

OUTLOOK 2026

Promise and Pressure

Investing in the new frontier of AI,
fragmentation and inflation

INVESTMENT AND INSURANCE PRODUCTS: • NOT A DEPOSIT • NOT FDIC INSURED • NOT INSURED
BY ANY FEDERAL GOVERNMENT AGENCY • NO BANK GUARANTEE • MAY LOSE VALUE



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.

Foreword

This has truly been a year of transition. We've seen a change in leadership in Washington, D.C., a new cycle of Federal Reserve interest rate cuts, renewed strength in international markets, and for JPMorganChase, a significant milestone – a move into our new global headquarters.

As we look ahead, investors are facing a pivotal shift as well. Three powerful forces are shaping a new market landscape: artificial intelligence, fragmentation and inflation.

In our 2026 Outlook, we highlight how AI is set to transform industries and investment opportunities, but it also brings the risk of overenthusiasm. Fragmentation – where the global order is dividing into competing blocs and supply chains – means that resilience and security are more important than ever. And with inflation settling at a higher and more volatile level, investors need to adapt their approach.

These long-term trends are unfolding against a generally positive backdrop. The rate-cutting cycle should help fuel a global growth rebound and support asset markets. Even after another strong year for equities, we expect multi-asset portfolios to deliver solid returns in 2026. But we see our clients holding more cash than before the pandemic, and there's still some uncertainty about the market rally.

Transitions like these bring both challenges and opportunities. Now is the time to sharpen your focus – to seize the opportunities ahead and protect against risks that may not be immediately obvious. The most important step you can take is to establish or revisit your wealth plan. Our job is to help you build a portfolio that's not just positioned for today, but strong enough to weather whatever comes next.

No matter what the markets bring, we'll continue to rely on the relationships we have built over time to deliver you our best. We are honored to stand by your side as your financial partner.



Kristin Lemkau
CEO, J.P. Morgan Wealth Management

Key takeaways

- 1 Position for the AI revolution**

The technology is transformative.
Capture the upside while avoiding the risks of overexuberance.
- 2 Think fragmentation, not globalization**

A reconfigured economy prioritizes resilience over efficiency.
Identify opportunities where security, energy and supply chains converge.
- 3 Prepare for inflation's structural shift**

Inflation is higher and becoming more volatile.
Plan with intent to maintain purchasing power and diversify into real assets.
- 4 Uncover the potential of private markets**

Manager selection and access are especially crucial in this landscape.
Find the right partner.



Contents

Part 1

Position for the AI revolution

- How will we know if the boom is about to become a bust?
 - AI and labor market churn: Old jobs lost, new jobs born
 - What are the potential limits to AI expansion?
 - Crafting a four-part strategy to capture value
 - Private players, AI innovators in venture capital and private equity
-

Part 2

Think fragmentation, not globalization

- Trade: From cheapest origin to rules of origin
 - China: External influence, internal innovation
 - European defense: From peace dividend to conflict capex
 - South America: Owning what the world needs
 - Energy: The binding constraint for the AI revolution
 - The dollar and alternative stores of value
-

Part 3

Prepare for inflation's structural shift

- Fixed income finds its footing
- Structural drivers of inflation
- The subtle risks of rising sovereign debt
- The U.S. housing market shortage

Introduction



Sometimes the investing landscape is hard to read. In *Outlooks* from prior years, we often struggled with tangled debates and ambiguous data. The picture looked cloudy and blurred.

Not this year.

An era of low inflation and seamless globalization is clearly over. In its place, three powerful, interconnected forces are defining a new market frontier: artificial intelligence (AI), global fragmentation and inflation. Collectively, they present one overarching challenge: How should you invest in a world where the promise of productivity growth driven by AI collides with the pressure of stickier, more volatile inflation and a fractured world order?

The forces of AI, fragmentation and inflation will play out in ways we can now only glimpse on the horizon.

Artificial intelligence

AI could drive the cost of expertise toward zero – a transformation as profound as the rise of computing. The new technology may lead to greater productivity and stronger corporate profit margins, but also significant labor market disruption and the potential for a market bubble. How can you capture the upside of this transformation while avoiding the risks of technological obsolescence and “irrational” exuberance?

Fragmentation

The global order is splintering into competing blocs, contested supply chains and fragile alliances. Access to natural resources and energy is now a strategic priority. As these dynamics redirect trade and capital flows, they are creating interesting prospects for investment gains (and losses). What regions and sectors look poised to outperform when the desire for efficiency is eclipsed by the demand for resilience and security?

Inflation

Inflation is a central variable in portfolio construction, and it's undergoing a structural shift that makes it an even greater risk to your wealth. In our view, inflation will be more volatile than it was before the pandemic and more susceptible to upward shocks. This reflects a range of factors, including corporate and consumer psychology, persistent fiscal deficits and elevated household wealth. Is your plan intentional about maintaining purchasing power and reducing portfolio fragility?

Over the coming year, solid economic fundamentals will ease the path for investors. A rate-cutting cycle from the Federal Reserve (Fed), along with the benefits of reduced economic policy uncertainty, should help global growth rebound toward a trend-like pace. Lower short-term rates in the United States can boost risk assets such as global equities and credit. A steady growth outlook, among other factors, will likely keep long-term bond yields range bound. In all, we expect another solid year of returns for multi-asset portfolios.

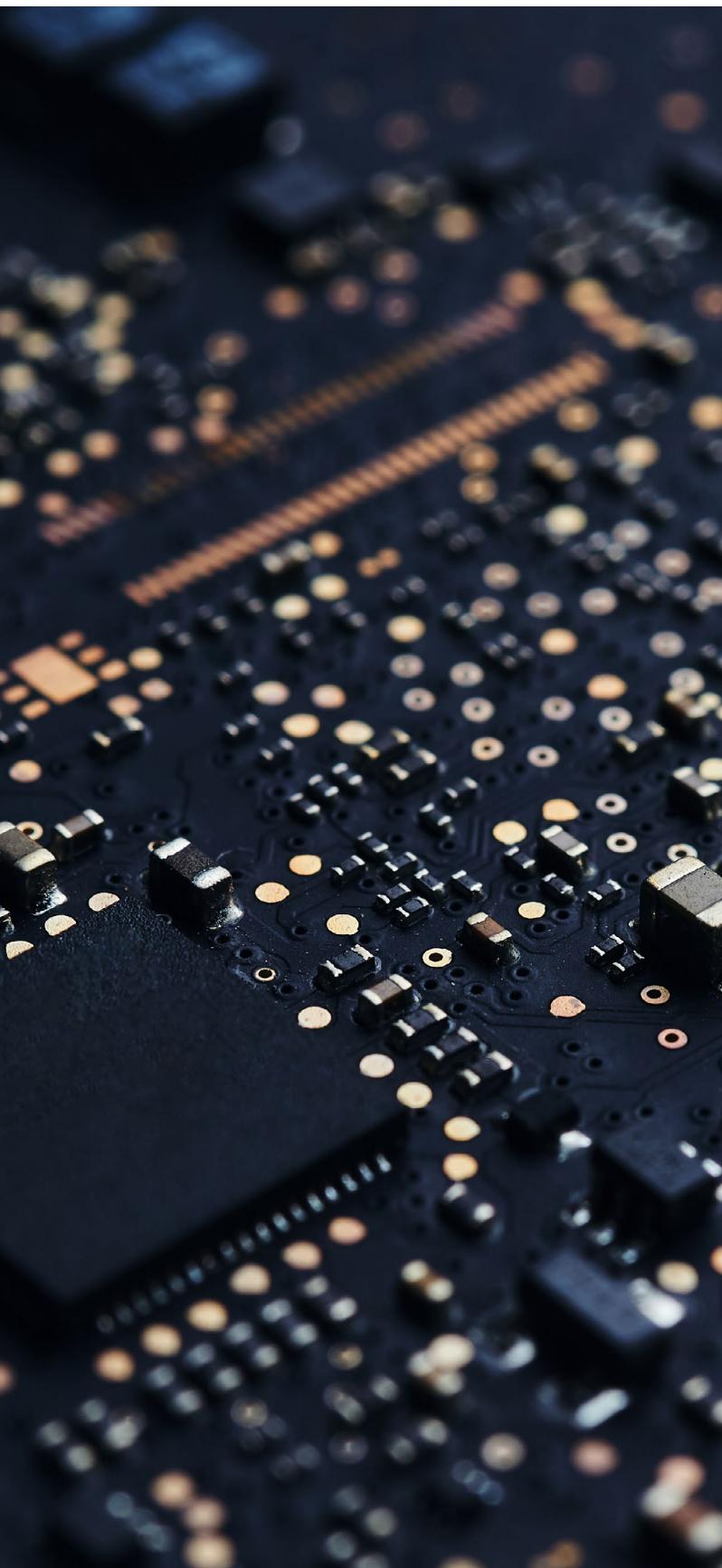
But this constructive outlook should not eclipse the promise and pressure at hand in the new frontier. Investors need a new playbook – an approach that blends resolve with agility and uses structural change to create opportunity. Here, we examine the power and potential of the three forces driving markets, their implications for asset classes and the strategies we believe can help you reach your family's financial goals.



Part 1

Position for the AI revolution





Since OpenAI launched ChatGPT in late 2022, investors have been captivated by the promise of AI. Three years later, the AI boom is still gaining momentum. We believe this potent technology will disrupt labor markets and boost productivity globally while creating value across public and private markets. Yes, tech stocks keep driving market gains, but no, we do not see a bubble about to burst.

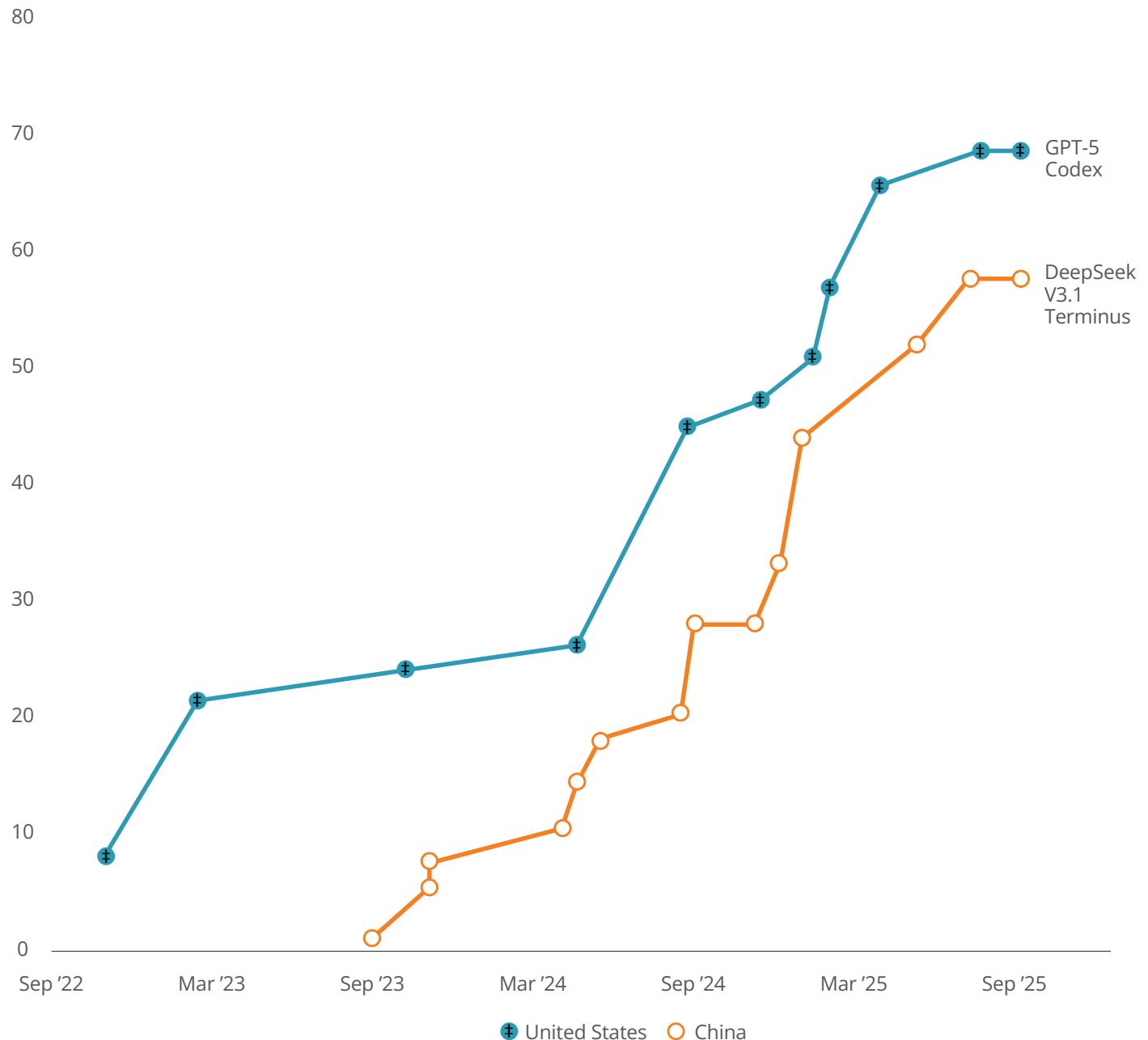
At the heart of the artificial intelligence story is generative AI.¹ Capabilities have strengthened rapidly, and costs have plunged. Models now hallucinate less, handle longer context windows and demonstrate stronger reasoning. While performance gains across a broad spectrum of benchmarks have slowed very recently, progress in leading-edge agentic models has been encouraging. Some estimate that agentic models could reach human-level performance by the spring of 2026.²

¹ Broadly speaking, generative AI/large language models (LLMs) are computer programs that learn and generate text, images, audio, software code or other media using an architecture trained on large pools of data. Examples of LLMs include OpenAI's ChatGPT and Anthropic's Claude.

² Per Mark Newman, a technology analyst at Bernstein: "For instance, extrapolating from the OSWorld agentic task benchmark implies leading-edge models are improving by 37 percentage points per year, which would imply human-level performance in May 2026 (for comparison, current leading models are ~44%, leading agentic frameworks are at 61% and human benchmark is 72%)."

WHILE THE PERFORMANCE OF AI MODELS HAS RECENTLY STALLED, THE NEXT LEAP COULD COME FROM AGENTIC AI

Frontier AI model intelligence index

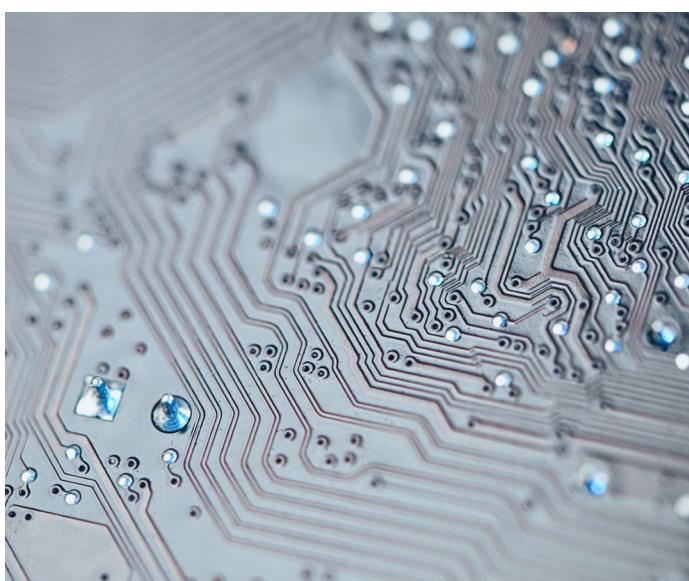


Source: Artificial Analysis. Data as of October 3, 2025. Note: Artificial Analysis Intelligence Index v3.0 incorporates 10 evaluations: MMLU-Pro, GPQA Diamond, Humanity's Last Exam, LiveCodeBench, SciCode, AIME 2025, IFBench, AA-LCR, Terminal-Bench Hard, τ^2 -Bench Telecom.

This technological progress has sparked a surge in infrastructure investment. Large U.S. tech companies have tripled their annual capital investment (capex) spending from \$150 billion in 2023 to what could be over \$500 billion in 2026. Spending from the leaders (Alphabet, Amazon, Meta, Microsoft, Oracle and Nvidia) now accounts for almost 25% of total U.S. market capex.³ AI-related investment contributed more to U.S. gross domestic product (GDP) growth than consumer spending in 2025.⁴

The growth impulse from AI-related spending will almost certainly provide an important source of GDP gains in 2026. Our rough estimate is that OpenAI alone has announced plans to build data centers with over 25 gigawatts (GW) of capacity. Given that each GW requires around \$50 billion in capital investment, they are targeting well over \$1 trillion in total capex over the next several years.⁵ By any measure, that is a meaningful sum.

How much is too much? AI investment is currently around 1% of GDP. In prior general purpose technology investment cycles (e.g., electricity, railroads, communications), investment peaked at 2%-5% of GDP.⁶ As impressive as the AI investment boom has been, the historical precedent suggests that it could still double from here.



Sovereign initiatives, such as the \$500 billion U.S. Stargate project and Europe's 200 billion euro (\$232 billion) InvestAI program, alongside similar efforts in the United Kingdom, Saudi Arabia and Korea are adding global momentum to the AI acceleration. Chinese policymakers have encouraged banks and local governments to direct financing for AI technology and innovation, and Chinese researchers captured 40% of global AI citations in 2024, four times more than the United States or the European Union (EU).⁷

Adoption of AI is broadening across the economy, and consumers are leading the way. ChatGPT boasts over 700 million monthly active users who send 18 billion messages per week.⁸ Businesses are moving more slowly, but we think that adoption will continue. U.S. business surveys show AI integration rising steadily, with 10% of firms reporting they now use AI to produce a good or service. According to an alternative AI adoption index from Ramp, a financial technology company that provides corporate expense services, nearly 45% of businesses already pay for LLM subscriptions.⁹ Over 300,000 enterprises are customers of Anthropic.¹⁰ The earnings of hyperscalers (companies that provide cloud computing technology at scale) point to sustained demand for inference (actual use of AI models).

However, the dominance of the AI theme in public and private equity markets has sparked an incessant debate over whether we are in a bubble.

³ Empirical Research Partners. *The Hyperscalers: Making the Jump to Hyperspace?* August 11, 2025.

⁴ J.P. Morgan Asset Management. *Is AI already driving U.S. growth?* September 12, 2025.

⁵ Puck. *OpenAI's Fuzzy Math.* October 1, 2025.

⁶ Goldman Sachs. *The AI Spending Boom Is Not Too Big.* October 15, 2025.

⁷ Digital Science. *DeepSeek and the New Geopolitics of AI: China's ascent to research pre-eminence in AI.* July 10, 2025.

⁸ NBER. *How People Use ChatGPT.* September 2025.

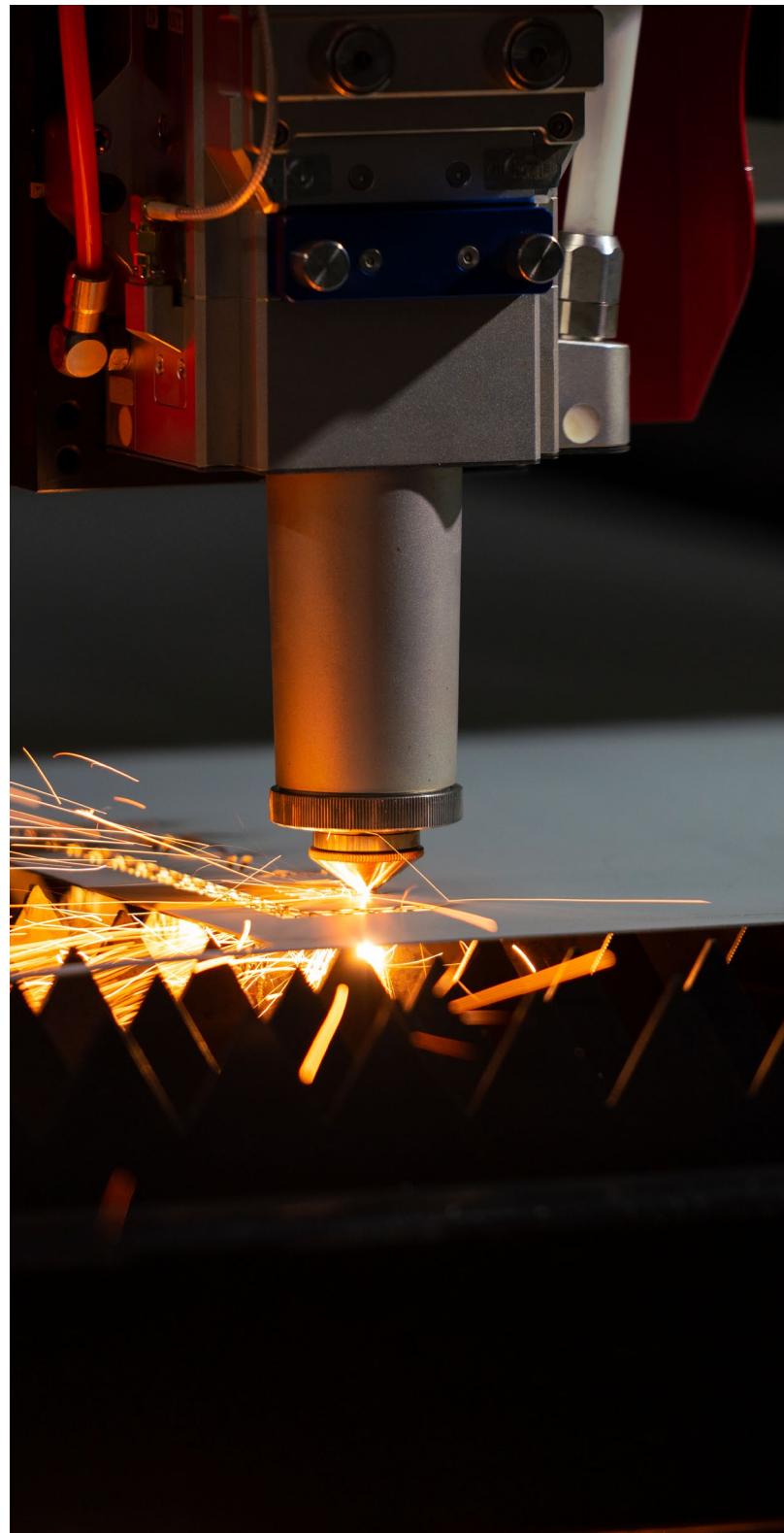
⁹ Ramp. *Ramp AI Index.* September 2025.

¹⁰ Anthropic. *Expanding our use of Google Cloud TPUs and Services.* October 23, 2025.

How will we know if the boom is about to become a bust?

Is AI a bubble? The question is on everyone's minds. Today, nearly 40% of the S&P 500's market cap feels the direct impact of perceptions or realities related to AI usage, investment, infrastructure construction and productivity gains. Whether to the upside or to the downside, AI will almost certainly be the most important driver of public equity market returns over the next few years. To feel comfortable allocating capital to stocks, we must feel confident that we are not about to see a bubble burst.

Market and economic bubbles follow a consistent narrative. Most bubbles start because of an investor thesis that the world is changing – undergoing a paradigm shift. Believers build capacity to meet future demand. The bubble begins to form in part because credit is widely available. Decaying underwriting standards and increasing leverage cause a disconnect between economic fundamentals and market valuations. More and more investors join the crowd – until fundamentals finally prevail and the bubble bursts.



Once we've established a pattern to assess irrational exuberance, we can use it to evaluate the AI trade. Here is how we think AI now stacks up relative to five key elements:

1

2

A paradigm shift

Bubbles often emerge from an idea that a new technology, demographic trend or policy shift will profoundly change the world. Notable historical examples include the railroad boom in the 1840s and the internet boom in the late 1990s. Those transformations did indeed change the world, but timing matters. From 1843 to 1853, railway miles in the United Kingdom nearly quadrupled, but railway revenue per mile was flat to down.¹¹ By mid-2001, telecom companies had installed 39 million miles of fiber, but only 10% of those fibers were lit, and each lit fiber was utilizing just 10% of the wavelengths available.¹²

Both the railroad and internet booms featured tremendous excess capacity – capacity that was not justified by concurrent consumer demand or unit economics. Today's AI story certainly features the rhetoric and investment you would expect to see during a paradigm shift. But we do not yet see excess capacity. Data center vacancy rates are at a record low 1.6%, and three-quarters of data center capacity under construction are pre-leased.¹³ Across the computing, power and data center value chain, components are scarce relative to demand. And the latest earnings season confirms that AI use is driving revenue growth for the largest companies.

Abundance and availability of credit

Bubbles expand because cheap, speculative capital drives prices ever higher. In the 17th century, Amsterdam's deep credit markets fueled Tulip Mania, while the Japanese asset bubble of the 1980s relied on bank loans collateralized by artificially inflated corporate equity values. The housing bubble that preceded the Global Financial Crisis (GFC) was inflated by subprime mortgages, securitized in an interconnected "shadow banking" sector. In the 2010s, an energy stock bubble formed as oil producers accessed inexpensive financing made possible by policy rates pinned at zero.

Oracle's recent foray into debt markets signals that the next phase of the AI infrastructure cycle will rely more on credit. The deal was 5x oversubscribed, and we think public markets will be willing to finance the largest tech companies, which all have tighter spreads than the broad investment grade index.¹⁴ As the Fed rate-cutting cycle progresses, credit seems likely to finance more AI investment. This could well happen, given low leverage in the large-cap equity space and over \$500 billion in private credit dry powder.¹⁵

¹¹ University of Minnesota. *The railway mania of the 1860s and financial innovation.* March 3, 2024.

¹² The Optical Society. *Boom, Bubble, Bust: The Fiber Optic Mania.* October 2016.

¹³ CBRE. *North America Data Center Trends H1 2025: AI & Hyperscaler Demand Lead to Record-Low Vacancy.* August 19, 2025.

¹⁴ Morningstar. *Why Oracle's 'jumbo' AI-fueled bond deal is so unusual.* September 25, 2025.

¹⁵ Empirical Research Partners. *Private Debt: A Game Changer?* April 29, 2025.



3

Increasing leverage and decaying underwriting standards

Bubbles typically expand as financial structures magnify gains and obscure risk. The South Sea bubble¹⁶ featured debt-for-equity swaps; the pre-1929 crash years roared with margin buying. More recently, special purpose acquisition companies (SPACs) expanded via redemption puts and free warrants. In the AI arena, financial innovation and engineering are accelerating.

Among recent examples: Companies such as Lambda and CoreWeave have issued debt collateralized by their high-end GPUs,¹⁷ and Alibaba recently announced a zero-coupon convertible security to fund data center investment. In terms of financial engineering, technology sector debt and data center-related asset-backed and commercial mortgage-backed security issuance have bounced back to levels last seen in 2020 and 2021.¹⁸ But these are relatively straightforward features of capital markets. If the hyperscalers decided to lever their balance sheets to 2.8x net debt to EBITDA (the median for an investment grade company), it could result in an additional \$1 trillion of capital to spend.

One could also argue that the “circular” investments from the AI supply chain could be an example of financial engineering. These deals (in which key industry players buy and sell from one another using equity and computing power as currency) certainly increase risk. But they could also create a more symbiotic ecosystem with more competition for both hardware and software that could lead to a more balanced landscape.

We are searching for signs that underwriting standards are deteriorating, whether for power purchase agreements or for private equity and venture investments. To date, aggregate cash flows from operations still exceed capital expenditures and dividends for the major players. Leverage will likely continue to grow as AI investment continues, but AI spending today is fueled by cash flows.

¹⁶ In 1720, shares in the South Sea Co. crashed, part of the first international stock market crash.

¹⁷ Graphics processing units, an electronic component.

¹⁸ Penn Mutual Asset Management. *Pricing the Infrastructure Boom: Data Center Trends in Structured Markets*. October 9, 2025.

4

A gap between valuation and cash flows

In every bubble, valuations increase beyond what fundamentals, cash flows or use cases alone would justify. During the dot-com bubble, companies went public with no revenues. Cisco's stock price increased by 40x from 1995 to 2000, while its earnings grew by just 8x. Today, we are seeing pockets of froth in private markets. Unicorns – private companies with greater than \$1 billion in market cap – are now worth nearly 12% of the Nasdaq; that share is close to its peak in 2021.¹⁹ And the valuation growth of AI startups has consistently outpaced that of non-AI companies across every series. For example, the median Series B step-up is 2.1x for AI startups versus 1.4x for non-AI startups. AI companies command median valuations that are 56% higher at Series C and 230% higher at Series D+ than non-AI companies.²⁰

But in the public markets, AI companies have generated their returns entirely through earnings growth. Over the last three years, the forward price-to-earnings (P/E) multiple of publicly traded AI stocks has declined while earnings per share (EPS) estimates have more than doubled. Over the past five years, Nvidia's stock price increased 14x, while earnings grew 20x.

5

A feedback loop driven by speculation and broad participation

Every bubble attracts new participants convinced that rising prices are a self-fulfilling prophecy. Dutch artisans bought tulip bulbs for multiples of their annual incomes, and Las Vegas bartenders flipped houses in 2005. Recent initial public offering (IPO) performance suggests more signs of froth. Exuberance is building, but it would need to reach much higher levels before we would grow more cautious.

When we consider the evidence, it seems clear that the ingredients for a market bubble are present. That said, we think the risk that a bubble will form in the future is greater than the risk that we may be at the height of one right now.

Moving past the AI bubble debate, here's the more important question for investors to ask: Who will ultimately capture the value from this technological transition? Unfortunately, history provides no clear pattern for which companies will ultimately capture the value of technological transitions.

In some instances, such as U.K. railways, fiber optic cables and telecoms, the first movers suffered painful drawdowns only to see new entrants capitalize when asset prices had collapsed. On the other hand, first movers in the information technology transition (e.g., IBM, Microsoft, Cisco and Amazon) were able to capture and retain market share even as other entrants capitalized on the ecosystem that developed. U.S. electric utilities maintained market share, but regulations ended up curtailing the ultimate return to investors.

¹⁹ Coatue. October 2025.

²⁰ PitchBook. *VC Valuations and Returns Report*. August 11, 2025.

In 2026, we believe, AI will bring notable disruption, with consequences across the economy. As we discuss in the following section, AI will likely have a more visible impact on the labor market, and some existing “software as a service” and other tech companies may feel more of the AI “sting.” But disruption can also bring tremendous opportunity. **The biggest risk, to us, is not having exposure to this transformational technology.**

WATCHING THE IPO MARKET FOR SIGNS OF EXUBERANCE

Performance of recent IPOs, %



Sources: J.P. Morgan, Bloomberg Finance L.P. Data as of October 31, 2025.
Note: Basket rebalanced monthly by J.P. Morgan Investment Bank to capture recent U.S. IPOs.

AI and labor market churn: Old jobs lost, new jobs born

How might AI technology impact the labor market? This story, too, has only just begun. Some 71 million U.S. knowledge workers (average annual salary around \$85,000) represent a roughly \$6 trillion addressable market. Some estimates suggest over 60% of jobs in developed markets are vulnerable to upheaval from AI technology.²¹ In many ways, investors value AI precisely because it has the potential to disrupt the labor market.

While a few dire forecasts envision unemployment spiking as high as 20%, history argues for a less grim and ultimately more optimistic path.²² Major technologies rarely cause lasting mass unemployment; they slash the cost of key inputs, unlock new demand and create new roles.

Steam displaced weavers and canal workers but dramatically increased textile output and inland trade. That generated new jobs in mining, rail and urban services. Computing automated clerical tasks, but cheaper information processing enabled the credit card and airline businesses to grow, spawning new professions (programmers, financial analysts) and pushing productivity higher throughout the economy. Mechanized agriculture decimated farm employment but delivered cheaper food and catalyzed urban migration.

According to a study by economists at MIT, more than 60% of today's U.S. job occupations didn't even exist in 1940.²³ New technologies explain much of that change. Through each successive technology transition, aggregate demand increased and the economy created jobs that didn't previously exist.

Over the near term, we think AI will enhance more jobs than it automates or eliminates. Essentially, a job is a collection of disparate tasks. Some tasks will be automated by AI, while others could be strengthened. An optimist would argue that productivity gains from AI could offset weaker population growth trends in the developed world.

To harness the full power of AI, companies will need to re-architect their data systems and infrastructures. Those are gradual processes. Current research suggests only a small share of jobs could be automated immediately. Certainly, humans will retain enduring advantages – common sense, causal reasoning, emotional intelligence, high-stakes judgment, adaptive learning and intrinsic motivation among them – for some time.

We see limited evidence that AI has yet impacted the labor market. Today, unemployment rates in the sectors most exposed to AI disruption are lower than unemployment rates in more insulated sectors. At the same time, both academic estimates and corporate anecdotes suggest that AI adoption has increased labor productivity by around 30%²⁴ for firms that have adopted the technology.

The early returns on the promise of higher productivity are encouraging, but investors need to also consider the limits to the AI expansion.

²¹ IMF. *AI Will Transform the Global Economy. Let's Make Sure It Benefits Humanity.* January 14, 2024.

²² Axios. *Behind the Curtain: A white-collar bloodbath.* May 28, 2025.

²³ Quarterly Journal of Economics. *New Frontiers: The Origins and Content of New Work, 1940–2018.* March 15, 2024.

²⁴ Goldman Sachs AI Adoption Tracker 2025Q3. September 8, 2025.

What are the potential limits to AI expansion?

The most pressing limit to the AI expansion is power. In the United States, companies face a five-year backlog in adding new power generation to the existing grid. Some 70% of regional power markets are already strained, and power demand is set to grow by 662 terawatt-hours through the end of the decade. This is more than the annual power generation of Texas and California combined.²⁵

Accelerating demand growth will bump up against aging infrastructure: 70% of power transmission lines are over 25 years old.²⁶ Power investment will become more critical as policymakers increasingly view AI as a matter of national security. For example, China recently broke ground on a \$167 billion hydropower project that will have a larger power-generating capacity than Poland.

Data centers require reliable, accessible power, making natural gas a critical baseload source. In part because it takes a relatively long lead time (around five years) to produce a natural gas turbine that could supply a data center, we believe renewables (which could take only one year) will also help power data centers in the coming years.

However, industry's extended reliance on fossil fuels will likely push carbon emissions above previous forecasts in developed markets. This heightens the risk of warmer global temperatures and more frequent extreme weather events. These dynamics are creating investment opportunities in commodities, particularly those critical minerals tied to the energy transition, power generation and infrastructure.

Water (needed for data center cooling) is emerging as a factor for investors to watch. It is part of a

broader story in which limited resources and AI-related issues may constrain data center expansion. Phoenix, for example, recently updated its zoning ordinance to define data centers as their own category so that developers must address health and safety concerns before permitting and construction can begin.²⁷ High-profile projects from Amazon in Tucson and Google in Indianapolis have been canceled in the wake of local opposition related to water use and power price inflation.²⁸

Data privacy remains a persistent challenge, and "intelligent" AI solutions only increase the risks. Regulators will likely take notice as AI models improve and start to appear in the physical world (e.g., autonomous vehicles and robotics). Debates about resource scarcity, privacy and safety will likely shape public sentiment and policy around AI in ways that can create and destroy financial value.

For investors, we believe a focus on strong stakeholder engagement and effective governance can help mitigate the risk of portfolio losses.

In our view, physical, social and political constraints on the AI expansion should act as a moderating influence, helping to restrain excess investor euphoria and giving labor markets more time to adjust to potential disruption.

²⁵ EIA, Goldman Sachs Investment Research. June 2025.

²⁶ The White House. *Fact Sheet: The Biden-Harris Administration Advances Transmission Buildout to Deliver Affordable Clean Energy*. November 18, 2022.

²⁷ City of Phoenix. *City of Phoenix Updates Zoning to Safeguard Health and Safety as Data Center Growth Accelerates*. July 2, 2025.

²⁸ City of Tucson. *Project Blue - Facts and Information*. September 2025. Axios. *Google pulls data center project amid opposition*. September 23, 2025.

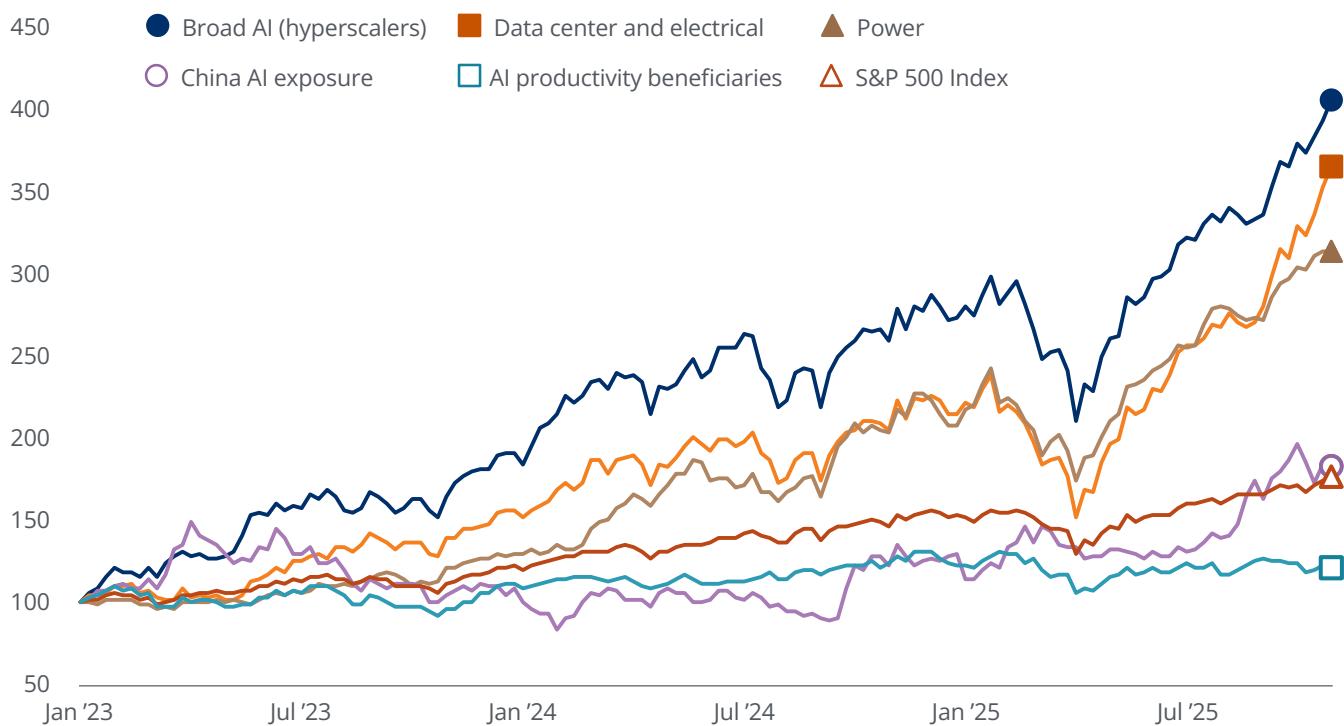
Crafting a four-part strategy to capture value

While we assess the risk of an AI bubble, we are honing a four-part strategy to capture AI's potential investment value. So far, the biggest market winners have been the hyperscalers, data center and electrical infrastructure companies and power providers. Companies that seemed poised to benefit from AI-driven productivity gains have notably lagged the big tech movers. In addition, the balance has shifted between the U.S. and non-U.S. tech sectors. In 2025, Chinese tech stocks surged approximately 34% as investors realized they weren't nearly as far behind their U.S. competitors as previously believed.

In 2026 and beyond, our strategy aims to manage these shifts, seize the investment opportunities and mitigate the risks in the ongoing AI race.

WHO IS WINNING THE AI RACE – AND MIGHT TODAY'S LAGGARDS PICK UP THE PACE?

Price return, index 100 = January 2023



Sources: Bloomberg Finance L.P., J.P. Morgan, Goldman Sachs Investment Research. Data as of October 31, 2025.

Past performance is no guarantee of future results. It is not possible to invest directly in an index.

1

Keep the focus on large-cap leaders

The first part of our strategy focuses on the broad technology sector's large-cap leaders. While some doubt that hyperscalers will ultimately realize a strong return on investment from their capital investments, we are generally optimistic. In part, that's because the four original hyperscalers (Microsoft, Meta, Alphabet and Amazon) are already growing earnings at about a 20% annual pace. Once you adjust for their growth, their valuation premiums seem justified.

They are also not a monolith. For example, analysts expect that 2026 free cash flow at Microsoft and Google will exceed 2024 levels after falling in 2025. On the other hand, analysts do not expect Amazon and Meta to recover their 2024 free cash flow profiles. In choosing to borrow to fund its latest deals, Oracle decided that negative free cash flow is a price worth paying to enter the AI competition.

As a collective, they are already generating an estimated \$25 billion in incremental quarterly revenue from AI activity, and we believe that number could be growing at a 200% year-over-year pace. If the hyperscalers can continue to escalate their cloud computing revenue gains, investors will likely tolerate the companies' lower free cash flow yields.

Eventually, we expect, the AI boom will create a new generation of tech leaders (that is the pattern in virtually all innovation cycles). Still, we don't think 2026 will be the year when today's market leadership will falter. In fact, we think the largest companies will continue to outperform the smaller ones. The top 100 stocks in the U.S. market generate three-quarters of total earnings, have 1.7x the return on invested capital and 1.8x the free cash flow margin of the remaining large-cap stocks.²⁹

2

Find opportunity in the AI supply chain

The second part of our strategy highlights enablers of AI technology. These firms provide the key inputs (power, semiconductors, connectivity, cooling systems and commodities) to deliver the computing power needed by AI.

As we've discussed, power is perhaps the most important and scarce input – especially as reasoning models become the norm. According to a study from the University of Rhode Island, GPT-5 consumes 2.5x the energy per prompt as GPT-4.³⁰ We are finding interesting investment opportunities across public markets (e.g., utilities and industrial producers of electrical equipment) and private markets (in power-focused infrastructure funds, for example).

Meanwhile, demand for semiconductors still outstrips supply. Nvidia's Blackwell chip is expected to sell out over the next 12 months, while companies in the global supply chain (e.g., hyperscalers, Micron, SK Hynix, Samsung and TSMC) have emphasized capacity constraints on their earnings calls.³¹ Although power and semiconductors are the most obvious places to look for opportunity, we see similar dynamics in transformers, networking equipment, fiber and subsea cables, and liquid cooling systems. In the physical world, extracting resources, including rare earth metals, and securing valuable land and water rights could be lucrative.

²⁹ Empirical Research Partners. *The Hyperscalers: Making the Jump to Hyperspace?* August 11, 2025.

³⁰ University of Rhode Island. *How Hungry Is AI?* October 31, 2025.

³¹ Barron's. *Nvidia Stock Rises After Management Says Blackwell Is Sold Out for 12 Months.* October 10, 2024.

3

Identity the 'smart' corporate users of AI

Third, we want to find businesses that are successfully deploying AI to grow revenue and profits. For example, the cloud businesses of Microsoft and Google grew four percentage points faster in Q2 2025 than in Q1 2025.³² Nearly two-thirds of U.S. equity market cap is in the top two quintiles of AI adoption. In Europe and Japan, that share is closer to 50%.³³ Said differently, the current crop of winners is likely to compound their gains due to faster, more efficient integration of AI into existing workstreams and business models. Here, the United States seems to have a lead over other developed equity markets.

Conversely, the market is starting to punish heritage software-as-a-service companies that are not capturing enough value from AI-enhanced products. While the broad software index has gained 17% over the last year, half of the stocks in the index have fallen. That dichotomy underscores the value that a good active manager can provide in picking AI software winners and losers.

4

Make sure you consider private exposure

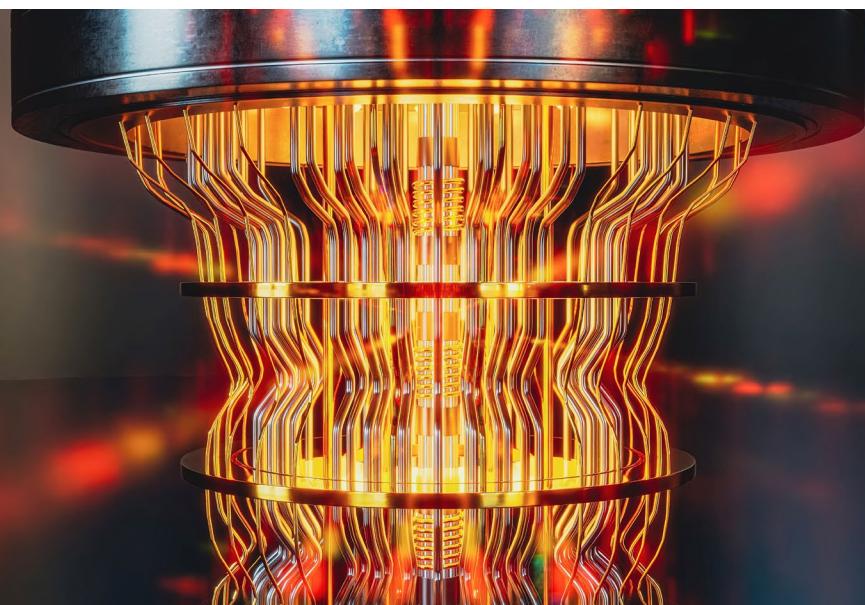
In the critical last part of our four-part value strategy, we look to private markets to capture the full investment potential of AI. Already, the top 10 private AI companies are collectively worth about \$1.5 trillion.³⁴ If they were publicly held, the companies would account for about a 3% share of the S&P 500.³⁵ For context, the entire U.S. public small-cap market is only worth \$3 trillion. AI is following a familiar innovation arc as earlier tech innovation cycles – starting with infrastructure and moving toward platforms and applications – but the economics and timing of value capture are changing. A key part of that story: the new roles of public and private markets in capital formation and allocation.

³² Cloud Wars. *Google Remains World's Hottest Cloud Vendor; Oracle Rising, Microsoft Surging*. September 16, 2025.

³³ Empirical Research Partners. *AI-merican Exceptionalism*. May 2025.

³⁴ PitchBook.

³⁵ As of September 30, 2025.



Private players, AI innovators in venture capital and private equity

Private markets will likely play a very different part in the AI boom when compared with past tech cycles.

In prior cycles, such as the internet boom that began in the late 1990s, companies launched IPOs in their early years. This allowed public market investors to participate in the most lucrative phases of a company's growth trajectory. Today, that dynamic has shifted. Businesses are staying private longer, supported by abundant private capital and alternative exit options. The median tech IPO now occurs when the company is roughly 14 years old with revenues near \$220 million. In the 1990s, the median tech IPO occurred when the company was eight years old and reported revenues worth \$44 million in today's dollars.³⁶

This matters because the next wave of AI value creation is still in its formative stages. It includes agentic AI systems (software that can autonomously pursue goals, act and complete tasks), as well as vertical industry applications, AI-enabled software and other ideas that are just taking shape. These opportunities require strategic capital to fund long research and development (R&D) cycles and scale adoption, making them well suited for private market investors such as venture capital and growth equity firms.

The public market investor has largely captured the rise in value in the infrastructure wave, through semiconductor and cloud companies. The application and platform companies – where we expect the majority of value to accrue – could remain private through the end of the decade.

Consider the "Magnificent 7" of private markets (OpenAI, SpaceX, Bytedance, Anthropic, Databricks, Reliance Retail and Stripe). All have reached a \$100 billion valuation while in the private markets.³⁷ In today's dollars, only Meta of the Magnificent 7 was valued at over \$100 billion when it went public. Media reports suggest that investors expect OpenAI to generate \$200 billion in revenue in 2030, while cash burn will peak in 2028 at around \$45 billion.³⁸

As we show in the accompanying charts, we analyzed the value created by different types of companies across the internet and cloud technology cycles, and compared that to the AI cycle so far. We found that platform technology companies (e.g., Google and Microsoft) and application layer companies (e.g., Facebook, Netflix and Uber) capture more value than the physical or digital infrastructure companies. Further, more value is created in private markets in the application and technology phases than in the infrastructure phases.

A few high-profile, privately held companies (e.g., OpenAI) are already well known and well funded. Beyond those names, we see a number of young, privately owned businesses with tremendous potential in the platform technologies and applications that we believe will define the age of AI.

While the promise of the private markets is clear and compelling, it comes with more acute risks and more disparate outcomes than diversified public market investing. Manager selection and access are especially crucial in private market AI investing, territory that is growing increasingly crowded. One illustrative statistic: AI investment has accounted for over 60% of venture capital investment over the last 12 months.³⁹

³⁶ University of Florida. *Initial Public Offerings: Median Age of IPOs Through 2024*. June 3, 2025.

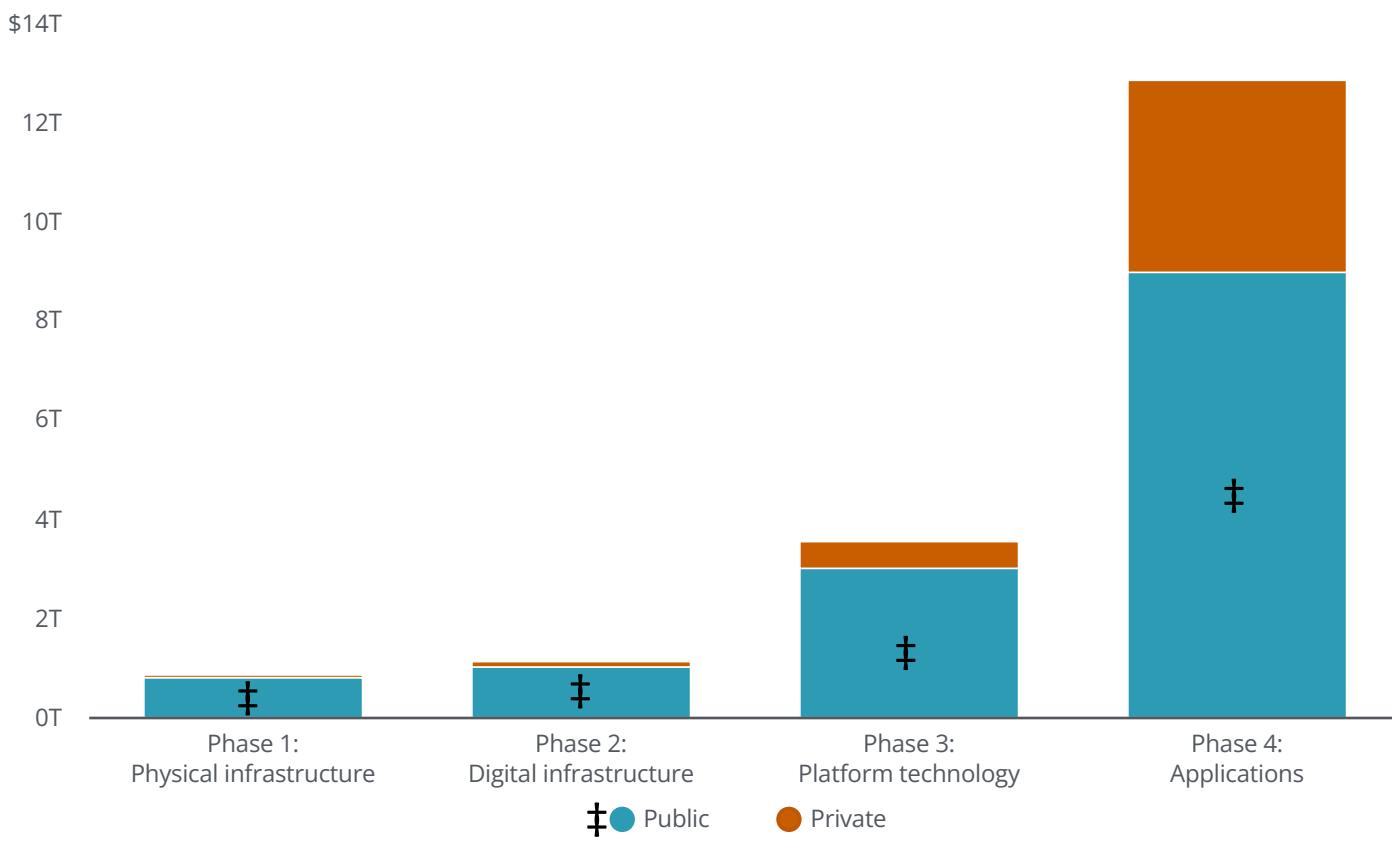
³⁷ PitchBook.

³⁸ Data Center Dynamics. *OpenAI plans to spend \$100bn on backup cloud servers over five years - report*. September 19, 2025. The Information. *OpenAI Says Its Business Will Burn \$115 Billion Through 2029*. September 2025.

³⁹ PitchBook. *Investors are plowing more money into AI startups than they have in any other hype cycle*. September 29, 2025.

IN THE INTERNET/CLOUD CYCLE, VALUE ACCRUED TO PUBLIC MARKETS IN EARLIER PHASES WHILE PRIVATES HAVE PLAYED A LARGER ROLE IN THE APPLICATION LAYER

Estimated cumulative value creation, \$ trillions, 1995–2020

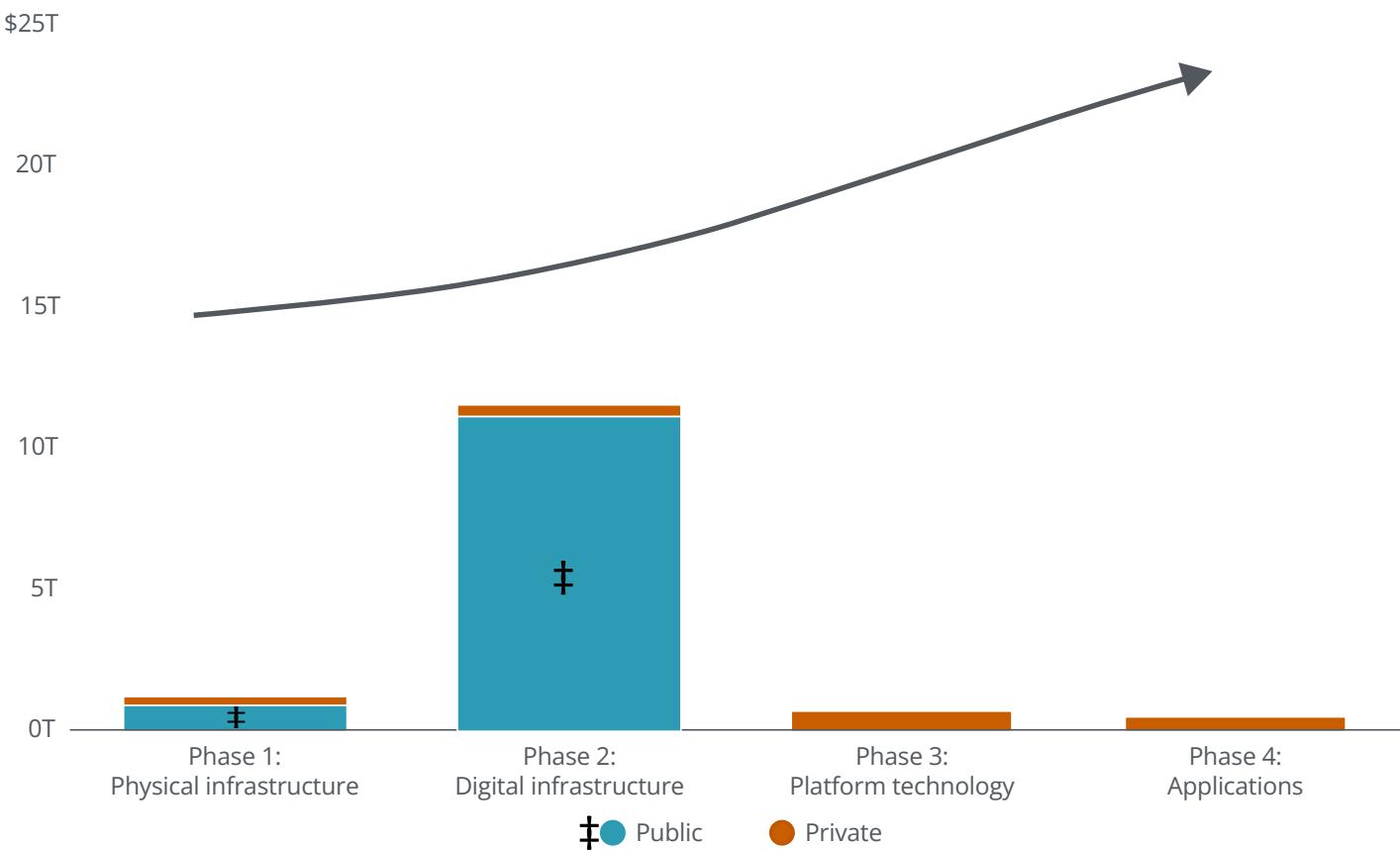


Sources: J.P. Morgan Private Bank, Bloomberg Finance L.P., Company reports. Data as of September 2025. Value creation indicative of value accrued to companies.

Physical infrastructure refers to foundational physical assets (e.g., major telecom players), digital infrastructure refers to core hardware/networking (e.g., semiconductors, servers, routers), platform technology refers to enabling software/services (e.g., search, operating systems, cloud), and applications refers to end-user products/services (e.g., e-commerce, social media, streaming). Value creation estimated by public companies' peak market capitalizations of key companies in each stage of the internet/cloud cycle. The split between public/private derived by a top-down estimate informed by private companies' value creation estimated from valuations for key companies, where available, and blended forecasts from historical reports. Examples of companies included: physical infrastructure (AT&T, Level 3 Communications), digital infrastructure (Cisco, Lucent Technologies), platform tech (Google, Oracle, Microsoft), application (Apple, Facebook, Netflix). Chart meant to be illustrative of value creation across phases, not exhaustive.

IN THE AI CYCLE, VALUE HAS ACCRUED TO THE INFRASTRUCTURE PLAYERS, BUT WE BELIEVE WE ARE ENTERING THE PLATFORM TECH/APPLICATION PHASES

Estimated cumulative value creation, \$ trillions



Sources: J.P. Morgan Private Bank, Bloomberg Finance L.P., Company reports. Data as of September 2025. Value creation indicative of value accrued to companies. Physical infrastructure refers to foundational physical assets (e.g., power, data centers), digital infrastructure refers to core hardware (e.g., semiconductors), platform technology refers to enabling software/services (e.g., LLM, APIs), and applications refers to end-user products/services (e.g., AI copilots, AI-enabled software). Physical infrastructure based on change in market capitalization of global utilities and key data center REITs since launch of ChatGPT in November 2022. Digital infrastructure based on change in market capitalization of global semiconductors and key hyperscalers (Amazon, Meta, Alphabet, Microsoft) since launch of ChatGPT in November 2022. The split between public/private derived by top-down estimate informed by private companies' value creation, where data is available. Platform technology incorporates latest reported valuations of key companies such as OpenAI, Anthropic and xAI. Application layer incorporates latest reported valuations of key companies such as ByteDance, Revolut, Databricks. Chart meant to be illustrative of value creation across phases, not exhaustive.



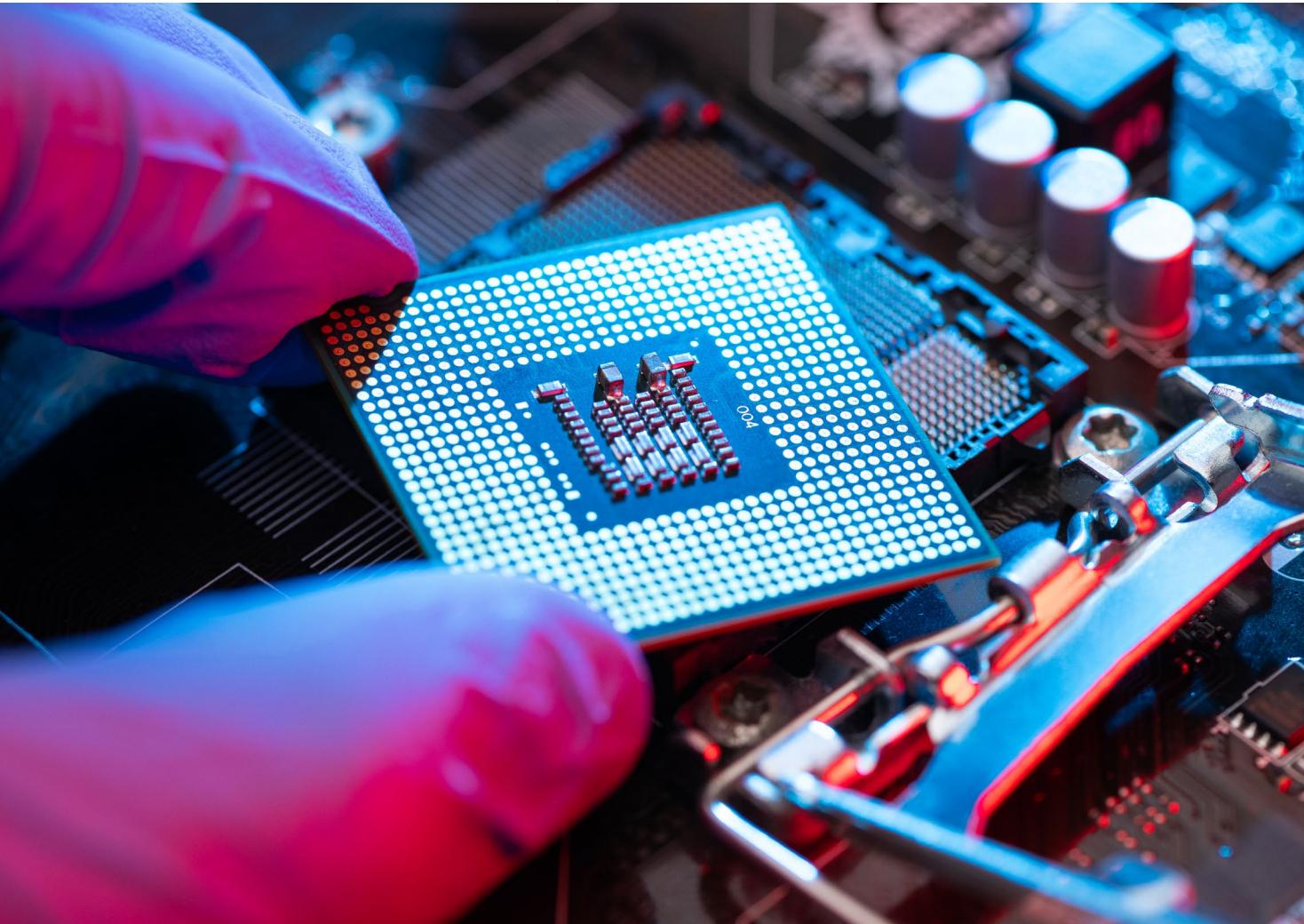
Implications for investors

The ingredients are certainly in place for a market bubble to form, but for now, at least, we believe the rally in AI-related investments is justified and sustainable. Capex is massive, and adoption is accelerating.

We continue to look for opportunity across the AI value chain in public and private markets. Active management will be critical to avoid the business models that will be made obsolete. Within portfolios that we oversee at the Private Bank, the information technology sector has been a consistent overweight in recent years. Today, our sector exposure is diversified globally, and we continue to identify interesting prospect opportunities across semiconductors, hyperscalers and AI beneficiaries.

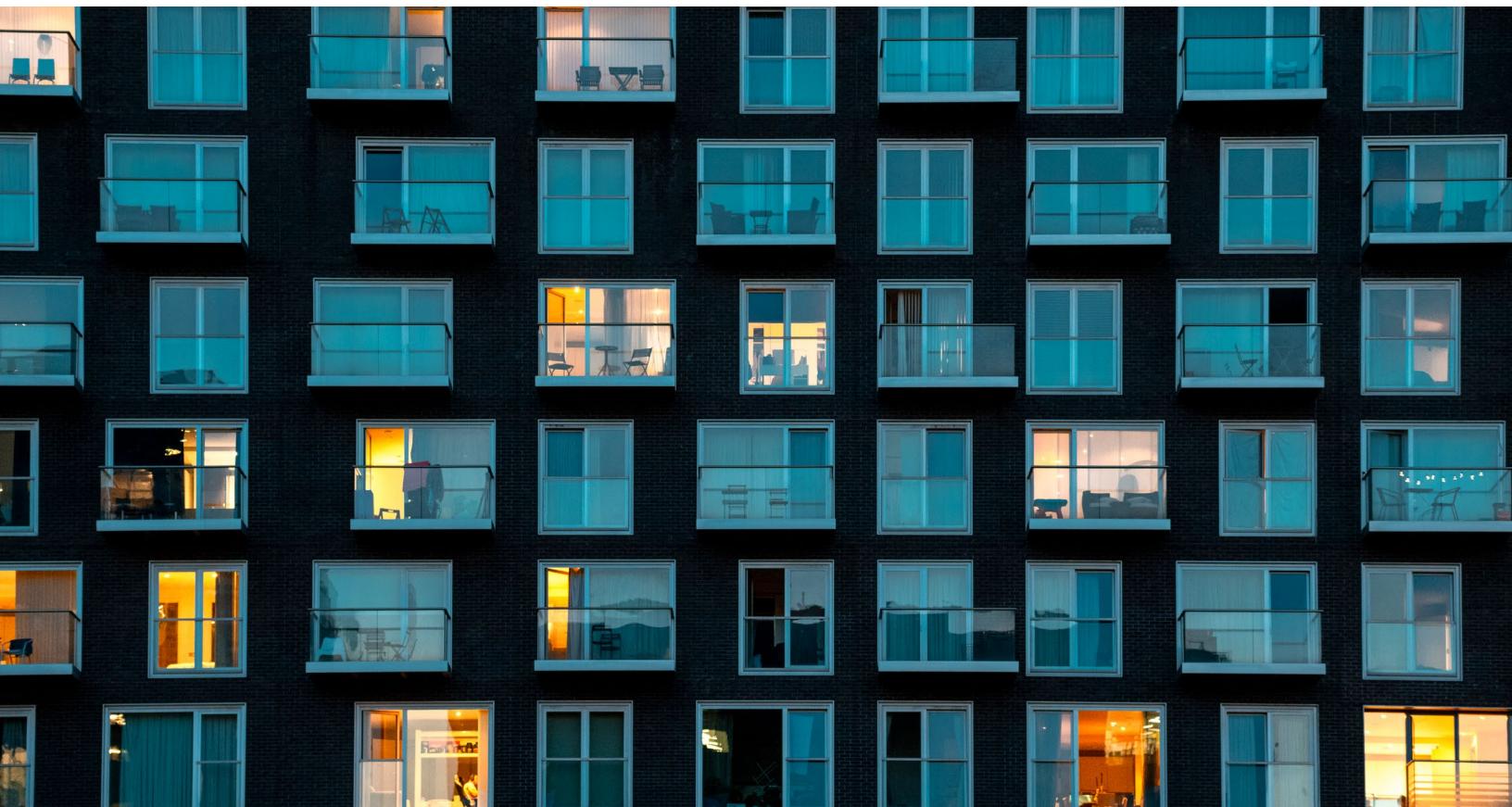
We remember, too, that technological transformations do not follow linear paths. We expect acute labor market pain in exposed areas such as customer service and coding, and for existing business models to be pressured by new entrants. Understanding your portfolio's current tech exposure is also essential: Technology and tech-related sectors now account for nearly half of the S&P 500's total market cap. Portfolio rebalancing may be in order.

AI has delivered handsomely for investors, but now we must consider a phase in which froth is building and disruption could have consequences. Aim to capture the upside of the AI revolution while managing the risks of overexuberance.



Part 2

Think
fragmentation,
not globalization



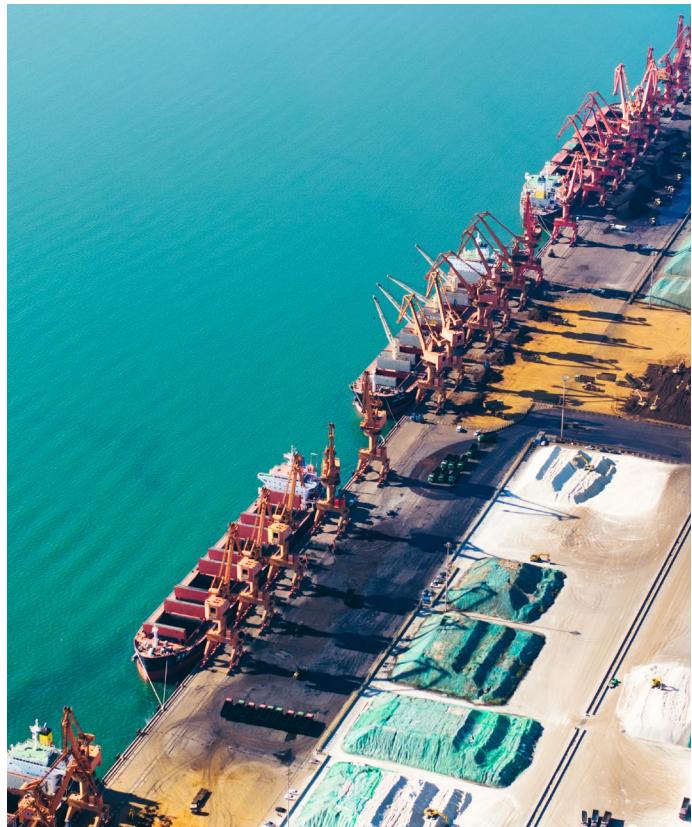
The second powerful force driving markets today – global fragmentation – upends an era that was characterized by three key interconnected anchors: the post-Bretton Woods dollar system that standardized global finance; the peace dividend from the end of the Cold War that kept security risks and defense outlays low (outside of the “war on terror”); and globalization that optimized supply chains for cost, not individual economies’ resilience.



Global fragmentation has implications for trade, security and currency. It's a significant regime change for markets, and it will be critically important for investors to assess its potential impact.

In place of globalization and peace, today's investors are encountering war in Europe, tariffs, tech controls and bloc formation. As these blocs fracture and form, currency and reserve diversification will be a focus. We note that while the U.S. dollar remains the dominant reserve currency – and in our view will keep that status for the foreseeable future – investors may well continue to marginally reduce their U.S. dollar holdings as they diversify their currency exposures.

The U.S. dollar will likely face more frequent tests from strategic adversaries, alternative payment methods and market participants' desire to settle commodity trades in other currencies. Investors should look for investment opportunities where trade (including supply chains) security and energy converge.



Trade: From cheapest origin to rules of origin

We turn first to trade. From 1970 to 2009, global trade as a share of GDP increased threefold, from 20% to 60%, and foreign direct investment soared. This had profound impacts on global markets and the economy: lower inflation, wider profit margins and manufacturing job loss in developed markets. However, global trade as a share of GDP has been stagnant since 2009. And now the Trump administration has introduced the most onerous tariff rates in a century.

Today, tariffs affect nearly 70% of U.S. goods imports by value,⁴⁰ and the effective tariff rate is approaching 15%–20%.⁴¹ We think tariffs (in one form or another) are here to stay, even if the U.S. Supreme Court finds those imposed using the International Emergency Economic Powers Act (IEEPA) unconstitutional.

⁴⁰ Tax Foundation. *Trump Tariffs: Tracking the Economic Impact of the Trump Trade War*. October 27, 2025.

⁴¹ The Yale Budget Lab. *State of U.S. Tariffs: October 30, 2025*.

The tariffs' economic and market impact may be much more manageable than investors feared in April. Inflation has been relatively contained, while consumer spending and corporate earnings have proved resilient. But in many ways, the tariffs and subsequent cross-border deals emphasize or accelerate changes in the trade environment that were already underway. The United States and China continue to decouple, and companies are further reconfiguring their supply chains to focus on security more than efficiency.

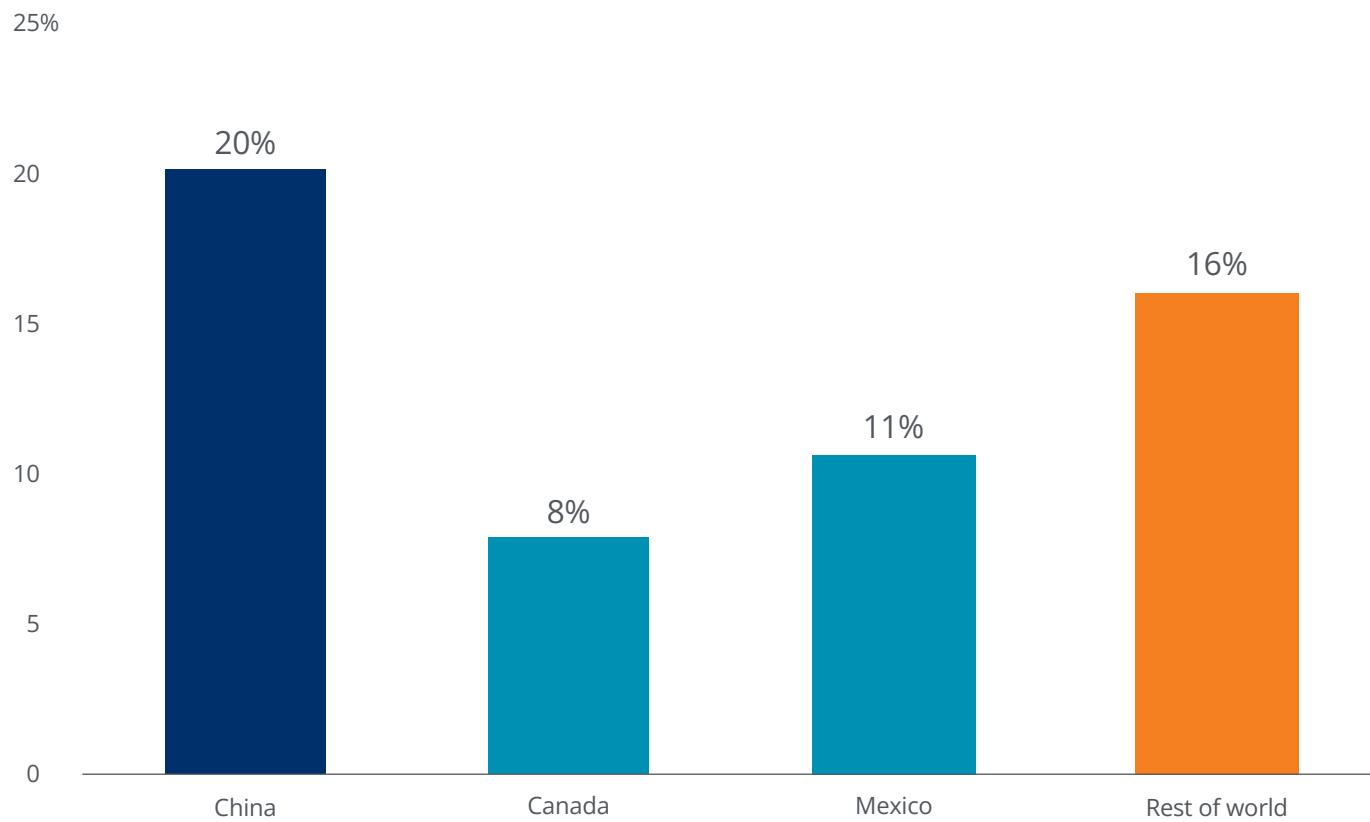
The U.S.-China decoupling began in earnest in 2018 during President Trump's first term. The share of

U.S. imports from China has collapsed from 22% in 2017 to just 12% today, though transshipments may be understating the share of goods with Chinese origins. Similarly, China's share of U.S. Treasury holdings has declined from 14% at their peak in 2010 to around 6% today. Just this year, the effective tariff rate on imports from China has risen by 20%.

As U.S. trade policy becomes clearer, the North American trading corridor is receiving renewed attention. The rise in effective tariff rates on Mexican and Canadian goods is far lower than other countries, especially China.

THE WHITE HOUSE SEEMS TO BE CARVING OUT A NORTH AMERICAN TRADING BLOC

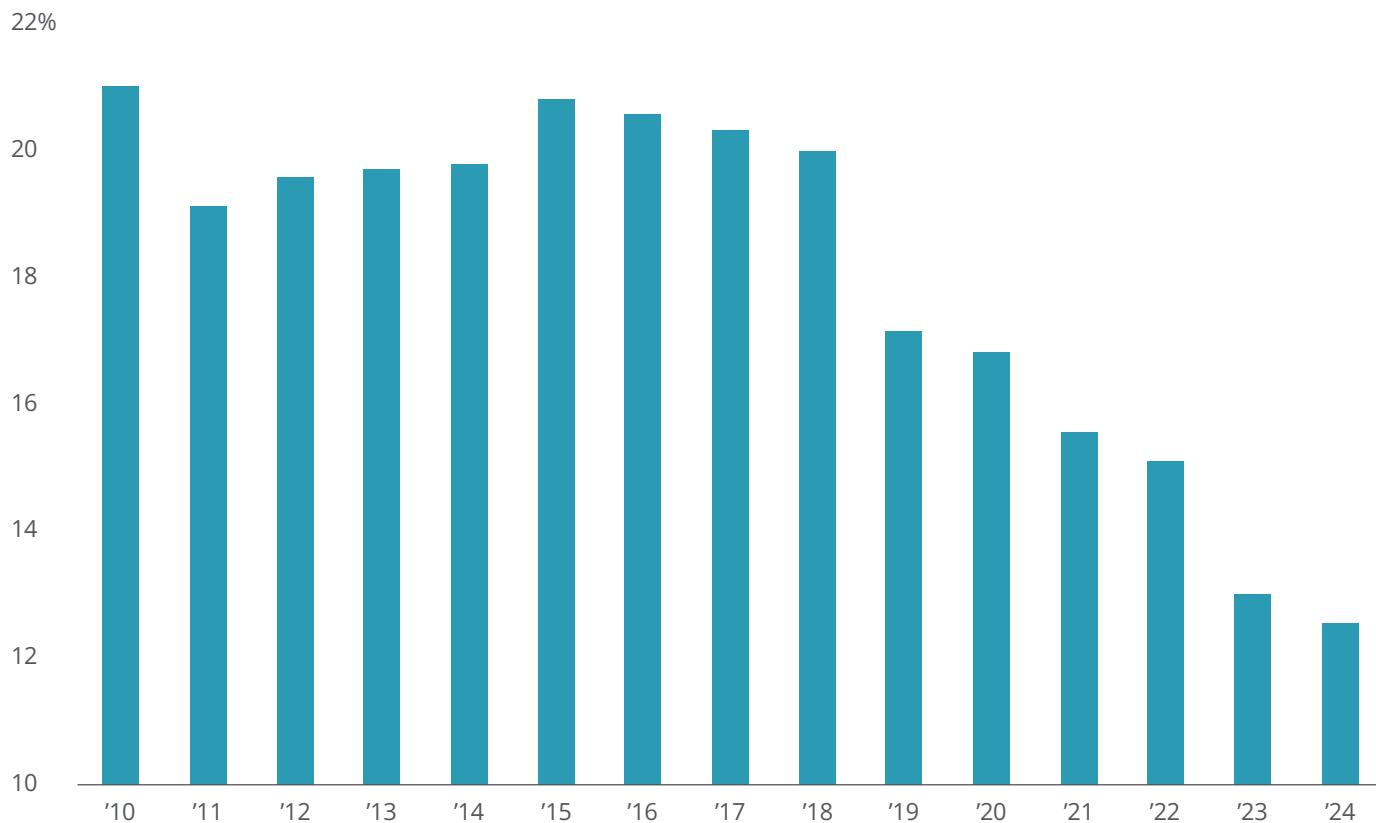
2025 change in effective tariff rate, %



Source: The Yale Budget Lab analysis. Data as of October 30, 2025.

THE UNITED STATES AND CHINA HAVE BEEN DECOUPLING SINCE 2018

U.S. imports from China as a % of China's total exports



Sources: International Monetary Fund, Haver Analytics. Data as of December 31, 2024.

Today, goods that are compliant with the 2018 United States-Mexico Trade Agreement (USMCA) are exempt from tariffs (although it is currently unclear if that exemption will be affected by the recently threatened additional 10% tariff on Canadian exports). The Trump administration is using other tariff threats as leverage to encourage Mexico and Canada to close transshipment loopholes. Indeed, Mexico recently signaled that it would place a 50% tariff on Chinese autos. Canada already charges a 100% surtax on Chinese electric vehicles (EVs), and a 25% surtax on Chinese steel and aluminum. As the 2026 USMCA review process turns into a full-blown renegotiation, changes such as stricter rules of origin for critical materials will likely help pull key industries such as batteries into the USMCA sphere.

The Port of Laredo on the Texas-Mexico border is the busiest in the United States. It handled \$340 billion in trade in 2024,⁴² and that should grow over time. Despite sometimes bellicose rhetoric from the Trump administration toward Mexico and Canada, we expect the United States will prioritize these trading relationships and find common ground with both trading partners. To that end, Canada announced in August that it was dropping most retaliatory tariffs on U.S. imports. Canada will likely seek to leverage its energy and natural resource advantages to strike a beneficial trade deal with the United States. Mexico, due to its own cost competitiveness and proximity to U.S. markets, could be a top destination for foreign investment.

⁴² Port Laredo. *Tracking Trade, Driving Growth*. December 31, 2024.



In U.S. trade negotiations with Europe and Japan, we expect cooperation where there is mutual benefit and competition where strategic imperatives take precedence. For example, the United States, Netherlands and Japan are cooperating on restricting the export of advanced chipmaking tools to China, and the United States continues to be a key supplier of liquefied natural gas to both Europe and Japan.

Conversely, the United States is imposing a baseline tariff in the mid-teens on European and Japanese imports, and a 15% tariff on the critical automobile industry. Competition will be the likely focus of trade debate in the semiconductor, battery and vehicle sectors. As former European Central Bank President Mario Draghi argued in a widely discussed paper on competitiveness, the energy price gap between Europe and the United States has been a key weakness for the European economy, which the United States has used as a point of leverage in trade negotiations.

The Trump administration hopes to use tariffs to encourage U.S. domestic production of critical goods. In that context, the administration has threatened a 100% tariff on semiconductors unless the companies commit to building or expanding U.S. manufacturing facilities (as TSMC has done in Arizona and Samsung in Texas, to cite two examples). Meanwhile, Panasonic (in Kansas), Hitachi (in Virginia) and Siemens (in North Carolina), among other firms, are expanding their U.S. production of batteries and electric grid equipment.

One recent high-profile deal highlighted U.S. efforts to reduce reliance on cross-border semiconductor supply chains: In August, the U.S. government took a 10% equity stake in struggling U.S. semiconductor maker Intel. Nvidia's subsequent decision to take an equity stake in Intel further emphasized the importance of domestic foundries. Still, reviving U.S. manufacturing is, so far, an aspirational goal. In recent quarters, manufacturing output has been weak, with net manufacturing job losses for each of the past four months.

As companies and countries focus more on the security and reliability of their supplies, and less on their efficiency and cost, we expect to see more announcements of onshoring and near shoring of semiconductor, auto, electrical equipment and defense manufacturing within North America. More government equity stakes in strategically important industries also seem likely, and we won't be surprised if countries outside the United States announce more tariffs aimed at leveling the playing field against Chinese manufacturers.

This shift in trade policy will likely set a higher floor for inflation, as goods now carry a premium for reliability and security. In other words, what once seemed an inefficient trade-off is now a deliberate policy choice: Efficiency has given way to resilience.



China: External influence, internal innovation

We turn next to China. The world's second largest economy is at the center of many global trade policy shifts.

The Chinese government is intensifying efforts to exert the country's geopolitical and economic influence. Beijing has deepened diplomatic and military ties with Russia and North Korea. It is increasingly keen on rebuilding its economic relationship with longtime rival India (which is still reeling from unexpectedly harsh U.S. tariffs).

China seems to be looking to influence what could be a "Global South" trading bloc, one that would clearly exclude the United States and Europe. Chinese money, parts and economic influence can be found in ports in Peru, railways in Ethiopia and cobalt mines in the Democratic Republic of the Congo. In 2025, the BRICs welcomed Egypt, Iran, Ethiopia, the United Arab Emirates and Indonesia to their 11-nation emerging economy bloc. As China is exerting its global influence, foreign direct investment (FDI) into China has turned negative for the first time in decades.

It's too early to assess the long-term impact of the broader trend of global fragmentation, but we can identify some early winners and losers.

Developments in global trade may offer some guidance. China's trade surplus has ballooned to all-time highs even as exports to the United States have fallen. This trend underscores China's continued reliance on exporting excess manufacturing capacity to make up for lagging growth in its domestic markets. Southeast Asia became China's largest export market in 2023, taking over from the United States and Europe.⁴³ That said, corporate earnings have failed to rise along with exports.

CHINA'S EXPORT STRENGTH HASN'T TRANSLATED INTO STRONGER CORPORATE EARNINGS

Index 100 = January 2017



Sources: Michael Cembalest, J.P. Morgan Asset & Wealth Management, China General Administration of Customs, Haver Analytics, Bloomberg Finance L.P. Data as of October 31, 2025.

While conventional wisdom suggests trade redirection could benefit Southeast Asian economies through FDI, increased employment and transfers of technology, the reality is more mixed. Over the last three years, more than 300 anti-dumping trade cases have been filed against China, up threefold from 10 years ago.⁴³ Dumping (which occurs when a producer exports a good to a foreign market and charges artificially low prices) can pressure local producers and raise unemployment – a process that has afflicted U.S. manufacturing for decades.

FDI, while generally welcome, may not have extensive economic impact if most labor and capital inputs are imported from China. This limits demand for domestic inputs and curtails the diffusion of tech skills.

From an investor's perspective, here's the key takeaway: China's pivot to other non-U.S. trading partners may not be a bullish sign for all emerging markets. We prefer to focus on equity markets in countries where independent secular drivers contribute to a strong earnings growth outlook. We believe India's equity market is compelling based on supportive monetary and fiscal policy amid a domestic consumption recovery. Taiwan could benefit from an improving cyclical semiconductor demand outlook with continued secular AI demand.

We are looking for opportunity in both public and private markets across Asia. Privates, in particular, are intriguing, given that they have outperformed their public market benchmarks over the last decade and offer differentiated exposure to opportunities in India and Japan.

As for China itself, its tech sector is critical. U.S. export controls have intensified efforts to develop domestic capabilities, though China still lags in high-end semiconductor self-sufficiency. However, innovative companies are capitalizing on efficient AI models, popular consumer platforms and leadership in electric vehicle hardware to deliver strong returns and to set up for future growth. Chinese policymakers' recent decision to ban Nvidia's export-compliant chips could be read as a sign that

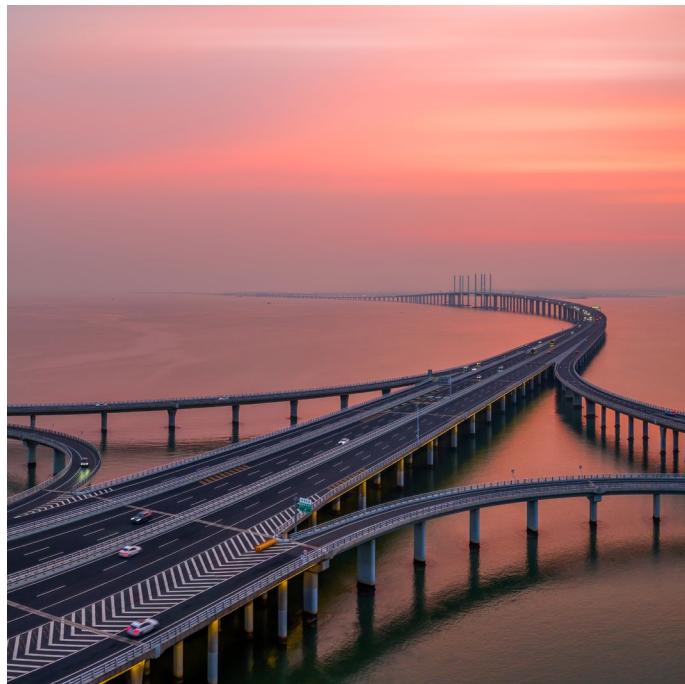
domestic chips are now "good enough" to train and infer LLM models that are comparable to U.S. competitors, even if they require much more energy.

Indeed, the China tech index has outperformed the U.S. tech benchmark, the Nasdaq 100, over the last year by about five percentage points. Despite this recent run, China's equity markets are barely break-even over the last five years, as its GDP growth has only partially translated into corporate earnings. Looking ahead, however, investors will likely access a changing opportunity set.

Since 2024, China's digital economy has generated higher revenues than the property and construction sectors combined, and we think its impact will only grow. The domestic "old" economy is still suffering from anemic demand, weakness in housing and construction, and disinflation. Today's China investment thesis – focused on efficiency, innovation and global competitiveness – may be narrow in scope but deep in potential. Chinese stock winners will likely be there for the taking.

⁴³ Asia Society Policy Institute. *ASEAN Caught Between China's Export Surge and Global De-Risking*. February 17, 2025.

⁴⁴ World Trade Organization. 2024.



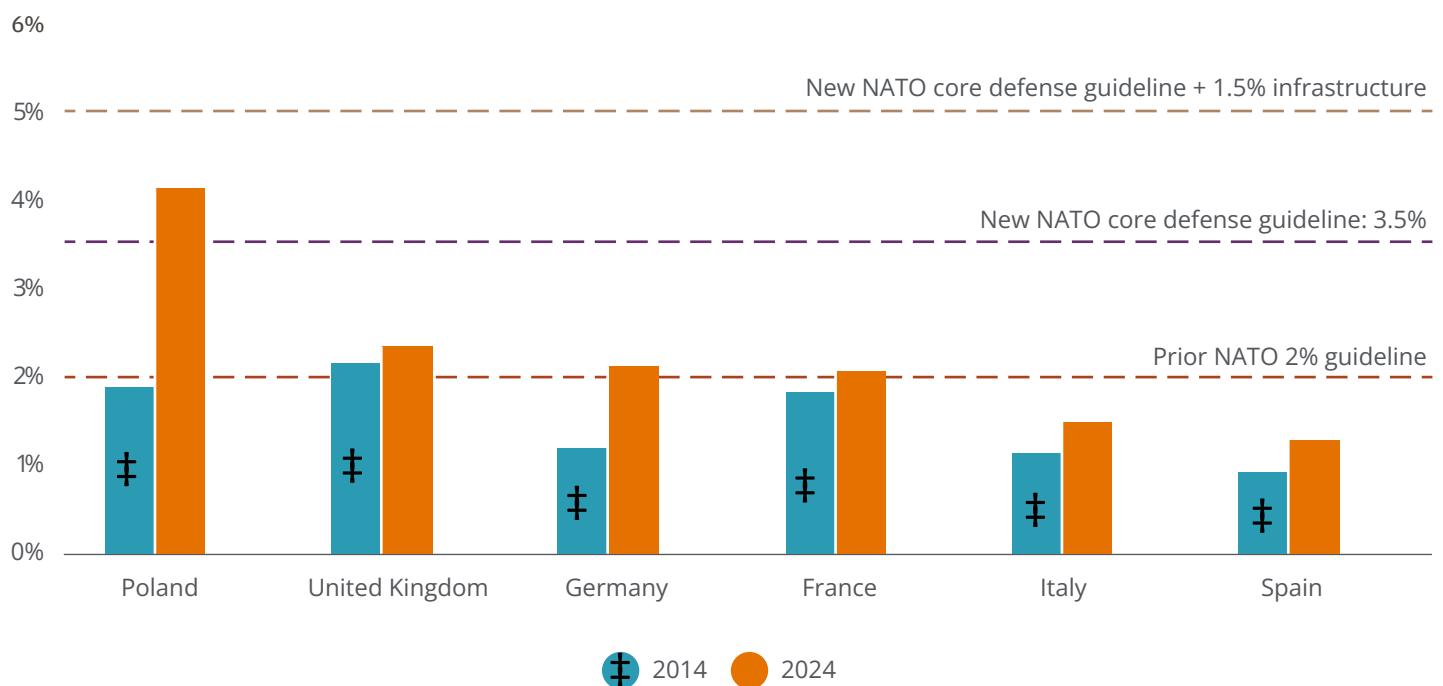
European defense: From peace dividend to conflict capex

Following the collapse of the Soviet Union, the developed world was able to enjoy what was widely referred to as the “peace dividend.” From 1992 through 2022, European production of tanks (-77%), fighter aircraft (-57%), ships (-39%) and submarines (-47%) plummeted.⁴⁵ Technologies such as the internet and GPS transitioned from military to commercial use. Central and Eastern Europe pulled in substantial FDI inflows, and global supply chains and capital markets deepened.

But the 2020s have been defined by Russia’s invasion of Ukraine and the renewed urgency of a durable security regime centered on traditional defense, cybersecurity, natural resources and energy supply.

EUROPEAN DEFENSE SPENDING IS ON THE RISE AFTER MANY YEARS OF MISSING NATO TARGETS

Defense spending as a % of GDP



Source: NATO. Data as of June 2024 and June 2025.

Across Europe, policy is shifting. Nowhere is the change more dramatic than in Germany. In a sharp break with its post-war past, the German government announced massive fiscal stimulus. NATO has established new higher targets for defense spending (of about 3.5% of member nations' GDP), with an additional roughly 1.5% of GDP targeted for defense-related infrastructure. The White House, for its part, is requesting a \$1 trillion defense budget in 2026, making clear that the rearmament impulse is not just European.

Europe is focused on localizing production and rebuilding industrial depth. The European Defense Industrial Strategy sets procurement goals of 50% from the European Defense Technological and Industrial Base (EDTIB) by 2030, rising to 60% by 2035.⁴⁶ Manufacturers are already adding capacity. Rheinmetall has opened a new ammunitions plant in Germany and started construction on another in Lithuania. Leonardo has formed a joint venture with Baykar on advanced unmanned weapons systems.

Such moves have raised investor expectations: A basket of European defense companies grew their earnings at around a 7% compound annual growth rate (CAGR) from 2019 to 2024.⁴⁷ Wall Street expects close to 20% growth through the end of the decade.

European industrial companies are also benefiting from rapid digitalization and AI adoption, especially as data center investments accelerate. This surge is fueling demand for capital goods, electrical equipment and energy solutions – areas where Europe's leading companies excel.

As we've mentioned, Germany stands out as a key market within Europe. The country's substantial infrastructure spending package promises to be stimulative for both Germany and the broader region. Although implementation has been sluggish, eventually these measures should support German growth and corporate profits, rewarding patient investors.

Finally, Europe's private markets present a vast opportunity set that is often overlooked by global investors. A remarkable 97% of European companies with more than 100 million euros in revenue are private⁴⁸ – compared with 87% in the United States⁴⁹ – highlighting the dominant role of private enterprises in the region. Fragmented industries are ripe for consolidation. But private equity tends to focus mainly on the technology and telecommunications sectors, which make up just about 10% of public equity indices.

Notably, European private equity strategies have generated returns on par with their U.S. counterparts, while delivering more alpha relative to local public markets and offering a compelling risk-reward profile.

Additionally, European real estate values currently trade about 20%–40% below their peak,⁵⁰ providing discounted entry points and the potential for further gains in a recovery. The region's logistics sector also offers significant growth potential. E-commerce penetration is far lower than in the United States, indicating substantial room for expansion and innovation.

⁴⁵ J.P. Morgan Corporate & Investment Bank; McKinsey & Co.; 1992/2022 Military Balance. December 2022.

⁴⁶ European Parliamentary Research Service. *European defence industrial strategy*. 2024.

⁴⁷ J.P. Morgan Corporate & Investment Bank. 2025.

⁴⁸ Apollo Academy. *Many More Private Firms in Europe*. April 28, 2024.

⁴⁹ Apollo Academy. *Many More Private Firms in the US*. April 20, 2024.

⁵⁰ KKR. *A Bright Outlook for European Real Estate*. May 2024.



South America: Owning what the world needs

In a world of fragmentation and resource competition, South America plays a pivotal role. It owns many of the critical inputs the global economy – and in particular, the AI revolution – relies on.

As global supply chains diversify and security issues increasingly define trade relationships, South America trades with both the United States and China – no simple task. Most South American countries run a trade deficit with the United States, while China has become the main trading partner for many in the region. Over the past two decades, Chinese investment has steadily gained ground over U.S.-sourced FDI, and a decade-long shift toward left-leaning governments has brought South America ideologically closer to China and further from the United States.

Ideology aside, South America possesses the critical resources the global economy requires. The region accounts for 40% of global copper production and 38% of world reserves. Chile alone produces 27%⁵¹ of global copper. Peru

boasts the world's largest silver reserves, while Mexico is the largest silver producer. For lithium, Chile and Argentina are numbers one and three in the world in terms of economically extractable reserves.⁵² Argentina's Vaca Muerta shale formation is attracting renewed interest from leading global energy companies, especially as the United States seeks to diversify its energy supply chains.

Venezuela holds the world's largest proven oil reserves.⁵³ While Brazil has fewer reserves, it is the dominant oil producer in Latin America⁵⁴ and the second-largest producer and exporter of iron ore.⁵⁵ Brazil is also a key exporter of agricultural commodities such as soybeans, coffee, sugar and beef, as well as critical minerals such as aluminum, nickel and manganese.⁵⁶

This resource abundance is especially important as the AI revolution accelerates demand for power and semiconductors, driving up the need for critical minerals, while governments worldwide focus on long-term food security.

South America's commodities, energy and agricultural output are indispensable to both the United States and China:

- Lithium, copper and silver producers stand to benefit from the global push for electrification and AI-driven demand for semiconductors. Recent investments by U.S. and Chinese firms in Argentina's lithium sector are part of the race to secure supply.
- As near shoring accelerates, demand for modern ports, railways and highways is surging. The expansion of the Panama Canal and upgrades to Brazil's northern ports are facilitating new trade routes between the Americas and Asia. Investments in logistics and port infrastructure are unlocking new export capacity, exemplified by the \$3.5 billion Chinese investment in Peru to develop the Port of Chancay.
- Brazil's leadership in hydropower and wind energy, along with Chile's solar potential, make the region a hotspot for green infrastructure investment. In 2024, Brazil's installed wind capacity surpassed 30 GW,⁵⁷ and Chile produced 9.4% of its primary energy from solar sources in 2023, the highest share in any country.⁵⁸

As South America's political landscape shifts and its resources grow more indispensable, the region offers new avenues for investment and partnership. Global investors prepared to engage with the complexity of a fragmented world order should also consider that Latin American equities are currently trading at a 10x forward price-to-earnings multiple, which is in the 30th percentile relative to their own history. In contrast, both developed world and emerging markets Asia equity multiples are trading in their 90th percentiles.

South America may offer both a hedge against geopolitical risk and a source of long-term economic growth at a lower valuation than most other global equity options.

⁵¹ International Energy Administration. *Latin America's opportunity in critical minerals for the clean energy transition*. April 7, 2023.

⁵² U.S. Department of the Interior. *Mineral Commodity Summaries 2025*. March 2025.

⁵³ U.S. Energy Information Administration. *Country Analysis Brief: Venezuela*. February 8, 2024.

⁵⁴ U.S. Energy Information Administration. *What countries are the top producers and consumers of oil?* 2023.

⁵⁵ United States Geological Survey. *Mineral Commodity Summaries 2022*.

⁵⁶ U.S. Department of Agriculture. *Brazil*. January 7, 2025.

⁵⁷ International Trade Administration. *Brazil Country Commercial Guide: Power Generation, Transmission and Distribution Infrastructure*. August 21, 2025.

⁵⁸ Our World in Data. *Data Insights*. September 13, 2024.



Energy: The binding constraint for the AI revolution

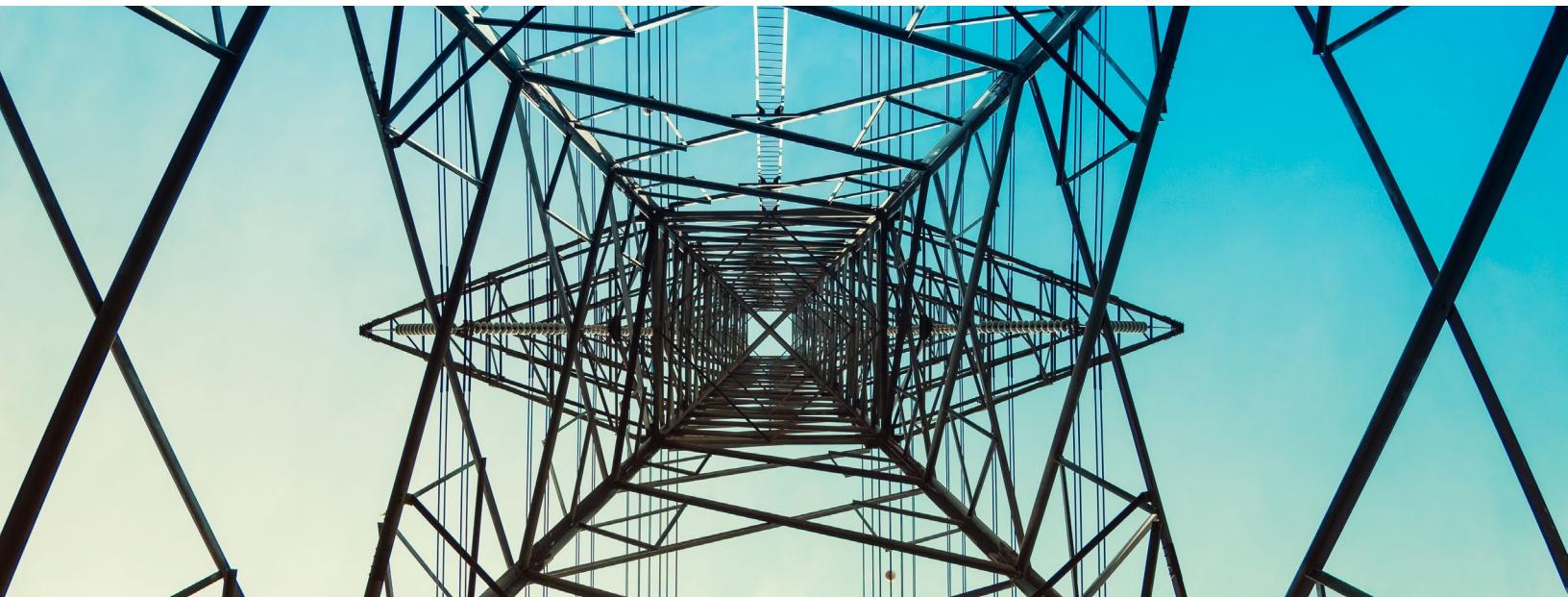
Energy policy is central to both sovereign security and the global AI boom.

In the wake of Russia's invasion of Ukraine, Europe pivoted rapidly from its long-running dependence on Russian gas as it looked to boost its imports of liquefied natural gas (LNG). The EU has pledged to purchase some \$750 billion of U.S. energy through 2028⁵⁹ and seems to be moving toward a full ban on Russian supplies. Japan, too, will likely increasingly look to the United States to replace its reliance on Russian gas.

European policymakers are prioritizing security over cost: LNG is considerably more expensive than Russian natural gas. Investors will need to monitor the ramifications of this shift. Thirty LNG terminals have been proposed, revived or fast-tracked since early 2022,⁶⁰ while European households have absorbed a 36% rise in electricity bills versus January 2021. The United States and China enjoy a clear advantage in their cost of electricity relative to other economies.

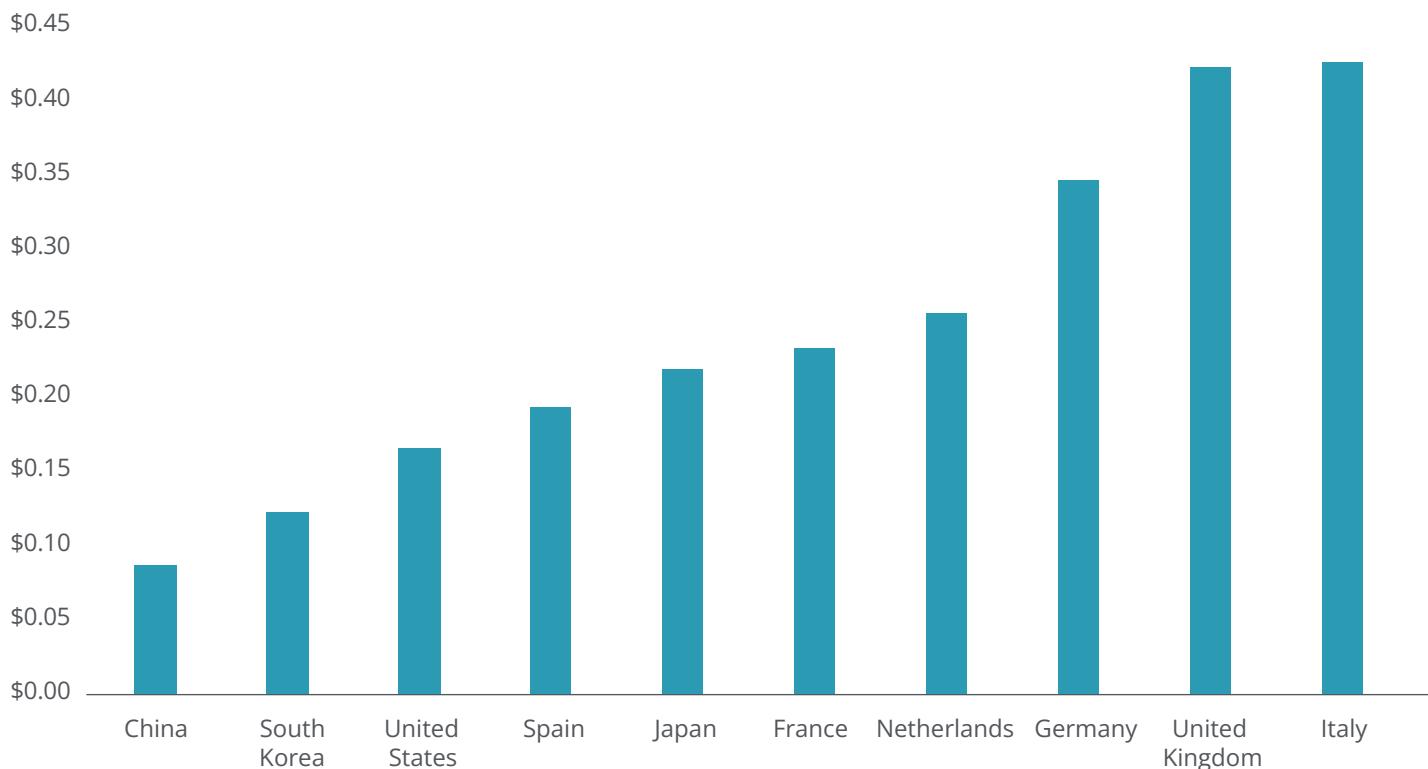
To build resilience, Europe is also ring-fencing vulnerable interconnects (e.g., the Baltic states' shift from the Russia-Belarus grid to the EU's Continental European Network). As always, the map of global energy flows will continue to be vulnerable around chokepoints. The Strait of Hormuz, through which one-fifth of the world's oil⁶¹ and LNG⁶² pass, is a well-known risk.

Countries in the Middle East and North America are well positioned to boost their supplies of energy to the global economy. Looking beyond their obvious oil and natural gas resources, the Gulf Cooperation Council (a union of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) could extend its regional energy grid into an electricity superhighway to meet European demand. Today, many countries in Europe and Asia are wholly reliant on imported natural gas.



EUROPE AND JAPAN FACE MUCH HIGHER ELECTRICITY PRICES THAN CHINA AND THE UNITED STATES

Residential and business electricity prices, average \$ per kWh from 2023 to 2025



Source: Compiled by GlobalPetrolPrices from various national sources. Data as of September 30, 2025.

Elsewhere, Laos exports hydropower to Thailand, Malaysia and Singapore, and Brazil frequently sells its excess hydropower to Argentina.

These are not simply energy projects. They are security assets in a fragmenting global order.

A power-hungry technology sector raises geopolitical issues. AI technology, with its inherent reliance on electricity for AI data centers, is increasingly critical for traditional defense and cybersecurity. We see investment potential across segments of broad infrastructure, transportation assets, power generation, cybersecurity and critical minerals processing. Further, oil and gas private equity, gold and energy commodities could serve as valuable hedges against geopolitical risk.

⁵⁹ European Commission. *Joint Statement on a United States-European Union framework on an agreement on reciprocal, fair and balanced trade*. August 21, 2025.

⁶⁰ Global Energy Monitor. *Europe's LNG import infrastructure glut set to more than double, jeopardizing green goals*. March 27, 2023.

⁶¹ U.S. Energy Information Administration. *Amid regional conflict, the Strait of Hormuz remains critical oil chokepoint*. June 16, 2025.

⁶² U.S. Energy Information Administration. *About one-fifth of global liquified gas trade flows through the Strait of Hormuz*. June 24, 2025.

The dollar and alternative stores of value

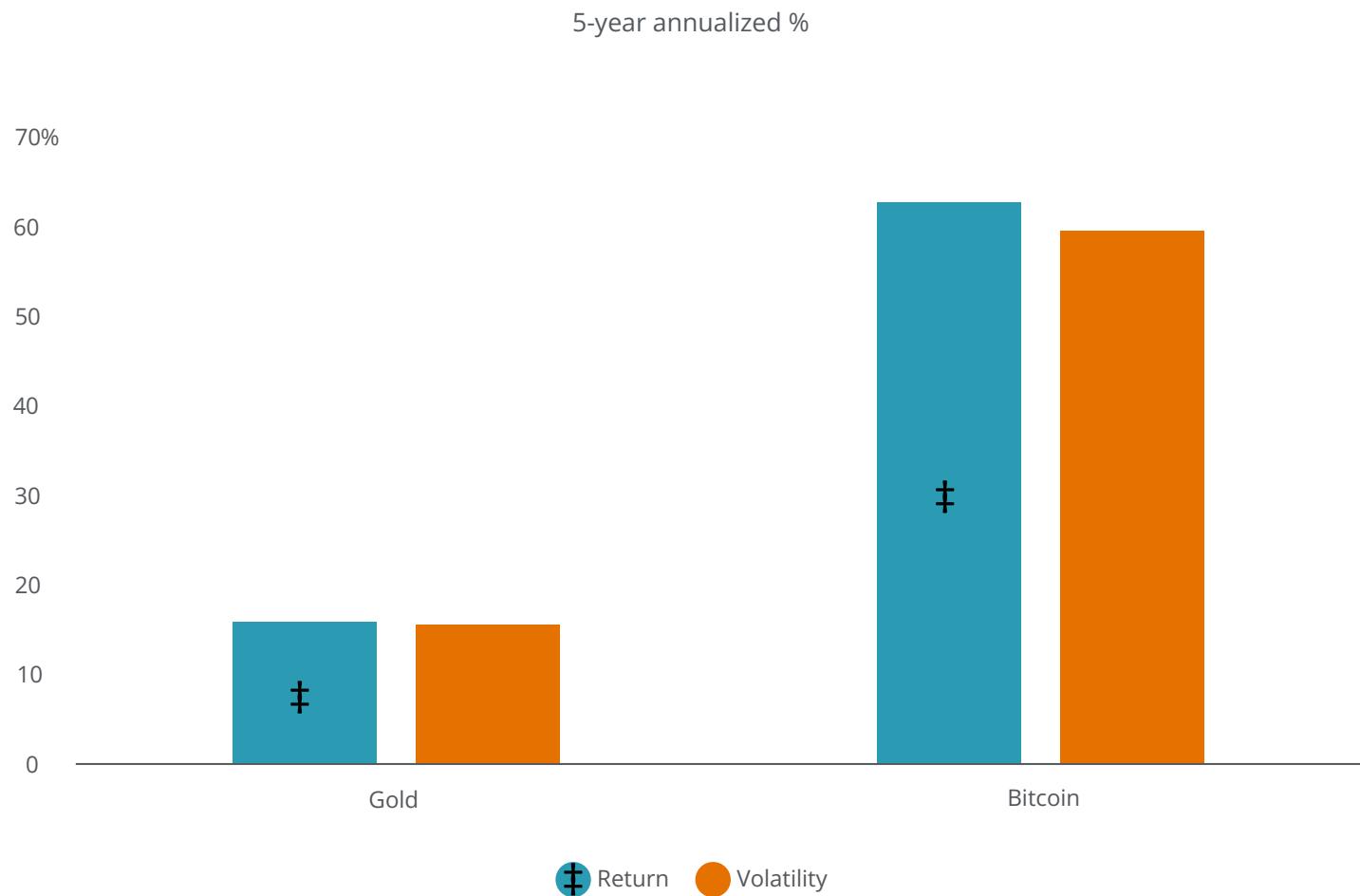
Global fragmentation will likely have a wide range of economic and market impacts, but it will not, in our view, change the U.S. dollar's role as the world's reserve currency. The dollar still makes up nearly 60% of disclosed central bank foreign exchange holdings, almost half of SWIFT payments⁶³ and nearly 90% of all foreign exchange trades.⁶⁴ In short, the U.S. currency remains the operating system of global finance, and we believe its position is secure.

That said, we think investors will continue to search for challengers to the dollar. First, weaponization of the dollar incentivizes diversification. In response to Russia's invasion, Ukraine's Western allies froze about \$300 billion in Russian dollar reserves.⁶⁵ Global central banks then bought record amounts of gold in a scramble to find independent alternatives to the U.S. currency (not subject to potential sanctioning during conflicts). Gold has gained over 50% so far in 2025 to reach an all-time inflation-adjusted high. As investors look for alternatives to the dollar, the search could provide a powerful ongoing support to gold prices. We expect another meaningful rally for the precious metal in 2026.

Second, we note burgeoning competition to the dollar from digital options such as cryptocurrencies. Cryptocurrencies' market cap now exceeds \$4 trillion compared with \$2 trillion at the start of 2024. Investors looking to cryptocurrency as a potential store of value now find a more friendly regulatory regime in the United States.



IN MANY WAYS, BITCOIN IS A CASE STUDY IN WEIGHING RISK VS. REWARD



Source: Bloomberg Finance L.P. Data as of October 31, 2025. **Past performance is no guarantee of future results.**

Stablecoins are also gaining traction in the financial services industry, given their low latency (transactions settle quickly), although only \$70 billion of payments appear to be currently running through stablecoin systems.⁶⁶ Broadly, we see digital assets gaining favor, driven in part by the search – at the margin – for alternatives to the dollar.

We believe investors can further diversify their portfolios through regional equity diversification, which is a key element in global portfolios managed by J.P. Morgan Private Bank. Currency exposure in European and other non-U.S. equity markets is left unhedged, which provides local currency diversification.

⁶³ MacroMicro. *World - Share of International Payments via SWIFT by Currency*. August 31, 2025.

⁶⁴ Bipartisan Policy Center. *What's Behind the U.S. Dollar's Dominance and Why It Matters*. September 2, 2025.

⁶⁵ Brookings. *What is the status of Russia's frozen sovereign assets?* June 24, 2025.

⁶⁶ Cembalest, Michael. "OK Boomer": on stablecoins, S&P profits, tariffs vs tax cuts and the history of Presidential break-ups. June 12, 2025. J.P. Morgan Asset & Wealth Management.



Implications for investors

An era of global fragmentation demands a fundamental shift: Core investment themes – resilience, security and regional alignment – are gaining greater traction.

Turning first to the resilience theme, we find attractive investment prospects in sectors and assets that benefit from onshoring, near shoring and the reconfiguration of supply chains. These include North American infrastructure, utilities, industrials and logistics, as well as companies involved in power generation, semiconductors and critical minerals. We expect to see tactical opportunities in Chinese assets, as sentiment swings more rapidly than fundamentals.

Security, the second theme (including energy security, traditional military defense and cybersecurity), has been pulling in increasing capital investment and offering growing earnings potential in both Europe and the United States. In energy assets, we are focused on liquefied natural gas (LNG), renewables and grid modernization.

Regional alignment, the third theme, cuts across sectors and geographies. We believe in a global, concentrated approach to investing in public and private companies aligned with this theme. In particular, we look for businesses with pricing power in critical sectors such as semiconductors, data centers, energy and transportation.

As they consider their asset allocations, investors should be mindful of higher inflation, shifting trade patterns and the potential for increased market volatility. If geopolitical risk and currency volatility increase in a fragmented world – and we think they will – gold and energy commodities can serve as valuable hedges.



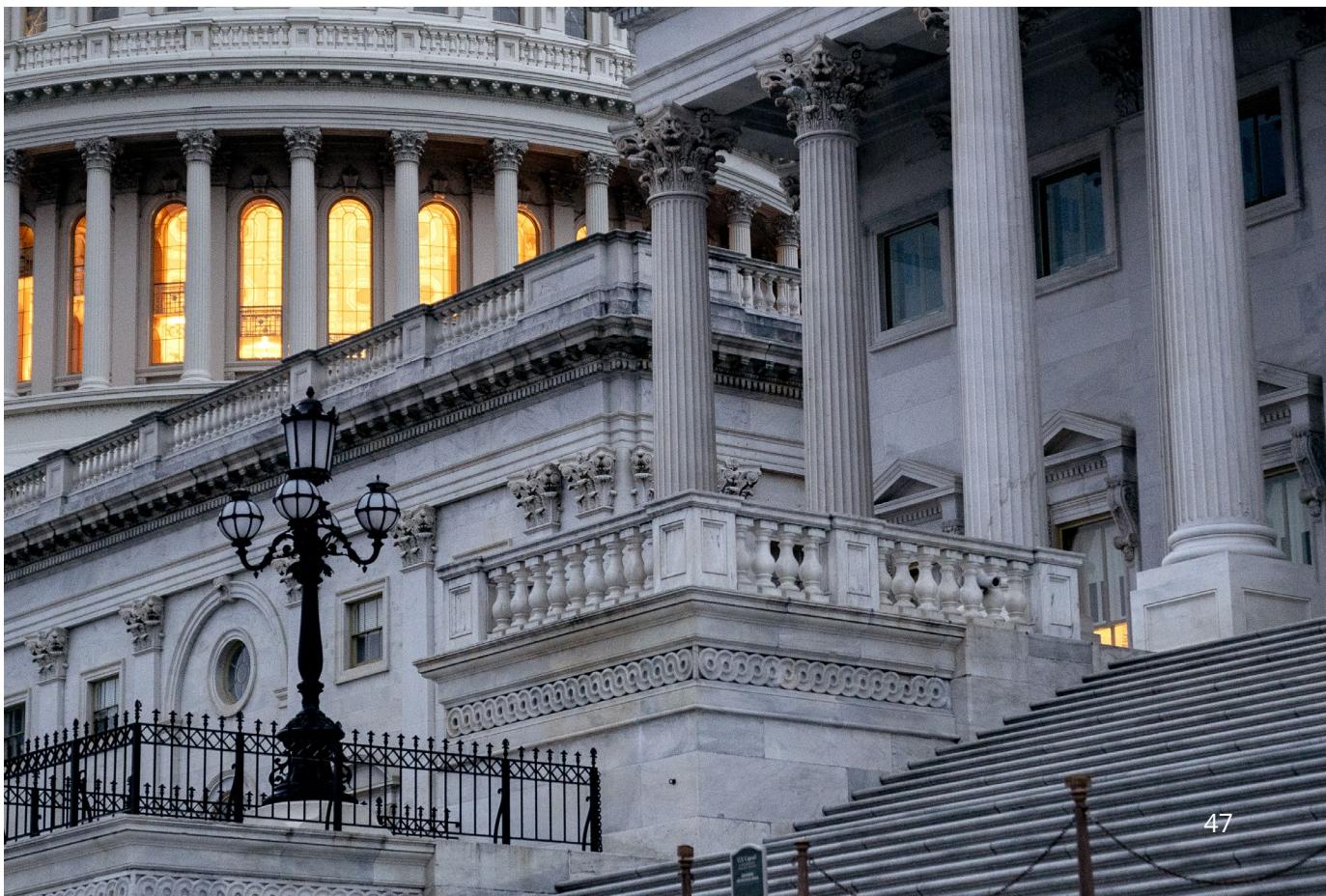
Part 3

Prepare for inflation's structural shift



Market forces can impact portfolios directly or indirectly. The AI investment boom and global fragmentation pressure portfolios directly. Inflation's impact is more subtle, with potentially serious risks to long-term returns.

Until the post-pandemic outburst of inflation in 2022, low inflation defined the post-GFC era globally. Today, we're in the midst of a dramatically different regime, with both higher inflation and increased inflation volatility. In addition, growing sovereign debt and deficits make continued inflation more likely, as policymakers may be tempted to meddle with central bank independence and inflate away the debt.



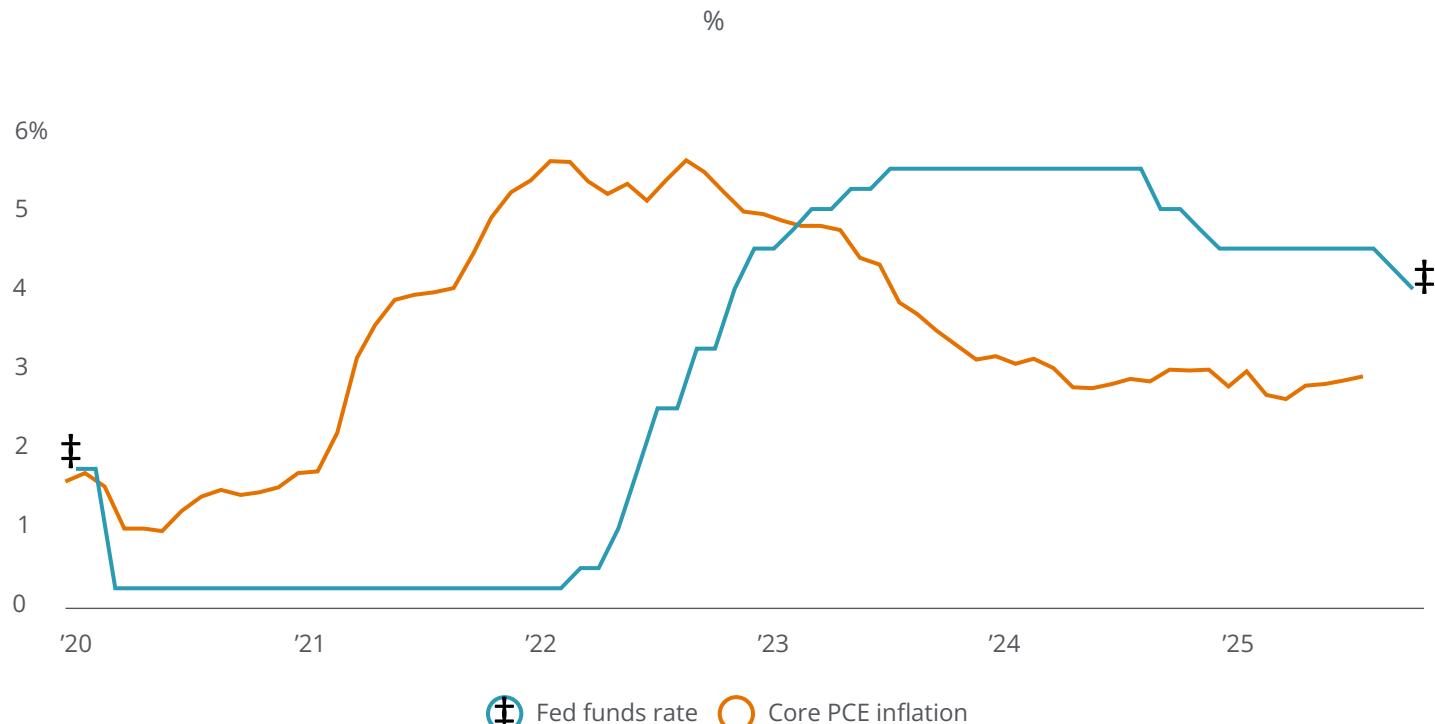
In this section, we consider the wide-ranging implications of a higher inflation regime. The most important issue for investors and families is that, once again, inflation is a central variable for portfolio construction and wealth planning. Holding large cash positions in inflationary environments can quietly, and irrevocably, impair real wealth.

When a family transitions away from its primary source of income – whether through the retirement of the family's chief breadwinner or the sale of a business – the risks to sustaining lifestyle spending shift. Inflation risk can erode wealth in two important ways: by reducing the likelihood of achieving long-term goals under sustained price pressures, and by diminishing the real value of wealth over time. For some families, preserving the nominal values of their portfolios is secondary to funding specific goals, which makes clarity on priorities essential.

This is where the interplay between inflation, wealth planning and portfolio construction becomes critical. A wealth plan can align assets with the dollar amounts, time horizons and priorities that matter most within the context of a macro environment where inflation may remain volatile.

The first step is understanding how different inflation scenarios could impact future portfolio values. Every family's situation is unique, which is why stress testing goals against a range of market outcomes is crucial. From there, mapping decision points and sequencing actions can help ensure that wealth is not only preserved in real terms, but deployed effectively toward the goals it was built to achieve.

INFLATION IS JUST BELOW 3%; WHERE IT GOES FROM HERE COULD IMPACT PORTFOLIOS



Source: Bloomberg Finance L.P. PCE data as of August 31, 2025. Fed funds rate data as of October 31, 2025.

Fixed income finds its footing

While we believe inflation will be higher and more volatile than it has been in recent years, we do not expect a reprise of 2022-style price hikes, and we have a broadly positive outlook for much of the fixed-income complex.

Inflation has receded to below 3%, and implied bond market volatility has subsided to 2021 levels. What's more, stock-bond correlation has declined over the last year. Sovereign bonds and investment grade credit helped hedge equity volatility during the "tariff tantrum" equity sell-off that followed the announcement of U.S. tariffs in April. That correlation decline is important for portfolio construction because it suggests that bonds can once again hedge against some equity drawdowns.

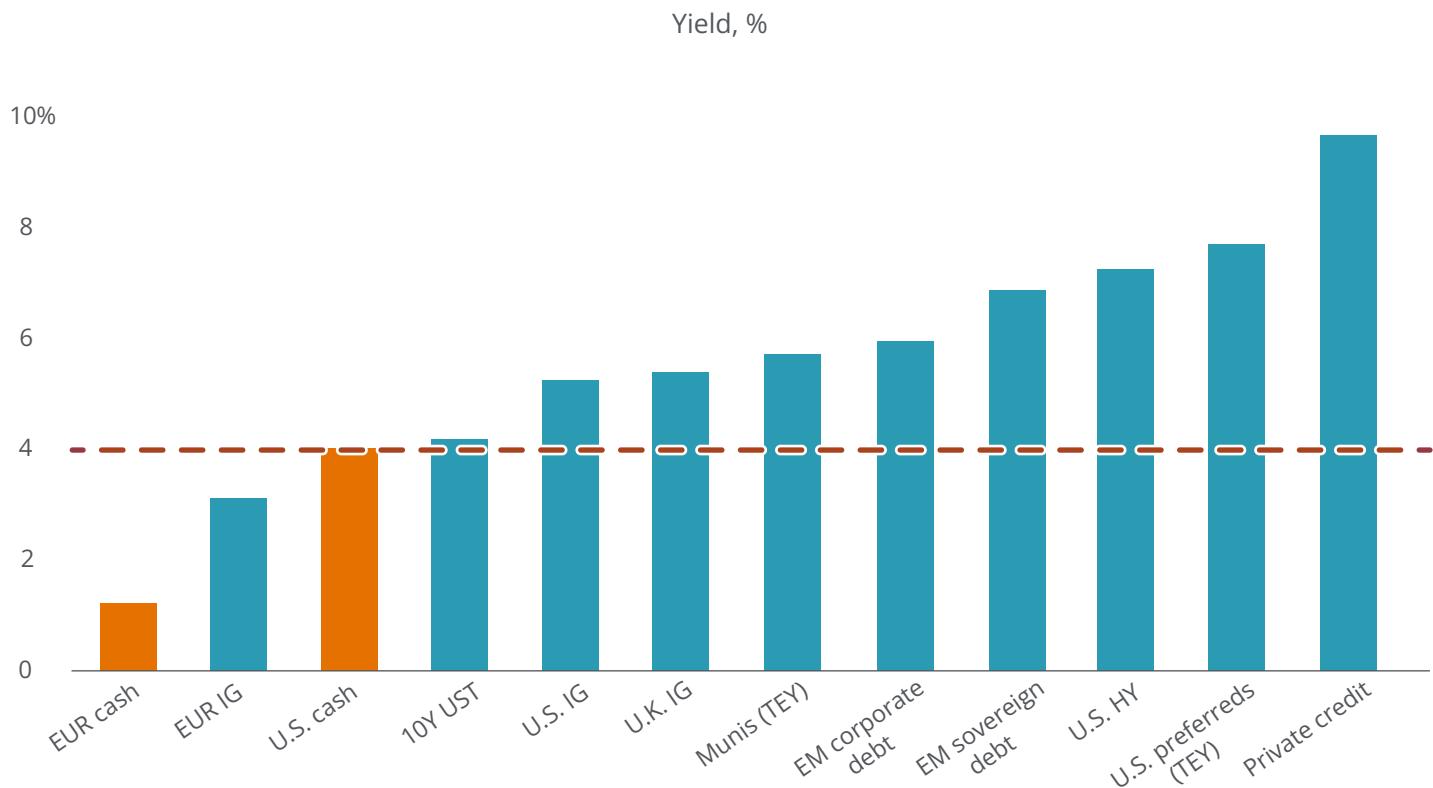
Goods inflation in the United States will likely experience some upward pressure from tariffs, but services inflation seems much more benign. Perhaps most importantly, the Fed has renewed its rate-cutting cycle because the labor market has stagnated. Job openings and quits rates have reverted to pre-pandemic levels, and wage growth (measured by the

high-quality Employment Cost Index) has settled at around 3.5%. That is nearly 90 basis points (bps) higher than pre-pandemic levels but a far cry from rates that would make us nervous about a wage-price spiral.

At the same time, bond yields have reset meaningfully higher – up from around 1% in 2020 to about 4.3% today on the Bloomberg US Aggregate Index. (The index includes sovereign and investment grade corporate bonds.) In 2025, bonds have delivered attractive levels of yield and solid total returns of about 5%. Aggregate bonds are our preferred buffer against a recession or growth slowdown, and we expect most categories of fixed income to deliver mid-single-digit total returns over the next year.

We think the U.S. municipal bond market is compensating investors for the risk of stickier inflation. The yield on the National Municipal Bond Index is around 3.6%, while investors expect inflation to hit 2.3% over the next 10 years. Locking in about 125 bps of tax-free return above expected inflation seems like a prudent place for U.S. taxpayers to place lower-risk capital that still needs to maintain purchasing power.

MOST FIXED INCOME SECTORS NOW OFFER HIGHER YIELDS COMPARED TO CASH



Sources: FactSet, Bloomberg Finance L.P., J.P. Morgan. Data as of October 31, 2025. Note: Private credit represented by new issue deals that J.P. Morgan Corporate & Investment Bank provides financing for. Private credit data as of June 30, 2025.

We also see plenty of opportunity to generate income in the five-to-seven year part of the curve in global investment grade credit. We favor European credit over government debt. Corporate fundamentals look to be on healthier trajectories than many European sovereigns, with corporates offering better diversification, yield potential and insulation from challenging sovereign debt dynamics. Even emerging market credit is beginning to look more attractive as the Fed eases policy and the dollar declines, a boon to many of these dollar-linked economies.

While several high-profile defaults in the private credit markets have reignited the debate around the sector,

we still believe investors are being compensated for the risk they are taking, given nearly 10% yields for newly issued debt. From that starting point, default rates would need to be greater than 6% and recovery rates less than 40% to experience long-run negative total returns. Those metrics would only occur in a deep recession, which we do not believe is a likely outcome.

Including exposures outside aggregate (core) bonds may help diversify fixed income portfolios and can offer the potential for higher absolute yields and equity-like returns, all with typically lower levels of volatility. In other words, such diversification may also contribute to overall portfolio resilience.

Structural drivers of inflation

While our base case anticipates an inflationary environment that is ultimately benign for most risk assets and fixed income, we see clear risks that inflation could move higher than we expect. That perspective forces a shift in portfolio construction and wealth planning priorities.

Here's our thinking: Core Personal Consumption Expenditures (PCE) inflation is now running at 2.9% after 150 bps of Fed rate cuts and up to 75 bps more in the pipeline. If this easing results in the Fed's desired outcome of firmer economic growth in 2026, prices could rise faster than we expect.

Outside that specific scenario, we note several elements of the post-pandemic era that suggest an elevated risk of inflation shocks.

Psychology:

The risk that is most profound and yet the hardest to measure is consumer and corporate psychology. In the wake of COVID, businesses and consumers believed anew that the economy could, in fact, face inflation. Corporate behavior has evolved to adjust prices much more rapidly. One illustrative data point: In Norway, grocery chains are incorporating technology that can adjust prices up to 100 times per day.⁶⁷ Parcel delivery companies are resetting fuel surcharges weekly, not monthly. Many of us are familiar with surge pricing on ride-hailing apps. The survey of common inflation expectations, a comprehensive measure of what market participants, economists, businesses and households expect, is around 40 bps higher than before the pandemic.

Capacity gaps:

Shortages persist in critical areas of the economy. For example, the United States

has underbuilt housing units by between 3 million and 4 million since the GFC.⁶⁸

The U.S. labor market is managing an abrupt decline in net immigration, which constrains labor supply – another capacity gap. Power and electricity are already facing strains from strong demand from data centers and electrification. Then there are looming commodities shortages. U.S. cement production is down around 15% from its 2005 peak.⁶⁹ These capacity constraints create an environment in which prices can adjust faster than supply and in which prices can stay higher even if demand is weak. Producers that control bottlenecks maintain strong pricing power.

Consumer balance sheets:

Across the developed world, consumer balance sheets are primed to support consumption, especially if rates decline. U.S. household net worth is over \$175 trillion, up more than 50% from pre-pandemic levels. Holdings of cash and currency are 50% higher since the end of 2019, and money market fund assets are up 2x. More than \$17 trillion of home equity is waiting to be tapped, a secular high as a share of GDP.⁷⁰

Supply chain resilience:

U.S. tariffs on their own may result in one-off price increases. But higher trade barriers and governments' more security-focused approach to trade may push companies to produce in higher-cost locations and also maintain higher inventory levels. For example, domestic semiconductor production is clearly a policy priority for the United States, but it means higher prices. AMD's CEO expects that a U.S.-made semiconductor could be 5%-20% more expensive than the same part made in Taiwan.

⁶⁷ Williams, Jennifer. *Welcome to the Grocery Store Where Prices Change 100 Times a Day*. July 27, 2025. The Wall Street Journal.

⁶⁸ FreddieMac. *Housing Supply: Still Undersupplied by Millions of Units*. November 26, 2024.

⁶⁹ Concrete Financial Insights. *Volume & Price Trends - US Cement Industry*. Data as of 2024.

⁷⁰ Federal Reserve. *Financial Accounts of the United States*. September 11, 2025.

Climate change:

Climate change is a structural driver of inflation, with extreme weather events, resource shortages and regulatory costs (carbon pricing, transition policies) increasing input prices and volatility. Climate-related disruptions to agriculture, energy and infrastructure amplify inflation risks. Nature-related risks – such as water scarcity, biodiversity loss and resource depletion – can drive input price volatility and supply chain disruptions, heightening inflation risk.

Fiscal activism:

Japan is the only G-7 country that has a narrower budget deficit than it did before the pandemic. During the crisis, fiscal stimulus across developed economies boosted consumer demand, as it was meant to do, and helped drive prices higher. Policymakers could reprise this approach during the next downturn, regardless of already elevated fiscal deficits and rising debt loads. Indeed, rising government debt and deficits present a significant inflation risk, as we discuss in the following section.

MOST G-7 GOVERNMENTS HAVE WIDER BUDGET DEFICITS THAN THEY DID BEFORE THE PANDEMIC

Government deficit as a % of GDP



Sources: Banca d'Italia, Office of Management and Budget, Bank of Japan, Office for National Statistics, Banque de France, Statistics Canada, Deutsche Bundesbank, Haver Analytics. Data as of December 31, 2024.



The subtle risks of rising sovereign debt

Some market participants warn of a coming U.S. debt crisis. In the most extreme scenario, the Treasury holds an auction and buyers are nowhere to be found. We see a more subtle risk. In this scenario, instead of a sudden spike in yields, policymakers make a deliberate shift. They tolerate stronger growth and higher inflation, allowing real interest rates to fall and the debt burden to shrink over time. Economists refer to this process as financial repression, and there are many historical precedents: In the 1950s, the Fed capped short-term rates to help the government finance its debt. The Bank of Japan offers a more recent example.

Outside the United States, we see growing strains on government finances, as manifested in higher term risk premia. Around the world, 30-year sovereign bond yields all moved up this year as term premia increased. (Japan rose 75 bps, Netherlands was up 65 bps, Germany 62 bps, France 55 bps, Portugal 41 bps and Spain 27 bps).

The pressures seem most acute in the United Kingdom, where productivity has been stagnant over the last five years and core inflation has been higher than developed market peers. The share of trading days in the country when currency, bond and equity markets all decline (our preferred real-time measure of fiscal stress) is above 10% over the last three years. The United Kingdom is starting to appear closer to an emerging market such as Brazil than to the United States.

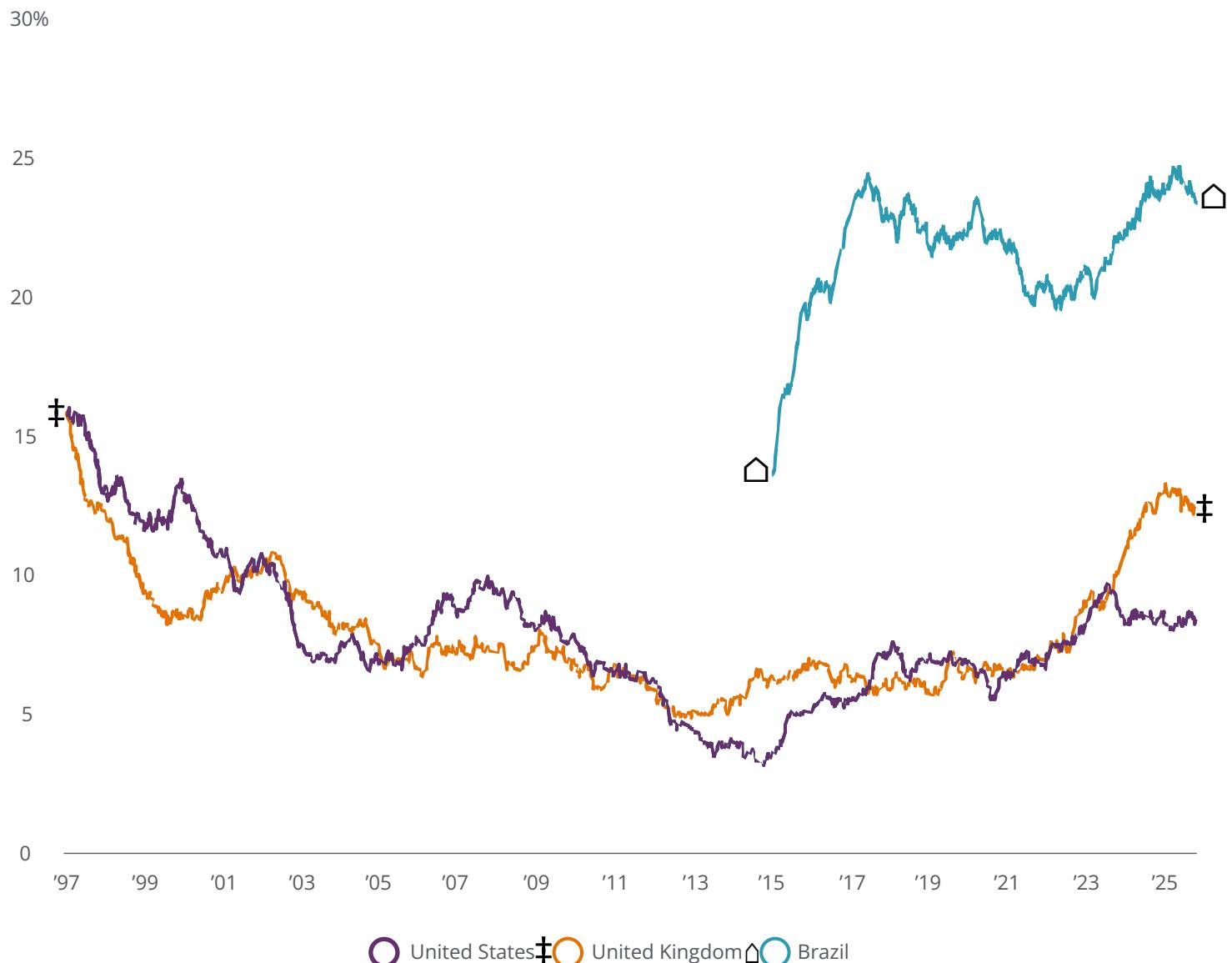
At the moment, investors seem comfortable financing the U.S. government's debt. U.S. Treasury bond buyers have been lining up, their demand on average 2.6x greater than supply. **But the growing debt-to-GDP ratio of nearly 120% of GDP is troubling to most investors and economists. Solving the problem will be tricky.**

U.S. tax collections as a share of GDP are near the low end among Organization for Economic Co-operation and Development nations, suggesting ample capacity – if not the political will – to raise tax revenue to reduce debt. Similarly, mandatory spending on entitlement programs such as Social Security and Medicare could be curtailed to “bend the curve,” as economists refer to efforts to slow the pace of future spending growth. But those options may prove politically unpalatable, as the recent debate around Affordable Care Act tax credits highlights.

In lieu of major public spending cuts, we could see a less straightforward path to reduce the U.S. government's debt load. Policymakers could erode Fed independence and effectively inflate the debt away by driving a stronger nominal growth environment characterized by higher inflation and, over the near term at least, lower real interest rates.

MARKET TRADING SUGGESTS GREATER CONCERN ABOUT THE U.K. VS. THE U.S. FISCAL POSITION

Trading days with simultaneous decline in equity, fixed income and currency markets, 3-year rolling %



Source: Bloomberg Finance L.P. Data as of October 31, 2025.



The U.S. housing market shortage

As mentioned, one of the most important capacity gaps that exist in the global economy is in U.S. housing. We estimate that since the GFC, the United States has underbuilt by 3 million to 4 million units relative to household formation. Based on current trends, it could take 10 years to close that gap. At the same time, home prices have remained elevated, given the price “lock-in” effect of low mortgage rates in 2020 and 2021 (homeowners with low monthly rates are incentivized to sit tight).

Elevated prices and higher interest rates conspire to create the worst housing affordability since the 1980s. Indeed, the monthly cost

to buy a home is roughly 50% higher than the cost of renting a home in the United States.

This backdrop presents a compelling opportunity in housing as an asset class. Through the end of the decade, over 6 million people will enter the 35–49 age group,⁷¹ which is the prime age for homebuying. Given the extreme gap between the cost to rent and the cost to buy, we expect demand for rental housing to increase, especially in newer homes, suitable for families, within commuting distance of city centers.

⁷¹ CBO Report. *The Demographic Outlook: 2024 to 2054*. January 2024. Supplemental population projections, updated as of February 9, 2024.



Implications for investors

Higher inflation makes it much more difficult to maintain purchasing power, a primary goal of investing for many families. It can take a particular toll on fixed-income assets and, more broadly, presents a challenge to traditional approaches to portfolio construction.

While bonds can still perform their established role in portfolios, we need to look beyond traditional fixed income to prudently manage what we believe will be a regime of structurally higher inflation and increased volatility for both inflation and interest rates.

Higher inflation regimes result in higher sovereign bond market volatility and more elevated correlations between stocks and sovereign bonds. Indeed, half of the worst drawdowns for traditional stock-bond portfolios occurred during inflationary episodes that triggered central bank rate hikes in the 1970s and 1980s, and most recently in 2022. Inflation also makes it harder for portfolios to recover their value in inflation-adjusted terms.

For most of the last three decades, sovereign bonds acted as a portfolio hedge when equities sold off. From 1997 to 2020, the S&P 500 experienced 10 drawdowns of more than 10%; in nine of them, U.S. Treasuries delivered positive returns, averaging 7%. That pattern worked because most shocks were growth-driven: When the economy slowed, the Fed cut rates, yields fell and Treasury bonds rallied.

But the post-pandemic era flipped the script. Inflation – not growth – became the dominant shock, and the Fed responded with aggressive tightening. In 2022, the S&P 500 fell 25% while the U.S. Treasury Index dropped 14%. That rare, twinned decline broke the old diversification playbook.

Look at the impact on a traditional “60/40” portfolio (60% stocks, 40% bonds). Before COVID, the rolling three-year annualized volatility of a 60/40 portfolio was 7%. After the height of the COVID pandemic, the annualized volatility has been almost 12%.

Investors need a new playbook to mitigate inflation risk and manage positive stock-bond correlation. Core fixed income remains an essential element of a well-diversified portfolio, but it should be complemented by assets that diversify against equities and that tend to perform better when inflation seems entrenched.



We have identified three asset groups that can help deliver on those goals

1

Commodities

Commodity prices are input prices and therefore tend to be correlated with inflation overall. Our outlook for crude oil prices does not anticipate big moves higher, given excess supply. But there could be opportunities to link structured notes to oil in the year ahead and thus access a differentiated source of yield for portfolios. Natural gas, a critical input for the AI data center buildout as we have discussed, now accounts for about 40% of U.S. electricity generation.⁷² We see growing opportunities to invest in natural gas pipelines and producers.

2

Real assets such as infrastructure and real estate

Both infrastructure and real estate tend to mitigate inflation risk because they pass on the burden of higher prices through their contracts.

Global infrastructure has been an underappreciated asset class, although it has delivered annualized 8%-12% returns historically during different inflation regimes.⁷³ A key factor: long-term contractual, inflation-resilient cash flows. We expect an acceleration in demand for power (driven by electrification, industrialization and data center growth) and a strategic initiative to improve infrastructure resilience (amid concerns about aging infrastructure and national security). Power now accounts for nearly 60% of the MSCI Global Private Quarterly Infrastructure Asset Index, up from 20% 10 years ago.⁷⁴ Although fund inflows have recently increased, infrastructure is still underinvested. Indeed, nearly 80% of family offices we surveyed recently said they don't have any exposure to the asset class, despite their concerns about inflation.

Global real estate can serve as an inflation hedge through rent escalators and frequent lease resets, helping preserve income as property values rise with land, labor and material costs. We see early signs of recovery in core real estate after a multiyear slump. From 3Q22 to 3Q24, commercial real estate returns fell 18.5% despite 8% net operating income growth,⁷⁵ highlighting a disconnect and potential opportunity. We're focused on sectors with strong durable fundamentals – especially rentals and industrial – driven by the shift to renting (versus owning) and U.S. reindustrialization, respectively. We think these trends will reshape real estate for years to come.



3

Less-correlated hedge fund and liquid alternative strategies

One statistic illustrates the potential for liquid alternatives (structures that deliver strategies such as trend following, long-short equity and global macro in a more liquid format) and certain hedge funds to enhance returns and mitigate inflation risk: Over the last 10 years, a 60/30/10 portfolio, with 10% in alternatives, has delivered better returns than a 60/40 almost 70% of the time and has outperformed in every instance since 2021, when inflation started to pick up in earnest.

Since 1990, during quarters when stock and bond returns fell, macro hedge funds returned an average of 3% annualized versus an average 14% decline for a 60/40 portfolio. Today, hedge fund strategies are benefiting from improved market dynamics: Equity dispersion is higher, implied correlation is lower and idiosyncratic risk is higher. That is, more securities are moving up or down for their own specific (or idiosyncratic) reasons. (Systemic risk refers to the opposite scenario where securities move as a group.) For skilled managers, greater levels of idiosyncratic risk create a fertile environment for security selection.

Both liquid alternatives and hedge funds can provide access to different assets and techniques (e.g., arbitrage and distressed securities that are not typically available in standard portfolios). In this way, they provide exposure to non-traditional sources of return. Today, we have a particular conviction in relative value and discretionary macro strategies, in which manager selection is crucial to portfolio outcomes.

⁷² U.S. Energy Information Administration. *U.S. energy facts explained*. Data as of 2023.

⁷³ MSCI, Bloomberg. Data based on availability as of June 2025.

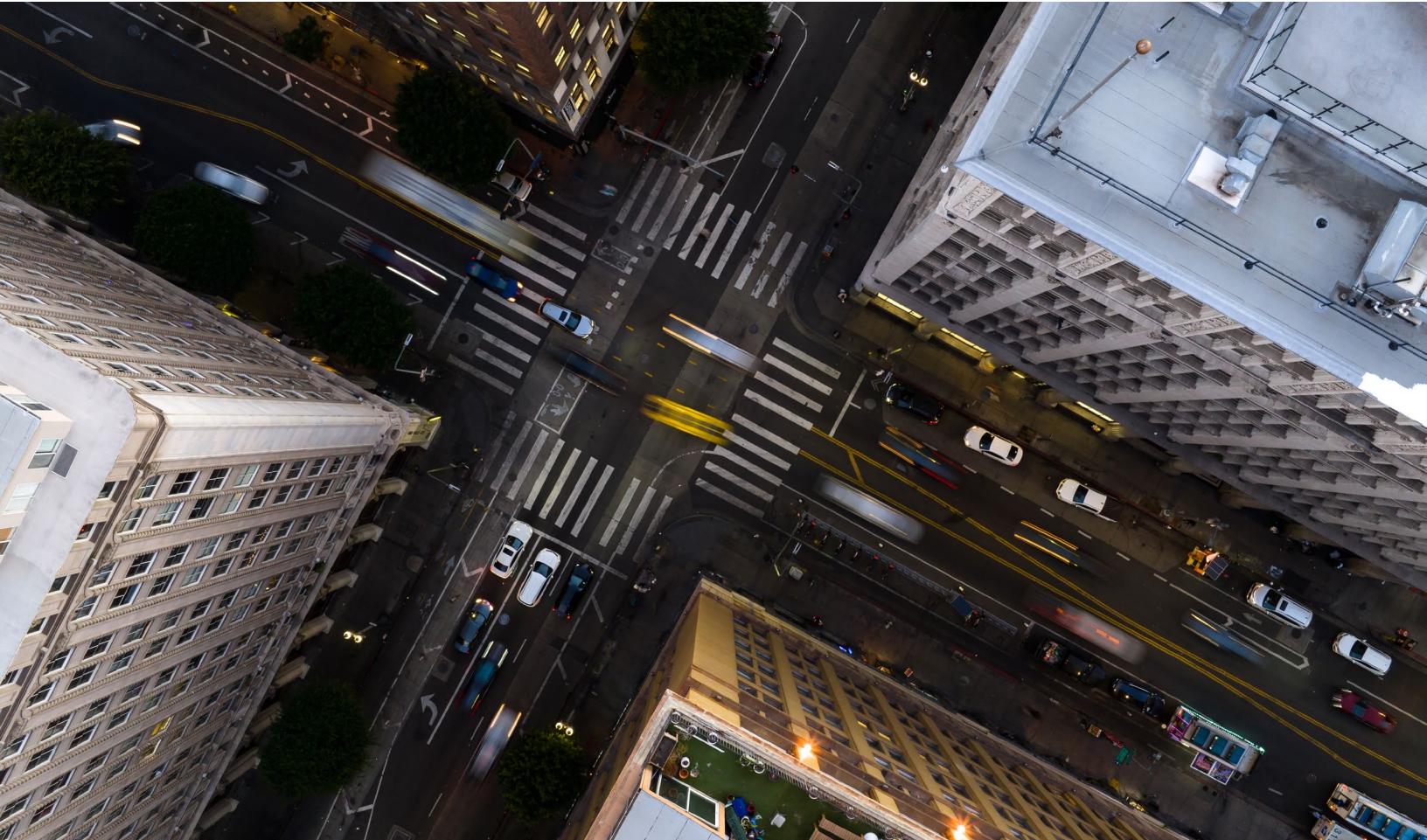
⁷⁴ MSCI. Data latest available as of June 2025.

⁷⁵ J.P. Morgan Asset Management – Real Estate Americas. Data as of December 31, 2024.

Given the potential for a stickier and more volatile inflation environment, we believe investors should focus on assets that have a lower volatility compared with equity but a positive correlation to inflation. Such an approach will help investors maintain purchasing power, mitigate drawdowns and generally make their portfolios more resilient. Perhaps the hardest exposure for an investor to find is an allocation that can perform well in an environment where inflation is sticky and growth is slowing. Based on historical examples, gold and diversified hedge fund strategies provide the most encouraging results.

Even under a base case outcome where central banks anchor inflation close to target, the potential returns from these strategies offer a prudent path for risk management. Within equity markets, a steeper yield curve could benefit banks, which remain one of our preferred equity sectors.

Evaluate the specific characteristics of the assets and consider how they might (or might not) complement other assets in your portfolio. Less correlated hedge funds and liquid alternatives have very different liquidity and volatility profiles when compared with core fixed income. As a result, we recommend that exposure to these types of assets add up to no more than 25% of a traditional fixed income allocation.



TO MITIGATE INFLATION RISK, INVESTORS SHOULD CONSIDER FOCUSING ON COMMODITIES, REAL ASSETS AND CERTAIN ALTERNATIVE STRATEGIES

Volatility

25%

20

15

10

5

0

Euro large cap

U.S. small cap
EM equity

U.S. mid cap

Gold

U.S. large cap

U.S. inv.
grade bonds
Global gov.
bonds

U.S. muni bonds

U.S. HY bonds

Macro hedge
funds

Diversified hedge
funds

Private equity

Direct lending

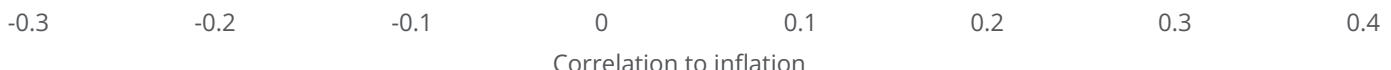
Infrastructure

U.S. core real estate

Commercial
mortgage loans

Leveraged loans

Cash



.Fixed income

.Equity

.Commodities & real assets

.Less correlated strategies

.Cash

Source: J.P. Morgan Asset Management Long-Term Capital Market Assumptions.

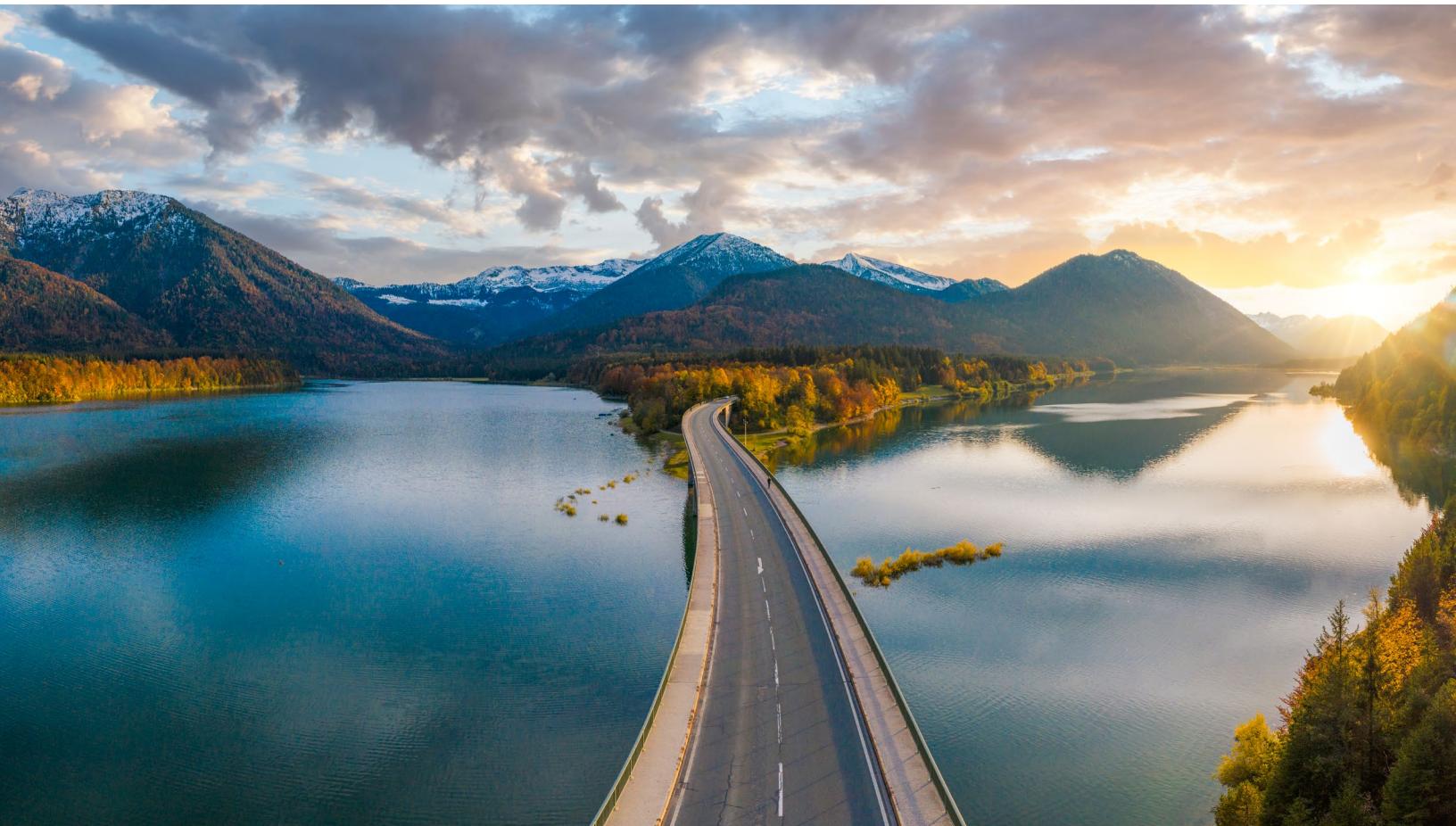
Data as of September 30, 2025.

Conclusion

A new frontier for investors

Investors are embarking on a new frontier, one full of promise and pressure. AI heralds a profound transformation but also carries risks of overinvestment, excess exuberance and labor disruption. Globalization is giving way to fragmentation, elevating the importance of resilient supply chains and critical resources. Inflation, though less visible, remains a persistent threat to long-term purchasing power.

Through intentional planning, rigorous analysis and the reach of our global platform, we can help you steer through these shifts, turning structural change into strategic advantage for you and your family.



Our 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 Solutions

GLOBAL INVESTMENT STRATEGY GROUP

Elyse Ausenbaugh
Global Investment Strategist

Christopher Baggini
Global Head of Equity Strategy

Weiheng Chen
Senior APAC Strategist

Nur Cristiani
Head of LatAm Investment Strategy

Madison Faller
Senior EMEA Strategist

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

Brigid Whelan
Head of Investment Content Strategy

Alex Wolf
Global Head of Macro & FICC Strategy

Erik Wytenus
Head of EMEA Investment Strategy

Samuel Zief
Senior Macro & FX Strategist

DEFINITIONS OF INDEXES AND TERMS

Note: Indexes 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 indexes denominated in U.S. dollars unless noted otherwise.

Bloomberg Euro Aggregate Government – Treasury

(7-10Y) Index: Measures the performance of euro-denominated government bonds issued by Eurozone countries with maturities between seven and 10 years. It serves as a benchmark for medium-term government bond investments in the Eurozone.

Bloomberg Global Aggregate Index: A comprehensive benchmark for global investment grade fixed-rate debt markets, encompassing the U.S. Aggregate, Pan-European Aggregate and Asian-Pacific Aggregate Indexes. It includes a diverse array of standard and customized subindices categorized by liquidity, sector, quality and maturity.

Bloomberg U.S. Aggregate Bond Index: A comprehensive benchmark for the U.S. investment grade, dollar-denominated, fixed-rate taxable bond market. It includes taxable bond issues rated BBB or higher, with one year or more to maturity and an outstanding par value of \$100 million or more. The index encompasses Treasuries, government-related and corporate securities, MBS (agency fixed-rate pass-throughs), ABS, and both agency and non-agency CMBS.

Bloomberg U.S. Aggregate Corporate High Yield Index:

An index that tracks the performance of USD-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.

Bretton Woods (the Bretton Woods Agreement):

A landmark international financial arrangement established in 1944, which created a system of fixed exchange rates and led to the founding of the International Monetary Fund (IMF) and the World Bank. The system aimed to promote global economic stability and cooperation after World War II, but was replaced by floating exchange rates in the 1970s.

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.

Cloud computing: The delivery of computing services – such as storage, software and processing power – over the internet ("the cloud") rather than through local servers or personal devices. Cloud computing allows users and businesses to access technology resources on demand, often paying only for what they use, and supports greater flexibility and scalability.

EBITDA: Stands for Earnings Before Interest, Taxes, Depreciation and Amortization, and is a metric used to measure a company's operational profitability and cash flow. It is calculated by taking net income and adding back interest, taxes, depreciation and amortization expenses.

European Union Labor Productivity Index: Measures the efficiency of labor in the EU by assessing real employee compensation per employee. This index evaluates how effectively labor inputs contribute to economic output, providing insights into the region's economic performance and competitiveness.

FTSE EPRA NAREIT Global REITs Index: An index that tracks the performance of publicly traded real estate investment trusts (REITs) worldwide, providing a comprehensive view of the global real estate market across various sectors and regions.

G-7 (the Group of Seven): An informal forum of seven major advanced economies: Canada, France, Germany, Italy, Japan, the United Kingdom and the United States. The G-7 meets regularly to discuss and coordinate economic policy, global issues and international cooperation.

MSCI Global Private Quarterly Infrastructure Asset Index:

Tracks the performance of privately held infrastructure assets worldwide, such as transportation, energy and utilities. The index is updated quarterly and provides investors with a benchmark for the returns and trends in the global private infrastructure market, reflecting changes in asset values and income generated from these essential facilities.

NASDAQ (U.S.): The NASDAQ is a major U.S. stock exchange known for its electronic trading platform and focus on technology and growth-oriented companies. It hosts the NASDAQ-100 Index, which includes 100 of the largest non-financial companies listed on the exchange, making it a key indicator of the tech sector's performance.

OECD (Organisation for Economic Co-operation and Development): An international organization of mostly developed countries that works to promote policies improving economic and social well-being worldwide. The OECD provides research, analysis, and a platform for governments to collaborate on issues such as growth, trade, education and governance.

Personal Consumption Expenditures (PCE) Index:

A comprehensive measure of the prices paid for goods and services by U.S. residents or on their behalf. It effectively captures inflation or deflation across a broad spectrum of consumer expenses and reflects shifts in consumer behavior.

Preferreds: A type of stock that typically pays fixed dividends and has priority over common stock in the event of company liquidation. Preferred shares usually do not carry voting rights but offer investors more predictable income and a higher claim on assets than common shareholders.

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.

SWIFT (Society for Worldwide Interbank Financial Telecommunication): A global messaging network used by banks and financial institutions to securely transmit information and instructions for payments and other transactions. SWIFT does not move money itself but enables fast, standardized communication between financial entities worldwide.

U.S. 10-Year Treasury Yield: The interest rate paid by the U.S. government on its 10-year Treasury note. It serves as a key benchmark for other interest rates and reflects investor sentiment about future economic conditions and inflation.

U.S. Labor Productivity Index: Measures the efficiency of labor in the U.S. nonfarm business sector by calculating real output per hour worked. This index reflects how effectively labor inputs are converted into economic output, serving as a key indicator of productivity and economic performance.

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.

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,

DEFINITIONS AND DISCLOSURES

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 representative.

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.

IMPORTANT INFORMATION ABOUT YOUR INVESTMENTS AND POTENTIAL CONFLICTS OF INTEREST

Conflicts of interest will arise whenever JPMorgan Chase Bank, N.A. or any of its affiliates (together, "J.P. Morgan") have an actual or perceived economic or other incentive in its management of our clients' portfolios to act in a way that benefits J.P. Morgan. Conflicts will result, for example (to the extent the following activities are permitted in your account): (1) when J.P. Morgan invests in an investment product, such as a mutual fund, structured product, separately managed account or hedge fund issued or managed by JPMorgan Chase Bank, N.A. or an affiliate, such as J.P. Morgan Investment Management Inc.; (2) when a J.P. Morgan entity obtains services, including trade execution and trade clearing, from an affiliate; (3) when J.P. Morgan receives payment as a result of purchasing an investment product for a client's account; or (4) when J.P. Morgan receives payment for providing services (including shareholder servicing, recordkeeping or custody) with respect to investment products purchased for a client's portfolio. Other conflicts will result because of relationships that J.P. Morgan has with other clients or when J.P. Morgan acts for its own account.

Investment strategies are selected from both J.P. Morgan and third-party asset managers and are subject to a review process by our manager research teams. From this pool of strategies, our portfolio construction teams select those strategies we believe fit our asset allocation goals and forward-looking views in order to meet the portfolio's investment objective.

As a general matter, we prefer J.P. Morgan managed strategies. We expect the proportion of J.P. Morgan managed strategies will be high (in fact, up to 100 percent) in strategies such as, for example, cash and high-quality fixed income, subject to applicable law and any account-specific considerations.

While our internally managed strategies generally align well with our forward-looking views, and we are familiar with the investment processes as well as the risk and compliance philosophy of the firm, it is important to note that J.P. Morgan receives more overall fees when internally managed strategies are included. We offer the option of choosing to exclude J.P. Morgan managed strategies (other than cash and liquidity products) in certain portfolios.

The Six Circles Funds are U.S.-registered mutual funds managed by J.P. Morgan and sub-advised by third parties. Although considered internally managed strategies, JPMC does not retain a fee for fund management or other fund services.

Legal Entity, Brand & Regulatory Information

J.P. Morgan Wealth Management is a business of JPMorgan Chase & Co., which offers investment products and services through **J.P. Morgan Securities LLC** (JPMS), a registered broker-dealer and investment adviser, member 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. Certain custody and other services are provided by JPMorgan Chase Bank, N.A. (JPMCB). JPMS, CIA and JPMCB are affiliated companies under the common control of JPMorgan Chase & Co. Products not available in all states.

J.P. Morgan may hold a position for itself or our other clients which may not be consistent with the information, opinions, estimates, investment strategies or views expressed in this document. JPMorgan Chase & Co. or its affiliates may hold a position or act as market maker in the financial instruments of any issuer discussed herein or act as an underwriter, placement agent, advisor or lender to such issuer.

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

© 2025 JPMorgan Chase & Co. All rights reserved.

