ROMANIA'S BUDGET DEFICIT BETWEEN RESOURCE AND FISCAL BURDEN

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Abstract
Given the rise in Romania's budget deficit beyond the limits set by the Stability and Growth Pact, as well as the current political climate, we aim in this article to analyse the deficit's evolution in recent years. This analysis is linked to key factors affecting the deficit, such as inflation and interest rates.
We chose to correlate the budget deficit with inflation because an increase in inflation leads to a larger deficit by impacting government spending. It is also important to examine the types of expenditures that have driven the deficit up, as a deficit can either serve as an additional economic resource—if used for investments—or become a burden if directed towards political, socialist, or corrupt purposes.
Since the deficit is financed through borrowing, rising interest rates negatively impact it by driving up the cost of domestic loans. This study may be valuable for financial analysts in public institutions and potential investors, as the country's economic situation plays a crucial role in investment decisions.

Keywords
Budget deficit, budget expenditures, financial policies, inflation rate, interest rate.

JEL Classification
H61, H62, H68, H81, O11

Introduction
In recent years, Romania's economy has been significantly affected by various events that impacted the budget. These events include internal factors, such as political instability, as well as external factors like the SARS-CoV-2 pandemic and the ongoing conflict between Russia and Ukraine. Currently, Romania is in the excessive budget deficit procedure, having surpassed the 3% of GDP threshold, and is under European Union monitoring. Although the Government's Emergency Ordinance for the 2024 budget revision projects a deficit of 6.94% of GDP, the measures implemented by the government—given that it is an election year—lack a robust economic foundation.

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Given these circumstances, our study focuses on the vulnerabilities of the budget, as well as the two key rates—inflation and interest—that are directly linked to the budget deficit.

Research Objectives:

1. Analyze the evolution of the budget deficit by examining the main expenditure categories based on the annual reports from the Ministry of Finance.
2. Investigate the trends in the inflation and interest rates, assessing their impact on the economy.
3. Conduct a study to determine the linear relationship between the budget deficit, inflation rate, interest rate, and budget expenditures (% of GDP) for the specified period.
4. Interpret the results of forecasts provided by state institutions regarding the deficit and the two rates.

Through this study, we aim to offer valuable financial insights to potential investors in Romania, as well as to stakeholders in public institutions.

1. Review of the scientific literature

The relationship between the inflation rate and the budget is also highlighted in reports from the National Bank of Romania (NBR). In its annual report for 2023, high wage dynamics are identified as the primary driver of inflationary pressure. This trend is further addressed in the Government's Emergency Ordinance on the 2024 budget revision, which anticipates a 13.8% increase in the minimum wage and a 16.4% rise in the average gross wage compared to 2023.

Alongside the surge in salary and pension expenditures, budget adjustments are also prompted by a decline in revenues from services provided to both the public and industrial sectors, although sectors like retail trade and construction have experienced growth.

According to the Fiscal Council, the only way to temper the budget deficit is by reducing budget expenditures as a percentage of GDP from 38.8% in 2024 to 34.7% by 2027. This is crucial, given the downward trend in budget revenues as a share of GDP, projected to decrease from 33.8% in 2024 to 31.8% in 2027. Despite Romania's commitment to increasing tax revenues to address the budget deficit, one key initiative promoted by the government is the digitization of tax administration. This move aims to minimize evasion and enhance collection efficiency; however, results so far have fallen short of expectations, indicating that the measure alone is insufficient.

The rise in the budget deficit also leads to an increase in public debt. According to the data provided by Eurostat this year, the public debt exceeded the second alert threshold of 50% of GDP. Consequently, the Government must focus not only on reducing the deficit but also on managing public debt levels.

Romania's situation has drawn attention from the European Union, given that it has exceeded both the deficit and debt thresholds, which can negatively impact the country’s credit rating. Currently, the three major rating agencies—Fitch, Standard & Poor's, and Moody's—still classify Romania at investment grade, even if at the lowest level.

The discussion surrounding budget deficits and debt management is multifaceted, with varying perspectives on how to approach these economic challenges. The authors (Liebermann and Hall, 2010) believe that debt with a faster growth rate than nominal GDP will have an opportunity cost as a future effect, manifested either by permanent fiscal pressure or by the need to reduce spending, either through a period of inflation. Covering the deficit through foreign borrowing is possible as long as the country has credibility and the ability to borrow. According to the authors (Roubini and Setser, 2004), a country with strong credibility and the capacity to sustain debt. A government that is viewed as credible can incur larger deficits during crises without immediate fears of insolvency, as investors may have confidence in its long-term stability and repayment ability.

The analysis of public debt and budget deficits reveals several critical insights, particularly regarding the efficacy of spending cuts versus tax increases as strategies for deficit reduction. Moldovan et al. (2010) emphasize the detrimental effects of accumulating public debt to cover budget deficits by drawing parallels to the U.S. experience in the 1970s and 1980s, where attempts to reduce the budget deficit through spending cuts had unintended consequences. In the case of the United States (Savage and Schwarts, 1999), the reduction of budget expenditures, by freezing budgets, salary cuts, and reducing funds for various programs by increasing eligibility conditions had the opposite effect by continuously increasing the deficit. The authors (Liebermann and Hall, 2010) believe that the solution for reducing the budget deficit is sustainable policies of increasing taxes associated with limiting the increase in the level of budget expenditures.

Oprișan et al. (2020) outline the key features of Romania's budget construction for 2020, along with forecasts and measures needed for budgetary consolidation between 2021 and 2023. They emphasize the budget's fragility, noting that, like other countries, Romania must recover from a post-pandemic period characterized by a significantly higher growth rate of budget expenditures compared to revenues. It also highlights the importance of investments and the fact that they are the engine of economic growth and the creation of new jobs.

Additionally, Antohi et. al (2021) analyzes budgetary vulnerabilities from 2013 to 2021, highlighting Romania's tendency to neglect strategic objectives, delay investments, and exhibit low absorption rates of European funds. These factors contribute to Romania's classification as one of the less developed countries in the European Union. Antohi's et. al study reveals extremely low budget efficiency and calls for urgent measures, including the implementation of sound fiscal policies to reduce the budget deficit, enhance revenue generation, and restructure expenditures by optimizing investments. The study also raises concerns about increasing public debt and the vulnerability to default.

Recommendations for adapting more effective tax policies are presented by Ibinceanu et al. (2021), who advocate for regional development as a means to reduce bureaucracy and foster an environment conducive to private company growth and the advancement of various sectors. Similarly, Oprea et al. (2022) highlight a direct connection between the implementation of fiscal measures aimed at supporting regional development and the local budget, emphasizing the importance of tailored financial strategies to enhance local economies.

Inefficient tax collection and tax evasion have long been challenges for Romania, hindering its economic growth. Pițu et al. (2019) analyze tax revenue dispersion from 2008 to 2018 and demonstrate how tax policy can significantly impact the country's economic situation. They argue that tax rates are particularly influential, highlighting factors such as the timing of their application, their legislative definitions, the tax bases, and exemptions. The authors also point to the depreciation of the national currency and rising inflation as critical warning signs for Romania's economy.

Additionally, Turan and Karakas examine the relationship between the budget deficit and the current account deficit through the twin deficit hypothesis for several Eastern European countries, including Romania. Their analysis indicates that both negative and positive shocks to the current account yield significantly positive long-term coefficients for the budget deficit. The study reveals a long-term asymmetry for Romania, the Czech Republic, and Hungary, suggesting differing responses to these economic shocks.

A comparative study of the fiscal systems of Romania and Poland (Alexandru and Guziejewska, 2020), two post-communist countries, highlights the measures both nations took to establish democratic systems. One key finding is that administrative capacity plays a significant role in the success of fiscal decentralization, with Romania having a lower administrative capacity compared to Poland. According to the study, the limited administrative capacity in Romania is a major factor contributing to the failure of reforms and policies aimed at fiscal decentralization. A critical challenge for local authorities in Romania is the lack of sufficient funds. While taxes are collected locally, most of this revenue is transferred to the central government, rather than staying within local budgets. Although some of these funds are later redistributed to local authorities, the redistribution is only partial, leaving local governments underfunded. This creates difficulties for local authorities in balancing their budgets, particularly in the face of frequently changing fiscal policies. These shifts make it harder for local governments to plan long-term and manage their financial resources effectively. In contrast, more stable and efficient fiscal systems, as seen in Poland, provide a better framework for local financial autonomy and sustainable development.

The connection between international market fluctuations and Romania's financial sector, as explored by Andrei and Brezeanu (2019), highlights the need for Romania to continuously adapt to dynamic global conditions. To remain competitive and financially stable, Romania must focus on innovation, cost reduction, and revenue generation. The authors emphasize the importance of acknowledging globalization's effects and suggest the implementation of fiscal optimization policies. These include modernizing and improving financial management, managing operational risks more effectively, and increasing the role of public funds in enhancing banks' liquidity.

Studies on budget deficits and fiscal policies, often conducted at regional or European Union levels, aim to encompass a broad and complex set of data. Onofrei et al. (2020) identify vulnerabilities in the budgetary framework and stress the need for coordinated efforts to mitigate the negative effects of the COVID-19 pandemic. They argue that the pandemic will likely result in significant changes to the European governance framework, both in terms of institutional structures and fiscal-budgetary rules. These changes will be critical for addressing emerging economic challenges and ensuring resilience in the face of future crises.

2. Research methodology

Our analysis is based on the premise that a linear relationship exists among the budget deficit, inflation rate, interest rate, and budget expenditures. Consequently, we employed multiple linear regression, with the deficit as the dependent variable.

The data for this study were sourced from official websites: budget balance and expenditures from the Ministry of Finance, inflation rate from the INSSE website, and interest rate data from the NBR website.

We collected data covering the period from 2016 to 2023. This timeframe was chosen to encompass two consecutive government mandates, as the political factor is among the main determinants, even if indirectly, of the evolution of the budget.

Another premise of our analysis is that an increase in the inflation rate leads to a larger budget deficit, as it results in higher spending. Thus, the evolution of the inflation rate aligns with the direction of the budget deficit. Similarly, an increase in the interest rate raises the debt required to finance the deficit, meaning their trends also move in the same direction. For this study, we focused on the interest rate for new term loans extended to non-financial corporations.

To determine the linear dependence among these variables, we utilized the following regression equation:

$$BB=\alpha+\beta*CIR+\gamma*IR+\delta*BE+\varepsilon \quad (1)$$

Where:

BB = Budget balance - Surplus (+)/ Deficit (-) (% din PIB)

CIR = Credit interest rate (%)

IR= Inflation rate (%)

BE = Budget expenses (% din PIB)

$\alpha,\beta,\gamma,\delta$ – regression's coefficients

ε – residual variable

The results obtained are summarized in the following tables. According to the regression formula presented in Table no. 1 (Model Summary), the model demonstrates a strong alignment with economic reality, as indicated by a Multiple R value greater than 0.7. Additionally, the R-squared value, close to 1 (0.978), suggests that the budget is significantly influenced by the independent variables. The Standard Error is below 0.5, indicating that the data points are predominantly situated near the regression line; a value of 0 would imply perfect alignment.

Table no. 1. Model Summary

Regression Statistics	
Multiple R	0.988997237
R Square	0.978115534
Adjusted R Square	0.956231069

Standard Error	0.496058819
Observations	7

Source: Authors' calculations using EXCEL- Data Analysis

In the first ANOVA test (table no. 2), the significance threshold for the theoretical value is set at 0.05, with degrees of freedom of 3 and 12, resulting in an F value of 3.49. In our study, the calculated F value is 44.69. The significance F is below the 0.5% threshold, indicating that we can reject the null hypothesis. This supports the conclusion that the model is valid.

Table no. 2. ANOVA Test 1

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	32.99452	10.99817	44.69451	0.005459851
Residual	3	0.738223	0.246074		
Total	6	33.73274			

Source: Authors' calculations using EXCEL- Data Analysis

The second ANOVA test (table no. 3) enables us to formulate the following regression equation:
BB= 30,3281+0,5033*IR-0,5498*CIR-0,9607*BE
(2)
Where:
BB = Budget balance - Surplus (+)/ Deficit (-) (% din PIB)
CIR = Credit interest rate (%)
IR= Inflation rate (%)
BE = Budget expenses (% din PIB)
Validation of the model is conducted for each coefficient. For all coefficients, except the interest rate, the P-value is below 10%, indicating that each coefficient, including the intercept, is significantly different from 0. This allows us to reject the null hypothesis and supports the second hypothesis that the model is valid.

Table no. 3. ANOVA Test 2

	Intercept	IR	CIR	BE
Coefficients	30.328122	0.5033789	-0.5498232	-0.9607231
Standard Error	4.4363801	0.1978689	0.384426	0.0976785
t Stat	6.8362317	2.54400	-1.430242	-9.835560
P-value	0.0064052	0.0843838	0.2480120	0.002234
Lower 95%	16.209581	-0.1263284	-1.7732405	-1.2715798
Upper 95%	44.446664	1.1330863	0.6735940	-0.649866
Lower 95.0%	16.209581	-0.1263284	-1.7732405	-1.2715798

Upper 95.0%	44.446664	1.1330863	0.6735940	-0.649866

Source: Authors' calculations using EXCEL- Data Analysis

3. Results and discussions

The regression model indicates that a one percent increase in the inflation rate while keeping the other independent variables constant, will lead to a 0.50% increase in the budget deficit. Conversely, a one percent increase in the loan interest rate will result in a 0.54% decrease in the budget deficit, assuming the other variables remain constant. Additionally, a one percent increase in budget expenditures will cause the budget deficit to decrease by 0.96%, again holding other factors constant.

Regarding the temporal evolution of the four variables studied (Figure no. 1), we observe a notable increase in the deficit before the pandemic, reaching a peak of -9.61% of GDP during the study period. In the subsequent years, although the deficit as a share of GDP improved by nearly 3%, expenditures decreased by less than 2%. The graph also illustrates the linear trends for each variable.

The analysis presents two key economic rates—interest and inflation—that showed a predominant upward trend during the period under review. Notably, the interest rate in 2023 was double what it was at the start of the analysis, while the inflation rate surged from a deflationary -1.5% in 2016 to a high of 13.8% in 2022. The spike in inflation was significantly influenced by pandemic-related measures, including the closure of restaurants and restrictions on various activities. This, coupled with a sharp decline in consumption and a rise in fuel prices, resulted in an inflation jump of 8.7 percentage points between 2021 and 2022.

Concerning energy prices, the increase is framed within the context of the European Union's response to the energy crisis, which arose following the onset of the Russia-Ukraine war. In our opinion, the crisis was partly a European attempt to reduce dependence on Russian energy by curbing consumption, despite Romania's domestic energy resources. During this period, Romanian energy companies like Hidroelectrica, OMV Petrom, Romgaz, and Nuclearelectrica saw their profits double or triple, even though production levels remained constant, highlighting the influence of external factors on energy prices.

One positive outcome of the energy crisis has been the promotion of financing programs for solar panels and photovoltaic parks. These initiatives have encouraged the development of renewable energy sources, helping Romania diversify its energy mix and reduce reliance on traditional energy imports. By fostering investments in solar energy infrastructure, Romania is gradually expanding its renewable energy resources, contributing to greater energy independence and sustainability in the long term.

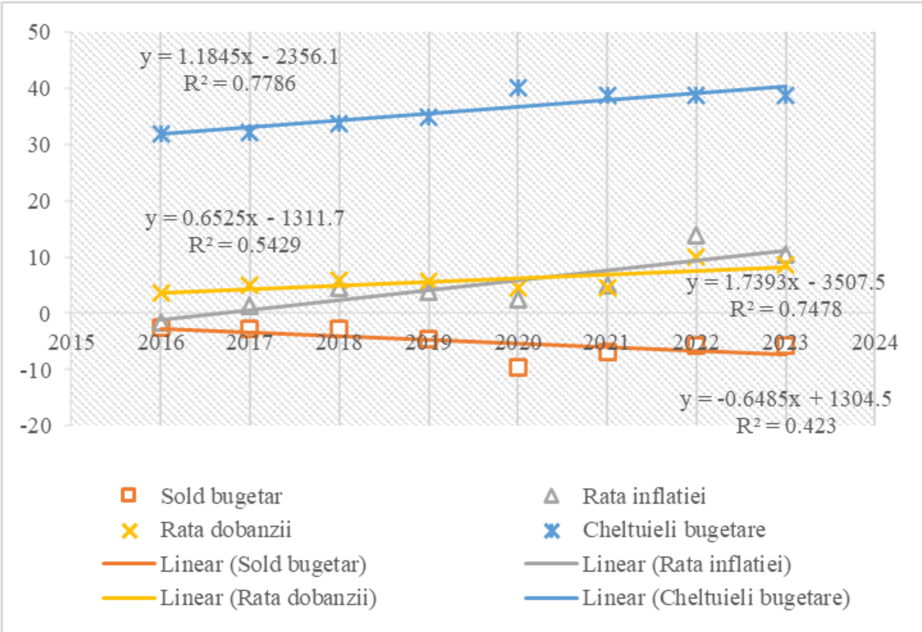

Figure no. 1: The evolution of the budget balance, interest rate, inflation rate and budget expenditure
Source: Authors' calculations using EXCEL- Data Analysis

The impact of government measures on interest rates is evident toward the end of 2023, particularly with the adoption of the pension law, which directly influenced the domestic government bond yields. This connection highlights how fiscal policies can affect financial markets, especially in terms of government borrowing costs.
Looking ahead, the National Bank of Romania (NBR) (as shown in Figure no. 2) forecasts a decrease in the inflation rate, which could provide some relief. A lower inflation rate may help Romania maintain its budget deficit within the limits negotiated with the European Commission. This is critical, as inflation and budget balance are closely linked; high inflation can erode fiscal stability, while a drop in inflation could ease pressure on public finances, supporting fiscal sustainability and compliance with European Union targets.

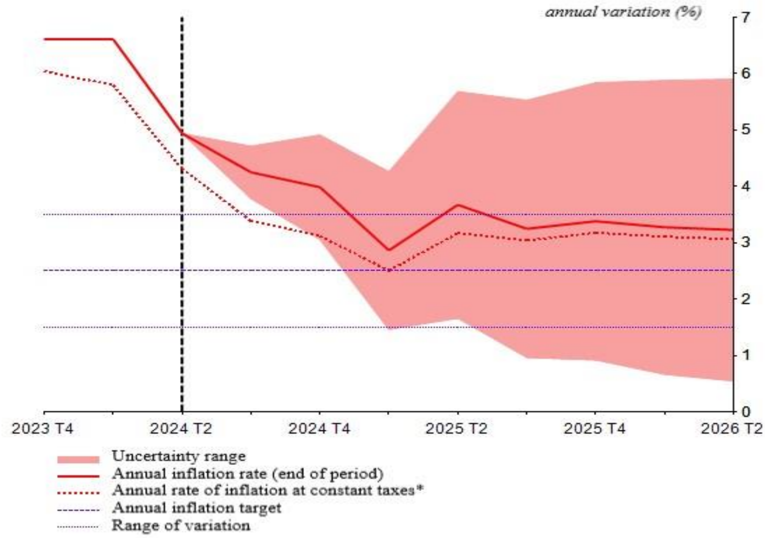

Figure no. 2: Projection of annual CPI price inflation and the associated uncertainty range
Source:bnr.ro – NBR Projection

The evolution of the inflation rate by categories of goods and services is indeed critical, as it directly affects both consumer behaviour and the private sector, including industry. Rising prices in essential categories like food, energy, and transportation can lead to reduced consumer spending, especially on non-essential goods, as households prioritize basic needs. This shift in consumption patterns can, in turn, impact industries that depend on discretionary spending.

For businesses, inflation in key input categories such as raw materials, fuel, and utilities can increase production costs, squeezing profit margins and potentially leading to higher prices for consumers.

Conclusions

The budget balance in recent years has been significantly shaped by the decisions of the political class in power. The economic policies they implemented played a crucial role in determining the country's fiscal and economic situation. The socialist-leaning policies of the recent government aimed to improve the well-being of the population, particularly by addressing the low wage and pension levels compared to more developed European Union nations. While these policies had the potential to benefit citizens, they required robust fiscal measures and strategic investments to ensure long-term sustainability.

However, a major downside of these policies was their contribution to the significant rise in inflation and an increase in the budget deficit. Without adequate fiscal discipline and investment in productive sectors, the expansionary policies, such as increasing social spending, put additional strain on public finances. The rise in inflation eroded purchasing power and added pressure on the economy, while the higher deficit limited the government's flexibility to respond to economic challenges. This situation underscores the importance of balancing social policies with sound fiscal management to avoid destabilizing economic consequences.

Currently, rather than curbing budget expenditures, the government has opted to increase pensions and plans to raise salary expenditures, according to official announcements. While these measures are intended to support the population, they risk placing additional strain on the private sector. As businesses face pressure to raise incomes in response to higher wage and pension demands, they will likely pass these increased costs onto consumers through higher prices for goods and services. This, in turn, can drive inflation further, exacerbating the cost-of-living pressures on the public.

Romania faces significant risks by ignoring warnings from the European Union and continuing to expand its budget deficit. On one hand, the country risks losing EU funding, which could hinder key development projects and economic support initiatives. On the other hand, the growing deficit could push Romania to increase its borrowing to cover these additional costs, leading to a higher level of national debt.

A growing deficit inevitably leads to increased borrowing, which tends to lower a country’s credit rating. This, in turn, results in higher interest rates, not only for the government but also for businesses operating within the country. The cost of servicing debt, particularly when loans are taken at high interest rates, places additional strain on the national budget. This financial burden becomes even more challenging to manage if expenses are deliberately increased beyond the available revenue, further widening the deficit.

Romania must implement new, more effective fiscal policies that take into account the interconnectedness of key economic factors. As highlighted in the article, there is a direct relationship between the budget deficit, inflation rate, and interest rate. An expanding deficit can drive inflation higher, which prompts central banks to raise interest rates to curb inflation. These higher rates increase borrowing costs, creating a feedback loop that complicates economic stability. Therefore, Romania needs a balanced fiscal strategy that reduces the deficit, controls inflation, and keeps interest rates manageable to ensure sustainable economic growth.

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