



December 2024

2025 OUTLOOK

PGIM Quantitative Solutions Multi-Asset Team

Executive Summary

Economic Outlook

- The post-COVID inflation surge has been one of the defining macroeconomic trends in recent years. But even as central bank inflation targets appeared in sight, 2024 has had grinding progress.
- In the US, the Federal Reserve (Fed) expects core inflation to ease further in 2025, approaching—but not reaching—its 2% target until 2026.
- The market is currently pricing in three Fed rate cuts by the end of 2025.
- The US economy has performed well despite high policy rates. GDP rose at around a 3% QoQ annualized pace during the last two quarters, modestly above the post-Global Financial Crisis (GFC) average.
- US GDP growth is expected to slow to near the post-GFC average in 2025. The potential for significant job growth is limited since the economy is already near full employment.
- The new administration presents risks for the economy, but several downside risks already exist.
- Eurozone economic activity struggled in 2024 with GDP growth averaging below 1%. While the factors driving the slowdown are largely still in place, expectations are for a modest improvement in the pace of 2025 growth, supported by central bank rate cuts and robust global demand.
- The Japanese economy also struggled in 2024 amid auto production disruptions, fallout from political scandals, and yen volatility. Growth is expected to recover modestly in 2025, supported by strong global demand and household consumption.
- The Chinese government has responded to the recent growth slowdown with fiscal and monetary stimulus. However, these measures may not be sufficient to restore past trend growth, particularly with the new US administration threatening to further restrict trade.

Market Outlook

- Risk assets started 2024 strong, with several equity indexes reaching all-time highs but gave way to mixed performance as investors focused on risks, including fewer anticipated Fed rate cuts due to lingering inflation fears. Markets rebounded in anticipation of Fed rate cuts, improving US economic data, and China's stimulus announcements.
- Our base case for the macro environment remains benign, with our US recession sentiment indicator suggesting a low probability of recession and supportive of risk assets.
- We expect earnings growth, which had been very concentrated in Big Tech during the early part of 2024, to continue to broaden out over 2025.
- Risk asset valuations are historically extended with US large-cap stocks trading at around 22x forward earnings. The valuation of stocks relative to bonds is similarly unattractive, with a stock earnings yield of 3.7% well below the 10-year Treasury yield of around 4.2%.
- Internationally, the outlook for stocks remains mixed despite undemanding valuations and a moderate earnings growth outlook.
- Risk assets are supported by solid growth and abundant liquidity yet pressured by significant policy uncertainty. Thus, our expectations are for modest returns and increased volatility for risk assets in 2025.
- Yield curve steepening is likely to continue in 2025 with the short end of the curve rallying as the Fed reduces policy rates. However, the potential impact of the Trump administration's spending plans on the fiscal deficit will likely make the Fed cautious about cutting rates too quickly, keeping long term yields elevated.
- If central banks continue to normalize rates, negative stockbond correlations could provide a respite for investor portfolios, which are likely to face more volatility and lower compensation for taking on risk.

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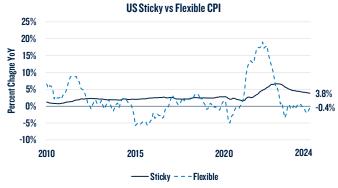
All investments involve risk, including the possible loss of capital.

Economic Outlook

Stronger for Longer, but with Risks

The post-COVID inflation surge has been one of the defining macroeconomic trends in recent years. Inflation began to accelerate sharply in 2021, driven by supply chain disruptions and fiscal stimulus, catching developed market central banks off guard. However, central banks got back on track, raising interest rates aggressively in 2022 and 2023 in response. As fiscal stimulus waned, supply chains normalized, and borrowing costs increased, inflation fell throughout 2023. But even as central bank inflation targets appeared in sight, 2024 has seen more grinding progress. US core PCE inflation fell from 5% (year-over-year) at the end of 2022 to 3% at the end of 2023, and has recently moderated to 2.8%. A similar pattern is apparent in Eurozone and Japanese core inflation data, albeit with regional differences.

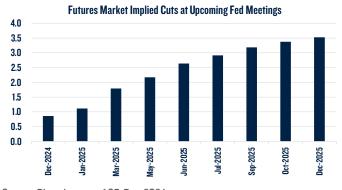
Figure 1: Flexible Inflation Falls Below 0%, but Sticky Inflation Slow to Return to 2%



Source: Bloomberg as of 30-Nov-2024

With inflation falling but not yet fully under control, the Fed isn't resting on its laurels. While the initial 50 bps Fed rate cut in September was significant, the pace of subsequent cuts has been measured, a policy expected to continue into 2025. Figure 2 shows the path of interest rate cuts implied from the futures market expected to be implemented at Fed meetings through December 2025. The market is currently pricing in roughly three cuts by the end of next year, following the 100bps of cuts made this year. That compares with more than 500bps of hikes from 2022 to 2023. Consequently, the Fed is maintaining higher policy rates, awaiting more confidence that inflation is under control.

Figure 2: Futures Market Prices Roughly Three Cuts by Year-End 2025



Source: Bloomberg as of 05-Dec-2024

Will inflation continue to remain stubbornly elevated, or will it slide further towards central bank targets? In the US, the Federal Reserve (Fed) expects core inflation to ease further in 2025, nearing - but not reaching - its 2% target until 2026.

One challenge is that some components of inflation are much slower to adjust to changing economic conditions. Figure 1 shows the Atlanta Fed's Sticky and Flexible inflation measures. Flexible inflation has hovered around 0% for most of 2024 and is currently negative. However, sticky inflation, which includes components like housing, remains stubbornly elevated and is only gradually trending lower. Ongoing price increases in sticky components could keep inflation elevated into next year.

Despite high policy rates, the US economy has performed well. GDP grew at around an annualized pace of 3% (quarter-overquarter) in the past two quarters, modestly above the post-Global Financial Crisis (GFC) average. Higher frequency coincident economic indicators, like personal income excluding transfer payments, job growth, and manufacturing and trade sales, are growing at a pace consistent with economic expansion. However, interest rate sensitive sectors have seen some weakness in the elevated rate environment, and recent strikes and hurricanes have also temporarily impacted production.

Looking ahead to 2025, GDP growth is expected to slow modestly to around 2.2% (down from 2.7% in 2024), according to the Philadelphia Fed's Q4 2024 Survey of Professional Forecasters (SPF) consensus estimate. That forecast is consistent with a slowdown to roughly the post-GFC average. The slowdown is partly due to the economy operating near full employment, limiting the potential for significant job growth. Additionally, the impact of prior fiscal stimulus is fading, providing less of a boost than before.

It is too early to be certain about the incoming administration's policies, but new tariffs and efforts to make the first Trump administration's tax cuts permanent appear likely. However, with a narrow House majority, Republicans cannot afford to lose any support when passing legislation. Other reforms may be supportive for growth, but their effectiveness remains to be seen.

The new administration presents risks for the economy, but several downside risks already exist. The Conference Board index of leading economic indicators has been negative year-over-year since 2022. This is partly due to an inverted yield curve, which may have less predictive power now than in past recessions. The inverted yield curve reflects the bond market's expectation that the Fed will cut interest rates in the future. However, the US is coming off a period where the economy was running hot, so some tightening was appropriate to prevent overheating and hopefully achieve a soft landing. So far, the data support a soft landing.

But if the Fed cannot achieve this, it will be evident in the data. Historically, when the US enters a recession, unemployment claims spike higher. As Figure 3 shows, we haven't seen that yet.

US Unemployment Claims 25.000 7,000 6,000 20,000 5,000 15,000 4,000 242 10,000 1,886 3,000 2,000 5,000 1,000 n ſ 2019 2024 2004 2009 2014 Continuing Claims (RHS) nitial Claims Recession

Figure 3: Initial Unemployment Claims Remain Near Historical Lows

Source: Bloomberg as of 06-Dec-2024

The post-COVID recovery has been more muted outside the US. Eurozone economic activity struggled in 2023 and 2024 with GDP growth averaging below 1%. Factors such as higher energy costs, elevated policy rates, burdensome regulations, and political uncertainty have hindered growth and are likely to continue doing so in 2025.

Risks to Our Outlook

While our base case for 2025 assumes a benign macro environment conducive to risk assets, we recognize a range of potential risks that could act as headwinds and contribute to heightened financial market volatility.

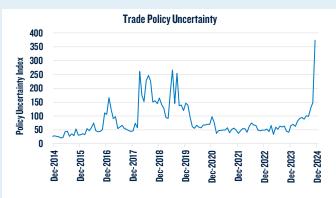
Policy Risks from Trump's Second Term

As global investors brace for President Trump's return to the White House in 2025, several key policy risks could disrupt markets. Trump's "America First" foreign policy, characterized by tariffs, trade wars, and skepticism toward international agreements, could escalate tensions with major trading partners such as China, the EU, and Mexico. Although campaign promises of imposing tariffs up to 60% on Chinese imports and 10-20% on goods from other nations are unlikely to be fully implemented, tariffs are expected to be used as a negotiating tactic and are likely to rise to some degree. The appointment of hardline "China hawks" to key positions and a rush to fulfill campaign promises in the early days of the administration could heighten global trade uncertainty and market volatility as investors reassess the impact of such policies on global growth, inflation, and corporate earnings. Nevertheless, expectations are currently for a modest improvement in the pace of growth in the year ahead, supported by European Central Bank (ECB) rate cuts and robust global demand. According to the ECB's Q4 SPF, GDP growth is expected to pick up to 1.2% in 2025 from 0.7% in 2024.

The Japanese economy also struggled in 2024, starting with an auto safety scandal disrupting production in Q1 and consumers struggling with rising living costs. However, activity quickly rebounded mid-year despite the fallout from political scandals and yen volatility. Looking ahead to 2025, growth is expected to recover, albeit at a modest pace. The Bank of Japan's (BoJ) October 2024 outlook forecast GDP growth of 1.1% for 2025, up from 0.6% for 2024. Strong global demand and household consumption will help underpin 2025 growth, along with increased investment in human capital and business fixed investment.

In contrast to the Eurozone and Japan, the Chinese economy has reported much higher growth rates, although the pace of growth has slowed post-GFC. The economy continued to struggle in 2024 with real estate sector disruptions. The government responded with a variety of <u>fiscal and monetary stimulus</u> measures, which may temporarily boost GDP growth but may not be sufficient to restore past trend growth, particularly with the new US administration threatening further trade restrictions.

Figure 4: Trade Policy Uncertainty Spiked Sharply to Highest Level in a Decade



Source: Caldara, Dario, Matteo Iacoviello, Patrick Molligo, Andrea Prestipino, and Andrea Raffo, "The Economic Effects of Trade Policy Uncertainty," manuscript presented at the 91st meeting of the Carnegie-Rochester-NYU Conference on Public Policy, April 2019. Data as of 06-Dec-2024

Immigration Policy and Labor Market Tightness

A renewed focus on restricting both legal and illegal immigration could lead to labor shortages in critical industries such as agriculture, construction, and technology. On the campaign trail President-elect Trump promised the largest mass deportation of undocumented migrants in US history. While an immigration crackdown may boost domestic wages in the short term, it could also hinder long-term productivity growth by disrupting the flow of highly skilled workers to the US from other countries. Companies and industries heavily dependent on immigrant labor may be subject to abrupt policy shifts, potentially increasing economic and financial volatility.

Fiscal and Monetary Policy Risks

Aggressive government spending, combined with either fresh tax cuts or the permanent implementation of the first Trump administration's tax cuts, could exacerbate the already wide fiscal deficit, putting pressure on bond markets and raising borrowing costs for the US government. This could dampen investor sentiment and fuel market volatility. Additionally, with the labor market already tight, further fiscal stimulus may overheat the economy, leading to a resurgence of inflationary pressures. The Fed could then be forced to reverse course and hike interest rates to control inflation, negatively impacting equity markets, particularly high-growth sectors. Such an environment may also bring a reprise to Trump's political pressure on the Fed, further fueling market uncertainty.

Geopolitical Risks and Global Tensions

Beyond domestic policy risks, several geopolitical developments could cause significant market turbulence. The ongoing conflict in Ukraine remains a key concern, with the potential for further escalation that could disrupt global supply chains, particularly in energy and food markets. Similarly, failure to reach a ceasefire agreement in the Israel-Gaza conflict that leads to the release of the remaining hostages could lead to an escalation, with the potential to draw in Iran and its proxies, driving oil prices higher and impacting the global economy. Additionally, tensions in the Taiwan Strait, exacerbated by an already fraught US-China relationship, could trigger sharp volatility in global equity markets. Any instability in this region could prompt a flight to safer assets such as gold and US Treasuries, further weighing on risk assets. Unexpected political developments in various countries could negatively impact financial markets. Recent events in France and South Korea serve as stark examples. In France, Prime Minister Michel Barnier's government was ousted in a noconfidence vote after attempting to force through an unpopular budget using controversial constitutional measures, threatening France's economic stability.

Similarly, South Korea has experienced significant political turmoil. President Yoon declared a state of martial law, only to rescind it hours later following a unanimous parliamentary vote. The President now faces calls to resign. This political crisis comes at a time when South Korean equities were already underperforming regional peers, global trade uncertainties were increasing due to the incoming Trump administration's policies, and the country's crucial "value-up" corporate governance and shareholder rights reform initiative needed stronger momentum. In Syria, the ouster of Bashar al-Assad by Islamist rebels has cast a shadow of uncertainty over the country's future. Given the involvement of various international actors, including Israel, Turkey, Iran, and Russia, the potential regional implications of this development are far-reaching.

China Growth

China's economic growth has continued to decelerate as the nation grapples with a shift from investment-led to consumption-driven growth. Concurrently, China's leadership is prioritizing a tech-driven, self-reliant growth model, which could further dampen near-term growth rates. This transition is complicated by several challenges: a rapidly aging population, the property market crisis, flagging private sector confidence, and heightened geopolitical tensions with the US. A more pronounced slowdown in China could have significant ripple effects on global trade, commodity prices, and investment flows.

Together, these policy and geopolitical risks create a complex environment for global financial markets in 2025. Investors will need to navigate both domestic and international uncertainties that could disrupt growth and market stability.

Market Outlook

More Risk, Less Reward?

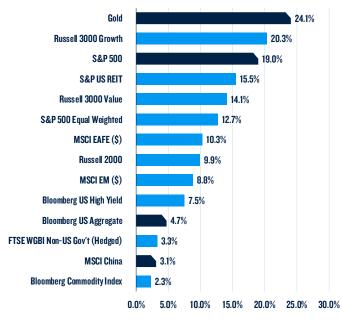
According to the Chinese zodiac¹, 2024 was the Year of the Dragon. The Dragon is considered to be the most powerful and auspicious animal, symbolizing, among other things, prosperity. Financial markets aligned with these expectations, as risk assets performed strongly, with stocks reaching several new record highs over the course of the year.

Risk assets started 2024 strong, with several equity indexes reaching all-time highs driven by rising expectations for a soft landing and AI optimism. However, this momentum gave way to mixed performance as investors focused on risks, including fewer anticipated Fed rate cuts due to lingering inflation fears. While risk assets resumed their strong performance in the second half of the year, volatility persisted due to disappointing earnings results from large tech companies and concerns about weak economic data. Markets eventually rebounded as Chair Powell signaled the Fed's pivot to start the rate-cutting cycle, US economic data improved, and China announced additional stimulus measures.

Leading up to the Fed's September meeting, the S&P 500 Index advanced by nearly 20%, with gold delivering even stronger returns. EAFE stocks posted moderate gains while the Bloomberg US Aggregate Index, which saw increased volatility throughout the year, rose modestly. In contrast, gains in China equities and commodities were meager (Figure 5).

Figure 5: Gold and Growth Stocks Lead in Run-Up to Fed Pivot



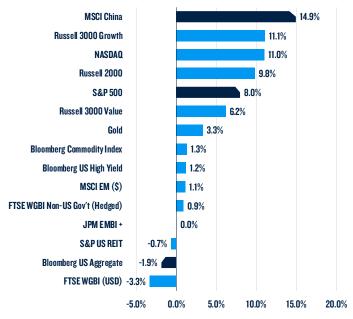


Source: FactSet as of 03-Dec-2024

The equity market rally continued following the September Fed meeting and was further fueled by the re-election of President Donald Trump with a clear mandate (Figure 6).

Figure 6: China Surges, US Maintains Rally





Source: FactSet as of 03-Dec-2024

However, while US equities maintained momentum, fixed income and EAFE stocks retreated amid concerns about tariffs and deficits. In the final stretch of the year, Chinese stocks posted strong gains, bolstered by policy measures outlined by government aimed at supporting the economy and markets, especially in anticipation of potential tariffs from the incoming US administration.

To extend the zodiac theme, 2025 is the Year of the Snake, which symbolizes transformation. So, will 2025 live up to this expectation or will we continue to see more of the same?

Our base case for the macro environment during 2025 and into 2026 remains benign and supportive of risk assets. Resilient economic growth has kept the US economy on track for a soft landing. <u>PGIM Quant's US recession sentiment indicator</u> is well above its August 2024 lows, when recession fears were rising, suggesting a low probability of recession. However, January's Presidential inauguration likely brings both opportunities and challenges for financial markets. While the details and the timing of the Trump administration policies remain uncertain, we anticipate a combination of tax cuts, deregulation, and supportive financial conditions to bolster risk assets throughout 2025.

https://www.chinahighlights.com/travelguide/chinese-zodiac/

Earnings growth, which had been very concentrated in Big Tech during the early part of the year, started to broaden out, a trend that we expect to continue over the course of 2025 (Figure 7). The corporate environment remains constructive, with the incoming administration likely to focus on extending and modifying the Tax Cuts & Jobs Act (TCJA) measures providing tax breaks for households and increasing deregulation to boost productivity. Additionally, the macro environment still suggests a period of moderate inflation, all of which bodes well for the earnings outlook. Corporate transcript sentiment has further improved over 2024 surpassing the levels seen during 2021 when corporates enjoyed strong sales and margins coincident with the post-COVID economic rebound.

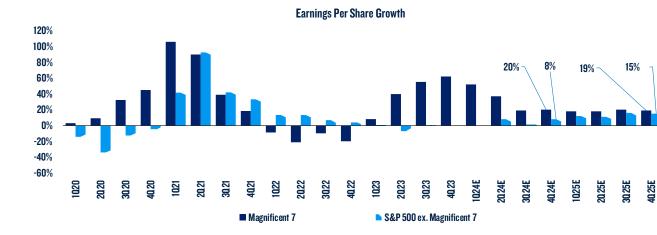


Figure 7: Earnings Growth Broadening Out

Source: Bank of America Global Research as of 05-Dec-2024

However, valuations for risk assets, especially stocks, are historically extended and also high compared to fixed income (Figure 8). With the S&P 500 gaining around 28% in 2024 following a 26% advance in 2023, the forward price-to-earnings multiple stands at 22.2x, placing it in the top percentile historically. Most industries and sectors are also trading at rich multiples. The valuation of stocks relative to bonds is similarly unattractive, with a stock earnings yield of 3.7% well below the 10-year Treasury yield of around 4.2%. While the strong expected earnings outlook could help moderate valuation multiples as they materialize, there is a risk that policy uncertainties could trigger a pullback in stocks similar to the brief but sharp sell-off seen in August 2024.

Figure 8: Stock Valuations Extended Relative to Bonds



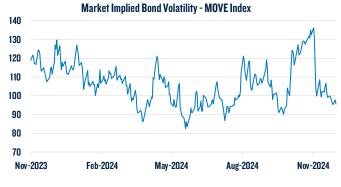
Source: Bloomberg as of 06-Dec-2024

Internationally, the outlook for stocks remains mixed despite undemanding valuations and a moderate earnings growth outlook. The specter of Trump administration tariffs is weighing on sentiment in both developed and emerging markets. With US dollar strength likely to continue in the short term, the pressure on international assets, particularly equities, is also likely to persist for much of 2025.

Overall, we see risk assets buffeted by solid growth and abundant liquidity on one hand, and significant policy uncertainty on the other. Thus, our expectations for risk assets are for modest returns for the full year, accompanied by increased volatility.

Yield curves steepened over 2024 as the Fed commenced rate cuts in September, while economic growth remained surprisingly strong. With inflation remaining sticky, however, progress toward the Fed's target hasn't been smooth. Divergences between market expectations and the Fed's projections have led to episodes of increased volatility, with yields swinging wildly between pricing in a looser or more restrictive Fed outlook. Spikes in fixed income volatility (Figure 9) are likely to continue in 2025 as inflation remains persistent.

Figure 9: Spikes in Bond Volatility Likely to Continue



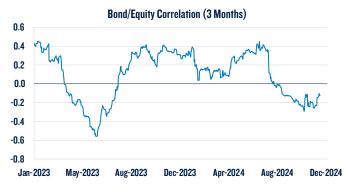
Source: Bloomberg as of 03-Dec-2024

As growth continues to slow from the stronger pace of 2023 and 2024, concerns about a slowing labor market are likely to keep the Fed focused on normalizing rates towards neutral levels, around 3%. Yield curve steepening is likely to continue in the new year with the short end of the curve rallying as the Fed continues to gradually reduce policy rates. However, the potential impact on the fiscal deficit from the Trump administration's spending and tariff plans will likely keep the Fed cautious about cutting rates too quickly, keeping long-term yields elevated.

Commodities have had a relatively poor year in 2024. The bull case for commodities in the new year lacks strong conviction, largely depending on the extent of China's economic stimulus. Meanwhile, President-elect Trump has signaled that he may use tariffs as a tool to negotiate bilateral issues, which could dampen risk appetite and market sentiment for commodities. The outlook for energy is even murkier. Relaxation of restrictions in the US could result in positive surprises in US crude production, even as the global supply outside the US remains abundant at a time when demand growth is slowing. However, commodities are likely to perform well if there is an inflation surprise, outpacing other inflation hedges such as REITs and TIPS. This suggests that investors could benefit from maintaining their strategic positions in commodities. US real estate values have been steadily normalizing over the past two years. During 2024, valuations for both public and private real estate stabilized and are less extended than those in other equity sectors. With attractive income levels and growth potential, real estate could deliver compelling risk-adjusted expected returns.

More risk, less reward...but will we get a free lunch? Stock-bond correlations had been positive for almost a year prior to the September Fed meeting. In the second half of 2023, correlations had increased as yields spiked higher due to inflation concerns and surging geopolitical tensions in the Middle East. <u>Correlations remained high in the first three quarters of this year</u>, but broke into negative territory as major central banks began their easing cycle (Figure 10).

Figure 10: Stock-Bond Correlation Starting to Diversify Portfolios



Source: PGIM Quant as of 09-Dec-2024

If central banks continue to normalize rates, negative stock-bond correlations could provide a respite for investor portfolios, which are likely to face more volatility and lower compensation for taking on risk.

Trump Term Two: Tariffs Déjà Vu?

Financial markets are buzzing with anticipation as the US prepares for President-elect Donald Trump's second term. From a macroeconomic standpoint, several policies advocated by the President-elect could profoundly impact economic conditions and the business climate in the US and abroad. But tariffs are the elephant in the room. Tariffs were a pivotal policy move during Trump's first term, and are likely to be at the top of the agenda for the second. Bloomberg² reported on December 4, 2024, President-elect Trump has begun discussions with the leaders of Canada and Mexico about potential tariffs. These could serve as bargaining chips to advance US trading interests

without actually being implemented. Similarly, trade tensions with China are escalating, with The Wall Street Journal³ noting that the US effective tariff rate against China exceeds 10%, while remaining below 4% for all other countries.

We examined the timing of tariff announcements made during Trump's first term in office and the subsequent market. Figure 11 shows market returns during the period in 2018 when the US imposed tariffs, which were followed by retaliatory tariffs on US imports announced several months later:

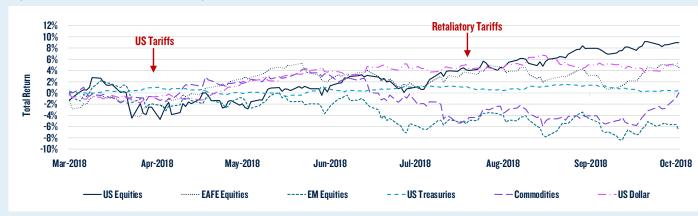


Figure 11: Market Performance Following 2018 Tariff Announcements

Source: Bloomberg as of 01-Oct-2018, EAFE and EM returns hedged to USD

- Most major currencies depreciated significantly against the US dollar three months after the March 2018 announcement of US tariffs on aluminum and steel imports, particularly in emerging markets.
- Most major equity markets experienced negative performance one month after the imposition of tariffs. However, three months after the announcement, most developed markets had rebounded with positive equity performance, while emerging markets continued to struggle.
- Most major equity markets saw a significant rally following the retaliatory tariffs on US imports implemented by some nations in June-July 2018.

Investors can take cues from Trump's first term when trying to anticipate future market moves. By analyzing past trends, we find that, broadly speaking, US tariffs on imports can cause the US dollar to appreciate relative to other currencies, but also potentially expose equity markets to increased volatility, particularly in emerging markets. On the other hand, the implementation of retaliatory tariffs can reduce some market uncertainty, resulting in a relief rally across most regions.

As President-elect Trump prepares for his second term, investors face a familiar yet complex landscape. Understanding past market reactions to Trump's policies, tax cuts, and tariffs will be informative for making portfolio positioning decisions. We examined historical trends that can be useful in building a framework for navigating market volatility in our <u>white-</u> <u>paper on election cycle volatility</u>, in which we observe that increased uncertainty leading up to an election often spurs a rally afterward as investors collectively exhale. When markets are unpredictable, strategies such as portable alpha overlays (for institutions) and buffered ETFs can help manage downside protection while maintaining market exposure to potential gains. With the election results in, investors can use insights from Trump's first term to anticipate the impact of potential future policy changes.

²https://blinks.bloomberg.com/news/stories/SNO8C0T0AFB4

³https://www.wsj.com/economy/trade/trump-tariff-rates-china-world-trade-charts-3d6aee09?mod=Searchresults_pos1&page=1

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Emerging markets are countries that are beginning to emerge with increased consumer potential driven by rapid industrial expansion and economic growth. Investing in emerging markets is very risky due to the additional political, economic and currency risks associated with these underdeveloped geographic areas. Fixed-income investments are subject to interest rate risk, and their value will decline as interest rates rise. Unlike other investment vehicles, U.S. government securities and U.S. Treasury bills are backed by the full faith and credit of the U.S. government, are less volatile than equity investments, and provide a guaranteed return of principal at maturity. Treasury Inflation-Protected Securities (TIPS) are inflation-index bonds that may experience greater losses than other fixed income securities with similar durations and are more likely to cause fluctuations in a Portfolio's income distribution. Investing in real estate poses risks related to an individual property, credit risk and interest rate fluctuations. High yield bonds, commonly known as junk bonds, are subject to a high level of credit and market risks. Investing involves risks. Some investments are riskier than others. The investment return and principal value will fluctuate and when sold may be worth more or less than the original cost.

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ABOUT PGIM Quantitative Solutions

As the quantitative and multi-asset specialist of PGIM, we combine the agility of an independently run boutique with the stability and scale of a leading global institutional asset manager.* For 50 years, we have designed proprietary methods that seek to solve beyond alpha by combining the latest technology with scalable, rigorous risk controls to nimbly build and manage diversified and customized solutions that help solve clients' evolving challenges. We manage portfolios for a global client base with \$103 billion** in assets under management/ administration as of September 30, 2024.

*PGIM is the investment management business of Prudential Financial, Inc. (PFI). PFI is the 12th largest investment manager (out of 411 firms surveyed) in terms ofworldwide institutional assets under management based on Pensions & Investments' Top Money Managers list published June 2024. This ranking represents institutional client assets under management by PFI as of December 31, 2023. Participation in the P&I ranking is voluntary and open to managers that have any kindof U.S. institutional tax-exempt AUM. Managers self-report their data via a survey. P&I sends the survey to previously identified managers and to any new managers asking to participate in the survey/ranking.

**PGIM Quant provides model portfolios for certain accounts, the assets of which (Assets Under Administration) are included in the total AUM/AUA figure of \$102.9 billion, (AUM \$100.1 billion and AUA \$2.8 billion).