



Monthly Market Review

September 2026

Did You Know?

The Price of Capital

The rise in bond yields may be more than an inflation story. We explore that idea, what a higher cost of capital could mean for investors, and why diversification, valuation, and discipline remain important. Separately, we examine what history suggests about politics and equity market returns.

Academic Perspective

When Concentration Makes Sense

By Meir Statman, Ph.D.

Concentrated portfolios can be risky, but they may also help investors pursue ambitious goals. Behavioral portfolio theory offers a framework for balancing opportunity and financial security.

Market Review

- Global stocks advanced in the third quarter.
- U.S. stocks were among the top third-quarter performers, supported by solid corporate fundamentals and a resilient economy.
- U.S. Treasury yields rose amid higher oil prices and rising expectations for Fed rate hikes.

Appendix

- Glossary

Did You Know?

The Price of Capital

For much of the post-financial-crisis era, some investors worried that the world had too much capital and too few productive uses for it. Interest rates hovered near historic lows across developed markets, governments borrowed cheaply, and companies could finance ambitious projects at modest cost. An investment challenge of that era was determining how to invest in a world with easy access to capital.

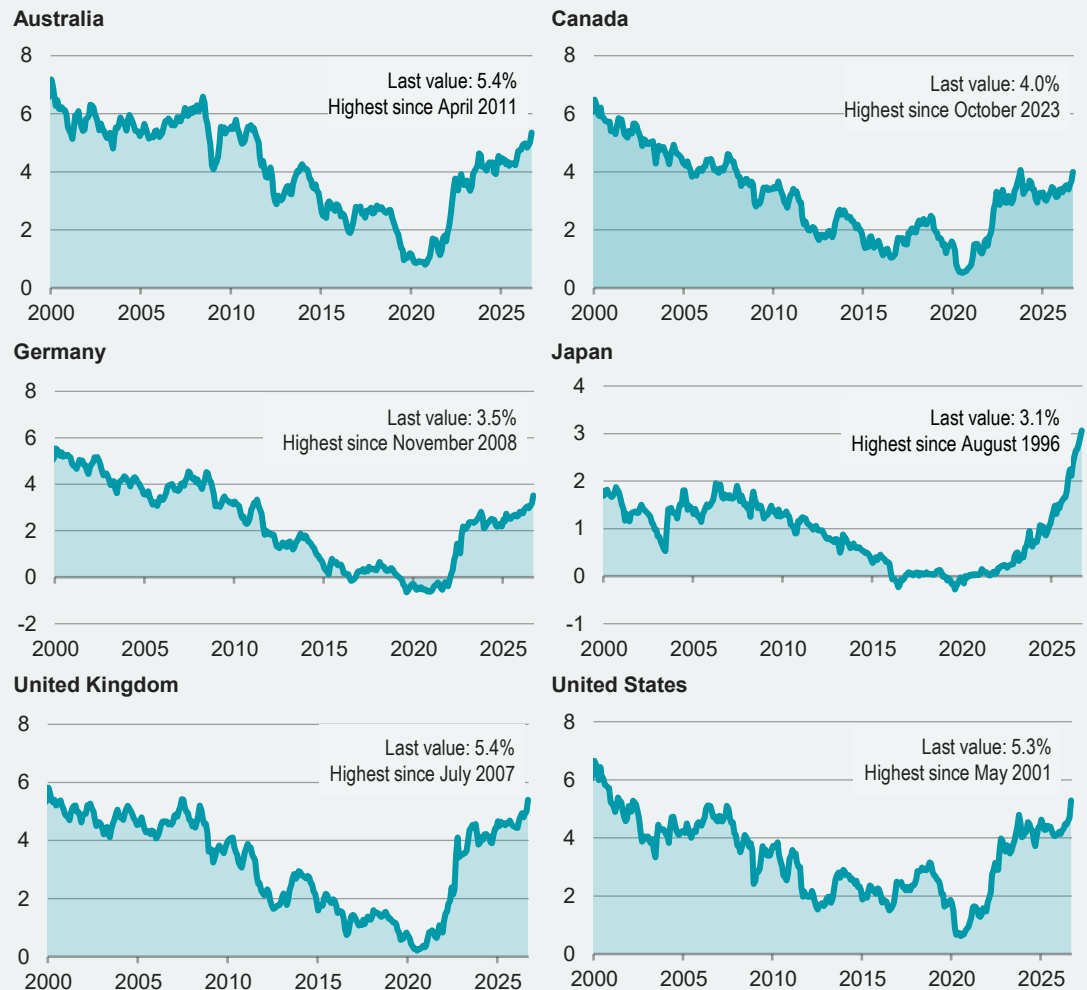
Today, the environment looks different. Government bond yields have risen sharply in recent years and moved higher again over the past month, with several countries approaching or exceeding post-pandemic highs, as shown in **Figure 1**. Inflation and central bank policy have clearly contributed to this move, but they may not be the only factors influencing yields.

At its core, an interest rate is the price of capital, balancing the willingness of investors to supply capital with the demand for investment and financing. Viewed through this lens, the recent rise in yields may represent more than a shift in inflation or monetary policy. It may reflect stronger demand for capital, less willingness to supply that capital, or some combination of the two.

Of course, the future path of yields remains uncertain. What is less uncertain is that a higher cost of capital raises the returns investors require from both fixed income and equities.

Figure 1 | Global Sovereign Bond Yields Are Near Multi-Decade Highs

10-Year Yields (%), January 2000–September 2026



Sources: FactSet and Organisation for Economic Co-operation and Development.

Notes: Data reflect OECD's monthly average 10-year constant maturity government bond yields. Last data point of each series reflect FactSet month-end data.

The Price of Capital

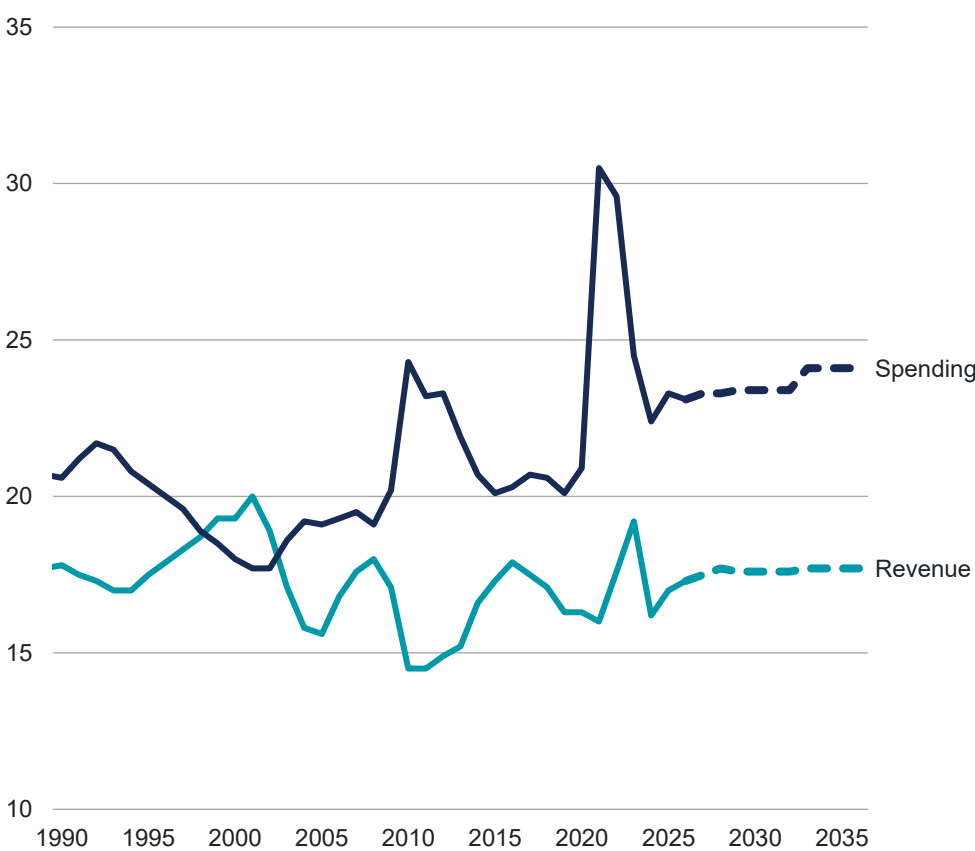
The Competition for Capital

Inflation remains an important part of the discussion surrounding higher yields. One reason inflation does not fully explain the rise in yields is that bond yields reflect both expected inflation and the return investors receive above inflation, known as the real yield. Across many developed markets, much of the recent increase in yields has come from higher real yields rather than higher inflation expectations. While higher energy prices linked to the war in Iran have raised near-term inflation concerns, longer-term inflation expectations have remained relatively stable, suggesting investors continue to view central banks as capable of preventing the energy shock from becoming persistent inflation.

Higher real yields have coincided with elevated government demand for capital. Fiscal deficits remain elevated across much of the developed world, adding to debt burdens that have accumulated over many years. As shown in **Figure 2**, U.S. federal spending exceeds tax revenue by roughly 6% of gross domestic product (GDP) and is projected to remain so for the foreseeable future. Meanwhile, debt issued during years of exceptionally low interest rates is increasingly refinanced at higher borrowing costs, pushing annual interest expense to nearly 4% of GDP. The combination of persistent deficits and rising interest costs has increased governments' need for capital across much of the developed world.

Figure 2 | U.S. Federal Budget Gap Is Expected to Persist

Federal revenue and spending as a percentage of GDP (1990–2035)



Sources: U.S. Office of Management and Budget (OMB) and Congressional Budget Office (CBO).

Notes: Federal revenue and spending are shown as a percentage of U.S. GDP. Historical data through 2025 are from the Office of Management and Budget. Projections for 2026-2035 are from the Congressional Budget Office. Dashed lines indicate projected values.

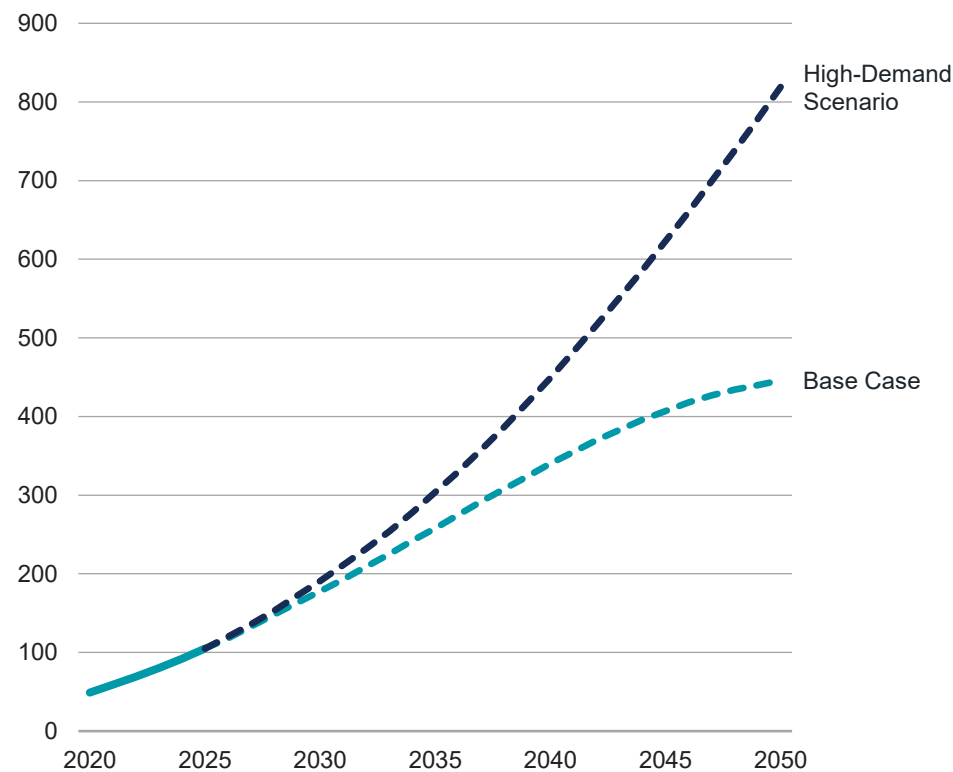
The Price of Capital

Yields may also be reacting partly to expectations of private-sector demand. Artificial intelligence (AI) has triggered one of the largest technology investment cycles in decades, with its promise to improve productivity. Capital expenditures among five major hyperscalers — Alphabet, Amazon, Meta, Microsoft, and Oracle — have risen dramatically and are projected to continue increasing in the coming years. Aggregate capital expenditures have grown from less than \$100 billion in 2020 to nearly \$700 billion in 2026. Importantly, these figures do not fully capture the scale of the buildout.

A significant increase in AI adoption would require additional investment across large parts of the economy. **Figure 3** illustrates one example, showing that data center electricity consumption is projected to more than double over the next decade under the U.S. government's base-case forecast. Meeting that demand would involve investment in power generation, transmission networks, substations, cooling systems, and other physical infrastructure. These projections illustrate how hyperscaler spending could contribute to a broader demand for capital.

Individually, none of these developments fully explains the rise in yields. Collectively, they illustrate how governments, businesses, and infrastructure projects may make larger claims on global savings at the same time. Because interest rates help balance the supply of savings with the demand for financing, these developments provide a useful framework for understanding the higher cost of capital.

Figure 3 | Data-Center Growth Is Increasing Demand for Power Infrastructure
U.S. commercial data-center server electricity consumption (billion kilowatt-hours, 2020–2050)



Source: U.S. Energy Information Administration.
Notes: Historical and projected U.S. commercial data-center server electricity consumption is shown in billion kilowatt-hours. The dashed lines are projections and represent the reference case and high electricity demand cases. Data are from the Annual Energy Outlook 2026, released in April.

The Price of Capital

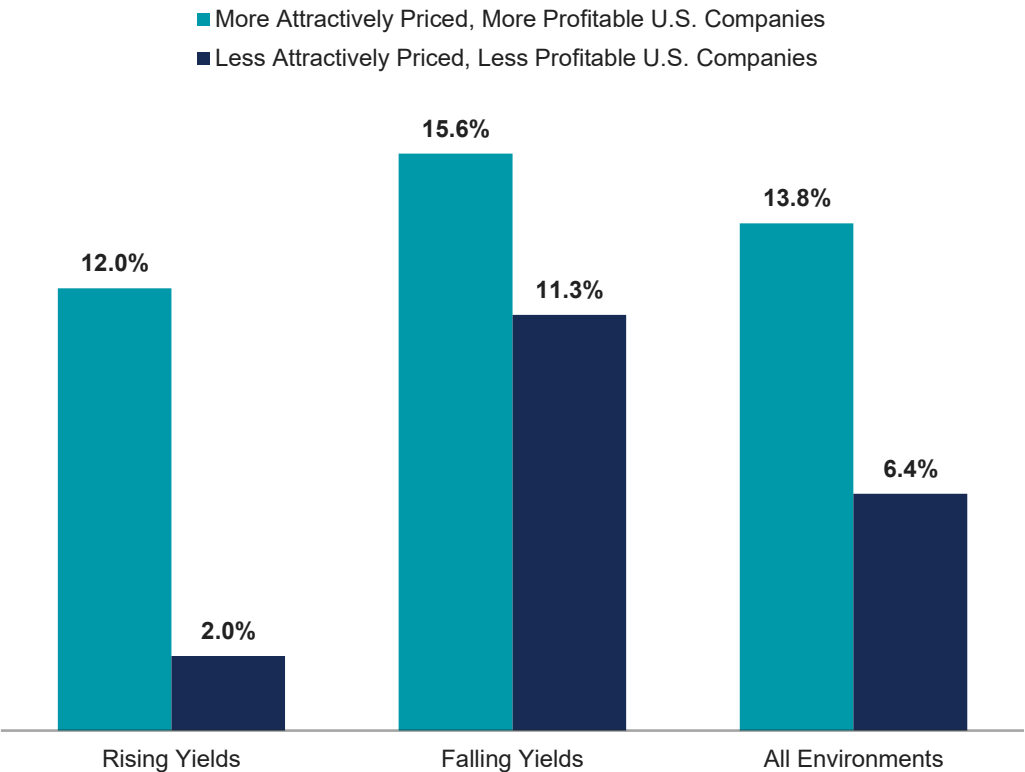
When Capital Matters More

A higher price of capital is not necessarily negative for equity markets. While yields are higher than they were for much of the post-financial-crisis period, many remain below their long-term historical averages, including the benchmark U.S. 10-year Treasury note. Investors have navigated both higher- and lower-rate environments over time, and equity markets have generated substantial long-term growth in both. Historical evidence can nevertheless provide some context for thinking about today's environment.

One perspective on how different types of companies have performed across interest-rate environments is shown in **Figure 4**. It divides the full historical sample into periods of either rising yields or falling yields and compares the returns of more attractively priced, more profitable U.S. companies with those of less attractively priced, less profitable companies. The more profitable, attractively priced group outperformed in both environments, as would be expected, and the return difference was larger when yields rose. These results suggest that disciplined attention to profitability and valuation has been rewarded in both rising- and falling-yield environments.

Figure 4 | Returns to Profitability and Valuation Have Persisted Across Yield Environments

Annualized returns during rising and falling 10-year U.S. Treasury yield environments (July 1963–July 2025)



Sources: Kenneth R. French Data Library, Federal Reserve Bank of St. Louis (FRED), and Avantis Investors calculations.
Notes: Monthly U.S. equity returns are from the Fama-French 5x5 portfolios sorted on book-to-market equity and operating profitability. More Attractively Priced, More Profitable Companies and Less Attractively Priced, Less Profitable Companies are market-cap-weighted composites from the most and least favorable regions of the 5x5 matrix, respectively. The analysis uses the full monthly history available from the Fama-French data library. Yield environments are based on monthly changes in the 10-year U.S. Treasury yield. Returns are annualized. **Past performance is no guarantee of future results.**

The Price of Capital

Fixed-income investors face a different set of considerations. Most bond indexes are weighted by debt outstanding, meaning issuers receive greater benchmark weight as they borrow more. As shown in **Figure 5**, that mechanic has materially changed the composition of the U.S. bond market. In fact, U.S. Treasury securities increased from less than one-quarter of the public investment-grade market in much of the 2000s to nearly one-half today.

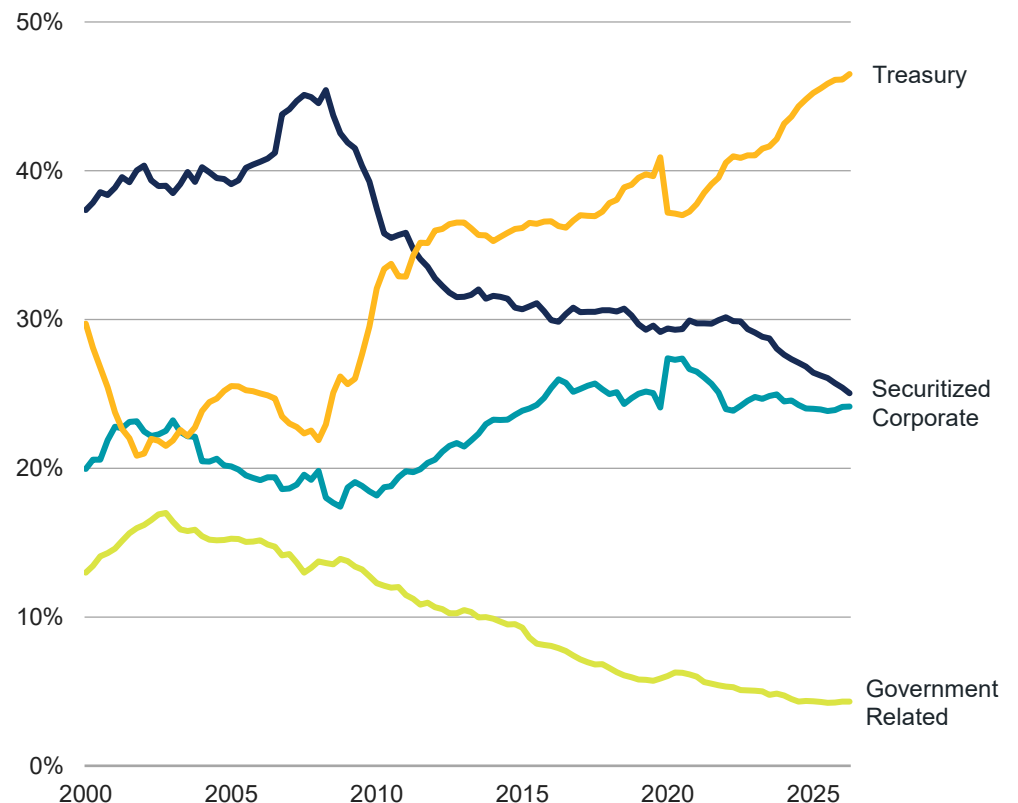
Treasury securities can provide liquidity, diversification, and protection. But their growing weight highlights an important distinction between equity and bond benchmarks. Equity indexes generally allocate more capital to companies that become more valuable. Bond indexes generally allocate more capital to issuers that create more debt. Benchmark composition, therefore, reflects where borrowing has occurred, not necessarily where investors receive the most attractive combination of yield, maturity, credit quality, and price.

A Disciplined Investment Process

Markets involve uncertainty. The challenge is not identifying every winner in advance. It is allocating capital in a way that balances expected returns and risks across a wide range of possible outcomes. A higher cost of capital may influence the opportunity set available to investors, but it does not change the importance of diversification, valuation, and a disciplined investment process. Those principles remain relevant across market environments.

Figure 5 | Government Borrowing Has Reshaped the Bond Market

Sector weights in the Bloomberg U.S. Aggregate Bond Index (2000–2026)



Source: Bloomberg.

Notes: Sector weights are based on market value. The four sub-indexes shown sum to the Bloomberg U.S. Aggregate Bond Index. Government Related includes agency and supranational issuers. Securitized includes mortgage-backed, asset-backed, and commercial mortgage-backed securities.

Did You Know?

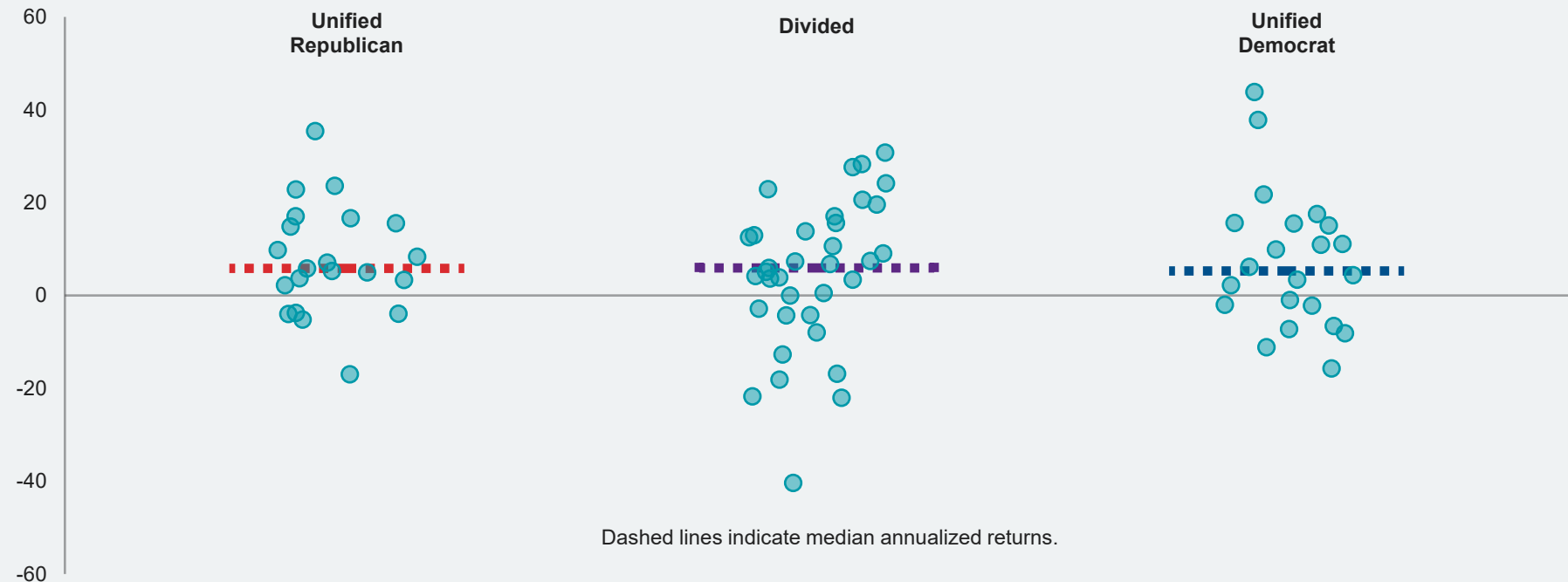
Bonus: Politics and Equity Returns

Politics and Equity Returns

While elections often attract significant attention from investors, historical evidence suggests that the political composition of Washington has had a limited relationship with long-term U.S. equity returns. In fact, since 1871, median U.S. equity returns have varied by less than 1 percentage point across periods of unified Republican control of the presidency and Congress (5.8%), divided government (5.9%), and unified Democratic control (5.3%). Although political leadership can change policy, the broad similarity in outcomes across government configurations suggests that equity returns have been driven more by factors such as starting valuations and corporate profitability than by the party in control of Washington.

Positive U.S. Equity Outcomes Have Historically Been Common Across Political Environments

Annualized U.S. equity price returns (%) during congressional terms, grouped by control of the presidency and Congress (1871-2026)



Sources: Robert Shiller Data Library and U.S. House of Representatives: History, Art & Archives.

Notes: Data as of September 30, 2026. Unified Republican and Unified Democratic governments indicate common party control of the Presidency, House, and Senate. Divided government indicates split party control. Returns are annualized and based on Shiller's U.S. stock market price return index. Prior to the 20th Amendment, congressional return periods represent April to March. Following its adoption in 1933, return periods represent February to January. Individual observations represent congressional terms. **Past performance is no guarantee of future results.**

Academic Perspective

When Concentration Makes Sense

A student in my spring 2025 investments course told me, “I’m learning many useful things in your course, but none of them answer my main question.” He had recently moved to the Bay Area after a career in the Navy, found a job and enrolled in our MBA program.

He quickly learned that rent in our area would bite off a big chunk of his paycheck and that house prices were stratospheric, with price tags that looked as though they were quoted in yen. He despaired of buying a house in the Bay Area but aimed to buy one in Wisconsin or upstate New York, where his and his wife’s family lived. However, he had very little money — far less than he needed for a down payment in either place.

As he had learned in my course, a diversified portfolio of stocks and bonds could grow substantially — but over decades. He needed money for a down payment much sooner, so he chose a concentrated portfolio, such as one invested entirely in Bitcoin.

Some buyers of Bitcoin and other cryptocurrencies hope to be billionaires. Others, like my student, aspire to nothing more than making a down payment on a house, paying for a wedding or extinguishing student debt. They know that a portfolio concentrated in Bitcoin is riskier than a diversified portfolio of stocks and bonds, and subject to far larger price swings.

I empathize with my student. A diversified portfolio, such as a total U.S. stock market index fund, would have offered him virtually no chance of achieving his aspiration within his limited time frame.

By contrast, a concentrated portfolio invested entirely in Bitcoin would have offered him a chance, however small, to accumulate enough for a down payment, while exposing him to the risk of losing much of his limited wealth.



Meir Statman, Ph.D.
Consultant to Avantis Investors

Meir Statman is the Glenn Klimek Professor of Finance at Santa Clara University and a consultant to Avantis Investors.

His research focuses on behavioral finance. He attempts to understand how investors and managers make financial decisions and how these decisions are reflected in financial markets.

His latest book, “A Wealth of Well-Being: A Holistic Approach to Behavioral Finance,” was published by Wiley in April 2024.

When Concentration Makes Sense

Two Ways to Think About Risk

I often observe, with obvious exaggeration, that we aspire to reach two goals in life: One is not to be poor, and the other is to be rich. This observation underlies behavioral portfolio theory.

Mean-variance investors view a portfolio as a whole, while behavioral investors see it as a layered pyramid. The bottom “not-poor” layer of the pyramid is intended to support essential financial needs, and the top “be-rich” layer is meant for more ambitious goals. These different perspectives lead to different definitions of risk. Mean-variance investors focus on return variability and generally prefer lower volatility. Behavioral investors focus on the possibility of failing to reach a goal. As a result, they may be willing to take on investments with more volatile returns if those investments offer a greater chance of achieving that goal.

Consider an investor with \$1,000 who needs \$10,000 for a down payment on a house. Anything less would not meet the goal. Suppose one investment offered a 20% chance of growing to \$5,000, while another offered a 10% chance of reaching \$10,000. Mean-variance portfolio theory would generally view the first investment as less risky because its returns are less variable.

Behavioral portfolio theory, however, would reach a different conclusion. Because \$5,000 would still leave the investor short of the goal, the first investment would offer no chance of success. The second investment would offer only a 10% chance of success, but it would at least be capable of reaching the goal. In that sense, the first investment could be considered riskier because it is more likely to fail to meet the goal.

Think again about my student. Most of his not-poor layer consists of his human capital, his ability to earn income through work. He could put his limited savings toward that layer by keeping them in a savings account or investing in a diversified portfolio. Alternatively, he could put them toward his be-rich layer by investing in a concentrated Bitcoin portfolio. That choice would expose him to a greater risk of loss, but it would also offer at least some chance of reaching his down-payment goal, unlike a diversified portfolio, which would be unlikely to do so within his time frame.

The view of portfolios as layered pyramids is not only part of behavioral portfolio theory but also reflected in common investment guidance. One example is the “core and satellite” approach, which combines a diversified core intended to support essential financial goals with a more concentrated satellite designed to pursue aspirational goals.

When Concentration Makes Sense

When Concentration Works and When It Doesn't

Consider older owners of established, profitable businesses whose portfolios are concentrated in those businesses. Their holdings may reflect be-rich aspirations. Their businesses may include car dealerships, franchises, agricultural companies and law firms. These investors' concentrated portfolios aren't a problem to solve if they also have substantial diversified investments to support their not-poor aspirations.

Next, consider relatively young engineers who own portfolios concentrated in technology ventures. These owners have chances of satisfying their be-rich aspirations even if their ventures do not grow into the likes of Apple, Google or Nvidia. Some ventures are fully funded by venture capitalists, leaving owners with possibly ample not-poor portfolio layers. Others are funded by owners who dip into their retirement savings, imperiling both the be-rich and not-poor layers of their portfolios. Yet even concentrated portfolios of the latter kind do not necessarily call for reduced concentration if the owners' human capital is sufficient to replenish their not-poor layers through future employment if the ventures fail.

Concentrated portfolios can be problematic even by the rules of behavioral portfolio theory. This was the situation facing Elizabeth White, a 55-year-old woman who had retired from the World Bank. She invested a substantial portion of her retirement savings into a new retail venture, but the store soon failed.

Unlike my student, White lacked the human capital and years of future employment needed to replenish her not-poor portfolio layer. Investors in circumstances like White's may be better served by preserving the assets that support their not-poor aspirations and seeking other ways to satisfy their be-rich aspirations, perhaps even by buying the occasional lottery ticket.

Many investors with concentrated portfolios, even those with inadequate not-poor layers, are reluctant to sell because they cannot bear the possibility of future regret. Regret is the painful emotion we feel when we realize, in hindsight, that another choice would have led to a better outcome. In this case, it is the regret we feel when discovering that the investment we sold surged soon afterward.

Dollar-cost averaging, the practice of investing or selling in regular increments over time, is a method for reducing regret. Suppose you inherited \$120,000 in stocks from a beloved uncle. You decided to sell them and keep the cash in the not-poor layer of your portfolio. You could sell the stocks today in a lump sum or sell them gradually in 12 equal \$10,000 installments on the 15th of each month over the next year.

Think about the regret associated with selling all \$120,000 of stocks today. How much regret would you feel if stock prices surged tomorrow? That regret would likely be lower if you sold only \$10,000 today, because you could take comfort in the opportunity to sell the next \$10,000 at a higher price.

When Concentration Makes Sense

The 'Right' Question About Concentration

Concentrated wealth portfolios are a problem by the rules of mean-variance portfolio theory, but they can be part of a solution by the rules of behavioral portfolio theory.¹

Concentration is not always an error. Instead, concentration can be a purposeful and sometimes necessary feature of portfolios constructed to serve human aspirations and goals. Behavioral portfolio theory reframes the diversification-versus-concentration debate. The question is not whether concentration is right or wrong in general, but whether it supports be-rich aspirations and goals without putting not-poor ones at risk.

That does not mean concentration is always wise. Its suitability depends on an investor's overall financial situation, especially the adequacy of the not-poor layer and the amount and quality of their human capital. Concentration may make sense for those with sufficient resources or earning power to replenish losses. It can be much more problematic for retirees, those heavily invested in employer stock or investors with limited ability to rebuild wealth after setbacks.

Sound planning balances the benefits of diversification with empathy for the aspirations and goals that lead clients to concentrate their portfolios. Seen through the lens of "not-poor" and "be-rich" aspirations, concentrated positions can be managed thoughtfully to support both financial security and the pursuit of meaningful goals.

¹Hersh Shefrin and Meir Statman, "Behavioral Portfolio Theory," *Journal of Financial & Quantitative Analysis* 35, No. 2 (2000): 127-151.

Market Review



Snapshot

Global stocks advanced modestly in the third quarter, led by the U.S. market. Meanwhile, bonds retreated as yields moved higher.

- The S&P 500 Index finished the third quarter with a gain of 2.3%, putting the year-to-date return at nearly 13%. Solid corporate fundamentals and an expanding economy aided the backdrop and offset concerns about rising Treasury yields.
- S&P 500 sector performance weakened in the quarter, with seven of the index's 11 sectors declining. Bolstered by rising oil prices, energy topped all others with a third-quarter gain of 17%. The utilities sector was the weakest, down more than 12%.
- U.S. stocks outperformed their developed markets peers and emerging markets (EM) stocks in September and for the quarter. EM continued to outperform year to date.
- Inflation remained above target across many developed markets. The Fed raised interest rates in September for the first time in more than three years, while the European Central Bank raised rates for the second time this year. The Bank of England held rates steady despite higher U.K. inflation.
- In the U.S., large-cap stocks advanced for the quarter, while mid and small caps declined. Value stocks outperformed growth stocks across capitalizations. Among non-U.S. developed markets, small caps outperformed large caps, and value outpaced growth. In EM, small caps outperformed large caps, and growth and value indices were mixed.
- Bond yields increased across markets, with longer-term government bonds among the most adversely affected.

Returns (%)

INDEX	1 MO	3 MO	YTD	1 YR	3 YR	5 YR	10 YR
U.S. Large-Cap Equity							
S&P 500	-0.35	2.30	12.75	15.74	22.89	13.79	15.33
U.S. Small-Cap Equity							
Russell 2000	-5.25	-7.23	13.71	16.20	17.72	6.34	9.84
Intl. Developed Markets Equity							
MSCI World ex USA	-3.27	0.89	10.16	15.89	18.89	9.66	9.27
Emerging Markets Equity							
MSCI Emerging Markets	-0.56	-0.37	23.38	29.22	24.09	8.94	9.09
Global Real Estate Equity							
S&P Global REIT	-5.49	-6.03	4.89	4.04	10.25	1.68	3.16
U.S. Fixed Income							
Bloomberg U.S. Aggregate Bond	-2.61	-3.51	-2.91	-1.84	4.06	-0.64	1.14
Global Fixed Income							
Bloomberg Global Aggregate Bond	-2.38	-2.46	-2.67	-2.43	3.82	-1.86	0.05
U.S. Cash							
Bloomberg U.S. 1-3 Month Treasury Bill	0.30	0.93	2.75	3.79	4.59	3.80	2.44

Data as of 9/30/2026. Performance in USD. Periods greater than one year have been annualized. Past performance is no guarantee of future results. Source: FactSet.

Equity Returns | Size and Style

		U.S.			
		QTD (%)		YTD (%)	
		Value	Growth	Value	Growth
Size	Large	2.61	0.92	19.27	6.30
	Small	-4.91	-9.39	16.96	10.71

- The broad U.S. stock market logged a third-quarter gain and maintained a solid year-to-date return. Most size and style indices declined for the quarter but maintained year-to-date gains.
- Large-cap stocks advanced almost 2% and outpaced small- and mid-cap stocks, which declined, for the quarter. Small-cap stocks remained top year-to-date performers from a capitalization perspective, up nearly 14%.
- Value stocks outperformed their growth-style peers across the board for the quarter and year to date. Large-cap value stocks were top performers for both periods.

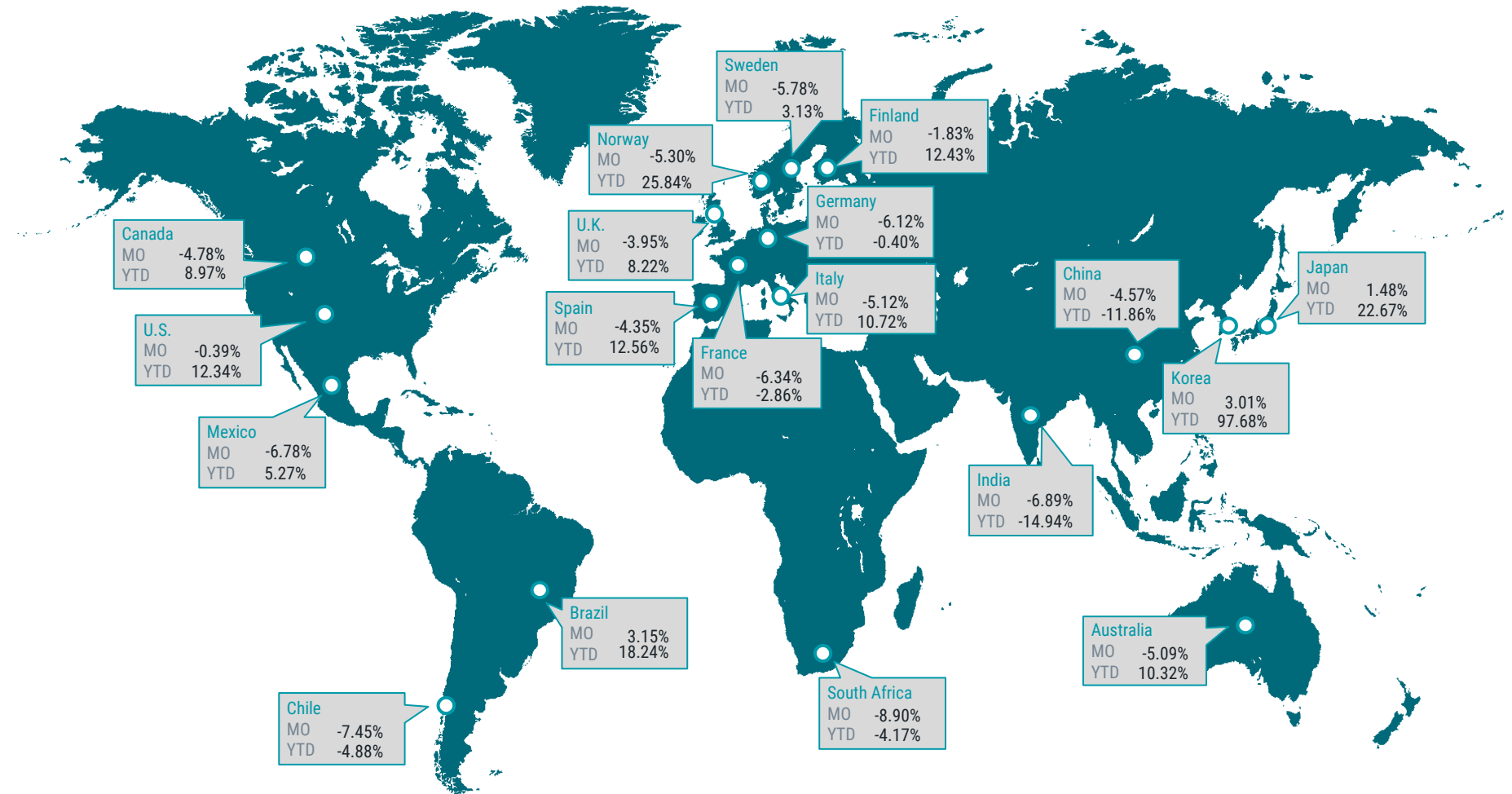
		Non-U.S. Developed Markets			
		QTD (%)		YTD (%)	
		Value	Growth	Value	Growth
Size	Large	3.13	-1.91	15.57	5.13
	Small	5.66	0.13	11.28	9.98

- Non-U.S. developed markets stocks advanced but lagged U.S. stocks for the third quarter. They also lagged U.S. stocks year to date.
- With a return of nearly 3%, small-cap stocks outperformed their mid- and large-cap peers for the quarter. Small-caps also outperformed mid-caps and large-caps for the year-to-date period.
- Value stocks outpaced growth stocks in the quarter, led by mid-cap value. The value style also outperformed year to date, led by large-cap value stocks, up nearly 16%.

		Emerging Markets			
		QTD (%)		YTD (%)	
		Value	Growth	Value	Growth
Size	Large	2.86	-4.29	26.32	21.11
	Small	-0.21	0.70	13.60	12.70

- The broad EM stock index declined and lagged developed markets stocks in the quarter, but it outperformed year to date.
- Mid-cap stocks logged a third-quarter gain to outperform small- and large-caps. Year to date, large-cap stocks gained nearly 24%, outperforming small- and mid-cap stocks.
- Value stocks outperformed growth stocks among small- and mid-caps in the quarter, while growth outperformed in the small-cap universe. Year to date, value outperformed across the board, with mid-cap value gaining 29%.

Equity Returns | Country



Data as of 9/30/2026. Performance in USD. Past performance is no guarantee of future results. Source: FactSet. Countries are represented by MSCI country indices.

Fixed-Income Returns

U.S. Treasury yields soared in the third quarter, with the 10-year note reaching a multi-decade high. Most sectors of the U.S. bond market posted negative returns for the quarter.

- After declining 2.6% in September, the Bloomberg U.S. Aggregate Bond Index returned -3.51% for the third quarter.
- Treasury yields moved higher during a quarter marked by U.S. government debt surpassing \$40 trillion, higher fuel prices, and increased expectations for Fed rate hikes. The yield on the 10-year Treasury rose 82 bps to 5.29%, and the two-year Treasury yield rose from 4.2% to 4.91%.
- The annualized core PCE price index, the Fed's preferred inflation gauge, held steady at 3% for the third straight month in August. Five-year forward inflation expectations (as implied by TIPS breakeven rates) increased modestly.
- The Fed unanimously raised its target policy rate by 25 bps in September, its first interest rate hike since July 2023. Amid solid economic growth and a steady jobs market, most officials projected at least one more rate hike later this year.
- Most bond market sectors declined for the quarter. Credit spreads widened, particularly within the high-yield market. Still, high-yield corporates outperformed investment grade, reflecting their lower duration and sensitivity to rates.
- Municipal bonds declined and underperformed Treasuries. September 2026 marked the worst monthly performance since September 2008, during the Global Financial Crisis.
- In aggregate, TIPS declined and underperformed nominal Treasuries for both the month and quarter.

Returns (%)

INDEX	1 MO	3 MO	YTD	1 YR	3 YR	5 YR	10 YR
Global Fixed Income							
Bloomberg Global Aggregate Bond	-2.38	-2.46	-2.67	-2.43	3.82	-1.86	0.05
U.S. Fixed Income							
Bloomberg U.S. Aggregate Bond	-2.61	-3.51	-2.91	-1.84	4.06	-0.64	1.14
U.S. High-Yield Corporate							
Bloomberg U.S. Corporate High Yield Bond	-2.52	-1.82	0.10	1.41	8.03	3.60	5.05
U.S. Investment Grade							
Bloomberg U.S. Corporate Bond	-2.72	-3.94	-3.11	-2.30	4.98	-0.46	2.04
Municipals							
Bloomberg Municipal Bond	-4.36	-6.35	-4.18	-2.68	2.89	-0.21	1.51
U.S. TIPS							
Bloomberg U.S. Treasury Inflation Protected Securities (TIPS)	-2.61	-3.24	-2.12	-1.99	3.75	0.00	2.15
U.S. Treasuries							
Bloomberg U.S. Treasury Bond	-2.24	-3.04	-2.77	-1.89	3.18	-1.05	0.58
U.S. Cash							
Bloomberg U.S. 1-3 Month Treasury Bill	0.30	0.93	2.75	3.79	4.59	3.80	2.44

Data as of 9/30/2026. Performance in USD. Periods greater than one year have been annualized. Past performance is no guarantee of future results. Source: FactSet.

Global Yield Curves



Data as of 9/30/2026. Source: Bloomberg.

Yield is a rate of return for bonds and other fixed-income securities. A yield curve is a line graph that shows yields of fixed-income securities from a single sector (e.g., Treasuries) over various maturities (e.g., five and 10 years) at a single point in time (e.g., 12/31/2020).

Appendix

Glossary

Agencies: Agency securities are debt securities issued by U.S. government agencies such as the Federal Home Loan Bank and the Federal Farm Credit Bank. Some agency securities are backed by the full faith and credit of the U.S. government, while others are guaranteed only by the issuing agency.

Basis points (BPS): Basis points are used in financial literature to express values that are carried out to two decimal places (hundredths of a percentage point), particularly ratios, such as yields, fees, and returns. Basis points describe values that are typically on the right side of the decimal point—one basis point equals one one-hundredth of a percentage point (0.01%).

Bloomberg Global Aggregate Bond Index: A flagship measure of global investment-grade debt from 24 local currency markets. This multicurrency benchmark includes Treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

Bloomberg Global U.S. Treasury - U.S. TIPS Index: Consists of Treasury inflation-protected securities issued by the U.S. Treasury with a remaining maturity of one year or more.

Bloomberg Municipal Bond Index: A market value-weighted index designed for the long-term tax-exempt bond market.

Bloomberg U.S. 1-3 Month Treasury Bill Index: A subindex of the Bloomberg Barclays U.S. Short Treasury Index, the Bloomberg Barclays U.S. 1-3 Month Treasury Bill Index is composed of zero-coupon Treasury bills with a maturity between one and three months.

Bloomberg 1-5 Year U.S. Government/Credit Index: Tracks the market for investment grade, US dollar-denominated, fixed-rate treasuries, government-related and corporate securities.

Bloomberg U.S. Aggregate Bond Index: Represents securities that are taxable, registered with the Securities and Exchange Commission, and U.S. dollar-denominated. The index covers the U.S. investment-grade fixed-rate bond market, with index components for government and corporate securities, mortgage pass-through securities and asset-backed securities.

Bloomberg U.S. Corporate Bond Index: Measures the investment-grade, fixed-rate, taxable corporate bond market. It includes U.S. dollar-denominated securities publicly issued by U.S. and non-U.S. industrial, utility and financial issuers.

Bloomberg U.S. Corporate High Yield Bond Index: Measures the U.S. dollar-denominated, high-yield (non-investment grade), fixed-rate corporate bond market.

Bloomberg U.S. Corporate High Yield Bond Index: Measures the U.S. dollar-denominated, high-yield (non-investment grade), fixed-rate corporate bond market.

Bloomberg U.S. Treasury Index: Measures U.S. dollar-denominated, fixed-rate, nominal debt issued by the U.S. Treasury. Treasury bills are excluded by the maturity constraint but are part of a separate Short Treasury Index.

Book-to-Market Ratio: Compares a company's book value relative to its market capitalization. Book value is generally a firm's reported assets minus its liabilities on its balance sheet. A firm's market capitalization is calculated by taking its share price and multiplying it by the number of shares it has outstanding.

Carbon Emissions Intensity: A measure of emissions efficiency calculated as company emissions normalized by company revenue (metric tons CO2 per USD million sales) and presented as a weighted average of fund or index holdings. Company emissions data includes reported or estimated scope 1 and scope 2 greenhouse gas emissions in carbon dioxide equivalents. If neither reported nor estimated emissions data is available for a company held by the fund or index, emissions data for that company is excluded from the carbon emissions intensity calculation. The calculation of this measure is completed by American Century Investment Management Inc, the investment advisor to the ETFs reporting the measure, based on data sources from MSCI. The Carbon Emissions Intensity figure is solely a result of a mathematical calculation based on the MSCI data, with no additional inputs. Scores and ratings across third-party providers may be inconsistent or incomparable and, in certain cases, incorrect. In addition, data is not currently available for many issuers and, when available, frequently only includes some but not all of the characteristics considered.

CBOE Volatility Index (VIX): Tracks the expected 30-day future volatility of the S&P 500 Index.

U.S. Consumer Confidence Index: A survey administered by The Conference Board that measures how optimistic or pessimistic consumers are about their expected financial situation.

Consumer Price Index (CPI): CPI is a U.S. government (Bureau of Labor Statistics) index derived from detailed consumer spending information. Headline CPI measures price changes in a market basket of consumer goods and services such as gas, food, clothing, and cars. Core CPI excludes food and energy prices, which tend to be volatile.

CRSP U.S. Total Market Index: Consists of nearly 4,000 constituents across mega, large, small and micro capitalizations, representing nearly 100% of the U.S. investable equity market.

Glossary

Credit Quality: Refers to the creditworthiness or financial health of the issuer of the bond. It reflects the likelihood that the issuer will meet its debt obligations, including interest payments and the return of principal, in a timely manner. Credit rating agencies assess and assign credit ratings to bonds based on the issuer's financial strength, stability, and ability to honor its debt commitments.

Credit Rating: Standard & Poor's credit ratings range from AAA (highest quality; perceived as least likely to default) to D (in default). Securities and issuers rated AAA to BBB are considered/perceived to be "investment-grade"; those below BBB are considered/perceived to be non-investment-grade (high yield).

Dow Jones Industrial Average: An average made up of 30 blue-chip stocks that trade daily on the New York Stock Exchange.

Duration: Measures how long it takes, in years, for an investor to be repaid a bond's price by the bond's total cash flows. It is also a measure of a bond's interest rate sensitivity. The longer the duration, the more sensitive a bond is to interest rate shifts.

Effective Duration: The average duration of all the bonds in a fund. It provides an indication of how a fund's net asset value (NAV) will change as interest rates change.

Emerging Markets Debt: Debt issued by countries whose economies are considered to be developing or emerging from underdevelopment.

Environmental, Social and Governance (ESG): Standards used to evaluate a company's operations in terms of sustainability and ethical impact. Environmental criteria consider how a company performs as a steward of nature. Social criteria examine how it manages relationships with employees, suppliers, customers, and communities. Governance criteria assess the company's leadership, executive pay, audits, internal controls, and shareholder rights.

Exchange-Traded Fund (ETF): An ETF represents a basket of securities that trades on an exchange, similar to a stock. An ETF differs from a mutual fund in that its share price fluctuates all day as investors buy and sell the ETF. A mutual fund's net asset value (NAV) is calculated once per day after the market closes.

Expected Returns: Valuation theory shows that the expected return of a stock is a function of its current price, its book equity (assets minus liabilities) and expected future profits, and that the expected return of a bond is a function of its current yield and its expected capital appreciation (depreciation). We use information in current market prices and company financials to identify differences in expected returns among securities, seeking to overweight securities with higher expected returns based on this current market information.

Actual returns may be different than expected returns, and there is no guarantee that the strategy will be successful.

Inverted Yield Curve: An interest rate environment in which long-term debt instruments have a lower yield than short-term debt instruments of the same credit quality.

Market Capitalization: The market value of all the equity of a company's common and preferred shares. It is usually estimated by multiplying the stock price by the number of shares for each share class and summing the results.

Money Market Mutual Funds: These funds invest in short-term debt instruments (e.g., commercial paper, U.S. Treasury bills, repurchase agreements) and are valued for their relative safety and liquidity.

MSCI ACWI Index: A capitalization-weighted index that is designed to measure the equity market performance of developed and emerging markets.

MSCI ACWI ex-USA Index: A market capitalization-weighted index that is designed to measure the equity market performance of developed and emerging markets, excluding the United States.

MSCI Emerging Markets IMI Index: Captures large-, mid- and small-cap securities across 27 emerging markets countries.

MSCI Emerging Markets IMI Value Index: Captures large-, mid- and small-cap securities exhibiting overall value style characteristics across 27 emerging markets countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.

MSCI Emerging Markets Asia IMI Index: Captures large-, mid- and small-cap securities in China, India, Indonesia, Korea, Malaysia, the Philippines, Taiwan and Thailand.

MSCI Emerging Markets EMEA IMI Index: Captures large-, mid- and small-cap securities across 11 emerging markets countries in Europe, the Middle East and Africa (EMEA).

MSCI Emerging Markets Latin America IMI Index: Captures large-, mid- and small-cap securities in Brazil, Chile, Colombia, Mexico and Peru.

MSCI Europe IMI Index: Captures large-, mid- and small-cap securities across 15 developed markets countries in Europe.

MSCI Pacific IMI Index: Captures large-, mid- and small-cap securities in five developed markets countries: Australia, Hong Kong, Japan, New Zealand and Singapore.

Glossary

MSCI USA Index: A market capitalization-weighted index designed to measure the performance of the large and mid-cap segments of the U.S. market.

MSCI World ex USA IMI Index: Captures large-, mid- and small-cap representation across 22 of 23 developed markets countries, excluding the U.S.

MSCI World ex USA Small Cap Index: Captures small-cap representation across 22 of 23 developed markets countries, excluding the U.S.

MSCI World ex USA Value Index: Captures large- and mid-cap securities exhibiting overall value style characteristics across 22 of 23 developed markets countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.

Mortgage-Backed Securities (MBS): A type of securitized debt that represents ownership in pools of mortgage loans and their payments.

Net Asset Value (NAV): The total value per share of all the underlying securities in a portfolio.

Oil and Gas Revenue Percentage: Represents the proportion of total revenue of fund or index holdings that is derived from reported or estimated oil and gas-related activities. If neither reported nor estimated oil and gas-related data is available for held by either the fund or the index, such data for that company is excluded from the calculation.

The calculation of this measure is completed by American Century Investment Management Inc, the investment advisor to the ETFs reporting the measure, based on data sourced from MSCI. The Oil and Gas Revenue Percentage figure is solely a result of a mathematical calculation based the MSCI data, with no additional inputs.

Scores and ratings across third party providers may be inconsistent or incomparable, and, in certain cases, incorrect. In addition, data is not currently available for many issuers and, when available, frequently only includes some but not all of the characteristics considered.

Option-Adjusted Spread (OAS): Measures the difference between the yield of a bond with an embedded option and the yield on Treasuries. Call options give the issuer the right to redeem the bond prior to maturity at a preset price, and put options allow the holder to sell the bond back to the company on certain dates. The OAS adjusts the spread to account for these potential changing cash flows.

Personal Consumption Expenditures (PCE): The PCE price deflator — which comes from the Bureau of Economic Analysis' quarterly report on U.S. gross domestic product — is based on a survey of businesses and is intended to capture the price changes in all final goods, no matter the purchaser. Because of its broader scope and certain differences in the methodology used to calculate the PCE price index, the Federal Reserve holds the PCE deflator as its preferred, consistent measure of inflation over time.

Price-to-Earnings Ratio (P/E): The price of a stock divided by its annual earnings per share. These earnings can be historical (the most recent 12 months) or forward-looking (an estimate of the next 12 months). A P/E ratio allows analysts to compare stocks on the basis of how much an investor is paying (in terms of price) for a dollar of recent or expected earnings. Higher P/E ratios imply that a stock's earnings are valued more highly, usually on the basis of higher expected earnings growth in the future or higher quality of earnings.

Producer Price Index (PPI): Measures the average change over time in the prices that domestic producers receive for their goods and services. It is a key indicator of inflation at the wholesale level, reflecting the prices producers charge for their output before it reaches consumers.

Profits-to-Book Ratio: Measures a company's profits relative to its book value. A company's profits are generally calculated by subtracting operating expenses from its gross profit. Book value is generally a firm's reported assets minus its liabilities on its balance sheet.

Responsible Equity ETFs: Because the portfolio managers screen securities based on environmental, social and governance (ESG) characteristics, the fund may exclude the securities of certain issuers or industry sectors for other than financial reasons and, as a result, the fund may perform differently or maintain a different risk profile than the market generally or compared to funds that do not use similar ESG-based screens.

Investing based on ESG considerations may also prioritize long-term rather than short-term returns. Furthermore, when analyzing ESG criteria for issuers, the portfolio management team relies on proprietary evaluations and information, ratings and scoring models published by third-party sources (collectively, "ESG Data").

Due to the lack of regulation and uniform reporting standards with respect to ESG characteristics of issuers, ESG Data may be inconsistent across sources and, in certain cases, incorrect. In addition, ESG Data is not currently available for many issuers and, when available, frequently only includes some but not all of the ESG characteristics considered by the team when applying their ESG screens.

See Environmental, Social and Governance (ESG) in the Glossary for more information.

Glossary

Russell 1000® Growth Index: Measures the performance of those Russell 1000 Index companies (the 1,000 largest publicly traded U.S. companies, based on total market capitalization) with higher price-to-book ratios and higher forecasted growth values.

Russell 1000® Value Index: Measures the performance of those Russell 1000 Index companies (the 1,000 largest publicly traded U.S. companies, based on total market capitalization) with lower price-to-book ratios and lower forecasted growth values.

Russell 2000® Index: Measures the performance of the 2,000 smallest companies among the 3,000 largest publicly traded U.S. companies, based on total market capitalization.

Russell 2000® Growth Index: Measures the performance of those Russell 2000 Index companies (the 2,000 smallest of the 3,000 largest publicly traded U.S. companies, based on total market capitalization) with higher price-to-book ratios and higher forecasted growth values.

Russell 2000® Value Index: Measures the performance of those Russell 2000 Index companies (the 2,000 smallest of the 3,000 largest publicly traded U.S. companies, based on total market capitalization) with lower price-to-book ratios and lower forecasted growth values.

Russell 3000® Index: Measures the performance of the largest 3,000 U.S. companies representing approximately 98% of the investable U.S. equity market.

S&P 500® Index: A market-capitalization-weighted index of the 500 largest U.S. publicly traded companies. The index is widely regarded as the best gauge of large-cap U.S. equities.

S&P Global REIT Index: A comprehensive benchmark of publicly traded equity REITs listed in both developed and emerging markets.

S&P National AMT-Free Municipal Bond Index: A broad, comprehensive, market value-weighted index designed to measure the performance of the investment-grade tax-exempt U.S. municipal bond market. Bonds issued by U.S. territories, including Puerto Rico, are excluded from this index. It is not possible to invest directly in an index.

SEC Yield: A calculation based on a 30-day period ending on the last day of the previous month. It is computed by dividing the net investment income per share earned during the period by the maximum offering price per share on the last day of the period.

Securitized Debt: Debt resulting from the process of aggregating debt instruments into a pool of similar debts, then issuing new securities backed by the pool (securitizing the debt). Examples include asset-backed and mortgage-backed securities.

Standard deviation: Standard deviation is a statistical measurement of variations from the average. In financial literature, it's often used to measure risk when risk is measured or defined in terms of volatility. In general, more risk means more volatility and more volatility means a higher standard deviation — there's more variation from the average of the data being measured.

Treasury Inflation-Protected Securities (TIPS): A special type of U.S. Treasury security that is indexed to inflation as measured by the Consumer Price Index, or CPI. At maturity, TIPS are guaranteed by the U.S. government to return at least their initial \$1,000 principal value, or that principal value adjusted for inflation, whichever amount is greater. In addition, as their principal values are adjusted for inflation, their interest payments also adjust.

Treasury Yield: The yield of a Treasury security (most often refers to U.S. Treasury securities issued by the U.S. government).

U.S. Treasury securities: Debt securities issued by the U.S. Treasury and backed by the direct "full faith and credit" of the U.S. government. Treasury securities include bills (maturing in one year or less), notes (maturing in two to 10 years) and bonds (maturing in more than 10 years).

Weighted Average Book-to-Market: An average book-to-market ratio resulting from the multiplication of each security's book-to-market by its weight in the portfolio.

Weighted Average Market Capitalization: An average market capitalization resulting from the multiplication of each security's market capitalization by its weight in the portfolio.

Weighted Average Profitability-to-Book: An average profitability-to-book ratio resulting from the multiplication of each security's profitability-to-book by its weight in the portfolio.

Yield to Maturity: The rate of return an investor will receive if an interest-bearing security, such as a bond, is held to its maturity date. It considers total annual interest payments, the purchase price, the redemption value, and the amount of time remaining until maturity.