ANALYSIS OF THE EFFECT OF MONETARY POLICIES ON POST-PANDEMIC GLOBAL INFLATION

Florentina Cristina BÂLDAN[1], Marinela BĂRBULESCU[2], Alina HAGIU[3]

[1] National University of Science and Technology Politehnica Bucharest, Faculty of Economics and Law, Romania, florentina.baldan @upb.ro
[2] National University of Science and Technology Politehnica Bucharest, Faculty of Economics and Law, Romania, marinela.barbulescu @upb.ro
[3] National University of Science and Technology Politehnica Bucharest, Faculty of Economics and Law, Romania, mariana_alina.hagiu@upb.ro

Abstract: *The COVID-19 pandemic brought unprecedented changes to the global economy, forcing central banks to adopt expansionary monetary policies to counter recession. However, these measures, together with disruptions in supply chains and rising demand, contributed to the acceleration of post-pandemic inflation. This article analyzes the effect of monetary policies on global inflation, comparing responses in developed and emerging economies, and proposes recommendations for sustainable inflation management.*

Key words*:* monetary policy, sustainability, inflation, emerging economies

JEL Classification Codes: E31, E52, E58

1. INTRODUCTION

The COVID-19 pandemic caused a global recession unprecedented in its scale and speed, prompting governments and central banks to adopt a package of macroeconomic measures of historic proportions. In 2020–2021, monetary policy was characterized by the reduction of monetary policy interest rates to historic lows, massive asset purchase programs (quantitative easing – QE), special lending facilities, and dollar swap lines to maintain financial stability (BIS, 2024). These measures were primarily aimed at preventing a liquidity crisis and supporting aggregate demand in the context of economic disruptions caused by health restrictions.

However, we considet that the rapid reopening of economies, together with the accumulation of household savings, expansionary fiscal policy, and disruptions in global supply chains, fueled a sharp rise in inflation starting in 2021. This has been compounded by geopolitical shocks, such as Russia's invasion of Ukraine in February 2022, which have led to energy and food crises (IMF, 2024).

As a result, central banks have been forced to shift from an expansionary regime to the most synchronized cycle of monetary tightening in decades, starting in 2022. The Federal Reserve raised the federal funds rate by 525 basis points between March 2022 and July 2023, while the ECB raised the deposit rate by 450 basis points between July 2022 and September 2023 (ECB, 2024; Federal Reserve, 2024). This rapid transition has tested the credibility of central banks and the resilience of economies in a context marked by uncertainty and financial volatility.

We consider analyzing the effects of monetary policies on post-pandemic global inflation is essential for at least three reasons:

- ✓ Assessing effectiveness: to understand the extent to which interest rate hikes and balance sheet reduction (QT) programs have been successful in controlling inflation.
- ✓ Comparing responses across economies: differences between advanced and emerging economies have implications for monetary policy transmission and the sustainability of growth.
- ✓ Identifying lessons for the future: the experience of the pandemic provides valuable insights into the role of monetary policy in times of overlapping crises (health, energy, geopolitical).

The objective of this article is to analyze the impact of monetary policies on post-pandemic global inflation through a comparative approach between advanced and emerging economies and to formulate recommendations for sustainable inflation management in the medium term.

2. LITERATURE REVIEW

We believe that post-pandemic global inflation has become a central topic of economic research, as it represents a unique combination of supply shocks, demand shocks, and unprecedented monetary and fiscal policy responses. Below, we provide a brief analysis of these factors.

a) Supply and demand shocks

Some important specialists tried to establish the contributions of demand and supply factors to inflation. Shapiro (2024), in a study for the Federal Reserve Bank of San Francisco, proposes a methodology for separating inflationary pressures and shows that, in the US, both types of shocks played an important role, but the contribution of demand became dominant as logistical bottlenecks eased. Giannone and Primiceri (2024), using data for the US and the euro area, confirm the hypothesis that demand shocks explained the persistence of core inflation, while supply shocks had rather transitory effects.

b) The role of monetary policy

Recent literature highlights that the response of central banks has been one of the fastest and most synchronized in recent decades. The BIS (2024) shows that firm monetary tightening helped to reanchor inflation expectations, even though the short-term impact was accompanied by financial volatility and risks to sovereign debt stability. The IMF (2024) also highlights that the success of monetary policies in reducing inflation depended on coordination with fiscal policy: where fiscal policy remained expansionary, disinflation was more difficult to achieve.

c) Differences between advanced and emerging economies

Comparative studies show significant differences between advanced economies (AE) and emerging and developing economies (EMDE). The World Bank (2025) shows that central banks in emerging economies such as Brazil, Mexico, and Poland began the tightening cycle as early as 2021, anticipating inflationary pressures and protecting themselves against currency depreciation. However, we consider that these economies faced structural constraints, such as limited fiscal space and external vulnerabilities, which slowed the disinflation process compared to advanced economies.

d) The role of balance sheets and unconventional policies

In addition to interest rates, recent literature has analyzed the effects of balance sheet reduction policies (quantitative tightening – QT). Du and Forbes (2024) show that the effects of QT on sovereign bond yields are moderate on average, but surprises related to the pace of QT can generate significant market reactions. At the same time, studies by the ECB and the FED (2024–2025) suggest that expanded central bank balance sheets will remain a structural component of the operational framework, even if their relative size declines.

Summarizing these works, we consider the following results to be noteworthy:

✓ Post-pandemic inflation was initially driven by supply shocks, but became persistent through demand and wage channels.

✓ Firm and coordinated monetary policy was essential for reanchoring expectations.

✓ Emerging economies reacted earlier, but at higher costs, and the effectiveness of policies depended on the fiscal and institutional context.

3. METHODOLOGY

The methodology we used in this article is qualitative-comparative, based on the analysis of specialized literature, reports from international institutions (BIS, IMF, ECB, FED, World Bank), and recent empirical studies (2022–2024). Our objective was to identify the channels through which monetary policies have influenced the post-pandemic inflation trajectory and to highlight the differences between advanced and emerging economies. As a methodological limitation, we note that the article does not use our own econometric models, but is based on results already published in the literature. Even so, we believe that the methodology we used allows for a synthetic and comparative analysis of a complex global phenomenon and provides a rigorous basis for economic policy recommendations, given that the study does not seek to test an econometric hypothesis, but rather to clarify the mechanisms and practical implications.

4. COMPARATIVE ANALYSIS OF ADVANCED ECONOMIES AND EMERGING AND DEVELOPING ECONOMIES

4.1. Advanced Economies (AE)

In the US, the Federal Reserve (FED) initiated a cycle of monetary tightening in March 2022, after inflation exceeded 8% (the highest level in four decades). The federal funds rate was raised in successive steps to 5.25–5.50% in July 2023, representing a cumulative increase of 5.25% (Federal Reserve, 2024). At the same time, the FED reduced the size of its balance sheet by ending reinvestments in government securities and mortgage bonds (quantitative tightening – QT). The result was a gradual decline in inflation, with the CPI falling from 9.1% in June 2022 to below 4% in 2024, without a severe recession – a scenario described as a "soft landing" (BIS, 2024).

In the case of the euro area, the European Central Bank (ECB) adopted a more delayed response. It was not until July 2022 that it decided on the first increase in the deposit facility rate (from –0.50% to –0.25%), after a decade of ultra-loose monetary policy. Subsequently, the ECB implemented a rapid succession of increases, bringing the interest rate to 4.00% in September 2023 (+450 bp in total). Unlike the FED, the ECB began to gradually ease interest rates in 2024, but at the same time reduced its balance sheet by stopping reinvestments under the PEPP program (ECB, 2024). Inflation in the euro area, strongly fuelled by the energy shocks of 2022, fell from 10.6% (October 2022) to around 3% in 2024 (IMF, 2024).

Figure 1 shows that the FED acted earlier and more aggressively, reflecting its role as a global central bank and strong domestic pressures on the labor market and consumption. Thus, in 2021, the federal funds rate was kept at 0–0.25%, in March 2022 the first increase of +0.25% took place, in 2022–2023 the FED applied several successive increases, including four of +0.75% in 2022, and in July 2023 the rate reached 5.25–5.50%, the maximum level of the cycle, and in 2024 the FED maintained its restrictive monetary policy, with small downward adjustments towards 5.25%. The cumulative increase was +4.50% between July 2022 and September 2023.

In the case of the ECB, we can see from Figure 1 that it delayed the cycle of increases but applied a rapid succession to control energy shocks and anchor expectations. Thus, in 2021 and

the first half of 2022, the deposit facility rate was -0.50%, in July 2022, the first increase in 11 years took place (+50 bp), in 2022–2023, the ECB continued the cycle, including increases of +75 bp, and in September 2023, the deposit rate reached 4.00%, in 2024, the ECB began a gradual easing, reducing the interest rate to ~3.75–4.00%, but at the same time stopped reinvesting in the PEPP program (a form of "quantitative tightening"). The cumulative increase was +4.50% between July 2022 and September 2023.

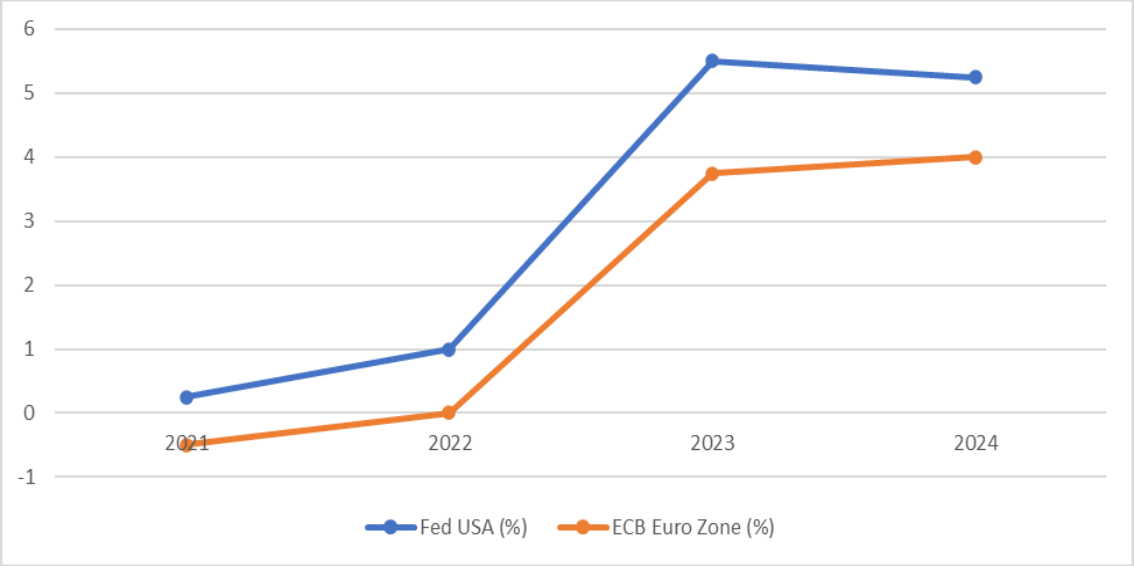

Figure no. 1 The evolution of monetary policy rates 2021-2024

Source: made by the author based on data from Federal Reserve Board (2024). Monetary Policy Report. Washington, DC and European Central Bank (2024). Monetary Policy Accounts. Frankfurt am Main.

*2024 FED and ECB forecast

We note that both banks entered 2024 with restrictive rates but with different normalization strategies:

- ✓ The FED acted earlier and more aggressively, focusing on domestic demand and the tight labor market.
- ✓ The ECB reacted later, constrained by the energy shock and fiscal fragmentation in the euro area.
- ✓ Both managed to reduce inflation, but with different normalization strategies: "higher for longer" (FED) vs. gradual easing + QT (ECB).
- ✓ The ECB was forced to act later, constrained by the energy shock and fiscal fragmentation in the euro area.

4.2. Emerging and developing economies (EMDE)

Many central banks in emerging economies were "early hikers," anticipating inflationary pressures and currency market reactions.

✓ Brazil began its cycle of rate hikes in March 2021, a year ahead of the FED and the ECB, to counteract the devaluation of the real and inflation rising above 10%. The Selic rate was raised from 2% to over 13.75% by 2022, which helped to temper inflation, but at a significant cost to economic growth (World Bank, 2025).

✓ Poland and Hungary implemented rapid interest rate hikes but encountered difficulties in reducing inflation due to fiscal imbalances and exposure to energy prices.

✓ India and Mexico combined interest rate hikes with macroprudential measures, achieving more orderly disinflation.

In Romania's case, the National Bank of Romania (NBR) began its monetary tightening cycle in October 2021, ahead of the FED and the ECB, but in line with other emerging economies in the region. Below, we detail the NBR's actions during the period under review, as follows:

➢ *Regarding the key interest rate:*
- ✓ In 2021, the key interest rate was 1.25% (a historic low);
- ✓ In 2022, faced with accelerating inflation (fueled by energy and food prices), the NBR accelerated the pace, reaching 6.75% in December.
- ✓ In 2023, the rate was further increased, reaching 7.00% in January and maintained at this level until the end of the year.

➢ *Regarding inflation:*
- ✓ It peaked in November 2022 (16.8%, the highest level in the last two decades);
- ✓ Followed by a gradual decline in 2023 to around 7% at the end of the year;
- ✓ Continuing to decline in 2024 to 5–6%, but remaining above the 2.5% ±1 pp target set by the NBR (INS, NBR, 2024).

From our point of view, Romania differs from other emerging countries in the following ways:

✓ Early response: The NBR acted before the ECB, but after banks such as Poland and the Czech Republic.

✓ Fiscal constraints: High budget deficits and expansionary public spending limited the effectiveness of monetary policy, requiring additional efforts to anchor inflation expectations.

✓ Energy dependence: External shocks to energy and gas prices contributed decisively to high inflation.

✓ The currency channel: the leu was relatively stable compared to the forint and the zloty, thanks to the NBR's prudent foreign exchange interventions and the lower level of financial openness compared to other emerging markets.

However, although inflation declined significantly in 2023–2024, Romania remains among the emerging economies with the highest core inflation in the EU, indicating structural persistence.

Summarizing we observed that the main EMDE characteristics are:

✓ They start the cycle earlier but maintain high rates for longer.

✓ They have limited fiscal space and are exposed to international capital volatility.

✓ Inflation falls more slowly than in advanced economies.

4.3. Transmission mechanisms and central bank balance sheets

Monetary policy influences inflation through several transmission channels. In the post-pandemic period, these channels have functioned differently in advanced economies (AEs) and emerging and developing economies (EMDEs), reflecting the degree of financial market development, institutional credibility, and economic structure. Below we provide a brief analysis of the main transmission channels as follows:

A) Interest rate channel

✓ In advanced economies (US, euro area), the interest rate channel was the main transmission mechanism. The rapid rise in policy rates was passed on to interbank rates, mortgage rates, and corporate financing costs. In the US, 30-year mortgage rates rose above 7% in 2023, reducing demand for housing and tempering inflation in the real estate sector (Federal Reserve, 2025).

✓ In emerging economies, the transmission through interest rates was weaker due to the low level of financial intermediation and the higher share of short-term fixed-rate loans. Therefore, the direct impact of interest rates on consumption and investment was lower compared to the EU.

B. The expectations channel

✓ In the AE, the credibility of central banks has allowed inflation expectations to be anchored: once the FED and the ECB took decisive action, long-term expectations remained around the 2% target (BIS, 2024).

✓ In EMDE, expectations were more volatile, as monetary policies were often influenced by political pressures or fiscal constraints. In Romania, NBR surveys show that the population's short-term inflation expectations remained high even after monetary policy tightening (NBR, 2024).

C. The exchange rate channel

✓ For EMDE, the exchange rate channel is crucial. Higher interest rates support the domestic currency, limiting depreciation and imported inflation. Brazil, Poland, and Hungary have used this channel to avoid massive losses of confidence in their currencies.

✓ In Romania's case, the NBR has combined interest rate policy with prudent foreign exchange interventions, which has kept the ron relatively stable against the euro (around 4.9–5 ron/euro in 2022–2024). Exchange rate stability has mitigated the transmission of external shocks, although it has reduced monetary policy flexibility.

D. Credit channel

✓ In the EA, central banks tightened credit conditions through higher interest rates and reduced asset purchase programs. This reduced liquidity and tempered private credit expansion.

✓ In Romania, the increase in the monetary policy interest rate to 7% in 2023 was partially passed on to mortgage and consumer loan interest rates. However, the low level of financial intermediation (private credit ~25% of GDP, one of the lowest in the EU) limited the effectiveness of this channel (NBR, 2024).

E. The role of central bank balance sheets (Quantitative Tightening – QT)

✓ The FED and the ECB implemented QT by reducing their balance sheets, which contributed to higher long-term bond yields and reduced global liquidity (Du & Forbes, 2024).

✓ In EMDE, QT had an indirect effect: as US and EU yields rised, capital flows withdraw from emerging markets, increasing pressure on currencies and interest rates.

✓ In Romania, although the NBR did not have a large-scale QE program, it faced the external effects of QT in the US and the euro area in the form of capital outflows and higher external financing costs for the government and banks.

We thus observe that in advanced economies, the transmission was mainly through domestic demand and the cost of credit, while in EMDE it was through the exchange rate and financial stability. We can also mention that in Romania the transmission was achieved through a combination of these channels, so that our country had a reactive response through interest rates, followed by a stabilization of the exchange rate through interventions and a limited transmission through credit due to reduced financial intermediation.

From our point of view, the results highlight the effectiveness of restrictive monetary policies in bringing inflation back to target, but also reveal risks:

✓ Persistent pressures in services and the labor market.

✓ Possible increase in the natural rate (r*) post-pandemic.

✓ The need to align fiscal policy with monetary policy to avoid excessive costs on economic activity.

Figure 2 illustrates the evolution of average inflation in advanced and emerging economies between 2021 and 2024, according to IMF and World Bank data. It can be seen that inflation

peaked in 2022 (7.3% in AE and 9.8% in EMDE), after which it gradually declined, but the pace of disinflation was slower in emerging economies.

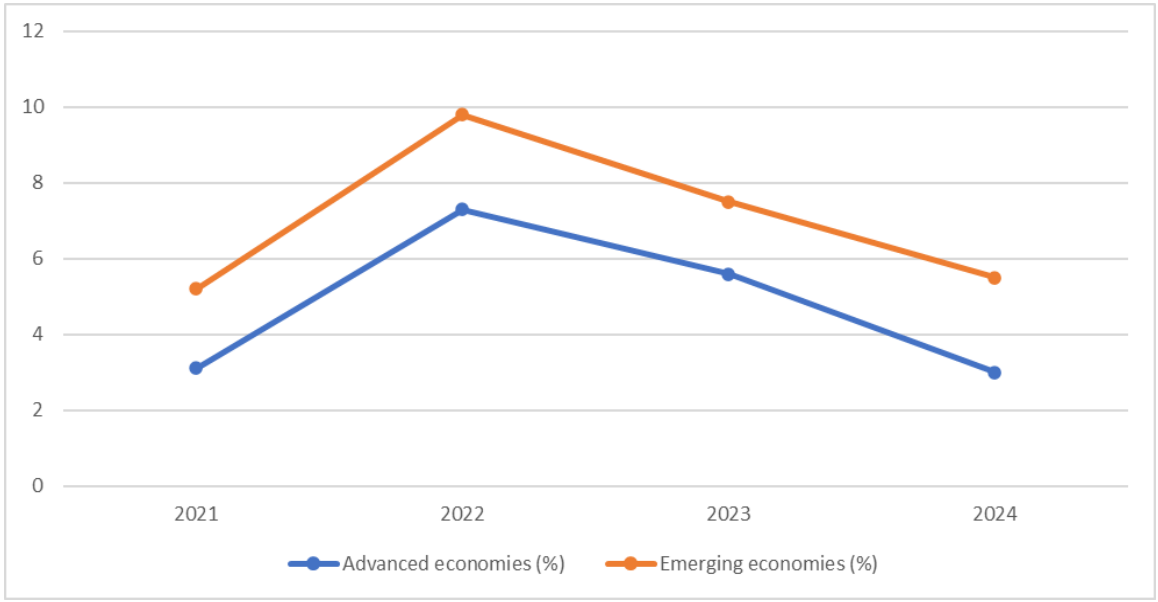

Figure no 2. Post-pandemic global inflation (2021–2024, %)

Source: made by the author based on data from IMF, *World Economic Outlook, 2021-2024*
*2024 IMF forecast

5. CONCLUSIONS

From our point of view, monetary policies have been crucial in preventing post-pandemic inflation expectations from becoming unanchored. Advanced economies benefited from greater credibility and room for maneuver, while emerging economies faced external constraints.

We believe that the analysis of the effects of monetary policies on post-pandemic global inflation has revealed several major conclusions:

1. The expansionary monetary policies of 2020–2021, necessary to counter the pandemic recession, indirectly contributed to the build-up of inflationary pressures, amplified by supply shocks (logistical bottlenecks, energy, food) and expansionary fiscal policy.

2. The monetary tightening cycle of 2022–2023 was the most synchronized globally in decades. The Federal Reserve raised the federal funds rate by 5.25%, and the ECB raised the deposit rate by 4.50%, while many emerging economies (e.g., Brazil, Poland, Romania) began the tightening process even earlier.

3. The effects on inflation were visible: in advanced economies, inflation fell rapidly from double digits in 2022 to around 3–4% in 2024, while in emerging economies disinflation was slower due to fiscal vulnerabilities and exposure to external shocks.

4. Structural differences in transmission:

✓ In the EA, the dominant channels were interest rates and inflation expectations, supported by the credibility of central banks.

✓ In the EMDE, transmission was mainly through the exchange rate channel and capital flows.

✓ In Romania, monetary policy was implemented through a mix of high interest rates (7% in 2023), exchange rate stabilization through prudent foreign exchange interventions, and lower credit transmission due to low levels of financial intermediation.

5. The role of balance sheets (QT) was secondary to that of interest rates, but not negligible: the reduction of the FED and ECB balance sheets increased bond yields and attracted capital from EMDE, amplifying pressure on emerging market currencies.

For the future, we recommend:

✓ maintaining data-dependent monetary easing,
✓ gradual fiscal consolidation,
✓ clear communication from central banks,
✓ strengthening the institutional framework in emerging economies.

REFERENCES

1. Bank for International Settlements. (2023). *Transmission of Monetary Policy across Countries* (BIS Working Paper No. 1097). Basel: BIS.
2. Bank for International Settlements. (2024). *Annual Economic Report 2024*. Basel: BIS.
3. Bank of England. (2024). *Inflation in the UK: Structural vs. Cyclical Factors*. London: BoE.
4. Du, W., & Forbes, K. (2024). *Quantitative Tightening and Global Financial Markets*. NBER Working Paper.
5. European Central Bank. (2024). *Monetary Policy Accounts and PEPP Reinvestment Policy*. Frankfurt am Main: ECB.
6. Federal Reserve. (2024). *Monetary Policy Report*. Washington, DC: Board of Governors of the Federal Reserve System.
7. Federal Reserve Bank of Dallas. (2024). *US Monetary Policy Forum – Discussion on QT* (Speech by Lorie Logan). Dallas: FRB.
8. Federal Reserve Bank of San Francisco (Shapiro, A. H.). (2024). *Decomposing Supply and Demand Driven Inflation* (FRBSF Working Paper 2022-18, updated).
9. Giannone, D., & Primiceri, G. (2024). *The Drivers of Post-Pandemic Inflation*. ECB Sintra Forum.
10. International Monetary Fund. (2024). *World Economic Outlook: Great Tightening and the Path of Inflation*. Washington, DC: IMF.
11. National Bank of Romania. (2024). *Inflation Report*. Bucharest: NBR.
12. National Institute of Statistics. (2024). Official statistics on the CPI. Bucharest: INS.
13. Organisation for Economic Co-operation and Development. (2024). *OECD Economic Outlook, No. 115 – Post-Pandemic Recovery*. Paris: OECD.
14. World Bank. (2023). *Global Economic Prospects: Debt and Inflation Risks*. Washington, DC: World Bank.
15. World Bank. (2024). *Global Economic Prospects 2024*. Washington, DC: World Bank.