



POSITIONING FOR UNCERTAINTY

2025 ASSET ALLOCATION PERSPECTIVES / OUTLOOK

KEY TAKEAWAYS

- While the near-term economic outlook appears relatively positive, rapid U.S. policy changes and an unstable geopolitical environment are causing significant uncertainty at a time when market concentration and equity market valuations are already well above historical norms, particularly in the U.S.
 - We are focused on designing portfolios that can perform in a wide array of market scenarios by investing in companies at the optimal intersection of quality and valuation; we are pairing our equity exposure with fixed income investments that provide stability and yield as well as complementary investments in areas like hedged strategies and private markets.
 - While generative AI has understandably captured the attention of investors, we explore many attractive areas beyond AI, including the opportunities born from Japan's corporate reforms, Europe's refocus on defense, the future of energy demand, and the secular growth in aerospace.
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EXECUTIVE SUMMARY

Investment Landscape

We entered 2024 with a more cautious outlook given a number of factors, including rising rates, falling excess savings and weak economic indicators. We tempered this view as it became clear the U.S. economy was weathering the higher interest rate environment better than expected. There are many ways in which this economic cycle was different from others, but clearly, powerful government spending, which aided a unique recovery from the pandemic, appears to have overcome the drag of rising interest rates. Fueled by this improving outlook throughout the year and outstanding earnings growth from U.S. technology companies, the S&P 500® Index delivered a second year of 20%+ returns. International stocks rose just 3%, but with U.S. stocks now comprising two-thirds of the global market, most investors enjoyed strong gains. History suggests a growing economy combined with falling interest rates is good for stocks. However, today we are confronted with stock valuations that appear expensive, tight credit spreads, sticky inflation and volatile geopolitics.

Elevated stock market valuations and historically high concentrations in a handful of U.S. mega-cap stocks suggest that the coming years may see outperformance for smaller companies, active management and some international markets, such as Japan. Our portfolios are positioned to benefit from that outcome, although we are more mindful than ever of our exposures relative to the broader market, given the historically high quality of the market leaders today. We see this as a balancing act, but we would also note that U.S. and global equity benchmarks no longer offer the same level of diversification as in the past — a risk many investors may not fully appreciate.

Trump 2.0

President Trump's victory and the Republican Congressional sweep have created both excitement and concern in the investment world. While the anticipated policy changes, such as lower taxes and deregulation, could boost growth and corporate earnings, there is also heightened uncertainty regarding tariffs, immigration policy and rising deficits. We have adjusted

our expectations for inflation and interest rates higher following the election, which has implications for how we are managing our bond allocations. We are closely monitoring the impacts of fast-changing policies on investor confidence and the economic growth outlook, both of which have rapidly shifted under the new U.S. administration.

Our Asset Allocation Stance

A growing economy, coupled with falling interest rates, is typically beneficial for stocks, and the earnings outlook remains positive, with growth appearing to broaden beyond U.S. technology companies. As a result, we are positioning portfolios near our long-term risk targets despite some of our economic and valuation concerns. Importantly, we continue to find individual companies with attractive forward-looking returns despite higher headline valuations for market indices. While certain segments of the market appear overvalued and there are some signs of excess in specific areas, such as cryptocurrencies, we have not seen the same imbalances we saw in 2021 — let alone the extremes of 1999. In equities, we are investing in quality companies with attractive valuations in both U.S. and international markets, leaning into areas such as Japan and smaller companies in the U.S., while keeping a healthy exposure to the largest U.S. companies that have been driving markets. We are increasingly using passive-linked strategies, such as tax-loss harvesting, alpha extension and portable alpha strategies, designed to deliver market exposure plus additional returns or tax benefits. These strategies help us actively manage our portfolio exposure to large-cap U.S. stocks, which are dominating the broad market indices. We are maintaining a full allocation to bonds, as we see compelling opportunities for strong absolute yields. Despite higher interest rate volatility, bond yields compare favorably to our long-term expected returns for stocks. We are keeping moderate duration to manage inflation and deficit risks that could push yields higher and bond prices lower.

Investment Themes We Are Watching for 2025

While we prioritize the fundamentals that drive individual companies, specific investment themes often emerge as our managers identify attractive valuations and burgeoning secular trends within industries. In addition to the opportunities presented by generative AI and Japan, our managers are finding companies in the aerospace, energy and power, and defense sectors, where we believe there are durable catalysts that will incubate favorable environments for companies across the value chain.

Breaking Down the Opportunity in Generative AI

In 2024, enthusiasm for generative AI persisted, even as investors began to scrutinize hyperscalers' capital investments and explore AI-related opportunities that extend beyond the first "AI winners." We view generative AI as a transformative long-term investment theme, with opportunities in three key phases: building infrastructure, developing applications and realizing productivity gains through widespread adoption. We are taking advantage of these opportunities across our public and private portfolios while remaining cognizant of valuations.

Examining the Link Between Economic Growth and Earnings

Strong GDP growth often signals a healthy economy, but it rarely translates directly into market returns. While earnings growth is closely tied to equity returns, we find that a nation's overall GDP growth has minimal impact on earnings. A recent example of this dynamic can be found in China's inability to translate economic growth into earnings and stock market returns. Instead, we believe the rate of change — or "trend" — in GDP growth serves as a better gauge for market returns, helping to inform our investment and asset allocation decisions.

The Case for Japan

For decades, Japan has been a value trap for investors. A rush of capital and subsequent bubble burst in the late 1980s preceded a prolonged period of deflation, poor corporate governance and net-zero equity returns.

We have had little exposure to Japan for more than a decade, but that stance is changing. Recent reforms and economic progress have created favorable conditions for growth, with Japanese companies positioned to benefit in the coming years. Valuations are significantly lower than in other major equity markets, inflation has been a positive catalyst for the economy, and changing cultural and regulatory norms around corporate governance are leading to an attractive backdrop for active management in Japan.

The Importance of Central Bank Independence

Over the past 40 years, central banks in developed markets have largely succeeded in creating price stability through monetary policy. However, history shows that this success was built on a foundation of central bank independence — there are countless examples of hyperinflation following excessive political interference. Recent economic challenges and an emboldened political class have elicited growing calls for political intervention in monetary policy making. We will be watching closely for signs of potential breaches in central bank independence, a doctrine we believe is crucial for long-term price stability and economic growth.

Another Look at the U.S. Debt Picture

As we shared in last year's Outlook piece, the U.S. is facing a challenging fiscal picture. While the nation's large and growing debt poses limited short-term risks, sustained deficit spending could hinder growth and drive inflation. There are few obvious places for major budget cuts, and entitlement spending is set to rise with an aging population.

2024 MARKET RECAP & 2025 OUTLOOK

Another Banner Year

2024 delivered another year of exceptional performance for U.S. equities, with the S&P 500 Index returning 20%+ for the second year in a row — the best two-year stretch of performance since the late 1990s. Markets climbed steadily throughout the year, with the S&P 500 avoiding any 10% corrections after experiencing five such pullbacks in 2022 and 2023. With global growth holding strong, lower interest rates from central banks, and corporate earnings growth accelerating, the fundamental outlook for stocks remains positive.

Markets today feel in many ways healthier than they did two or three years ago. We have seen the return of more normal interest rates and a real cost of capital, which we think is leading to more rational capital allocation decisions. Inflation has fallen to more manageable levels, which has historically been good for companies and stocks. Labor force productivity has been increasing and may be powered further by AI. The economy has been surprisingly resilient, and economic data continues to exceed expectations, particularly in areas related to the consumer, durable goods and leading indicators, such as manufacturing and building permits. Corporate earnings are on the rise, and importantly, we have expectations of a broadening-out of earnings growth beyond the handful of mega-cap technology stocks known as the Magnificent Seven (Apple, Microsoft, Alphabet, Amazon, Meta, Tesla and NVIDIA). While there are pockets of speculation in markets today, it is not as excessive as the peaks of 2021, and are still nowhere near the froth we saw in the late 1990s.

However, investing is never easy, and today's market presents some unusual challenges. Stock market valuations remain elevated above long-term averages, particularly in U.S. large cap, leading to lower expected long-term returns. Credit spreads are near all-time lows, reducing our compensation for taking on credit risk. Continued risks of higher inflation and interest rates — driven by domestic policy agendas and geopolitical factors — could disrupt the market. In addition, stock market concentrations are near all-time highs, with an unprecedented reliance on a small number of companies whose businesses are correlated to one another.



We believe 2025 will mark a return to a more balanced market environment, well situated for fundamental investors like us.



We believe 2025 will mark a return to a more balanced market environment, well situated for fundamental investors like us. We also expect a gradual return of focus to the fundamental drivers of U.S. growth and the potential impacts of fiscal policy after a period where short-term economic data heavily influenced markets.

Is This Time Different?

In the days before the 1987 stock market crash, pioneering investor Sir John Templeton warned that the four most dangerous words in investing are “this time, it’s different.” Following the Global Financial Crisis of 2008, two well-known Harvard economists, Ken Rogoff and Carmen Reinhart, wrote an entire book titled “This Time Is Different: Eight Centuries of Financial Folly.” The basic premise behind Templeton’s quote and the Reinhart-Rogoff book is that economic and market cycles of booms and busts are inevitable. The belief that “this time is different” and that the old rules no longer apply tends to be a bull market phenomenon that leads investors astray. Many of us grew up in this industry with the warning that once we start thinking this time is different, it is a sign that we are allowing emotions rather than disciplined logic to guide our process.

This is one of the reasons the past few years have been so confounding to many investors: much of what we have seen has defied patterns and expectations of past cycles — things really have been... different. For decades, an inverted yield curve, when short-term interest rates exceed long-term rates, has been a reliable predictor of recessions. Certain levels of Leading Economic Index indicators and increases in unemployment were so consistent with recessions as to be considered “rules” of investing. Yet, in this post-COVID economy, those rules have been broken as we have seen strong and consistent economic growth despite these warning signs. While most market strategists were calling for a recession or worse, the U.S. economy instead delivered sustained momentum, consistently above trend growth. In

hindsight, there are many explanations for this, including the historic fiscal and monetary stimulus, the unique global recovery from COVID lockdowns to re-opening, the efficiencies discovered during the work-from-home period and the spike in U.S. immigration. As a result, the U.S. Federal Reserve (Fed) has cut interest rates by 100 basis points, but, despite this, the 10-year Treasury rose 70 basis points in 2024, a historical aberration. The mismatch reflects a more positive outlook for growth, persistent inflation and a measured approach to monetary easing by the Fed. There were so many “firsts” in the way this cycle has played out so far that perhaps it should not be surprising this time was different.



For us, the lesson in this period is not to ignore the past but to underscore the importance of thinking probabilistically and to be humble in our knowledge that nothing is certain in the economy or markets.



For us, the lesson in this period is not to ignore the past but to underscore the importance of thinking probabilistically and to be humble in our knowledge that nothing is certain in the economy or markets. This is why we pick a long-term asset allocation plan and fight hard against our natural human inclinations toward greed and fear, whether in good times or bad. As Warren Buffett has said, investors should “prepare for but not try to predict” the future. If we lean toward investments where we see the best long-term value at current prices but stick close to our overall long-term plan, we believe we can deliver on our expectations.

Staying with this question as a lens for our forecast, will this time be different, specifically regarding both market concentration and overall valuations? As we have noted for some time, broad stock market indices, such as the S&P 500, are at their highest levels of concentration in a small number of large companies in nearly 100 years. Although the S&P 500 remains at historically high levels of profit margin, the Magnificent Seven stocks have a profit margin more than twice the Index. Valuations for U.S. large-cap stocks, when looking at most valuation metrics, are in the 95th percentile or higher¹ compared to the last 30 years. History suggests that when the market is concentrated in a few companies and those companies are earning abnormally high profit margins

and trading at elevated valuations, there will be some reversion to the mean. Higher margins typically attract more competition (e.g., 50% of NVIDIA's customers are developing their own chips/processors, and upstart Chinese rival DeepSeek shocked the industry with its AI model performance) and regulatory attention. Success can also lead to poor capital allocation decisions by management teams who become emboldened by their recent wins. Higher valuations are also highly correlated with lower long-term future returns. Following similar periods of market concentration and stretched valuations in the 1960s and 1990s, the average stock significantly outperformed the market cap-weighted indices, active management outperformed passive and smaller companies outperformed larger ones.

Given the dominance of many of these giant tech companies today, particularly in growth areas, such as cloud computing and AI, one might reasonably contend that this time will be different. These companies are the first of their kind to leverage the global reach of the internet. They are the only companies generating the cash flow required to make the investments powering the cloud and AI and thus sit in pole position to reap those rewards. Many of them have such scale and data advantages that it is increasingly challenging for the competitors to keep up. While these tech behemoths trade at a valuation premium to the rest of the market, we still underwrite solid future returns from many of them, such as Microsoft, Alphabet, NVIDIA and Meta, given the incredible moats around their businesses and their prolific free cash flow generation. Balance sheets for these companies are healthy, profitability is high and there is significant cash to deploy at scale, both as a percent of total assets and in absolute dollars. In addition, many of these tech companies have focused on cost-cutting strategies over the past two years in anticipation of a recession that has yet to materialize, further enhancing their financial flexibility. As a result, these mega-cap companies are in a strong liquidity position that could allow them to invest in maintaining their competitive advantages.

While valid arguments exist on both sides, two main conclusions emerge. First, we are finding more attractive bottom-up opportunities outside of the largest-cap U.S. stocks today than in the past. Second, passive benchmarks now provide less diversified market exposure than in the past. This last point is perhaps underappreciated by many investors today, some of

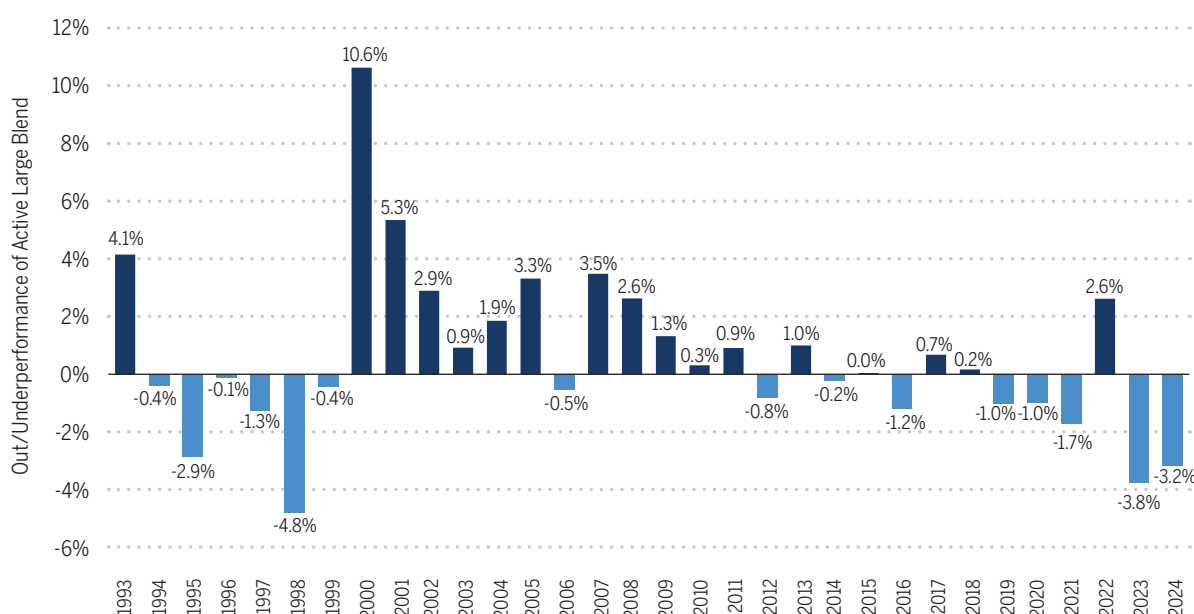
whom may have a large portion of their capital invested through passive vehicles such as index ETFs that target large-cap U.S. stocks. In the past, investing in a broad stock index meant exposure to a mix of industries. Today's equity markets are increasingly concentrated in a few areas — such as cloud computing, e-commerce and AI — making diversification harder. To be fair, these are all themes that we find compelling, but they are all correlated to one another, and should we see a slowdown in these areas either due to impediments to technological progress, rising costs, increased competition or regulation, they might all suffer together. NVIDIA is dependent on all the hyperscalers and AI companies for their growth, and, in turn, those companies are dependent on the success of AI. Each of these companies bears the risk of a slowdown in AI demand or the increasing costs of training models as well as the threat of new, disruptive entrants.

Should there be a repricing of risk in the broader market because of this concentration and higher valuations? Perhaps, but the timing of such a reset is unknown. It is nearly impossible to invest for expectations of a market correction — you need to be right twice: on both exit and re-entry to the market. Instead, we focus on each

investment's prospective risk/reward and positioning for a slow-growth/higher-interest-rate environment where heavy concentration is influencing market returns. Valuation alone does not typically cause reversion or a pullback in the market; it typically requires a resetting of earnings expectations. Today, forward returns likely hinge on whether these “magnificent” companies can meet their high expectations.

Lastly, in this environment we are monitoring more closely than ever our weights in these large companies versus market weights. We view this as a risk that we need to manage in both directions — it is a balancing act. We do not want any of our portfolios to boil down to a single bet or a set of highly correlated ones, but that goes both ways — we do not want any unintentional exposure against AI and cloud computing simply because it is hard for active managers to be overweight these mega-cap companies. To manage this risk, we are selectively increasing our allocations to large-cap stocks and passive-linked investments just to mitigate the risk of our existing underweight to these tech giants. We expect that the average stock and smaller companies will outperform over the next decade, but over the next three to five years, the trend appears tilted toward increased

Active Large Blend Out/Underperformance vs. Passive



Source: eVestment and Bloomberg, as of 12/31/2024. Active Large Blend is made up of current funds from the eVestment Large Blend category that are not index or enhanced index funds. Passive benchmark comparison is represented by S&P500 ETF.

spending on and scaling of AI solutions, so we must be thoughtful about our positioning. Our positioning reflects a balanced approach to these evolving opportunities.

Trump 2.0

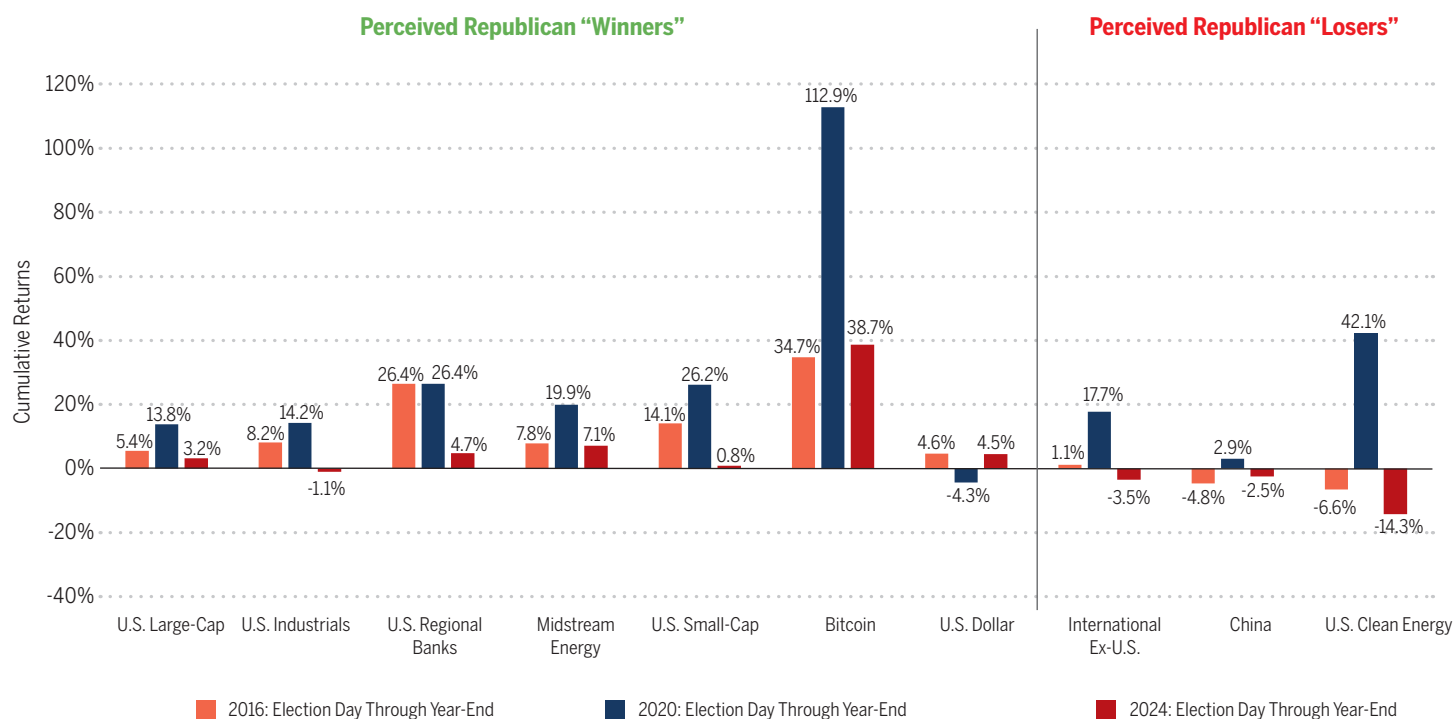
A Republican sweep — control of the House and Senate and Trump's return for his second term — has generated major buzz in the investment world. Anticipated policy changes include potential tax cuts, deregulation, the expansion of tariffs, an increased focus on government efficiency and possibly higher budget deficits.

While we believe that lower taxes and deregulation could provide meaningful boosts to growth and corporate earnings, risks remain around tariffs, immigration policy and rising deficits. Unlike 2016, when the corporate rate was nearly halved to 21%, current proposals for a corporate tax reduction to 15% are more modest and would require legislative approval and be subject to a rigorous funding debate. Deregulation, however, could have a more immediate impact and might encourage new company formation and deal-making, lower bank

capital requirements and boost both growth and corporate profit margins.

Tariffs remain uncertain, with an open question about how much of what Trump has said is posturing for our trade partners versus permanent reality. President Trump has already shown a willingness to use tariffs as a bargaining tool, but it remains to be seen how many will be implemented and for how long they might remain in place. Tariffs could negatively impact growth and cause a one-time spike in inflation, neither of which would be welcome to investors. Certain cross-border companies would be severely impacted, and companies whose growth has largely come from international markets might suffer if negative sentiments persist. Immigration restrictions, including mass deportations of immigrants and H1-B visa limits, might significantly impact an already tight labor market, with potential impacts on inflation and interest rates. The speed and perceived chaos with which the policy changes are being implemented has also added to uncertainty.

Returns from Election Days Through Respective Year-Ends



Source: Bloomberg, as of 12/31/2024. U.S. Large Cap using S&P 500® Index, U.S. Industrial using S&P 500® Industrials Sector GICS Level 1 Index, U.S. Regional Banks using KBW Regional Banking Index, Midstream Energy using Alerian Midstream Energy Index, U.S. Small Cap using Russell 2000® Index, Bitcoin using Bloomberg Bitcoin Index, U.S. Dollar using Dollar Index Spot, International ex-U.S. using MSCI ACWI Excluding United States Index, China using MSCI China Index, and U.S. Clean Energy using S&P Global® Clean Energy Index.

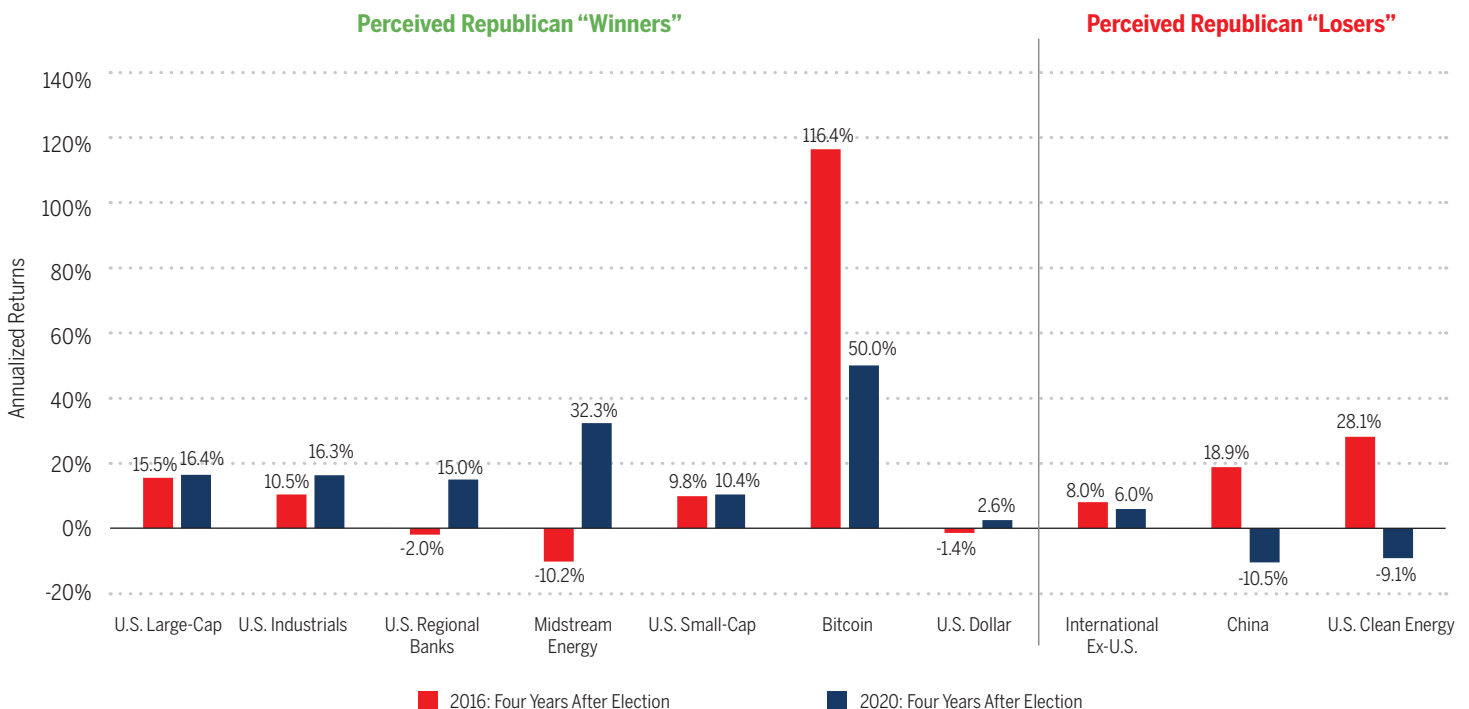
The Department of Government Efficiency's ambitious goal to cut \$2 trillion in spending has the potential to create winners and losers across both the public and private sectors and has brought a certain sense of chaos in its early days. Our analysts are closely evaluating companies for both risks and opportunities, and, as one of our external managers noted, "if you're a business with the U.S. Government as a large customer and you're earning high margins, watch out." We are also monitoring possible modifications to three policies enacted in 2022 — the Inflation Reduction Act (IRA), the Infrastructure Investment & Jobs Act, and the CHIPS and Science Act. Furthermore, provisions from the 2017 Tax Cuts and Jobs Act are set to expire at the end of 2025. The extension of these tax cuts is estimated to cost nearly \$4 trillion, and we expect the Trump administration to eagerly search for funding options. The landmark climate policy of the IRA is a target for change, particularly in areas such as electric vehicle subsidies, energy efficiency incentives and offshore wind funding. On the other side, areas of the legislation such as carbon capture and hydrogen production have garnered Republican support, and many red states are beneficiaries of these monies. Lastly, we will be watching closely whether Trump will respect the independence of the Federal Reserve given

his comments suggesting the president should have influence over the direction of interest rates. As we will discuss later, Fed independence is a cornerstone of financial market stability.

There is a chance that markets may react uneasily to the uncertainty in store — radical change does not come without risk. Overall, we view these potential policy changes leaning toward a positive impact to the investment environment, mostly due to the anticipated lighter regulatory touch. However, the implementation of new policy has come at a chaotic pace which threatens to undermine consumer and business confidence. We have also already seen rising inflation expectations and volatile interest rates which may offset some of the positives.

As in 2016 and 2020, the market has been quick to reallocate capital between perceived winners and losers of the incoming administration. Notably, early winners following the prior two elections did not sustain their advantage over the full term, as company fundamentals, valuations, industry and economic cycles, and exogenous shocks — such as wars and pandemics — played a greater role over time. As fundamental investors, we are focused on identifying opportunities at

Returns Four Years After Election Day



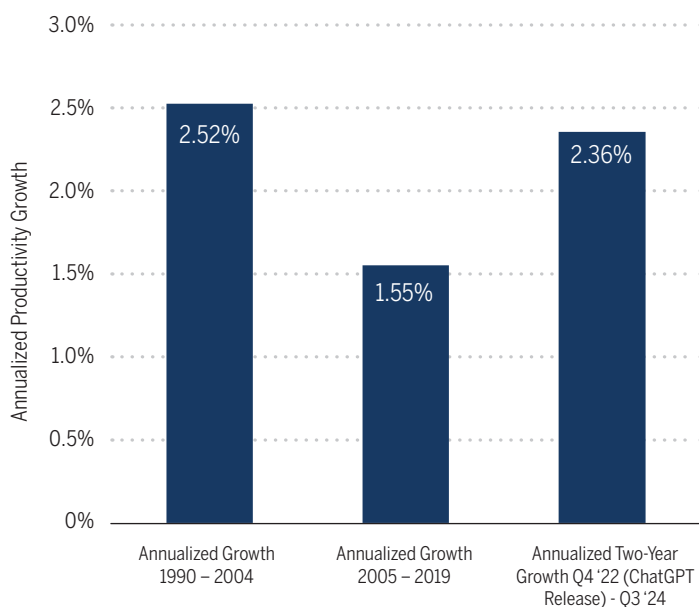
Source: Bloomberg, as of 12/31/2024. U.S. Large Cap using S&P 500® Index, U.S. Industrial using S&P 500® Industrials Sector GICS Level 1 Index, U.S. Regional Banks using KBW Regional Banking Index, Midstream Energy using Alerian Midstream Energy Index, U.S. Small Cap using Russell 2000® Index, Bitcoin using Bloomberg Bitcoin Index, U.S. Dollar using Dollar Index Spot, International ex-U.S. using MSCI ACWI Excluding United States Index, China using MSCI China Index, and U.S. Clean Energy using S&P Global® Clean Energy Index.

the company level, generated by market overreactions and underreactions to these potential changes.

Rising Productivity: Getting More for Less

In addition to the surprising economic strength of late and any benefits we could see from deregulation or other pro-growth policy shifts, we may stand on the precipice of another boost: an increasingly productive labor force. Productivity has increased over the past few years, and that is without much of an impact from AI. AI appears poised to drive gains across a wide variety of sectors on a scale not seen since the emergence of the internet. Estimates suggest worker productivity could increase by up to 0.5% per year due to AI — while the exact figure remains uncertain, we view AI as a likely material contributor to productivity and growth. We see these potential benefits in our own business, where we are beginning to use AI to automate some basic research tasks, summarize legal documents, increase our efficiency in answering basic research questions and help our colleagues write code more efficiently. We expect similar benefit across many industries. Productivity growth goes straight to the bottom line of economic growth, so this could be a material positive.

Labor Productivity Growth has Returned to High Levels After A Period of Slow Growth



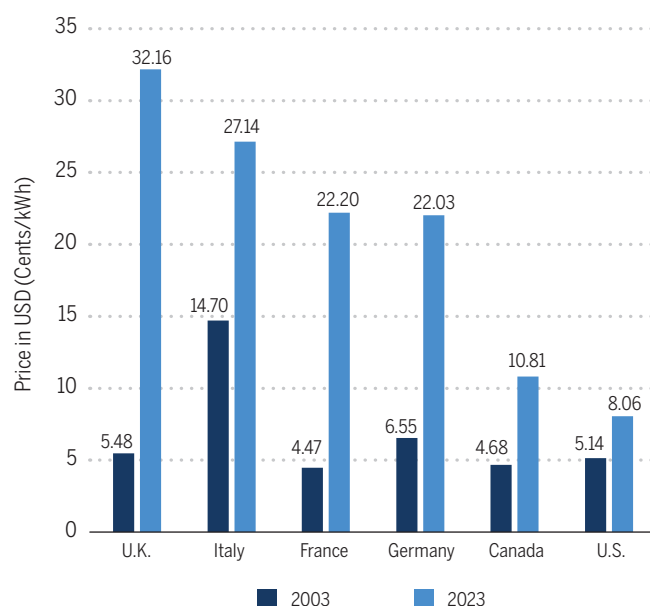
Source: Bureau of Labor Statistics Q1 1990 – Q3 2024, representing the most recent data available.

The potential efficiency gains from lightened regulation and increased focus on government spending could further contribute to those figures.

But Not in Europe

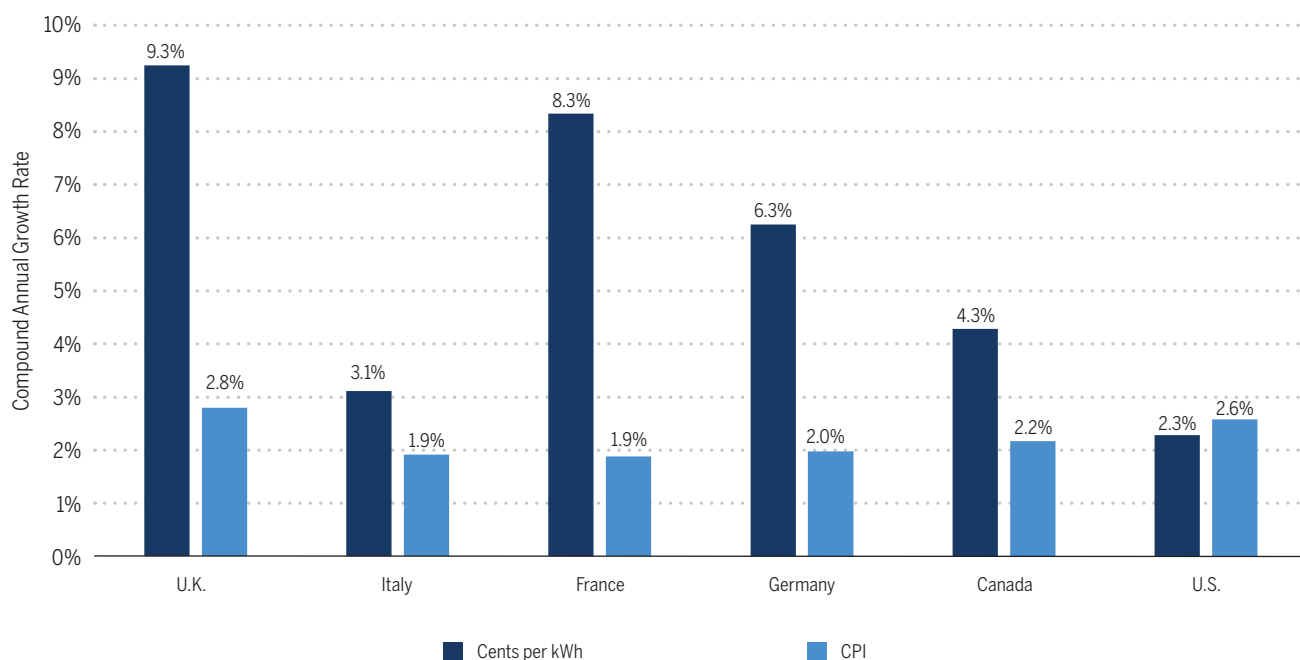
Productivity may be on the rise in the U.S., but it is falling in the U.K. and Europe. European industrial businesses face growing challenges because of rising energy costs, lagging investments in research and development, and a lack of unified policymaking. Most stark is the difference in energy costs, where, in just the past few years, Europe has gone from a slight disadvantage to an enormous one, with negative implications for its industrial economy and consumers. The continent has also begun to feel the effects of demographic growth decline, with the EU expecting the population to peak in 2026. Additionally, elevated government debt in three of the four largest European economies (France, the U.K. and Italy) poses added risks to economic stability and growth. The compounding effect of these challenges has adversely affected our outlook on European growth. However, we believe Europe is home to some fantastic global businesses, many of which generate most of their revenues outside of the continent and are now more attractively valued than their U.S. peers. Notable examples of this include global leaders in aerospace, defense and infrastructure, which are significant positions in many of our portfolios. Ironically, as our outlook for Europe has worsened, our exposure to

Industrial Electricity Prices, Including Taxes



Source: OECD, Bloomberg, IEA as of 12/31/2023 representing the most recent data available.

Energy Price Growth vs. Consumer Price Growth 2003 – 2023



Source: OECD, Bloomberg, IEA as of 12/31/2023 representing the most recent data available.

companies listed there has modestly increased as a byproduct of where our managers are finding attractive opportunities.

A Bit on the Consumer

Throughout 2024, the consumer has remained resilient, though spending patterns have been K-shaped, with middle- and upper-income earners driving most of the growth in spending while lower earners have struggled with the impact of rising rates and inflation. 2024 was a story of the “haves and have nots.” The wealth effect from rising investment values, income from cash and bonds, and higher home equity continues to boost many households’ balance sheets, and we expect this trend to continue. Approximately 65% of Freddie Mac mortgages are locked in at rates of 4% or lower, and average U.S. home prices are up 47%+ since the start of the pandemic. On average, household wealth remains high, and wealthier households account for nearly 80% of consumer spending. We are closely monitoring the level of debt that has helped fuel the current rate of spending,

including rising credit card debt, delinquencies and defaults, and are watching closely for shifts in behavior from more price-conscious consumers. Despite these challenges, consumer balance sheets remain generally healthy. Looking ahead, we expect consumer inflationary pressures to ease gradually throughout 2025, which should benefit lower- to middle-income earners who are more price sensitive. A stable labor market will support growing purchasing power and economic growth, though consumer spending is likely to grow at a more modest pace. The impact of tariffs on certain goods and services remains a wildcard.

Have We Slayed the Inflation Beast?

We are not ready to declare victory in the battle against inflation, particularly given two important facts. First, the Fed is cutting rates when unemployment is still very low, the economy is strong and inflation has not yet receded to the 2% target. Second, the new administration in the U.S. is proposing increased tariffs, tighter immigration policy and growing deficit spending, all of which may be

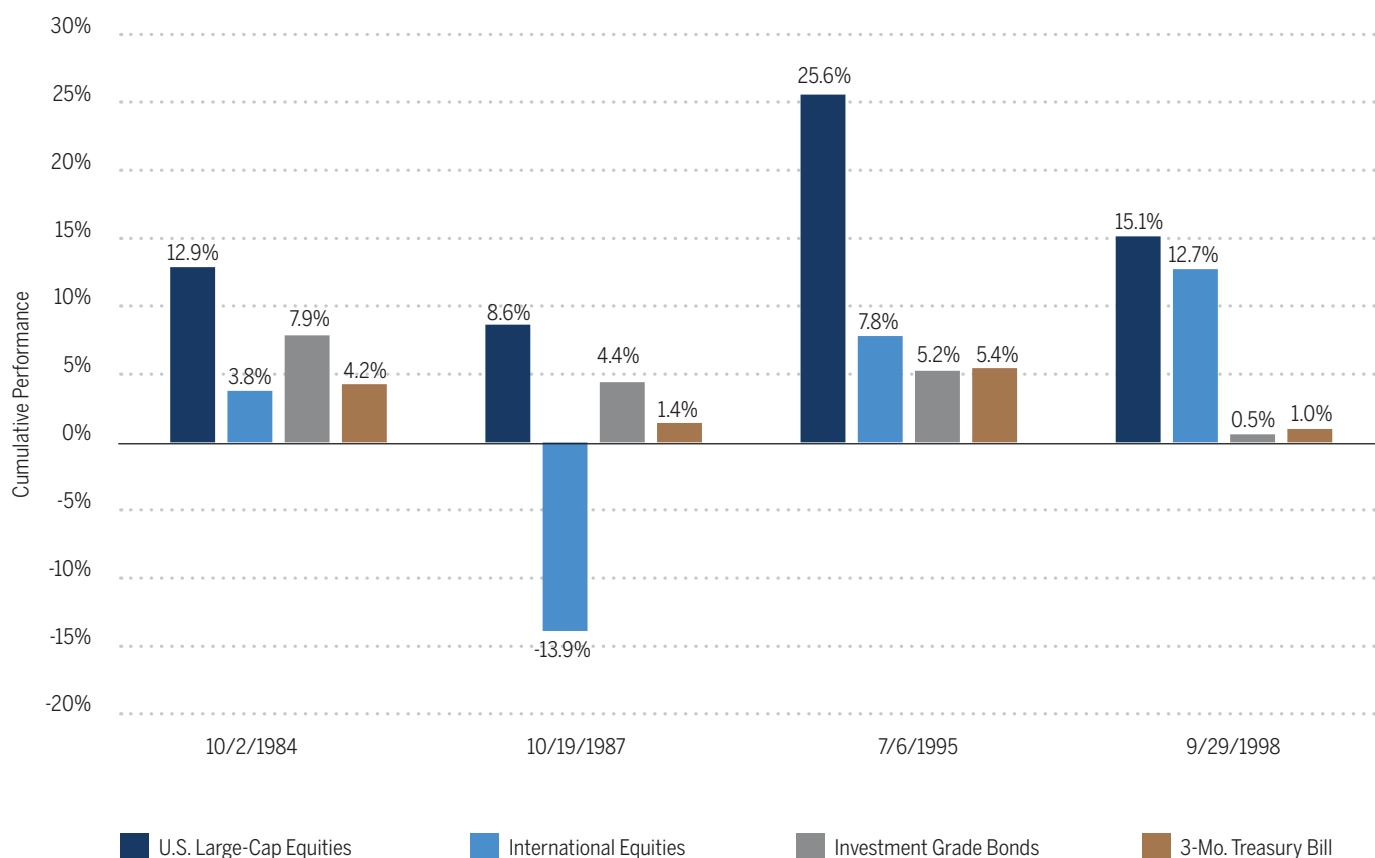
inflationary. This environment has several implications for portfolios, including the risk of higher interest rates, which could negatively impact bond market returns. Higher rates may also prompt investors to reassess the relative value of stocks versus bonds. Based on the new administration's plans, we have raised our fair value estimate for the 10-year U.S. Treasury yield from 4–4.5% to 4.5–5%. If growth sustains its 3% pace, rates could exceed 5%, posing near-term challenges for longer-duration bonds. Such a shift could bring expected U.S. bond returns in line with or above expected returns for stocks, given current stock valuations. For now, we have slowed additions to longer-duration bonds and reduced stock allocations in portfolios where increased spending

is expected or where strong market performance has put us ahead of long-term goals.

Keep It Simple, Stupid

Investing is inherently complex. With countless factors influencing a company's prospects, stock returns and broader market performance, it can be difficult to determine what matters most. Sometimes, simplicity is key. For individual companies or stocks, we focus on business quality, valuation and a three-to-five-year outlook. For broader markets and asset allocation, quality and valuation are also critical, but their relevance often emerges over much longer periods — seven to 10 years. In the near-to-medium term, we seek more

**Market Performance During Fed Rate Cutting Cycle
(when the U.S. was not in a recession)**



Source: Bloomberg, Brown Advisory Analysis using U.S. Large Cap Equities using S&P 500® Index, International Equities using MSCI® ACWI Ex-US Index, Investment Grade Bonds using Bloomberg Aggregate® Bond Index and 3-Mo. Treasury Bill using ICE BofA US 3-Month Treasury Bill Index as of 12/31/2024 representing the most recent data available.

insights into asset class performance, particularly in light of changing investment dynamics.

Acknowledging that many investment rules have been broken in recent years, one relationship we have been reflecting on is how markets perform when the Federal Reserve cuts interest rates, especially during periods when the economy is still growing. Historically, these conditions have been highly favorable for risk assets such as stocks. When the economy is growing and monetary policy is loosening, there tends to be a strong tailwind. As the saying goes, “don’t fight the Fed” — its actions often exert significant influence on markets and the economy. However, a potential side effect is higher inflation, which is why we have slowed the extension of

“**As long as the economy is growing and recession risks remain low, we believe conditions remain supportive of risk assets. This simple principle helps explain why we are not more conservatively positioned in portfolios today, despite elevated stock market valuations and a historically low equity risk premium.**”

Historical and Forward Equity Return Premium 12/31/1924–12/31/2024			
Compound Annualized Growth Rates	Large-Cap Equities (A)	Core Fixed Income (B)	Return Differential (A Minus B)
Historical (1925–2024)	9.6%	5.0%	4.6%
Trailing 10-Year Returns (2014–2024)	9.2%	1.3%	7.9%
Current Return Estimate (as of 12/31/2024)	5.6%	5.4%	0.2%

Source: Bloomberg, Brown Advisory Analysis using the following indices for the periods denoted in parentheses: MSCI ACWI (1988-2024), MSCI World (1970-1987), S&P 500 (1929-2969), and Dow Jones Industrial Average (1925-1928) for Large-Cap Equities and Bloomberg U.S. Aggregate Bond Index for Core Fixed Income. Forecasted returns are based on Brown Advisory’s 10-year forecasted capital market assumptions and the indicated target allocations to each respective asset class. These assumptions are based on the indices for those asset classes. Forecasted returns assume re-investment of dividends and daily re-balancing back to the stated target allocation. Additional information about the performance calculations is available upon request. The investment results stated on this page are for illustrative purposes only.

duration in our bond portfolios, given the increased risk of rising rates.

That said, this cycle is markedly different. The impact of rising rates on growth has been more muted than in past cycles because growth this time has been driven largely by government spending, not increasing individual or corporate debt. This dynamic suggests we may see a less pronounced boost from falling rates compared to previous cycles. Nonetheless, as long as the economy is growing and recession risks remain low, we believe conditions remain supportive of risk assets. This simple principle helps explain why we are not more conservatively positioned in portfolios today, despite elevated stock market valuations and a historically low equity risk premium. According to our estimates, the equity risk premium is currently at its lowest level since the early 2000’s.

The New Normal in Private Markets

We described the state of private markets last year as a stalemate, but the past two years reflect more of a reset. Deal activity has reverted to pre-COVID levels as valuations have declined, fundraising has slowed and market participants have adjusted to a higher-interest-rate environment. However, fundraising in the secondaries market has increased, with managers partnering with a growing class of solutions providers to generate liquidity for investors who have faced slower distributions in recent years. Although we have yet to see the industry-wide increase in exits that may be necessary to free up markets for more investment, particularly in venture capital, our private market managers have identified compelling exit opportunities in more mature portfolios and are positioned for further exits as the IPO and M&A windows reopen. With companies largely staying private for longer, we view private markets as a crucial tool to access a growing group of companies, some of which are fast-growing industry leaders. Deal activity is showing modest improvements each quarter, and we anticipate this trend to continue, driven by the debt maturity wall for private equity-backed companies and the estimated nearly 50% of venture-backed companies that need to raise capital within the next 12 months². Falling interest rates and a friendlier regulatory environment are also likely to spur deal-making.



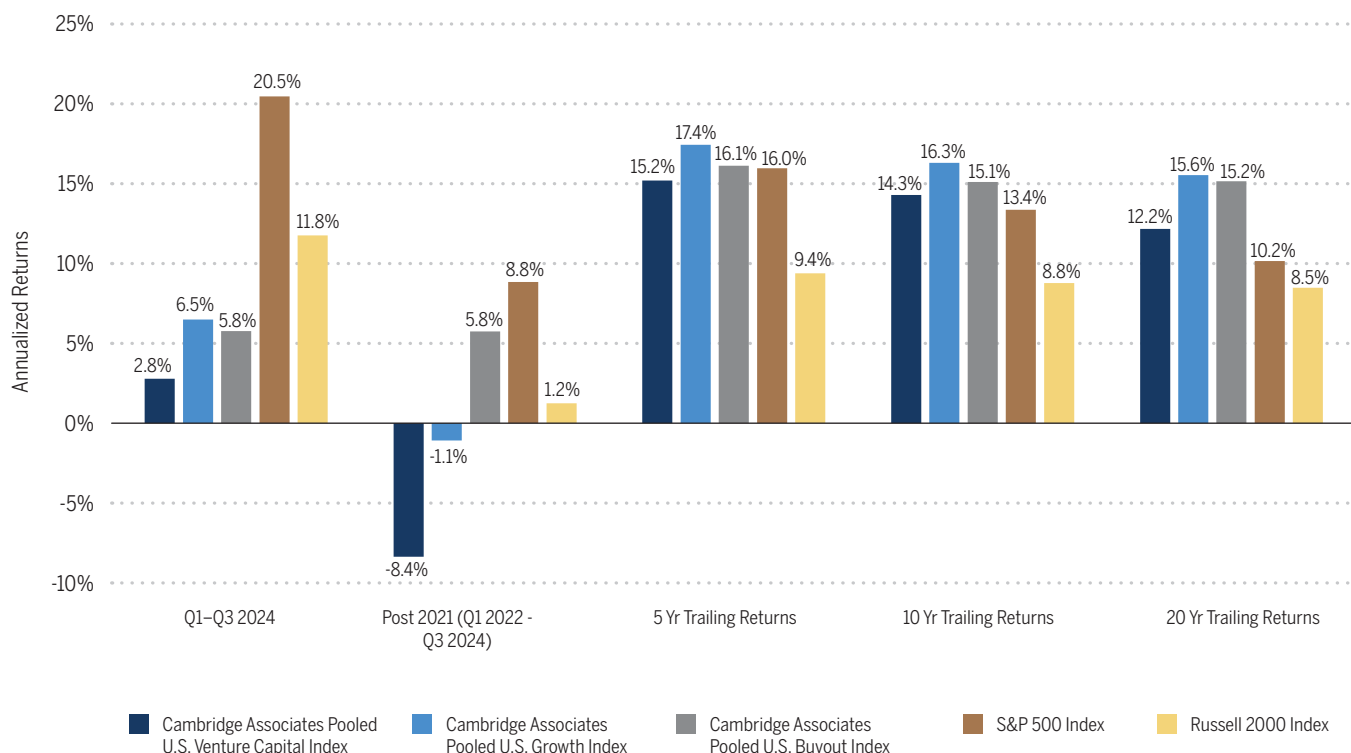
Private market exposure has been a material drag on portfolio performance over the past few years, with venture capital bearing the most strain. We appear to be approaching the end of this valuation reset in most private market segments, as public market valuations have risen while private market valuations have fallen. Additionally, the private investment universe has shifted from an oversupply to an undersupply of capital, with fundraising slowing and the ratio of dry powder to invested capital in the private investment universe at a near-decade low, in part due to the slowdown in distributions and perhaps also due to the perceived underperformance of the asset class relative to public

markets. This makes it increasingly attractive to commit capital to private markets, and we recommend adhering to our annual commitment budgets.

One often-overlooked fact is that private markets have faced similar performance headwinds to segments of the public markets in recent years, given their lack of exposure to the dominant Magnificent Seven. By definition, private equity consists of smaller companies, and the buyout and growth segments of the private markets have continued to add value to portfolios relative to comparable smaller-cap public companies, even over the past few years.

Trailing Returns of Private and Public Markets

While the recent run of private market underperformance has been notable, we underwrite these opportunities with a long investment horizon and believe partnering with the right managers can enhance value and drive strong returns over time.



Source: Bloomberg, Cambridge Associates, as of 9/30/2024 representing the most recent data available.



OUR ASSET ALLOCATION STANCE

Long-Term Outlook (~10 years)

Our asset allocation stance is largely based on our long-term return and drawdown risk estimates across asset classes. For equities, the key inputs for our long-term return estimates are starting valuations, economic growth expectations (or potential GDP growth), and changes in interest rates. For fixed income, the predominant predictor of return is starting yields (incorporating both base government bond yields and spreads) with some influence from the slope of the yield curve and anticipated changes in yields.

Last year, equity market valuations rose again across most major segments of the market. While U.S. mega-cap technology continues to show extended valuations relative to the rest of the market, elevated valuations now characterize most of the U.S. equity market. Coupling this with rising bond yields, we estimate that the equity risk premium is now at its lowest level since the dot-com bubble of the early 2000's. However, where valuations are less extreme, such as small-cap, emerging markets and Japanese equities, the picture is less clear.

The rise in fixed income yields over the past few years has significantly lowered the opportunity cost of a defensive portfolio allocation compared to 2021, when equity valuations were at similar levels. This represents a much healthier dynamic for bond investors than the historically anomalous environment between the Great Financial Crisis and the COVID-19 pandemic, when most major central banks held policy rates at or below zero.

Medium-Term Outlook (18–36 Months)

In the medium term, we assess investment risks relative to return expectations by modeling the estimated performance of various investments in different economic and geopolitical scenarios. This helps both gauge the risk/reward for individual investments, strategies, or asset classes, and ensure that the overall portfolio is well balanced and not overly vulnerable to a particular outcome. In contrast to the long-term inputs, the cyclical environment has become more favorable to equities. Economic momentum, particularly in the U.S., remains broadly positive despite interest rates still being near cyclical highs. Inflation has decelerated, which has taken pressure off central

banks, though most major economies still have inflation running hotter than their official targets. Furthermore, private-sector balance sheets remain healthy, and we do not see major imbalances in the global economy such as in 2001 or 2008. The European economy appears decidedly more precarious given its energy challenges, weaker demographics and potential complications from trade policy (particularly emanating from the U.S.).

Policy uncertainty is a key issue we are watching with new administrations taking over in the U.S. and the U.K. along with faltering coalitions in France, Germany and Canada. There are potential business-friendly changes being made but these would be balanced against rising trade barriers and immigration barriers — whatever one may think on these policies, multinational corporations appeared to be a major winner from globalization. Policy flexibility may also be hampered by the already high levels of government debt and deficits. Implications could be significant for emerging markets given that most emerging economies outside of China are more reliant on trade and foreign capital financing.

As always, we strive to keep portfolios prepared for a wide range of potential outcomes. Some specific changes we made to our scenario analysis are as follows:

- The risk of a “hard landing” has clearly fallen given how well the global economy has held up in the face of elevated interest rates. Now that most central banks are turning to ease policy, the so-called “soft landing” appears increasingly likely.
- Political dynamics in most major economies, highlighted by the re-election of Donald Trump, continue to turn toward nationalism increasing the probability of our “globalization receding” scenario.
- U.S. productivity has been on the rebound of late and while this is a notoriously noisy data series, it does bring the potential for the U.S. to see a lonely economic acceleration. Furthermore, a pro-growth agenda from the new administration could further support this scenario. While this is not our base case, there are sufficient potential catalysts to warrant consideration in a scenario we are calling “American Exceptionalism.”

Base-Case Scenario

Growth Starts to Rebound as Monetary Policy Eases

Inflation continues to drift toward central bank targets, allowing policy to ease, which will help support economic growth. Rising protectionism has an adverse impact on prices and growth but not enough to overcome the broader trends.

Most Likely Scenario

Bull-Case Scenarios

Bear-Case Scenarios

Moderating Inflation With Strong Rebound

Inflation moderates rapidly to levels meaningfully below the central bank's target, allowing interest rates to fall, fueling a broad and strong economic acceleration.

Moderate to Low Likelihood

Globalization Receding

Geopolitical tensions and rising nationalism lead to increased protectionism and reduced immigration. Global trade suffers and demographic challenges are made worse, damaging global economic growth and putting upward pressure on prices.

Moderate Likelihood

American Exceptionalism

Strong gains from AI and deregulation lead U.S. economic growth to accelerate dramatically more than other major economies.

Moderate to Low Likelihood

Stubborn Inflation, Weak Growth

Inflation plateaus at a level high enough to prevent central banks from providing significant stimulus, leading to a prolonged period of weak growth.

Moderate Likelihood

Growth with Inflation

Central banks accept higher levels of inflation and provide more accommodative policy, preventing a recession but with inflation remaining elevated.

Low Likelihood

Economic Hard Landing

Latent pressures from tight monetary policy combine with cracks in consumer spending and real estate to become fissures in the economy and spread to create a full recession.

Moderate to Low Likelihood

Sovereign Debt Debacle

Higher interest rates put increasing pressure on sovereign balance sheets, and multiple major economies face a sovereign debt crisis, forcing fiscal austerity.

Low Likelihood

Conflict Expanding

Current geopolitical conflicts expand, causing significant disruptions in trade.

Low Likelihood

OUR CURRENT POSITIONING BY ASSET CLASS

Equities

The emergence of a more favorable macroeconomic backdrop and the sustained exuberance around AI fueled strong gains in 2024 and richer valuations across sectors. However, a strong economic outlook relative to other geographies, attractive valuations in pockets of the market, and potential policy tailwinds from the new administration all contribute to our continued tilt toward the U.S.

- **Overweight to U.S. Small and Mid Cap:** We have historically maintained an overweight to small- and mid-cap equities, which typically receive less attention than their large-cap peers, providing more opportunities for differentiated returns. Despite a run of underperformance, we believe these stocks are well positioned for 2025 and beyond given cheap valuations and poor investor sentiment toward them. However, given the uncertainties around interest rates and inflation, we are focusing on quality stocks with positive cash flow generation and strong balance sheets, which are typically better insulated from interest rate fluctuations.
- **Select Exposure to Asia in Japan and ASEAN:** Favorable valuations and improving corporate governance make Japan an area of strong interest, particularly with local investors who are actively engaging with management teams. Despite challenges, such as a shrinking population and high government debt, we believe tailwinds such as corporate reform, inflation-driven earnings growth and increased long-term investor interest position Japan's equity market for solid performance. In other parts of Asia, strong secular growth in India and signs of sustainable progress across ASEAN markets have encouraged us to continue shifting away from China. While Chinese equities showed some recovery after stimulus plans were announced to address a slumping real estate market and local government debt, structural headwinds and potential trade tensions with the Trump administration have strengthened our preference for other Asian markets.

- **Global Leaders in Europe:** Despite the significant secular and cyclical challenges that the continent faces, Europe's collection of locally domiciled, globally oriented companies has fueled our sustained interest in the region.

Fixed Income

Interest rates remained volatile throughout the year, but fixed income demonstrated resilience. Despite rising longer-term Treasury yields, fixed income delivered positive returns. With equity risk premiums — or the extra return investors expect from stocks over bonds — remaining relatively small, we believe fixed income presents a compelling alternative to equities, while also regaining its role as a diversifier in portfolios. Additionally, central banks are likely to favor lowering rates over raising them in 2025, reinforcing our decision to maintain full allocations to fixed income. However, challenges remain. Corporate bond spreads are tight, reflecting a healthy U.S. economy and strong balance sheets, limiting upside potential and creating a negatively asymmetric return profile. Additionally, elevated deficits across developed economies are expected to increase the supply of government bonds, putting upward pressure on yields.

- **Balanced Approach, Maintaining Some Shorter-Duration Exposure:** To navigate these dynamics, we are maintaining a balanced approach by keeping duration and credit risk moderate, while pursuing attractive absolute yields. Even with strong yields and potential rate cuts, we are keeping bond duration shorter than benchmarks with a specific duration underweight in corporate bonds, given tight spreads. This approach preserves the diversification benefits of government bonds while reducing portfolio volatility.

- **Opportunity in Mortgages:** While corporate spreads remain near historic lows, we believe mortgage spreads — both in government-guaranteed Agency Mortgage-Backed Securities (MBS) and Non-Agency MBS — are far more attractive. We believe housing market fundamentals are strong, and prepayment risk is low, as most of the mortgage market refinanced during the low-rate environment of 2020 and 2021. This sector, therefore, presents a highly favorable risk/reward profile in our view.

Hedge Funds

After strong absolute and relative returns in 2023, and with bonds again offering attractive yields, we began 2024 with reduced enthusiasm for hedge fund allocations, scaling back exposure in client portfolios. However, hedge funds once again delivered strong performance in 2024, benefiting from low stock correlations, high interest rates and historic market concentration, which created opportunities to generate strong short alpha. We continue to view low-correlation, “diversifying” hedge fund strategies as a valuable portfolio component, offering uncorrelated returns relative to both stocks and bonds.

- **Equity Long-Short Managers:** 2024 posed challenges for generating long alpha, as many of our managers were underweight the Magnificent Seven, which drove much of the market’s gains. However, this market concentration created good shorting opportunities, with managers earning significant short alpha supported by high interest rates that earned healthy yields on the cash received from short positions. Most managers operated with higher gross and lower net exposure, offsetting long-side headwinds with strong short alpha performance. We continue to favor managers with smaller fund sizes, balanced long and short portfolios and lower net exposures, as they generally have greater flexibility to exploit idiosyncratic opportunities across market caps. We have also added a few multi-manager long/short equity managers to our stable who are running market and factor neutral and act as a powerful diversifier in portfolios.
- **Long-Short Credit, Distressed, and Multi-Strategy Managers:** These managers continued to perform well in 2024, capitalizing on opportunities in performing credit, distressed assets and shorting bonds in a tight credit spread environment. Higher

interest rates and tight spreads allowed them to generate positive yields while cost-effectively hedging potential downside risks. Several managers have identified compelling opportunities in commercial real estate and structured credit, areas where distress and mispricing are becoming increasingly evident.

- **Alpha Extension, Portable Alpha and Tax Loss Harvesting Extension Strategies:** To adapt to evolving market dynamics, we are underwriting innovative solutions to meet client needs:
- **Alpha Extension Strategies:** These strategies invest long and short while maintaining a beta exposure to equity markets, aiming to deliver attractive alpha with lower tracking error relative to benchmarks.
- **Portable Alpha Strategies:** Combining index exposure with a separate alpha source, these strategies aim for capital-efficient outperformance over specific indices.
- **Tax Loss Harvesting Extension Strategies:** For U.S. taxable clients, these strategies replicate stock market indices while adding long and short exposure to maximize tax loss generation.

While these approaches introduce greater complexity compared to traditional long-only or passive investments and may not suit every client, they are becoming valuable tools to manage large-cap stock exposure while pursuing outperformance.

Private Markets

Many investors are pulling back on commitments, creating a funding gap and reducing competition among potential private market buyers. Market timing in private markets is always challenging, which is why we adhere to a more programmatic investment approach. While recent challenges have made investors hesitant, we stand by the principle to “be greedy when others are fearful.” Over time, the supply shortage of capital should boost returns and create a more favorable environment for private equity managers.

The rise of “semi-liquid” strategies is also shaping the space, introducing a new source of demand. While we are cautious about liquidity mismatches, particularly with newer entrants, we have selectively invested in semi-liquid private credit strategies that offer consistent interest payments and regular maturities and refinancings. These strategies are likely to grow further, favoring investments with strong cash flows and shorter exit timelines. However, their success in raising capital could reduce the illiquidity premium in certain areas if they are eager to deploy capital and consequently target lower returns than traditional drawdown strategies.

Venture Capital

With investors myopically focused on AI, the venture capital (VC) market has bifurcated into an “AI vs. everything else” state. AI-related startups raked in a large portion of the VC dollars that were deployed in 2024 at lofty valuations. However, these headline-snatching fundraising rounds masked the growing capital needs from companies in other sectors, creating opportunities for astute investors. While many investors are shifting focus to larger, more established companies and managers, we continue to invest across the venture spectrum, finding compelling opportunities to build meaningful ownership in companies in earlier-stage deals due to reduced competition. We expect the dynamic of companies staying private for longer to persist, with top-growth companies accessible only through venture allocations.

Lower Middle Market Buyouts

Rising interest rates have dampened deal activity due to the higher cost of leverage, even if demand from buyers in the secondaries market has helped offset some of the pressure. Despite this reset, middle market companies have generally performed well, with solid EBITDA growth and manageable interest payments. Investors, including a new slate of semi-liquid funds, tend to favor larger, more established companies as capital raising has increasingly concentrated in larger funds. This trend has

only strengthened our preference for the lower middle market, where inefficiencies are greater and managers with operational expertise can add significant value, often as the first institutional owners of a business.

Real Estate

Real estate has faced substantial pressure, driven by secular challenges in the office sector and cyclical challenges from rising interest rates. Following a broad repricing, lending activity resumed in 2024, and prices in most sectors began to recover. While high-profile office defaults captured headlines, they may signal the climax of market stress, enabling other sectors to move forward with fewer headwinds.

Opportunities are emerging in areas with strong secular tailwinds, such as self-storage and data centers, where cyclical challenges have created better entry points. The fundamentals of multi-family housing remain strong, and we have started to see a significant resetting of valuations. This has led us to refocus on equity deals, whereas we previously prioritized credit.

Private Credit

Private credit has outperformed other private market segments in recent years due to high yields, shrinking bank balance sheets and strong economic conditions. However, robust fundraising and tighter spreads in public credit have led to some erosion in lending standards as new entrants push into the market.

At the smaller end of the private credit market, these shifts have been less pronounced, and in lesser correlated, specialty finance segments such as royalties and asset-backed lending, we are finding strong opportunities. Spreads remain significantly wider than in public markets, and in areas where we trust our managers' prudence, we continue to see a favorable risk/reward profile. Overall, we view the growth in private credit as both cyclical and structural, with a long-term trend toward more lending from non-bank entities, even in the investment-grade credit space.



2025 ASSET ALLOCATION VIEWS

Baseline Allocation Model and Long-Term Projections by Asset Class

For many years, we have used a consistent process for communicating and adjusting a baseline asset allocation strategy for portfolio managers to use with clients. The approach involves the creation of a “standard model” (we tend to avoid such terms as “standard” or “model” because our client portfolios are highly customized and rarely adhere strictly to any sort of model), based largely on our long-term conviction about each major asset class, and then periodic “tweaking” as needed to capitalize on an undervalued asset class or to trim exposure to an asset class with elevated risk.

The long-term ranges in the tables below and on the next page express what we consider to be prudent boundaries for each asset class in a typical, long-term-oriented portfolio, given our 10-year outlook for that asset class. For example, we currently feel that U.S. equities merit an

allocation of 25–35% of a typical client’s portfolio. Key drivers of our thinking are our expectations for baseline 10-year annualized return, maximum likely drawdown risk (expressed as worst likely one-year outcomes over 10-year and 20-year periods) and the alpha opportunity we think we can reasonably achieve from selection of adept managers. We provide these expectations in the tables.

The medium-term targets in the tables express our current guideline for where to position portfolios within each asset class. Intermediate-term adjustments are, appropriately, based on a disciplined look at various intermediate-term market scenarios that may play out in the next two to three years (these scenarios are discussed further on pages 18 and 19).

		Europe and U.K. Equities				
		U.S. Equities	Equities	Japan Equities	Asia Equities (ex. Japan)	
		Range Top	35	15	8	10
		Range Bottom	25	5	0	2
		Target	33	8	4	3
Long Term (10 years)	Expected Baseline Return	6.1%	5.7%	6.5%	6.1%	
	Alpha Opportunity	0–1%	1–1.5%	1–1.5%	1.5–2.5%	
	Drawdown Risk (1 in 10 / 1 in 20)	-27% / -44%	-26% / -48%	-27% / -48%	-44% / -60%	
Medium Term (2–3 years)	Valuation	Negative (Large Cap)/ Neutral (Small Cap)	Neutral	Positive	Slightly Positive (China) / Slightly Negative (ex. China)	
	Macroeconomics	Positive	Slightly Negative	Slightly Positive	Negative (China) / Positive (ex. China)	
	Most Favorable Scenarios	American Exceptionalism	Moderating Inflation w/ Strong Rebound	Moderating Inflation w/ Strong Rebound	Moderating Inflation w/ Strong Rebound	
	Least Favorable Scenarios	Economic Hard Landing	Sovereign Debt Debacle	Economic Hard Landing	Economic Hard Landing	

The hypothetical performance depicted in the charts above represents the long-term return estimates. Our long-term return estimates are derived by Brown Advisory’s asset allocation team and are meant to be a central tendency for where we believe returns in each asset class will tend to center around over the next 7-12 years. They are not meant to be precise forecasts and actual returns will differ, perhaps substantially, from these estimates. The main inputs for our analysis include various equity market valuations, economic growth expectations, demographic trends, bond yields, yields curves, credit spreads, interest rate expectations and inflation. Our analysis uses the historical relationship between market returns and these variables by using statistical analyses such as linear regression. Our drawdown estimates are derived by Brown Advisory’s asset allocation team and designed to estimate the size of a market drawdown that would be expected every 10-20 years and not designed to be a “worst possible outcome.” Key inputs for these estimates include the size and magnitude of historical drawdowns of equity markets, historical volatilities. Our alpha opportunity estimates are derived by Brown Advisory’s asset allocation team and designed to estimate the potential for adept security selection to improve upon the risk-adjusted return of an asset class and not intended to estimate the return of any particular strategy or portfolio. Key inputs include the historical return of active managers in each asset class, the dispersion of underlying securities and qualitative assessments of the efficiency of asset classes. Further information on performance calculations as well as the risks and limitations of investing based on hypothetical returns is available upon request.

		Latin American Equities				IG Bonds		HY Bonds		Hedged Strategies*	
		Range Top		7		35		10		15	
		Range Bottom		0		20		2		5	
		Target		1		24		3		8	
Factors	Long Term (10 years)	Expected Base Return		6.8%		5.4%		5.7%		4.5%	
		Alpha Opportunity		1.5–2.5%		0–1%		0–1%		2–3%	
		Drawdown Risk (1 in 10 / 1 in 20)		-50% / -62%		-6% / -12%		-13% / -28%		-13% / -23%	
	Medium Term (2–3 years)	Valuation		Slightly Positive		Slightly Positive		Slightly Negative		Neutral	
		Macroeconomics		Slightly Negative		Neutral		Slightly Positive		Neutral	
		Most Favorable Scenarios		Moderating Inflation w/ Strong Rebound		Economic Hard Landing		Moderating Inflation w/ Strong Rebound		Moderating Inflation w/ Strong Rebound	
		Least Favorable Scenarios		Economic Hard Landing		Growth with Inflation		Economic Hard Landing		Economic Hard Landing	

Factors		Commodities	Private Equity*	Real Estate*	Private Credit*	
		Range Top	5	15	8	8
		Range Bottom	0	5	2	2
		Target	0	7	4	5
	Long Term (10 years)	Expected Base Return	4.2%	8.3%	7.5%	7.7%
		Alpha Opportunity	0%	3–7%	3–5%	2–4%
		Drawdown Risk (1 in 10 / 1 in 20)	-31% / -49%	--	--	--
	Medium Term (2–3 years)	Valuation	Negative	Slightly Negative	Neutral	Neutral
		Macroeconomics	Neutral	Neutral	Slightly Negative	Slightly Positive
		Most Favorable Scenarios	Growth with Inflation	Moderating Inflation w/ Strong Rebound	Moderating Inflation w/ Strong Rebound	Moderating Inflation w/ Strong Rebound
		Least Favorable Scenarios	Economic Hard Landing	Economic Hard Landing	Economic Hard Landing	Economic Hard Landing

The hypothetical performance depicted in the charts above represents the long-term return estimates. Our long-term return estimates are derived by Brown Advisory's asset allocation team and are meant to be a central tendency for where we believe returns in each asset class will tend to center around over the next 7-12 years. They are not meant to be precise forecasts and actual returns will differ, perhaps substantially, from these estimates. The main inputs for our analysis include various equity market valuations, economic growth expectations, demographic trends, bond yields, yields curves, credit spreads, interest rate expectations and inflation. Our analysis uses the historical relationship between market returns and these variables by using statistical analyses such as linear regression. Our drawdown estimates are derived by Brown Advisory's asset allocation team and designed to estimate the size of a market drawdown that would be expected every 10-20 years and not designed to be a "worst possible outcome." Key inputs for these estimates include the size and magnitude of historical drawdowns of equity markets, historical volatilities. Our alpha opportunity estimates are derived by Brown Advisory's asset allocation team and designed to estimate the potential for adept security selection to improve upon the risk-adjusted return of an asset class and not intended to estimate the return of any particular strategy or portfolio. Key inputs include the historical return of active managers in each asset class, the dispersion of underlying securities and qualitative assessments of the efficiency of asset classes. Further information on performance calculations as well as the risks and limitations of investing based on hypothetical returns is available upon request.

UNLOCKING POTENTIAL: INVESTMENT THEMES WE ARE WATCHING FOR 2025

As fundamental investors, we examine the unique qualities that differentiate the businesses we consider for our portfolios. We evaluate management skills, balance sheet strength and product quality to understand why a good business has the potential to become even better. However, even the best companies do not operate in a vacuum and can be affected by industry-or sector-wide movements.

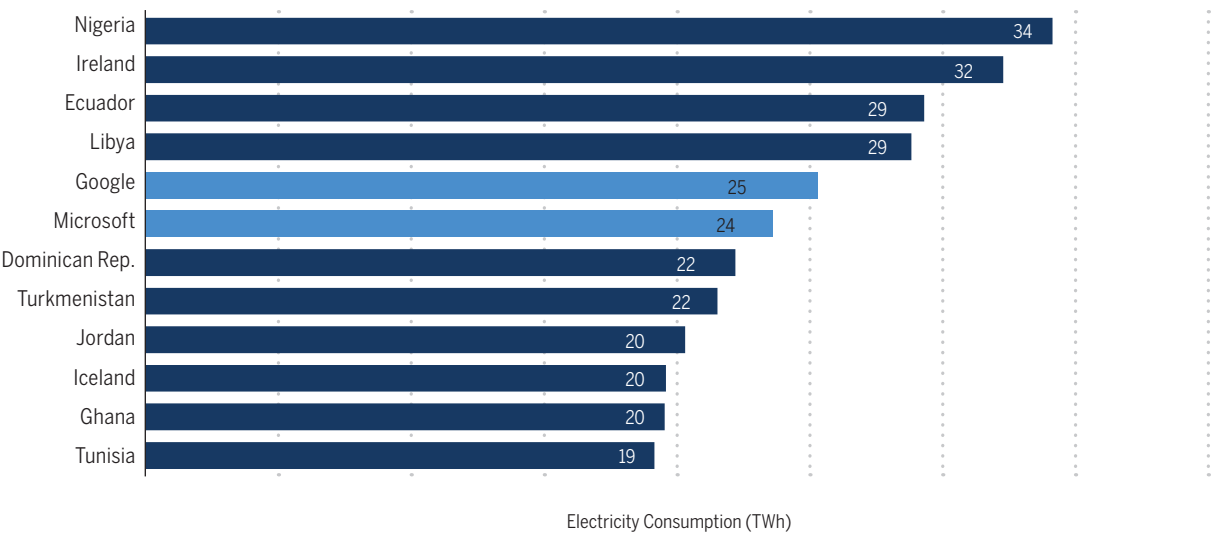
For example, NVIDIA's stock fell over 50% in 2018 due to an industry-wide decline in demand for cryptocurrency-related graphic-processing units (GPUs), despite strong growth in its gaming and AI businesses. Those that identified the growth and potential of AI stood to benefit from its subsequent meteoric rise. Similarly, Microsoft lost 60% of its market value during the dot-com crash, even as it maintained dominance in enterprise software and operating systems. The stock remained stagnant until it emerged as a winner in cloud computing — a secular growth engine that has powered the stock to compound over 20% for the past 15 years. Shopify's shares grew 17-fold from May 2015 to February 2020,

capitalizing on the secular boom of the transition to e-commerce and digital payments³. These examples underscore the immense influence of industry dynamics on a company's prospects and a stock picker's potential returns. Looking ahead, we see compelling long-term investment themes in the energy, aerospace and defense sectors, which could provide strong tailwinds as we seek to identify industry leaders in these areas.

Energy and Power

Boom in Natural Gas Driven by Data Center Growth: Data centers have become an essential part of the global infrastructure, driven by the rise of artificial intelligence, cloud computing and digital transformation projects. As a result, electricity consumption by hyperscalers such as Google and Microsoft, surpassed that of entire nations in 2023. The International Energy Agency (IEA) projects that data centers will account for 6% of U.S. electricity demand by 2026, with the Department of Energy projecting 26% year-over-year growth in data center electricity consumption from 2024 to 2027.

Google and Microsoft Outconsumed > 50% of Nations in 2023



Source: U.S. Energy Information Administration, Microsoft, Google as of 12/31/2023 representing the most recent data available.



Looking ahead, we see compelling long-term investment themes in the energy, aerospace and defense sectors which could provide strong tailwinds as we seek to identify industry leaders in these areas.



Although many of these operators are aiming for net-zero emissions, the current renewable energy supply is not equipped to meet growing demand. Independent power producers such as Constellation Energy Group and Talen Energy are helping fill the gap using nuclear energy, but nuclear plants are in short supply. Natural gas, with its scalability and integration into the existing grid, is well positioned to meet this demand in our view. Unlike renewable energy sources, natural gas plants can rapidly ramp up production to meet peak electricity needs. Natural gas production companies such as Cheniere Energy are primed to benefit, alongside supply and service providers such as Weatherford International and Baker Hughes, which provide essential technologies for natural gas production.

A Push for Energy Efficiency: Energy waste costs businesses and homeowners an estimated \$150 billion annually, with commercial and residential buildings losing roughly 33% of their energy consumption to inefficiencies⁴. As energy-intensive data centers grow in size and number, the need for efficient, waste-reducing solutions will only grow.

Companies such as Monolithic Power and Marvell are optimizing data infrastructures and power distribution tools to reduce energy intake, while Carrier Global Corp. is capitalizing on its existing efficient HVAC expertise to provide cooling solutions that minimize energy waste.

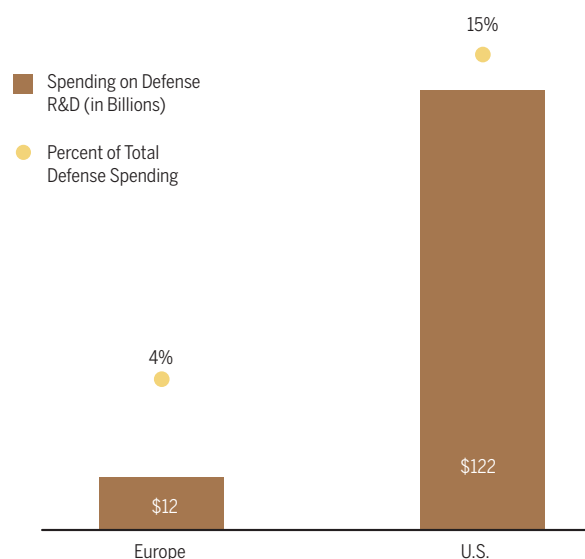
Renewable Energy Growth Remains Robust: Despite policy shifts under the Trump administration, renewable energy momentum remains strong, supported by the Inflation Reduction Act (IRA) and corporate net-zero pledges. Many Republicans have expressed interest in preserving parts of the IRA, and many renewable energy firms are pivoting their messaging from emissions

reduction to energy security. Although some turbulence is expected, China's dominance in renewables will likely ensure continued federal attention to this sector. Our managers continue to see opportunities in renewable energy power generation across the public and private markets.

Aerospace

Supply-Demand Imbalance in Aircraft Manufacturing and Servicing: Demand for air travel continued to grow in 2024 with total full-year traffic rising 10.4% compared to 2023 and global passenger volume surpassing 2019 levels for the first time since the COVID-19 pandemic according to the International Air Transport Association⁵. This surging air travel demand has exposed cracks in the aerospace industry. Boeing and Airbus face production backlogs extending beyond 2030 due to supply chain disruptions and labor shortages. Engine and equipment manufacturers, such as Safran, GE Aerospace and Woodward, are benefiting from these delays, becoming price makers. Maintenance, repair and overhaul (MRO) businesses such as StandardAero are also capitalizing on the situation by servicing aging fleets.

U.S. Outspends European Union on Defense R&D 10 to 1



Source: Congressional Budget Office, European Union Coordinated Annual Review on Defense (2023) representing the most recent data available.

Rise of Aircraft Leasing: Aircraft leasing has grown significantly, with leased planes now comprising 58% of the global commercial fleet, compared to just 10% in the 1970s. Airlines are increasingly shifting aircraft from capital expenses to operating expenses, following the Uber model. Lessors such as AerCap are capitalizing on this trend, securing long-term contracts at favorable rates as airlines prepare for increased demand.

A New Space Race: Private companies are leading the space industry's renaissance. SpaceX's success, including its 350th recycled Falcon 9 rocket booster flight, its dominant share of satellite launches and millions of Starlink subscribers headlines the plethora of potential private space ventures. Firms such as Varda Space Industries, which focuses on microgravity-enabled life sciences, are creating significant space-related investment opportunities across industries.

Security & Defense

Geopolitical Uncertainty and NATO Spending:

Russia's invasion of Ukraine has reignited European defense spending. Governments are marching toward and surpassing NATO's 2%-of-GDP target, with many nations focused on onshoring defense production after importing more than 75% of their defense arsenals from non-European suppliers in recent years⁶. European domiciled defense contractors, such as Rheinmetall and Thales, stand to benefit as Europe builds a more self-sufficient defense industry.


Growing Need for Cybersecurity: Cyberattacks on critical infrastructure and sensitive data are driving increased government and corporate cybersecurity spending. The FBI reported nearly 900,000 cybercrime cases in 2023, with potential damages exceeding \$12.5 billion⁷. Companies such as Zscaler, Datadog and Arctic Wolf, with strong track records in protecting data, are well positioned to benefit from this growing demand.

Emerging Technologies in Defense: The most innovative defense solutions are often found in private markets. Companies such as Anduril Industries and Hadrian Automation are forging lucrative partnerships with the U.S. military and allied forces, creating significant investment opportunities.

Health Care and Life Sciences

Another sector where we have sought specialized exposure is health care. Health care spending is approaching 20% of U.S. GDP, and we have seen a substantial increase in the pace of innovation and FDA approvals in the last five years. Innovations in GLP-1 medications, cell and gene therapies, and antibody-drug conjugate cancer treatments are examples of large markets which are emerging, spurring opportunities across the value chain from manufacturing to drug delivery. However, the threat of reduced federal funding, an uncertain regulatory environment and a surging (and cheaper) pharmaceutical market in China mean the future is less certain for health care companies. Similar to private markets, we see a dynamic emerging where the supply of capital is falling as the demand for capital from companies is rising, which appears to be setting up a good period for long-term investors.





NO SMALL CAP LEFT BEHIND

For decades, it was widely accepted that smaller-cap stocks outperformed larger ones over the long term due to the inherent inefficiencies of the asset class and the longer runway for growth. Historically, small caps were considered a higher-volatility, higher-return asset class that provided both diversification and return enhancement. However, recent years have challenged this premise, despite what we view as attractive valuations and solid fundamental performance in the sector.

Our overweight recommendation to U.S. small-cap equities has underperformed major large-cap indices. U.S. small caps, as measured by the Russell 2000® Index, have not outperformed their large-cap counterparts in the Russell 1000® since 2016, marking the longest stretch of relative underperformance since the inception of the two indices in 1979. These same stocks have outperformed the S&P 500 Index only two times in the past 10 years despite generating similar earnings growth in that period.

Why Have Small Caps Been Left Behind?

Several factors explain the prolonged underperformance of small caps:

- **Limited Technology Exposure:** Large-cap indices have benefited immensely from leaders in software,

cloud computing and AI, which dominate the S&P 500. Technology represents just 14% of the Russell 2000, compared to 33% for the S&P 500.

- **Interest Rate Sensitivity:** Small caps are more sensitive to rising interest rates due to their cyclical nature and greater exposure to sectors such as financials, industrials, real estate and consumer cyclicals. Many small-cap companies carry higher leverage, with nearly one-third of their debt being short-term and floating rate, amplifying the impact of rising rates.
- **Profitability Concerns:** The Russell 2000 has a significant proportion of unprofitable companies — more than 40% each year. The impact of this was felt in the first half of 2024, as negative revisions to EPS estimates compounded weak company performance, leading the Russell 2000 to underperform the S&P 500 by approximately 13%.

A Turnaround on the Horizon

Historically, U.S. small caps have rebounded swiftly during periods of improving economic and business conditions, often leading the market in periods of accelerating growth. Factors driving this turnaround include:

- **Monetary Easing:** Small caps typically benefit from a shift to lower interest rates, which improves profitability and reduces financing costs.
- **Changing Sentiment and Improving Earnings:** Due to lower liquidity and limited Wall Street analyst coverage, small caps are more susceptible to momentum-driven trading and shifts in sentiment. In the summer of 2024, when investor sentiment toward small caps had reached historic lows, the Fed signaled its first rate cut in September. This triggered a rotation into U.S. small caps, which posted strong gains in the back half of 2024, outperforming the S&P 500. Optimism around pro-domestic growth policies under the Trump administration further fueled the rally.

Heading into 2025

Client portfolios remain generally overweight small- and mid-cap stocks. Although recent gains were driven by sentiment rather than fundamentals, small caps still appear undervalued relative to large caps. Key considerations include:

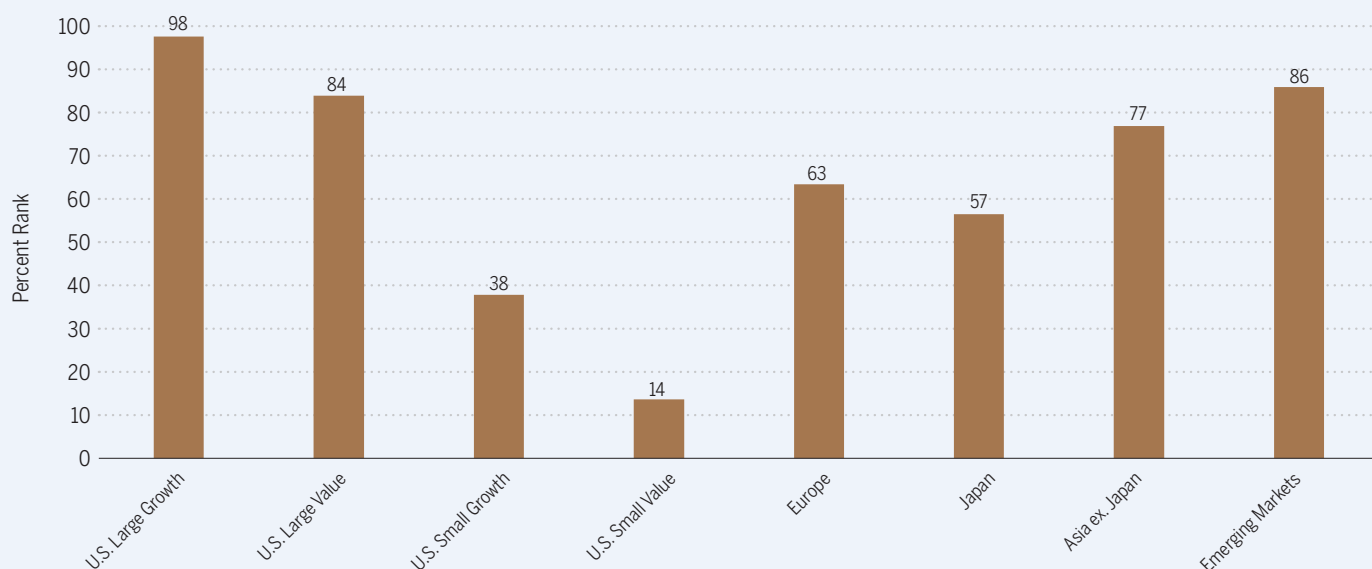
- **Valuations and Fundamentals:** Small-cap valuations are closer to historical norms, with a price-to-sales ratio 20% below pre-COVID levels⁸. Improving earnings estimates, lower interest expense, and

potential economic growth could support further upside.

- **Domestic Focus:** Small caps are more tied to the U.S. economy, with only 20% of revenues derived from overseas compared to 40% for the S&P 500⁹. This better insulates them from global geopolitical risks.
- **Onshoring and Capex Growth:** Reshoring initiatives and investments in supply chain reliability could spark a capex cycle favoring U.S.-focused small caps, which have historically led to higher revenue growth.
- **Broadening AI Spending:** As AI capital investment expands beyond large caps, small companies stand to benefit from technological advancements.
- **M&A Activity:** Increased deal-making could provide another tailwind for the sector.

While we continue to favor quality small-cap companies — specifically, those with strong earnings, cash flow, and recurring revenues — we have shifted our preference toward value-oriented names, where valuations are attractive and fundamental improvement is tied to economic growth. A broadening of market leadership away from mega-cap stocks should provide additional support for small caps in 2025.

Valuation Percentile Using CAPE Relative to Last 20 Years



Source: Bloomberg, as of 12/31/2024. U.S. Large Growth using Russell 1000® Growth Index, U.S. Large Value using Russell 1000® Value Index, U.S. Small Growth using Russell 2000® Growth Index, U.S. Small Value using Russell 2000® Value Index, Europe using MSCI Europe USD Total Return Index, Japan using MSCI Japan USD Total Return Index, Asia ex. Japan using MSCI Asia ex. Japan USD Total Return Index, and Emerging Markets using MSCI Emerging Markets Net USD Total Return Index

BREAKING DOWN THE OPPORTUNITY IN GENERATIVE AI



In the second full year since the release of ChatGPT, 2024 was defined by sustained enthusiasm for generative AI, tempered by questions surrounding the eventual revenue opportunity from AI and the cost of developing new models. Investors shifted their focus accordingly, analyzing potential outcomes and exploring AI-related opportunities beyond the hyperscalers.

“
Our focus is on capitalizing on current opportunities at attractive valuations while positioning for transformative developments in the future.
”

We view generative AI as a dynamic, long-term investment theme that will evolve as technology advances and adoption broadens. Our focus is on capitalizing on current opportunities at attractive valuations while positioning for transformative developments in the future. Based on historical technological transformations, we have identified three key phases of opportunity: infrastructure buildout, applications development and productivity realization through widespread adoption.

Infrastructure

As generative AI is still in its early stages, most investment opportunities have centered on the infrastructure needed to support this transformative technology, including the semiconductors that process

AI computations, the data centers where computations occur, the real estate the data centers occupy, and the power and services necessary for their operation.

Semiconductors:

NVIDIA has experienced exponential growth since 2022, primarily due to its dominant 90%+ market share in AI chip design for data centers (excluding in-house chips developed by hyperscalers, such as Alphabet). Similarly, Taiwan Semiconductor dominates the semiconductor foundry market, manufacturing chips for NVIDIA, Alphabet, Apple and Qualcomm, with a 90%+ share of advanced AI chip production. However, shares of both companies plunged in a notable, one-day market move following the Chinese AI company DeepSeek's unveiling of a new AI model, raising concerns about reduced future demand for NVIDIA's GPUs and Taiwan Semiconductor's chip production.

Other semiconductor and infrastructure players are also benefiting from AI growth:

- **NXP Semiconductors and Marvell:** These companies develop specialized processors for edge computing and application-specific integrated circuits (ASICs), tailored to AI use cases.
- **Monolithic Power:** Its control chips efficiently manage power for NVIDIA's GPUs, supporting AI hardware growth.

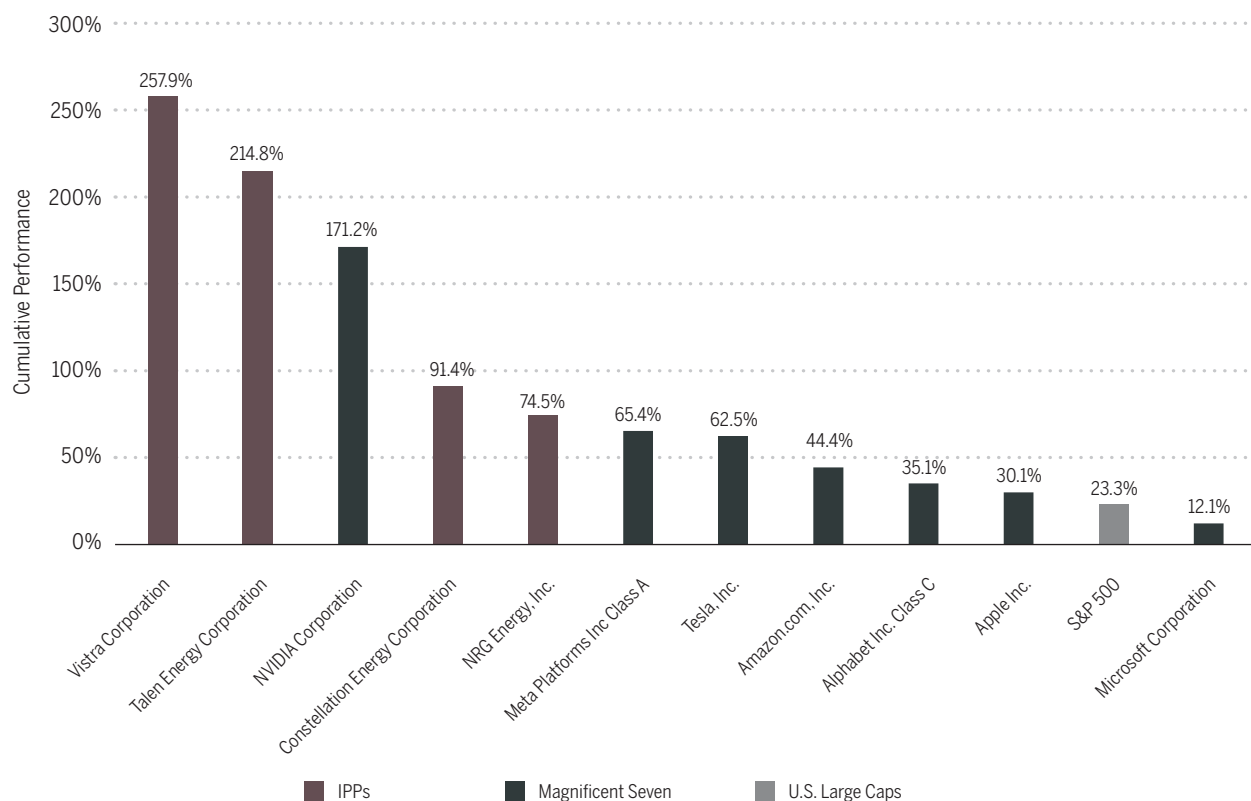
Power Generation and Independent Power Producers

The growing electricity demand from AI and data centers has already strained current systems, making infrastructure development critical for AI's continued advancement. The release of DeepSeek's efficient R1 model has introduced uncertainty about the anticipated energy demand from AI. However, it is possible that lower compute prices and increased efficiency will reduce barriers to entry, boosting AI demand and ultimately leading to higher power consumption. Independent power producers (IPPs) have been instrumental in meeting the surging electricity demands of AI data centers, which require up to seven times more power than traditional data centers. There are four publicly traded IPPs: Constellation Energy, Vistra, NRG Energy and Talen Energy.

- **Constellation** announced plans to restart the Three Mile Island nuclear plant to fulfill a 20-year power agreement with Microsoft, while Talen secured a deal to supply nuclear power to Amazon Web Services (AWS). These companies are benefiting from the resurgence of nuclear power as a clean, reliable energy source for data centers.

Compared to regulated utilities, IPPs offer greater leverage to capitalize on increasing power demand, with the flexibility to adjust output and lock in above-market pricing. As the chart below demonstrates, IPPs outperformed all the Magnificent Seven stocks in 2024, excluding NVIDIA.

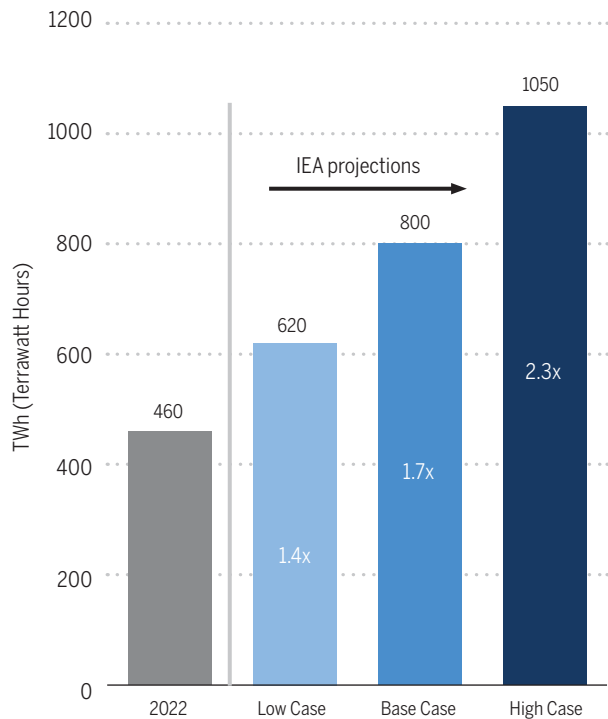
2024 Performance of Magnificent Seven and IPPs



Source: Factset, as of 12/31/2024.

Global electricity demand from data centers, AI and cryptocurrencies is projected to increase significantly by 2026.

International Energy Agency (IEA) Estimates for 2026



Source: IEA (2024), Electricity 2024, IEA, Paris <https://www.iea.org/reports/electricity-2024>, Licence: CC BY 4.0; As of 1/31/2024, representing latest available data.

Data Centers: Real Estate

The number of data centers has doubled over the last decade, and we expect this trend to accelerate, driven by tailwinds in cloud computing and generative AI demand.

Over the past 25 years, data center real estate has evolved into a highly complex, specialized and capital-intensive sector. Throughout this period, we have partnered with private market managers to invest directly in the development and operations of these data centers. By partnering with experienced developers who can adeptly navigate intricate stakeholder dynamics and location-specific regulatory challenges, we aim to capitalize on the compelling growth opportunities in this segment.

Data Centers: Operating Efficiencies

Beyond real estate, emerging opportunities exist in companies that provide services to optimize data center operations as delays and outages can cause downtime in models, data loss and security vulnerabilities. A key theme to address is temperature control in energy-intensive data centers. Traditional water-cooling methods have caused significant strain on local water supplies, prompting an exploration of alternative methods, such as immersion cooling and direct-to-chip cooling. Companies such as Carrier Global and Trane Technologies are providing tech-enabled and energy-efficient solutions to monitor and mitigate the impact of cooling in data centers.

- **Carrier Global Corporation** is a leading provider of heating, ventilation and air conditioning (HVAC); refrigeration; and fire and security solutions that works to create safe and intelligent building environments. Its commercial HVAC business has grown meaningfully due to increased demand from data centers.
- **Trane Technologies** is another manufacturer and service provider for HVAC and refrigeration units with significant exposure to data centers.



Applications

Several companies are developing generative AI applications for both individual and business users. Since most of these use cases are still in their early stages, a large proportion of the opportunities exist in private markets. Examples of innovative applications include:

Foundation Models:

- **OpenAI**, the AI-based research and development platform for machine learning, which created ChatGPT.
- **Anthropic**, an AI research company focused on developing safe and reliable AI systems that align with human values.

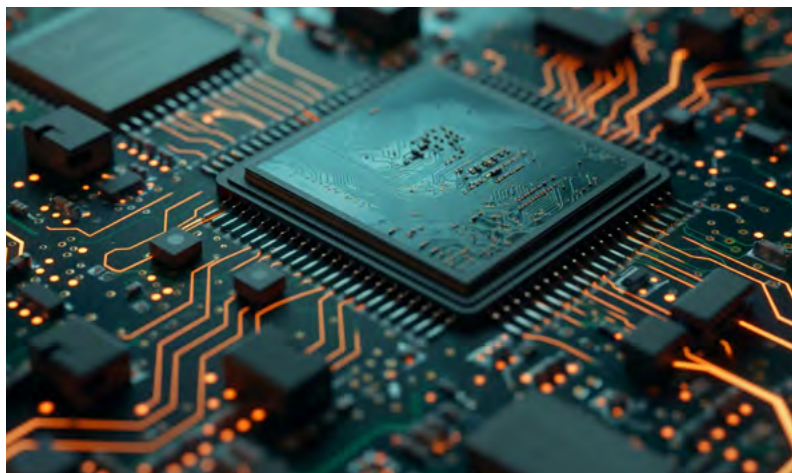
AI-Centric Companies:

- **Databricks**, a cloud-based analytics platform provider that enables enterprises to build, scale, and manage data and AI solutions.
- **EvenUp**, a legal tech company utilizing machine learning to support plaintiffs and attorneys in personal injury cases.

AI-Powered Companies:

- **Anduril**, a defense technology company that utilizes algorithms, computer vision, sensor fusion and automation to monitor threats.
- **Evolv**, which uses AI to revolutionize metal detection systems at event venues.
- **Flock Safety**, which enhances safety surveillance for schools and communities.

These applications demonstrate how generative AI is beginning to disrupt non-technology industries. Addressing specific challenges or business needs, AI-powered applications have the potential to generate significant revenues and transform markets. We remain enthusiastic about future applications and actively monitor both private and public markets for opportunities.



Productivity and Capital Expenditure

The productivity phase presents long-term opportunities that could take years or even decades to fully materialize. However, history shows that markets often underestimate the value and impact of innovation. We see this potential impact materializing through improved labor force productivity and expanded corporate margins, resulting in sustained economic and earnings growth. Additionally, we are already seeing signs of increased corporate capital expenditures. Estimates suggest AI could boost productivity by 0.5–1%+ per year, a factor that appears underappreciated in the consensus 2% real GDP growth estimates for the U.S. in the coming years. While companies such as NVIDIA have experienced dramatic changes in earnings expectations since the release of ChatGPT, broader market expectations have shifted only modestly, leaving substantial potential for both broad economic impacts and individual improvements to earnings estimates for companies that adeptly integrate AI to materially improve their business.

For example, United Airlines, one of the top-performing S&P 500 stocks in 2024 with a 135% gain, has integrated AI into operations to improve efficiency. While this was not the sole driver of the stock's performance, it highlights how AI adoption can enhance operational outcomes and integration across the market.

Hyperscalers

Hyperscalers, such as Meta, Amazon, Microsoft and Alphabet, are integral parts of the entire generative AI food chain. These companies are already dominant in the cloud computing and data management services that underlie much of artificial intelligence, and they are also investing significant resources to cement that position and support large-scale data processing and storage. Additionally, they are leveraging their broad platforms to offer AI-enabled products and services, utilizing unique data sets.

While the market has rewarded these companies for leading the AI revolution, we believe they will continue to offer attractive returns, and this is reflected in our portfolios. These companies' robust cash flow generation allows them to invest heavily in AI and infrastructure without requiring immediate proof of return on investment. As Alphabet's CEO, Sundar Pichai, stated during the Q2 2024 earnings call:

"The one way I think about it is when you go through a curve like this, the risk of underinvesting is dramatically greater than the risk of overinvesting for us here, even in scenarios where if it turns out that we are overinvesting, ... these are infrastructure which are widely useful for us."

This unique ability to invest at scale without meaningfully impacting their margins positions hyperscalers to drive the development of a more sustainable and resilient power grid, which is critical for AI data centers. We continue to monitor valuations and growth projections for these companies, but their dominant market positions, technological advantages and massive expected spending on AI infrastructure make them critical in capturing the growth of AI.

Key Considerations

- **Competition:** Currently, the U.S. tech giants have a strong hold on many of the key areas of AI, but that could change in time. Further innovations in semiconductor production or application development could consolidate or democratize the ecosystem. DeepSeek's emergence and rapid impact on the market demonstrates just how sensitive some companies are to these competitive dynamics.
- **Regulation:** Governments around the world are still catching up to the implications of AI. Europe is taking a more interventionist approach to AI

applications, while the new U.S. administration has signaled a desire to be more laissez-faire. However, both regions have looked to secure supply chains for semiconductors and prevent advanced hardware from reaching geopolitical adversaries, such as China and Russia. Governments typically move notoriously slowly but could ultimately have a major impact on the future of AI.

- **Breadth of AI Applicability:** Artificial intelligence has already demonstrated tremendous skill in many applications: rapidly searching and summarizing documents; improving data analytics; generating text, code and images; and successfully completing many other tasks. However, to drive the type of productivity gains experienced between 1995–2005, we will need to see far broader applications. The Information Age left few aspects of the economy untouched, and many companies are eager to use AI today given its trending status, but most are still a long way from effective implementation.
- **Pace of AI Adoption:** While significant progress has been made in adopting generative AI, there is still much work to be done, particularly in non-technology industries. Generative AI has the potential to boost revenues across industries, although the extent of its impact will likely vary by sector. The reality will not only depend on technology but also the psychologies of corporate leadership teams. The good news is that companies appear well equipped to increase capital expenditures with corporate balance sheets in very healthy shape. Much will likely depend on the success or struggle of early adopters. The success of United Airlines is already leading other airlines to step up their initiatives, but we recognize that it is still early days.

We remain mindful of elevated valuations in overcrowded AI-related stocks, but we believe we are at the early stages of a technological transformation that offers numerous diversified investment opportunities. By relying on bottom-up fundamental analysis, we aim to identify investments that leverage AI to generate returns with more attractive relative valuations. This transformative technology excites us for its potential to enhance labor productivity, improve corporate operations and elevate individuals' daily lives.

```
if lang not in ("en", "fr"):
    DetermineLanguageFromString(inputString)
    raise Exception("Input language could not be determined")
self.parseInputToLanguageModel(inputString, inputLanguage)
if self.model is None or not self.model:
    (parsedInput) # Add new conversation entry to context
    self.model.generateLLMOutput(parsedInput, context)
def loadLanguageModel(self, inputString, inputLanguage, context):
    if self.model is None or self.model.language != inputLanguage:
        # If model is not initialised or has wrong language, load new model
        self.model = self.loadAILanguageModelFromDatabase(inputLanguage)
    if self.model is None or not self.model:
        raise Exception("AI language model load failed")
    return self.model
def runModel(self, inputString, context):
    self.model.setLLMContext(context) # Put past context in model
    self.inputParser = self.model.getInputParser()
    parsedInput = self.inputParser.parseInput(inputString)
    self.generateLLMOutput(parsedInput):
    self.context = self.model.getLLMContext()
    self.response = self.model.convertIn(self.context, parsedInput)
    if self.response is None:
```

WHAT IS THE LINK BETWEEN ECONOMIC GROWTH AND EARNINGS?

A common exercise in annual outlook pieces is to assess the economic environment for the year ahead. In the near term, investors, policymakers and business owners closely monitor macroeconomic signals that might indicate shifts in the economic cycle. Many forecasters incorporate expected economic growth as a key input in estimating forward-looking asset class returns.

Why is there such focus on the relationship between economic growth and equity returns? Intuitively, the connection seems straightforward: faster economic growth should lead to more investment and consumption. Increased consumption would likely result in a larger share of corporate profits within the economy, which, in aggregate, should flow to shareholders in a country's equity markets, driving share prices higher.

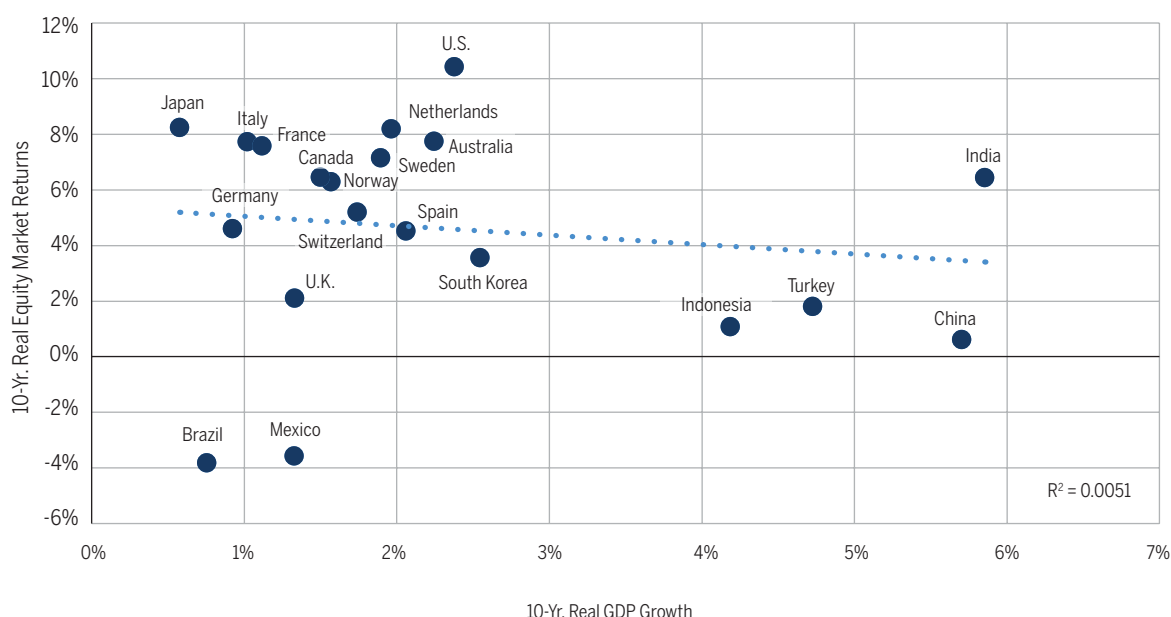
However, empirical evidence reveals that the correlation between a country's real GDP growth and its long-term equity market returns is surprisingly low. The chart below illustrates this disconnect, presenting a scatterplot of various emerging and developed countries' 10-year

real GDP growth against their real equity market returns over the same period.

While the economic cycle can have an impact on earnings in the short run, as is the case during a recession or the early stages of an economic recovery, over longer periods of time, the economic performance of a country and its equity markets do not typically track, as the scatterplot suggests. Many academics, such as Dimson (2002) and Ritter (2005), have written on the matter and note a host of factors that could cause this divergence.

Economic growth does not necessarily translate into growing corporate profits. From a macroeconomic perspective, supply-side growth can be influenced by the growth of capital per capita, labor or total factor productivity. If an economy is growing by expanding its labor force, this does not necessarily lead to growing profits for owners of capital. Conversely, if a country's economy is growing through capital formation (i.e., new business formation, more investment in machinery, etc.),

No Clear Relationship Between Real GDP Growth and Real Equity Market Returns Across Countries



Source: Bloomberg, OECD as of 12/31/2024.

this “dilutes” the available profits to current shareholders since more capital is needed to fund such investment. Perhaps the biggest tailwind to potential equity returns is through total factor productivity growth, as was seen during the tech revolution in the late 1990s in the U.S. or the immediate industrializations of emerging economies like that of China in the early 2000s, both of which led to notable equity market performance.

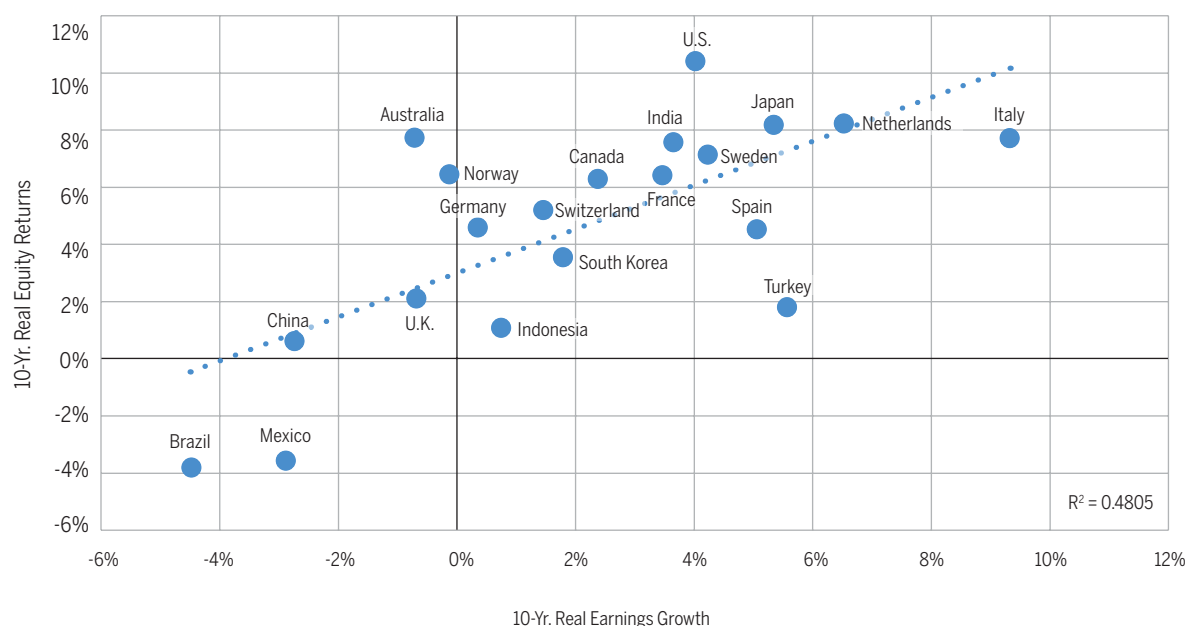
The makeup of individual countries’ equity markets may not be as closely tied to domestic GDP growth. For the last 50 years, globalization has led to the rise of multinational corporations that derive a significant amount of revenues and profits from markets beyond their home country’s borders. For example, nearly 40% of revenues for companies in the S&P 500 are generated in non-U.S. markets¹⁰. European companies typically sell services and products to major trade partners, such as the U.S. and China. These companies’ sales and earnings are thus more tied to the broader global macroeconomic environment.

Additionally, sector differences can account for large variations in equity market performance that may not be fully explained by economic growth. The U.S. is a prime example of how sector exposures can drive equity market returns. The concentration of U.S. companies

in technology and communication services partially illustrates why U.S. outperformance has persisted despite real economic growth that has been slower than historical levels. Dominant business models of U.S. tech companies have led to both exceptional earnings and revenue growth that have benefited shareholders. Conversely, equity markets that are heavily dominated by cyclical industries or state-owned enterprises typically underperform due to structural challenges in certain industries or inefficient uses of capital, regardless of actual real GDP growth. These sectoral compositions can impact the earnings growth of a country’s equity markets, and as we see in the chart below, earnings growth typically has a positive correlation to long-term equity market returns.

Investor sentiment can significantly influence returns, regardless of a country’s economic performance. The intuitive link between economic growth and earnings growth often assumes static valuations, but multiples can expand or contract depending on investor sentiment toward a country. This sentiment may be shaped by factors such as economic growth expectations or the sectoral composition of a country’s equity market.

10-Yr. EPS Growth vs. Equity Market Returns



Source: Bloomberg, OECD as of 12/31/2024.

For instance, the U.S. and India have experienced the largest multiple expansion over the past decade. In the U.S., positive sentiment is driven by the perception that its equity market provides exposure to fast-growing technology companies. In India, the appeal lies in its rapidly growing GDP per capita. Conversely, Italy presents a striking example of how sentiment can diverge from fundamentals. Despite notable real EPS growth, the Italian equity market has faced significant multiple contraction. This may be attributed to negative sentiment tied to the country's high deficits, rising nationalism and weak absolute real GDP growth.

While we have seen that economic growth can be decoupled from equity market returns over long periods, we do not entirely dismiss the influence of macroeconomic trends on equity performance. While the correlation between earnings and absolute GDP growth is close to zero, we have found that earnings correlate more positively with trend GDP growth relative to historical levels.

The scatterplot on the following page modifies the earlier analysis. Instead of comparing EPS growth to absolute real GDP growth, this chart examines earnings growth against 10-year GDP growth minus 30-year GDP growth. This serves as a proxy for whether an economy is growing above or below its long-term trend.

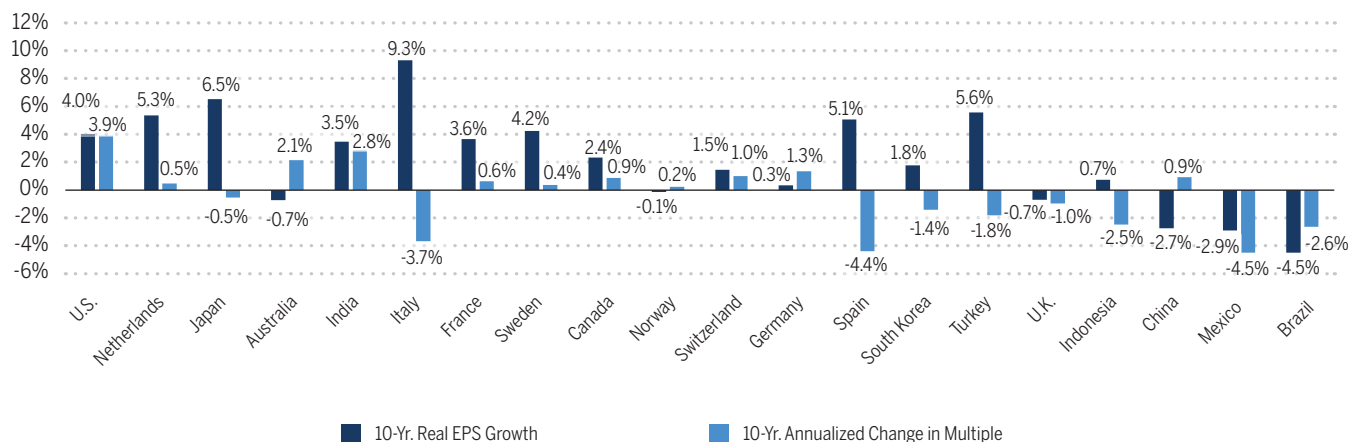
The first takeaway is that global growth has generally slowed, as evidenced by more countries experiencing 10-year GDP growth rates below their 30-year

averages. The second takeaway is that countries with significant downward trends in GDP growth often see a corresponding slowdown in EPS growth, as observed in Brazil and China. When an economy decelerates substantially compared to historical levels, it can weigh heavily on its earnings potential. However, exceptions exist — South Korea, for example, has experienced a deceleration in trend GDP growth but has maintained relatively stable EPS growth due to the outsized impact of industries such as semiconductors, consumer electronics and autos.

What does this mean for producing long-term return estimates and asset allocation decisions, particularly for equity allocations by geography? We find that focusing on trend GDP growth, rather than absolute GDP growth, offers a more reliable foundation for projecting earnings growth. Several factors influence whether an economy accelerates or decelerates over time, especially in a world where global GDP growth is broadly slowing:

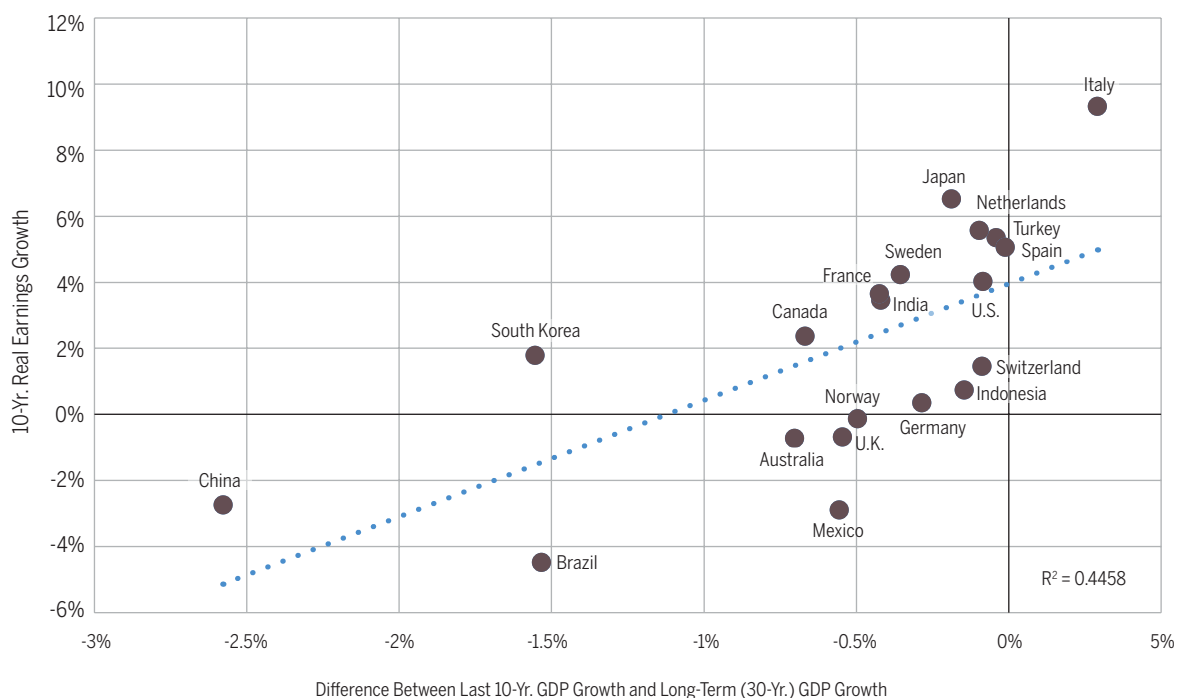
- **Productivity Growth:** Productivity expansion can increase a country's economic potential. Proponents of artificial intelligence suggest its impact on the global economy could rival that of the IT revolution of the late 1990s or other historic technological advancements.

What's Driving Returns? EPS Growth or Multiple Expansion



Source: Bloomberg, OECD as of 12/31/2024

EPS Growth Has a Modestly Positive Relationship with Trend GDP Growth vs. Historical Growth Levels



Source: Bloomberg, OECD as of 12/31/2024.

- **Fiscal Deficits:** Sustained economic growth can be supported by fiscal deficits, provided investors — both domestic and foreign — are willing to finance the spending. While the U.S. has benefited from these dynamics, other regions, such as the EU, have struggled.

It is also important to note that equity market returns are driven by multiple factors beyond GDP growth. The composition of a country's equity market and the fundamentals of its businesses and sectors can result in EPS growth that diverges from economic growth. Additionally, investor sentiment, as reflected in valuation multiples, plays a key role in long-term equity market performance.

Looking ahead, the U.S. appears well positioned to benefit from secular growth in AI and technological advancements, which could drive EPS growth not only for the Magnificent Seven but also for companies

leveraging AI to enhance business outcomes. Trend GDP growth may accelerate if AI delivers significant productivity gains, expanding the economy's potential. However, this does not necessarily guarantee stronger equity returns. Elevated U.S. valuations relative to global peers may weigh on long-term returns.

In contrast, many non-U.S. markets have suffered from negative investor sentiment due to slower trend GDP growth, a fractured global economy and rising geopolitical tensions. If trend GDP growth stabilizes, these markets — with their much lower starting valuations — may present a wider margin of safety for investors.

THE CASE FOR JAPAN

For over three decades, Japan has been viewed as the market where good capital goes to die — or at least retire. Thirty-five years after peaking in the late 1980s, Japanese indices have only recently begun to surpass their previous highs. While we have been cautious about investing heavily in Japan during this period, real and lasting corporate reforms, along with attractive valuations, make us feel that the Japanese equity market has turned the corner.

Historical Context

After World War II, Japan's rebuilding and globalization efforts fueled a remarkable period of economic growth through the 1980s. A surge of investor capital followed, chasing this rapid expansion. Speculative valuations and excessive leverage became prevalent, with many predicting that Japan's economy would soon surpass the United States as the world's largest. Instead, the bubble burst, and Japan entered a prolonged economic winter, enduring net-zero equity returns from the late 1980s through the early 2010s.

During the boom, rapid industrialization and the rise of strong technology and automotive industries drove initial success. However, the economic dynamics shifted as leverage increased, population growth slowed, and Japan's unique labor and corporate governance practices did not adapt well. After the bubble burst, dynamism, innovation and risk appetite — particularly among Japan's largest companies — stalled, trapping the economy in over 20 years of deflation and stagnation.

By the late 2000s and early 2010s, Japan's markets hit a series of lows, prompting Prime Minister Shinzo Abe to enact a suite of structural and business reforms in 2013. Although progress has been uneven, deflation has largely disappeared, and we now see an acceleration of reform and a critical mass of companies adopting improved governance and a focus on generating shareholder value. Combined with favorable economic tailwinds and greater engagement from the Tokyo Stock Exchange, we believe this provides an attractive backdrop for the overall market and for stock pickers in the coming years.

Key Themes Driving Japan's Opportunity Set

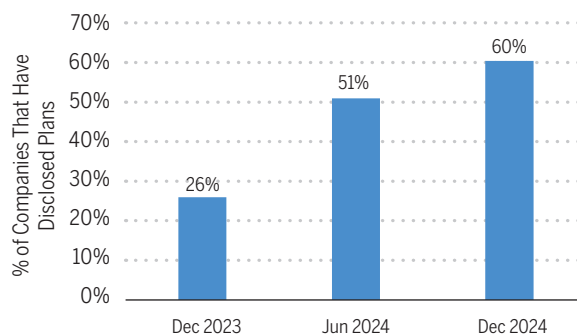
Shifting Business Practices

Corporate governance in Japan has undergone significant transformation, driven by regulatory changes and shifting cultural norms. Key developments include the Corporate Governance Code (2015, revised 2021), which mandates greater board independence and enhanced disclosure practices, and the Stewardship Code (2014, revised 2020), which establishes fiduciary responsibility for institutional investors, encouraging active shareholder participation and a focus on long-term growth. Additionally, in 2023, the Tokyo Stock Exchange introduced new rules requiring companies to address their cost of capital and trade above their net asset values or face delisting.

Still, 36% of TOPIX 500 companies trade below a 1.0x price-to-book ratio, compared to around just 5% of U.S. companies. Encouragingly, more than 60% of Tokyo Stock Exchange (TSE) listed companies have now disclosed plans to improve their cost of capital and stock price, a sharp increase from early 2024.

While executing these plans is no small feat, the median Japanese company holds 30% of its market cap in cash and short-term investments, compared to just 8% in the United States¹¹. This provides Japanese businesses with significant flexibility to enhance shareholder value by optimizing balance sheets and deploying capital more effectively.

TSE Companies Are Disclosing Plans to Address Their Cost of Capital and Stock Price at a Rapid Rate



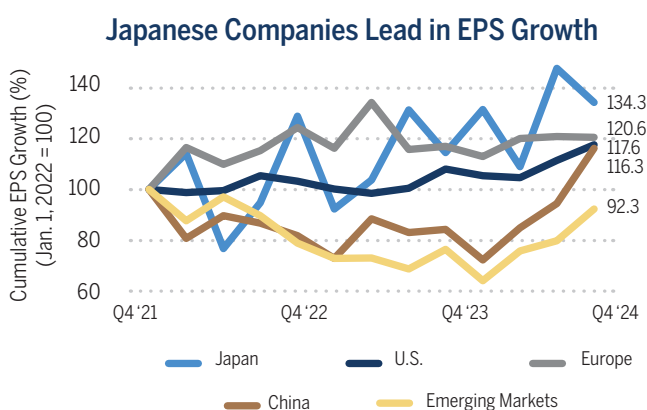
Source: Bloomberg LP, Japan Exchange Group. Includes companies listed on the Prime and Standard Tokyo Stock Exchange (TSE) markets.

The End of the Deflationary Regime

Japan's economy has successfully transitioned into a state of low but consistently positive inflation, breaking free from the deflationary pressures that had constrained economic growth for decades. Japan may have been one of the only countries to welcome rising inflationary pressures in recent years, as the global post-COVID environment aided the Bank of Japan's steadfast pursuit of its 2% inflation target.

Wage growth, which was consistently below 2% for 20 years, spiked to 5% in 2023, leading to a resetting of consumer spending habits. Companies, rather than absorbing their own higher costs, have passed them on to increasingly affluent consumers. This has sparked the onset of a sustainable cycle of rising wages and prices, providing companies with the ability to raise margins in the process.

This new inflationary environment has dovetailed with nascent corporate reforms to fuel strong earnings growth in recent years. In an era where AI optimism in the U.S. markets has dominated investor attention, Japanese companies have exhibited the strongest earnings growth. Additionally, firms in the TOPIX have increased their profit margins by an average of 11% over the past two years compared to 2% margin growth from MSCI Europe constituents and negative margin growth among S&P 500 businesses¹².



Source: Bloomberg as of 12/31/2024. Bloomberg U.S. (S&P 500 Index), Europe (MSCI Europe Index), Japan (TOPIX), China (MSCI China), Emerging Markets (MSCI EM)

	U.S.	Europe	Japan
Average Return on Equity (2014 – 2024)	15.3%	10.2%	8.0%
Average Profit Margin (2014 – 2024)	11.8%	8.7%	5.2%

Source: Bloomberg, LP; U.S. (S&P 500 Index), Europe (MSCI Europe Index), Japan (TOPIX).

While there have been encouraging signs of progress, the chart above illustrates that Japanese companies' profitability remains significantly lower than that of their U.S. and European counterparts. This suggests a long runway for growth as more companies continue adopting structural reforms that allow shareholders to accrue value as increased earnings translate into growing profits, which in turn drive equity returns. Additionally, the varied pace of reform implementation across companies creates meaningful opportunities for stock selection, particularly as businesses reach critical inflection points in improving profitability.

Attractive Valuations

Japanese equities currently offer favorable valuations relative to their historical averages and other markets, trading just 4% higher than their 20-year median CAPE valuation despite offering a much stronger fundamental and macroeconomic picture than that of the past two decades. While challenges and uncertainties persist, we believe these valuations more than compensate investors for potential risks. With U.S. large-cap equities trading at lofty valuations, the Japanese market presents an opportunity to invest in a large, developed economy with identifiable growth catalysts at significantly lower valuations, offering attractive return potential.

Key Considerations

How Might Japan's Continued Demographic Challenges Impact Returns? Since 2010, Japan has experienced an accelerating population decline, with projections suggesting a return to 1950s levels by the century's end. Population growth has a fairly direct impact on overall levels of economic growth, so this is a notable headwind. Low immigration levels exacerbate this trend, although the government has taken steps to ease work-visa barriers. While Japan's historical resistance to immigration presents challenges, these efforts, coupled with the highest wage growth in decades, should help mitigate some of the negative effects.

What's the Story with Japan's Government Debt?

Japan's government debt exceeds 250% of GDP as of June 2024 — nearly double the level of other developed economies. National debt servicing accounts for as much as 21% of central government expenditures, creating potential vulnerabilities if borrowing costs rise or tax revenues underperform. However, Japan's debt is primarily domestically owned, with Japanese institutions and citizens — led by the Bank of Japan at over 40% of the government's debt — holding the majority. This internal ownership grants the nation greater control over its financial stability compared to other highly indebted countries.

Further, the government owns significant assets, including 7% of all Tokyo-listed stocks and trillions of yen in government bonds. After accounting for these assets, Japan's net liabilities align more closely with other developed nations, making its debt burden appear more manageable.

What About Currency-Linked Volatility?

Currency volatility was a focal point in 2024 following the unwinding of Japan's long-standing yen carry trade — a process in which investors borrowed low-yielding yen to invest in higher-yielding assets. For years, institutional investors and the Bank of Japan benefited from borrowing yen at low interest rates to invest in higher-yielding assets abroad, a strategy supported by

Japan's low-rate environment and continuous currency depreciation. This practice intensified during the Fed's rate hikes in 2022 and 2023 but unwound rapidly in July 2024 when the Bank of Japan announced an unexpected 25 basis points rate hike. The resulting market reaction caused a temporary plunge in Japanese equities. However, we believe much of the excess has now been removed, stabilizing the market for the long term. In the second half of the year, the yen remained somewhat volatile as markets reacted to the Bank of Japan's tone, political developments, and a strengthening U.S. dollar following the U.S. presidential election. We would note, however, that the Japanese yen appears quite cheap on a purchasing power parity basis and that it tends to be a "flight to safety" currency in times of great economic stress — so we have chosen not to hedge this currency exposure. While we will monitor currency movements, we do not view them as a significant headwind in the current economic environment.

Overall, while these risks could certainly create volatility, the improving profitability of Japanese companies implementing corporate governance changes creates tremendous opportunity for shareholders relative to those risks. Furthermore, the relatively low equity valuations exhibited by the Japanese market indicate that much of the negative attributes are priced into the market while we believe the potential longevity of the upside opportunity remains underappreciated.



THE IMPORTANCE OF CENTRAL BANK INDEPENDENCE

Inflation has been a key driver of financial markets over the last three years, reaching levels not seen since the early 1980s. Ironically, the reason recent inflation was so disruptive to financial markets was that it followed 40 years of remarkable price stability. Since Paul Volker took over the Federal Reserve in 1979, it is hard to think of a single policy in which the government has had greater success than in controlling inflation. Other major developed markets have experienced similar success, with inflation volatility falling dramatically during that period. The most recent bout of inflation occurred amid the worst global pandemic in a century, which caused tremendous disruptions to global supply chains and led to unprecedented fiscal stimulus. While the misjudgment that inflation would be transitory was a policy mistake, it does not invalidate the broader success of central banks in maintaining price stability over the last four decades.

The stability of inflation over the past decades has provided significant benefits for the global economy. Predictable inflation enables businesses and consumers to better plan revenues and expenses. Stable inflation has also led to more stable interest rates, reducing the

term premium on bonds, and lowering borrowing costs for companies and consumers. Lower interest rates, in turn, have supported higher equity market valuations.

However, this success has relied heavily on monetary policy remaining independent of political influence. Monetary policy often acts as a natural check on fiscal policy. Fiscal deficits, a form of fiscal stimulus, generate inflationary pressure, which an independent central bank counters with higher interest rates. This raises the cost of government borrowing, discouraging excessive fiscal deficits. While this dynamic can be unpopular with political leaders tied to short electoral cycles, it is essential for maintaining price stability.

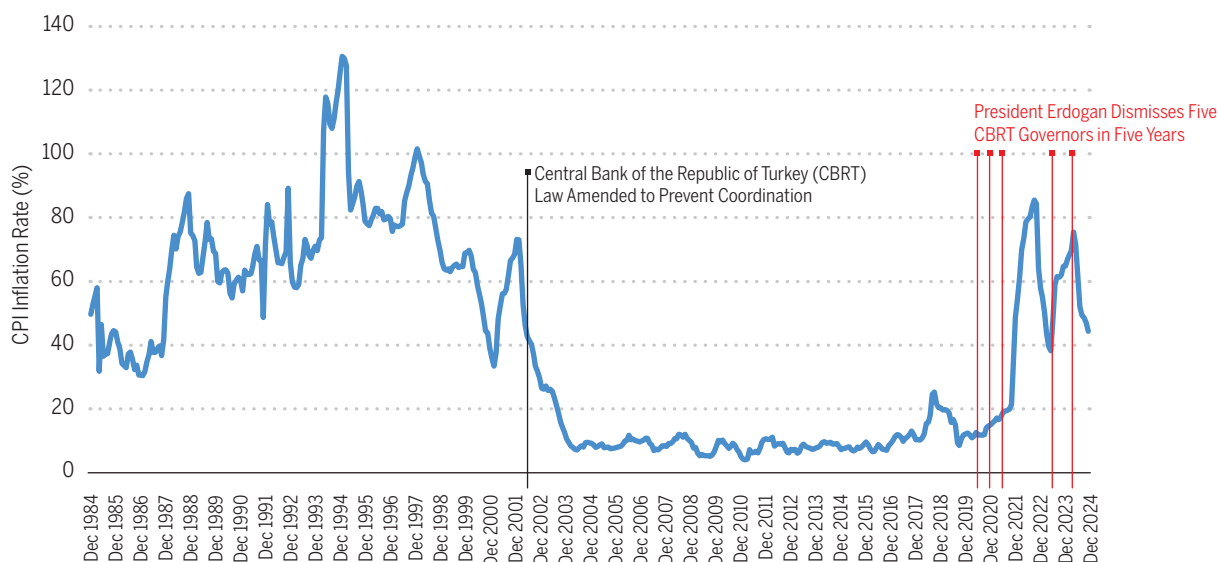
Without this balance, fiscal and monetary policies can become misaligned, leading to the monetization of debt — essentially funding government deficits by creating additional currency. This scenario often results in hyperinflation, far exceeding the inflationary pressures recently experienced.

Inflation Stability Has Been a Profound Success



Source: BLS, NBER as of 12/31/2024.

Turkey's Story: Independent Central Banks Are Key to Price Stability



Source: Bloomberg as of 12/31/2024.

Turkey's recent experience highlights how quickly market confidence can erode when a central bank's independence is compromised. While far from perfect, the current framework of central bank independence has been a cornerstone of price stability, which in turn supports broader economic stability.

In recent years, norms around central bank independence have been increasingly questioned. President Trump, for instance, recently suggested that while he shouldn't be able to "order" interest rate decisions, he believes he should have influence over them. This raises concerns, especially as Chairman Powell's term ends in 2026. We will be closely monitoring developments to see if the principle of independence can be upheld.

Any credible challenge to central bank independence could trigger significant consequences: heightened volatility in interest rates and the U.S. dollar, higher inflation, and a loss of investor confidence. This is a black swan event we sincerely hope to avoid in 2025.

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ANOTHER LOOK AT **THE U.S. DEBT PICTURE**

Last year, we dedicated a special section to the U.S. government's mounting debt challenge. Given the heightened attention this issue has received since the recent presidential election, we felt it warranted a deeper examination this year. U.S. debt held by the public is approaching a historic high of 106% of GDP, a level last seen in 1946 following World War II. The budget deficit is projected to hit 6.5% of GDP, an extraordinary figure for a time when the nation is not amid a major crisis. Moreover, many of the new administration's ambitious policies could significantly worsen the fiscal outlook.

As recently as 2001, the U.S. federal budget operated at a surplus for four consecutive years. Since then, a mix of tax cuts, new federal programs and demographic shifts — driving up costs for programs like Social Security and Medicare — has severely weakened the structural budget position. Major fiscal stimulus during the Global Financial Crisis and the COVID-19 pandemic further accelerated federal debt growth. If the status quo persists, the budget deficit is expected to remain above 6% of GDP, far above historical norms. From 1947 to 2008, the largest budget deficit was 5.9% of GDP, with an average of just 1.6% of GDP.

Adding to the challenge, the cost of servicing this debt has risen sharply due to higher interest rates. Net

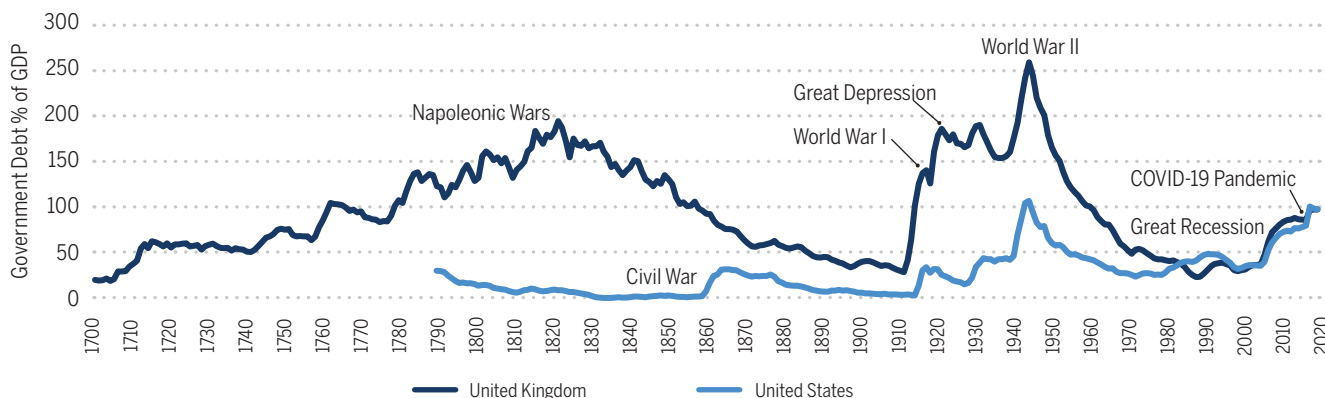
interest expense is projected to approach \$1 trillion in 2025, making it the federal government's second-largest expense and representing a three-fold increase over the past decade. This cost will continue to rise as low-interest debt matures and is replaced by bonds issued at today's higher rates.

Does this mean the U.S. is on the verge of a debt crisis akin to Greece in the early 2010s? Probably not. The U.S. benefits from several critical advantages: control over its own monetary policy, a robust and diversified economy, a broad tax base, trillions of dollars in assets (including land and mineral rights), and the privilege of issuing the world's reserve currency. Other large economies have managed similar debt levels without descending into crisis.

The U.K.'s historical experience offers a useful comparison. As the previous issuer of the world's dominant reserve currency, the British Pound, the U.K. navigated significant fiscal challenges over time, providing a valuable case study for managing high debt loads without triggering economic collapse.

While the U.S. is approaching its all-time peak in debt, the U.K. has spent much of the last 250 years with higher debt levels, and such debts did not lead to a crisis. The U.K. entered World War II with a debt-to-GDP ratio

U.K. and U.S. Debt to GDP



Source: Bank of England, Federal Reserve, Congressional Budget Office, as of 12/31/2022 (most recent data available).

exceeding 150% and managed to add another 100% to finance the war effort. After the war, Britain endured a difficult period of austerity to reduce its debts but never came close to default. Similarly, Japan has maintained debt-to-GDP levels far higher than those of the U.S. for decades without experiencing a debt crisis.

However, the absence of an imminent crisis does not mean there is no cause for concern. Between the large existing debt and the ongoing deficit, the U.S. Treasury will need to issue a vast quantity of Treasury bonds to fund the government, adding to an already saturated market. This flood of bond issuance exerts upward pressure on interest rates, which in turn raises the cost of capital. Higher interest rates reduce consumption and investment, creating ripple effects across the economy.

Rather than focusing on a “tipping point” where the system collapses, a better analogy is adding weight to a runner’s back. If a strong runner is moving forward at a reasonable pace — much like the U.S. economy currently is — it may take a long time for the added weight to bring progress to a halt. However, every additional pound slows the runner down, impacting overall performance.

The structural challenge of the deficit is even more concerning. After World War II, demobilization naturally brought government budgets back into balance. This time, however, aging demographics ensure that already significant budget items such as Social Security and Medicare will continue to grow in cost. Unless there are structural reforms, the burden on the economy will keep increasing.

In the interim, the U.S. faces two options: either continue running large deficits and add to the problem or reduce deficits by crowding out discretionary government spending to shed some of the weight.

This brings us to the new administration’s plans. Depending on which elements are considered more credible, the plan can be interpreted as either highly expansionary or relatively balanced for the deficit. On the expansionary side, the administration has proposed extending and expanding the tax cuts passed during the first Trump administration. According to the non-partisan Committee for a Responsible Federal Budget (CRFB), this could add approximately \$7 to \$9 trillion to the national debt over the next 10 years.

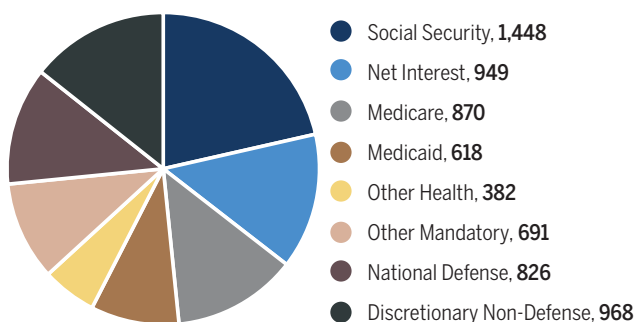
Conversely, the CRFB estimates that the administration’s proposed tariff plans could generate \$2 to \$4 trillion in revenue over the same period. Additionally, the newly established Department of Government Efficiency (DOGE) has set a goal of cutting \$2 trillion in spending. However, early actions by DOGE have been met with significant legal pushback, and details on how the group will drive major cost reductions remain vague, particularly as the administration has explicitly ruled out cuts to Social Security, Medicare or defense spending.

When taking these factors into account, we remain skeptical of extreme perspectives. On the one hand, we do not share the alarm of doomsayers in the financial press predicting an imminent U.S. debt crisis or a dramatic rise in Treasury yields. The current debt load, while concerning, is neither unprecedented nor wholly unexpected. On the other hand, we also reject the argument put forth by proponents of modern monetary theory that deficits are irrelevant.

In our view, continued deficits will exert upward pressure on interest rates and downward pressure on long-term economic growth. While these impacts are unlikely to dominate in the short term — where the economic cycle is the primary driver — they should not be overlooked, as they weigh heavily on the long-term prospects of bonds and stocks. Government borrowing that crowds out private sector activity will ultimately stifle growth.

Taken together, these dynamics lead us to lower our expectations for long-term growth and modestly increase our forecasts for inflation and interest rates. Consequently, we have also reduced our estimates for future stock market returns.

A Breakdown of the Federal Budget Shows No Easy Answers (\$US in billions)



Source: CBO as of 9/30/2024
(end of fiscal year 2024).

IN CLOSING

While the near-term economic outlook remains fairly positive, we acknowledge that we are confronted by higher-than-average stock valuations, a historically concentrated market, and geopolitical and policy risks in 2025. We are managing portfolios to be close to our long-term targets of equity risk given the positive near-term outlook but are looking for any signs of a slowdown and are increasingly finding value outside of the largest companies in the U.S. As always, we are focused on designing portfolios that can perform in a wide array of market scenarios and seeking quality investments, attractive valuations, and strong portfolio yield and protection through our fixed income portfolios.

We are leaning into areas outside of U.S. large-cap stocks, such as smaller U.S. companies and Japanese equities. To manage our exposure to U.S. large-cap stocks we are increasingly utilizing “passive plus” options, such as tax-loss harvesting, alpha extension and portable alpha strategies as we balance the risks and opportunities presented by finding more attractive opportunities outside of the so-called Magnificent Seven. We find the renewed emphasis on business fundamentals driven by the return of a real cost of capital encouraging, as it rewards disciplined, bottom-up investors like us. Our portfolios are positioned to weather volatility and perform in a broad range of economic outcomes while capturing structural trends that can drive outperformance.

1. Valuation Percentile Using CAPE Relative to Last 20 Years, Bloomberg, as of 12/31/2024, U.S. Large Growth using Russell 1000 Growth Index.
2. Silicon Valley Bank State of the Markets H1 2025.
3. Bloomberg.
4. Department of Energy as of August 7, 2023 <https://www.energy.gov/articles/doe-announces-46-million-boost-energy-efficiency-and-slash-emissions-residential-and#:~:text=Estimates%20indicate%20roughly%20one%2Dthird,cost%20of%20%24150%20billion%20annually>
5. International Air Transport Association <https://www.iata.org/en/pressroom/2025-releases/2025-01-30-01/>
6. “The Future of European Competitiveness” by Mario Draghi https://commission.europa.eu/document/download/ec1409c1-d4b4-4882-8bdd-3519f86bbb92_en?filename=The%20future%20of%20European%20competitiveness_%20In-depth%20analysis%20and%20recommendations_0.pdf
7. Federal Bureau of Investigation Internet Crime Report; https://www.ic3.gov/AnnualReport/Reports/2023_IC3Report.pdf
8. Bloomberg, as of 12/31/24.
9. Bloomberg, as of 12/31/24.
10. Bloomberg, as of 12/31/24.
11. Bloomberg, 12/31/24, Japan (TOPIX Index), U.S. (Russell 3000 Index). Analysis excludes financial sector.
12. Bloomberg, as of 12/31/24.

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The **Alerian Midstream Energy Index (AMNA)** is a broad-based composite index that tracks North American energy infrastructure companies. These companies primarily earn their cash flow from midstream activities involving energy commodities, such as transportation, storage, and processing. The index is float-adjusted and capitalization-weighted, and it is disseminated in real-time on a price-return, total-return, net total-return, and adjusted net total-return basis. These indices are servicemarks of GKD Index Partners, LLC d/b/a Alerian ("Alerian") and their use is granted under a license from Alerian.

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ICE BofA US 3-Month Treasury Bill Index is comprised of a single issue purchased at the beginning of the month and held for a full month. At the end of the month that issue is sold and rolled into a newly selected issue. The issue selected at each month-end rebalancing is the outstanding Treasury Bill that matures closest to, but not beyond, three months from the rebalancing date. In order to qualify for inclusion, securities must be auctioned on or before the third business day before the last business day of the month and settle before the following calendar month end. Inception date: December 31, 1977. ICE® IS A REGISTERED TRADEMARK OF ICE DATA OR ITS AFFILIATES, AND BOFA® IS A REGISTERED TRADEMARK OF BANK OF AMERICA CORPORATION.

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The **Russell 2000® Value Index** measures the performance of the small- cap value segment of the U.S. equity universe.

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The **Russell 2000® Index** measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000® Index is a subset of the Russell 3000® Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2000 of the smallest securities based on a combination of their market cap and current index membership. The index was developed with a base value of 140.00 as of December 31, 1986. The Russell 1000® Index is a stock market index used as a benchmark by investors. It is a subset of the larger Russell 3000 Index and represents the 1,000 top companies by market capitalization in the United States. The Frank Russell Company ("Russell") is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes. Russell ® is a trademark of Frank Russell Company. Neither Russell nor its licensors accept any liability for any errors or omissions in the Russell Indexes and/or Russell ratings or underlying data and no party may rely on any Russell Indexes and/or Russell ratings and / or underlying data contained in this communication. No further distribution of Russell data is permitted without Russell's express written consent. Russell does not promote, sponsor or endorse the content of this communication.

The **MSCI ACWI ex U.S. Index** captures large and mid-cap representation across Developed Markets (DM) countries, excluding the United States. The index covers approximately 85% of the free float-adjusted market capitalization in each country.

The **MSCI Japan Index** is designed to measure the performance of the large and mid-cap segments of the Japanese market.

The **MSCI ACWI Index** captures large and mid-cap representation across Developed Markets (DM) and Emerging Markets (EM) countries. The Index covers approximately 85% of the global investable equity opportunity set. The MSCI ACWI captures large and mid-cap representation across Developed Markets (DM) and Emerging Markets (EM) countries. The index covers approximately 85% of the global investable equity opportunity set. The MSCI World Index captures large and mid-cap representation across 23 Developed Markets (DM) countries*. With 1,396 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country. The MSCI Emerging Markets Index captures large and mid-cap representation across Emerging Markets (EM) countries. The Index covers approximately 85% of the free float-adjusted market capitalization in each country. The MSCI Europe Index is a stock market index that measures the performance of large and mid-cap companies across developed countries in Europe. The MSCI China Index captures large and mid cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs). With 581 constituents, the index covers about 85% of this China equity universe. Currently, the index includes Large Cap A and Mid Cap A shares represented at 20% of their free float adjusted market capitalization. MSCI Indexes and products are trademarks and service marks of MSCI or its subsidiaries. MSCI Indexes and products are trademarks and service marks of MSCI or its subsidiaries.

The **MSCI AC Asia ex Japan Index** captures large and mid-cap representation across two of three Developed Markets (DM) countries* (excluding Japan) and eight Emerging Markets (EM) countries* in Asia. *DM countries include: Hong Kong and Singapore. EM countries include: China, India, Indonesia, Korea, Malaysia, the Philippines, Taiwan and Thailand.

The **Tokyo Price Index**, known as TOPIX, is a Japanese stock market index calculated and published by the Tokyo Stock Exchange (TSE). TOPIX tracks domestic companies in the exchange's first section, which represents Japan's largest firms by market capitalization. The TOPIX 500 Index is a capitalization-weighted index designed to measure the performance of the 500 most liquid stocks with the largest market capitalization that are members of the TOPIX Index. The index was developed with a base value of 1000 as of April 1, 1998. The TOPIX Small Cap Index is a capitalization-weighted index designed to measure the performance of the stocks listed on the First Section of the Tokyo Stock Exchange, excluding the TOPIX 500 stocks and non-eligible stocks. According to the Tokyo Stock Exchange, the Prime Market is for companies with a market cap large enough for investment by institutional investors, with higher governance standards; the Standard Market is for companies with a basic market cap, with basic governance standards appropriate for listed companies.

The **Cambridge Associates LLC US Venture Capital Index®** is a pooled horizon calculation based on data compiled from 1,807 US venture capital funds (1,161 early stage, 210 late & expansion stage, and 436 multi-stage funds), including fully liquidated partnerships, formed between 1981 and 2018. The Cambridge Associates US Growth Equity Index is a pooled index of US growth equity funds. It's based on data from the funds' quarterly and annual reports. The Cambridge Associates US Private Equity Buyout Index is a calculation of the performance of US private equity buyout funds. It's based on data from a large number of funds, including those that have since liquidated. Cambridge Associates has copyright protection on its reports, which are for informational purposes only. Cambridge Associates owns the trademarks for all of its indexes.

Sectors are based on the **Global Industry Classification Standard (GICS)** sector classification system. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and Standard & Poor's. "Global Industry Classification Standard (GICS), "GICS" and "GICS Direct" are service marks of Standard & Poor's and MSCI. "GICS" is a trademark of MSCI and Standard & Poor's.

Terms and Definitions

Beta is a measure of portfolio volatility. It is equal to the ratio of a portfolio's volatility relative to its benchmark index's volatility over time. It is equal to the excess return of a portfolio over a risk-free investment, minus that portfolio's expected return given its volatility relative to its benchmark index.

Tracking Error is the difference in actual performance between a position (usually an entire portfolio) and its corresponding benchmark. The tracking error can be viewed as an indicator of how actively a fund is managed and its corresponding risk level.

Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) is an alternate measure of profitability to net income. It's used to assess a company's profitability and financial performance.

Drawdown is a peak-to-trough decline during a specific period for an investment, trading account, or fund. A drawdown measures the historical risk of different investments, compares fund performance, or monitors personal trading performance.

Earnings per share (EPS) is a commonly used measure of a company's profitability. It indicates how much profit each outstanding share of common stock has earned.

Price-to-sales (P/S) ratio is a valuation ratio that compares a company's stock price to its revenues. It is an indicator of the value that financial markets have placed on each dollar of a company's sales or revenues.

CAPE Ratio is used to analyze a publicly held company's long-term financial performance while considering the impact of different economic cycles on the company's earnings.

Price-to-book (P/B) ratio measures the market's valuation of a company relative to its book value.

Return on equity (ROE) is a measure of a company's financial performance. It is calculated by dividing net income by shareholders' equity. Return on equity is considered a gauge of a corporation's profitability and how efficiently it generates those profits.