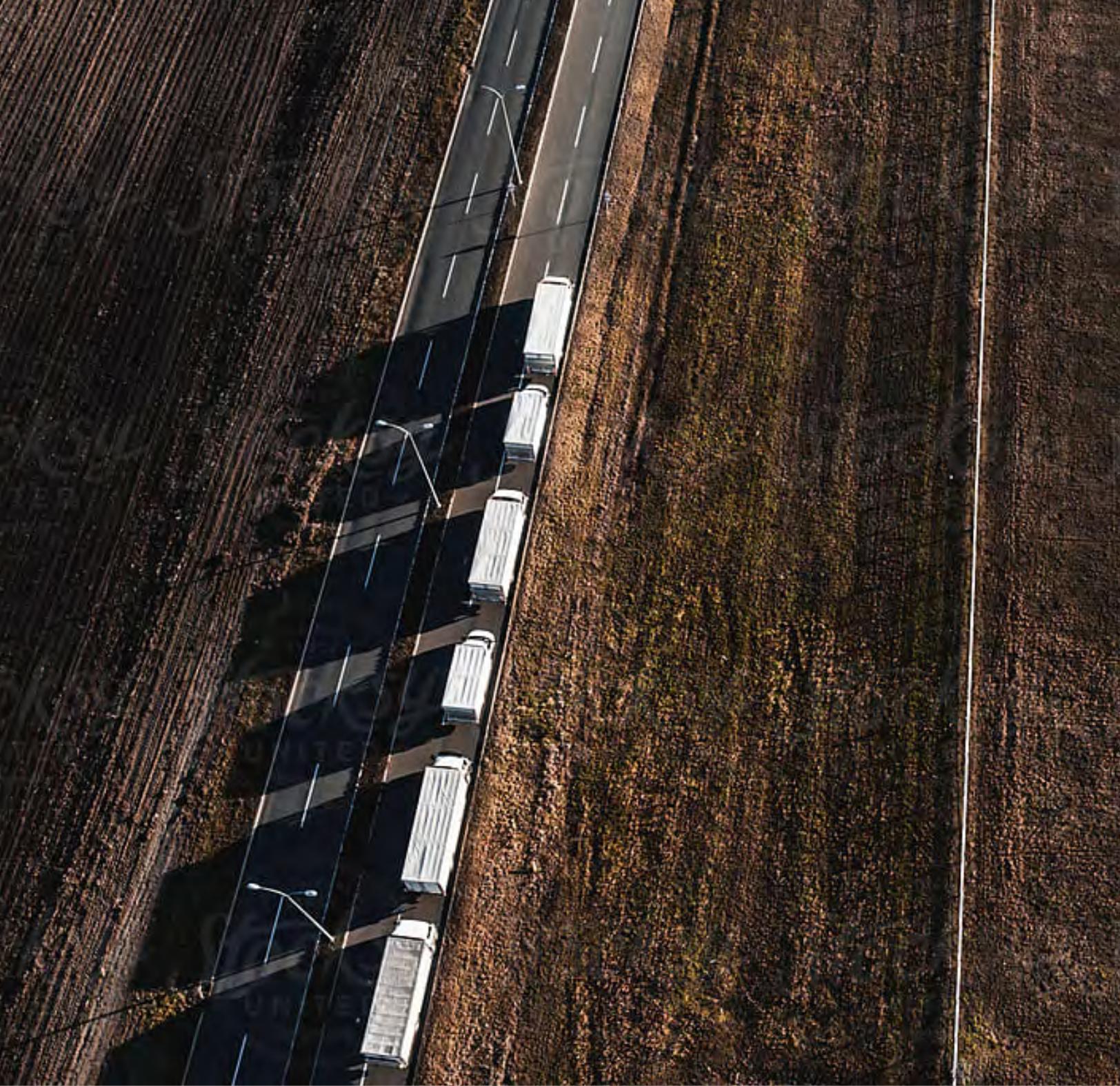


2025 MID-YEAR OUTLOOK

Comfortably Uncomfortable

5 essential questions that help investors
unlock opportunity in uncertainty





The views expressed herein are based on current conditions, subject to change and may differ from other JPMorgan Chase & Co. affiliates and employees. The views and strategies may not be appropriate for all investors. Investors should speak to their financial representatives before engaging in any investment product or strategy. This material should not be regarded as research or as a J.P. Morgan Research Report. **Outlooks and past performance are not reliable indicators of future results.** Please read additional regulatory status, disclosures, disclaimers, risks and other important information at the end of this material.

INVESTMENT PRODUCTS: • NOT FDIC INSURED • NO BANK GUARANTEE • MAY LOSE VALUE

Foreword

Markets are in flux and investors need to contend with this uncertainty. Indeed, as we approach the mid-year mark in 2025, the depth and breadth of the uncertainty are striking—even to those of us who have experienced many market cycles over the years.

In our *Mid-Year Outlook*, we aim to answer five essential questions that can help you unlock opportunity. It's a timely report, and we hope you find it a useful one.

We expect the global economy to soften in the short term. Recession risks have clearly risen. Ultimately, though, we believe the economy will prove resilient and absorb higher tariffs, with the support of pro-growth fiscal agendas. Of course, no one can precisely predict the trajectory of U.S. policy, and that will be a key determinant for markets around the world.

Now more than ever, we think you should consider solutions that could make your portfolio resilient—and thus well positioned to meet your wealth goals under what is now a wider range of economic and market outcomes. Our ultimate goal is to build robust portfolios that not only align with our core view, but can also withstand various risk scenarios.

Whatever markets have in store, we rely on each other and on the relationships we have forged over time to deliver you our best. We are honored to stand by your side as your financial partner. Thank you for your continued trust and confidence in J.P. Morgan.

Sincerely,



David Frame
CEO, U.S. Private Bank



Adam Tejpaul
CEO, International Private Bank

Key Takeaways

- ◆ Should investors cheer or fear Trump 2.0?
We think markets in the United States, Europe and Japan can make new highs over the next 12 months.
-

- ◆ Is your portfolio resilient to growing risks?
Risk management is critical in the face of two-way risks to growth and inflation, and ongoing policy uncertainty.
-

- ◆ Is this the downfall of the U.S. dollar?
The dollar is in a downtrend, but we think it will remain the world's reserve currency.
-

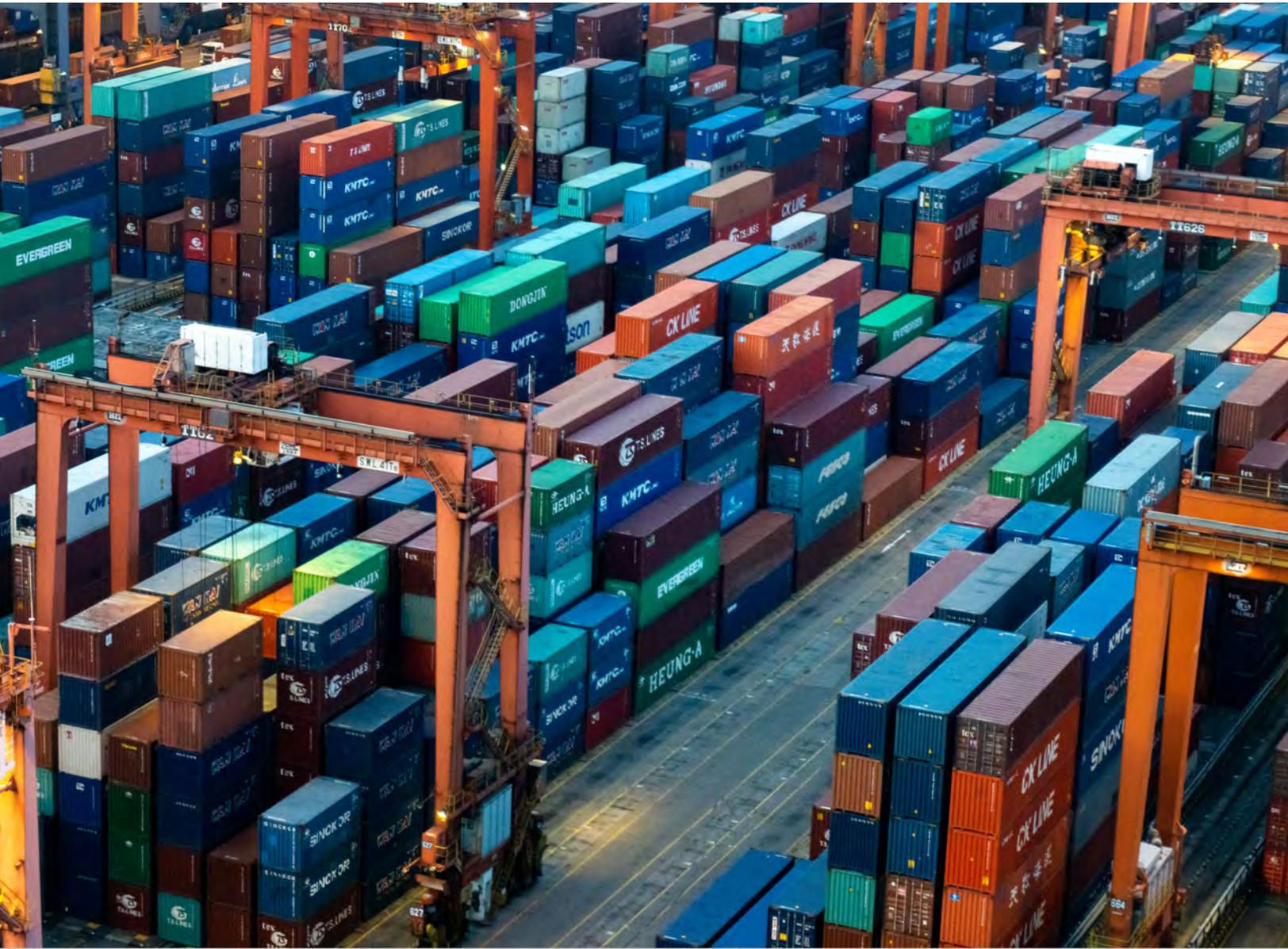
- ◆ Why isn't anyone talking about AI anymore?
The AI race will continue to accelerate, driven by lower costs and stronger performance.
-

- ◆ What's the deal with dealmaking?
Aging assets and growing evergreen funds will create opportunity in private markets.

Contents

Introduction	6
<hr/>	
1 Should investors cheer or fear Trump 2.0?	9
<hr/>	
2 Is your portfolio resilient to growing risks?	15
<hr/>	
3 Is this the downfall of the U.S. dollar?	19
<hr/>	
4 Why isn't anyone talking about AI anymore?	23
<hr/>	
5 What's the deal with dealmaking?	27
<hr/>	
Conclusion	31

Introduction



Investors are skittish—and who can blame them? The building blocks they had taken for granted—a durable economic expansion, limited new barriers to global trade and continued spending on artificial intelligence (AI)—are suddenly at risk. Lofty expectations at the start of the year have collided with a far rougher reality.

“Uncertainty” is the now ubiquitous word—for businesses weighing capital investment, households pondering the next big purchase, central banks setting interest rate policy and investors making asset-allocation decisions.

In our *Mid-Year Outlook*, we aim to answer five essential questions that should help you unlock opportunity in uncertainty and stay focused on your wealth plan.

1. Should investors cheer or fear Trump 2.0?
2. Is your portfolio resilient to growing risks?
3. Is this the downfall of the U.S. dollar?
4. Why isn't anyone talking about AI anymore?
5. What's the deal with dealmaking?

Investors were not asking as many questions six months ago. Many of them initially cheered the incoming U.S. administration, which they believed would be pro-growth and investor friendly. That no longer seems a sure thing.

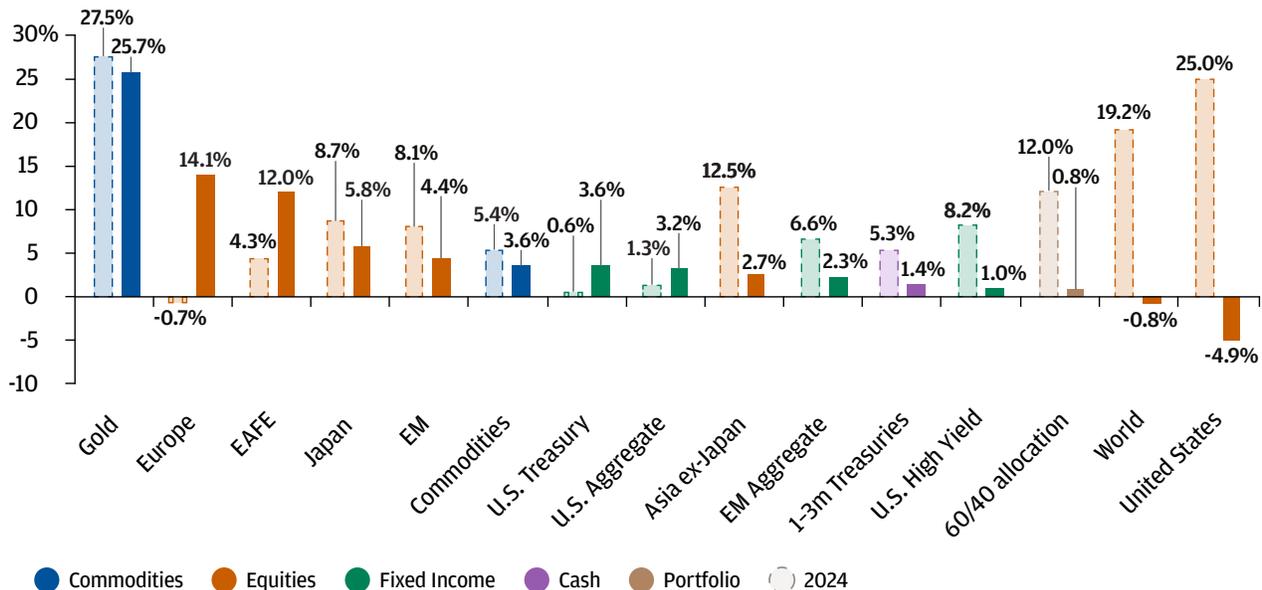
The sequencing of policies has been a surprise. Consensus expectations envisioned pro-growth policies dominating the Trump administration's agenda. Instead, the least market-friendly policies (higher tariffs, less immigration and austerity through Department of Government Efficiency [DOGE]-orchestrated government spending cuts) are taking effect quickly. Investors are focusing in particular on the administration's chaotic tariff strategy and the potential for the levies to constrain growth and boost inflation.

Meanwhile, Congress is contemplating a tax bill that could add nearly \$6 trillion to the budget deficit over the next 10 years. The benefits of deregulation have yet to emerge. Capital markets activity remains largely dormant—IPO activity in both value and volume has been slower than in 2024 and 2023.

The market bounty, in other words, has yet to arrive, and returns across assets look very different than they did last year.

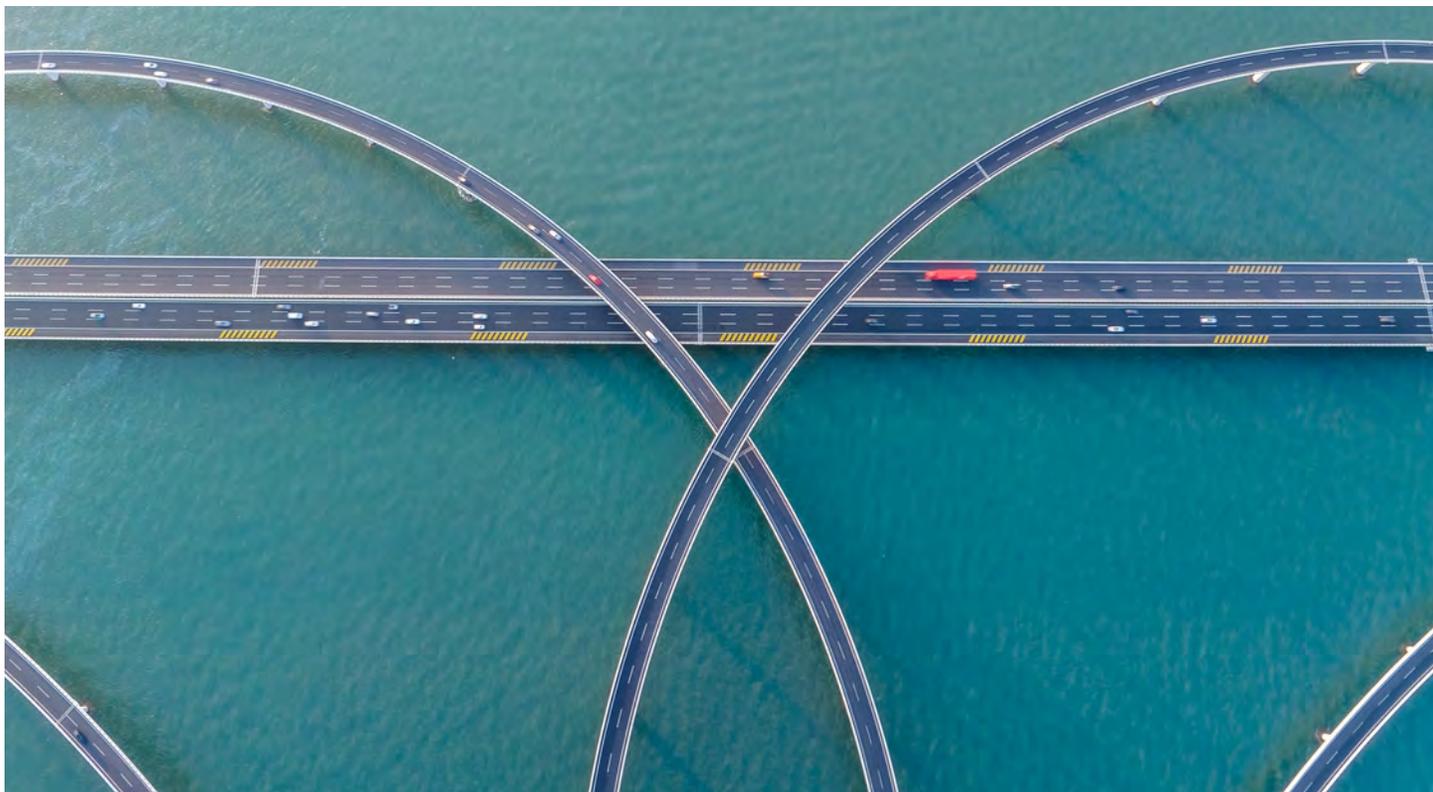
FOR THE FIRST TIME IN A LONG TIME, NON-U.S. MARKETS ARE OUTPERFORMING U.S. EQUITIES

Total return %, USD



Source: FactSet. Data as of April 30, 2025.

Note: Sectors shown are represented by: EM: MSCI EM Index; Europe: Stoxx Europe 600; Asia ex-Japan: MSCI Asia ex-Japan Index; EAFE: MSCI EAFE Index; World: MSCI World Index; Gold: NYGOLD-FDS (\$/ozt); U.S.: S&P 500 Index; Japan: MSCI Japan Index; U.S. High Yield: Bloomberg U.S. High Yield—Corporate Index; U.S. Aggregate: Bloomberg Global U.S. Aggregate Bond Index; EM Aggregate: Bloomberg EM Aggregate Bond USD Index; U.S. Treasury: Bloomberg Global U.S. Treasury; and Commodities: Bloomberg Commodity Index. 60/40 represented by 60% MSCI World Index for equities (gross total return), and 40% Bloomberg Global Aggregate Bond Index for bonds. U.S. Cash represented by the Bloomberg U.S. 1-3 Month Treasury Bills Index.



Where do we go from here?

Economic fundamentals appear solid for now, although we do expect the global economy to soften in the short term due to tariff policy. Of course, recession risks are higher than they were at the beginning of the year. In that context, we note that central banks, especially outside the United States, maintain an easing bias and could lower rates more aggressively to offset the damage from a sharp drop in global trade and consumption. That said, we seem to have passed the peak of tariff-related uncertainty; higher duties will slow growth but not stop it.

Investors must contend with policy uncertainty, still-elevated valuations and concentration in U.S. equity markets, and persistent volatility. Stable fundamentals today, deep uncertainty about tomorrow—the disconnect is unavoidable.

Given that reality, can you invest new money in global equity markets now?

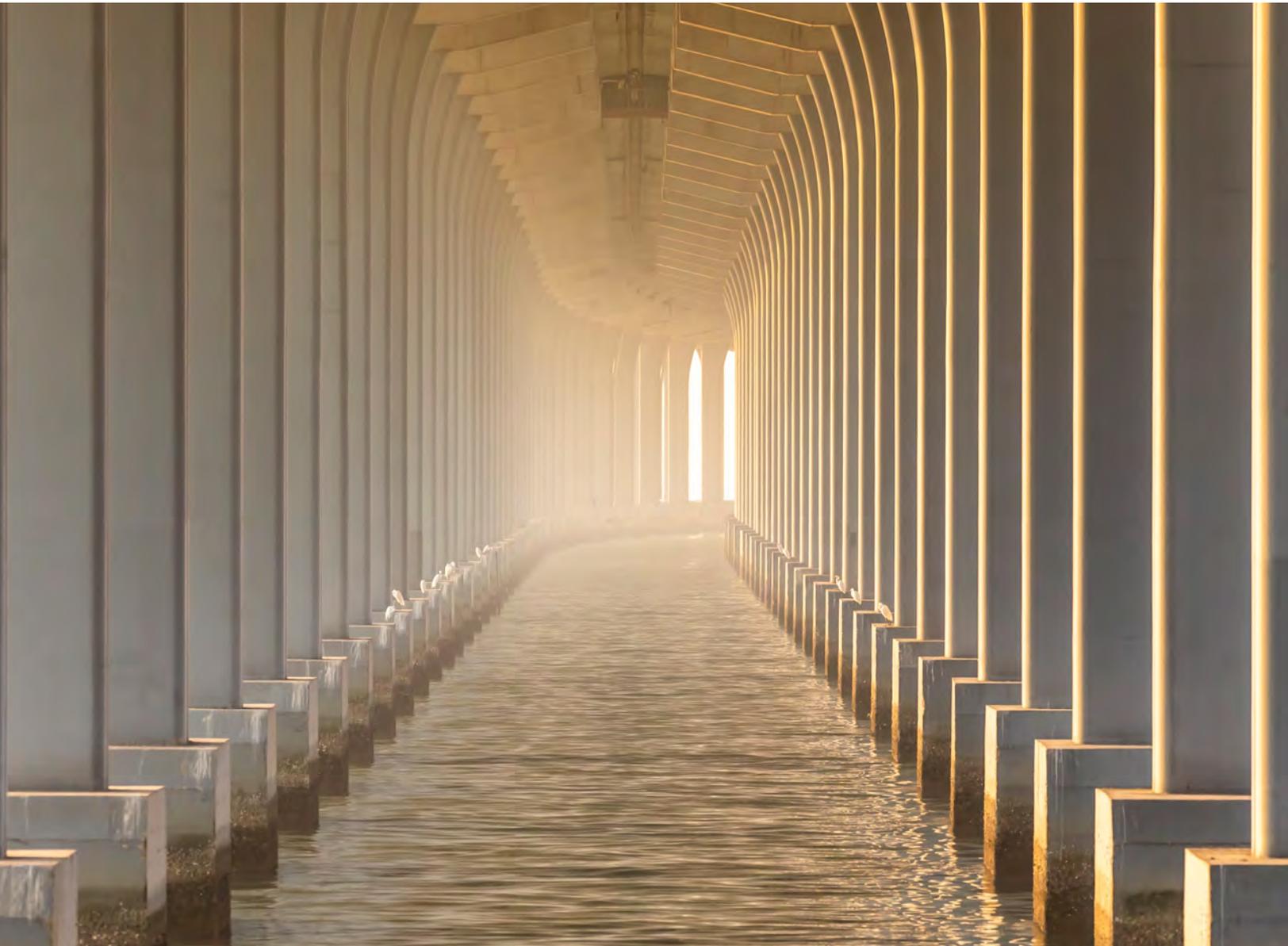
It's a difficult question, but we think the answer is yes. We believe it is more likely than not that U.S. as well as European and Japanese equity markets will make new highs over the next 12 months. Investors may be underestimating technology sector earnings and the impact of deregulation on bank lending.

Looking beyond equities to the broader investment landscape, we think investors should consider strategies that capitalize on uncertainty and ensure that portfolios are resilient enough to meet their wealth goals under what is now a wider range of economic and market outcomes, both positive and negative. While portfolio resilience often focuses on potential downside risks, we also need to acknowledge the potential for upside opportunities.

Finally, given the balance of risks, and the likelihood of a downtrend for the U.S. dollar, a resilient and globally diversified portfolio can help give you the confidence you need to stick with your long-term plan. It's time to get comfortable being uncomfortable.

1

Should investors cheer or fear Trump 2.0?





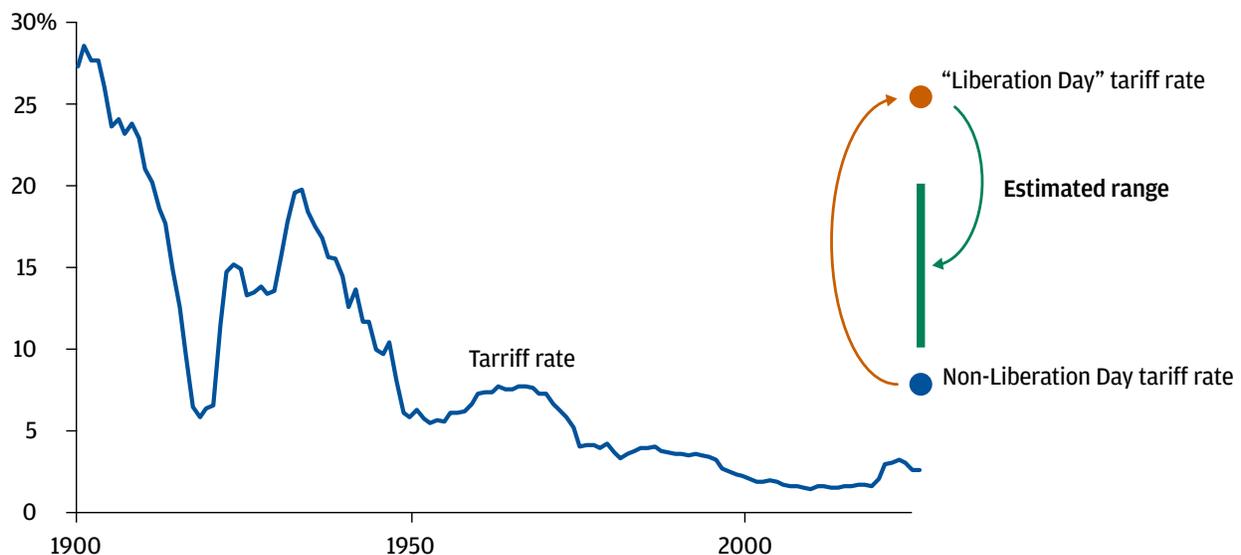
As we've said—and as investors well know—the pain of Trump 2.0 arrived early for markets. U.S. policy uncertainty has spiked, and business and household confidence has collapsed, largely due to on-again, off-again announcements around tariff policy. Meanwhile, the expected market benefits of Trump 2.0—increased M&A and capital market activity, additional corporate tax cuts and extensive deregulation—have so far failed to materialize.

No one can predict the ultimate size, scope or duration of future tariffs, by the United States or its trading partners. But their general outlines clearly signal an abrupt and chaotic reversal of the post-World War II trend toward free trade. Of all the administration's policies, tariffs spark the greatest investor unease. That's because higher tariffs, all else equal, lead to slower growth, higher prices and lower corporate profits.

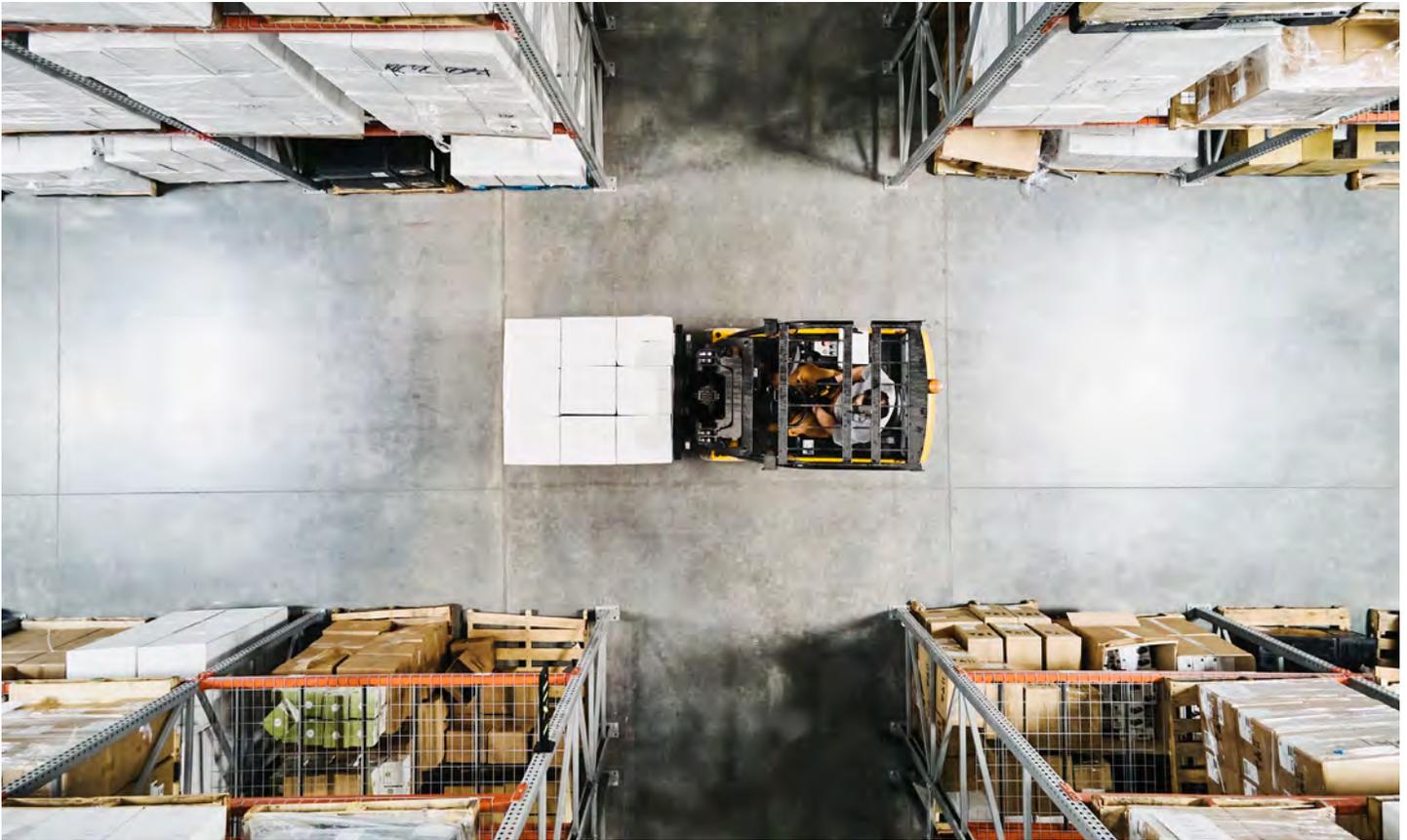
Our latest thinking suggests that the U.S. effective tariff rate (after deals, exclusions and substitution effects are accounted for) will settle in the mid-teens. That would be the highest levels since the Smoot-Hawley era of the early 1930s. Despite tariffs, we believe the U.S. economy can manage slightly positive growth, with corporate earnings per share growth in the mid-single digits over the next 12 months. Tariff rates that remained at their initial "Liberation Day" levels (the April 2 introduction of new U.S. tariffs) would be enough to knock the U.S. and likely global economies into recession this year.

WE ESTIMATE THAT THE U.S. EFFECTIVE TARIFF RATE WILL SETTLE IN THE MID-TEENS

U.S. effective tariff rate, %



Sources: Michael Cembalest, J.P. Morgan Asset & Wealth Management, Tax Foundation, JPM Global Economics, GS Global Investment Research. Data as of April 15, 2025. "Liberation Day" tariff rate is as of April 2, and does not include exclusions or substitution effects. The estimated tariff range assumes a universal increase in the tariff rate of 10% and announced exclusions with +/-5% to account for uncertainty. Non-Liberation Day tariffs include +25% global autos; +20% on China; +25% on Canada and Mexico non-USMCA; +25% on steel and aluminum.



During Trump's 2018 trade war, companies raised prices, shifted supply chains and emphasized higher-margin products to protect their profits. But that approach will be much tougher in 2025. Today's proposed U.S. tariffs are nearly four times larger than the 2018 duties when measured as a share of GDP. In fact, the tariffs announced represent one of the largest tax hikes outside of wartime in U.S. history.¹

The global nature of this trade war increases the downside risks. When the United States starts a trade war with an individual trading partner, it enjoys a clear size advantage. For example, Canadian exports to the United States make up 20% of the Canadian economy, but U.S. exports to Canada account for just 1.2% of a much bigger U.S. economy. Yet U.S. exports to the rest of the world are 7% of U.S. GDP, while rest-of-world exports to the United States are just 4% of rest-of-world GDP.

This shift in trade war vulnerability could be one important reason why non-U.S. assets have outperformed U.S. assets so far this year.

Another reason? In Europe, amid a frayed transatlantic alliance, many countries are moving to further boost their defenses and spending to ensure their own security. Regional industrial policy is creating secular investment opportunities for multiple megatrends, from electrification to the reshoring of manufacturing. For example, the German government has turned its back on decades of fiscal restraint to finance spending on defense and infrastructure. We think it has the potential to boost annual Eurozone growth from a paltry 0.5% pace in 2025 to over 1% in 2026.

Europe's economic outlook has been brightening as investors have focused on the headwinds to U.S. growth. Action by DOGE to shrink the federal government has resulted in over 275,000 enacted and announced layoffs.² Another drag on jobs growth and spending: an 80% decline in net immigration from 2023 peaks.³

¹ Kasman, B. (2025). J.P. Morgan.

² Challenger, Gray & Christmas, Inc. (March 2025). *Federal cuts dominate March 2025 total: 275,240 announced job cuts, 216,670 from DOGE actions.*

³ Congressional Budget Office (2025). *The Demographic Outlook: 2025 to 2055.*

A market turning point from tax cuts?

Republicans in Congress are attempting to coalesce around a plan to amend and extend the 2017 Tax Cuts and Jobs Act. The latest set of Senate instructions for the budget reconciliation process, which allows lawmakers to pass tax and spending legislation by a mere majority in the House and Senate, provides for a nearly \$6 trillion cumulative increase in the budget deficit over the next 10 years. That increase would be larger than that created by the original Tax Cuts and Jobs Act, the CARES Act, the American Rescue Plan and the Infrastructure Investment and Jobs Act combined.

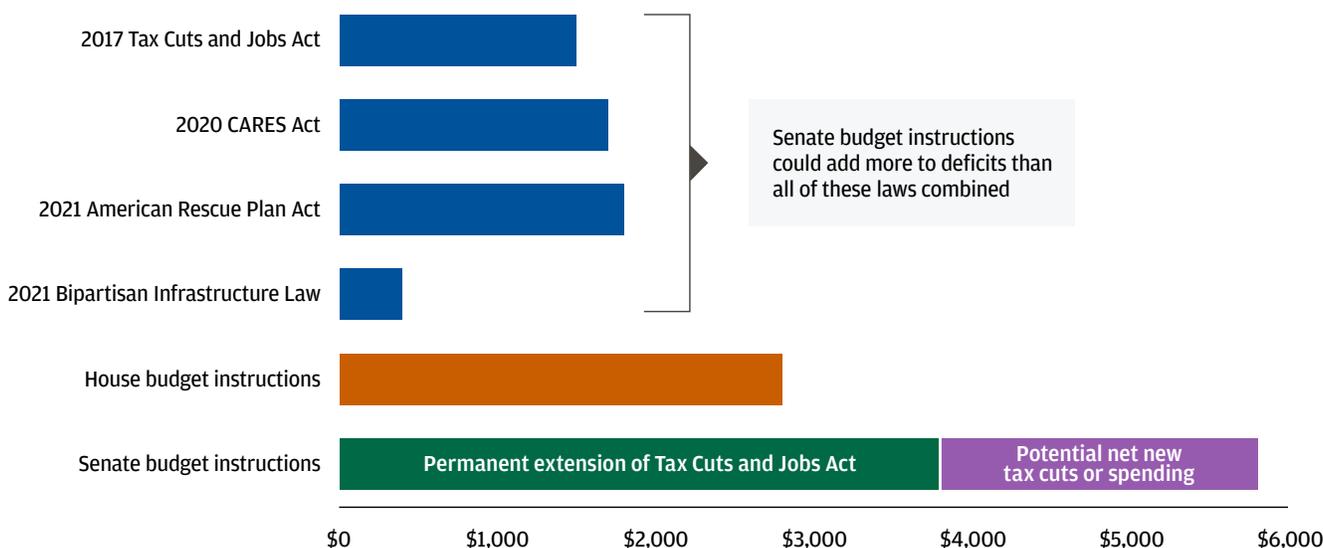
Equity investors may exhale, given that the bill may net ~\$100 billion-\$200 billion per year in new annual fiscal support, even as most of the costs come from extending current tax policy. Fixed

income investors may have a different perspective. With longer-term bond yields near cycle highs, investors are assessing the compensation needed to finance this proposed borrowing binge.

Congress could agree to more spending cuts, which could support bond markets. But that is no sure thing, in large part because most cuts would likely come from Medicaid. Previous attempts to cut Medicaid benefits (most notably the Graham-Cassidy Bill of 2017) faced stiff political resistance. Rolling back portions of the Inflation Reduction Act (e.g., tax credits for electric vehicles) could help to offset some of the costs of the tax cuts. Even accounting for these potential spending cuts, the deficit seems set to grow—the only question is how much.

SENATE INSTRUCTIONS FOR THE BUDGET RECONCILIATION PROCESS COULD DRAMATICALLY INCREASE THE DEFICIT

\$ billions over the next 10 years



Sources: Congressional Budget Office, CRFB estimates, House Budget Committee, Senate Budget Committee. Data as of April 4, 2025.

Note: House budget instructions shown as \$2.8 trillion but possibly totaling \$3.3 trillion without additional spending cuts. Assumes \$3.8 trillion for Tax Cuts and Jobs Act extension and \$2 trillion for new deficit spending.

Will deregulation make a difference in the real economy?

While Congressional legislation will likely be a challenge, deregulation is quietly delivering a positive impact on the banking sector. We think investors may underestimate its benefits.

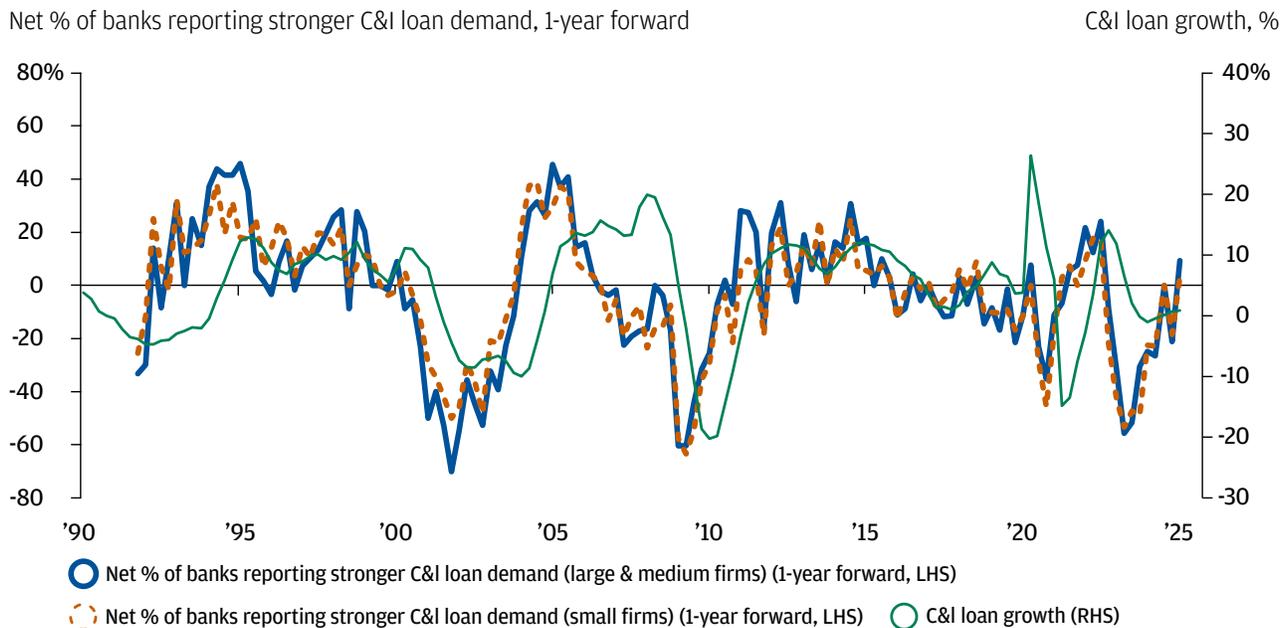
Currently, large U.S. banks have built more than \$200 billion of excess capital over current requirements. Now that capital rules are likely to be softened, this excess is likely to be deployed across three channels: private sector loan growth, share buybacks and banking sector consolidation.

The first channel, private sector loan growth, is a priority of U.S. Treasury Secretary Scott Bessent. Before the tariff shock, commercial and industrial loan demand was inflecting higher, and the Trump administration would like to accelerate the pace. On the buyback front, in Q1, Goldman Sachs announced a share repurchase plan worth 26% of its market capitalization.

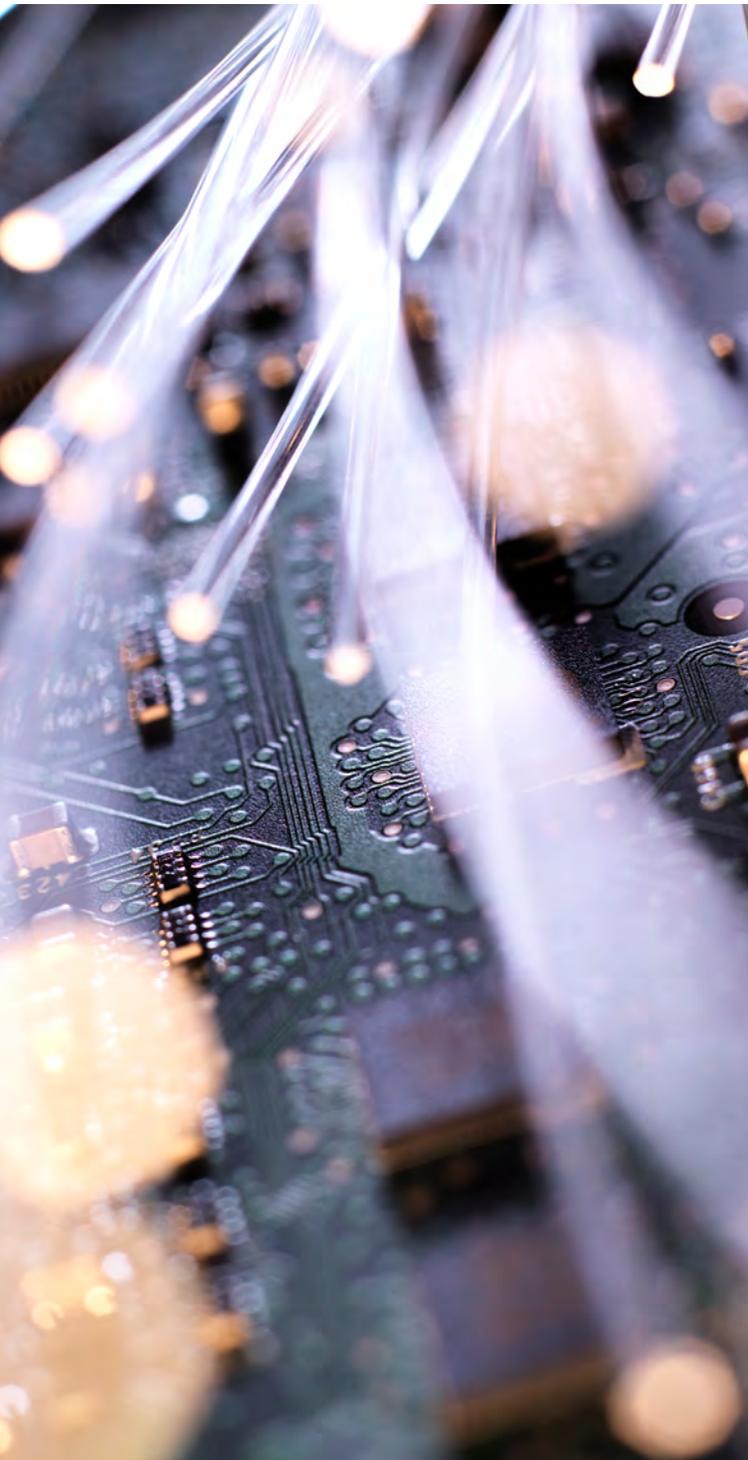
Additionally, we expect that cost synergies, the benefits of scaling up compliance technology demands and geographic diversification will spur further banking sector consolidation. U.S. regulators recently approved Capital One’s purchase of Discover, which could bode well for bank M&A activity.

Bank stocks should benefit over the medium term, and existing preferred equity could be supported by less supply going forward. Indeed, if the Trump administration begins to focus on the pro-growth aspects of its agenda in the second half of 2025, bank stocks may be among the high-profile beneficiaries.

LOAN OFFICER SURVEY RESPONSES HIGHLIGHT ACCELERATING COMMERCIAL AND INDUSTRIAL LOAN DEMAND



Sources: Federal Reserve Board, Haver Analytics. Data as of March 31, 2025.



Will tech stocks get a second wind?

Tech and tech-adjacent stocks have an outsized influence on U.S. equity market performance. As of May 9, the technology sector is down over 8%, and the Magnificent 7 (Mag 7) stocks have fallen over 12% year-to-date.

But tech stocks could get a second wind: Company earnings are strong, and valuations are not excessive. What's more, we're big believers in the long-term potential of AI, as we explore in a later section.

The Magnificent 7 is expected to deliver 15% EPS growth in 2025 versus 8% EPS growth for the rest of the market. So far this year, the tech stars have underperformed the rest of the S&P 500, as investors worried that the companies' capex plans might be too aggressive.

On the valuation front, the Mag 7 stocks do not appear cheap, at a 26x forward price-to-earnings multiple (versus 20x for the broad market). But valuations relative to the rest of the market are at their lowest levels of the last 10 years. Another positive signal is the Trump Administration's decision to exempt, for now, semiconductors and other electronic products from tariffs. Indeed, the United States enjoys a tremendous comparative advantage in technological innovation. Eroding that strength by raising the cost of tech inputs would be misguided, in our view.

To return to our opening question: Should investors cheer or fear Trump 2.0? Tariff policy and the uncertainty it generates will pressure economic growth and corporate profits for the better part of the coming year, we believe. But that may not stop a bull market. The administration's more investor-friendly proposals (including lower interest rates, lower energy prices and less regulation) may well materialize in the second half of 2025.

Investors should get comfortable with uncertainty and volatility. **Choppy markets may last for a while, but key developed market equity markets (United States, Europe, Japan) should make new highs by the middle of next year.** After all, equity markets love to climb the proverbial "wall of worry."

2

Is your portfolio resilient to growing risks?

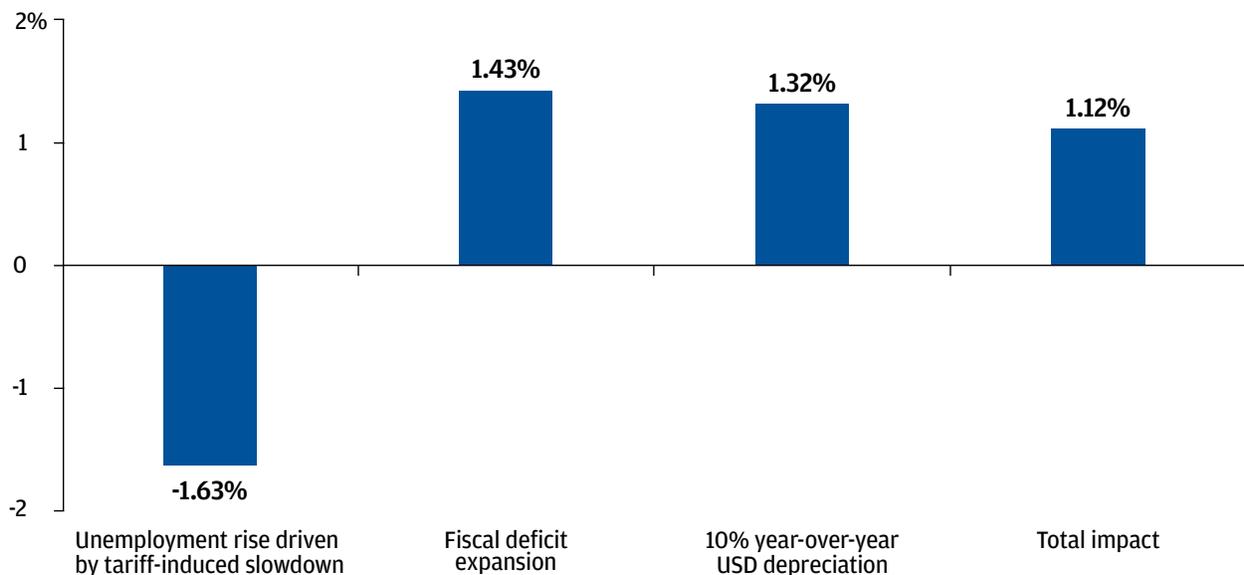




Investors are weighing dissonant risks to growth and inflation. Higher barriers to trade could raise prices, slow growth and hurt equity valuations. On the other hand, stimulative fiscal policy from the United States, China and Europe could place upward pressure on bond yields. It is difficult to predict the net impact of all these factors. But our analysis suggests that if the final Congressional legislation matches Senate instructions and dollar weakness continues, inflation could move higher over the next year.

A WEAKENING DOLLAR AND GROWING FISCAL DEFICIT COULD PUSH U.S. INFLATION HIGHER

Estimated impact on core PCE inflation from different drivers, % annualized



Sources: J.P. Morgan Wealth Management Solutions, Federal Reserve Bank. Data as of April 22, 2025.

Note: This chart utilizes the Fed's FRB/U.S. macro econometric model to assess the inflationary impact from several key vectors, including forward-looking assumptions. 1) We assume the fiscal reconciliation package passed this year meets the maximum cumulative deficit impact (\$5.8 trillion) as outlined by the Senate's budget resolution instructions. 2) We assume a 2% hit to real GDP from the tariffs announced year-to-date, which results in the unemployment rate rising just under 1%. 3) We assume a -10% depreciation in the broad real effective U.S. dollar exchange rate.

Whether inflation, growth or markets move up, down or sideways, portfolio resilience—a key theme of our 2025 outlook—can help clients reach their wealth goals.

Before we get into the specifics of portfolio resilience, let's step back and consider a longer-term perspective. In the post-Global Financial Crisis (GFC) era (roughly 2009–2020), portfolios gravitated to assets, primarily U.S. equities, which worked well in an environment of low inflation, low interest rates and modest volatility. Today, investors face two-way risks to growth and inflation, and what looks to be persistent policy uncertainty. It's a regime shift, with important implications for building resilient portfolios.

How do we think about portfolio resilience in the current environment? In our view, a resilient portfolio includes assets with low or negative correlations to each other, each with an intrinsic ability to outperform cash. Collectively, the assets offer the potential to mitigate the severity of portfolio-level drawdowns. Of course, core fixed income remains the primary source of portfolio resilience in a growth downturn. Opportunistic credit strategies could capitalize in periods of economic stress.

Here, we discuss four attractive asset choices that could help make portfolios more resilient against the countervailing risks: equity-linked structured notes, hedge funds, infrastructure and gold.

We believe equity-linked structured notes can work well in the current environment, for investors who qualify. Our clients seem to agree: Twice as many are utilizing structured notes this year relative to 2024.

Many equity-linked structured notes pay a coupon, periodically or at maturity. This coupon is a function of implied equity market volatility and interest rates. We believe both will remain elevated relative to recent history, potentially providing greater downside protection, higher potential coupons, or both.

Equity-linked structured notes create another lever that qualified investors can pull to generate income that is not correlated to fixed income markets. Indeed, these equity-linked structured notes can generate higher return potential with a narrower range of possible outcomes than assets with similar volatility, such as preferred equities and high yield bonds. Individual circumstances will differ, but investors who qualify can consider exploring structured notes as part of their portfolios, potentially starting with a modest allocation.

Alternative assets to help strengthen portfolio resilience

Hedge funds are another asset that can potentially strengthen portfolio resilience for suitable investors. From December 2019 to August 2024, almost 80% of randomly generated hedge fund composites outperformed a simple stock/bond mix on a risk-adjusted basis.⁴ Going forward, we expect diversified hedge fund strategies to deliver returns and volatility that are slightly higher than core fixed income (as proxied here by the Bloomberg U.S. Aggregate Index), with very little correlation to it.⁵

Equity and credit valuations remain elevated at a time of uncertainty about policy, growth and inflation trajectories. This will likely support sustainably higher levels of volatility and dispersion across and within asset classes. Against this backdrop, we particularly favor less correlated hedge funds (such as relative value and macro), which are designed to capitalize on the dislocations created during periods of market turbulence.

Finally, hedge fund returns hold up well on an after-tax basis for U.S. investors. Market participants often assume that hedge funds generate short-term gains that erode after-tax returns. But we have found that on a three-, five- and 10-year rolling basis, portfolios that include hedge funds have outperformed those that do not, even on an after-tax basis.⁶

We have also focused on infrastructure investments to provide portfolio resilience. Here, investors benefit from long-term contracts that often embed inflation protection. Further, over 40% of the historical returns of infrastructure investments are driven by income. Generating income through infrastructure may be especially attractive (for suitable investors) in a world of elevated bond market volatility. Since the second quarter of 2008, infrastructure has generated total returns in the low double digits on an annual basis.⁷

Finally, we note that a secular shift toward greater demand for power generation and digital infrastructure may create new opportunities in the infrastructure sector. Further, more frequent and severe climate and weather shocks reinforce the growing demand for resilient infrastructure.

⁴ For a full analysis and methodology, please see Michael Cembalest's "[It's Mostly a Paper Moon](#)" *Eye on the Market*.

⁵ J.P. Morgan Asset Management (September 2024). *2025 Long-Term Capital Market Assumptions*.

⁶ Performance calculated using various indices (Equities: MSCI World, Fixed Income: Bloomberg 1-17 Year Muni, Hedge Funds: Pivotal Path). Given that indices do not distribute gains, ETFs were used to calculate gains distributions across Equities and Fixed Income (Equities: URTH, Fixed Income: MUB). Tax assumptions for Hedge Funds are based on realized distributions from J.P. Morgan Private Bank's Hedge Fund Multi-Strategy. For this analysis, the tax rates were assumed to be 23.8% for Long-Term Capital Gains and 43.4% for Short-Term Capital Gains.

⁷ J.P. Morgan Asset Management (February 2025). *Guide to Alternatives*.

All that glitters is gold?

In our view, gold may be positioned to offer some protection against further geopolitical risk and dollar weakness.

Although the price of gold has rallied strongly in the past few years, we think it can continue. Many central banks (e.g., Saudi Arabia, Taiwan, Japan, China, Singapore, Brazil and Korea) have less than 7% of their foreign reserves in gold. In comparison, Germany and the United States each hold over 75% of their reserves in gold.⁸

Enthusiasts disagree, but we are skeptical that Bitcoin and other crypto assets offer the potential to improve portfolio resilience. Despite their low correlations to traditional assets, crypto assets have historically made portfolios more fragile.

Cryptocurrency is also much more volatile than gold. A 5% addition of cryptocurrency to a balanced portfolio can result in a significantly higher risk contribution than a 5% addition to gold. Yes, crypto may

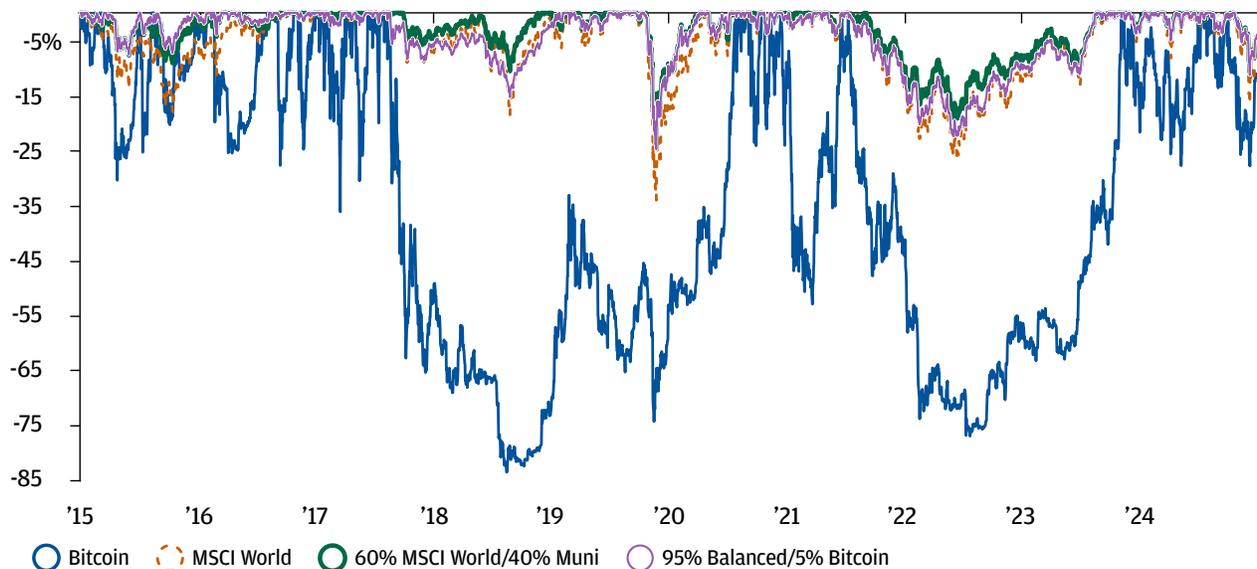
soon find a friendlier regulatory regime, but this seems unlikely to change the asset class's fundamental characteristics, at least in the near term.

Whatever happens in markets, basic portfolio "hygiene" can improve resilience. Consider portfolio "drift." A 60% equity/40% fixed income portfolio from 2020 will have drifted to something closer to 75%/25% today.

And given the outperformance of U.S. assets over the last five years, portfolios may have become overly concentrated in U.S. dollar assets. A resilient portfolio will address market drift in a timely fashion.

BITCOIN'S DRAWDOWNS STAND OUT

Drawdown from peak, %



Sources: Bloomberg Finance L.P., Morningstar Direct. Data as of April 30, 2025.

Note: Balanced Portfolio = 60% MSCI World NR USD and 40% Bloomberg Muni 1-17 year, rebalanced quarterly.

⁸ World Gold Council (2025).

3

Is this the downfall of the U.S. dollar?



The recent decline in the value of the U.S. dollar has sparked spirited debate. Does weakness in the dollar call into question its role as the world's reserve currency and, more broadly, the status of the United States as a hegemon in the global economy? Or does the decline signal a significant but not existential change?

We're inclined to take the second view, as we discuss below.

The U.S. dollar has long served as the world's reserve currency, and for good reason. The United States commands the largest⁹ and most stable economy in the world, and the deepest and most liquid financial markets. It has a well-established and consistent rule of law, strong institutions, fair and free elections, open and transparent political processes, relatively consistent regulatory and tax regimes, and a culture of innovation and entrepreneurship. The U.S. military provides the security backbone that underpins the global economic system.

However, every reserve currency, from the Spanish galleon to the British pound, has eventually lost its primacy. Today, the dollar seems to face more potential downside risks than it has in decades. So far this year, the dollar has lost value relative to every other major currency. Tariff rollouts and trade policy uncertainty are parts of the story. But investors are also concerned about the U.S. fiscal outlook amid potential Congressional legislation that could substantially increase the budget deficit.

The risk for markets is that U.S. policymakers repeat the mistakes of Latin American leaders such as former Argentinian President Juan Peron: protectionism, lack of central bank independence and a broader disregard for macroeconomic stability. Ironically, many Latin American economies have made substantial progress in these areas just as market participants are increasingly questioning U.S. economic credibility.

But we believe those risks will manifest in a more subtle erosion of the dollar's value, and not a sudden collapse. Today, the dollar makes up 60% of foreign exchange reserves, 65% of international debt and nearly 85% of SWIFT trade finance settlements. Network effects are powerful; moving to a new medium for international trade and financing likely would not occur quickly. The second most used currency, the euro, accounts for just 6% of SWIFT settlements.¹⁰

The primacy of the dollar seems durable, but at the margin, investors may be shifting their perceptions of the dollar's value. Nearly 70% of investors surveyed think the dollar is "overvalued," and a net 61%, the highest share since 2006, expect it to continue to depreciate.¹¹ Our base case is that the dollar loses a few more percentage points by the end of the year against major currencies, with risks tilted to the downside.

⁹ When measured at current exchange rates.

¹⁰ Chang, C., Rana, V., Gupta, Z., & Rezvijs, V. (August 20, 2024). *Saudi-China Ties and Renminbi-Based Oil Trade*.

¹¹ Bank of America Merrill Lynch (2024). *BAML Fund Manager Survey*.



The historical precedents of sustained dollar weakness (1970-1980, 1985-1992 and 2002-2008) resulted in ~40% depreciation over a 5-to-10-year period. Academic estimates suggest that ex-U.S. investors own ~30% of U.S.-issued fixed income and equity (public and private) securities.¹² Even marginal repatriation could result in a significant change in relative valuations between U.S. and rest-of-world assets.

Diversifying currency exposure can mitigate potential losses associated with dollar depreciation. We are focused on the euro, Japanese yen and gold due to their size, liquidity and historical roles as alternative reserve assets. Central banks, with nearly \$13 trillion in reserves, have already increased allocations to these currencies, reflecting their deep, liquid markets and potential for preserving purchasing power. The euro and yen also have a lower correlation to global growth, which reduces cyclical exposure within a portfolio.

Currency diversification probably comes more naturally to investors outside of the United States than to those inside the United States. The path of least resistance for U.S.-based investors

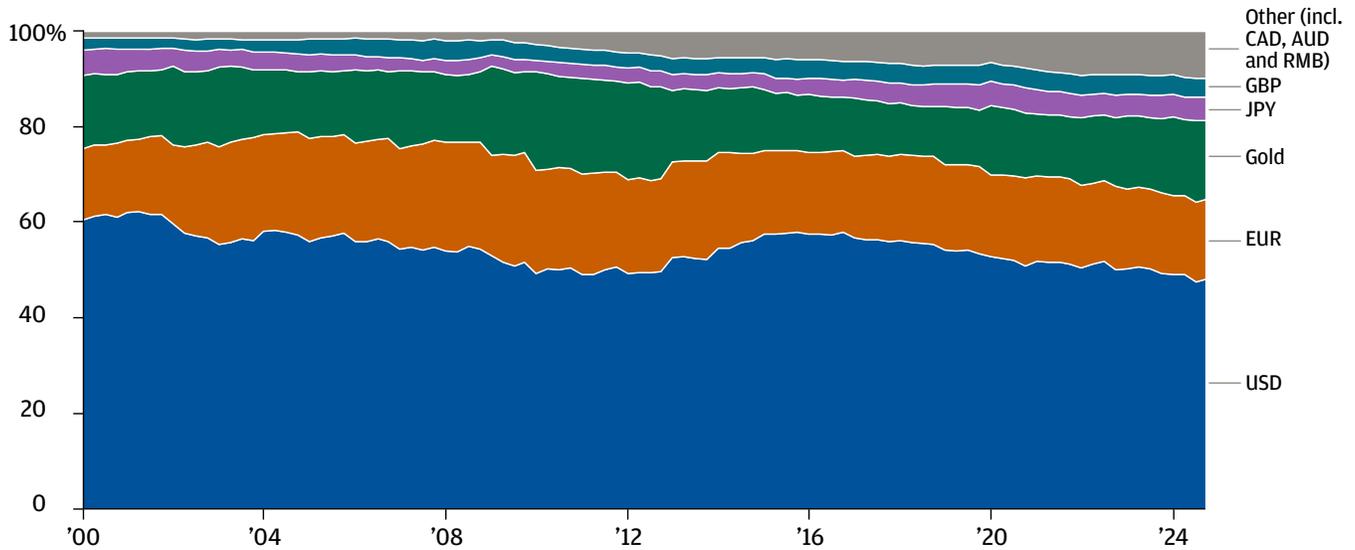
could be exposure to equities denominated in the euro and yen. In fact, J.P. Morgan Asset Management’s 2025 Long-Term Capital Market Assumptions suggest that U.S. dollar depreciation will add 1%-2% annually to total returns for European and Japanese equity investments in U.S. dollar terms for the next 10-15 years.

Importantly, those equity markets are also expected to outperform the United States on an absolute basis. Investing in private equity investments could also be a way to diversify geographic and currency exposure. U.S. equities make up between 70% and 75% of public equity benchmarks, but they account for only half of global buyout volumes.¹³

Investors may also consider foreign currency denominated bonds, but they should understand the risks involved. A dollar-based investor in an unhedged ex-U.S. aggregate bond portfolio experienced almost 2x the volatility of a U.S. dollar domestic bond portfolio over the last 20 years.

THE U.S. DOLLAR STILL ACCOUNTS FOR THE LION'S SHARE OF CENTRAL BANK FX RESERVES

Composition of global central bank foreign exchange reserves, share of total, %



Sources: IMF, J.P. Morgan. Data as of December 31, 2024. Data across 123 central banks that report data to the IMF.

¹² Du, W., & Huber, A. W. (2023). *Dollar Asset Holding and Hedging Around the Globe*. Wharton School of the University of Pennsylvania.

¹³ Bain & Company (2025). *Global Private Equity Report 2025*.

Tracking the market's perception of the dollar

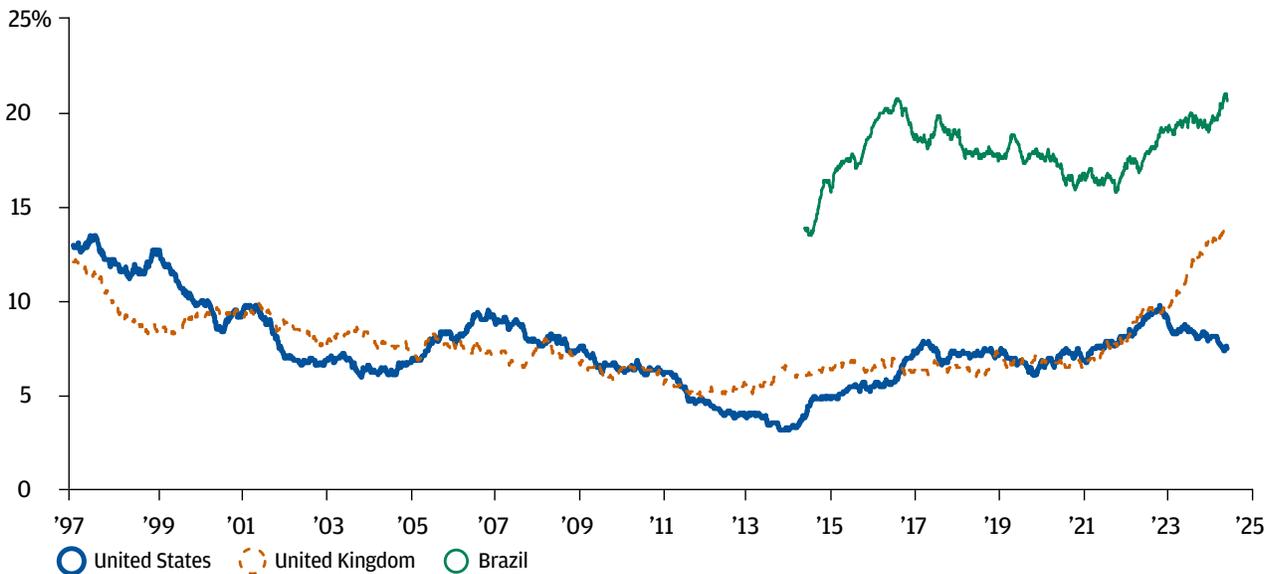
We track one simple metric to assess the risk that U.S. policymakers are losing credibility with markets: the percentage of trading days in which stocks, bonds and the U.S. dollar all lose value. U.S. assets have experienced these simultaneous declines in around 7.5% of trading days over the last three years. In Brazil, the share is upward of 20% of trading days. The most troubled developed market is the United Kingdom, where investors seem to have become disillusioned with fiscal policy. In 2025, the noise surrounding the dollar has been greater than the observed market stress, despite the dramatic moves in the middle of April. So far in 2025, only 5% of trading days have seen simultaneous declines in U.S. stocks, bonds and currencies.

In short: The U.S. dollar's status as the world's reserve currency will not suddenly vanish. But there is an elevated risk of an era of dollar decline. Investors still have time to mitigate the impacts on their portfolios.



IN RECENT YEARS, INVESTORS HAVE SOLD U.K. ASSETS MUCH MORE FREQUENTLY THAN U.S. ASSETS

% of trading days with simultaneous decline in equity, fixed income and currency markets (3-year rolling, 1997-present)



Source: Bloomberg Finance L.P. Data as of April 30, 2025.

4

Why isn't anyone talking about AI anymore?



The uncertainty surrounding tariff policy has distracted investors from another important secular trend: artificial intelligence.

Even before “Liberation Day,” AI-linked stocks hit a wall during the March sell-off in U.S. equity markets. Twenty companies—nearly two-thirds of them exposed to AI—accounted for 80% of the year-to-date peak-to-trough losses in the S&P 500 before April 2.

No one could miss the spark for the AI stock sell-off: Chinese startup DeepSeek launched a new AI model. (Two quick definitions: Models are a category of software, while the semiconductor chips that power the models are hardware.)

DeepSeek challenged many of investors’ prevailing assumptions about the resources needed to develop high-performing AI models (e.g., capital, leading-edge semiconductor chips and power). In other words, DeepSeek could accomplish quite a lot, and at a much lower cost than its competitors.

In the wake of the DeepSeek news, investors questioned whether the so-called hyperscalers (providers of cloud computing, operators of data centers) would continue their aggressive capex—and whether, and when, these investments would pay off.

Hyperscalers, including Amazon and Meta, say they are full steam ahead. Wall Street analysts are now penciling in nearly 33% capex growth from the four major hyperscalers over 2025 versus estimates of just over 20% capex growth at the start of the year.¹⁴

Confidence in greater AI-driven productivity

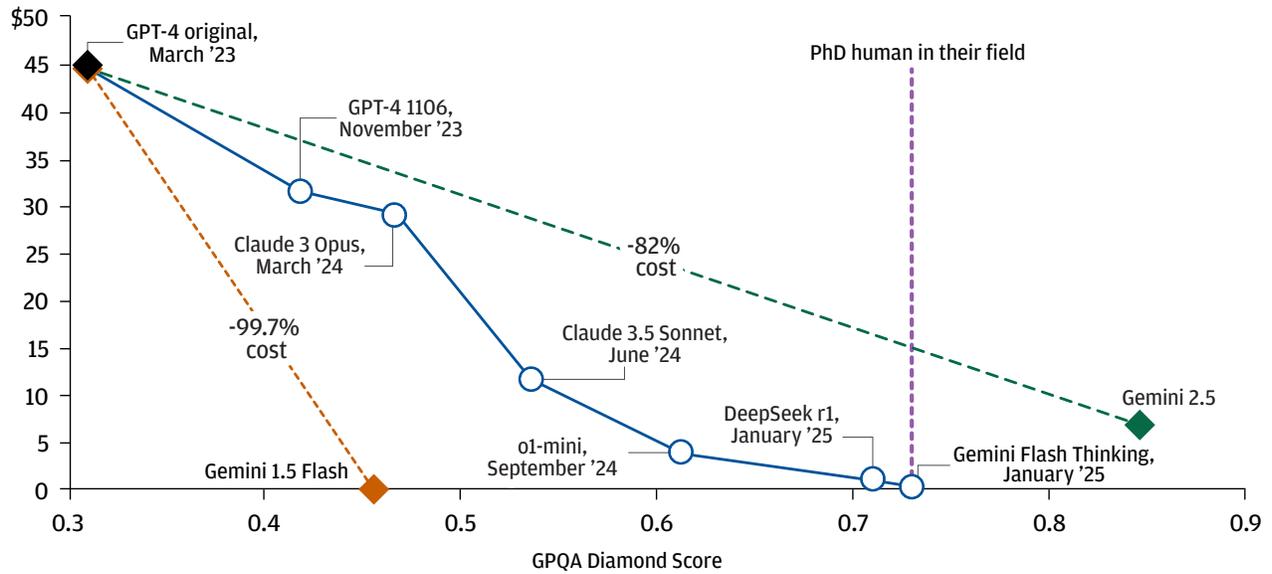
We feel confident that AI will catalyze substantial productivity gains for businesses, consumers and the economy as a whole. Large language models can now deliver PhD-level outputs, while their costs have declined by between 80% and 99%. Further, users are increasingly able to optimize their mixes of cost and performance. Economic history is replete with examples of technologies that enabled adoption after costs declined dramatically (e.g., the Bessemer process of mass producing steel from molten iron, air travel, personal computers and semiconductors, mobile phones).

¹⁴ Empirical Research Partners (2025). *Hyperscalers, Hyperspenders, Hyperextended*.



LARGE LANGUAGE MODELS CAN DELIVER PHD-LEVEL OUTPUTS, WITH COSTS DOWN OVER 80%

AI model, cost per million tokens, \$

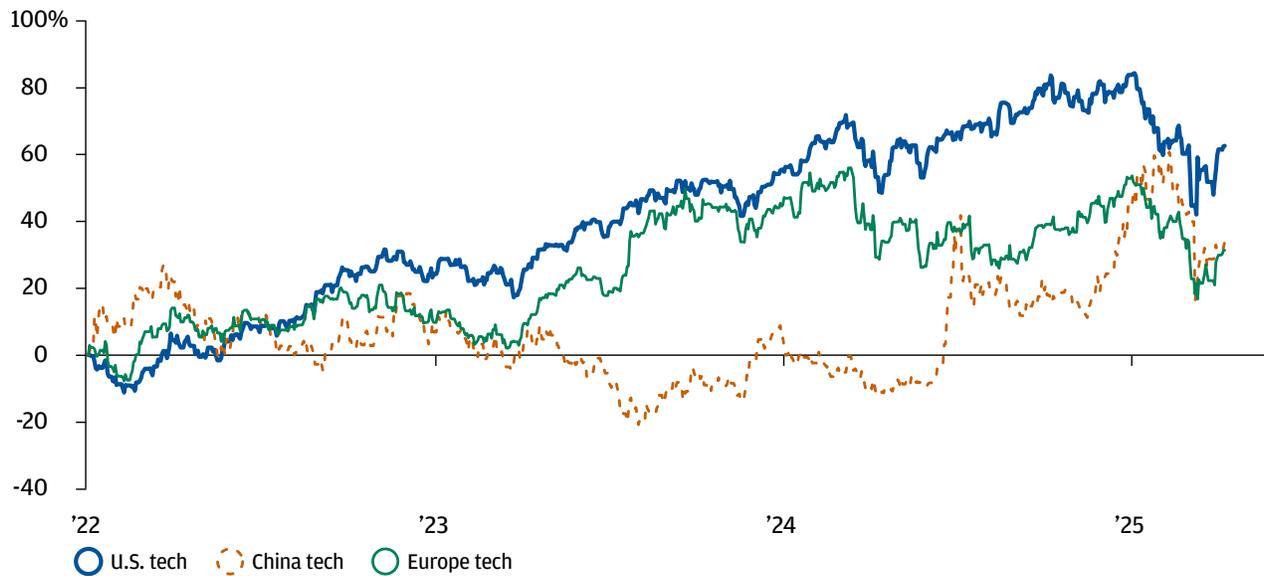


Source: One Useful Thing. Data as of April 2025.

Note: The Graduate-Level Google-Proof Q&A test (GPQA) is a series of very hard multiple-choice problems designed to test advanced knowledge. The cost per million tokens is the cost of using the model (Gemini Flash Thinking costs are estimated).

AI IS DRIVING TECH SECTOR GAINS ACROSS GLOBAL MARKETS

Price return since the release of ChatGPT, %



Source: Bloomberg Finance L.P. Data as of April 30, 2025.

Note: U.S. tech: Nasdaq 100 Index; China tech: Hang Seng Tech Index; Europe tech: STOXX Tech Index.



As influential technology analyst Ben Thompson has argued, the AI race is at an interesting juncture. Leading research labs are still incentivized to raise funds and invest in new models: They are competing to develop a model that can improve itself. At the same time, competition could drive prices lower, which encourages differentiation and further adoption.¹⁵

We think agentic AI, programs that can operate with a human-like level of intelligence and independence, will likely dominate the next wave of software. Market leaders will deliver both a better consumer experience and productivity gains for enterprises across sectors and geographies.

Indeed, the tech sectors in Europe and China were closing the performance gap with U.S.-based tech companies—after the release of ChatGPT in November 2022 and before the tariff shock hit markets. Finally, private market exposure is crucial to accessing the trend of AI expansion. Out of nearly 100,000 investable software companies, only ~4,000 are public.¹⁶

The ultimate winners of the AI race may not yet exist. The rise of cloud computing and the transition to mobile phones in the 2010s created more than 30 companies with greater than US\$1 billion in annual revenues (accounting for over US\$1.9 trillion in public market capitalization).¹⁷ The total addressable market for AI-related applications could surpass both the cloud and mobile transitions, largely because the ultimate target is employee compensation costs.

Skeptics of the AI boom point to the dot-com bubble of the late 1990s. Before the bubble popped in 2000, many companies sported excessive valuations premised on business models that proved to be inadequate or non-existent. And even companies with viable business models struggled to justify their peak valuations. The U.S. and European telecoms that built most of today's communication infrastructure (mobile, broadband, fiber optic networks) have never regained their 2000 peaks, even as cell phone subscriptions have increased over tenfold.

In our view, neither the levels of AI capex nor stock valuations suggest an AI bubble in the market. Stock prices have risen with earnings, and capex has not been financed with equity or debt issuance. But we are closely monitoring payback on AI projects and pockets of froth (in valuations and/or capex levels) in sectors such as data centers.

The most recent earnings data suggests that AI is starting to deliver for companies and investors. AI demand contributed nearly half of the 35% growth reported by Microsoft's cloud computing unit, and the company processed over 100 trillion AI tokens in the first quarter, a 5x increase from last year.

We will continue to focus on companies and sectors poised to benefit from cost savings and productivity gains from AI technology (e.g., software and financials). We will also look for promising names in the agentic application space.

People may not be talking about AI anymore, but they should be.

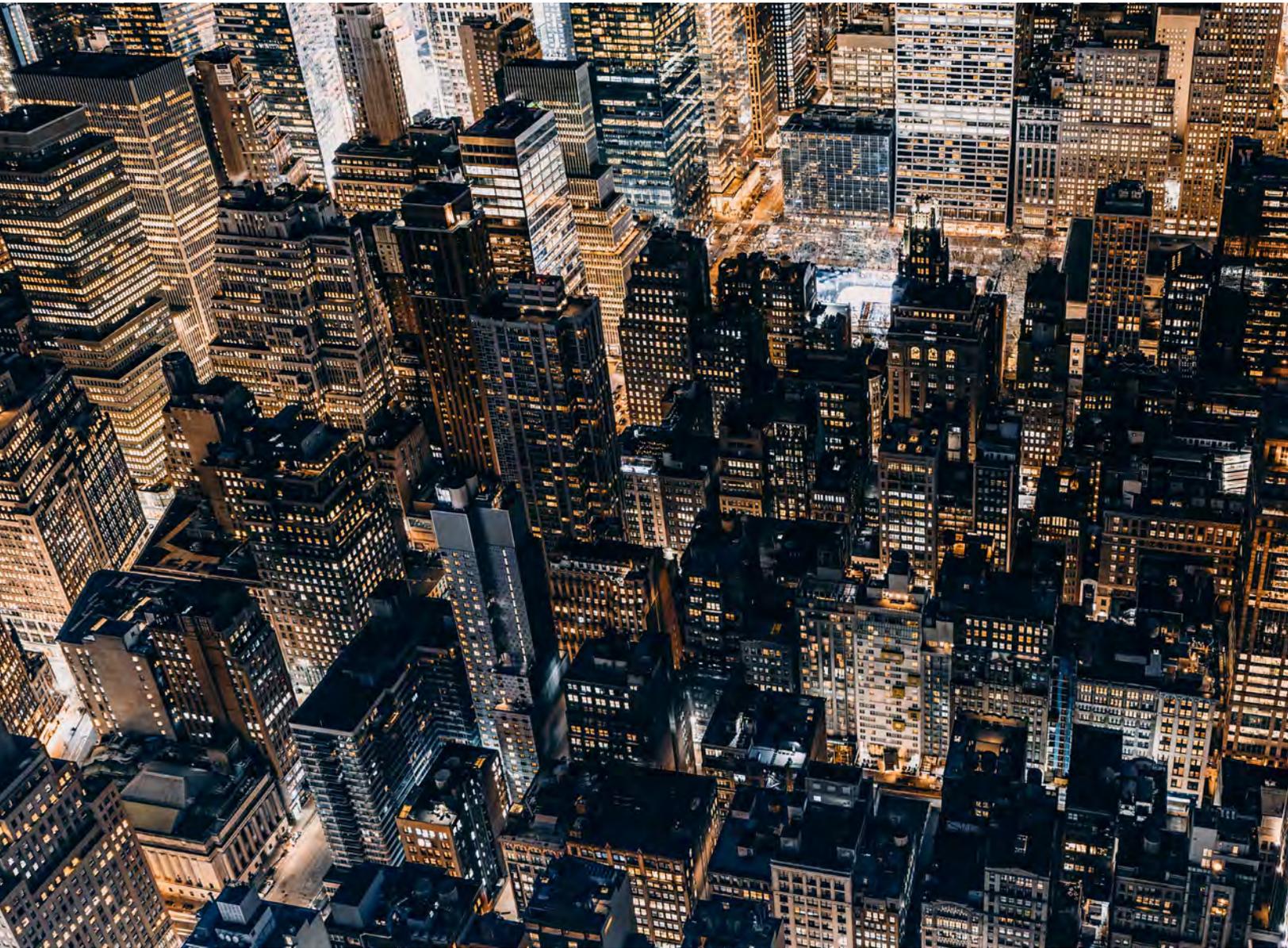
¹⁵ Thompson, B. (February 25, 2025). *AI Promise and Chip Precariousness*.

¹⁶ Vista Equity Partners (March 2025).

¹⁷ Huang, S., & Grady, P. (October 9, 2024). *Generative AI's Act o1*. Companies used for this (non-exhaustive) statistic: Airbnb, Atlassian, Cloudflare, CrowdStrike, Datadog, DocuSign, Doordash, Dropbox, Dynatrace, Elastic, Lyft, MongoDB, Okta, Palantir, Paloalto, Paycom, Paylocity, Pinterest, Playtika, Robinhood, Salesforce, Shopify, Snapchat, Snowflake, Spotify, Thetradedesk, Twilio, Uber, Unity, Workday, Zoom, Zoominfo, Zscaler.

5

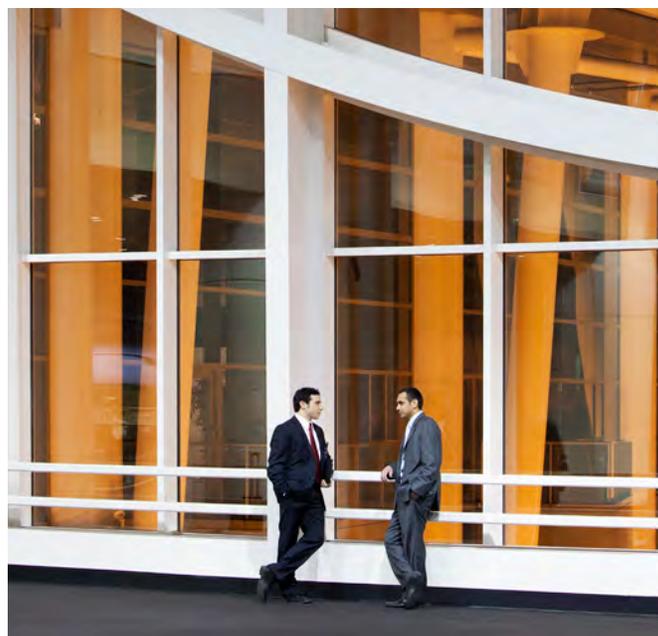
What's the deal with dealmaking?



Most of Wall Street expected an immediate revival in dealmaking and capital market activity in the wake of Donald Trump's electoral victory. From election night until the end of January, the capital markets subsector (which includes investment banks and alternative asset managers) rallied 10%, doubling the broad market's 5% rally.

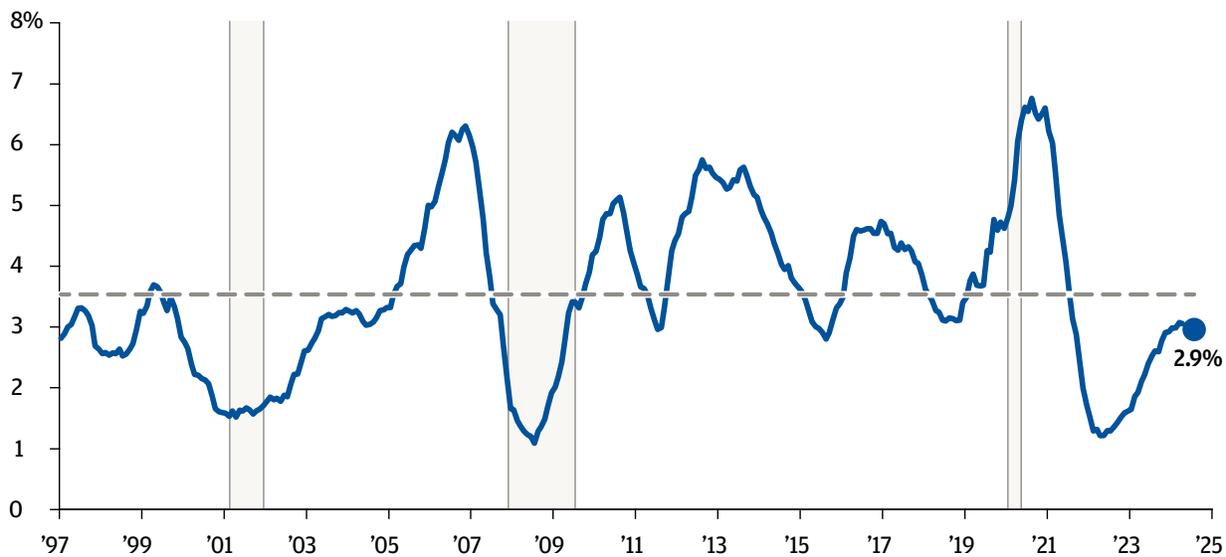
Hopes of a dealmaking boom soon met the reality of tariff-driven uncertainty, still-elevated interest rates and choppy equity markets. While private market dealmaking continues at a reasonable pace, the public market arena (notably IPOs) has been very quiet.

The capital markets sector has surrendered most of its post-election gains, and expectations for completed U.S. M&A activity growth have been revised down from 25% growth to just 7% growth.¹⁸ We spotted green shoots to start the year (global M&A activity rose 17% year-over-year in the first quarter, driven by sponsor-backed activity). But the prospect of prolonged uncertainty has created a cloudier outlook on the pace for dealmaking, at least over the near term.



PUBLIC MARKET LIQUIDITY IS LIMITED, BUT THE OUTLOOK IS SLOWLY IMPROVING

Trailing 12-month high yield, leveraged loan and IPO volume as a % of GDP



Sources: J.P. Morgan, Bank of America, Bloomberg Finance L.P., Haver Analytics. Data as of April 30, 2025.
 Note: Liquidity defined as IPO, high yield bonds and leveraged loan issuance. Dashed line represents average.

¹⁸ Goldman Sachs (March 14, 2025). *Policy uncertainty and market volatility create risk to the much anticipated rebound in capital markets activity.*

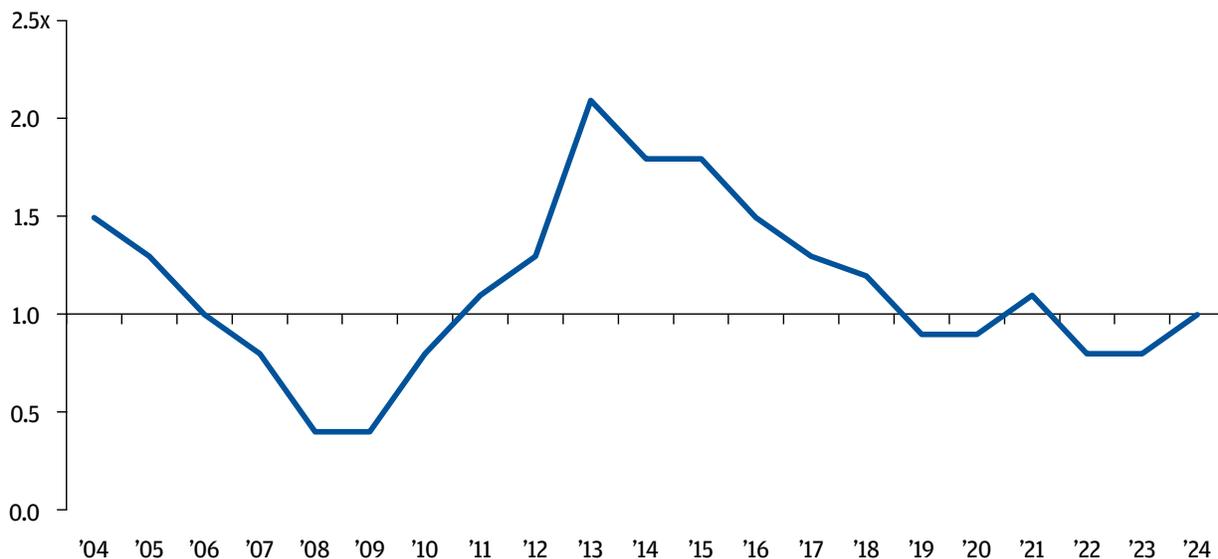
As we discussed in our 2025 Outlook, it remains to be seen just how market friendly the new leadership at the Federal Trade Commission (FTC) will prove to be. FTC Chair Andrew Ferguson has opted to keep Biden-era merger guidelines in place, disappointing market participants who hoped for changes. On the other hand, Ferguson's FTC seems to focus its rule enforcement based on consumer welfare, a more market-friendly approach than Ferguson's predecessor, Lina Khan, who aimed to correct market share imbalances. On the specific (and contentious) subject of Big Tech, the Trump FTC seems likely to maintain an adversarial stance.¹⁹



Although the dealmaking environment may be sluggish, **we do see signs that the private equity ecosystem is coming into better balance.** In 2022 and 2023, capital calls exceeded distributions for the industry, putting investors in a negative cash flow position. In 2024, capital calls were in line with distributions.

**A BRIGHTER OUTLOOK FOR GLOBAL BUYOUTS:
NET CASH FLOW IS NOW FLAT AFTER TWO NEGATIVE YEARS**

Ratio of distributions to contributions



Source: Bain & Company Global Private Equity Report. Data as of September 30, 2024.

¹⁹ Stratmann, T. (March 31, 2025). *Trump Tweaks Instead of Tearing Up Biden's Antitrust Policies.*



A slower pace of traditional dealmaking activity (IPO, strategic M&A), along with aging assets in existing private equity portfolios, could create a compelling opportunity set for secondary managers that buy existing stakes from other sponsors. Historically, secondaries have been attractive for several reasons.

First, they mitigate the “J-Curve” effect inherent in drawdown funds (early negative returns as capital is called, followed by positive returns as capital is distributed). In addition, secondary funds give investors visibility into a strategy’s underlying assets (mitigating blind pool risk), and provide meaningful diversification across vintage year and manager. The potential liquidity needs of college endowments is another potential catalyst that could lead to opportunity for secondary funds.

Evergreen fund structures will likely alter the private market landscape. Just this year, over 4,500 clients have invested in evergreen structures for the first time. Currently, evergreen funds are ~5% of the overall private markets, and some estimate that share could grow to 20% in the next decade.²⁰ As private markets mature, we expect asset owners will find more opportunities for liquidity beyond the traditional avenues of IPOs and strategic M&A.

Investors who only participate in public markets should realize that companies are staying private longer. Today, the median company that goes public is almost 14 years old. Ten years ago, the median

age of an IPO was less than 11 years old.²¹ Of all the companies that exceed \$100 million in annual revenue in the United States, 87% are private.²²

A key takeaway for suitable investors: Exposure to private markets could be critical to ensure proper exposure to the total economy.

As the private equity ecosystem comes into better balance, the sports investment landscape is a notable bright spot. In the athletic arena, sports deals have continued to grow in terms of both number and volume. The sale of the Boston Celtics set a record for transaction valuation, and Peyton Manning’s sports-focused Omaha Productions was recently valued at over \$800 million.²³ We believe the sports ecosystem could offer the opportunity for less correlated return streams across debt and equity investments.

The private market landscape continues to evolve, driven by aging assets and growing evergreen funds. Investors should consider maintaining a balance between drawdown and evergreen structures as they build out their private equity portfolios, while also exploring investments in secondaries and sports.

²⁰ Hamilton Lane (2025).

²¹ Ritter, J. R. (2025). *Initial Public Offerings: Median Age of IPOs Through 2024*. Warrington College of Business, University of Florida.

²² Sjøk, T. (April 20, 2024). *Many More Private Firms in the US*.

²³ Fischer, S. (March 27, 2025). *Peyton Manning’s Omaha Productions raises series B from Patrick Whitesell and Silver Lake*.

Conclusion

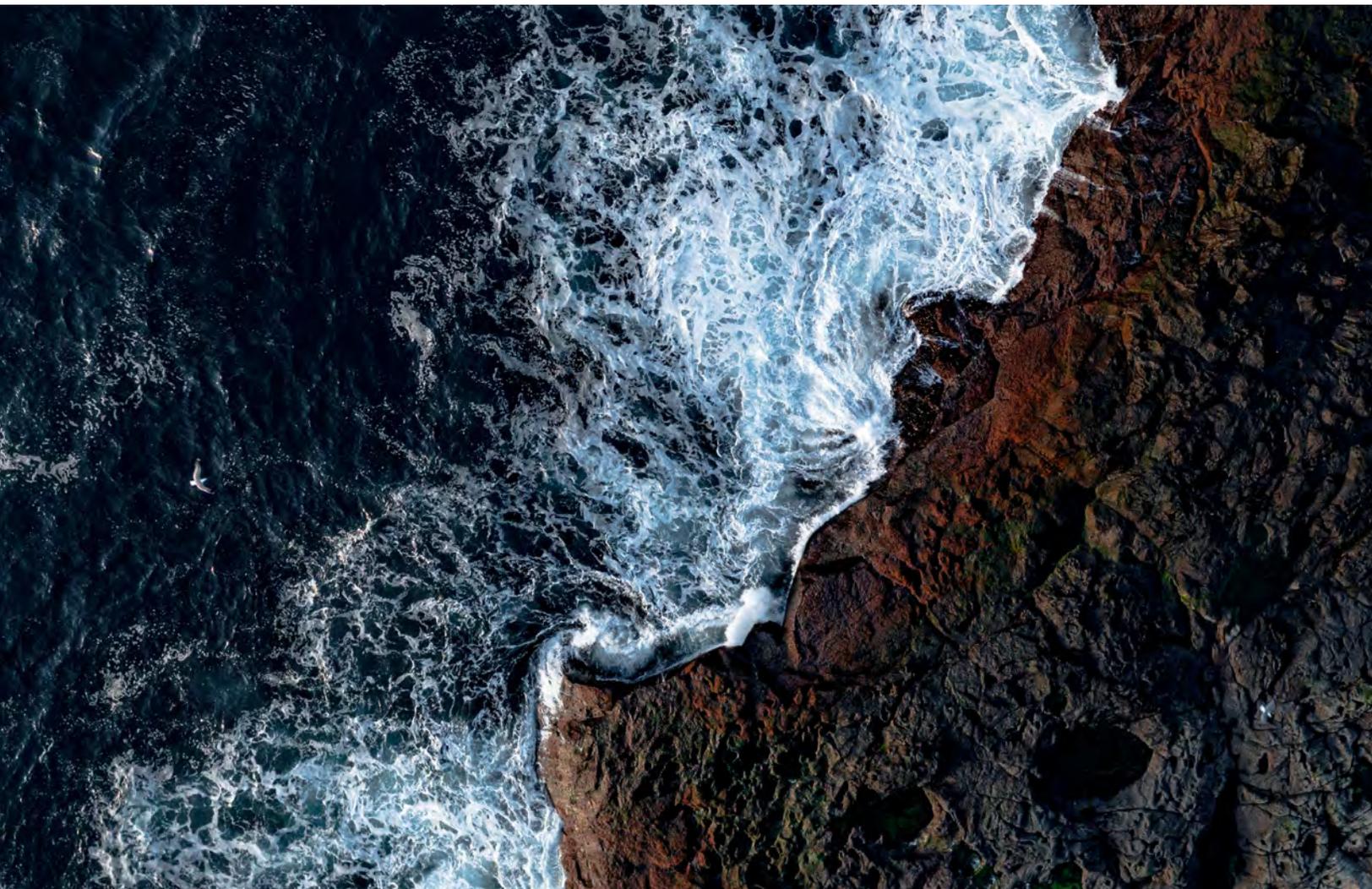
The uncertainty is palpable. Many investors acknowledge the likelihood of continued market flux, but they're not sure what to do about it. Perhaps the most powerful way to find clarity in a volatile world is to define the intent of your capital and understand the context of your wealth plan (your risk capacity and risk tolerance). In this way, you can feel more comfortable that your asset allocation decisions can move you closer to achieving your goals.

We hope that our answers to the five essential questions help you unlock opportunity in uncertainty, and that the portfolio implications we discuss give you the comfort you need to stay dedicated to your wealth plan.



Mission

The Global Investment Strategy Group provides industry-leading insights and investment advice to help our clients achieve their long-term goals. They draw on the extensive knowledge and experience of the Group's economists, investment strategists and asset-class strategists to provide a unique perspective across the global financial markets.



EXECUTIVE SPONSORS

Clay Erwin

Global Head of Investments Sales & Trading

Stephen Parker

Co-Head of Global Investment Strategy

Grace Peters

Co-Head of Global Investment Strategy

Anton Pil

Head of Global Alternative Investment Solutions

GLOBAL INVESTMENT STRATEGY GROUP

Elyse Aussenbaugh

Global Investment Strategist

Christopher Baggini

Global Head of Equity Strategy

Nur Cristiani

Head of LatAm Investment Strategy

Madison Faller

Head of Market Intelligence

Aaron Goldstein

Head of Digital Investment Strategy

Stephen Jury

Global Commodity Strategist

Jacob Manoukian

Head of U.S. Investment Strategy

Joe Seydl

Senior Markets Economist

Sitara Sundar

Head of Alternative Investment Strategy

Alex Wolf

Head of Asia Investment Strategy

Erik Wytenus

Head of EMEA Investment Strategy

Samuel Zief

Head of Global FX Strategy

Definitions of indices and terms

Note: Indices are for illustrative purposes only, are not investment products, and may not be considered for direct investment. Indices are an inherently weak predictive or comparative tool.

All indices denominated in U.S. dollars unless noted otherwise.

Bloomberg Commodity Index: An index that provides a broad measure of the performance of the global commodity markets, covering a diverse range of commodities, including energy, metals and agricultural products. The index is designed to be a liquid and diversified benchmark for commodity investments, reflecting the price movements and trends of key raw materials.

Bloomberg Emerging Markets Aggregate Bond USD Index: An index that tracks the performance of U.S. dollar-denominated bonds issued by sovereign, quasi-sovereign and corporate entities in emerging markets. This index focuses specifically on bonds issued in U.S. dollars, providing investors with insights into the fixed income opportunities and credit dynamics in emerging markets without the added complexity of currency risk.

Bloomberg Global U.S. Treasury Index: An index that tracks the performance of U.S. Treasury securities, including bonds and notes issued by the U.S. government. This index provides a comprehensive view of the U.S. government bond market, covering a range of maturities, and reflecting the interest rate environment and economic conditions in the United States.

Bloomberg Municipal 1-17 Year Index: An index that tracks the performance of U.S. municipal bonds with maturities ranging from one to 17 years. These bonds are typically issued by local and state governments, and provide tax-exempt income.

Bloomberg U.S. 1-3 Month Treasury Bills Index: An index that measures the performance of U.S. Treasury bills with maturities ranging from one to three months. This index provides a benchmark for short-term, risk-free investments, reflecting the interest rate environment and liquidity conditions in the U.S. government securities market.

Bloomberg U.S. Aggregate Bond Index: A comprehensive benchmark that measures the performance of the U.S. investment grade, dollar-denominated, fixed-rate taxable bond market. This index includes a wide array of bond types such as Treasuries, government-related and corporate securities, mortgage-backed securities, asset-backed securities and commercial mortgage-backed securities.

Bloomberg U.S. Aggregate Corporate High Yield Index: An index that tracks the performance of U.S. dollar-denominated, high yield, fixed-rate corporate bonds. It includes securities rated Ba1/BB+/BB+ or below by Moody's, Fitch and S&P, excluding bonds from issuers classified as emerging markets by Bloomberg.

Capital Expenditures (Capex): Refers to funds a company allocates to acquire or upgrade physical assets such as property, industrial buildings or equipment. These expenditures are often used to initiate new projects or investments, enhancing the firm's long-term value.

Effective Tariff Rate: The actual rate of tariffs applied to imports, accounting for all adjustments such as trade deals, exclusions and substitution effects, reflecting the true impact on trade costs.

Equity-Linked Structured Notes: Financial instruments that offer returns based on the performance of a specific equity index or stocks, combining elements of fixed income securities with equity market exposure, and often issued by financial institutions.

GDP (Gross Domestic Product): The total monetary value of all goods and services produced within a country's borders over a specific time period, serving as a key indicator of economic activity and health.

Hang Seng Tech Index: An index that tracks the performance of the largest technology companies listed on the Hong Kong Stock Exchange. It includes companies primarily engaged in internet, fintech, cloud, e-commerce and digital technology sectors.

IPO (Initial Public Offering): The process by which a private company offers shares to the public for the first time, allowing it to raise capital from public investors. An IPO marks a company's transition from private to public status, enabling it to trade on a stock exchange and providing liquidity to its shareholders.

M&A (Mergers and Acquisitions): A business activity involving the consolidation of companies or assets through various types of financial transactions, including mergers, acquisitions, consolidations and buyouts.

MSCI Asia ex-Japan Index: An index that measures the performance of large- and mid-cap companies across Asia's developed and emerging markets, excluding Japan. This index provides coverage of countries such as China, India, South Korea, Taiwan and others, representing approximately 85% of the free float-adjusted market capitalization in each country.

MSCI EAFE Index: An index that measures the equity market performance of developed markets outside of the United States and Canada, encompassing Europe, Australasia and the Far East. With broad coverage of large- and mid-cap companies, the MSCI EAFE Index represents approximately 85% of the free float-adjusted market capitalization in each included market.

MSCI Emerging Markets (EM) Index: An index designed to capture the performance of large- and mid-cap companies across emerging markets globally. It includes countries such as China, India, Brazil, South Korea, Taiwan and many others. The MSCI EM Index represents approximately 85% of the market capitalization in each of these emerging markets, providing investors with insights into the economic dynamics and equity performances of developing regions.

MSCI Japan Index: An index that measures the performance of large- and mid-cap segments in Japan, covering approximately 85% of the free float-adjusted market capitalization in the Japanese equity market.

MSCI World Index: An index that captures the performance of large- and mid-cap stocks across 23 developed countries worldwide. Covering approximately 85% of the free float-adjusted market capitalization in each country, the MSCI World Index provides a comprehensive view of global developed market equity performance.

MSCI World NR USD: An index that represents the performance of large- and mid-cap stocks across 23 developed countries globally, with returns calculated in U.S. dollars and including net dividends reinvested.

NASDAQ-100 Index: A stock market index that includes 100 of the largest non-financial companies listed on the NASDAQ Stock Exchange, which is known for its electronic trading platform, and emphasis on technology and growth-oriented companies.

NYGold-FDS Index: An index designed to track the spot price of gold traded on the New York market, providing investors with insights into gold's performance and price movements.

Russell 3000 Index: A stock market index that measures the performance of the largest 3,000 publicly traded companies in the United States, representing approximately 98% of the investable U.S. equity market.

S&P 500®: Widely regarded as the premier gauge of the U.S. equities market, this index includes 500 leading companies across major industries, focusing on the large-cap segment. It represents approximately 80% of the total market capitalization, making it a key indicator of overall market performance.

STOXX Europe 600 Index: An index that tracks the performance of 600 large-, mid- and small-cap companies across 17 countries in Europe. With a broad representation of various sectors, it includes companies from the Eurozone as well as non-Eurozone countries, offering a comprehensive overview of the European equity markets.

STOXX Tech Index: An index that tracks the performance of technology companies within the broader STOXX Index family, covering various segments of the technology sector across Europe. It includes companies involved in software, hardware, telecommunications and other tech-related industries.

Important information

Key Risks

Investing in **alternative assets** involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not be deemed a complete investment program. They are not tax-efficient, and an investor should consult with his/her tax advisor prior to investing. Alternative investments have higher fees than traditional investments, and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise, and investors may get back less than they invested.

Investments in **commodities** may have greater volatility than investments in traditional securities, particularly if the instruments involve leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

Investments in **emerging markets** may not be suitable for all investors. Emerging markets involve a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the United States can raise or lower returns. Some overseas markets may not be as politically and economically stable as the United States and other nations. Investments in emerging markets can be more volatile.

The price of **equity securities** may rise or fall due to the changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. Equity securities are subject to "stock market risk" meaning that stock prices in general may decline over short or extended periods of time.

Investing in **fixed income** products is subject to certain risks, including interest rate, credit, inflation, call, prepayment and reinvestment risk. Any fixed income security sold or redeemed prior to maturity may be subject to substantial gain or loss.

As a reminder, **hedge funds** (or funds of hedge funds) often engage in leveraging and other speculative investment practices that may increase the risk of investment loss. These investments can be highly illiquid, and are not required to provide periodic pricing or valuation information to investors, and may involve complex tax structures and delays in distributing important tax information. These investments are not subject to the same regulatory requirements as mutual funds; and often charge high fees. Further, any number of conflicts of interest may exist in the context of the management and/or operation of any such fund. For complete information, please refer to the applicable offering memorandum.

High yield bonds are speculative, non-investment grade bonds that have higher risk of default or other adverse credit events that are appropriate for high-risk investors only.

Not all **option strategies** are suitable for all investors. Certain strategies may expose investors to significant potential risks and losses. For additional risk information, please read the "Characteristics and Risks of Standardized Options": <http://www.theocc.com/about/publications/character-risks.jsp>. We advise investors to consult their tax advisors and legal counsel about the tax implications of these strategies. Investors are urged to carefully consider whether options or option-related products or strategies are suitable for their needs.

Preferred investments share characteristics of both stocks and bonds. Preferred securities are typically long-dated securities with call protection that fall in between debt and equity in the capital structure. Preferred securities carry various risks and considerations, which include: concentration risk; interest rate risk; lower credit ratings than individual bonds; a lower claim to assets than a firm's individual bonds; higher yields due to these risk characteristics; and "callable" implications meaning the issuing company may redeem the stock at a certain price after a certain date.

Investing in **Structured Notes** involves a number of significant risks. We have set forth certain risk factors and other investment considerations relating to the investment below. Not all investments are suitable (or in the best interest) for all investors. You should analyze the Structured Notes based on your individual circumstances, taking into account such factors as investment objectives, tolerance for risk, and liquidity needs.

J.P. Morgan Securities LLC (JPMS) does not endorse, advise on, issue, intermediate, mine, custody, store, administer, transmit, exchange, control, sell or transact directly in any type of **virtual currency or digital asset**. This does not include financial instruments that derive their value from virtual currency that JPMS may make available for purchase or sale.

IMPORTANT INFORMATION

All third-party companies referenced are shown for illustrative purposes only, and are not intended as a recommendation or endorsement by J.P. Morgan in this context.

This material is for informational purposes only, and may inform you of certain products and services offered by private banking businesses, part of JPMorgan Chase & Co. ("JPM"). Products and services described, as well as associated fees, charges and interest rates, are subject to change in accordance with the applicable account agreements and may differ among geographic locations. Not all products and services are offered at all locations. If you are a person with a disability and need additional support accessing this material, please contact your J.P. Morgan team or email us at accessibility.support@jpmorgan.com for assistance. **Please read all Important Information.**

General Risks & Considerations

Any views, strategies or products discussed in this material may not be appropriate for all individuals and are subject to risks. **Investors may get back less than they invested, and past performance is not a reliable indicator of future results.** Asset allocation/diversification does not guarantee a profit or protect against loss. Nothing in this material should be relied upon in isolation for the purpose of making an investment decision. You are urged to consider carefully whether the services, products, asset classes (e.g., equities, fixed income, alternative investments, commodities, etc.) or strategies discussed are suitable to your needs. You must also consider the objectives, risks, charges, and expenses associated with an investment service, product or strategy prior to making an investment decision. For this and more complete information, including discussion of your goals/situation, contact your J.P. Morgan team.

Non-Reliance

Certain information contained in this material is believed to be reliable; however, JPM does not represent or warrant its accuracy, reliability or completeness, or accept any liability for any loss or damage (whether direct or indirect) arising out of the use of all or any part of this material. No representation or warranty should be made with regard to any computations, graphs, tables, diagrams or commentary in this material, which are provided for illustration/reference purposes only. The views, opinions, estimates and strategies expressed in this material constitute our judgment based on current market conditions and are subject to change without notice. JPM assumes no duty to update any information in this material in the event that such information changes. Views, opinions, estimates and strategies expressed herein may differ from those expressed by other areas of JPM, views expressed for other purposes or in other contexts, and **this material should not be regarded as a research report.** Any projected results and risks are based solely on hypothetical examples cited, and actual results and risks will vary depending on specific circumstances. Forward-looking statements should not be considered as guarantees or predictions of future events.

Nothing in this document shall be construed as giving rise to any duty of care owed to, or advisory relationship with, you or any third party. Nothing in this document shall be regarded as an offer, solicitation, recommendation or advice (whether financial, accounting, legal, tax or other) given by J.P. Morgan and/or its officers or employees, irrespective of whether or not such communication was given at your request. J.P. Morgan and its affiliates and employees do not provide tax, legal or accounting advice. You should consult your own tax, legal and accounting advisors before engaging in any financial transactions.

Legal Entity, Brand & Regulatory Information

In the **United States**, bank deposit accounts and related services, such as checking, savings and bank lending, are offered by **JPMorgan Chase Bank, N.A.** Member FDIC.

JPMorgan Chase Bank, N.A. and its affiliates (collectively “**JPMCB**”) offer investment products, which may include bank-managed investment accounts and custody, as part of its trust and fiduciary services. Other investment products and services, such as brokerage and advisory accounts, are offered through **J.P. Morgan Securities LLC (“JPMS”)**, a member of **FINRA** and **SIPC**. Insurance products are made available through Chase Insurance Agency, Inc. (CIA), a licensed insurance agency, doing business as Chase Insurance Agency Services, Inc. in Florida. JPMCB, JPMS and CIA are affiliated companies under the common control of JPM. Products not available in all states.

In **Germany**, this material is issued by **J.P. Morgan SE**, with its registered office at Taunustor 1 (TaunusTurm), 60310 Frankfurt am Main, Germany, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB). In **Luxembourg**, this material is issued by **J.P. Morgan SE—Luxembourg Branch**, with registered office at European Bank and Business Centre, 6 route de Treves, L-2633, Senningerberg, Luxembourg, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE—Luxembourg Branch is also supervised by the Commission de Surveillance du Secteur Financier (CSSF); registered under R.C.S Luxembourg B255938. In the **United Kingdom**, this material is issued by **J.P. Morgan SE—London Branch**, registered office at 25 Bank Street, Canary Wharf, London E14 5JP, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE—London Branch is also supervised by the Financial Conduct Authority and Prudential Regulation Authority. In **Spain**, this material is distributed by **J.P. Morgan SE, Sucursal en España**, with registered office at Paseo de la Castellana, 31, 28046 Madrid, Spain, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE, Sucursal en España is also supervised by the Spanish Securities Market Commission (CNMV); registered with Bank of Spain as a branch of J.P. Morgan SE under code 1567. In **Italy**, this material is distributed by **J.P. Morgan SE—Milan Branch**, with its registered office at Via Cordusio, n.3, Milan 20123, Italy, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE—Milan Branch is also supervised by Bank of Italy and the Commissione Nazionale per le Società e la Borsa (CONSOB); registered with Bank of Italy as a branch of J.P. Morgan SE under code 8076; Milan Chamber of Commerce Registered Number: REA MI 2536325. In the **Netherlands**, this material is distributed by **J.P. Morgan SE—Amsterdam Branch**, with registered office at World Trade Centre, Tower B, Strawinskylaan 1135, 1077 XX, Amsterdam, The Netherlands, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE—Amsterdam Branch is also supervised by De Nederlandsche Bank (DNB) and the Autoriteit Financiële Markten (AFM) in the Netherlands. Registered with the Kamer van Koophandel as a branch of J.P. Morgan SE under registration number 72610220. In **Denmark**, this material is distributed by **J.P. Morgan SE—Copenhagen Branch**, filial af J.P. Morgan SE, Tyskland, with registered office at Kalvebod Brygge 39-41, 1560 København V, Denmark, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE—Copenhagen Branch, filial af J.P. Morgan SE, Tyskland is also supervised by Finanstilsynet (Danish FSA) and is registered with Finanstilsynet as a branch of J.P. Morgan SE under code 29010. In **Sweden**, this material is distributed by **J.P. Morgan SE—Stockholm Bankfilial**, with registered office at Hamngatan 15, Stockholm, 11147, Sweden, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE—Stockholm Bankfilial is also supervised by Finansinspektionen (Swedish FSA); registered with Finansinspektionen as a branch of J.P. Morgan SE. In **Belgium**, this material is distributed by **J.P. Morgan SE—Brussels Branch** with registered office at 35 Boulevard

du Régent, 1000, Brussels, Belgium, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE Brussels Branch is also supervised by the National Bank of Belgium (NBB) and the Financial Services and Markets Authority (FSMA) in Belgium; registered with the NBB under registration number 0715.622.844. In **Greece**, this material is distributed by **J.P. Morgan SE—Athens Branch**, with its registered office at 3 Haritos Street, Athens, 10675, Greece, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB); J.P. Morgan SE—Athens Branch is also supervised by Bank of Greece; registered with Bank of Greece as a branch of J.P. Morgan SE under code 124; Athens Chamber of Commerce Registered Number 158683760001; VAT Number 99676577. In **France**, this material is distributed by **J.P. Morgan SE—Paris Branch**, with its registered office at 14, Place Vendôme 75001 Paris, France, authorized by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and jointly supervised by the BaFin, the German Central Bank (Deutsche Bundesbank) and the European Central Bank (ECB) under code 842 422 972; J.P. Morgan SE—Paris Branch is also supervised by the French banking authorities the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and the Autorité des Marchés Financiers (AMF). In **Switzerland**, this material is distributed by **J.P. Morgan (Suisse) SA**, with registered address at rue du Rhône, 35, 1204, Geneva, Switzerland, which is authorized and supervised by the Swiss Financial Market Supervisory Authority (FINMA) as a bank and a securities dealer in Switzerland.

This communication is an advertisement for the purposes of the Markets in Financial Instruments Directive (MIFID II) and the Swiss Financial Services Act (FINSA). Investors should not subscribe for or purchase any financial instruments referred to in this advertisement except on the basis of information contained in any applicable legal documentation, which is or shall be made available in the relevant jurisdictions (as required).

In **Hong Kong**, this material is distributed by **JPMCB, Hong Kong branch**. JPMCB, Hong Kong branch is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission of Hong Kong. In Hong Kong, we will cease to use your personal data for our marketing purposes without charge if you so request. In **Singapore**, this material is distributed by **JPMCB, Singapore branch**. JPMCB, Singapore branch is regulated by the Monetary Authority of Singapore. Dealing and advisory services and discretionary investment management services are provided to you by JPMCB, Hong Kong/Singapore branch (as notified to you). Banking and custody services are provided to you by JPMCB Singapore Branch. The contents of this document have not been reviewed by any regulatory authority in Hong Kong, Singapore or any other jurisdictions. You are advised to exercise caution in relation to this document. If you are in any doubt about any of the contents of this document, you should obtain independent professional advice. For materials which constitute product advertisement under the Securities and Futures Act and the Financial Advisers Act, this advertisement has not been reviewed by the Monetary Authority of Singapore. JPMorgan Chase Bank, N.A., a national banking association chartered under the laws of the United States, and as a body corporate, its shareholder's liability is limited.

With respect to countries in **Latin America**, the distribution of this material may be restricted in certain jurisdictions. We may offer and/or sell to you securities or other financial instruments which may not be registered under, and are not the subject of a public offering under, the securities or

other financial regulatory laws of your home country. Such securities or instruments are offered and/or sold to you on a private basis only. Any communication by us to you regarding such securities or instruments, including without limitation the delivery of a prospectus, term sheet or other offering document, is not intended by us as an offer to sell or a solicitation of an offer to buy any securities or instruments in any jurisdiction in which such an offer or a solicitation is unlawful. Furthermore, such securities or instruments may be subject to certain regulatory and/or contractual restrictions on subsequent transfer by you, and you are solely responsible for ascertaining and complying with such restrictions. To the extent this content makes reference to a fund, the Fund may not be publicly offered in any Latin American country, without previous registration of such fund's securities in compliance with the laws of the corresponding jurisdiction.

JPMorgan Chase Bank, N.A. (JPMCBNA) (ABN 43 074 112 011/AFS Licence No: 238367) is regulated by the Australian Securities and Investment Commission and the Australian Prudential Regulation Authority. Material provided by JPMCBNA in Australia is to "wholesale clients" only. For the purposes of this paragraph the term "wholesale client" has the meaning given in section 761G of the Corporations Act 2001 (Cth). Please inform us if you are not a Wholesale Client now or if you cease to be a Wholesale Client at any time in the future.

JPMS is a registered foreign company (overseas) (ARBN 109293610) incorporated in Delaware, U.S.A. Under Australian financial services licensing requirements, carrying on a financial services business in Australia requires a financial service provider, such as J.P. Morgan Securities LLC (JPMS), to hold an Australian Financial Services Licence (AFSL), unless an exemption applies. **JPMS is exempt from the requirement to hold an AFSL under the Corporations Act 2001 (Cth) (Act) in respect of financial services it provides to you, and is regulated by the SEC, FINRA and CFTC under U.S. laws, which differ from Australian laws.** Material provided by JPMS in Australia is to "wholesale clients" only. The information provided in this material is not intended to be, and must not be, distributed or passed on, directly or indirectly, to any other class of persons in Australia. For the purposes of this paragraph the term "wholesale client" has the meaning given in section 761G of the Act. Please inform us immediately if you are not a Wholesale Client now or if you cease to be a Wholesale Client at any time in the future.

This material has not been prepared specifically for Australian investors. It:

- May contain references to dollar amounts which are not Australian dollars;
- May contain financial information which is not prepared in accordance with Australian law or practices;
- May not address risks associated with investment in foreign currency denominated investments; and
- Does not address Australian tax issues.

References to "J.P. Morgan" are to JPM, its subsidiaries and affiliates worldwide. "J.P. Morgan Private Bank" is the brand name for the private banking business conducted by JPM. This material is intended for your personal use and should not be circulated to or used by any other person, or duplicated for non-personal use, without our permission. If you have any questions or no longer wish to receive these communications, please contact your J.P. Morgan team.

J.P.Morgan PRIVATE BANK