

## Insights from Cutting Through Central Bank Narratives

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Market participants dedicate significant time and effort anticipating changes in central bank policy rates. They do so given monetary policy's direct influence on market-determined interest rates as well as its consequent effect on economies and the value of financial assets. Following the inflation shock of 2022, central banks' transition from forward guidance to data dependence has complicated this exercise, leading to substantial fluctuations in markets' expectations of policy rates as we [highlighted in our first-quarter outlook](#). Our probabilistic analysis sheds light on how those fluctuations have evolved and provides a tool for contrasting fundamental views with those priced by rates markets.

Investors generally assess swings in policy-rate expectations through forward interest rates. However, when referenced in isolation, forward rates miss valuable information within interest-rate derivatives, such as the probability distribution of outcomes around those forward rates. In some advanced economies with deep and sophisticated financial markets, such as the U.S. and the eurozone, options markets can indicate whether there is a pricing bias toward higher or lower rates relative to the most likely path over a specified time horizon.

The market pricing of such a path - and the directional risks around it - can provide investors with insights on three critical fronts.

First, it allows us to compare the markets' central case (and its accompanying tail scenarios) to our own probabilistic assessment. For example, the pricing in front-end rate markets may indicate a high probability that central banks maintain elevated policy rates to cool economic growth. However, our own assessment in this example could suggest a materially lower probability of high interest rates. Such a discrepancy could provide the basis for interesting investment opportunities as we explain below. Indeed, one of our recent posts explained how to compare "what is in the price" relative to our top-down, probabilistic views.

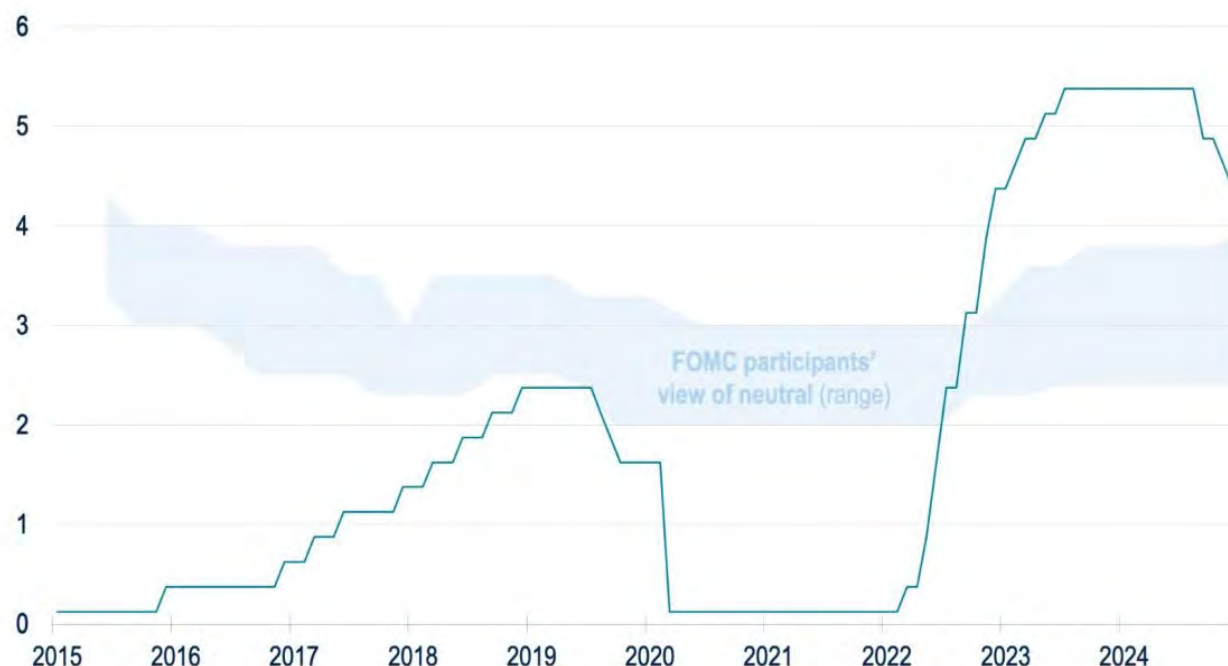
Second, the probabilistic pricing of interest rates can also provide insights into the evolution of investors' views. The following analysis explains the wild swings in the market's assessment of front-end interest rates in 2024, particularly the large divergence that emerged between the respective outlooks for Federal Reserve and ECB monetary policy late last year. Third, we use this tool for tail-risk analysis considering how front-end rates can indicate recession probabilities.

### The Case of Shifting Central Bank Narratives

To assess the market's probability pricing, investors must establish ranges that represent these outcomes, and ours are based on the stance of monetary policy. We define the potential policy stance for the Fed and ECB as "accommodative," "neutral," or "restrictive." While determining the range consistent with a neutral policy setting is challenging, we can look to

the banks' respective projections and communications for guidance. For example, in the Fed's Summary of Economic Projections, the neutral range estimated by FOMC participants falls roughly between 2.5% and 4.0%.<sup>1</sup> While the ECB does not publish official estimates of neutral, we infer from its commentary, analyst estimates, and our own view that the range is between 1.5% and 2.5%. With a neutral range defined, we classify policy above this range as "restrictive" and below it as "accommodative" (see Figure 1 for a U.S.-based example).<sup>2</sup>

**FIGURE 1: The Fed Funds Rate and the FOMC's View of Neutral (%)**



Source: PGIM Fixed Income

With that methodological background, the following looks at the drivers behind the recent swings in central bank pricing and narratives before turning to the market-implied probability of policy rates by the end of 2025.<sup>3</sup>

Starting with the U.S. in early 2024, the market initially assigned roughly equal probabilities to each policy stance. Following three strong CPI prints, the probability of a "restrictive" stance increased to about 60% in mid-April (light blue line in Figure 2).

However, as inflation prints moderated and officials gained more confidence that inflation was moving toward target, the probability of a "neutral" outcome began to rise (navy line). By mid-summer, weaker labor-market data prompted an increased likelihood of an "accommodative" stance (teal line). Following the U.S. presidential election, a bump in economic optimism, and a string of robust economic data, markets shifted back toward pricing a "restrictive" stance with a potential policy rate of more than 4.0%.

**FIGURE 2: After pronounced shifts, U.S. markets are again pricing in “restrictive” policy by YE ‘25 (%)**



Source: PGIM Fixed Income

Similar shifts occurred with the ECB as pricing for “restrictive” policy by the end of this year peaked at nearly 70% in May 2024 (Figure 3). Moving into the third quarter, the start of the ECB’s cutting cycle and signs that the Fed would soon follow led to a large repricing. By the fourth quarter, persistent weakness in EA data led ECB market expectations to decouple from those of the Fed. The ECB is now firmly expected to reach “neutral” (i.e., a policy rate between 1.50% and 2.50%) by the end of 2025, in contrast to expectations for “restrictive” Fed policy (i.e., >4.0%).

**FIGURE 3: Euro Area pricing for YE '25 has Shifted from Restrictive to Neutral (%)**

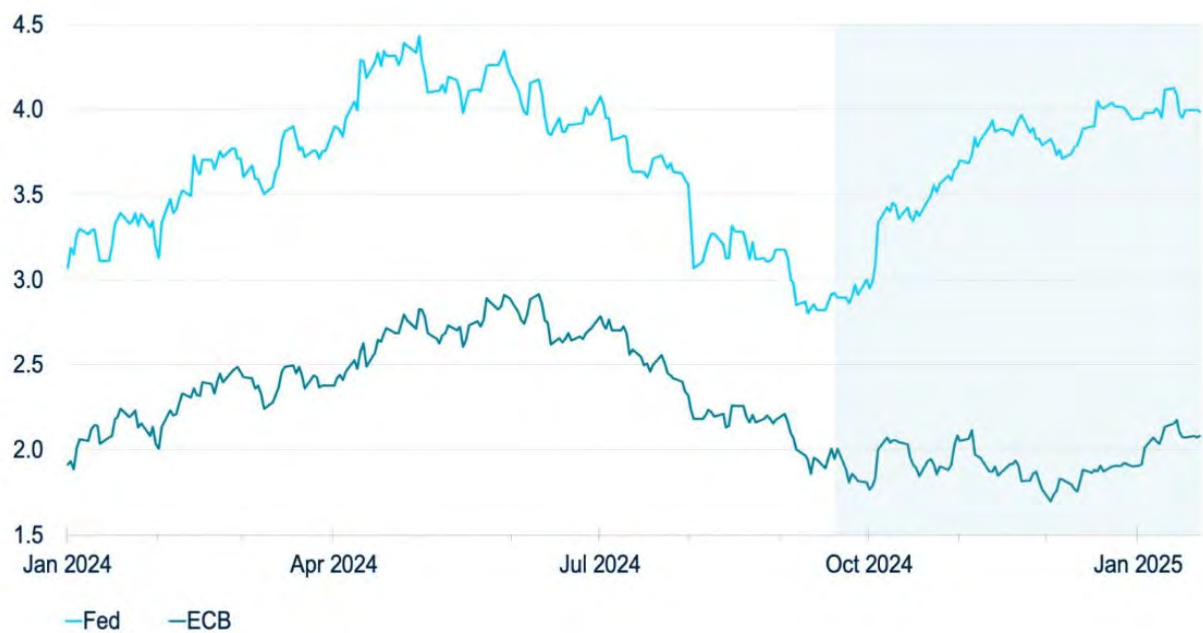


Source: PGIM Fixed Income

### An Unusual Divergence in Market Pricing of Fed and ECB Expectations

Expanding on our framework from the previous section, we can compare the probabilities the market assigns to each central bank’s policy stance to shed light on this divergence. Figure 4 shows Fed policy rate expectations were about 130 bps higher than those of the ECB as of mid-2024, and that gap expanded to nearly 200 bps in early 2025.

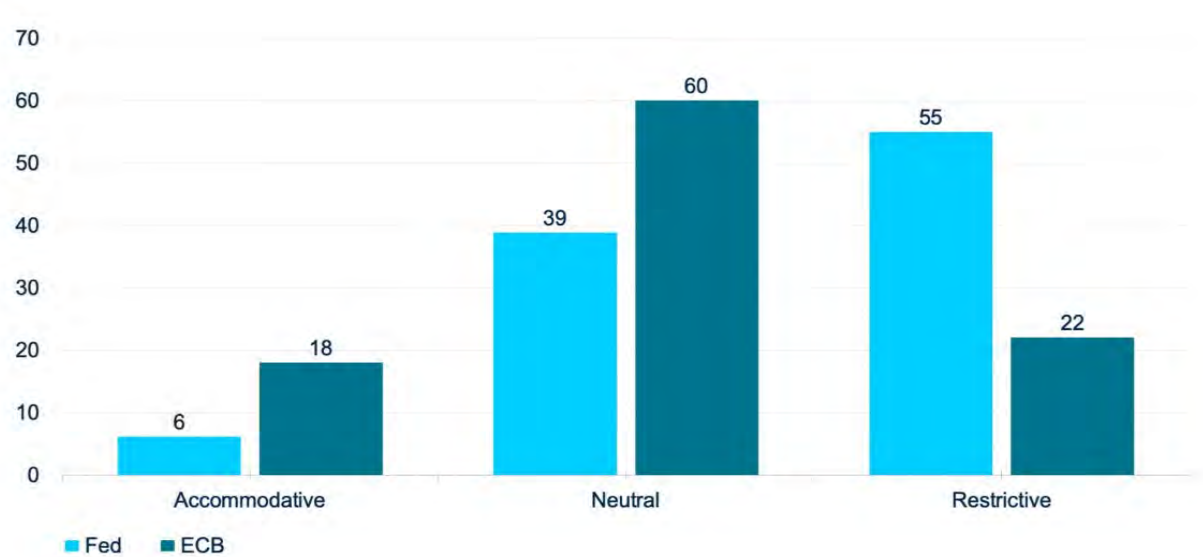
**FIGURE 4: The significant divergence that opened up in Fed and ECB pricing (%)**



Source: PGIM Fixed Income. Pricing is through the end of 2025.

We now return to the market-implied probabilities on the respective policy stances. Notably, markets are now pricing the Fed’s modal outcome as “restrictive” or in a “higher r\*” environment by the end of the year. In contrast, the market’s base case for the ECB is for policy to return to “neutral,” with risks around that outcome roughly balanced (Figure 5).

**FIGURE 5: Fed and ECB policy probabilities are skewed towards “Restrictive” and “Neutral,” respectively (%)**



Source: PGIM Fixed Income.

In addition to the U.S./Europe growth differential, the divergence in probabilities may be influenced by the Trump administration's policies. While it is difficult to determine the outcome of such policies, the market response suggests it is anticipating a higher growth and inflationary backdrop in the U.S. Moreover, certain policies, such as tariffs, present risks to the European economy given the U.S. is a major trading partner.

## Gauging U.S., EA Recession Probabilities

The divergence between the pricing of front-end rates in the U.S. and the euro area also raises the question of how these markets are pricing in recession probabilities. The left tails (i.e., the “accommodative” ranges) in Figures 2 and 3 assume central banks cut policy rates below our views of the neutral policy rate - cuts which often signal recessions or at least significant economic slowdowns. As a result, we view the mass of probability to the left of “neutral” as a proxy for the probability of a recession.

In the U.S., this probability was around 6% in January 2025. This means that the front-end rates markets are pricing a 6% probability of the deep rate cuts that are often associated with a recession. In the euro area, this probability is higher at around 18%. At the time of writing, our economists believe the recession probability in the U.S. and euro area is 15% and 20%, respectively. Such discrepancies with the market can form the basis for investment opportunities.

Market commentators have strong views about the probability of recession, but often times they are not based on concrete information. The tool described in this post provides a concrete starting point for determining how our recession views may differ from those priced into the market.

These probabilities can also be tracked over time to give an indication of how the rates markets' recessionary pricing has evolved. For example, Figure 2 shows that this U.S. recession probability rose from around 10% to just under 40% from July to early October 2024. However, the probability subsequently dropped to 6% as financial conditions improved.

In Europe, the left tail probability (i.e., “accommodative”) was also around 10% in July reflecting a gradual growth recovery and falling inflation. Since July, the probability of recession climbed to 40% as markets became preoccupied by a faltering recovery (notably in Germany), the prospect of U.S. tariffs, and the fiscal and political risks in France and Germany. Since late November, that probability has fallen again due to stabilizing activity data in the euro area, expectation of a shallower Fed cutting cycle, and fewer political headlines in the eurozone.

## Conclusion

Investors typically form views about interest-rate expectations by comparing forward rates with their own assessment over a certain horizon. The probabilistic approach presented in this post provides a richer framework to construct views and to monitor policy-rate expectations. For example, although forward rates at the same level may indicate similar interest-rate expectations, markets could be pricing in a completely different probability distribution.

Such information can be combined with fundamental analysis to support contrarian market views. Indeed, markets are currently pricing in a relatively hawkish Fed and a slight probability of a U.S. recession. Our view on that probability distribution is more balanced, which underpins our constructive view on U.S. Treasuries in 2025. This framework also provides a useful monitoring tool for assessing how probabilistic market pricing evolves beyond anecdotal evidence. The latter is frequently observed when investors discuss the probability of recession without considering the pricing across global markets.



1. <https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20241218.pdf>
2. Note that even with a wide range defined for “neutral,” such estimates are still subject to considerable uncertainty. Thus, while we have defined rates outside this range as “restrictive” or “accommodative,” we must also recognize these ranges outside of neutral may reflect “higher  $r^*$ ” or “lower  $r^*$ ” scenarios as well.
3. To derive probabilistic pricing we use options on 3-month SOFR and Euribor futures expiring in December of 2025.

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Source(s) of data (unless otherwise noted): PGIM Fixed Income, as of January 2025.

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