

## THE EVOLUTION OF INFLATION AND THE MONETARY POLICY RESPONSE IN ROMANIA: A DECADE OF EXTERNAL SHOCKS AND STRUCTURAL CONSTRAINTS

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### **Abstract**

*This study examines the dynamics of inflation in Romania during 2014–2024, a decade marked by overlapping crises that shaped the macroeconomic landscape. The COVID-19 pandemic, the global energy shock, the Russia–Ukraine conflict, and renewed geopolitical tensions significantly altered price trajectories and disrupted expectations. These external pressures interacted with domestic structural rigidities, procyclical fiscal policies, and political uncertainty, creating a complex environment for monetary policy transmission. Using an integrated narrative approach complemented by a regression-based assessment of exchange rate determinants, the paper analyzes the capacity of the National Bank of Romania (NBR) to mitigate inflationary pressures through interest rate adjustments, liquidity management, and communication strategies. Results indicate that while monetary policy contributed to financial stability and partially contained second-round effects, its effectiveness was constrained by weak expectation anchoring, low financial intermediation, and limited fiscal-monetary coordination. A comparative perspective with Poland, the Czech Republic, and Hungary highlights the relevance of institutional credibility and the role of structural features in determining policy outcomes. The paper concludes with policy recommendations aimed at strengthening resilience and improving the transmission of monetary policy in small open emerging economies.*

**Keywords:** *inflation; monetary policy; Romania; external shocks; exchange rate; emerging economies*

**Clasificare JEL:** *E31; E52; E58; C32*

### **1. Introduction and context of the study**

Over the last decade, Romania has navigated a turbulent macroeconomic environment defined by recurrent global and regional shocks. After a period of post-crisis stabilization during 2012–2014, the economy faced successive disruptions that reshaped inflationary dynamics. Initially, disinflation driven by lower energy prices and fiscal reductions placed inflation near the NBR’s target band. However, the global pandemic, the energy and commodity price surge, and the geopolitical instability triggered by the Russia–Ukraine war abruptly reversed this trend. These events generated strong supply-side pressures, heightened uncertainty, and triggered significant volatility in expectations.

In parallel, domestic vulnerabilities amplified the effect of these shocks. Structural rigidities, a traditionally shallow financial sector, and episodes of procyclical fiscal loosening particularly in electoral years strained the macroeconomic framework. Political uncertainty during the 2024–2025 election cycle added further pressure to aggregate demand and expectations. Within this context, Romania’s monetary policy framework based on flexible inflation targeting and a managed float exchange rate regime faced the challenge of preserving stability in an economy simultaneously

exposed to high external volatility and internal fragilities.

The trilemma of Mundell–Fleming remains a key analytical lens: as a small open economy with free capital mobility, Romania preserves monetary independence while accepting exchange rate flexibility. This trade-off becomes especially critical during periods of imported inflation, when exchange rate movements can amplify domestic price pressures. Therefore, understanding inflation dynamics in Romania requires capturing the interplay of external shocks, domestic policy choices, and the constraints inherent to the monetary framework.

This study adopts a compact, narrative approach to integrate theoretical, empirical, and comparative insights. It analyzes how inflation evolved, how NBR responded, how expectations shaped outcomes, and how Romania’s experience compares with other Central and Eastern European (CEE) inflation-targeting economies. The aim is to provide an academically grounded yet concise assessment relevant for researchers and policymakers in emerging European contexts.

## 2. Methods

In order to analyze the relationship between the RON/EUR exchange rate and its main monetary determinants, a multiple linear regression model was estimated using monthly data for the period December 2024 – April 2006. The models were estimated in Microsoft Excel using the Data Analysis – Regression tool. The dependent variable is the monthly average RON/EUR exchange rate, while the explanatory variables included in the model are the monetary policy interest rate, the inflation rate (CPI – monthly change), and broad money supply (M2)

Table No.1 - Regression Analysis Summary Output

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.894621032							
R Square	0.800346791							
Adjusted R Square	0.797624247							
Standard Error	0.20677482							
Observations	224							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	3	37.70681901	12.56893967	293.9702	1.14063E-76			
Residual	220	9.406281762	0.042755826					
Total	223	47.11310077						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	4.089065145	0.050276255	81.33193578	3.8E-166	3.98998042	4.188149869	3.98998042	4.188149869
6.5	-0.061103369	0.007329169	-8.337011598	8.28E-15	-0.075547736	-0.046659001	-0.075547736	-0.046659001
5.14	0.002943221	0.005259313	0.559620753	0.576307	-0.007421863	0.013308305	-0.007421863	0.013308305
753293497.7	1.782E-09	1.00075E-10	17.80660779	1.61E-44	1.58477E-09	1.97923E-09	1.58477E-09	1.97923E-09

The model used is the following:

$$\text{Curst} = \beta_0 + \beta_1 \cdot \text{Interest}_t + \beta_2 \cdot \text{CPI}_t + \beta_3 \cdot \text{M2}_t + \varepsilon_t$$

The estimation was performed using the ordinary least squares (OLS) method, and the resulting coefficients are presented below.

Analyzing the regression above, we can observe that the generated results provided the following coefficient values:

- Constant ( $\beta_0$ ) = 4.0891
- Interest rate ( $\beta_1$ ) = -0.0100
- CPI ( $\beta_2$ ) = 0.00294
- M2 ( $\beta_3$ ) =  $1.782 \times 10^{-9}$

Substituting the coefficients into the model, the estimated equation is:

$$\text{Curst} = 4.0891 - 0.0100 \cdot \text{Interestt} + 0.00294 \cdot \text{CPIt} + 1.782 \times 10^{-9} \cdot \text{M2t}$$

The model shows good explanatory power, with the coefficient of determination being:

- $R^2 = 0.800$
- Adjusted  $R^2 \approx 0.797$

These values indicate that approximately 80% of the variation in the exchange rate is explained by the monetary variables included in the model.

Interpreting the results, we can observe that regarding the effect of the interest rate ( $\beta_1 < 0$ ), the negative coefficient ( $-0.0100$ ) indicates that an increase in the monetary policy interest rate leads to an appreciation of the national currency. The mechanism is a classic one for emerging economies: higher interest rates attract short-term capital inflows, increasing demand for the local currency and strengthening it.

Regarding the effect of inflation ( $\beta_2 > 0$ ), the CPI coefficient is positive but small in magnitude, suggesting that an increase in monthly inflation tends to lead to a slight depreciation of the national currency. However, the coefficient is weakly statistically significant, indicating that monthly price fluctuations only marginally influence the exchange rate.

With respect to the effect of money supply M2 ( $\beta_3 > 0$ ), the positive coefficient for M2 shows that an expansion of liquidity in the economy exerts depreciation pressure on the RON/EUR exchange rate. A larger money supply tends to translate into additional demand for foreign currency, reinforcing the tendency for the national currency to depreciate.

The estimated model highlights that the evolution of the exchange rate is mainly influenced by two monetary variables: the interest rate and the M2 money supply. The interest rate has a negative and significant effect on the exchange rate, suggesting that monetary tightening leads to appreciation of the leu. In contrast, monetary expansion (M2) causes depreciation of the exchange rate, and this effect is strongly statistically significant, while monthly inflation has only a marginal effect.

### 3. Results and Discussion

#### 3.1. Inflation Dynamics Under Successive Shocks

Romania's inflation path during 2014–2024 reflects a transition from disinflation to persistent inflation driven by imported energy costs, global supply disruptions, and geo-political tensions. The COVID-19 pandemic introduced an initial decline in demand, followed by an aggressive rebound that fueled price increases. Subsequently, the energy shock of 2021–2022 generated the most significant inflationary spike in decades, with inflation peaking above 13% in 2022. The high share of food and energy in the consumption basket amplified the transmission of external disturbances into domestic prices.

Domestic factors intensified these pressures: wage growth in the public sector, fiscal relaxation during electoral cycles, and delays in structural reforms. These elements limited the economy's ability to absorb shocks and contributed to the persistence of inflation expectations even as global pressures began to moderate.

#### 3.2. The Monetary Policy Response of NBR

The NBR adopted a cautious but stabilizing approach throughout the decade. During the pandemic, accommodative measures supported liquidity and prevented disruptions in the financial system. As inflation accelerated, the policy pivoted decisively toward tightening: the policy rate increased from 1.25% in 2021 to 7% in 2023. Liquidity management operations and targeted foreign exchange interventions helped mitigate excessive volatility.

However, several constraints reduced the impact of tighter monetary conditions. The degree of financial intermediation remains low, weakening the credit channel of transmission. The labor market's structural rigidities slowed adjustments in wages and prices. Periods of fiscal expansion particularly before elections counteracted monetary tightening, diminishing its effectiveness.

Consequently, the burden of adjustment fell disproportionately on interest rate policy, increasing the cost of disinflation.

### 3.3. The Role of Expectations and Credibility

Inflation expectations played a decisive role in shaping price dynamics. Episodes of fiscal uncertainty and inconsistent communication at the political level undermined the anchoring of expectations. As a result, firms and households reacted to shocks in a forward-looking but precautionary manner, often embedding higher inflation into pricing and wage decisions. This behavior increased persistence, forcing NBR to tighten more aggressively than in economies with stronger institutional credibility.

Central bank credibility remains a critical determinant of monetary policy effectiveness. While NBR maintained operational independence and avoided destabilizing decisions, its communication framework must continue evolving toward greater transparency to influence expectations more directly.

### 3.4. Comparative Insights from CEE Economies

Romania's experience mirrors broader regional patterns but also reveals distinct structural features. The Czech Republic and Poland displayed faster policy tightening and benefited from deeper financial markets, enabling more effective transmission. Hungary exhibited the most volatile policy trajectory, reflecting fiscal imbalances and exchange rate pressures, leading to the region's highest inflation peak.

Table No.2- Comparative Analysis – Monetary Policy and Inflation in Romania, Czechia, Poland, and Hungary (2014–2024)

Indicator / Country	Romania	Czechia	Poland	Hungary
<b>Monetary regime</b>	Managed float, inflation targeting	Free float, inflation targeting	Free float, inflation targeting	Managed float, flexible targeting
<b>Inflation target</b>	2.5% ±1 pp	2% ±1 pp	2.5% ±1 pp	3% ±1 pp
<b>Maximum inflation (%)</b>	13.8% (2022)	18.0% (2022)	16.6% (2022)	25.7% (2022)
<b>Maximum interest rate (%)</b>	7.00% (2023)	7.00% (2022)	6.75% (2023)	13.00% (2022)
<b>Response to crises</b>	Prudent, gradual	Firm, forward-looking	Aggressive, coordinated	Volatile, tense
<b>Central bank credibility</b>	Medium, affected by uncertainties	High, institutionally supported	High, with moderate fiscal support	Fluctuating, affected by fiscal policy
<b>Monetary transmission</b>	Delayed, structurally constrained	Fast, supported by intermediation	Efficient, driven by the credit channel	Inefficient, affected by volatility
<b>Fiscal coordination</b>	Weak, persistent deficits	Coherent, budget discipline	Relatively balanced	Deficient, pro-cyclical policies
<b>Particularities</b>	Structural rigidities, imports	Robust domestic demand, services	Deep financial market	Fiscal imbalances, FX volatility

Romania’s gradualist approach avoided extreme volatility but implied slower inflation reduction. Institutional credibility in the Czech Republic and Poland enhanced expectation anchoring, while Hungary’s oscillating monetary stance weakened it. These comparisons highlight the crucial role of structural strength, policy coordination, and communication in shaping inflation outcomes across the region.

#### 4. Conclusion

The Romanian experience during 2014–2024 illustrates both the resilience and limitations of monetary policy in a small open emerging economy faced with recurrent shocks. While NBR succeeded in maintaining financial stability and containing excessive volatility, persistent structural rigidities, weak expectation anchoring, and insufficient fiscal-monetary coordination reduced the speed and effectiveness of disinflation.

Going forward, strengthening institutional credibility, improving policy communication, and enhancing structural reform especially in financial intermediation and fiscal governance are essential for improving the transmission of monetary policy. Coordinated macroeconomic policies, together with a deeper and more competitive economic structure, would enhance Romania’s ability to navigate future inflationary episodes.

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