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MONETARY POLICY ASYMMETRIES AND INFLATION GAPS: WHEN THE FED MOVES AND THE ECB WAITS

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Abstract: This paper investigates how inflation differentials and asynchronous monetary policy responses between the United States and the Euro Area have shaped USD/EUR exchange rate dynamics in the post-pandemic period. While inflation surged on both sides of the Atlantic between 2021 and 2023, the Federal Reserve reacted swiftly and decisively with an aggressive cycle of interest rate hikes. In contrast, the European Central Bank delayed its response, maintaining accommodative conditions for longer despite rising price pressures. This divergence created significant monetary policy asymmetries with clear effects on financial markets and international capital flows. The faster pace of tightening in the United States increased the attractiveness of dollar-denominated assets and strengthened the dollar, while the euro depreciated as European rates remained lower for an extended period. Using comparative data from 2020 to 2025, including consumer price indices, policy rate decisions, and exchange rate fluctuations, this study explores the transmission mechanisms linking monetary policy divergence, inflation expectations, and currency valuation. The findings suggest that inflation gaps, when combined with differences in central bank timing and intensity, have a direct and lasting impact on the USD/EUR exchange rate. The analysis highlights how credibility and expectation management are essential for monetary authorities in sustaining exchange rate stability within an interconnected global financial system.
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1. Introduction

The COVID-19 pandemic changed the global economy in ways not seen before. It caused big problems for supply chains, a sudden fall and then rise in demand, and strong shocks in energy markets. One important result was the fast increase in inflation. Both the United States and the Euro Area had to face this challenge, but their central banks reacted in very different ways. The Federal Reserve (Fed) acted fast and strong, while the European Central Bank (ECB) was slower and more careful. These differences, together with the gap in inflation, had a strong effect on the USD/EUR exchange rate, the most traded currency pair in the world.

The United States and the Euro Area are two of the largest economies in the world. Together they produce almost 40% of global GDP (World Bank, 2023). Their currencies, the US dollar and the euro, are used in more than 70% of world reserves (IMF, 2022). Because of this, their monetary policies matter not only for their own economies, but also for the stability of the global financial system. When the Fed raises interest rates quickly and the ECB waits longer, the effects are felt far beyond their borders.

In the United States, inflation reached 9.1% in June 2022, the highest level in forty years (Bureau of Labor Statistics, 2022). The Fed reacted with one of the fastest increases in interest rates in modern history, moving from near zero to more than 5% in a little more than a year. In the Euro Area, inflation reached 10.6% in October 2022, mainly because of high energy prices after the war in Ukraine (Eurostat, 2022). But the ECB was slower, keeping low or even negative interest rates until mid-2022, and only later raising them step by step.

Economic theory says that inflation differences and interest rate gaps influence exchange rates (Dornbusch, 1976). In reality, expectations, credibility of central banks, and financial markets also play a strong role. Bond markets are especially important. When yields on US Treasuries increased, they attracted investors and made the dollar stronger. Lower yields on euro-denominated bonds made the euro weaker. This shows that bond markets can amplify the effects of monetary policy divergence.

This paper asks a simple question: how much did inflation gaps and different policy reactions explain the movements of the USD/EUR exchange rate between 2020 and 2025? The aim is to see if the faster reaction of the Fed, compared to the slower ECB, explains the appreciation of the dollar and the depreciation of the euro. The paper uses data on inflation, interest rates, bond yields, and exchange rate dynamics to study these connections.

The contribution of this study is twofold. First, it explains how inflation differentials and monetary policy asymmetries shaped the USD/EUR exchange rate in the post-pandemic period. Second, it highlights the importance of credibility and expectation management by central banks as essential factors for currency stability in an interconnected global financial system. This approach provides a broader perspective than traditional models, which often focus exclusively on inflation levels and interest rates.

2. Literature review

Research on exchange rate determination has a long tradition in economics. Classical theories argue that inflation and interest rates are key drivers of currency values. The Purchasing Power Parity (PPP) theory suggests that exchange rates move in line with differences in inflation between two countries. If prices rise faster in one economy than in another, its currency should lose value over time (Cassel, 1918). Similarly, the Interest Rate Parity (IRP) condition links exchange rates to differences in interest rates. Investors move their capital to markets with higher returns, and this creates pressure on exchange rates (Dornbusch, 1976).

Later research has added more complexity to these models. Dornbusch (1976) introduced the overshooting model, which shows that exchange rates can move too much in the short run when interest rates change. Expectations and the credibility of central banks became central in modern exchange rate theory. Obstfeld and Rogoff (1995) argued that financial markets react not only to present inflation and interest rates but also to what they expect central banks will do in the future.

A second strand of literature studies the divergence of monetary policies between major central banks. Several papers examined how different responses by the Federal Reserve and the European Central Bank affect the USD/EUR exchange rate. Lane (2012) shows that during the global financial crisis, differences in timing between Fed and ECB policies created strong movements in the euro-dollar rate. Ferrari and Fiorentini (2017) analyzed the period 2014–2016, when the Fed began to tighten earlier than the ECB, and found that the dollar appreciated strongly as a result. These studies suggest that asynchronous monetary policy is an important driver of exchange rate volatility.

The literature also emphasizes the role of inflation gaps. Clarida (2021) notes that when inflation is higher in one economy, its central bank is under pressure to raise rates faster. If the other central bank reacts more slowly, the result is a divergence that affects capital flows and the exchange rate. Empirical studies from the post-pandemic years confirm that inflation rose earlier and stronger in the United States than in the Euro Area, which partly explains the appreciation of the dollar (BLS, 2022; Eurostat, 2022).

Another important line of research deals with sovereign bond markets. Bond yields reflect not only current policy rates but also expectations about inflation, growth, and fiscal sustainability. Chinn and Meredith (2004) showed that yield spreads between US Treasuries and German Bunds explain medium-term movements in the USD/EUR rate. More recent work suggests that bond markets amplify monetary policy divergence because they channel international capital flows.

When US yields increase faster than euro area yields, investors move to the US, which strengthens the dollar.

Despite this progress, some gaps remain in the literature. First, most studies focus either on inflation gaps or on monetary divergence, but not both together. Second, while the role of bond yields has been recognized, it has often been analyzed separately from exchange rate models. Few works integrate both dimensions, inflation differentials and monetary policy divergence, into one framework.

This paper contributes to the existing research by filling this gap. It brings together the main drivers identified in the literature and applies them to the special case of the post-pandemic period, 2020–2025. By combining data on inflation amd monetary policy decisions,, the study aims to explain how transatlantic policy asymmetries shaped the USD/EUR exchange rate in recent years.

3. Data analysis

As previously highlighted, the analysis of monetary policy asymmetries and inflation gaps between the United States and the Euro Area provides important insights into the post-pandemic economic environment. Based on CPI data from 2020–2025, published by the Bureau of Labor Statistics and Eurostat, it is possible to observe significant differences in the timing and magnitude of inflation dynamics across the Atlantic. These divergences shaped the policy responses of the Federal Reserve and the European Central Bank, with the Fed moving earlier and more aggressively, while the ECB initially adopted a slower and more cautious approach. The following section presents a comparative graph of CPI evolution in the United States and the Euro Area, which serves as a starting point for understanding how inflation differentials influenced monetary policy decisions and the subsequent impact on the USD/EUR exchange rate.

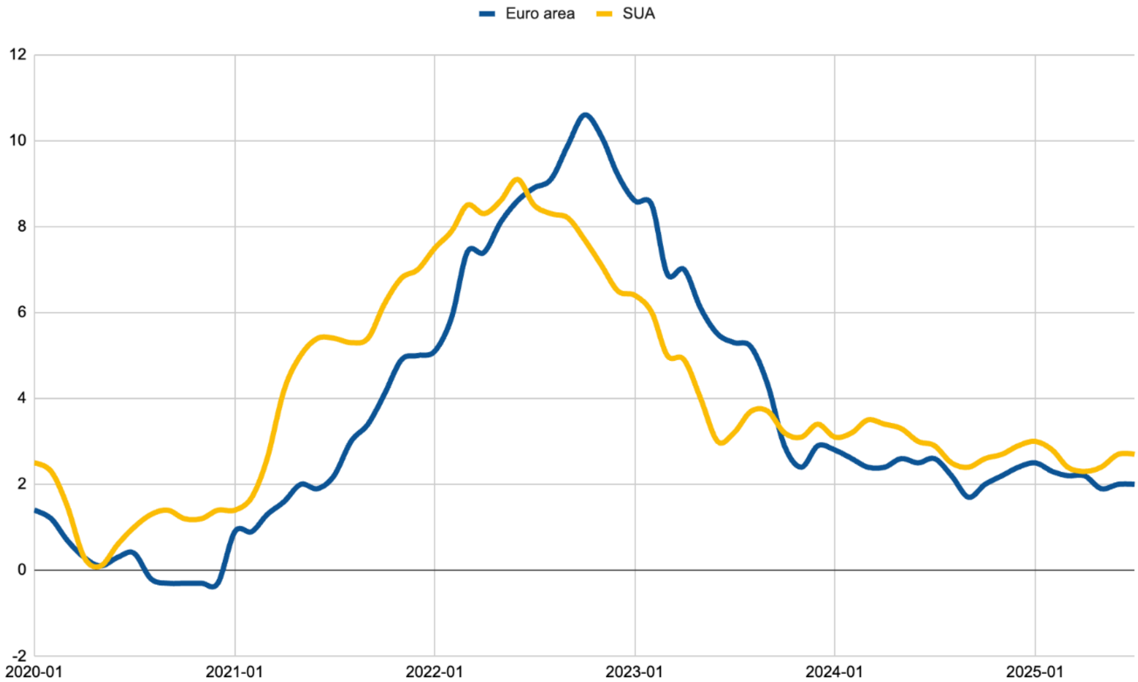

Figure 1: Evolution of CPI in SUA and Euro Area

Source: Bureau of Labor Statistics and Eurostat

The comparison of consumer price inflation in the United States and the Euro Area between 2020 and 2025 shows clear differences in timing and magnitude. In the first phase of the pandemic, the Euro Area even experienced a short period of deflation, while prices in the United States remained positive. This contrast was caused by stronger fiscal support and faster recovery in the

U.S., while Europe faced weaker demand and a deeper contraction. Inflation in the United States started to rise earlier, already in 2021, driven by strong domestic demand, supply chain problems, and large fiscal stimulus. In contrast, the Euro Area saw inflation rise later, but the increase became sharper after 2022, when the energy crisis and the war in Ukraine pushed prices to record levels. The peak of inflation reached around 9 percent in the United States in mid-2022, while in the Euro Area it climbed above 10 percent later that year. The reaction of monetary policy also differed: the Federal Reserve increased interest rates quickly and strongly, which helped reduce inflation from 2023 onwards. The European Central Bank acted later and more carefully, which made the decline of inflation slower. By 2024–2025, both regions moved closer to their 2 percent target, but the path was very different. The U.S. cycle was marked by early demand pressures and fast policy tightening, while the Euro Area cycle was dominated by external energy shocks and delayed policy response.

Beyond inflation itself, what matters for the international economy is how central banks react through their interest rate decisions. Policy rates influence the cost of credit, investor expectations, and capital flows, making them a central channel through which monetary policy shapes exchange rates. While inflation shocks triggered the initial divergence, the lasting impact came from the different speed and scale of interest rate adjustments. To illustrate this, the next figure presents the evolution of the key policy rates set by the Federal Reserve and the European Central Bank between 2020 and 2025.

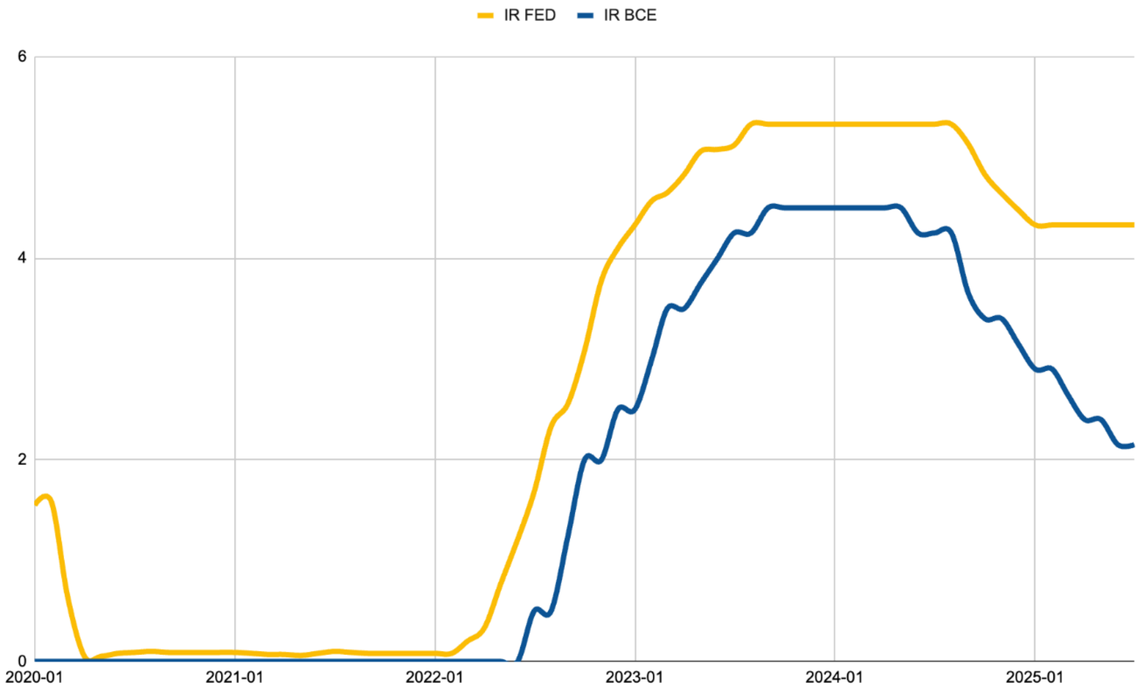

Figure 2: Evolution of interest rate FED vs BCE
Source: FRED and BCE

The comparison of policy interest rates in the United States and the Euro Area between 2020 and 2025 shows clear differences in timing and intensity. Both the Federal Reserve and the European Central Bank kept rates close to zero during the pandemic to support growth. However, from early 2022 the Fed started to raise rates much faster and reached a peak of around 5 percent, while the ECB reacted later and with a lower peak of below 4 percent. By 2024, another divergence appeared: the Fed started to cut rates earlier, while the ECB kept its policy tighter for longer. The reason for this lies in the structure of inflation and in the different mandates of the two central banks. In the United States, inflation was mainly driven by strong domestic demand, and once this pressure eased, inflation fell quickly and gave the Fed room to reduce rates. In the Euro Area, inflation was largely caused by external energy shocks and risks of persistence, so the ECB acted more cautiously. The Fed also has a dual mandate, including maximum employment, which encouraged earlier easing when signs of slowdown appeared, while the ECB's single mandate of price stability made it less willing to relax policy too soon.

Figure 3: Evolution of USD/EUR currency

Source: FRED

The evolution of the euro-dollar exchange rate between 2020 and 2025 clearly reflects the combined effects of inflation dynamics and monetary policy divergence between the United States and the Euro Area. During the pandemic years 2020 and 2021, the euro traded at relatively strong levels, often above 1.18 dollars per euro. This appreciation was linked to the massive fiscal stimulus and ultra-loose monetary policy in the United States, which put downward pressure on the dollar. At the same time, the Euro Area experienced weaker demand and even short episodes of deflation, which did not generate strong pressure on the ECB to change its policy stance. The balance of these factors resulted in a temporary advantage for the euro.

The situation changed dramatically in 2022. Inflation in the United States accelerated earlier than in Europe, mainly due to strong domestic demand, supply chain disruptions, and the effects of large fiscal transfers. The Federal Reserve reacted with a rapid and aggressive cycle of rate hikes, pushing its policy rate from near zero to above 5 percent in a short period. This increase in yields attracted global capital flows towards U.S. assets and strengthened the dollar. At the same time, Europe was hit harder by the energy crisis and the war in Ukraine, which pushed consumer prices to record highs but slowed down growth. Because the ECB responded later and with a more cautious tightening, the euro lost ground quickly and reached parity with the dollar for the first time in twenty years.

In 2023, the exchange rate remained under the influence of this divergence. While inflation started to ease in both economies, the Fed continued to maintain restrictive conditions and the dollar remained attractive for investors. The euro hovered around 1.05 to 1.10, showing that the ECB's delayed response did not fully restore market confidence.

From 2024 onwards, a new phase began. Inflation in the United States fell more rapidly, which gave the Fed the space to start cutting rates earlier than the ECB. In contrast, the ECB kept its policy rates at elevated levels for longer, reflecting concerns that energy-related shocks and wage pressures could make inflation persistent in the Euro Area. This narrowing of the interest rate gap changed the direction of capital flows. The dollar started to weaken, while the euro gradually recovered.

By mid-2025, the euro appreciated to levels above 1.15 dollars, showing how the relative strength of currencies depends not only on the level of inflation but also on the timing and credibility of central bank actions. In summary, the five-year period illustrates a cycle of transatlantic monetary divergence: first favoring the dollar when the Fed moved faster, and later supporting the euro when the Fed reversed its policy before the ECB. This underlines the importance of both inflation gaps and interest rate differentials as key drivers of the euro-dollar exchange rate.

The analysis uses monthly data for the period 2020–2025 from official sources such as Eurostat, the U.S. Bureau of Labor Statistics, the European Central Bank, the Federal Reserve, and FRED. Three main indicators are considered: consumer price inflation (CPI), central bank policy interest rates, and the euro-dollar exchange rate. The comparison allows us to observe how inflation gaps and monetary policy asymmetries shaped currency dynamics across the Atlantic.

In summary, the data analysis shows a consistent pattern: inflation divergences shaped monetary policy decisions, which in turn affected the euro-dollar exchange rate. The stronger and earlier Fed actions supported the dollar in 2022–2023, while the later but more persistent ECB stance favored the euro in 2024–2025.

4. Conclusion

The analysis of the euro-dollar exchange rate during 2020–2025 provides important lessons about the role of inflation dynamics and monetary policy divergence between the United States and the Euro Area. By examining the evolution of CPI, policy interest rates, and the currency, it becomes clear that exchange rate movements are not random but follow predictable patterns shaped by macroeconomic fundamentals and institutional responses.

At the beginning of the period, during the pandemic years 2020 and 2021, the euro was relatively strong. The United States introduced massive fiscal stimulus and the Federal Reserve lowered rates close to zero while expanding its balance sheet. These extraordinary measures supported the domestic economy but weakened the dollar on international markets. In contrast, the Euro Area faced weaker demand and even a short period of deflation, yet the euro maintained strength because the ECB did not act as aggressively as the Fed. This situation demonstrates that relative policy actions matter as much as absolute inflation levels.

A turning point came in 2021–2022, when inflation in the United States increased sharply due to strong domestic demand, supply chain disruptions, and labor market pressures. The Fed responded with a rapid cycle of interest rate hikes, raising the federal funds rate above 5 percent. Higher yields on U.S. Treasuries attracted global investors, leading to significant capital inflows into the dollar. At the same time, the Euro Area was hit by an external energy shock after the war in Ukraine, which pushed inflation to record highs but reduced growth. Because the ECB reacted later and more cautiously, the euro depreciated rapidly and reached parity with the dollar. This phase shows how policy asymmetries can amplify inflation gaps and create strong currency movements.

In 2023 the situation stabilized but did not reverse. The Fed maintained restrictive policy, and investors continued to view the dollar as the safer and more profitable option. The euro traded mostly between 1.05 and 1.10, reflecting persistent weakness.

A new phase began in 2024–2025, when inflation in the United States declined more quickly. With prices moving closer to target, the Fed had room to cut rates earlier than the ECB. In contrast, the ECB maintained a tighter stance because of concerns about persistent inflation from energy and wage costs. This narrowing of the interest rate gap shifted investor preferences, reduced demand for the dollar, and allowed the euro to recover above 1.15.

Taken together, the results highlight a consistent mechanism: inflation determines the pressure for policy change, central banks react with different timing, and capital flows follow the most attractive yields. The euro appreciates when European policy is relatively tighter, while the dollar gains strength when U.S. policy leads.

In conclusion, the euro-dollar exchange rate between 2020 and 2025 illustrates the deep link between inflation gaps, monetary policy divergence, and international capital flows. These findings are highly relevant for policymakers, as they show that credibility, speed, and coordination of central banks can shape currency values as much as economic fundamentals. For investors, the case study demonstrates the importance of monitoring inflation and interest rate expectations on both sides of the Atlantic. For researchers, it confirms that the transatlantic monetary relationship remains the central anchor of the global financial system.

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