

Determinants of Inflation in a Fully Euroized Regime: Dynamic Evidence from Montenegro (2008–2025)

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Abstract: This paper examines the key determinants of inflation in Montenegro under conditions of full euroization during the period 2008–2025. Despite the extensive theoretical and empirical literature on inflation, the role of domestic and external factors affecting inflation in small euroized economies remains insufficiently explored, particularly with regard to the aggregate demand transmission channel and the fiscal impulse in the case of Montenegro. The analysis is based on a regression specification using annual data, including lagged inflation, real GDP growth, euro area inflation (HICP), changes in oil prices, and the fiscal impulse measured as the change in the primary balance expressed as a percentage of GDP. The findings indicate that imported inflation from the euro area is strongly associated with domestic price dynamics, although the empirical specification does not allow strict separation between imported inflation effects and common global shocks. Although the fiscal impulse displays a positive sign, it does not exhibit stable statistical significance across different model specifications and robustness checks. The empirical results suggest that inflation in Montenegro, as a small and open euroized economy, is largely driven by external factors, while the inflationary effect of fiscal policy through the aggregate demand channel remains inconclusive and sensitive to model specification.

Keywords: inflation, imported inflation, fiscal impulse, euroization, Montenegro.

JEL Classification: E31, E62, F41, H62.

1. Introduction

In 2022, Montenegro experienced the largest price disturbance since the introduction of the euroization regime. After several years of relatively stable inflation, domestic prices increased sharply, largely mirroring the inflationary trends observed in the euro area and the global rise in energy prices. However, as the annual inflation rate reached as much as 17.2%, which was roughly twice the European average, the question inevitably arose as to what the key determinants are that influence the price level in small open economies that lack monetary autonomy.

The implementation of official euroization in Montenegro, introduced not through a formal agreement with the European Central Bank but rather as a unilateral decision, implies a number of advantages and disadvantages associated with such a monetary regime. One of the key disadvantages of this institutional framework is the complete loss of monetary sovereignty, that is, the inability to respond to external shocks through the instruments of monetary policy and exchange rate policy (Lakić, Šehović, & Četković, 2016).

Within the standard monetary framework, the causes of inflation are explained through demand-pull inflation, cost-push inflation, and structural inflation theories. In essence, the monetary theory of inflation suggests that inflation is always and everywhere a monetary phenomenon. Such an approach, however, assumes the existence of a monetary authority capable of actively managing the nominal anchor of the economy. In a situation where control over money supply, interest rates, and the exchange rate is absent, the question arises as to which factors predominantly influence the formation of the price level. This is particularly relevant in the case of small economic systems characterized by a high degree of openness, where domestic economic development is strongly influenced by external shocks.

The existing literature suggests that in economies without monetary sovereignty, inflation is primarily determined by a combination of external, real, fiscal, and structural factors. The high import dependence of small open economies implies that domestic inflation often reflects imported price shocks related to energy and food. Increases in global prices, i.e., the emergence of external shocks, affect exchange rates and the relative adjustment between

domestic and imported prices, which subsequently translates into domestic inflation (Galí & Monacelli, 2005). Similarly, changes in the prices of energy and food exert a strong impact on inflation in economies that import these commodities (Cashin et al., 2017). The pace of GDP growth and productivity may also contribute to inflation differentials among euroized economies (Andersson et al., 2009).

In line with the Fiscal Theory of the Price Level (Woodford, 2001; Cochrane, 2023), the real value of public debt must be at least equal to the expected present value of future primary surpluses; otherwise, the adjustment will occur through changes in the price level. In other words, if fiscal policy becomes unsustainable, prices will inevitably adjust. Structural factors, particularly those related to rigidities in labor and product markets and institutional constraints on competition, may also exert an important influence on the level of inflation (Angeloni & Ehrmann, 2004; Reinhart et al., 2003).

Despite the extensive theoretical literature, the scope of empirical research focusing on small and highly open euroized economies remains relatively limited, particularly when it comes to precisely quantifying the effects of external price shocks, real economic activity, and discretionary fiscal policy expressed through the fiscal impulse on domestic inflation. The case of Montenegro, which represents an extremely small and highly open economy, provides a particularly suitable context for examining these effects. This constitutes the main motivation for conducting our study.

Although a number of recent studies have addressed inflation dynamics in Montenegro from different perspectives, they do not provide a comprehensive empirical assessment of the influence of both external and internal determinants of inflation under the current euroized monetary regime. Baćović (2025), relying on the quantitative theory of money framework, investigates the impact of fiscal measures in a euroized regime, focusing particularly on changes in household disposable income and their contribution to inflation following tax reforms. This approach provides a detailed insight into the income channel of fiscal transmission in the short run. However, the question of fiscal influence through broader macroeconomic determinants, while simultaneously controlling for external factors over a longer time horizon remains open.

Ivanović (2023), on the other hand, analyzes the role of external factors and euro area inflation using PCA, SVAR, and time-series models for the period 2011–2022, but without quantifying the fiscal impulse expressed through changes in the primary balance. Fabris (2025) examines the theoretical aspects of the monetary framework and the nominal anchor but does not provide an empirical quantification of inflation determinants in Montenegro.

A clear research gap can therefore be identified, as the existing literature largely focuses on short-term income and wage effects of fiscal measures, while lacking a comprehensive assessment of both internal and external determinants of inflation over a longer period. In particular, there is a lack of analysis in which the fiscal impulse is examined within a broader macroeconomic specification that simultaneously controls for inflation inertia and real economic activity.

Accordingly, the primary objective of this study is to empirically quantify the external and internal determinants of inflation in Montenegro during the period 2008–2025, focusing on inflation dynamics, external price transmission, and fiscal policy. Using a quantitative approach based on the estimation of a dynamic regression model, the study examines and measures the impact of lagged inflation, euro area inflation, oil price movements, real GDP growth, and the fiscal impulse (expressed as the change in the primary balance relative to GDP) on inflation developments in Montenegro.

The paper is structured into five sections. The introduction outlines the context, the importance of the research topic, and the identified research gap. The second section reviews the relevant literature. The third section describes the methodology and data used in the analysis, while the fourth section presents the empirical results and discusses their implications. The final section provides the main conclusions, highlights the relevance of the findings, and outlines the limitations of the study together with recommendations for future research.

2. Literature Review

Previous research on the phenomenon of inflation has developed several theoretical approaches that serve as a basis for explaining changes in the price level. Monetarists consistently link inflation to the money supply, arguing that rising prices result from faster growth of the money supply relative to output growth (Friedman, 1968). In contrast, Keynesian economists view inflation as a consequence of imbalances between investment and savings, assigning a central role to interest rates (Lakić, Šehović, & Drašković, 2016). Scholars associated with the Fiscal Theory of the Price Level (FTPL) emphasize fiscal policy, particularly public debt, as an important determinant of the price level, highlighting the importance of coordination between monetary and fiscal policy (Leeper, 1991; Sims, 1994; Woodford, 1994).

New Keynesian models suggest that inflation depends primarily on inflation expectations and the output gap, with nominal rigidities and expectations playing a crucial role (Woodford, 2003). Mishkin (2007) identifies policy credibility and inflation expectations as key determinants of inflation. Inflation dynamics can also be strongly influenced by external shocks, particularly those related to energy and food prices (Blanchard & Galí, 2007). This is especially relevant for small open economies, which tend to react more quickly to external shocks. As a result, inflation in such economies often has a pronounced imported component, since internal policy instruments are less effective in mitigating external price pressures.

Unlike economies with monetary sovereignty, dollarized and euroized economies place much greater reliance on fiscal policy, which becomes a key channel of macroeconomic adjustment (Berg & Borensztein, 2000). Minasyan et al. (2023)/check the reference examine the determinants of inflation in Western Balkan countries using an extended Phillips curve framework and an SVAR model, distinguishing between external shocks and domestic factors. Carrillo-Maldonado and Díaz-Cassou (2023) analyze the impact of external shocks on inflation in the Andean countries, with particular attention to the constraints associated with Ecuador's dollarized economy. The International Monetary Fund (2024) develops a macroeconometric model for the dollarized economy of the Democratic Republic of Congo, providing insights into the factors influencing inflation and macroeconomic stability.

In the context of the aforementioned theoretical approaches, it is important to emphasize that the empirical specification in the paper does not represent a structural model based on a single theoretical framework, but rather a reduced-form specification aimed at capturing key transmission channels characteristic of small euroized economies. In this way, the model integrates elements of different theoretical approaches, without the ambition to fully test any of them individually.

Empirical studies suggest that in economies with high import dependence, fiscal impulses may have a pro-inflationary character. The relationship between fiscal deficits and inflation is particularly pronounced in developing countries and those experiencing high inflation (Catao & Terrones, 2005). However, the literature does not provide robust evidence confirming the presence and intensity of this relationship in dollarized or euroized economies.

Makena (2020) empirically examines the determinants of inflation in the fully dollarized economy of Zimbabwe and finds strong evidence of the influence of external factors, while domestic factors appear to play a role only in the short run. Ponsot (2025) investigates the costs and resilience of unilateral euroization in the case of Kosovo, focusing on the institutional and macroeconomic implications of losing monetary autonomy and being tied to the monetary policy of the issuing country.

Recent studies on inflation in Montenegro can broadly be divided into several approaches. One group of studies emphasizes the dominant role of external factors and imported price shocks. For example, Mitrović-Mijatović and Ivanović (2017), analyzing inflation differentials between Montenegro and the euro area, show that Montenegro's openness, overheating of demand reflected in rising real estate prices and broader monetary aggregates, as well as excise tax increases and external shocks, such as rising oil prices and the global financial crisis, have influenced inflation dynamics. Bojaj and Đurović (2020) empirically analyze and forecast the determinants of inflation in Montenegro using forecast combination methods for the period from January 2006 to December 2016.

A second group of studies focuses on fiscal measures and their income and distributional effects, particularly through the analysis of tax reforms that affected household disposable

income (e.g., Baćović, 2025). Đurić et al. (2026), examining the effects of the fiscal reform program “Europe Now!” on inflation in Montenegro, conclude that although inflation remained high, the relative contribution of the reform was moderate, especially when compared with the substantial increase in average wages.

A third group of studies focuses primarily on the institutional and monetary framework of the euroized regime, without providing a quantitative assessment of inflation determinants (e.g., Fabris, 2025).

Although the aforementioned studies approach inflation in Montenegro from different perspectives and contribute significantly to understanding certain transmission channels, a comprehensive empirical assessment of inflation within a unified dynamic framework is still lacking. In particular, there is a lack of analysis that simultaneously incorporates external shocks, inflation inertia, domestic economic activity, and discretionary fiscal policy expressed through the fiscal impulse, covering a longer time period that includes several structurally different economic phases, including both the post-crisis and post-pandemic periods (2008–2025).

With regard to the fiscal dimension, there is a particular lack of analysis focusing on the aggregate demand channel and the import channel of fiscal policy in conditions of high openness within a euroized economy, since previous research has primarily examined the income and wage channels. Addressing this gap represents the main research contribution of this study.

3. Data and Research Methodology

3.1. Data and Sources

The empirical analysis is based on annual data covering the period 2008–2025, which includes several distinct macroeconomic phases: the post-crisis period following the global financial crisis, the fiscal consolidation phase, the shock caused by the COVID-19 pandemic, and the post-pandemic inflationary surge. All variables are expressed on an annual basis.

The inflation rate (*CPI*) is measured as the annual percentage change in the consumer price index, based on data from MONSTAT. Inflation in the euro area (*HICP_EA*) refers to the annual change in the Harmonised Index of Consumer Prices for the euro area, obtained from Eurostat and the European Central Bank. Changes in oil prices (*Brent %*) are measured as the annual percentage change in the average Brent crude oil price, based on data from the World Bank. Real GDP growth represents the annual percentage change in real gross domestic product, using data from MONSTAT. The fiscal impulse (*FI*) variable is constructed as the annual change in the primary budget balance expressed as a percentage of GDP. Formally, it is defined as: $FI_t = -\Delta (\text{Primary balance}_t \% \text{ GDP})$. Under this definition, a positive value of the fiscal impulse indicates expansionary fiscal policy, while a negative value reflects a restrictive fiscal stance.

3.2. Research Methodology

Following the standard theoretical framework used for modelling inflation in small, highly open and euroized economies, inflation is specified as a function of inflation inertia, external price shocks, the cyclical position of the economy and discretionary fiscal policy. However, the empirical specification should be understood as a reduced-form model informed by these theoretical approaches rather than as a structural test of any single framework.

A dynamic regression specification is employed, with the baseline model defined as:

$$\pi_t = \alpha + \beta_1 \pi_{t-1} + \beta_2 \text{HICP_EA}_t + \beta_3 \text{Brent}_t + \beta_4 \text{GDP}_t + \beta_5 \text{FI}_t + \varepsilon_t \quad (1)$$

where:

π_t - annual inflation rate in Montenegro (CPI);

π_{t-1} - lagged inflation capturing inflation inertia;

HICP_EA_t - inflation in the euro area;

Brent_t - annual change in oil prices (Brent);

GDP_t - real GDP growth rate;

FI_t - fiscal impulse measured as the change in the primary balance as a percentage of GDP;

ε_t – error term.

The lagged inflation variable allows testing the presence of inflation inertia, while euro area inflation and oil price changes capture the external transmission channel of inflation. Real GDP growth represents the cyclical position of the economy, whereas the fiscal channel is captured through the fiscal impulse variable. It should be noted, however, that the fiscal impulse represents only an imperfect proxy for discretionary fiscal policy and may not fully capture all transmission channels, particularly in a small open economy with volatile output and the presence of one-off fiscal measures.

To test the robustness of the results, an alternative specification is estimated in which the fiscal impulse variable FI_t is replaced by the primary balance as a percentage of GDP (PB_t):

$$\pi_t = \alpha + \beta_1 \pi_{t-1} + \beta_2 HICP_EA_t + \beta_3 Brent_t + \beta_4 GDP_t + \beta_5 PB_t + \varepsilon_t \quad (2)$$

Given the relatively small number of observations and the use of annual data, the model is estimated using the Ordinary Least Squares (OLS) method. However, it should be emphasized that in dynamic specifications that include lagged dependent variables, OLS estimates may be biased in small samples. Therefore, the results should be interpreted as indicative reduced-form associations rather than as precise causal effects.

Several diagnostic tests are conducted to verify the reliability of the estimated model. These include tests for multicollinearity (Variance Inflation Factor (VIF)), heteroskedasticity (Breusch-Pagan test), autocorrelation (Durbin-Watson statistic), and normality of residuals (Jarque-Bera test). While these tests do not indicate major violations of standard assumptions, they do not eliminate concerns related to small-sample estimation and potential multicollinearity among external variables such as euro area inflation and oil prices. The results of the diagnostic tests are presented in Table 1.

Table 1: Diagnostic tests of the regression model

Test	Test statistic	p-value
Maximum centered VIF	2.701	–
Breusch-Pagan (F statistic)	1.282	0.334
Breusch-Pagan(Obs*R ²)	6.267	0.281
Durbin-Watson	2.452	–
Jarque-Bera	1.304	0.521

Source: Authors' calculation.

In addition to the baseline regression analysis, the study examines the dynamic relationship between fiscal policy and inflation using the local projection method proposed by Jordà (2005). This approach provides a flexible framework for estimating impulse response functions without requiring the full specification of a vector autoregressive system. The local projection specification is defined as:

$$\pi_{t+h} = \alpha_h + \beta_h FI_t + \gamma_h X_t + \varepsilon_{t+h} \quad (3)$$

Where π_{t+h} represents inflation at horizon h , FI_t denotes the fiscal impulse, and X_t is a vector of control variables including lagged inflation, euro area inflation, oil price changes, and GDP growth. The coefficient β_h captures the response of inflation to a fiscal shock over different horizons.

Given the small sample size and annual data frequency, the local projection analysis is restricted to short horizons ($h = 0, 1, 2$) in order to preserve degrees of freedom and reduce estimation noise at longer horizons. Accordingly, the local projection results should be interpreted as supplementary and exploratory, as the limited number of observations leads to wide confidence intervals and low statistical precision, particularly at longer horizons.

4. Research results and discussion

4.1. Baseline model results

The results of the OLS estimation of the baseline model are presented in Table 2. The model includes lagged inflation (inflation_lag), external factors (HICP_EA and Brent%), real economic activity (GDP growth), and a fiscal policy indicator (fiscal impulse – FI).

Table 2: OLS estimation results of the inflation model in Montenegro (2008–2025)

Variable	Coefficient	Standard error	t-statistic	p-value
Fiscal Impulse	0,206	0,124	1,658	0,123
Euro area inflation	2,098***	0,299	7,015	0,000
Lagged inflation	-0,290**	0,124	-2,339	0,037
GDP growth	0,103	0,109	0,945	0,363
Brent oil price change	-0,019	0,024	-0,776	0,453
Constant	-0,678	0,602	-1,127	0,282
R ² = 0,891				
Adjusted R ² = 0,846				
F-statistic = 19,653				
p (F-statistic) = 0,000021				

Source: Authors' calculation.

*Notes: ***, ** and * indicate significance at the levels of 1%, 5 % and 10 %, respectively.*

Based on the results reported above, the regression model is statistically significant, as indicated by F-statistic ($p < 0.01$). The coefficient of determination (R^2) of approximately 0.891 indicates that the model captures a substantial share of the variation in inflation in Montenegro within the observed sample. However, given the relatively small number of observations and the dynamic specification employed, the high R^2 and adjusted R^2 values should be interpreted with caution, as they may partly reflect small-sample overfitting rather than strong explanatory or predictive power.

The results clearly indicate that euro area inflation exerts a strong and statistically highly significant influence on domestic inflation ($p < 0.01$). The estimated coefficient of 2.098

suggests that a one-percentage-point increase in euro area inflation leads to an increase of approximately two percentage points in inflation in Montenegro. However, this result should be interpreted with caution, bearing in mind that the estimated coefficient may reflect not only imported inflation, but also the influence of global shocks that simultaneously affect both Montenegro and the euro area through movements in commodity prices and global demand conditions. Due to the limitations of the empirical specification, the obtained result is more appropriately interpreted not as an exclusive effect of the external environment, but rather as an indicator of strong external co-movement. The statistical significance of lagged inflation at the 5% level and the negative coefficient (-0.290) require caution in interpretation. Rather than indicating the absence of classical inflation persistence in the observed period, as might be concluded at first glance, the negative coefficient may reflect mean reversion following large shocks. This is particularly important given the small sample and the pronounced inflation fluctuations, especially in certain periods. Therefore, it can be concluded that the estimated coefficient is likely influenced by short-term dynamics rather than structural characteristics of inflation.

Furthermore, real GDP growth does not appear to be statistically significant, indicating that the cyclical position of the domestic economy did not exert a measurable influence on inflation dynamics during the observed period. Changes in oil prices carry a negative sign, but the coefficient is not statistically significant. With respect to the fiscal impulse, the positive coefficient is consistent with theoretical expectations that expansionary fiscal policy may contribute to higher inflation, particularly in a small and open euroized economy. However, the lack of stable statistical significance at conventional levels suggests that the results remain inconclusive regarding the strength of the fiscal transmission channel through aggregate demand.

Overall, the results indicate that inflation in Montenegro between 2008 and 2025 was primarily driven by external price developments, while domestic real and fiscal factors played a more limited role.

4.2. Dynamic analysis: Local Projections

To further explore the dynamic effects of fiscal policy on inflation, impulse responses obtained from the local projection estimates are examined. Given the limited sample size and the use of annual data, the analysis is restricted to short horizons ranging from 0 to 2 years in order to preserve degrees of freedom and reduce estimation noise at longer horizons. This allows only a cautious assessment of the short-term dynamic effects of fiscal shocks on inflation.

The estimated coefficients are reported in Table 3, while the corresponding impulse response function is illustrated in Figure 1.

Table 3. Local projection results: response of inflation to a fiscal impulse

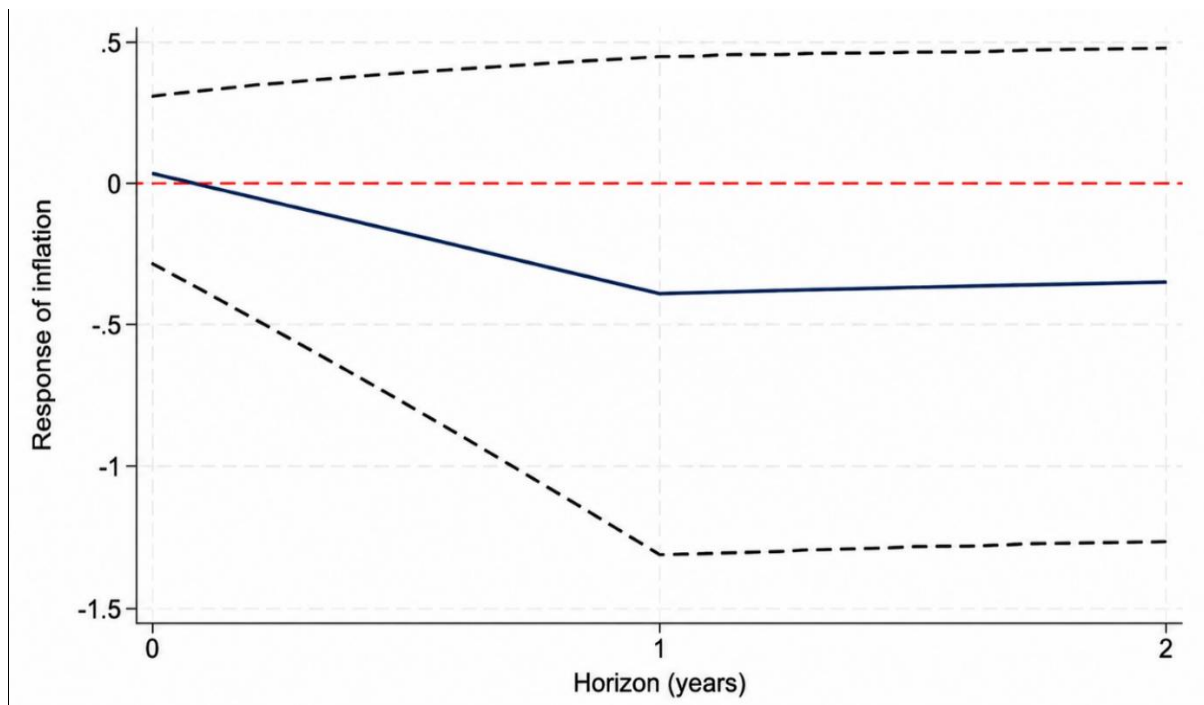
Horizon	Coefficient	Standard Error	Lower Bound	Upper Bound
0	0.034	0.263	-0.285	0.353
1	-0.382	0.426	-1.218	0.454
2	-0.351	0.428	-1.190	0.487

Source: Authors' calculation.

Notes: Confidence intervals are reported at the 95% level.

The results indicate that the response of inflation to a fiscal impulse remains statistically insignificant across all considered horizons. In each case, the confidence intervals include zero, indicating that the estimated responses cannot be statistically distinguished from zero at conventional significance levels.

Figure 1: Impulse response of inflation to a fiscal impulse



Source: Authors' calculation.

Note: The solid line represents the estimated impulse response of inflation to a fiscal shock, while dashed lines indicate the 95% confidence intervals.

The impulse response pattern shows a small positive contemporaneous response, followed by a negative response in the subsequent periods. However, the estimated pattern is not stable, and the wide confidence intervals point to a high degree of estimation uncertainty. Therefore, these movements cannot be interpreted as statistically robust evidence of a dynamic inflationary effect of fiscal shocks.

Taken together, the results from both the baseline regression and the dynamic local projection analysis point to the same cautious conclusion. The local projection estimates provide only supplementary and exploratory evidence, suggesting that the inflationary role of fiscal policy through the aggregate demand channel is difficult to identify precisely within the available data. Accordingly, these results should not be interpreted as evidence of the absence of a fiscal effect, but rather as reflecting the limited statistical power of the model in a very small annual sample. At the same time, the results remain consistent with the broader finding that

inflation in Montenegro is more strongly associated with external price developments, particularly inflation in the euro area, than with the domestic fiscal variable included in the model.

4.3. Robustness Check

To assess the stability of the results obtained from the baseline model, several additional analyses were conducted using alternative model specifications. The objective was to examine whether the conclusion regarding the influence of fiscal policy remains unchanged when the fiscal variable is modified or when specific crisis years are excluded from the sample. More specifically, in addition to the baseline specification, the following model variations were estimated: a specification excluding the inflation spike in 2022; a model excluding the pandemic period (2020–2021); a specification in which the fiscal impulse variable (FI) is replaced by the primary balance (PB); and a model estimated without including real GDP growth among the explanatory variables. The results of these robustness checks are presented in Table 4.

Table 4: Robustness checks of the fiscal policy effect on inflation (2008–2025)

	Baseline model	Model excluding 2022	Model excluding 2020-2021	Model including PB instead of FI	Model excluding GDP
Fiscal Impulse (FI)	0,206	0,0172	0,241*	-	0,140
Euro area inflation	2,098***	1,375**	2,297***	2,234***	2,161***
Lagged inflation	-0,290**	-0,125	-0,316**	-0,319*	-0,282**
GDP growth	0,103	0,111	-0,109	-0,036	-
Brent oil price change	-0,019	-0,003	-0,024	-0,019	-0,009
Primary balance (PB)	-	-	-	0,098	-
Constant	-0,678	-0,009	-0,366	-0,190	-0,562
Observations	18	17	16	18	18
R ²	0,891	0,649	0,915	0,868	0,883

Source: Author's calculation.

Across all model specifications, the conclusions obtained from the baseline model remain broadly stable. The fiscal impulse retains a positive coefficient in each estimation, although its statistical significance varies across specifications. In particular, in the specification that excludes the pandemic period 2020–2021, the fiscal impulse becomes statistically significant at the 10% level. This may suggest that the role of fiscal policy becomes more pronounced outside periods of severe macroeconomic disruptions. At the same time, the alternative fiscal variable represented by the primary balance does not appear to be statistically significant. This indicates that the aggregate demand channel of fiscal policy did not play a dominant role in shaping inflation dynamics during the observed period. In contrast, euro area inflation remains highly statistically significant in every specification, reinforcing the conclusion that external price developments represent the key determinant of inflation in Montenegro.

4.4. Discussion

The empirical findings of this study indicate that the external channel, represented by euro area inflation, is the most important determinant of inflation in Montenegro. In contrast, the domestic fiscal channel, analyzed through changes in aggregate demand and the government's budget position, does not exhibit a statistically robust effect within the current specification. A similar conclusion applies to the domestic real channel.

The strong influence of euro area inflation on domestic price dynamics suggests that in small economies that have relinquished monetary sovereignty and adopted a euroized monetary regime, the external channel of imported inflation becomes extremely important. The absence of statistical significance for oil price changes should not be interpreted as evidence that oil shocks are irrelevant for domestic inflation. Given the possible correlation between oil price movements and euro area inflation, the estimated coefficient may partly reflect multicollinearity, making the separate effect of oil prices difficult to identify precisely within the current specification.

The lack of statistical significance of real GDP growth indicates that the cyclical position of the economy, as captured in the baseline model, did not represent a relevant determinant of inflation and therefore did not exert a decisive influence on price dynamics during the

observed period. Possible explanations for this result may be related to the structural characteristics of highly import-dependent economies such as Montenegro. In such economies, increases in aggregate demand tend to translate more strongly into higher imports rather than higher domestic prices. This reduces the domestic inflationary effect but at the same time increases the sensitivity of these economies to price impulses originating abroad. If production capacity is limited and GDP is strongly dependent on the service sector, the obtained findings become even more theoretically consistent.

The positive sign of the fiscal impulse is consistent with the basic proposition of the Fiscal Theory of the Price Level, which suggests that the price level may reflect the fiscal position of the government, particularly in situations where independent monetary policy cannot be conducted. However, the lack of statistical significance of this variable indicates that this channel had a limited influence on domestic inflation during the analyzed period. It should also be emphasized that these conclusions refer specifically to the budgetary, i.e. aggregate demand channel of fiscal policy, and not to the wage channel or to changes arising from fiscal decisions that affect household disposable income and the cost structure of the economy, as these mechanisms were not the focus of the present analysis

5. Conclusion

The aim of this paper was to examine the key determinants influencing inflation in Montenegro under conditions of full euroization, using a regression specification based on annual data. The analysis shows that inflation dynamics in Montenegro during the period 2008–2025 were primarily driven by external price developments, while fiscal policy, captured through the government's budgetary position and the aggregate demand channel, did not exhibit a statistically robust and stable association with inflation across specifications, making the estimated fiscal effect difficult to interpret conclusively.

The empirical finding regarding the role of external factors, reflected in the strong association between euro area inflation and domestic price movements, is consistent with previous research on this topic. By analyzing these external factors within a comprehensive framework that simultaneously considers both internal and external determinants over a relatively long

time period, this study provides additional evidence on the strong role of external price developments associated with euro area inflation. In other words, the findings indicating the strong association between euro area inflation and domestic inflation, together with the inconclusive results regarding the fiscal transmission channel through the budgetary position, contribute to the literature on the Fiscal Theory of the Price Level and on macroeconomic adjustment in economies that lack monetary autonomy.

The positive sign of the fiscal impulse, combined with the absence of statistical significance, except in the specification excluding the pandemic period, suggests that inflation may partly reflect the fiscal position of the government. However, given the lack of stable statistical significance across specifications, the results cannot be interpreted as robust evidence either for or against a meaningful fiscal transmission effect during the observed period. A similar conclusion applies to the real GDP growth variable, whose statistical significance was not confirmed.

The obtained results may also have important policy implications, particularly for the design of economic policy in small open economies that have adopted full euroization. The results suggest that the scope of domestic stabilization policies may be constrained in a euroized economy. However, this conclusion should be interpreted with caution given the limitations of the empirical analysis. In that context, the findings point to the potential importance of strengthening the structural resilience of the economy, promoting economic diversification, and reducing import dependence. An additional contribution of this study lies in the separation of the budgetary aggregate demand channel from other potential transmission mechanisms of fiscal policy, allowing for a clearer understanding of the effectiveness of this specific fiscal policy channel under a euroized monetary regime.

Although this research provides useful insights into the determinants of inflation under a euroized monetary regime, several limitations should be taken into account when interpreting the results.

First, the lack of quarterly data for some of the variables required the use of annual data with a relatively limited number of observations, which reduces the precision of the estimated

determinants of inflation, particularly during periods characterized by extreme shocks. Another important limitation concerns the identification strategy. The empirical specification does not allow strict identification of exogenous imported inflation shocks, meaning that the estimated coefficient on euro area inflation may partly capture common global shocks affecting both Montenegro and the euro area, rather than pure imported inflation alone. Furthermore, fiscal policy was analyzed only through the channel of the government's budgetary position. Therefore, caution is required when interpreting the results in a broader fiscal policy context, as only one transmission channel of fiscal policy was examined. Finally, despite the inclusion of robustness checks, the reliance on a linear regression specification does not allow for the identification of potential nonlinear effects on inflation that may arise in the presence of major external shocks or structural changes.

For this reason, future research aimed at extending the findings of this study could rely on dynamic econometric models, higher-frequency data such as quarterly or monthly series, and a more detailed analysis of fiscal policy transmission channels in small open economies operating under a euroized monetary regime.

Declaration of AI Use

During the preparation of this manuscript, the authors used ChatGPT for language editing and grammar improvement. All AI-generated outputs were critically reviewed, edited, and approved by the authors, who take full responsibility for the final content of the manuscript.

References

1. Andersson, M., Masuch, K., & Schiffbauer, M. (2009). *Determinants of inflation and price level differentials across the euro area countries* (Working Paper Series No. 1129). European Central Bank. <https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1129.pdf>
2. Angeloni, I., & Ehrmann, M. (2004). Euro area inflation differentials. *ECB Working Paper No. 388*. European Central Bank. <https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp388.pdf>
3. Baćović, M. (2025). Tax cut-induced wage growth as a source of inflation in a dollarized economy – Review of the case of Montenegro. *Journal of Central Banking Theory and Practice*, 3, 35–51. <https://doi.org/10.2478/jcbtp-2025-0022>
4. Berg, A., & Borensztein, E. (2000). *The pros and cons of full dollarization* (IMF Working Paper No. 00/50). International Monetary Fund. <https://www.imf.org/external/pubs/ft/wp/2000/wp0050.pdf>
5. Blanchard, O. J., & Galí, J. (2007). *The macroeconomic effects of oil shocks: Why are the 2000s so different from the 1970s?* National Bureau of Economic Research Working Paper No. 13368. <https://doi.org/10.3386/w13368>
6. Bojaj, M. M., & Djurovic, G. (2020). Forecasting inflation: A combination approach. *Inzinerine Ekonomika–Engineering Economics*, 31(2), 145–154. <http://dx.doi.org/10.5755/j01.ee.31.2.24609>
7. Carrillo-Maldonado, P., & Díaz-Cassou, J. (2023). *An anatomy of external shocks in the Andean region*. *The Journal of Economic Asymmetries*, 27, Article e00295. <https://doi.org/10.1016/j.jeca.2023.e00295>
8. Cashin, P., Mohaddes, K., & Raissi, M. (2017). The differential effects of commodity prices on economic activity. *Journal of International Money and Finance*, 79, 42–66. <https://doi.org/10.1016/j.jimonfin.2017.06.004>
9. Catao, L. A. V., & Terrones, M. E. (2005). Fiscal deficits and inflation. *Journal of Monetary Economics*, 55(1), 201–221.

https://www.marcoterrones.com/uploads/1/7/6/9/17698985/ct_2005_fiscal_deficits_and_inflation_jme.pdf

10. Cochrane, J. H. (2023). *The fiscal theory of the price level*. Princeton University Press.
<https://press.princeton.edu/books/hardcover/9780691242248/the-fiscal-theory-of-the-price-level>
11. Đurić, S., Popović, N., Gojčaj, V., & Radović, M. (2026). *Evaluating fiscal reform effect on inflation: Difference-in-differences insights from “Europe Now!” in Montenegro. Ekonomske ideje i praksa* (Online first).
https://www.ekof.bg.ac.rs/journals/eip/2026/414.pdf?utm_source
12. Fabris, N. (2025). Monetary regimes with two nominal anchors: Are they possible? *Journal of Central Banking Theory and Practice*, 1, 5–19. <https://doi.org/10.2478/jcbtp-2025-0001>
13. Friedman, M. (1968). The role of monetary policy. *American Economic Review*, 58(1), 1–17. <https://www.jstor.org/stable/1831652>
14. Galí, J., & Monacelli, T. (2005). Monetary policy and exchange rate volatility in a small open economy. *Review of Economic Studies*, 72(3), 707–734.
<https://doi.org/10.1111/j.1467-937X.2005.00349.x>
15. International Monetary Fund. (2024). *A projection model for a resource-rich and dollarized economy: The Democratic Republic of the Congo* (IMF Working Paper No. 24/126). International Monetary Fund. <https://doi.org/10.5089/9798400280887.001>
16. Ivanović, M. (2023). *Dijagnostička analiza inflacije u Crnoj Gori* (Radna studija br. 32). Centralna banka Crne Gore.
https://www.cbcg.me/slike_i_fajlovi/fajlovi/fajlovi_publikacije/radne_studije/dijagnosticka_analiza_inflacije.pdf
17. Jordà, Ò. (2005). Estimation and inference of impulse responses by local projections. *American Economic Review*, 95(1), 161–182.
<https://doi.org/10.1257/0002828053828518>

18. Lakić, N., Šehović, A., & Drašković, B. (2016). The relevance of low inflation in Montenegro. *Journal of Central Banking Theory and Practice*, 5(2), 5–24.
<https://doi.org/10.1515/jcbtp-2016-0010>
19. Lakić, S., Šehović, D., & Četković, J. (2016). An analysis of the official dollarization regime in Montenegro: Theoretical approaches and empirical evidence. *Journal of International Studies*, 9(2), 48–64. <https://doi.org/10.14254/2071-8330.2016/9-2/3>
20. Leeper, E. M. (1991). Equilibria under “active” and “passive” monetary and fiscal policies. *Journal of Monetary Economics*, 27(1), 129–147. [https://doi.org/10.1016/0304-3932\(91\)90007-B](https://doi.org/10.1016/0304-3932(91)90007-B)
21. Makena, P. (2020). *Determinants of inflation in a dollarized economy: The case of Zimbabwe* (AERC Research Paper No. 386). African Economic Research Consortium.
<https://africaportal.org/wp-content/uploads/2023/05/Research-paper-386-1.pdf>
22. Minasyan, G., Ozturk, E., Pinat, M., Wang, M., Zhu, Z. (2023). *Inflation dynamics in the Western Balkans* (IMF Working Paper No. 2023/049). International Monetary Fund.
https://www.imf.org/-/media/files/publications/wp/2023/english/wpiea2023049-print-pdf.pdf?utm_source=chatgpt.com
23. Mishkin, F. S. (2007). *The economics of money, banking, and financial markets* (8th ed.). Pearson Addison Wesley.
24. Mitrović-Mijatović, M., & Ivanović, M. (2017). Inflation in a fully-euroised economy: Could inflation differentials threaten competitiveness? *Journal of Central Banking Theory and Practice*, 2, 101–124. <https://doi.org/10.1515/jcbtp-2017-0015>
25. Ponsot, J.-F. (2025). The costs and the resilience of unilateral dollarization: The case of euroization in Kosovo. In B. Rochon & S. Rossi (Eds.), *Central banking, monetary policy and the political economy of dollarization* (pp. xx–xx). Edward Elgar Publishing.
<https://doi.org/10.4337/9781803925332.00022>
26. Reinhart, C. M., Rogoff, K. S., & Savastano, M. A. (2003). Addicted to dollars. *NBER Working Paper No. 10015*. <https://www.nber.org/papers/w10015>

27. Sims, C. A. (1994). A simple model for study of the determination of the price level and the interaction of monetary and fiscal policy. *Economic Theory*, 4(3), 381–399.
<https://doi.org/10.1007/BF01215378>
28. Woodford, M. (1994). Monetary policy and price level determinacy in a cash-in-advance economy. *Economic Theory*, 4(3), 345–380. <https://doi.org/10.1007/BF01215377>
29. Woodford, M. (2001). Fiscal requirements for price stability. *Journal of Money, Credit and Banking*, 33(3), 669–728. <https://doi.org/10.2307/2673890>
30. Woodford, M. (2003). *Interest and prices: Foundations of a theory of monetary policy*. Princeton University Press.
<https://press.princeton.edu/books/hardcover/9780691010495/interest-and-prices>