Cap 20.0%	REITs 41.3%	Commods 16.1%	US Lg Cap 8.8%	REITs 23.4%	
Cash 1.8%	Global HY Bond 59.4%	US Sm Cap 26.9%	US Core Bond 7.8%	Global HY Bond 19.6%	US Lg Cap 32.4%	US Lg Cap 13.7%	US Lg Cap 1.4%	Global HY Bond 14.2%	Foreign Stocks 25.6%	US Core Bond 0%	REITs 28.7%	Commods 18.7%	US Lg Cap 28.7%	Cash 1.5%	US Sm Cap 7.2%	US Sm Cap 23.2%	
Asset Allocation -25.1%	Foreign Stocks 32.5%	EM Stocks 19.2%	Global HY Bond 3.1%	EM Stocks 18.6%	Foreign Stocks 23.3%	US Core Bond 6.0%	US Core Bond 0.6%	US Lg Cap 11.9%	US Lg Cap 21.8%	REITs -4.0%	US Sm Cap 25.5%	US Lg Cap 18.4%	Commods 27.1%	Global HY Bond -12.7%	REITs 6.6%	EM Stocks 23.0%	
Global HY Bond -26.8%	REITs 28.0%	Commods 16.8%	US Lg Cap 2.1%	Foreign Stocks 17.9%	Asset Allocation 14.7%	Asset Allocation 5.2%	Cash 0%	Commods 11.7%	US Sm Cap 14.7%	Global HY Bond -4.1%	Foreign Stocks 22.7%	Asset Allocation 11.5%	US Sm Cap 14.8%	US Core Bond -13.0%	Global HY Bond 5.4%	Commods 20.2%	
US Sm Cap -33.7%	US Sm Cap 27.2%	US Lg Cap 15.1%	Cash 0.1%	US Sm Cap 16.3%	Global HY Bond 7.3%	US Sm Cap 4.9%	Foreign Stocks -0.4%	EM Stocks 11.6%	Asset Allocation 14.9%	US Lg Cap -4.4%	Asset Allocation 19.9%	Global HY Bond 8.3%	Asset Allocation 13.4%	Asset Allocation -13.9%	Asset Allocation 5.1%	Foreign Stocks 20.0%	
Commods -35.6%	US Lg Cap 25.5%	Global HY Bond 14.8%	Asset Allocation -0.7%	US Lg Cap 16.0%	REITs 2.9%	Global HY Bond 0%	Asset Allocation -2.0%	REITs 8.6%	Global HY Bond 10.4%	Asset Allocation -5.8%	EM Stocks 18.9%	US Core Bond 7.5%	Foreign Stocks 11.8%	Foreign Stocks -14.0%	US Core Bond 2.7%	US Lg Cap 17.7%	
US Lg Cap -36.9%	Asset Allocation 25.0%	Asset Allocation 13.3%	US Sm Cap -4.2%	Asset Allocation 12.2%	Cash 0%	Cash 0%	Global HY Bond -2.7%	Asset Allocation 8.3%	REITs 8.7%	US Sm Cap -11.0%	Global HY Bond 12.6%	Cash 7.0%	Global HY Bond 1.0%	US Lg Cap -18.1%	Foreign Stocks 2.3%	Global HY Bond 13.0%	
REITs -37.7%	Commods 18.9%	Foreign Stocks 8.2%	Foreign Stocks -11.7%	US Core Bond 4.2%	US Core Bond -2.0%	EM Stocks -1.8%	US Sm Cap 4.4%	US Core Bond 2.6%	US Core Bond 3.5%	Commods -11.3%	US Core Bond 8.7%	REITs 0.5%	Cash 0%	EM Stocks -19.7%	EM Stocks 1.0%	Asset Allocation 12.4%	
Foreign Stocks -43.0%	US Core Bond 5.9%	US Core Bond 6.5%	Commods -13.3%	Cash 0.1%	EM Stocks -2.3%	Foreign Stocks -4.5%	EM Stocks -14.6%	Foreign Stocks 1.5%	Commods 1.7%	Foreign Stocks -13.4%	Commods 7.7%	Foreign Stocks -3.1%	US Core Bond -1.5%	US Sm Cap -20.4%	Cash 0.6%	US Core Bond 4.2%	
EM Stocks -53.1%	Cash 0.1%	Cash 0.1%	EM Stocks -18.2%	Commods -1.1%	Commods -9.5%	Commods -17.0%	Commods -24.7%	Cash 0.3%	Cash 0.8%	EM Stocks -14.3%	Cash 2.2%	EM Stocks -5.1%	EM Stocks -2.2%	REITs -24.9%	Commods -2.6%	Cash 0.4%	

You cannot invest directly in an index. All indices are unmanaged and do not include fees or expenses. Please see the back of this presentation for index definitions and disclosures.

Source: Bloomberg, FactSet, S&P, MSCI, FTSE, Russell. Data as of December 30, 2022. **US Core Bond** — US BBgBarc Aggregate TR; **US Lg Cap** — S&P 500 TR; **Cash** — BBgBarc US Treasury Bill 1-3 Mon TR USD; **Global HY Bond** — BBgBarc Global High Yield TR USD; **EM Stocks** — MSCI EM GR USD; **Foreign Stocks** — MSCI EAFE GR USD; **US Sm Cap** — Russell 2000 TR USD; **Commods** — Bloomberg Commodity TR USD; **REITs** — FTSE NAREIT All Equity REITs TR USD; **Asset Allocation** - 25% S&P 500, 10% Russell 2000, 15% MSCI EAFE, 5% MSCI EME, 25% Bloomberg Barclays US Aggregate, 5% Bloomberg Barclays 1-3m Treasury, 5% Bloomberg Barclays Global High Yield Index, 5% Bloomberg Commodity Index and 5% NAREIT Equity REIT Index. **Please see Additional Information on page 53 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.**

# Foundations

# Life expectancy probabilities

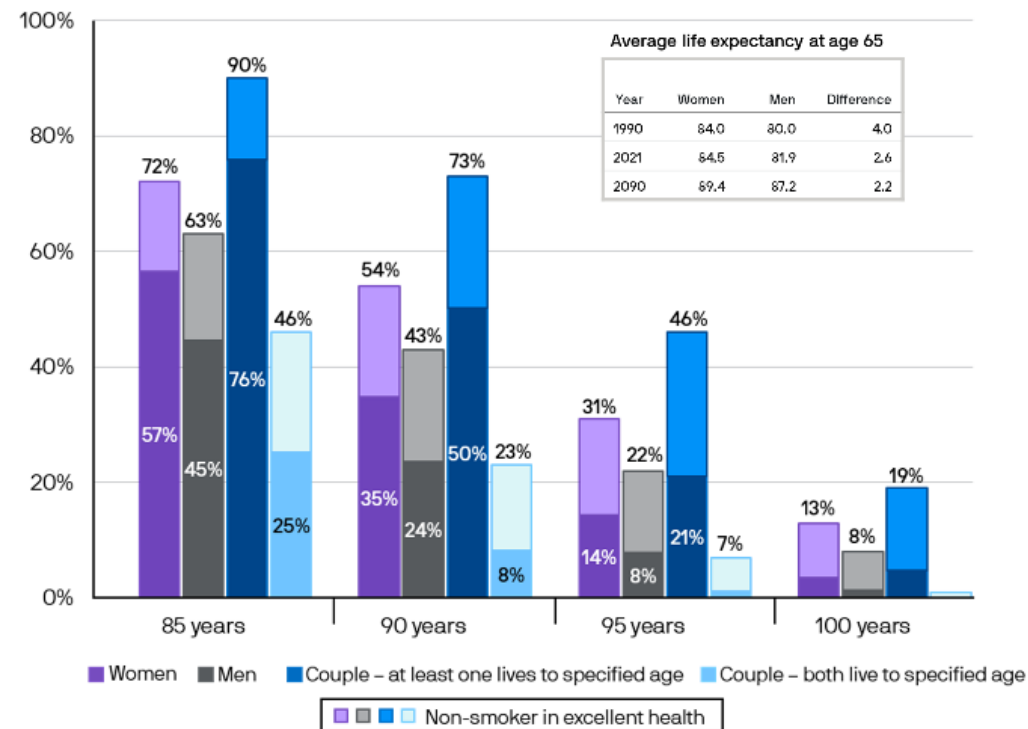
## J.P.Morgan Asset Management

Life expectancies in the United States continue to increase as more people are living to older ages.

This chart shows the probability that 65-year-old men and women today will reach various ages. For a 65-year-old couple, there is nearly an even chance that one of them will live to age 90 or beyond.

Individuals should plan for living well beyond the average – to age 95 or even 100 – especially those in good health. For non-smokers in excellent health, there is almost one in three chance that women will live to age 95 or beyond and one in five chance that men will live to age 95 or beyond.

If you're age 65 today, the probability of living to a specific age or beyond

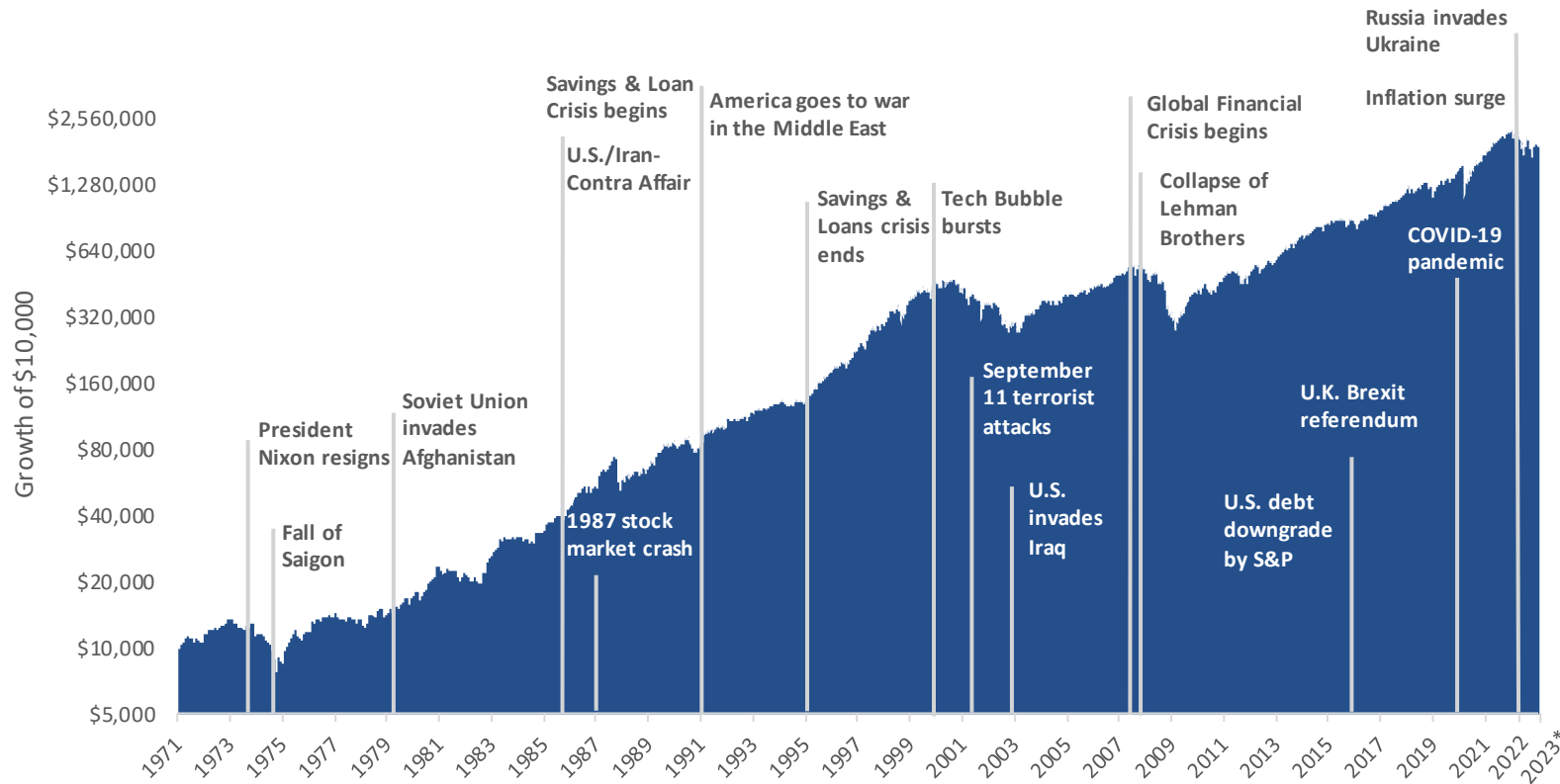


Source (chart): Social Security Administration, Period Life Table, 2019 (published in the 2022 OASDI Trustees Report); American Academy of Actuaries and Society of Actuaries, Actuaries Longevity Illustrator, <http://www.longevityillustrator.org/> (accessed September 29, 2022), J.P. Morgan Asset Management.

Source (text): Social Security Administration 2022 OASDI Trustees Report.

# Market resiliency

Through decades of conflict and uncertainty, markets have generally produced long-term growth.



## What is this chart showing?

This chart shows that \$10,000 invested in the S&P 500 from January 1, 1971, to September 30, 2023, grew to nearly \$2.1 million throughout various crisis events. This equates to an annualized return of more than 10.5%.

## Why is it important?

Market volatility has always been a source of concern for investors — whether it's caused by geopolitical events, pandemics, inflation, interest rates or other economic conditions.

It's important to remember that while current events may feel unprecedented to us, markets have seen and tackled these types of challenges before — and are poised to do so again.

Source: Morningstar Direct, S&P 500 Total Return Index, January 1, 1971, through September 30, 2023. Scale is logarithmic. **Past performance is no guarantee of future results.** This chart is for illustrative purposes only and not indicative of any actual investment. Investors cannot invest directly in an index. Index returns do not reflect any fees, expenses, or sales charges. Stocks are not guaranteed and have been more volatile than the other asset classes. These returns were the result of certain market factors and events which may not be repeated in the future. The information presented is not intended to constitute an investment recommendation for, or advice to, any specific person. \*Data as of September 30, 2023.



# Effect of withdrawal rates and portfolio allocations

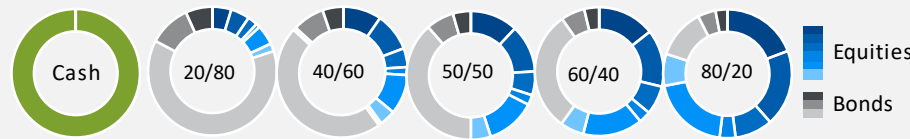
**J.P.Morgan**  
Asset Management

The table on the left shows the probability of systematic withdrawal rates ranging from 1-10% successfully lasting for 35 years given various diversified asset allocations.

The table on the right reflects the probability of success after 30 years.

## Likelihood of success after 35 years

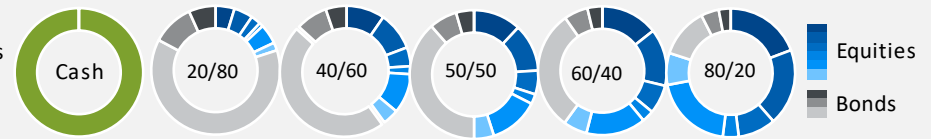
Various initial withdrawal rates and diversified asset allocations



Initial withdrawal rate	1%	95-100	95-100	95-100	95-100	95-100
	2%	95-100	95-100	95-100	95-100	95-100
	3%	0-5	95-100	95-100	95-100	90-95
	4%	0-5	55-60	70-75	70-75	75-80
	5%	0-5	5-10	30-35	35-40	45-50
	6%	0-5	0-5	5-10	10-15	20-25
	7%	0-5	0-5	0-5	0-5	5-10
	8%	0-5	0-5	0-5	0-5	0-5
	9%	0-5	0-5	0-5	0-5	0-5
	10%	0-5	0-5	0-5	0-5	0-5

## Likelihood of success after 30 years

Various initial withdrawal rates and diversified asset allocations



Initial withdrawal rate	1%	95-100	95-100	95-100	95-100	95-100	High Confidence	
	2%	95-100	95-100	95-100	95-100	95-100		
	3%	95-100	95-100	95-100	95-100	95-100		
	4%	0-5	75-80	85-90	80-85	80-85	80-85	Med Confidence
	5%	0-5	20-25	45-50	50-55	55-60	55-60	
	6%	0-5	0-5	15-20	20-25	30-35	35-40	
	7%	0-5	0-5	0-5	5-10	10-15	20-25	Low Confidence
	8%	0-5	0-5	0-5	0-5	0-5	10-15	
	9%	0-5	0-5	0-5	0-5	0-5	5-10	
	10%	0-5	0-5	0-5	0-5	0-5	0-5	

Source: J.P. Morgan Asset Management. This chart is for illustrative purposes only and must not be used, or relied upon, to make investment decisions. Portfolios are described using equity/bonds. For asset allocation details, see "Model Portfolio Details" on the Disclosure page. J.P. Morgan Asset Management's (JPMAM) model is based on a blend of proprietary Long-Term Capital Market Assumptions (first 10 years) and equilibrium returns (25 years). The resulting projections include only the benchmark return associated with the portfolio and do not include alpha from the underlying product strategies within each asset class. The yearly withdrawal amount (1% to 10%) is set as a fixed percentage of the initial amount of \$1,000,000 and is then inflation adjusted over the period (2.3%). The percentile outcomes represent the percentage of simulated results with an account balance greater than \$0 after 35 years (e.g., "95-100" means that 95-100% of simulations had account balances greater than \$0 after 35 years). Overlap percentiles are included in the lower bracket (e.g., 80 is included in "75-80"; 85 is included in "80-85"). Allocations, assumptions and expected returns are not meant to represent JPMAM performance. Given the complex risk/reward trade-offs involved, we advise clients to rely on judgment as well as quantitative optimization approaches in setting strategic allocations. References to future returns for either asset allocation strategies or asset classes are not promises or even estimates of actual returns a client portfolio may achieve.

# The power of a retirement paycheck

## J.P.Morgan Asset Management

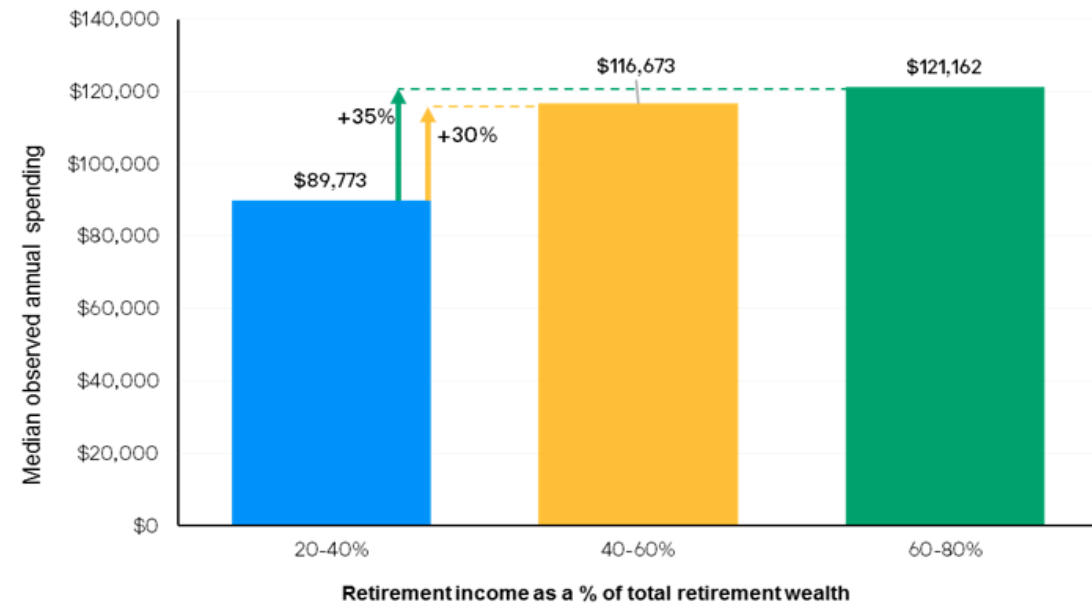
When comparing households with similar total retirement wealth, those who are more heavily weighted to retirement income spend significantly more per year. Total retirement wealth includes investable assets plus the present value of retirement income sources like Social Security, pensions and annuities.

Source: Chase data including select Chase credit and debit card, electronic payment, ATM withdrawal and check transactions in 2022. Information that would have allowed identification of specific customers was removed prior to the analysis. Asset estimates for de-identified and aggregated households supplied by IXI/Equifax, Inc. \*Total retirement wealth is the sum of investable wealth and the present value of observed retirement income sources including Social Security (inflated), pensions and annuities (both not inflated) until age 90. Inflation rate assumption is 2.5%. Observed retirement income sources are adjusted to pre-tax values to be consistent with investable wealth. The 40-60% retirement income percentile mean values: Total retirement wealth: \$3.6M comprised of \$1.9M of investable wealth and \$1.7M of total retirement income (present value of \$102k annual retirement income until age 90).

### Spending levels: total retirement wealth\* \$3-5M

#### Spending based on level of retirement income ages 70-75

Median annual spending



Source: J.P. Morgan Asset Management, "Annuities Improve Outcomes," 2023.

# Sequence of returns: A tale of two investors



## Investor 1

- \$500,000 investment
- 6% average annual return
- 4% withdrawals, increasing 2% each year
- Negative returns during early years
- Ran out of money after only 24 years
- Positive returns in later years were not enough to maintain income



## Investor 2

- \$500,000 investment
- 6% average annual return
- 4% withdrawals, increasing 2% each year
- Positive returns early in retirement
- Money lasted much longer, even with negative returns in later years
- Will likely have a legacy to leave behind

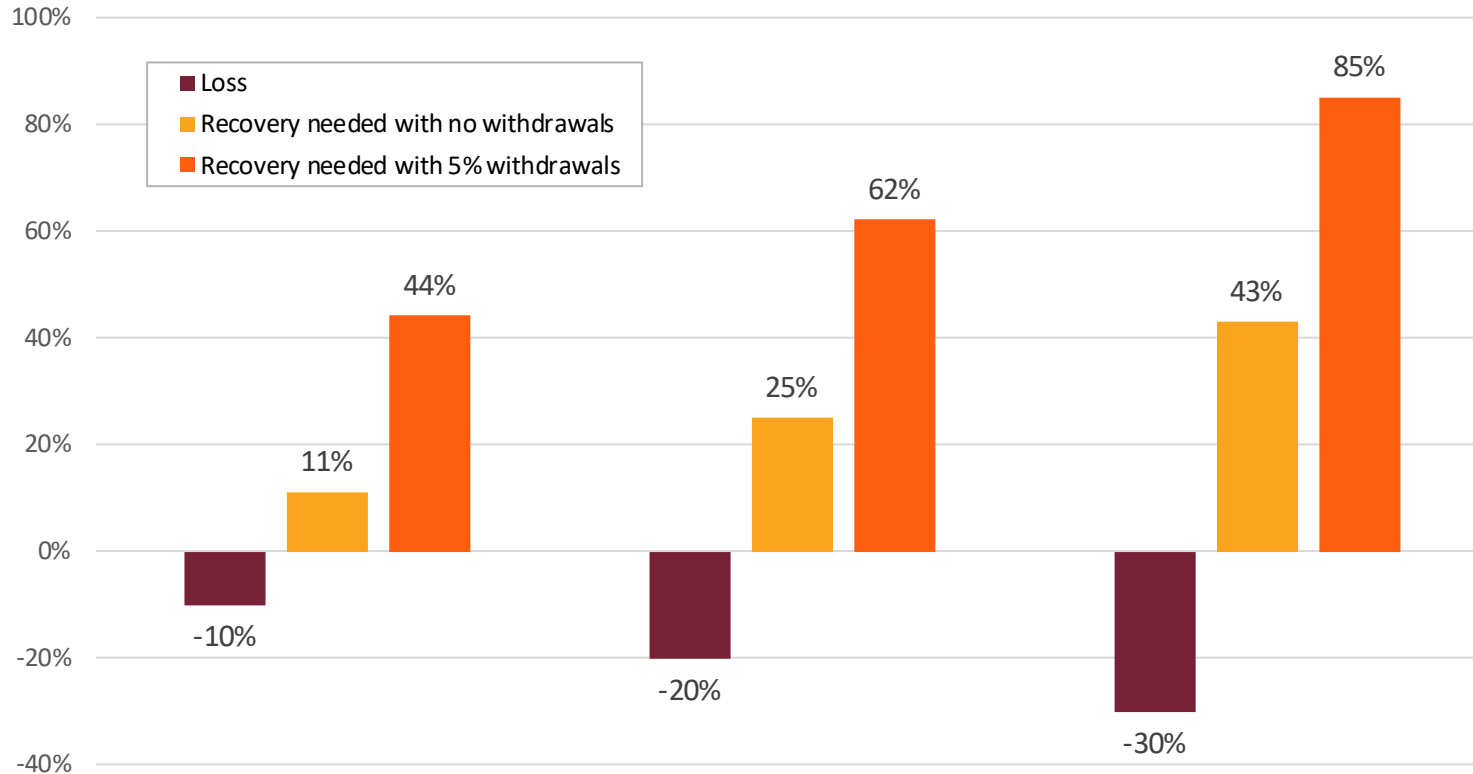
Investor 1's portfolio			
Year	Annual return	4% withdrawals	Year-end value
1	-17.37%	\$20,000	\$393,112
2	-29.72%	\$20,400	\$258,955
3	31.55%	\$20,808	\$307,692
4	19.15%	\$21,224	\$336,262
5	-11.50%	\$21,648	\$274,672
6	1.06%	\$22,081	\$250,973
7	12.31%	\$22,523	\$251,798
8	25.77%	\$22,973	\$282,448
9	-9.72%	\$23,433	\$230,001
10	14.76%	\$23,901	\$231,642
11	17.27%	\$24,379	\$238,073
12	1.39%	\$24,867	\$211,860
13	26.34%	\$25,364	\$230,248
14	14.63%	\$25,872	\$229,405
15	2.03%	\$26,389	\$202,800
16	12.41%	\$26,917	\$192,932
17	27.26%	\$27,455	\$205,177
18	-6.56%	\$28,004	\$161,578
19	26.31%	\$28,564	\$162,641
20	4.46%	\$29,136	\$135,019
21	7.06%	\$29,718	\$108,185
22	-1.54%	\$30,313	\$72,488
23	34.11%	\$30,919	\$50,047
24	20.26%	\$31,537	\$17,148
25	31.01%	\$32,168	<b>\$0</b>

Investor 2's portfolio			
Year	Annual return	4% withdrawals	Year-end value
1	31.01%	\$20,000	\$623,280
2	20.26%	\$20,400	\$718,652
3	34.11%	\$20,808	\$927,687
4	-1.54%	\$21,224	\$884,739
5	7.06%	\$21,648	\$915,974
6	4.46%	\$22,081	\$925,627
7	26.31%	\$22,523	\$1,130,772
8	-6.56%	\$22,973	\$1,026,146
9	27.26%	\$23,433	\$1,264,952
10	12.41%	\$23,901	\$1,382,978
11	2.03%	\$24,379	\$1,374,184
12	14.63%	\$24,867	\$1,533,332
13	26.34%	\$25,364	\$1,888,699
14	1.39%	\$25,872	\$1,872,443
15	17.27%	\$26,389	\$2,146,203
16	14.76%	\$26,917	\$2,411,156
17	-9.72%	\$27,455	\$2,133,502
18	25.77%	\$28,004	\$2,625,276
19	12.31%	\$28,564	\$2,891,304
20	1.06%	\$29,136	\$2,867,671
21	-11.50%	\$29,718	\$2,490,015
22	19.15%	\$30,313	\$2,905,516
23	31.55%	\$30,919	\$3,749,043
24	-29.72%	\$31,537	\$2,590,267
25	-17.37%	\$32,168	<b>\$2,095,564</b>

Source: This hypothetical is for illustrative purposes only and does not reflect the performance of any product. Investor 1's portfolio is based on S&P 500 index returns, price only (dividends not reinvested), from December 31, 1972, to December 31, 1997. Investor 2's portfolio is based on reversing Investor 1's returns. Indices are unmanaged and unavailable for direct investment. **Past performance does not indicate future results.**

# Mathematics of loss

## Gains required to recover from losses



Source: Lincoln Financial Group.

The calculation of the cumulative gains required over five years with withdrawals includes the initial loss (-10%, -20%, -30%) and the continued 5% annual withdrawals from the portfolio. It does not include the impact of investment returns. This is a hypothetical example. No actual investment is being illustrated.

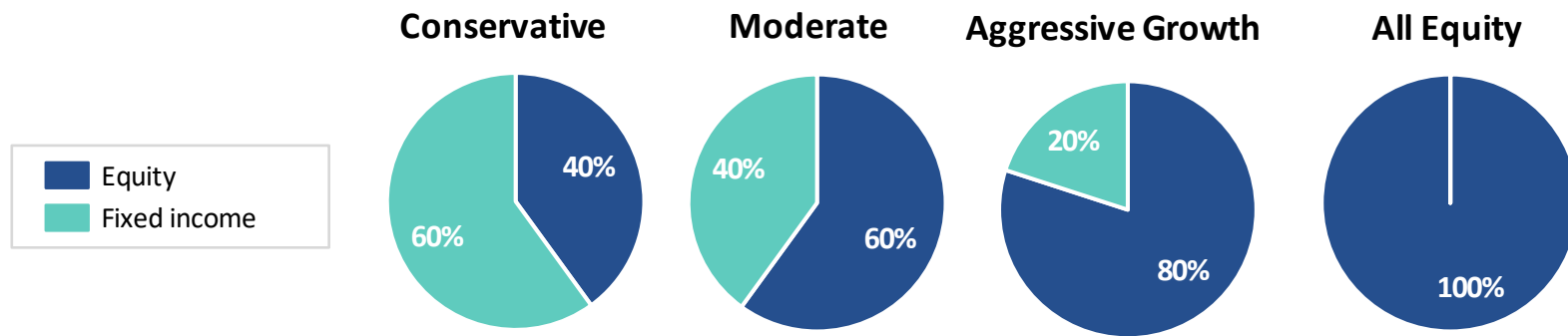
## What is this chart showing?

This chart shows the gains needed to offset losses, both with and without distributions.

## Why is it important?

Many investors underestimate the gains needed to recover from investment losses — especially when withdrawals are being taken. Recouping losses always requires a larger percentage of gains than the loss itself to fully recover.

# The value of diversification



Average annual return	9.25%	10.40%	11.54%	12.69%
Standard deviation (Volatility)	8.53%	10.78%	13.47%	16.38%
Sharperatio (Risk adjusted return)	0.66	0.63	0.59	0.55
Worst 12-month return	-16.09%	-25.17%	-34.24%	-43.32%
Best 12-month return	42.61%	48.80%	54.99%	61.18%

## What is this chart showing?

This chart shows return, volatility, and risk-adjusted return statistics for four hypothetical portfolio mixes.

## Why is it important?

Diversification, or investing in a variety of assets such as stocks and bonds, has historically helped reduce the overall risk of a portfolio and improve risk-adjusted returns over time.

**Past performance is not indicative of future returns.** Index performance is for illustrative purposes only. You cannot invest directly in the index.

# Impact of being out of the market

## J.P.Morgan Asset Management

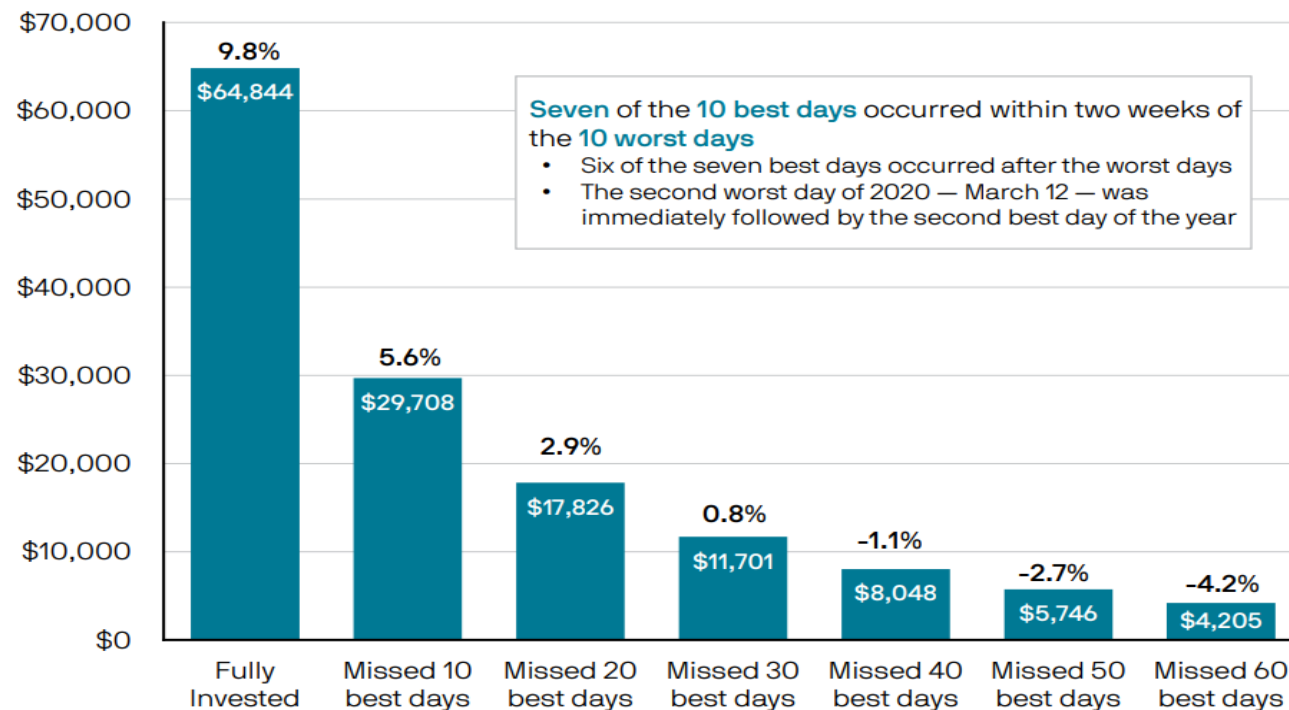
Missing the best days can be costly, while avoiding the worst days can be beneficial. However, because the best days often follow the worst, it is nearly impossible to accurately time the market.

Investing for the long term in a well-diversified portfolio can help drive better outcomes.

Source: J.P. Morgan Asset Management, Guide to Retirement. J.P. Morgan Asset Management analysis using data from Bloomberg. Returns are based on the S&P 500 Total Return Index, an unmanaged, capitalization-weighted index that measures the performance of 500 large capitalization domestic stocks representing all major industries. Indices do not include fees or operating expenses and are not available for actual investment. The hypothetical performance calculations are shown for illustrative purposes only and are not meant to be representative of actual results while investing over the time periods shown. The hypothetical performance calculations are shown gross of fees. If fees were included, returns would be lower. Hypothetical performance returns reflect the reinvestment of all dividends. The hypothetical performance results have certain inherent limitations. Unlike an actual performance record, they do not reflect actual trading, liquidity constraints, fees and other costs. Also, since the trades have not actually been executed, the results may have under- or overcompensated for the impact of certain market factors such as lack of liquidity. Simulated trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. Returns will fluctuate and an investment upon redemption may be worth more or less than its original value. Past performance is not indicative of future returns. An individual cannot invest directly in an index. Data as of December 31, 2022.

### Returns of the S&P 500

Performance of a \$10,000 investment between January 1, 2003 and December 30, 2022

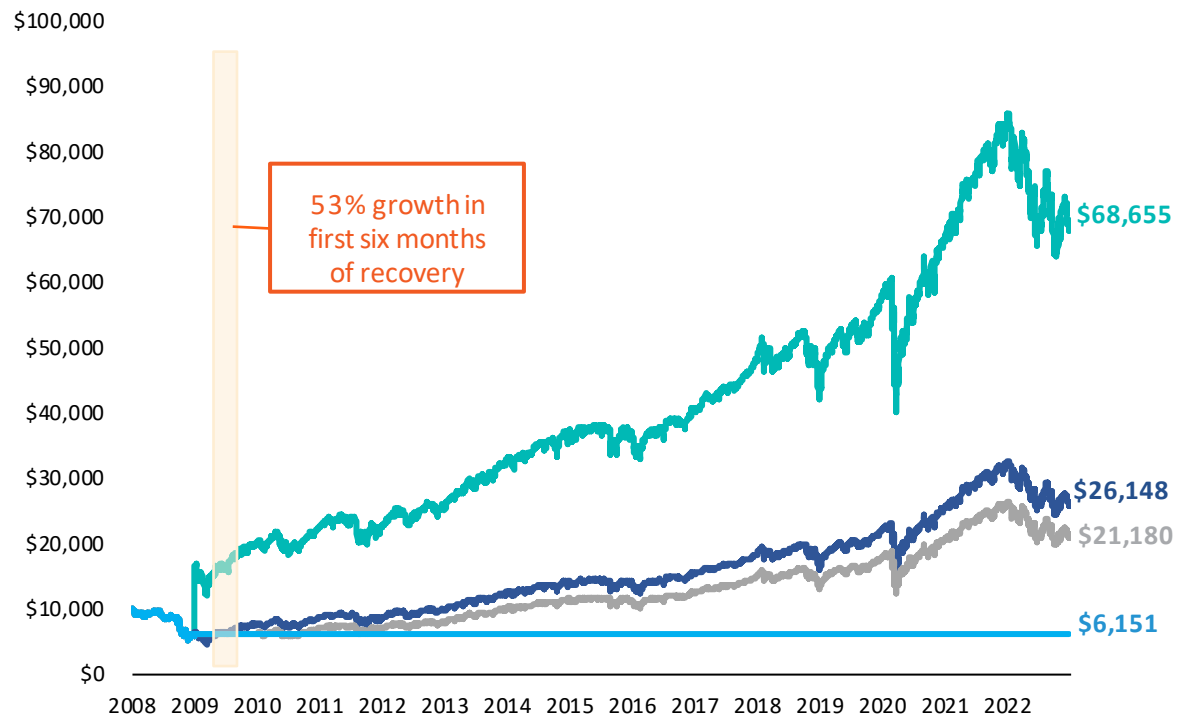


Source: J.P. Morgan Asset Management, Guide to Retirement.

# Your response to volatility matters

## Four investor reactions to the 2008 Financial Crisis

Hypothetical growth of \$10,000 investment, January 2008 to December 2022



### Opportunistic Investor

Invested an additional \$10,000 at the start of 2009



### Steady Investor

Stayed the course, making no changes to portfolio



### Uncertain Investor

Moved to cash at the start of 2009 and reinvested after 1 year



### Apprehensive Investor

Moved to cash at the start of 2009 and remained there

## What is this chart showing?

This chart shows how four different investors may have responded to the market volatility during the 2008 Financial Crisis.

## Why is it important?

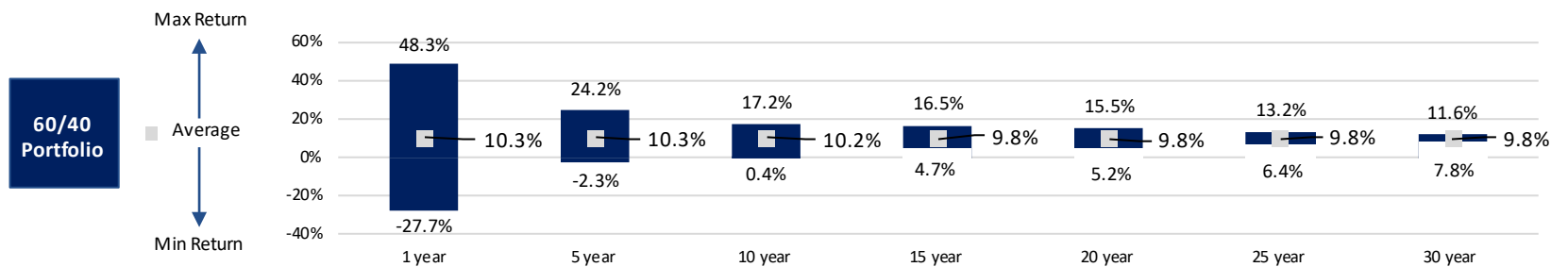
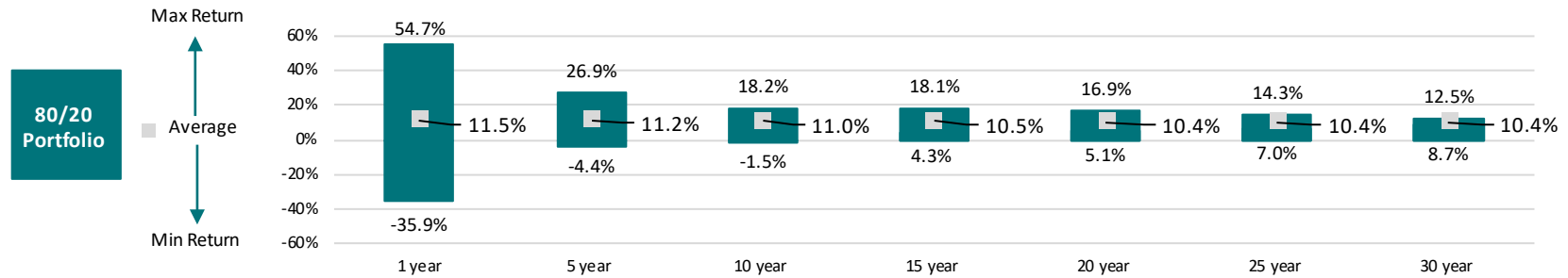
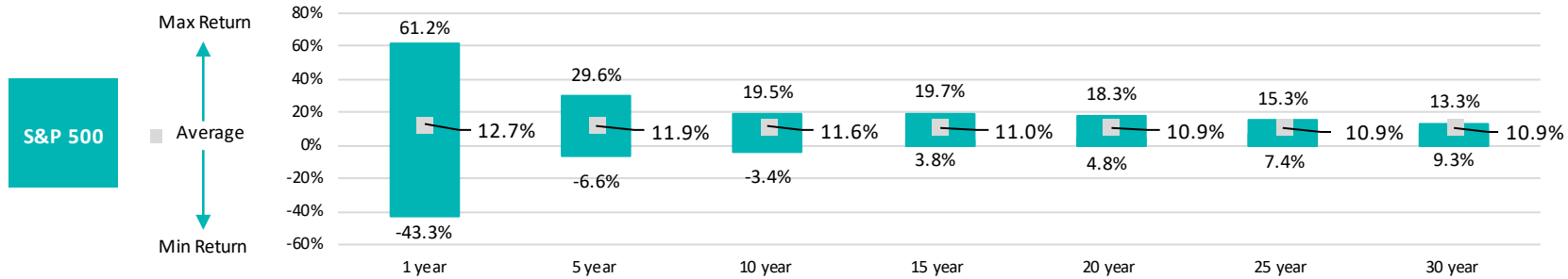
Investors can use this to help understand how different reactions to market volatility can impact their long-term outcomes.

While the steady investor outperformed those who moved to cash, the opportunistic investor who invested an additional \$10,000 during this period of market volatility had the most positive outcome of the group.

Source: Morningstar, Lincoln Financial Group. 1/1/2008 – 12/31/2022. S&P 500 Price Return Index used, which does not include dividends. Cash assumed to have a net yield of 0%. **Past performance is not indicative of future returns.** You cannot invest directly in an index. All indices are unmanaged and do not include fees or expenses. Please see the back of this presentation for index definitions and disclosures.

# Time in the market, not timing the market

Rolling Returns, range of outcomes (1976–2022)



## What is this chart showing?

This chart shows rolling returns of the S&P 500 index, as well as an 80/20 and 60/40 portfolio of U.S. stocks and core bonds over 1-, 5-, 10-, 15-, 20-, 25- and 30-year periods.

## Why is it important?

While returns can be volatile over short periods of time, staying the course over the long term in a balanced portfolio can help shrink the range of potential investment outcomes.

Source: Morningstar. 80/20 portfolio = 80% S&P 500 TR and 20% Bloomberg U.S. Aggregate Bond Index TR. 60/40 portfolio = 60% S&P 500 TR and 40% Bloomberg U.S. Aggregate Bond Index TR.

Rolling returns are annualized on a 5-, 10-, 15-, 20-, 25- and 30-year basis. Using monthly S&P 500 total return and Bloomberg U.S. Aggregate Bond Index data starting in January of 1976, summary return statistics were calculated based on the total number of rolling returns periods existing for each given period of time with a one-month step. For each rolling return period, a range of returns (maximum and minimum) as well as the average return has been calculated to provide a historical reference for how equities and balanced portfolios have performed. Returns >1yr annualized. **Past performance is not indicative of future returns.**



# Despite the headlines...it's always a good time to invest for the long term

Year	Worrisome event	Cumulative Returns <sup>1</sup>	Year	Worrisome event	Cumulative Returns <sup>1</sup>
2000	Tech wreck; bubble bursts	<b>357.4%</b>	2012	Second Greek bailout; existential threat to Euro	<b>328.3%</b>
2001	September 11	<b>403.3%</b>	2013	Taper Tantrum	<b>269.2%</b>
2002	Dot-com bubble; market down -49%	<b>471.2%</b>	2014	Ebola epidemic; Russia annexes Crimea	<b>178.9%</b>
2003	War on Terror – U.S. invades Iraq	<b>633.2%</b>	2015	Global deflation scare; China FX devaluation	<b>145.3%</b>
2004	Boxing Day Tsunami kills 225,000+ in Southeast Asia	<b>469.8%</b>	2016	Brexit vote; U.S. election	<b>142.0%</b>
2005	Hurricane Katrina	<b>413.8%</b>	2017	Fed rate hikes; North Korea tensions	<b>116.1%</b>
2006	Not a bad year, but Pluto demoted from planet status	<b>389.8%</b>	2018	Trade war; February inflation scare	<b>77.4%</b>
2007	Subprime meltdown	<b>323.0%</b>	2019	Trade war; impeachment inquiry, global growth slowdown	<b>85.5%</b>
2008	Global Financial Crisis; bank failures	<b>301.0%</b>	2020	Covid-19 pandemic; U.S. presidential election	<b>41.1%</b>
2009	GFC; market down -56%; depths of despair	<b>536.4%</b>	2021	Omicron variant, China regulatory crackdown	<b>19.2%</b>
2010	Flash crash; BP oil spill; QE1 ends	<b>403.2%</b>	2022	Russia invasion of Ukraine, inflation hits 40-year high	<b>(7.4%)</b>
2011	S&P downgrades U.S. debt; 50% write-down of Greek debt	<b>337.4%</b>	2023	Fed rate hikes; regional bank failures, recession concerns	<b>13.1% YTD</b>

## What is this chart showing?

This chart shows annual worrisome events, along with the cumulative returns from 2000 through September 2023.

## Why is it important?

It always feels like there are compelling reasons not to invest. This is just a sampling of worrying headlines over the past two decades.

Bad news may make short-term waves, but over time, those waves tend to smooth out and not disturb the long-term trajectory of markets.

<sup>1</sup>Cumulative total returns for S&P 500 Index are calculated from December 31 of the year prior to September 30, 2023, sourced from Morningstar. Worrisome events sourced from J.P. Morgan Private Bank from 2000-2021, Lincoln Financial Group for 2022 and 2023. You cannot invest directly in an index. **Past performance does not guarantee or predict future performance.**

# Trying to time recessions may not pay off



## Recession timers



## Buy and hold

### Investor 1

“World’s Best”  
Recession Timer

Sold at start  
of each recession,  
bought at end  
of each recession

7.1%

### Investor 2 & 3

“Close but no Cigar”  
Recession Timers

Sold 3 months  
before each  
recession,  
bought 3 months  
after each recession

6.6%

Sold 1 year  
before each  
recession,  
bought 1 year  
after each recession

5.4%

### Investor 4

Buy and Hold Investor

Bought Jan. 1, 1940,  
held thru Dec. 31, 2022

7.1%

Recession  
Timing  
Scenarios  
(1940 – 2022)

S&P 500  
Price Return  
(Annualized)

## What is this chart showing?

This chart shows four different recession timing scenarios, along with the corresponding annualized S&P 500 price return of each.

## Why is it important?

The buy and hold investor had the same exact return as the perfect recession timer — and without the anxiety of trying to time the market.

**Past performance is not indicative of future returns.** Index performance is for illustrative purposes only. You cannot invest directly in the index.

# Long-term care planning

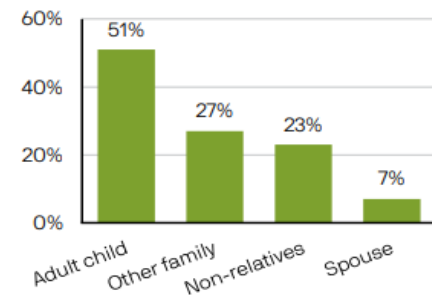
## J.P.Morgan Asset Management

Family members and friends often provide unpaid eldercare—but it typically falls on adult children.

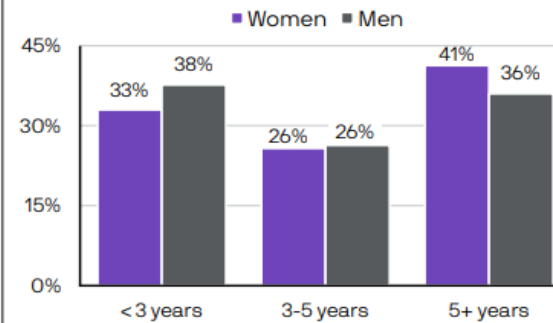
Duration of paid care varies, but when used, 36% of men and 41% of women need it for five years or more. The lifetime cost of care averages \$277,900 for women and \$200,400 for men, although there is a wide range of outcomes.

A care plan may help individuals avoid burdening others, ensure their family understands their wishes, and allow them to have more control over their care.

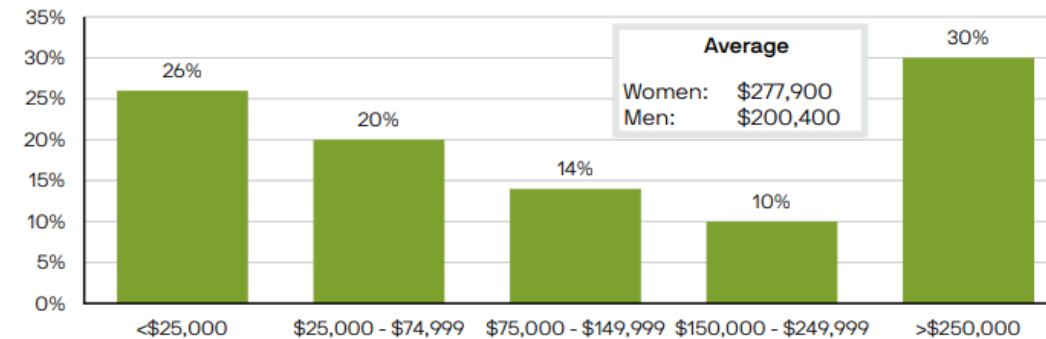
Providers of unpaid eldercare



Duration of paid care 65+ if paid care is used



Lifetime cost of care 65+ if paid care is used



Source: Long-term care includes needing help with two or more activities of daily living such as eating, dressing, bathing, transferring, and toileting or severe cognitive impairment. Average of cost is in 2020 dollars and includes all payors.  
 Source: U.S. Department of Health and Human Services, APSE Brief, August 2022, "Long-term Services and Supports for Older Americans," Risks and Financing, 2022; "Retirement Security, Some Parental and Spousal Caregivers Face Financial Risk," May 2019, Figure 1. Latest data available as of December 31, 2022.

Source: J.P. Morgan Asset Management, "Guide to Retirement," 2023.

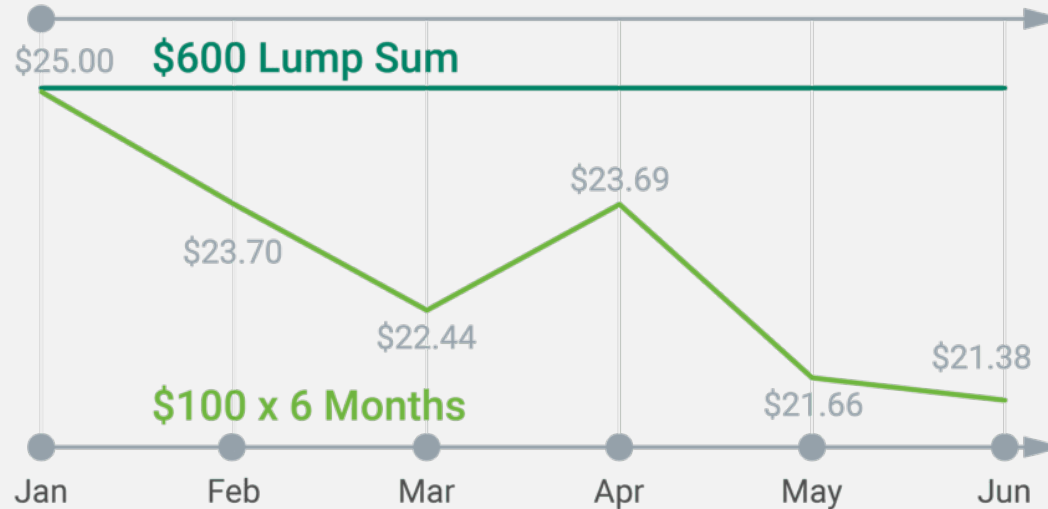
# Dollar cost averaging during a bear market



Dollar cost averaging can keep investors in the market — and working toward their goals — regardless of what the market is doing. And in a bear market, they may have the opportunity to buy at a lower price.

The chart on the right is a hypothetical example of investing in a bear market. Suppose an investor has \$600 in January and wants to buy a mutual fund. They can either invest the full \$600 in January when the share price is \$25, or they can invest \$100 per month over six months at various share prices.

While results may vary in different markets, dollar cost averaging can help by taking the temptation to time purchases off an investor's plate, helping them stick to their long-term plan.



Share price: \$25  
Shares purchased: 24  
Return: -14.50%

Avg. Share price: \$22.90  
Shares purchased: 26.2  
Return: -6.64%

Source: American Century Investments. This material has been prepared for educational purposes only. It is not intended to provide, and should not be relied upon for, investment, accounting, legal or tax advice.

This information is for illustrative purposes only and is not intended to represent any particular investment product. This dollar-cost averaging strategy does not assure a profit or protect against loss in declining markets. To fully take advantage of it, be prepared to continue investing at regular intervals, even during economic downturns.

# How expiration of the TCJA may impact taxes in the future



Today's tax code has been in place since the Tax Cuts and Jobs Act (TCJA) was signed into law in late 2017. But tax rates could rise in a couple of years unless Congress acts.

Under the current law, these tax brackets would expire at the end of 2025 and be replaced with the tax brackets that were in place prior to the TCJA. Still, Congress could act before 2025 and extend the current tax structure or make other changes.

This chart shows a comparison of how taxes may differ upon expiration of the TCJA.

## Current tax rates and projections upon sunset of TCJA

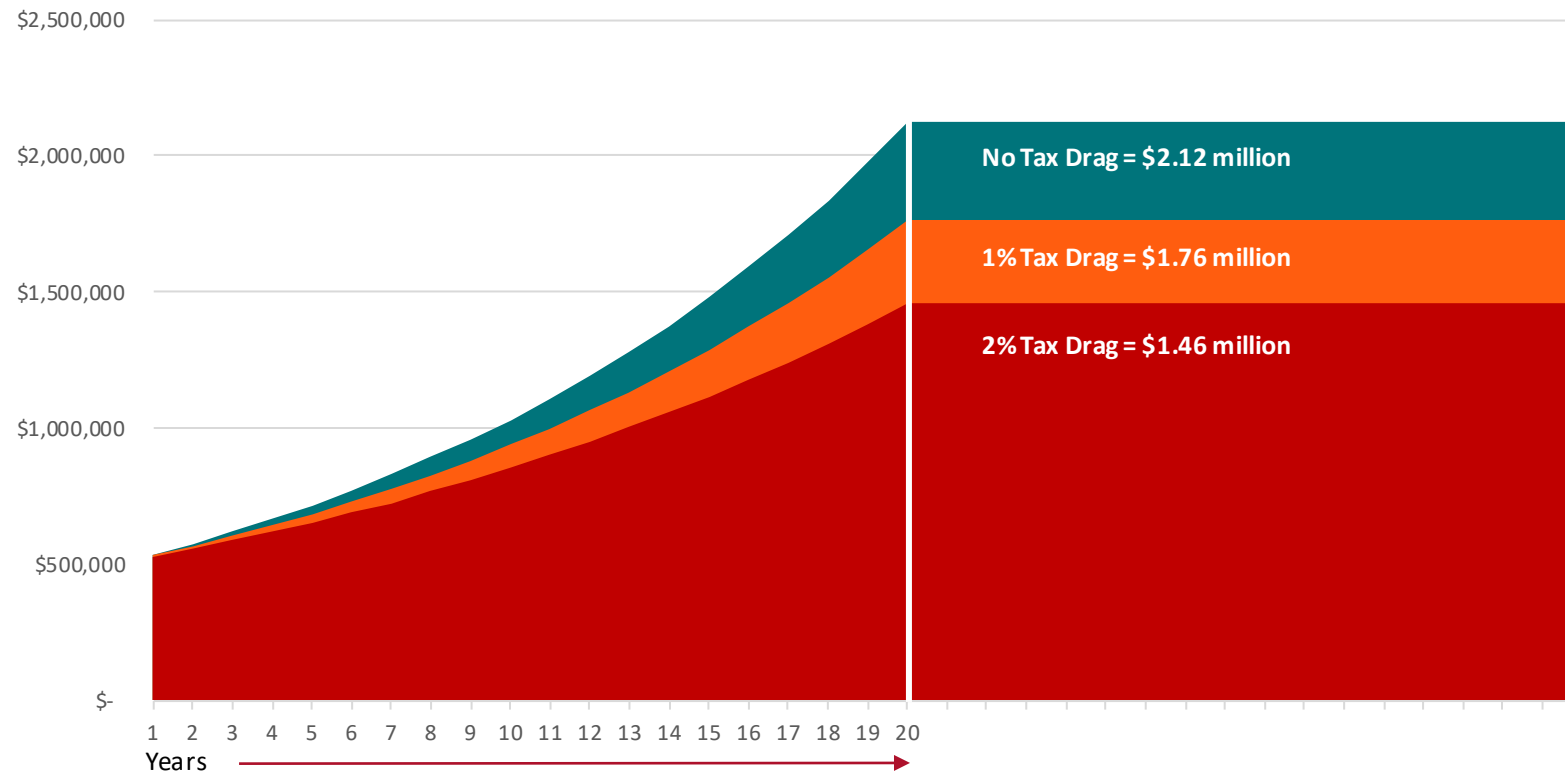
### Married couples filing a joint return:

Taxable Income	2023 tax rates	Projected tax rates	Difference
\$0 - \$22,000	10%	10%	0.0%
\$22,001 - \$89,450	12	15	3.0
\$89,451 - \$180,000	22	25	3.0
\$180,001 - \$190,750	22	28	6.0
\$190,751 - \$274,400	24	28	4.0
\$274,401 - \$364,200	24	33	9.0
\$364,201 - \$462,500	32	33	1.0
\$462,501 - \$490,000	35	33	2.0
\$490,001 - \$553,600	35	35	0.0
\$553,601 - \$693,750	35	39.6	4.6
Over \$693,750	37	39.6	2.6


Source: Putnam Investments. Internal Revenue Service and Putnam Research. Projected tax rates are estimated and based on analysis of 2017 tax rates prior to passage of the TCJA, with tax bracket figures adjusted to account for annual inflation adjustments through 2023. Figures in red indicate an increase in tax rate upon TCJA expiration. Figures in green indicate where tax rates at certain income levels would decrease upon expiration of the TCJA.

# Impact of taxes

Hypothetical growth of \$500,000 over 20 years at 7.5% per year, with 0%, 1% and 2% tax drag scenarios.



US Equity	International Equity	Fixed Income
1.8%	1.4%	1.3%
Lost to taxes each year*	Lost to taxes each year*	Lost to taxes each year*

 Every dollar paid in taxes is a dollar less invested for your long-term goals.

## What is this chart showing?

This chart shows the financial impact that taxes can have on a portfolio's growth over an extended period of time.

## Why is it important?

It is important for investors to understand how taxes could affect the growth of their portfolio, and to consider ways to improve after tax returns.

Note: This illustration is for hypothetical purposes only and may not represent an actual experience. Tax drag represents the reduction in portfolio returns due to taxes paid on distributions (stock dividends, bond dividends and capital gains). \*Average 5yr tax cost ratio as of 09/30/23 for U.S. funds within the Morningstar categories of U.S. equity, international equity, and taxable bond. Source: Morningstar. Assumes that distributions are taxed at the highest federal tax-rate prevailing for each type of distribution, and the appropriate current or historical federal tax rate is applied to each distribution date. State and local taxes are ignored, as are the effects of AMT, exemptions, phase-out credits, or any individual specific issues.

# Additional information

## Index Descriptions

**S&P 500 Index** is a market-cap weighted index that measures the performance of 500 widely held large capitalization stocks in the U.S. equity market. It is regarded as the best gauge of the U.S. equity market.

**Russell 2000 Index** measures the performance of the small cap segment of the U.S. equity universe. It is a subset of the Russell 3000.

**MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that measures equity market performance in large and mid cap representation across 27 emerging market countries.

**MSCI EAFE Index** is a free float-adjusted equity index that captures large and mid cap representation across 21 developed market countries, excluding the U.S. and Canada.

**MSCI All Country World Index (ACWI)** is a free float-adjusted market capitalization index that captures large and mid cap representation across 23 developed markets and 27 emerging market countries.

**Bloomberg Commodity Total Return Index** is composed of futures contracts and reflects the returns on a fully collateralized investment in the BCOM. This combines the returns of the BCOM with the returns on cash collateral invested in 13-week (3-month) U.S. Treasury bills.

**Bloomberg Barclays Global High Yield Index** is a multicurrency flagship measure of the global high yield debt market. The index represents the union of the U.S. High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices.

**The Bloomberg Barclays U.S. Aggregate Bond Index** is a broad-based flagship benchmark that measures the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS, ABS and CMBS.

**The FTSE Nareit All Equity REITs Index** is a free float-adjusted market capitalization-weighted index of U.S. equity REITs. Constituents of the index include all tax-qualified REITs with more than 50 percent of total assets in qualifying real estate assets other than mortgages secured by real property.

**The Bloomberg Barclays U.S. Treasury Bills 1-3 Month Index** includes all publicly issued zero coupon U.S. Treasury bills that have a remaining maturity of less than three months and at least one month, are rated investment-grade, are U.S.-dollar denominated, nonconvertible, and have \$300 million or more of outstanding face value.

**University of Michigan (UoM) Inflation Expectations** measures the percentage that consumers expect the price of goods and services to change during the next 12 months.

## Capital Market Expectations

- BlackRock: <https://www.blackrock.com/institutions/en-us/insights/charts/capital-market-assumptions,asofAugust2023.10-yearreturntimeperiod>.
- J.P. Morgan Asset Management, 2023 Long Term Capital Market Assumptions: <https://am.jpmorgan.com/us/en/asset-management/adv/insights/portfolio-insights/lcma/>.
- StateStreet: <https://www.ssga.com/us/en/intermediary/ic/insights/long-term-asset-class-forecasts-q2-2023,asofAugust2023.10+yearreturntimeperiod>.
- Goldman Sachs: Goldman Sachs: US Q2 2023 Multi-Asset Solutions (MAS) Team Strategic Long-Term Assumptions. 10-year return time period, as of June 30, 2023. <https://visit.lfg.com/GSMAS>

## Economic and Market Indicators

- Consumer sentiment based on month-end data, starting in Jan. 1978 to September 2023. +/- 1 std. deviation of historical value range from 98.29% to 71.87%.
- Economic expansion (CQQQ Index) based on QOQ % change data of quarterly data, starting in June 1947 to June 2023. +/- 1 std. deviation of historical value range from 7.81% to -1.46%.
- Inflation (CPI) based on YOY % change of monthly CPI seasonally adjusted data, starting in Jan. 1947 to August 2023. +/- 1 std. deviation of historical value range from 7.04% to 0.46%.
- Market volatility (VIX) based on average daily closing values for the month of the CBOE VIX index from Jan. 1990 to September 2023. +/- 1 std. deviation of historical value range from 27.19% to 12.05%.
- Unemployment based on month-end data, starting in Jan. 1948 to August 2023. +/- 1 std. deviation of historical value range from 7.42% to 4.01%.
- 10Y U.S. Treasury yield based on daily data, starting in Jan. 1962 to September 2023. +/- 1 std. deviation of historical value range from 8.86% to 2.90%.

# Disclosures

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