Goldman Sachs Asset Management

Reasons to Recalibrate

Asset Management 2025 Outlook

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Introduction

We are pleased to share Goldman Sachs Asset Management's 2025 Outlook: Reasons to Recalibrate.

Investors face a range of new dynamics in 2025. Inflation has continued to slow, economies remain resilient and interest rate cuts are underway. We expect the magnitude and pace of monetary policy easing to be in focus throughout the year. In our view, the direction of travel toward more accommodative monetary policy will create new opportunities across public and private markets, but in an environment that is no less complex.

While macroeconomic imbalances have receded, the aftereffects of a mega-election year globally and a second Trump presidential term in the US add new uncertainties around inflation, growth, and international trade. Investors must also navigate the evolving intersections of geopolitics, supply chain shifts and the rise of artificial intelligence.

A dynamic environment provides reasons for investors to recalibrate their portfolios, and we see several potential ways to do so. In our outlook, we have synthesized our views into five key themes and the investment opportunities they could create:

1. A New Equilibrium
2. Landing on Bonds
3. Broader Equity Horizons
4. Exploring Alternative Paths
5. Disruption from All Angles

We are grateful for the opportunity to share our insights and we look forward to working with you in 2025.

Marc Nachmann
Global Head of Asset & Wealth Management

A New Equilibrium

We expect rate cuts to progress in 2025 across most developed and emerging markets with divergence in their pace and timing. We remain optimistic that major economies can achieve sustained economic growth as interest rates ease, although the range of potential macroeconomic outcomes has widened following the US elections.

Landing on Bonds

Rate cuts favor fixed income. We believe asset allocation decisions that land on bonds may prove rewarding in 2025. We see opportunities to ride the easing cycle, capture income across corporate and securitized credit, and use a dynamic investment approach across sectors and regions.

Broader Equity Horizons

We expect the return structure of the stock market to broaden in 2025 against a backdrop of easing cycles and resilient growth. High valuations in some areas provide motivation for diversification. We see potentially undervalued long-term opportunities in the US, internationally and across the market cap spectrum.

Exploring Alternative Paths

As economies adjust, private markets and other alternative assets continue to evolve and attract a broader base of investors seeking to complement their traditional market exposures. We see a diverse opportunity set across private equity, private credit, real estate, infrastructure and hedge funds.

Disruption from All Angles

This is an era of disruption. Geopolitics, supply chain shifts and the rise of AI will remain prominent themes. We believe mapping their long-term implications, identifying opportunities at their intersection, and strategically allocating capital across public and private markets can drive positive financial and real-world impact.

SECTION 01

A New Equilibrium

We expect rate cuts to progress in 2025 across most developed and emerging markets with divergence in their pace and timing. We remain optimistic that major economies can achieve sustained economic growth as interest rates ease, although the range of potential macroeconomic outcomes has widened following the US elections.

A New Equilibrium

After the past couple of years of high inflation and interest rates, macroeconomic imbalances have diminished. Inflation has fallen without a global recession occurring, and central bank easing cycles are underway. We expect rate cuts to progress across most developed and emerging markets in 2025—albeit following different timelines—before eventually settling at a higher level than the low-rate world of the last cycle.

We remain cautiously optimistic that major economies can achieve a new equilibrium of sustained growth as central banks gradually ease policy, but tail risks could knock things off balance. Markets are weighing up the potential policy and portfolio implications of Donald Trump's legislative agenda, which is yet to become clear. There is potential for looser fiscal policy and pro-growth measures, including lower corporate taxes and lighter touch regulation, but also the possibility of trade protectionism which could act as a drag on growth and cause temporarily higher inflation. Fluctuations in economic data may spark growth-driven bearish episodes like August's volatility. Conflict in Eastern Europe and the Middle East has a high humanitarian cost, above all else, but further escalation could also disrupt trade routes and commodity prices.

In our view, the current environment provides reasons for investors to recalibrate their portfolios. Using a broad, diverse and global toolkit across both public and private markets may help to deliver positive outcomes and navigate risk over the coming quarters. We see reasons to land on bonds, broaden equity horizons, explore alternative paths and pinpoint opportunities amid disruption. Before diving deeper, here are our views on the potential roads ahead for economies.

US Soft Landing Remains Our Base Case

The US economy remains resilient heading into 2025. Inflation is almost back to the Federal Reserve's (Fed) 2% target and tight labor market conditions have eased. We lean toward a soft landing as our base-case scenario against a backdrop of late-cycle opportunities and lingering tail risks. The Fed made its first cut of 50bps in the cycle in September and this was followed by a 25bps cut in November, resulting in the federal funds rate falling to 4.5-4.75%.[1] We expect additional cuts throughout 2025—provided inflation continues to cool—potentially resulting in an easing cycle that could conclude by the end of the year.

A second Trump presidency involves upside inflation risks due to the prospect of tariffs, raising the prospect of a Fed pause and a slower pace of cuts. However, we believe a resumption of rate hikes is unlikely as long as inflation expectations remain anchored. While post-election policy will be in focus, we expect the labor market and the health of the consumer to be critical factors for the economy, Fed policy decisions and market direction in the months ahead. Like central banks, we remain data-dependent and alert to various potential paths from here. A hard landing, or recession, is not our base case, but the risk of such a scenario would rise in the event of severe disruptions to global trade. We also anticipate greater focus on widening US deficits and the sustainability of rising government interest costs.

Central Bank Meeting Calendar for 2025

	Fed	ECB	BoE	BoJ
January	29	30		24
February			6	
March	19	6	20	19
April		17		
May	7		8	1
June	18	5	19	17
July	30	24		31
August			7	
September	17	11	18	19
October	29	30		30
November			6	
December	10	18	18	19

Source: Goldman Sachs Asset Management. US Federal Reserve, European Central Bank, Bank of England, Bank of Japan. As of November 1, 2024.

We Expect More Cuts Across Developed Markets

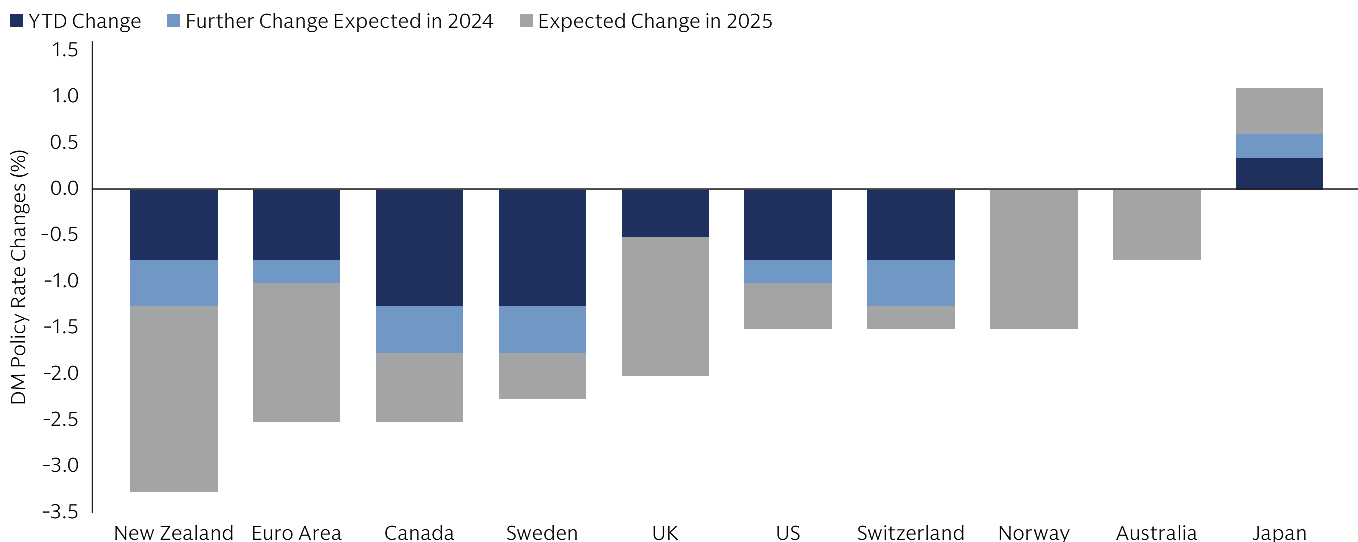
In the Euro Area, a loss of economic momentum and a sharper slowdown of inflation pressures resulted in the European Central Bank (ECB) easing policy for the third time in the cycle in November, following its previous moves in June and September.[2] If they are implemented, more expansive, universal US tariffs may act as a drag on European economic growth, leading to faster and deeper rate cuts by the ECB if incoming data is worse than expected. Donald Trump's re-election may also result in renewed defense spending and security pressures for Europe, adding to fiscal challenges. In the UK, inflation has continued to decelerate, undershooting expectations in September.[3] After its first rate cut in August, the Bank of England (BoE) delivered its second rate cut this cycle in November, lowering the policy rate from 5.00% to 4.75% due to reduced risks of inflation proving persistent. The pace of rate cuts could accelerate throughout 2025 if the economic growth impact of the UK Budget is less significant than expected and if domestic inflation pressures continue to normalize. Other central banks, including the Bank of Canada and Sweden's Riksbank, are also moving in a dovish direction. Japan remains an economic outlier, however. Strong underlying wage-price dynamics suggest further policy normalization by the Bank of Japan (BoJ), and we anticipate gradual upward rate adjustments in 2025 as election uncertainty subsides.

China introduced policies to stabilize its property sector and revive domestic demand at the end of 3Q 2024. This sparked a swift and forceful financial market response, which tapered off in 4Q 2024.[4] The stimulatory measures indicated that policymakers have honed in on growth targets with conviction, largely in response to persistent cyclical and structural economic challenges. It remains to be seen exactly how much additional fiscal stimulus will be announced in the coming months, and how effectively stimulus measures will be implemented. The policy easing measures announced at the conclusion of China's National People's Congress standing committee meeting in November disappointed elevated expectations,[5] but the central government has considerable scope for debt financing and deficit increases in 2025. Donald Trump's re-election and heightened tariff risks may put additional pressure on Chinese policymakers to support growth. At the same time, a harsher export environment could force them to focus on boosting domestic consumption as China's key economic growth engine. We continue to monitor macro catalysts for China ahead of the "Two Sessions" meetings in March 2025.

Emerging Market Easing to Extend

A more dovish Fed opened the door to easing across emerging markets (EM) in the second half of 2024, and central banks walked through. In Asia, markets sensitive to the Fed cycle, such as South Korea and Thailand, cut rates in 4Q 2024.[6] Elsewhere, rates have been cut in South Africa and Mexico in recent months. We expect EM rate-cutting cycles to extend in 2025. Overall, EM growth has remained relatively resilient, and inflation is well below 2022 peaks. However, a stronger US dollar following a Republican sweep, which strengthens the possibility of higher tariffs, may encourage monetary policymakers in Asian EMs to be more cautious about cutting rates given their preference for relatively stable currencies versus the US dollar. Fiscal policy is a concern in some EMs, including Brazil, where inflation is still hot and monetary policy is diverging. However, the overall fiscal performance in EMs has been less expansionary than in developed markets (DM) in recent years, including during the pandemic. Meanwhile, EM central banks continue to drive demand for gold as a hedge against geopolitical and financial shocks.[7]

Easing is underway across most developed markets and we expect cuts may keep coming



Source: Macrobond, Goldman Sachs Asset Management. Year-to-date (YTD) change as of November 13, 2024. Forecasts as of November 9, 2024.

SIGNPOSTS TO WATCH

1

Consumer Health and Labor Markets

Consumers are currently benefiting from tight labor markets, strong household balance sheets and recovering confidence. Falling inflation and high employment are also supporting real income growth. However, there are variations across countries. Debt service ratios remain low in Japan, the US and the Euro Area, but have increased in Australia, Canada and the UK due to these countries' higher share of shorter-term fixed-rate mortgages. Overall, consumers are still spending but are becoming more selective.

2

Trump's First 100 Days

As investors consider what post-election policy shifts may mean for their portfolios, we expect the first 100 days of the Trump administration to be critical for assessing legislative priorities. If implemented, tariffs may impact growth and inflation through a variety of direct and indirect channels. Targeted tariffs on China may only have a limited inflationary impact. More expansive, universal tariffs across regions, including Europe, may amplify these effects, acting as a drag on growth. Trump's re-election may also result in renewed spending on defense and national security for Europe, adding to fiscal challenges. The international response and retaliation to higher tariffs remains difficult to predict.

3

Direction of the Dollar

The US dollar tends to appreciate when the US economy is strong and growing faster than other economies. Our current activity indicator continues to show above-trend US growth, whereas growth in other major economies is trending close to or below trend. If tariffs feature prominently in the new Trump administration, combined with modest additional tax cuts, more federal spending and lighter-touch regulation, we expect to see continued dollar strength. Given the dollar also tends to appreciate when global risk conditions worsen, heightened uncertainty about trade policy in a second Trump presidency may support the dollar, in our view.

SECTION 02

Landing on Bonds

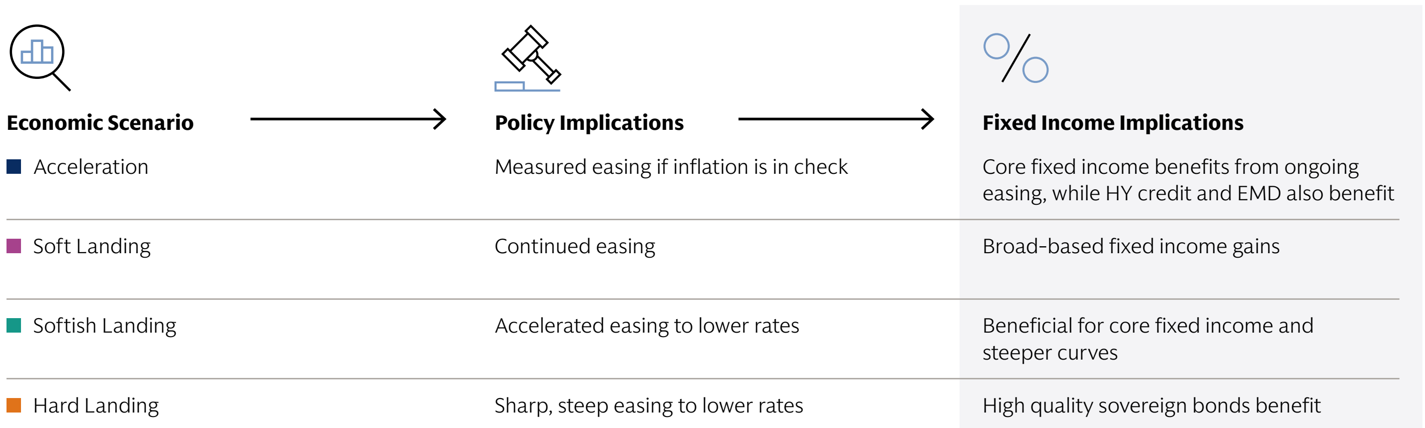
Rate cuts favor fixed income. We believe asset allocation decisions that land on bonds may prove rewarding in 2025. We see opportunities to ride the easing cycle, capture income across corporate and securitized credit, and use a dynamic investment approach across sectors and regions.

Landing on Bonds

As major economies adjust into a new equilibrium, the balance of risks has changed for fixed income investors. Substantial progress in terms of returning inflation to target levels and rebalancing the labor market has led the Fed to join other central banks in cutting interest rates. Economies remain broadly resilient heading into 2025, and we expect the Fed to continue easing policy towards neutral. However, there is a wide range of possible macroeconomic outcomes. Potential changes to US policy governing tax, trade, fiscal issues and regulation are creating new uncertainties about inflation, growth, and international trade. Overall, we think asset allocation decisions that land on bonds will prove rewarding in 2025. Specifically, we believe the current backdrop is creating opportunities to ride the interest rate easing cycle, capture income across corporate and securitized credit, and use a dynamic investment approach across sectors and regions.

To fully capitalize on the opportunities available, we believe it will be vital for investors to understand the context and intricacies of each fixed income segment. An active investment approach, diversification and strong risk management will be paramount. We remain vigilant and focused on fundamentals, ready to capture opportunities as they arise.

Fixed Income is Front and Center Across Various Scenarios



Economic Scenario	Policy Implications	Fixed Income Implications
Acceleration	Measured easing if inflation is in check	Core fixed income benefits from ongoing easing, while HY credit and EMD also benefit
Soft Landing	Continued easing	Broad-based fixed income gains
Softish Landing	Accelerated easing to lower rates	Beneficial for core fixed income and steeper curves
Hard Landing	Sharp, steep easing to lower rates	High quality sovereign bonds benefit

Source: Goldman Sachs Asset Management. As of October 15, 2024. For illustrative purposes only.

Fixed Income for All Seasons

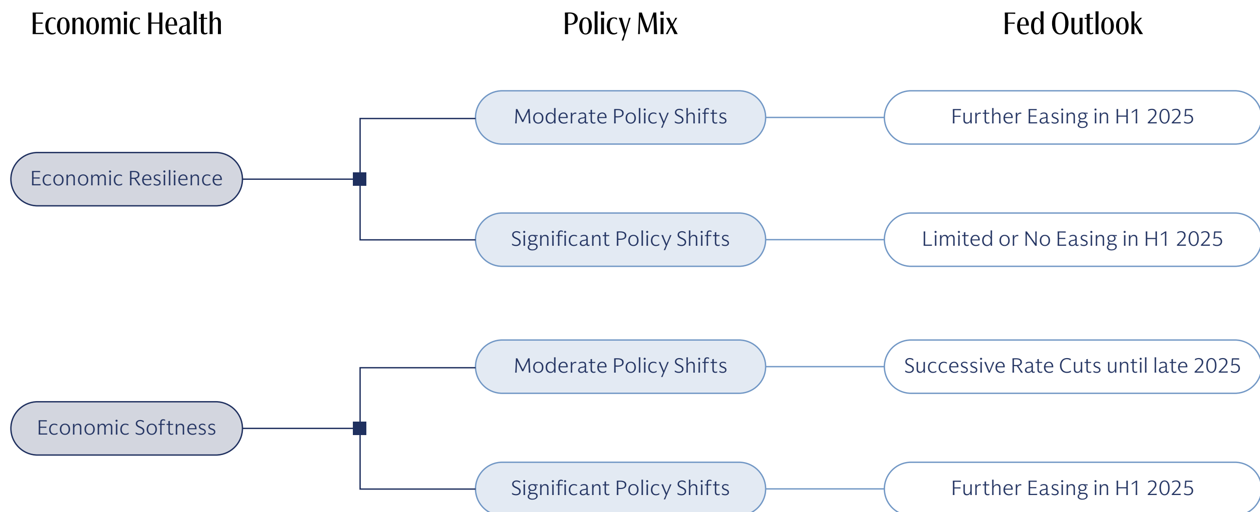
Our outlook for fixed income is favorable across different macroeconomic conditions—including scenarios of accelerating or contracting growth. As we highlighted in our 4Q Fixed Income Outlook, we believe bonds have a role to play in portfolios either way the economy lands. In a soft-landing scenario, with moderate labor market weakness and growth staying slightly above trend, continued positive inflation would enable central banks to keep cutting rates, allowing bonds to potentially rally further. A "softish" landing, with below-trend but still-positive growth, could result in faster and steeper rate cuts, which would still create a supportive environment for fixed income.

An acceleration in US economic activity is also a possibility, given the potential for pro-growth policies, lower corporate taxes and lighter-touch regulation in a second Trump administration, and bonds could continue to benefit from ongoing monetary policy normalization. The main risk to fixed income is renewed inflation resulting from potential tariffs, which could slow down the pace of easing. Meanwhile, significant geopolitical shocks could lead to a hard landing, or recession. This could result in either dovish (due to downside growth risks) or hawkish (due to inflation risks) policy. If inflation expectations remain stable, high-quality core fixed income, such as sovereign bonds and investment-grade credit, could benefit. If growth risks dominate in a scenario of recession, this may favor a focus on sovereign bonds and reduced exposure to risk assets.

Ride the Easing Cycle

In recent years, high inflation led to rising policy rates, lifting bond yields and impacting longer-duration assets. However, as we enter 2025, the environment looks remarkably different. Central bank easing cycles are underway and set to continue, given ongoing progress on disinflation. In our view, this global monetary easing strengthens the case for rotating from cash into fixed-income assets. Historically, the bond market has outperformed cash in the year following the start of the Fed's easing cycle. While the US election outcome has widened the range of possible economic outcomes, we still expect the Fed to cut rates again in December and early 2025. The path thereafter will depend on the policy agenda enacted by the new administration. In Europe, the policy path appears less uncertain. A slowdown in growth momentum and decreasing inflation prompt us to anticipate a series of 0.25% rate cuts until the policy rate reaches 1.5%. The pace and extent of these rate cuts could accelerate if the US imposes tariffs on European auto exports, further impacting growth. Meanwhile, in the UK, the market expects a slow and limited BoE cutting cycle, considering potential upside risks to growth from fiscal measures unveiled in the Autumn Budget. We believe the growth and inflation impact of the Budget will be smaller than anticipated, with businesses more likely to pull back employment in response to higher wage costs and a rise in national insurance contributions, rather than raise prices. This may necessitate a switch to rate cuts at consecutive meetings.

Fed Outlook: Driven by Economic Health and New Policies



Source: Goldman Sachs Asset Management. As of November 12, 2024. For illustrative purposes only.

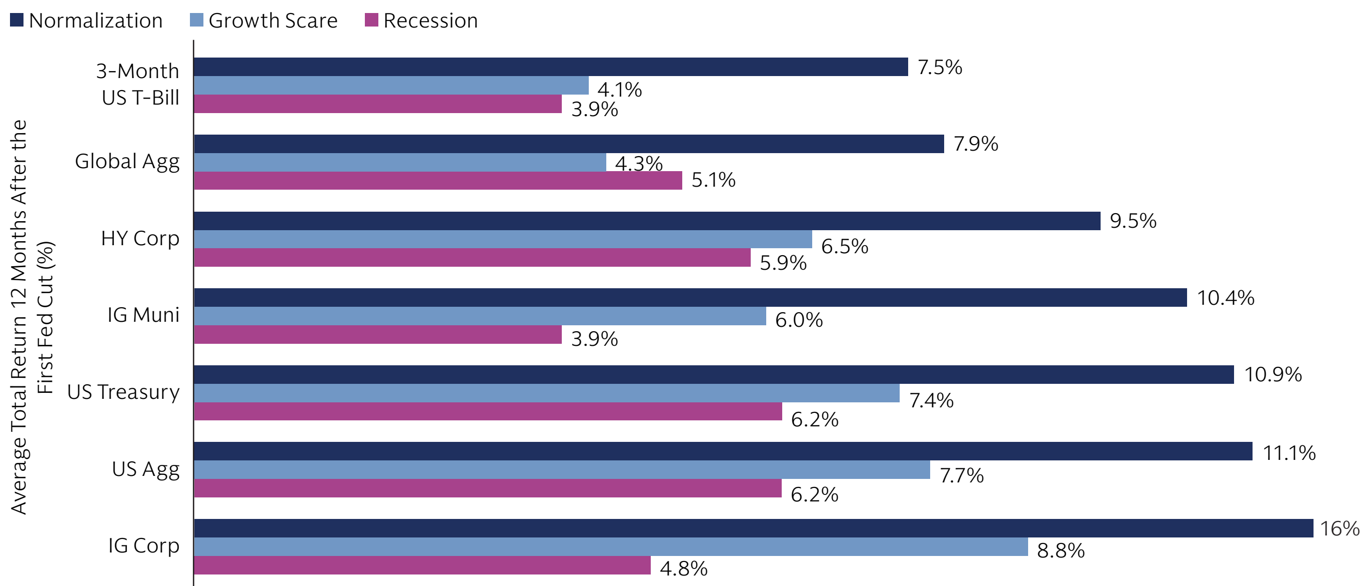
Other central banks, including the Bank of Canada and Sweden's Riksbank, are also moving in a dovish direction, while central banks in Australia and Norway may join the easing pack next year. More broadly, if inflation stays under control—with anchored inflation expectations and moderating wage rises—we expect central banks to remain willing to accelerate easing in the face of any growth weakness, benefiting bonds and steepening yield curves. Overall, rate cuts are set to continue into 2025, and bonds stand to benefit. We believe an active approach that captures global and relative value opportunities is how investors can gain from riding the easing cycles.

Income Essentials

We believe the combination of a return of yield relative to the last cycle, sound corporate fundamentals, and a Fed committed to extending the US economy's expansion, could enable investors to earn attractive income across fixed income spread sectors like corporate and securitized credit.

Investment grade bonds stand out as an option for enhancing portfolio returns in 2025, in our view, striking a balance between earning income and risk management. The resilience of investment grade credit in downside growth scenarios and capital preservation in market phases characterized by higher growth volatility are especially relevant in the current market environment.

Fixed Income Has Outperformed Cash in Previous US Rate Cutting Cycles



Source: Morningstar and Goldman Sachs Asset Management. The analysis considers ten Federal Reserve rate-cutting cycles starting in 1984. Four of these cycles were associated with recessions (1990, 2001, 2020), three with growth scares (1987, 1998, 2019), and three with policy normalization (1984, 1989, 1995). **Abbreviations:** 3-month US T-Bill: 3-Month portion of the Bellwethers U.S. Treasury Index; **US Agg:** Bloomberg US Aggregate Index; **IG Corporate:** Bloomberg Global Aggregate Index (returns based on cycles after 1989 due to data availability). **Past performance does not predict future returns and does not guarantee future results, which may vary.**

The combination of healthy credit fundamentals and strong demand for attractive yields suggests that credit spreads could remain tighter-for-longer. Pro-growth policies, such as tax cuts and deregulation, have the potential to boost corporate earnings, which is favorable for US corporate credit fundamentals. Regulatory changes are likely to have sector-specific impacts, highlighting the importance of active bond selection. From a sector perspective, we see value in counter-cyclical companies that can withstand a potential slowdown in nominal growth, such as large healthcare companies. We also favor companies in sectors with strong growth potential and a stable customer base, including technology companies benefiting from the surging demand for artificial intelligence.

Securitized credit throughout most of 2024 was characterized by spreads tightening across collateral types and the capital structure, and we expect this to continue into 2025. We find commercial mortgage-backed securities (CMBS) the most compelling securitized credit sector, with spreads of both AAA- and BBB-rated securities appearing attractive relative to our fair value assessment. This suggests there is potential for spread compression, especially from Fed easing.

Income opportunities can also be found in the green bond market, one of the fastest-growing segments of the fixed income universe. In recent years, green bonds have undergone a major transformation from a niche impact segment to a potential opportunity for every fixed income investor. Green bonds currently provide investors with the opportunity to capitalize on higher yields, with investment-grade green bonds yielding attractive returns ahead of further central bank rate cuts.[8] We see growing opportunities as issuers from more sectors and countries access the market for financing. The diminishing green premium means investors no longer need to compromise on income or return potential by going green.

The Case for a Dynamic Approach

This is an era of opportunity for fixed income investors, in what is a phase of economic change, new geopolitical alliances, post-election policy shifts and megatrends. We believe dynamic investment strategies have the potential to serve as a strategic complement to core bond allocations in 2025.

With spreads tight, taking an agile approach can enable investors to pinpoint the most compelling risk-adjusted returns. The varying timelines, pace and scales of central bank actions will create different opportunities across different interest rate markets. High political uncertainty and structural shifts, such as geopolitical instability, digitization, and decarbonization, combined with the potential for a new post-election policy paradigm, provide additional reasons to dynamically adjust sector, rating, and duration allocations. We favor agile strategies with seamless sector, geographical, and issuer rotation in response to market opportunities, underpinned by fundamental and quantitative research.

THREE KEY QUESTIONS

1

Where will interest rates settle?

Rate cuts are underway, and investors are now focusing on the timing, tempo and eventual end point of easing cycles. In the US, we anticipate the Fed to deliver an additional cut in December followed by a series of adjustments to a neutral rate of 3-3.25%. However, we remain cautious as any unexpected increases in inflation could prompt the Fed to pause. In Europe, we expect consecutive cuts from the ECB until the terminal rate reaches 1.5%. However, increasing downside growth risks could lead to larger cuts or a terminal rate below neutral.

2

Will fiscal sustainability shift into focus?

In the last cycle, there was a focus on the “effective lower bounds” on interest rates. In the current cycle, more attention is being paid to the “effective upper bounds” on debt levels. We expect investors’ focus to shift toward debt sustainability and the ways that economies are addressing the debt legacy of the pandemic and their responses to energy crises. In the US, markets are nervous about further fiscal expansion. Conditions for a fiscal consolidation to succeed are in place, but there is little political momentum for deficit reduction. In Europe, we expect fiscal consolidation as fiscal rules have been reinstated but the process is likely to be gradual and uneven between countries.

3

How will potential policy shifts impact credit fundamentals and supply dynamics?

Our analysis suggests that companies in the investment grade credit market can remain resilient in 2025, much like their resilience to higher rates in recent years. This reflects a healthy starting point for credit metrics and the ability to be more selective about new investments or M&A activity. We are closely monitoring supply trends. In 2020, record bond issuance was driven by companies refinancing existing debt at low rates, reducing refinancing risks, and taking advantage of the Fed’s corporate bond purchases.[9] In 2025, we will watch for a potential rise in bond supply driven by elevated ‘animal spirits’ leading to debt-funded corporate activities like aggressive buybacks or M&A, which could impact the current strong credit metrics. In the current cycle, elevated rates, equity valuations and slower growth are instilling more financial discipline. We expect most companies to remain disciplined regarding debt expansion to maintain their investment grade ratings.

SECTION 03

Broader Equity Horizons

We expect the return structure of the stock market to broaden in 2025 against a backdrop of easing cycles and resilient growth. High valuations in some areas provide motivation for diversification. We see potentially undervalued long-term opportunities in the US, internationally and across the market cap spectrum.

Broader Equity Horizons

At the halfway point of 2024, we highlighted some potential opportunities for investors to broaden their horizons within and across equity markets. While the breadth of stock market returns has marginally improved in the second half of the year, equity market concentration remains near historic highs.[10] We expect the return structure of the stock market to broaden in 2025 against a backdrop of rate cuts and resilient economic growth, providing motivation for diversification across equity markets. Identifying undervalued and long-term opportunities in the US, internationally (both in developed and emerging markets) and across the market cap spectrum, may prove rewarding. In our view, heightened return dispersion and volatility will make an active investment approach, diversification and solid risk management essential.

US Concentration Risk: Getting More Out of Your Core

The US equity market remains near its highest level of concentration in 100 years.[11] Large US tech companies have long been the most important driver of equity market returns, and for valid reasons: their earnings have outstripped those of the global market for more than a decade.[12] However, since 2022, mega-cap outperformance has owed much to the hopes and aspirations about artificial intelligence (AI).[13] In many cases, mega-cap fundamentals still look solid, and we believe AI is a transformational technology. In our view, the level of market dominance is not sustainable. With the performance of the S&P 500 Index strongly dependent on the prospects of a small number of stocks, passive allocations to US large cap indices may pose risks to broader portfolios.

Despite acute equity concentration risk, the US equity market remains one of the most attractive in the world due to the US's resilient economic growth, persistent corporate earnings growth, and a strong culture of promoting innovation. If implemented, we believe lower corporate tax rates and lighter-touch regulation under a second Trump presidency would be favorable for US stocks. The need to rebuild US manufacturing capabilities also provides a tailwind for the "picks and shovels" of reindustrialization—companies designing, building and outfitting the "factories of the future". These firms represent a large universe of investment opportunities, spanning several economic sectors.

As the market calls for broader participation, a well-rounded and differentiated approach to investing in the US large and mid-cap space in 2025 may lead to positive return outcomes. We believe active management can help identify less-obvious businesses with quality attributes of durable growth, attractive valuations, excellent management teams, and compelling financials. Rigorous stock selection combined with quantitative insights on quality, volatility and valuation metrics may help drive attractive risk-adjusted performance across sectors.

US equity market concentration remains near its highest level in a century

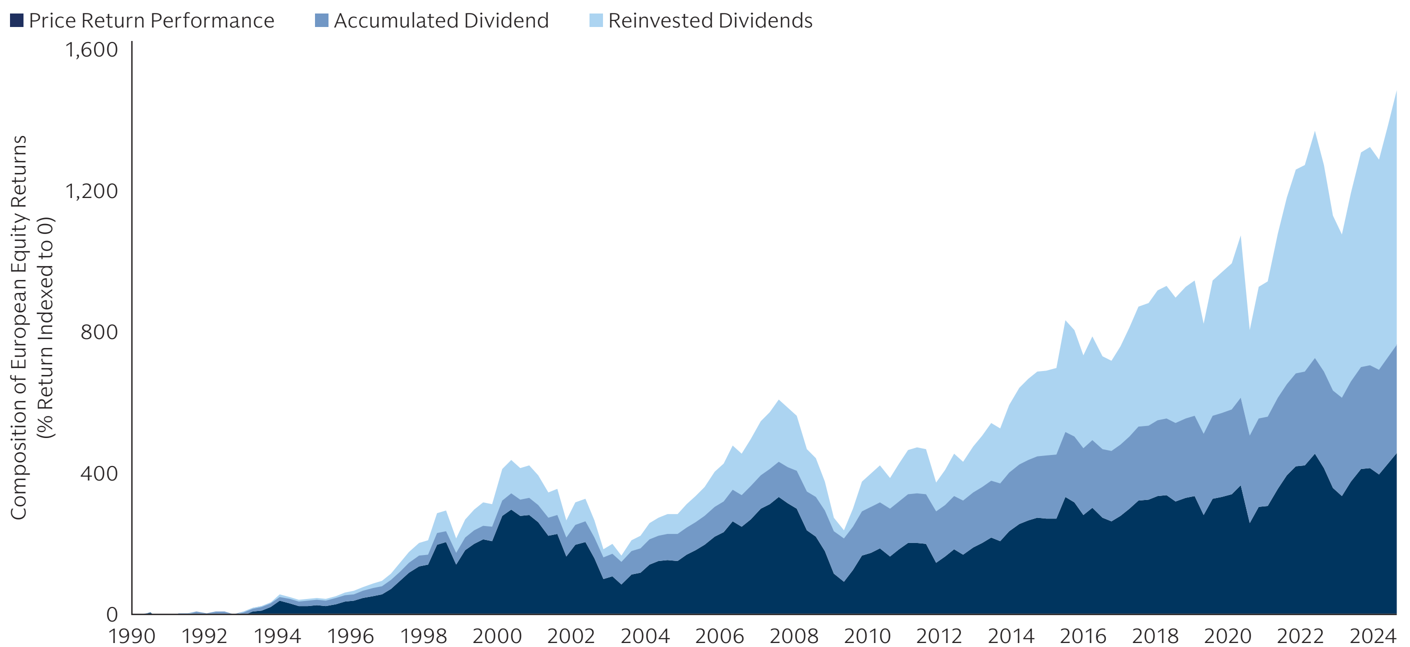
Source: FactSet, Compustat, Goldman Sachs Global Investment Research. As of September 30, 2024. Universe consists of US stocks with price, shares, and revenue data listed on the NYSE, AMEX, or NASDAQ exchanges. Series prior to 1985 estimated based on data from the Kenneth French data library, sourced from CRSP, reflecting the market cap distribution of NYSE stocks.

The Case for International Diversification

Beyond the US, developed equity markets across regions provide opportunities for differentiated exposures. For example, the technology sector accounts for a smaller proportion of equity indices covering Europe and Asia than US equity indices.[14] Financials, by contrast, are better represented, including European banks which have recently outperformed the Magnificent 7. Areas of the market such as healthcare, green energy and luxury goods contain companies that either do not have a US equivalent or appear more attractively priced. Moreover, the return profile of the non-US market is quite distinct. In Europe, for example, dividends have historically been a much larger driver of the total return than in other markets. We believe there is upside potential for dividend growth given that European payout ratios remain below historical averages.[15]

The international developed market equity universe is far from homogenous. The 21 developed markets captured by the MSCI EAFE (Europe, Australasia, Far East) Index, for instance, are not driven by a defined set of macro factors or an overarching theme.[16] This heightens the importance of stock selection. Across non-US developed markets, we favor dividend-paying companies with sustainable returns on invested capital, strong cash flow generation, a track record of capital discipline and consistent payout history. A focus on high-quality businesses and consistent dividend payers may help to mitigate volatility and market drawdowns, which have historically been sharper in international markets than in the US. This type of defensive value approach to international developed market equities over the coming quarters may prove rewarding, particularly in Europe, where growth risks are tilted to the downside given the possibility of renewed trade tensions under a second Trump term in the US.

Dividends have accounted for the majority of European equity total returns



Source: Worldscope, Datastream, Goldman Sachs Global Investment Research. As of October 31, 2024.

Small Caps in the Spotlight

To complement large cap exposures, we see potential to capitalize on a small cap reversal of fortune in 2025, driven by small caps' historically large valuation discounts relative to large caps and a supportive rate cutting environment. Historically, US small caps have often outperformed large caps following the end of rate cycles, especially in soft-landing scenarios.[17] A higher share of floating debt versus large caps means smaller companies may benefit disproportionately from rate reductions in 2025 as interest payments decrease. Small caps generally have a more domestic focus making them less dependent on uncertain international trade, which continues to fragment.

Relative to larger businesses, smaller companies have tended to also be more insulated from negative consequences of tariffs, given their greater domestic revenue sources and shorter supply chains. We believe the less liquid, more diverse and less thoroughly researched nature of the small cap market suits active investment strategies given the potential for higher dispersion. From a fundamental perspective, access to company management teams, including while companies are still private, can provide early opportunities to uncover hidden gems before they are broadly recognized by the market once they become public. Quantitative approaches, including the application of AI techniques, may help to capture alpha and manage risks in what is a vast and diverse investment universe.

Emerging Opportunities in Emerging Markets

We believe EM equities will constitute a significant part of a broader equity market opportunity set in 2025. From a macro perspective, non-recessionary Fed rate cuts and easing by other EM central banks should be supportive for the asset class. Strong corporate earnings growth at fair valuations also keeps us constructive, notwithstanding potentially elevated volatility from the fallout of the US election and ongoing Middle East tensions. Risks of additional US tariffs on imports could pose headwinds to EM equities, particularly to China, and other economies with high goods revenue exposure to the US. At the same time, hopes of a stimulus-led growth revival in China bode well for EMs.

More broadly, the environment may lead more investors to reevaluate how to manage Chinese equities within the context of emerging market equity allocations. Emerging markets and China used to move in tandem, but they have started to diverge significantly post pandemic. This growth divergence may widen further in 2025, owing to more favorable demographic dynamics outside of China and a shift in supply chains towards emerging market ex-China countries.

Splitting emerging market and China allocations into dedicated allocations may introduce greater flexibility to manage active views more effectively in each universe and lean more heavily into alpha opportunities. Alongside allocation decisions, finding high-quality, attractively-valued emerging market opportunities across a diverse universe requires an informational advantage to know more, act faster and potentially capture durable long-term investment performance.

China remains a dominant economic force in the global economy with a rich and vibrant equity universe. We emphasize the need to stay bottom-up and focused on quality over the long term. Opportunities can be found tied to technology innovation, a key trend benefitting the healthcare and IT sectors, or in electric vehicle production. Outside of China, countries benefitting from favorable demographics, such as India, look compelling. Elsewhere, markets like Taiwan and South Korea contain semiconductor companies crucial to AI development. Notwithstanding tariff risks in a second Trump presidency, we expect further pressure for relocation of some supply chains (or at least final assembly) from China to Southeast Asia, India, and Mexico.

India Stays Stronger-for-Longer

India will remain a bright spot in 2025, in our view, given its solid economy, profitable and diverse corporate universe backed by megatrends like digitalization, growth of an affluent middle class and a reform-oriented government. India has shown limited long-term correlation to previous US interest rate easing cycles, underscoring the more domestic and earnings-driven nature of India's growth story.[18] We see India as a potential beneficiary of the Trump administration among emerging markets. The country has a more domestically-driven growth profile than many other EMs, and many companies have diversified supply chains. India is also less at risk of a fallout from global trade wars, in our view, and some export product categories may in fact benefit from the new US administration's tougher stance towards China.

We believe elevated valuations should be looked at in the context of robust corporate earnings delivery, which are sustained by resilient macro environment. Recently we have observed secular themes in India, such as more efficiency from digitization, manufacturing competitiveness as well as a cyclical recovery in sectors such as industrials and financials. Indian bank financials remain particularly strong with improving loan growth on the back of healthy macro and credit demand. We believe domestic banks also have attractive growth potential given the under-penetration of retail and micro, small and medium enterprises (MSME) credit in India.

Many sector-leading companies can be found in India's small and mid-cap space due to the still-early stage of India's economic development. Buoyant IPO markets have allowed many small and medium high-quality companies to go public, providing opportunities to bottom-up stock pickers. Overall, when investing in Indian equities, it is important to remember that India's growth story is a marathon and not a sprint. We stay focused on companies with strong fundamentals that are trading at attractive valuations, which will be key to capitalize on India's stronger-for-longer growth story.

Japan's Structural Story Remains Intact

Since 2022 Japan's equity market has been driven by strong earnings, corporate governance momentum and a shift to an inflationary environment.[19] More recently, the market has faced some headwinds. Japanese stocks and the yen were whipsawed amid August volatility. Political change in Japan has added to uncertainty. Our constructive stance on Japan's economy and equity market remains intact. New prime minister Shigeru Ishiba has indicated that he will continue the Kishida administration's economic policies.[20] We believe this suggests further progress in corporate governance reforms. Wages in Japan continue to grow steadily,[21] suggesting that the Bank of Japan's aim of a virtuous cycle of wage growth and inflation is on track, although rising labor costs could be a headwind for some companies. Following the US election result, Japanese stocks posted strong returns, led by financials and global cyclical sectors.[22] We see Japan continuing to play a key role as a US defense partner and benefiting from friend-shoring trends. We favor active exposure to structural growth winners and select value opportunities. We remain focused on identifying high-quality Japanese businesses with robust fundamentals, backed by shareholder-friendly management teams with improving governance practices.

THREE KEY QUESTIONS

1

Can company earnings remain resilient in 2025?

We maintain our cautious optimism on the earnings outlook for 2025 and expect earnings growth to broaden beyond the Magnificent 7, beyond the US and beyond large-cap stocks. We are watching the ability of companies to protect margins on the back of continued wage pressures and lower capacity to increase prices as inflation returns to normal levels. In the US, S&P 500 margins have been a direct beneficiary of declining corporate tax rates. An extension of the previous Trump administration's tax cuts beyond 2025 is a possibility, as is reinstatement of some expired business investment incentives. This could potentially boost S&P 500 earnings per share by as much as 4%. Overall, we continue to favor quality businesses with unique competitive advantages in their respective markets.

2

Where might opportunities emerge as AI broadens out?

Our outlook for technology is positive in 2025. We see fundamentals improving across the tech ecosystem, and easing interest rates provides additional support. In our view, some AI investment opportunities have yet to be fully recognized. We see exciting risk reward potential among "enablers" (semiconductors and semi-cap equipment providers) and "hyperscalers" (cloud providers that AI workloads run on). We also see potential opportunities related to data & security (including software companies that finetune huge amounts of data to be stored in the cloud for AI models) and applications (software and enterprises across sectors that will leverage AI broadly).

3

What strategies may help combine the benefits of both active and passive equity approaches?

For investors looking to capture the benefits of active management while preserving main features of passive investing (such as low costs and transparency to monitor risk and returns), we believe that alpha enhanced indexing approaches may provide an answer in equity markets. These approaches can be driven by systematic, data-driven techniques, coupled with enhanced risk management and the ability to integrate investor preferences to arrive at a customized portfolio. In particular, active ETFs continue to grow in popularity, providing potential cost benefits and transparent ways for investors to blend passive index exposure and active security selection.[23] We believe having the right engines to power these vehicles is critical to deliver positive investment outcomes.

SECTION 04

Exploring Alternative Paths

As economies adjust, private markets and other alternative assets continue to evolve and attract a broader base of investors seeking to complement their traditional market exposures. We see a diverse opportunity set across private equity, private credit, real estate, infrastructure and hedge funds.

Exploring Alternative Paths

Private markets and other alternatives continue to evolve and attract a broader base of investors seeking to complement their traditional market exposures. General partners (GPs) and limited partners (LPs) are charting new routes across a dynamic landscape and we see a diverse opportunity set across private equity, private credit, real estate, infrastructure and hedge funds. A more balanced economy in 2025 could spur dealmaking and ease some valuation and liquidity pressures. However, a more constructive macro picture will not be a magic bullet, as some asset types may be better positioned than others.

As investors digest the longer-term implications of recent election results, we think it's important to keep in mind that economic policy depends on multiple factors, not all of which are known at the moment that administrations change. Furthermore, private market investments often span multiple administrations, so over-indexing to a current administration can be an unintended source of risk.

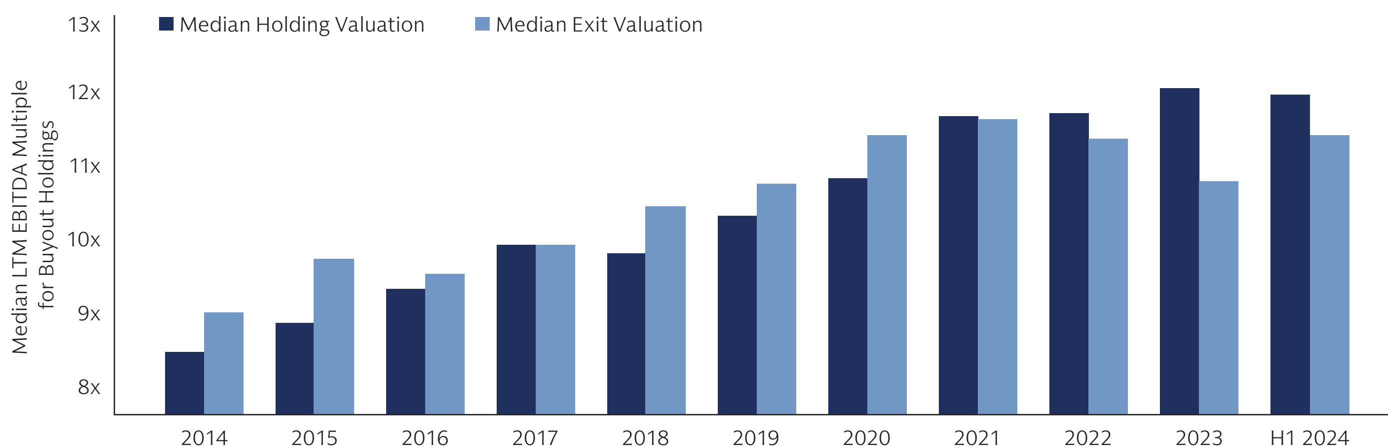
Private Equity: The Expectations Recalibration

A stabilizing macro backdrop and a recalibration of investor expectations should act as a catalyst for a more normalized environment for private equity buyouts in 2025. We see signs that this process is already underway, positioning the industry better for exits and new capital deployment, albeit with some parts of the market looking more compelling than others.

We believe a key reason for muted exit activity since 2021 has been GPs giving portfolio companies more time to grow into their target exit values, with EBITDA growth bridging the valuation gap resulting from the interest rate regime change.[24] Uncertainty about the broader macroeconomic and market environment has been another reason. Today, valuations have broadly stabilized and disconnects between median holding and exit valuations have diminished. Exit valuations are off their 2023 troughs, while holding valuations have edged down from their 2023 peaks. Investor confidence is returning as uncertainty about near-term economic growth, inflation, and rate trajectories abates. As such, many portfolio companies appear better positioned for exit at or near values in line with GPs' return targets. Practical realities, however, suggest that the pace of the rebound is unlikely to be uniform. Larger companies, which may have fewer potential strategic buyers, may find the sale process takes longer and depends more on the IPO environment.

For new capital deployment, we anticipate that a restored market balance in 2025 and a continued strengthening of the dealmaking environment will make for an attractive entry environment for the coming vintage—and, perhaps, in hindsight, for the past couple of vintages as well.

The disconnect between holding and exit valuations has diminished



Source: MSCI. As of June 30, 2024.

Supply / demand dynamics lead us to posit that valuations should stabilize around current levels. However, we see no obvious catalyst for a systematic upwards trajectory similar to that experienced in the last decade. Operational value creation is likely to remain the key driver of returns. Middle-market strategies may provide the most attractive balance among upside potential from active management, scalability of value creation initiatives, downside mitigation in turbulent times and a flexible, multi-dimensional exit strategy.

In venture capital and growth equity, valuations and growth expectations have normalized in many parts of the market, and the muted fundraising environment of the past two years brought down the level of dry powder down from 2023 record highs. These factors make for a more constructive environment for deploying new capital in an asset class that offers access to innovative companies in their highest-growth phase.

We see a growing need for growth equity capital as venture-backed companies are remaining private for longer and require additional capital to finance the next steps of their journeys. In the US, the backlog of unicorns (private companies valued at $1bn or more) stands at around 750—this represents a backlog of 10 years if they go public at the same average rate seen over the past decade. This suggests there will be greater demand for growth capital to fund the transition from late-stage venture capital to freestanding enterprises.

Private Credit: The Supply / Demand Normalization

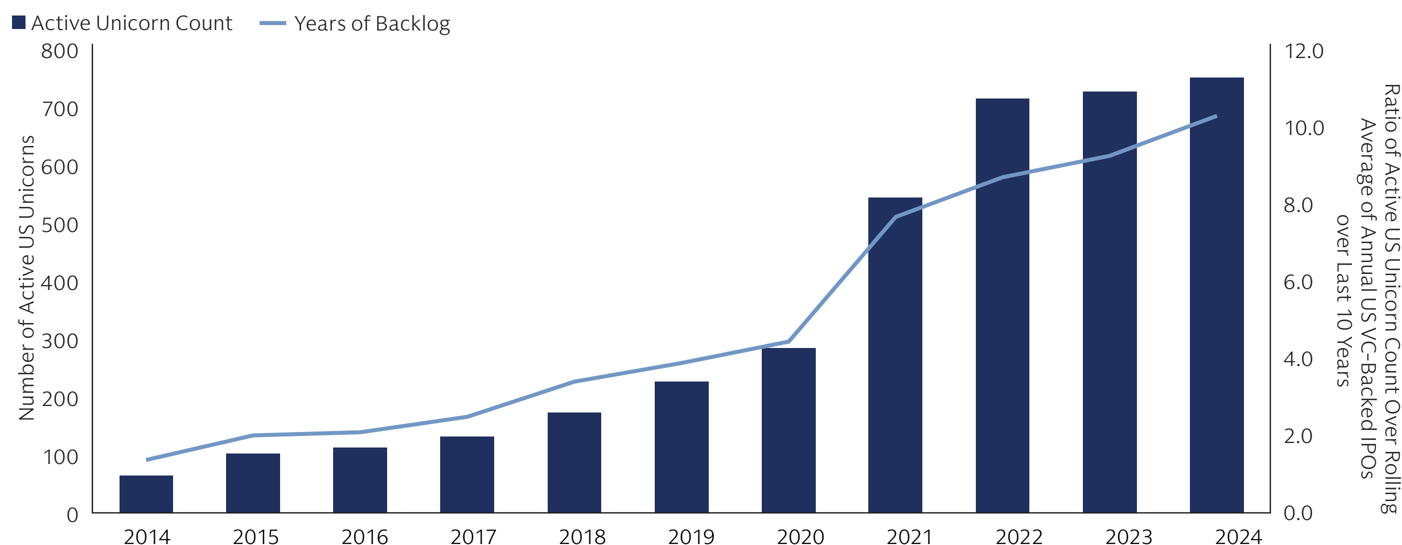
Supply / demand factors have also been driving dynamics in private credit. Spreads have tightened in recent quarters as investors sought greater exposure to floating-rate credit, across both syndicated and private markets against a backdrop of depressed new-origination activity. Many borrowers refinanced, in some cases switching between public and private sources, and in others, repricing loans with their existing lenders. Around 80% of loan activity in 2024 was refinancings, repricings and extensions.[25]

Some market participants have observed loosening lender protections as lenders compete on both price and terms. This may ultimately make lenders more vulnerable if companies experience stress.

Falling rates may therefore paradoxically prove constructive to private credit, mitigating the supply / demand imbalance and normalizing spreads. An equilibrium between demand for public and private credit should arise as well, in which companies will choose between the lower cost of capital available in public markets versus a more tailored capital structure and financing solution in private markets.

Lower rates can also help support debt serviceability and mitigate stress. So far, defaults have been muted, as robust earnings growth has helped support debt servicing even as higher rates have driven meaningful increases in interest expense costs. A back-of-the-envelope analysis suggests that for a company that was underwritten on market-average terms in 2021 and that has since achieved market-median EBITDA growth, a 2% decline in rates may bring its debt service capacity back toward levels at which the deal was underwritten. Above-median operational growth rates would lower the relative cost of debt service further, allowing the company to incur and service additional debt where prudent. However, a company whose fundamentals have not kept up would see little relief from lower rates and would come under strain by any additional debt financing. Dispersion in fundamentals will therefore drive dispersion in ultimate outcomes.

US Unicorn Backlog Has Reached ~10 years



Source: PitchBook, Prof. Jay Ritter. As of September 30, 2024. US Unicorn backlog is measured as the ratio of active US unicorn count over rolling average of annual US venture capital-backed IPOs over last 10 years.

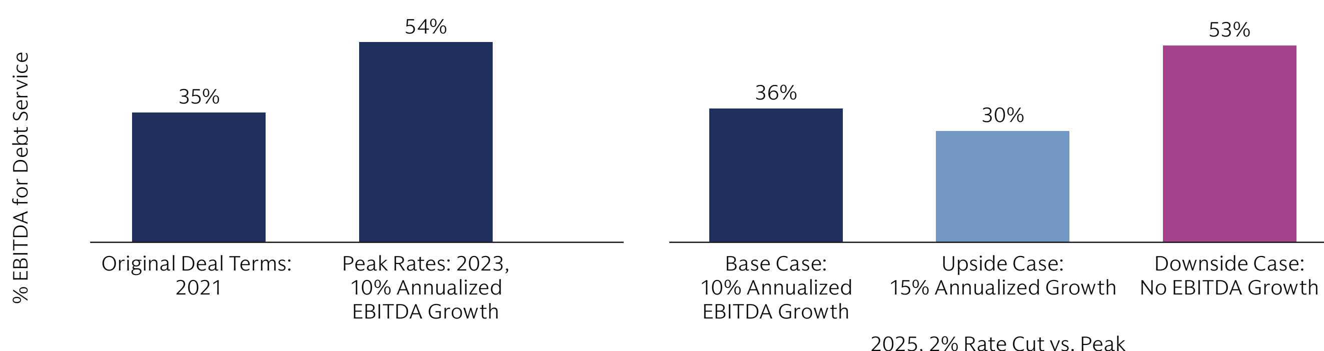
This dispersion will be amplified as recent recapitalization and refinancing activity comes to its ultimate conclusions. Record levels of amend-and-extend and pay-in-kind activity over the past three years will have helped companies manage their cash interest expenses and prudently support growth initiatives in some cases and have forestalled inevitable defaults in others.

Overall, we anticipate ongoing interest in private credit—many institutional investors indicate being under-allocated to private credit.[26] We expect interest to expand across areas, such as directly-originated investment-grade credit, real asset (real estate and infrastructure) credit as well as asset finance, which encompasses lending against assets as varied as consumer loans, industrial machinery, and private market fund LP commitments. These are expanding opportunities for private credit, given the contracting supply of credit from traditional lenders and continued demand from borrowers.

We also see opportunities in hybrid capital—flexible financing solutions that can meet a range of needs—including reoptimizing balance sheets to better support business operations, bolstering strategic transactions while redirecting cash towards operational uses, and optimizing a sponsor-backed company's balance sheet until a successful exit.

With its expanding purview, private credit offers attractive opportunities to build a diversified portfolio that can be customized across the spectrum of risk and return, borrower type, seniority, duration, and macroeconomic sensitivity, complementing public credit exposure in a variety of ways.

Fundamentals drive dispersion in ability to service debt



Source: Goldman Sachs Asset Management. For illustrative purposes only. Original deal term reflects aggregate LBO industry statistics as of 2021 for EBITDA multiples, leverage used and secured overnight funding rate (SOFR) floor amounts (source: LCD) and a spread on private credit sourced from the KBRA database. Impact of rising rates reflects maximum SOFR in 2023 (source: Federal Reserve Bank of New York) and spreads sourced from the KBRA database. **Past performance is not indicative of future results.**

Real Estate: The Rates-Based Revitalization?

The level and trajectory of interest rates naturally matters most for strategies with relatively high and long-term leverage, such as real estate. There is optimism that lower rates will be a stabilizing force to values and act as a catalyst to close bid-ask spreads. However, the ultimate path of yields will determine the trajectory. Overall, we expect lower rates to facilitate greater transaction activity, as lower cost of financing makes deal economics more attractive. This dynamic may have the most immediate impact in core / core-plus strategies, where the spread between the return on assets and the cost of debt is lower, but will ultimately benefit strategies across the risk-return spectrum.

A rebound in transactions can help to quantify where fair value is. In our view, the discounts to net asset value at which REITs are currently trading are an indication of where investors anticipate fair value may ultimately land, although REIT discounts may be overly punitive and not reflect what private asset sales can achieve.[27] This adjustment process may prove painful to some assets; however, we view it as a necessary step on the way to broader market recovery and greater confidence in the asset class.

As is the case for other asset classes, asset fundamentals drive real estate returns through market cycles. The fundamental dynamics observed in real estate today are driven by the evolution of the market. We continue to expect secular trends to impact fundamentals. Demographics, technology and the drive towards sustainability should continue shaping global real estate demand. The attractiveness of assets with respect to these themes will differ by region and individual asset quality.

At the sector level, in the US multifamily and industrial markets are contending with peak supply deliveries, which have softened pricing power. However, new construction pipelines are decreasing, indicating better supply / demand balance ahead—especially when considered alongside structural factors. Office bifurcation continues, with growing stress for lower quality assets. Meanwhile, attractive retail locations may be benefiting from a combination of healthier demand and stretched supply due to years of low new construction as the sector went through its own adjustment period.

In Europe, there is a greater focus on uplifting assets and improving energy efficiency. In Japan, a confluence of macro tailwinds and ongoing structural changes have opened opportunities across several sectors, including logistics, hospitality, and residential.

While much focus remains on distress, this is primarily the case for lower-quality assets (older, less sustainable, in less favorable locations) that may have trouble getting financing. These assets may offer attractive opportunities to redevelop and reposition the assets, providing an attractive entry point.

Overall, we believe current market dynamics present opportunities to acquire select assets at attractive prices and grow net operating income through active management and accretive capital programs. There is also scope to develop, redevelop or reposition assets to cater to changing demands for space.

Infrastructure: The Asset Class Reconfiguration

Infrastructure has performed well amid recent high inflation, in-line with historical experience. However, moderating inflation and heightened geopolitical issues present headwinds to future cash flow upside for assets whose revenue growth comes primarily from inflation sensitivity. This may put pressure on upside growth potential, particularly in core strategies. Limited relief from the interest rate environment may also pressure core returns. We believe fundamental asset growth will become more critical to attractive upside generation.

Asset owners with the ability to pull operational levers to drive fundamentals are likely to be best positioned in 2025. We believe value-add strategies are well positioned in this regard as their business model derives more of its return from operational value creation initiatives in cash flow-generating assets. The key risk is execution skill, but this can be mitigated via careful manager selection.

Much like in private equity, we believe the middle market offers an attractive balance of potential value creation from systematic operational initiatives and a flexible exit strategy, amplified by recent fundraising trends. The industry is evolving, with large funds accounting for a bigger share of fundraising, which we believe will lead to greater competition to deploy capital at the upper end of the market. However, this presents attractive exit opportunities for mid-cap funds that can grow their investments during their holding periods. Competition for new assets in the large-cap market could also widen the existing valuation spread between middle market and large-cap assets, amplifying multiple expansion tailwinds for mid-market assets from entry to exit.

Given the market dynamics linked to asset size, access points for infrastructure may bifurcate. Large core assets could increasingly become within the scope of evergreen structures, which provide more flexibility for long hold times without the need to exit the investment. Returns would come largely from yield, reducing the reliance on transactions to generate cash flows. Opportunistic assets may continue to be held primarily in drawdown funds, a structure that can provide discipline to sell the asset and realize proceeds. Value-add strategies can lend themselves to either structure, given their mix of yield and capital appreciation return drivers and greater exit and realization flexibility.

More broadly, while structural change is always subject to some degree of uncertainty, we expect thematic opportunities to remain in focus in 2025 as infrastructure evolves. The shift towards more sustainable energy consumption is driving investments across renewable energy storage and electrified transport. AI's accelerating adoption is another structural force; data center investment is poised to more than double by 2030, driven by AI. Trade fragmentation represents another structural change for the asset class, as companies reconfigure supply chains for resiliency and evolving geopolitical realities. This is impacting transport and logistics requirements to support changing locations of manufacturing and storage facilities, and trade routes to deliver goods to customers. Aging populations may also contribute to growing demand for private infrastructure funding, as public budget priorities in societies with aging populations shift to support retirees' income and healthcare needs and leave less public money available for public works spending.

Hedge Funds: A Different Dimension to Diversification

Markets proved volatile in 2024 with a tumultuous period in August in particular seeing sharp risk-off moves. Hedge funds navigated this period well and ended the third quarter in positive territory, highlighting their important role in diversifying a portfolio and reducing both equity and fixed income market beta. Today's post-quantitative easing environment is supportive to both hedge fund demand and returns. Lower beta/market return expectations and unstable correlations between fixed income and equity have made uncorrelated hedge fund returns more valuable to asset allocators.[28] Volatility and dispersion have also made positive hedge fund returns more possible. Consequently, there has been a resurgence of interest in hedge funds and liquid alternatives and, as part of this, the return of portable alpha and extension strategies (extending long-only approaches to include limited short exposure) as a means to implement.

The hedge fund and liquid alternatives industry has also evolved. Dispersion has gotten wider, making manager selection matter even more; more so than most other asset classes. At the same time hedge funds have gotten even tougher to access and assess. The landscape has evolved to become more binary between platform hedge funds vs specialized hedge funds, and more expansive where skill can now be better accessed via not just funds but also separately managed accounts (SMAs) and co-invests. The lines are also more "blurred" between platform hedge funds vs funds of hedge funds, proprietary vs external, and hedge funds vs liquid alternatives that are designed to deliver the returns and risk of the hedge fund industry in a systematic and transparent way, without directly investing in individual managers.

THREE KEY QUESTIONS

1

How should investors assess different private market vehicle structures?

We believe there is a role for both closed-end drawdown funds and evergreen vehicles in private markets. Four key dimensions may drive the vehicle decision: liquidity and investor control; program complexity; performance impact from fund structure; and product availability. Evergreen funds are advantaged on the first two dimensions, while drawdown funds are advantaged on the latter two. The ultimate choice—whether one structure or a combination—should consider the investor's time horizon, relative importance of the four key dimensions, and resources to implement the program.

2

What is a GP's distribution quality?

With fewer exits, private equity GPs have turned to creative liquidity solutions, such as dividend recapitalizations, net asset value (NAV) financing, and continuation vehicles (CVs). While these solutions help create distributions and lock in value (albeit sometimes subject to clawbacks), they may ultimately increase the range of outcomes. In aggregate, dividend recapitalizations have been used prudently and increased the average deal's internal rate of return (IRR), but assets can be vulnerable if the underlying company is not well-selected for the transaction.[29] NAV financing adds leverage, cross-collateralizing portfolio assets and creating potential to magnify returns on the upside and downside. Continuation vehicles let GPs keep creating value, giving the company time to recover from a temporary dislocation and avoiding having to sell a prized asset to a competitor. However, in some cases maintaining a strong growth trajectory calls for a different operational value creation plan, that may be better executed by a different GP. Over time, the quality of a GP's distribution will become apparent.

3

Is AI becoming "crowded"?

We believe the AI investment theme is underlined by secular trends but should be addressed thoughtfully. In venture capital, the difference in investor enthusiasm for AI vs other sectors is becoming apparent in valuations and investment terms. In real assets, while AI-driven data center demand should remain a strong theme, the market's ultimate size will depend on demand, the ways in which technological progress influences space requirements for hardware and cooling solutions, and power availability. With data centers in scope for both real estate and infrastructure managers, assets may see demand from both investor types. Some attractive opportunities may come in the form of providing more efficient energy and water services. Holistic, creative solutions (e.g., incorporating the physical space along with power generation and/or cooling) may be well positioned.

SECTION 05

Disruption from All Angles

This is an era of disruption. Geopolitics, supply chain shifts and the rise of AI will remain prominent themes. We believe mapping their long-term implications, identifying opportunities at their intersection, and strategically allocating capital across public and private markets can drive positive financial and real-world impact.

Disruption from All Angles

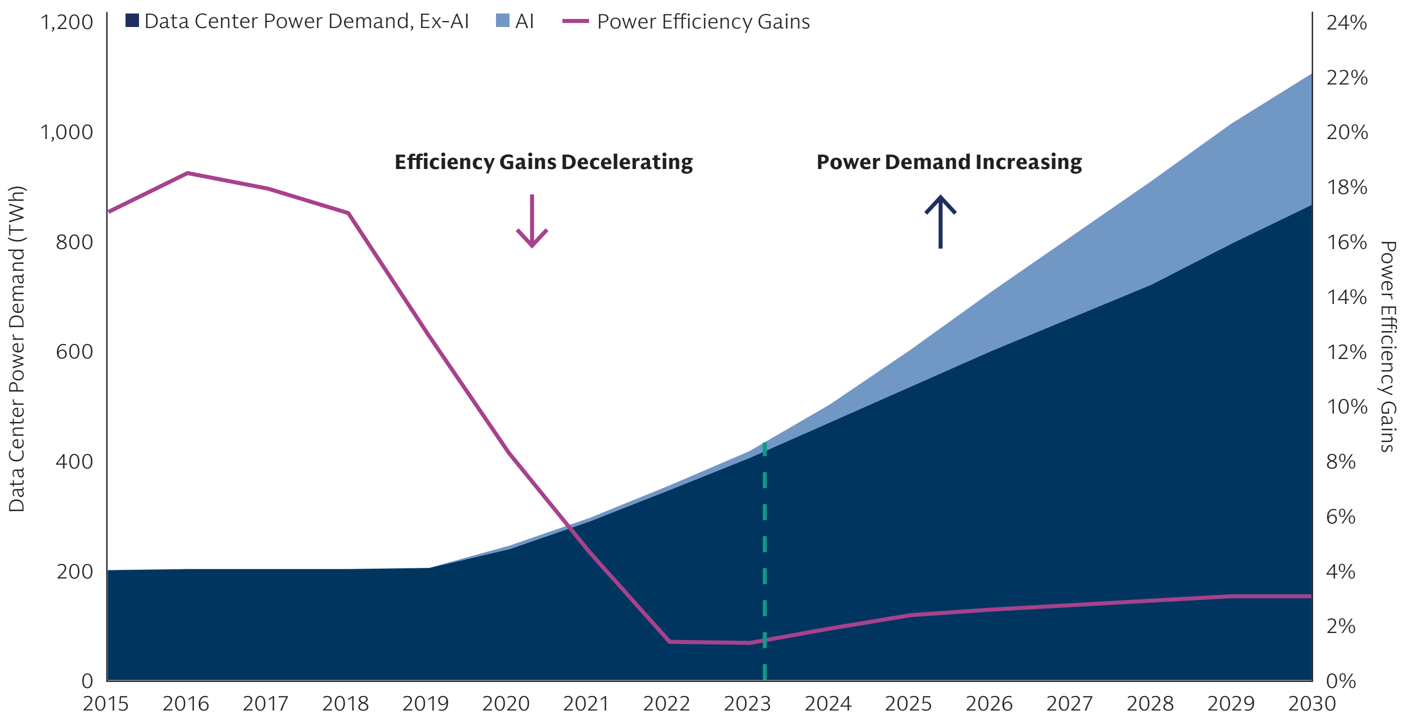
Economies may be moving towards a better balance, but disruption is likely to keep coming from multiple directions in 2025. Our focus remains on cutting through the noise to find signals of actual change. There are several key structural forces that stand out in this era: these include decarbonization, digitization, deglobalization, destabilization in geopolitics, and demographic aging. Mapping their long-term implications, identifying opportunities at their intersection, and strategically allocating capital across public and private markets can drive positive financial and real-world impact.

Power Demand Inflection Point

Artificial intelligence, the clean energy transition, robust economic growth and industrial reshoring are driving strong increases in demand for power and electricity. We expect the appetite for power to grow in 2025 and intensify in years ahead. The electrification of transport, heatwaves increasing the need for air conditioning and a deceleration in the pace of data center energy efficiency gains will add to demand growth. AI may put pressure on the energy system (a ChatGPT search consumes around 6-10x the power as a traditional Google search)[30] but it may also help find solutions to make data centers and the grid more efficient. Sharp increases in energy demand could accelerate the shift to renewable sources of power, but may also lead utilities to ramp up their use of readily available fossil fuels in the short term.

Major economies, including the US, Europe and Japan, are focusing on semiconductor reshoring, but they are also looking to build the power infrastructure required to be net exporters of "intelligence" rather than sending their data to another provider or country to help train their AI models. Rising power demand is creating investment opportunities in utilities, renewable generation and industrials whose investment and products will be needed to support growth. Wind, solar, nuclear and gas will all be part of the power equation. Hybrid solutions that help maintain grid resiliency and efficiency will be essential in minimizing outages. Utility-scale energy storage reduces the likelihood of brownouts and enables more renewable power to be used on the grid. Growing energy use by data centers is also spurring demand for resource and land efficiency solutions, including clean water and infrastructure

Data demand growth is driving a surge in data center power use, with an AI kicker on the way



Source: Masanet et al. (2020), International Energy Agency, Cisco, Goldman Sachs Global Investment Research. As of April 28, 2024.

Security to Stay Front and Center

After a mega-election year, post-election policy shifts by governments in major economies may disrupt some areas of the global economy in 2025. However, we do not expect leaders to compromise on security. Security at the supply chain, resource, and national levels is a vital precondition for sustainable growth. Policy tailwinds in this area are likely to remain in place and, in some cases, strengthen. For instance, while a second Trump presidency creates uncertainty about the future of the Inflation Reduction Act (IRA), we expect efforts to solve for affordable, reliable, and sustainable energy to remain a key priority for corporate management teams. At the same time, we expect security threats to grow in magnitude and complexity, driving the need for new defense and cybersecurity solutions. Advances in AI and the likelihood that geopolitical tensions remain elevated mean attempts by the US government to strengthen the country's technology supply chains are likely to receive bipartisan support.

In Europe, the recently unveiled "Draghi Plan" includes a set of recommendations to promote private investment, boost Europe's competitiveness, close its productivity gap with the US and China and enhance its economic security by reducing its dependencies. For example, as 2022's energy crisis demonstrated, securing a supply of critical resources from key trade partners is vital for the region. High energy costs in Europe remain an obstacle to growth, while a lack of generation and grid capacity could impede the spread of digital tech and the electrification of transport. About half of the €800 billion extra annual investments posited in the Draghi Plan would be in clean energy and electric mobility.[31] If implemented, the plan would provide significant tailwinds for EU electrification compounders and power utilities.

We believe in playing the long-term theme of security in a holistic way. Supply chain, resource and national security themes in developed economies provide a broad universe of investment ideas to choose from, and the ability to construct a well-diversified portfolio with balanced exposure across sectors.

Sustainability: A Sharper Focus on Financial Returns

We are seeing investors begin to re-focus on financial materiality once again, going back to basics by concentrating on financial returns. As we move away from simplistic industry exclusions and narrow tilts towards lower-emission stocks, we believe that a broadening of the investable universe will lead to both greater real-world impact and heightened performance benefits. We believe there will be a growing push to link sustainability with stock performance and quantifiable real-world impact.

Investors increasingly realize that decarbonizing the real economy will require capital to be channeled into sectors with higher emissions, such as energy companies, utilities and producers of cement, chemicals and steel. This represents a considerable shift in mindset from the early days of sustainable investing, when many investors focused on carbon-light sectors that were viewed as more positive for the environment. This evolution can be seen in the growth of forward-looking "transition" and "improver" strategies, which tend to invest more in companies expected to improve the sustainability of their operations and products. Understanding the decarbonization challenges facing heavy-emitting sectors including oil & gas, aerospace & defense and metals & mining can help investors identify corporations making real progress and companies providing the solutions they need.

THREE KEY QUESTIONS

1

What are the potential impacts of the US election on sustainable investing?

While uncertainty regarding sustainability policy, and the Inflation Reduction Act in particular, may be elevated following the US elections, we expect the underlying commercial drivers of sustainable investment opportunities to remain resilient, regardless of the political backdrop and direction of near-term policy priorities. For instance, the fundamentals of clean tech continue to improve (higher quality solutions, lower cost curves). We also see growing corporate and investor interest in decarbonization broadly, greater demand power resources driven by AI growth, and an accelerated need to prepare for and respond to climate related hazards. We continue to focus on financially-material drivers of investment opportunity and risk.

2

What can investors do to integrate biodiversity risks and opportunities in their processes?

Climate change is increasingly disrupting the balance of biodiversity, and focus on nature from governments, corporate leaders and investors is on the rise. The wide variety of terminology and approaches in the biodiversity market make it difficult for investors to navigate. Based on our own experience and engagement, we think investors should begin by clarifying their objectives and then select tools that make it possible to assess companies and identify opportunities to make biodiversity investing actionable.

3

What are the investment implications of the increasingly interrelated forces of AI, geopolitics, and the energy transition?

These forces could interact in various ways. For example, AI may strain the energy system, but it may also help find solutions to make data centers and the grid more efficient. For investors, the challenge is to understand these interdependencies and map out their investment implications. Investors who stay in their silos and focus on a single theme could be missing out on opportunities and underestimate the risks. More specifically, we see opportunities to leverage the power of AI in investing to open the door to future alpha generation—but we believe this requires an intuitive data strategy and human expertise.

Sources

1. US Federal Reserve. As of November 7, 2024.
2. European Central Bank, Bloomberg. As of October 17, 2024.
3. Bank of England, Bloomberg. As of October 16, 2024.
4. Bloomberg, Goldman Sachs Asset Management. As of October 7, 2024.
5. Goldman Sachs Global Investment Research. As of November 8, 2024.
6. Reuters. As of October 28, 2024.
7. Goldman Sachs Global Investment Research. As of September 30, 2024.
8. Bloomberg. As of August 30, 2024. MSCI Euro Corp Green Bond Index vs Bloomberg Euro Agg Corp Bond Index.
9. Bloomberg, Barclays, Goldman Sachs Global Investment Research. As of December 16, 2020.
10. Goldman Sachs Global Investment Research. As of October 25, 2024.
11. Goldman Sachs Global Investment Research. As of October 18, 2024.
12. Goldman Sachs Global Investment Research. As of September 5, 2024.
13. Goldman Sachs Global Investment Research. As of September 5, 2024.
14. MSCI EAFE Index. As of September 2024.
15. Goldman Sachs Global Investment Research. EURO STOXX 50. As of June 20, 2024.
16. MSCI. As of September 30, 2024.
17. FactSet, Goldman Sachs Asset Management. As of September 30, 2024. End of rate cutting cycles, starting January 1996, November 1998, June 2003, December 2008, March 2020.
18. FactSet, MSCI, Goldman Sachs Global Investment Research, Goldman Sachs Asset Management. As of August 2024.
19. Goldman Sachs Asset Management. As of October 31, 2023.
20. Goldman Sachs Global Investor Research. As of October 4, 2024.
21. Ministry of Health, Labor and Welfare (Japan), Goldman Sachs Global Investment Research. As of October 9, 2024.
22. Goldman Sachs Global Investment Research. As of November 10, 2024.
23. Reuters. As of September 27, 2024.
24. Burgiss, Goldman Sachs Asset Management. As of October 22, 2024.
25. LCD. As of September 30, 2024.
26. Goldman Sachs 2024 Private Markets Diagnostic Survey. As of October 2024.
27. Nareit, Goldman Sachs Asset Management. As of October 31, 2024.
28. MSCI, Barclays, Goldman Sachs Asset Management. As of June 30, 2024.
29. Leveraged payouts: how using new debt to pay returns in private equity affects firms, employees, creditors, and investors. Authors: Abhishek Bhardwaj, Abhinav Gupta, Sabrina T. Howell. As of July 1, 2024..
30. Goldman Sachs Global Investment Research. As of April 28, 2024.
31. European Commission, Goldman Sachs Global Investment Research. As of October 14, 2024.

Glossary

Alpha refers to returns in excess of the benchmark return.

A credit rating is an assessment of the credit risks associated with a financial instrument or a financial entity. “AA” and “BBB” are considered investment grade. Ratings are subject to change and do not eliminate the risks of investing.

Dovish refers to more accommodative monetary policy, the opposite of Hawkish.

Evergreen funds are a type of semi-liquid investment vehicle providing exposure to private companies.

Hawkish refers to more aggressive monetary policy, the opposite of Dovish.

The MSCI EAFE Index is a stock market index that measures the performance of large- and mid-cap companies across 21 developed markets countries around the world.

The S&P 500 Index is the Standard & Poor’s 500 Composite Stock Prices Index of 500 stocks, an unmanaged index of common stock prices.

Disclosures

Risk Considerations

All investing involves risk including potential loss of capital.

Equity investments are subject to market risk, which means that the value of the securities in which it invests may go up or down in response to the prospects of individual companies, particular sectors and/or general economic conditions. Different investment styles (e.g., “growth” and “value”) tend to shift in and out of favor, and, at times, the strategy may underperform other strategies that invest in similar asset classes. The market capitalization of a company may also involve greater risks (e.g. “small” or “mid” cap companies) than those associated with larger, more established companies and may be subject to more abrupt or erratic price movements, in addition to lower liquidity.

Investments in fixed income securities are subject to the risks associated with debt securities generally, including credit, liquidity, interest rate, prepayment and extension risk. Bond prices fluctuate inversely to changes in interest rates. Therefore, a general rise in interest rates can result in the decline in the bond’s price. The value of securities with variable and floating interest rates are generally less sensitive to interest rate changes than securities with fixed interest rates. Variable and floating rate securities may decline in value if interest rates do not move as expected. Conversely, variable and floating rate securities will not generally rise in value if market interest rates decline. Credit risk is the risk that an issuer will default on payments of interest and principal. Credit risk is higher when investing in high yield bonds, also known as junk bonds. Prepayment risk is the risk that the issuer of a security may pay off principal more quickly than originally anticipated. Extension risk is the risk that the issuer of a security may pay off principal more slowly than originally anticipated. All fixed income investments may be worth less than their original cost upon redemption or maturity.

Emerging markets investments may be less liquid and are subject to greater risk than developed market investments as a result of, but not limited to, the following: inadequate regulations, volatile securities markets, adverse exchange rates, and social, political, military, regulatory, economic or environmental developments, or natural disasters.

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