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The relationship between budget deficits and interest rates

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Abstract

The relationship between budget deficits and interest rates has been a central theme in macroeconomic discourse, influencing fiscal and monetary policy decisions worldwide. Classical economic theories suggest that rising budget deficits exert upward pressure on interest rates through the mechanism of crowding out private investment. However, empirical evidence on this relationship remains mixed and often context-dependent. Some studies suggest that deficits drive interest rates higher, while others emphasize mitigating factors such as global capital flows and accommodative monetary policy. This paper explores multiple theoretical perspectives, including the crowding-out hypothesis, Ricardian equivalence, the portfolio balance model, and the interaction between fiscal expectations and monetary policy. Empirical evidence from cross-country studies, time-series analyses, and recent fiscal expansions during the COVID-19 pandemic is synthesized to present a nuanced view. Special attention is given to emerging markets, where the relationship tends to be more pronounced due to higher risk premia. Additionally, the role of debt sustainability and investor confidence is emphasized. By integrating theoretical insights with empirical findings, the study offers a comprehensive understanding of the conditions under which budget deficits affect interest rates and outlines policy recommendations for managing fiscal deficits effectively without destabilizing financial markets.

Keywords: Budget Deficit; Interest Rates; Crowding Out; Fiscal Policy; Public Debt

1. Introduction

Fiscal deficits have long been scrutinized for their potential macroeconomic effects, particularly on interest rates. Policymakers and economists debate whether government borrowing to finance deficits leads to higher interest rates, potentially suppressing private investment and economic growth. Understanding this relationship is crucial for effective fiscal management, especially in periods of economic downturn or monetary tightening. A thorough analysis of this dynamic becomes even more pertinent considering the varying fiscal responses to global events such as financial crises, pandemics, and geopolitical conflicts.

The traditional view holds that government borrowing increases the demand for loanable funds, pushing up real interest rates and crowding out private investment. However, alternative theories, such as Ricardian Equivalence, argue that rational agents anticipate future tax liabilities and adjust their savings behavior, accordingly, neutralizing the impact of fiscal deficits on interest rates. Recent empirical evidence presents a mixed picture, often contingent upon the prevailing macroeconomic environment, monetary policy settings, and the degree of global financial integration.

Furthermore, the distinction between short-term and long-term interest rate movements, the role of inflation expectations, and investor confidence in fiscal sustainability adds layers of complexity to the analysis. As fiscal deficits have surged globally, particularly during the COVID-19 pandemic, the relationship between deficits and interest rates warrants renewed examination. This paper aims to contribute to this ongoing debate by synthesizing theoretical

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insights, reviewing empirical evidence, and exploring policy implications relevant to both advanced and emerging economies.

2. Literature Review

The literature on the relationship between budget deficits and interest rates has evolved over several decades, reflecting changing economic theories, empirical methods, and policy environments. Early foundational work by Barro (1974) introduced the concept of Ricardian Equivalence, suggesting that deficits do not influence interest rates because rational consumers anticipate future taxes and adjust their savings behavior accordingly. This theoretical proposition challenged the traditional Keynesian view, which posited that deficits raise interest rates by increasing the demand for loanable funds.

Subsequent empirical research sought to validate these competing theories. Feldstein (1982) and Evans (1985) provided early evidence supporting the crowding-out effect, demonstrating that larger deficits are associated with higher interest rates. These findings fueled concerns among policymakers about the negative implications of persistent fiscal deficits. However, Elmendorf and Mankiw (1999) noted that empirical results vary significantly depending on the sample period, country characteristics, and econometric techniques used.

Gale and Orszag (2003) offered a comprehensive review of the empirical literature, concluding that while a positive relationship between deficits and interest rates exists, it is modest in magnitude. Their work emphasized the importance of debt sustainability and investor expectations in mediating this relationship. More recently, Laubach (2009) found robust evidence linking projected future deficits to higher real interest rates in the United States, strengthening the argument for prudent fiscal management.

The broader macroeconomic impacts of government budgeting and expenditure practices on fiscal sustainability and economic growth, indirectly influencing interest rate dynamics (Abbasov, 2025a). It is further explored how performance-based budgeting frameworks could enhance fiscal discipline, potentially mitigating adverse effects on interest rates.

Emerging market economies present a distinct case. Reinhart and Rogoff (2010) demonstrated that these economies often experience sharper interest rate responses to fiscal deficits due to higher perceived sovereign risk. Military spending shocks exacerbate the impact of deficits on interest rates in fragile fiscal environments (Abbasov, 2025c).

Overall, the literature underscores a complex and conditional relationship between budget deficits and interest rates. Factors such as the state of the economy, monetary policy stance, external financing conditions, and institutional quality play pivotal roles in determining the magnitude and direction of this relationship. As global economic conditions continue to evolve, further research is necessary to refine our understanding of the intricate interplay between fiscal deficits and financial markets.

3. Theoretical Framework

Several theoretical mechanisms have been proposed to explain how budget deficits might influence interest rates. Understanding these frameworks is critical for interpreting empirical results and formulating effective fiscal and monetary policies.

3.1. Crowding Out Effect

The traditional crowding-out theory suggests that when a government runs a fiscal deficit, it finances the shortfall by borrowing from the domestic financial markets. This increased demand for loanable funds leads to a rise in real interest rates, thereby reducing private investment. The underlying assumption is that the supply of savings is relatively inelastic in the short run. Higher interest rates discourage businesses from undertaking new investment projects and consumers from spending, ultimately slowing economic growth. Feldstein (1982) emphasized that in economies operating near full employment, crowding out is more pronounced and can have severe long-term implications.

3.2. Ricardian Equivalence Hypothesis

Barro's (1974) Ricardian Equivalence theory provides a contrasting perspective. According to this view, rational agents perceive government borrowing as a future tax liability. Consequently, when the government runs a deficit, individuals increase their savings to pay for the anticipated future taxes. This increased private saving offsets the government's

dissaving, leaving interest rates unchanged. However, the empirical relevance of Ricardian Equivalence is debated, as it assumes perfect foresight, no liquidity constraints, and intergenerational altruism, conditions that are rarely met in practice.

3.3. Portfolio Balance Model

Tobin (1969) introduced the portfolio balance approach, which considers the composition of financial assets held by private investors. When governments issue more debt, investors must hold a larger stock of government securities. To incentivize this portfolio adjustment, bond yields—and hence interest rates—must rise. This model highlights the role of asset preferences and liquidity considerations in the determination of interest rates. It suggests that deficits can lead to higher rates even in the absence of changes in aggregate saving or investment.

3.4. Fiscal Expectations and Monetary Policy Interaction

Sargent and Wallace (1981) in their "Unpleasant Monetarist Arithmetic" demonstrated that fiscal policy can constrain monetary policy, especially when fiscal dominance prevails. If fiscal authorities are committed to running persistent deficits without credible future adjustments, monetary authorities may be forced to accommodate by tolerating higher inflation. In such cases, inflation expectations become embedded in nominal interest rates through the Fisher effect. Blanchard (2019) further argued that under low-interest-rate environments, the dynamics might differ, but the risk of fiscal-monetary conflict remains pertinent in the long run.

3.5. Debt Sustainability and Risk Premiums

Another important theoretical dimension is the concept of debt sustainability. When investors perceive that a government's fiscal trajectory is unsustainable, they demand a higher risk premium, leading to higher borrowing costs. The importance of maintaining fiscal credibility is to avoid such adverse market reactions. In emerging markets, this channel is especially significant due to the heightened sensitivity of investors to fiscal and political risks.

Together, these theoretical frameworks provide a multi-faceted understanding of the potential channels through which budget deficits influence interest rates. The relative importance of each mechanism depends on specific economic, institutional, and policy contexts, making empirical validation a complex but essential task.

4. Empirical Evidence

Empirical analyses of the relationship between budget deficits and interest rates have produced diverse findings, reflecting the complexity of economic environments across countries and over time. Broadly, the empirical evidence can be grouped into cross-country studies, time-series analyses, and case studies of specific fiscal episodes.

4.1. Cross-Country Studies

Several cross-country studies have found a positive relationship between budget deficits and interest rates. Ardagna, Caselli, and Lane (2007) examined OECD countries and found that larger and persistent deficits were associated with higher long-term interest rates. Their findings suggest that fiscal imbalances can elevate borrowing costs significantly, especially when compounded by high debt-to-GDP ratios. Unsustainable fiscal practices influence not just domestic rates but also investor sentiment, leading to broader macroeconomic instability.

4.2. Time-Series Analyses

In time-series analyses focusing primarily on the United States, studies such as Engen and Hubbard (2004) and Laubach (2009) provided strong evidence that anticipated future deficits are linked to higher real interest rates. Laubach estimated that a 1% increase in the projected deficit-to-GDP ratio could raise real interest rates by 20 to 25 basis points. These findings were significant because they stressed the anticipatory behavior of markets rather than just current fiscal flows.

However, Cebula (2005) argued that the relationship may have weakened in recent decades due to globalization and increased international capital mobility. With greater access to global savings, countries can finance deficits without immediate upward pressure on domestic interest rates. Abbasov (2025b) noted that structural reforms, including performance-based budgeting, have also contributed to moderating the deficit-interest rate linkage.

4.3. Evidence from Emerging Markets

Emerging markets often exhibit a more sensitive relationship between deficits and interest rates due to weaker institutional frameworks and higher perceived risk. Reinhart and Rogoff (2010) found that once public debt surpasses certain thresholds, borrowing costs can escalate rapidly. It is demonstrated that external shocks, such as military conflicts and natural disasters, amplify the impact of fiscal deficits on interest rates in developing economies, largely because of investor concerns about fiscal sustainability.

4.4. . Recent Developments

The COVID-19 pandemic presented a unique natural experiment, as many advanced economies engaged in large-scale fiscal expansions without the anticipated rise in interest rates. Blanchard (2019) suggested that in environments characterized by secular stagnation and low natural rates of interest, government borrowing does not necessarily crowd out private investment. Central banks' accommodative policies, including massive asset purchase programs, likely helped to keep borrowing costs low despite rising deficits.

Nevertheless, as inflation surged in 2022-2023, central banks shifted towards tighter monetary policies. Preliminary evidence suggests that the tolerance for large deficits might diminish as interest rates "normalize," bringing renewed relevance to the traditional concerns about fiscal deficits and borrowing costs.

Overall, the empirical evidence suggests that while the relationship between budget deficits and interest rates is not automatic or constant, it tends to become more pronounced under certain conditions: when deficits are large and persistent, when debt sustainability is questioned, and when monetary policy is constrained. Thus, the fiscal context and macroeconomic environment play crucial roles in shaping this relationship.

5. Discussion

The discussion of the relationship between budget deficits and interest rates reveals a multifaceted and context-sensitive dynamic. The theoretical models and empirical findings outlined earlier demonstrate that the link is neither linear nor universally consistent. Instead, various factors such as the size and persistence of deficits, debt levels, monetary policy responses, investor confidence, and global capital market conditions heavily influence outcomes.

One of the key insights is that the crowding-out effect is more pronounced when the economy is operating near full capacity. In contrast, during periods of economic slack, such as recessions, increased government borrowing may not result in higher interest rates, as private investment demand is low. This countercyclical behavior underscores the importance of timing in fiscal interventions. Moreover, fiscal expansions during times of low-interest rates, as seen during the COVID-19 pandemic, suggest that the traditional fears of rising rates due to deficits may be overstated under specific conditions.

Another important aspect is the role of monetary policy. Accommodative monetary policy can counteract upward pressure on interest rates arising from fiscal deficits. However, if inflation expectations become unanchored, central banks may be forced to tighten monetary policy, thereby amplifying the impact of deficits on interest rates. Coordination between fiscal and monetary authorities thus becomes critical.

The openness of the economy to global capital flows also mitigates or exacerbates the relationship. Countries with access to large pools of foreign savings can finance deficits without significant upward pressure on interest rates. However, this reliance also exposes them to sudden shifts in investor sentiment, particularly when debt sustainability is in question.

In emerging markets, the sensitivity of interest rates to fiscal deficits is markedly higher due to weaker institutions, higher sovereign risk, and limited access to international capital markets. This necessitates a greater focus on maintaining fiscal credibility and implementing structural reforms to enhance economic resilience.

Recent developments, such as the post-pandemic surge in inflation and subsequent monetary tightening, have reintroduced traditional concerns about fiscal deficits and interest rates. The future trajectory will likely depend on governments' ability to manage debt levels prudently, maintain investor confidence, and ensure that fiscal expansions are accompanied by credible medium-term consolidation plans.

In conclusion, while budget deficits can influence interest rates, the magnitude and direction of this relationship are highly conditional. Policymakers must consider a broad set of economic, institutional, and global factors when assessing the potential impacts of fiscal deficits on borrowing costs.

6. Policy Implications

The nuanced relationship between budget deficits and interest rates yields important lessons for policymakers seeking to balance fiscal stimulus and financial market stability. Several key policy implications emerge from the theoretical and empirical analysis.

First, the timing and context of fiscal interventions matter significantly. Fiscal stimulus efforts should ideally be deployed during periods of economic slack, where the risk of crowding out private investment is minimized. During recessions or periods of low inflation, governments have more fiscal space to run deficits without triggering substantial increases in interest rates.

Second, maintaining fiscal credibility is critical to preventing adverse market reactions. Governments must ensure that fiscal expansions are perceived as temporary and accompanied by credible medium- to long-term consolidation plans. Clear communication strategies and institutional frameworks, such as fiscal rules or independent fiscal councils, can help anchor expectations and reassure investors.

Third, the interaction between fiscal and monetary policy needs careful coordination. Expansionary fiscal policies should be implemented with an awareness of monetary policy stances. When monetary authorities are accommodative, the upward pressure of deficits on interest rates can be muted. However, if inflationary pressures mount, coordinated tightening may be necessary to maintain price and financial stability.

Fourth, policymakers should recognize the role of global capital markets. Open economies with strong investor confidence can attract foreign capital to finance deficits at relatively low costs. Thus, policies that enhance a country's attractiveness—such as maintaining political stability, fostering sound macroeconomic management, and implementing structural reforms—are essential.

Fifth, debt sustainability must remain a core priority, particularly for emerging and developing economies that are more vulnerable to shifts in investor sentiment. Establishing a sustainable debt trajectory involves not only controlling deficit levels but also promoting growth-enhancing policies that expand the economic base.

Finally, it is crucial for governments to distinguish between types of expenditures financed by deficits. Investments in infrastructure, education, and technology—which have high long-term returns—can support economic growth and improve the capacity to service public debt over time, mitigating potential upward pressure on interest rates.

Overall, prudent fiscal management, proactive policy coordination, and strategic economic planning are indispensable for mitigating the potentially adverse effects of budget deficits on interest rates while supporting broader economic objectives.

7. Conclusion

The relationship between budget deficits and interest rates is a subject of enduring significance in macroeconomics, with profound implications for fiscal and monetary policymaking. This study has illustrated that while theoretical models generally predict a positive association between deficits and interest rates, empirical findings reveal a more nuanced and context-dependent reality. Factors such as the stage of the economic cycle, the stance of monetary policy, the level of public debt, and the degree of openness to global capital flows all shape the magnitude and direction of this relationship.

During periods of economic slack or when monetary policy is highly accommodative, budget deficits may not exert substantial upward pressure on interest rates. Conversely, in times of full employment or rising inflation expectations, deficits can lead to higher borrowing costs through crowding-out effects or increased risk premiums. This underscores the importance of timely, well-communicated, and sustainable fiscal strategies that align with broader macroeconomic conditions.

Moreover, the experience of emerging markets highlights the crucial role of fiscal credibility and institutional strength in maintaining stable financing conditions. For these economies, even moderate fiscal imbalances can provoke significant interest rate responses if investor confidence wanes.

Looking forward, the post-pandemic landscape poses both opportunities and challenges. Low-interest-rate environments offer governments more flexibility, but the resurgence of inflation and tighter monetary policies may reintroduce traditional constraints. Thus, maintaining a delicate balance between supporting economic recovery and ensuring long-term fiscal sustainability is paramount.

In conclusion, the relationship between budget deficits and interest rates cannot be viewed in isolation. It must be interpreted through a comprehensive lens that considers economic structure, policy coordination, investor sentiment, and external conditions. Future research should continue to explore these dynamics, particularly as new fiscal challenges and global financial trends emerge. Sound fiscal governance, supported by robust institutions and adaptive policymaking, remains essential for safeguarding economic stability and fostering sustainable growth.

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