

# THE RELATIONSHIP BETWEEN TAX RATIO AND INTEREST RATES TO DEFICIT FINANCING STRATEGY IN INDONESIA: PUBLIC ECONOMICS APPROACH

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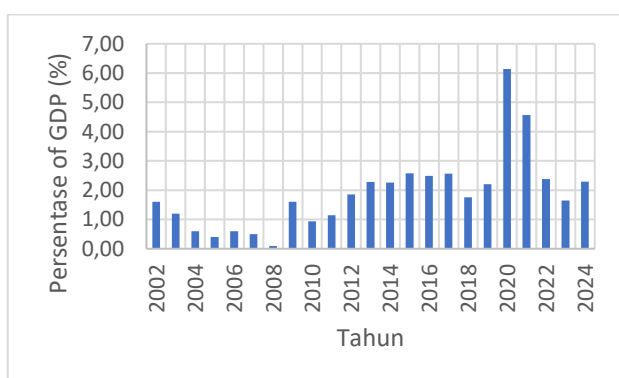
## Abstract

*This study analyzes the relationship between tax ratio and interest rate on deficit financing strategy in Indonesia in the period 2002–2024. Data were obtained from World Development Indicators (WDI) and Central Statistics Agency (BPS) to identify the relationship between financing deficit, tax ratio, and interest rate. The results of the study indicate that (i) a powerful negative relationship between tax ratio and financing deficit with a correlation of -0.8900 ( $p$ -value = 0.000), indicating that an increase in tax ratio contributes to a decrease in deficit; (ii) interest rate has a strong positive relationship with financing deficit with a correlation of 0.5241, ( $p$ -value = 0.0103), indicating that an increase in interest rate tends to increase the deficit; and (iii) no significant relationship was found between tax ratio and interest rate. The urgency of this study lies in Indonesia's fiscal condition, which is still facing a prolonged deficit amidst a low tax ratio and interest rate volatility. At the same time, few studies have explicitly examined the simultaneous relationship of these two variables to the deficit. Therefore, this study is an empirical baseline to support data-based deficit financing policymaking. Unlike previous studies, this study uses Pearson Correlation analysis to descriptively describe the strength of the direct relationship, covering a wide period from 2002 to 2024. These findings provide a new contribution to the public economics literature and reinforce the importance of an integrated analysis of state revenue and monetary dynamics.*

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## INTRODUCTION

The budget deficit is one of the central issues in fiscal policy faced by many developing countries, including Indonesia (Nuraisah, Amanda, Rambe, & Batubara, 2024). Fiscal policy is one of the government's tools to influence the economy (Boburjon Turanboyev Qodirjon o'g'li, 2023). Government spending has a multiplier that increases government spending, which positively impacts economic growth (Mujasmara, Panggabean, Muliana, Nugrahadi, & Rinaldi, 2023). However, government revenue is not always sufficient to finance increased spending, resulting in a fiscal deficit (Yolanda Wibawa & Kamil, 2023). If the deficit spurs economic growth, then in the next period, the government will experience an increase in revenue that can be used to cover the deficit that has occurred (Yuhendra, Syaikat, Hartoyo, & Kusnadi, 2022). On the other hand, state revenues often cannot keep up with spending needs, resulting in recurring budget deficits from year to year (Mahmud, 2024). A budget deficit is not an entirely negative condition as long as it can be managed effectively and used for productive financing (Haque, 2019). However, poorly managed deficit financing can pose long-term fiscal risks, including increasing debt burdens and pressure on interest rates and inflation (Aladejare, 2022). Therefore, the deficit financing strategy is a crucial issue in national fiscal policy (Of & Tax, 2024).



**Figure 1.1** Indonesia's State Deficit from 2002-2024. *Source: World Development Indicators*

Based on the graph, it can be seen that Indonesia's APBN deficit to GDP has fluctuated from 2002 to 2024, ranging from around 0% to 6%. During Megawati Soekarnoputri's administration (2002–2004), the deficit decreased from around 2%

to almost 1%, reflecting fiscal consolidation after the 1998 monetary crisis. During President Susilo Bambang Yudhoyono's era (2004–2014), the deficit was relatively low initially and even approached 0% in 2009, reflecting a conservative fiscal policy. However, from 2011 to 2014, the deficit increased to around 2.5%, which aligns with increasing public spending and global economic pressures. During President Joko Widodo's administration (2015–present), the deficit was stable at around 2.5% during the first five years of his administration. However, a drastic spike occurred in 2020, where the deficit reached around 6% of GDP, the highest figure throughout the period observed. This increase reflects the massive fiscal response to the COVID-19 pandemic, which required increased healthcare spending, social assistance, and economic stimulus. After that, there was a sharp downward trend in the deficit, to around 3% in 2022 and stable at around 2.5–3% until 2024, indicating a gradual fiscal recovery effort.

The budget deficit is also common in state financial management, especially in developing countries such as Indonesia (Adiningsih, 2009), (Usman Wartoyo, 2024). When state revenues are insufficient to finance state spending, the government must finance through debt issuance (Ratna Wulandari, Ulil Farrohah, 2023). This deficit financing strategy needs to be designed carefully so as not to cause pressure on the financial sector and macroeconomic stability (Rahman, Rahmayani, & Hapsoro, 2023). One important indicator in this context is the tax ratio, which shows how much tax revenue is related to gross domestic product (GDP) (Silfiani, 2022). A low tax ratio indicates the government's dependence on non-tax financing, including debt (Haryadi, 2024). On the other hand, deficit financing through government debt instruments can potentially affect interest rates in the financial market (Pulungan & Listiyanto, 2021). When the government increases bond issuance (Saleh & Harvie, 2005), the demand for funds in the economy increases, which can drive up interest rates (Aisen & Hauner, 2021); (Koroleva & Kopeykin, 2022). This interest rate increase can hinder private sector investment, a condition known as crowding out (Rubianto Pitoyo, Zefriyenni, 2025). In the context of Indonesia, the relatively shallow financial market makes the impact of government debt issuance on interest rates more significant (Saleh & Harvie, 2005), (Davies, 2011). Previous studies have shown that expansionary fiscal policy not accompanied by an increase in the tax ratio can pressure private sector financing. This is a challenge

for the government in formulating an effective and sustainable deficit financing strategy.

Fiscal policy is closely related to the fiscal capacity of a country. The government can finance fiscal deficits by borrowing in the bond market and accumulating government loans, which, in the past, were known as government debt. Barro (1989) in Purwiyanto (2013) explains that there are six reasons why the government adopts a fiscal deficit policy, namely accelerating economic growth, equalizing public income, overcoming the weakening exchange rate, increasing expenditure due to the economic crisis, the realization that deviates from the plan, and increasing expenditure due to inflation (Swasono & Martawardaya, 2015). Fiscal deficits often occur when the government intends to improve public services to the community or to stimulate economic development. The methods used include increasing expenditure or lowering tax rates. If the government adopts a deficit policy, state expenditure is greater than revenue. To cover larger expenses, financing can be done through four sources, including taking foreign currency reserves, domestic loans by selling securities to the public, foreign loans, printing money, or a combination of the three sources (Untuk, Tugas, Guna, & Gelar, 2010)

One crucial aspect of the deficit financing strategy is analyzing the relationship between the tax ratio and interest rates (Meita & Nurdiniah, 2023). By understanding how these two variables influence each other, the government can develop a more effective and responsive strategy to overcome the budget deficit (Handaria, Madris, & Saudi, 2022). The ratio describes the government's tax ability to collect revenue from the community and the business sector. A high tax ratio indicates the effectiveness of tax policies and a good level of taxpayer compliance. Conversely, interest rates serve as an indicator of borrowing costs that influence investment decisions. High interest rates can reduce incentives to invest, while low interest rates can stimulate increased consumption and investment, which can potentially increase tax revenues (Amaliah & Aspiranti, 2017).

In the public economics framework, the tax ratio and interest rates are two macroeconomic variables that greatly determine the direction and effectiveness of the deficit financing strategy. The tax ratio reflects the government's fiscal capacity in collecting revenue from the domestic sector (Kuncoro, 2017). Increasing the tax ratio is often more sustainable in covering the deficit than increasing debt (Sandra Olivia & Yulianita, 2018).

However, Indonesia's tax ratio in the last two decades has been relatively low compared to countries in the ASEAN region, raising concerns about excessive dependence on debt financing (Elizabeth, 2016). Meanwhile, interest rates, as a reflection of monetary conditions and fiscal risks, also affect the deficit financing strategy (Istiqomah & Mafruhah, 2022). An increase in interest rates can increase government borrowing costs, thereby increasing the debt interest burden and narrowing fiscal space (Turner, 2014).

In Indonesia, interest rate fluctuations are often influenced by monetary policies taken by Bank Indonesia and global economic conditions (Gazali, 2020). In a situation of increasing budget deficit, the government needs to find sustainable and relatively safe sources of financing from the risk of interest rate fluctuations (Governance, 2024). Therefore, it is important to analyze the relationship between interest rates and the deficit financing strategy implemented by the government. In such conditions, the government must be more careful in making financing decisions because strategic errors can trigger fiscal instability in the long term (Mujasmara *et al.*, 2023).

The public economics approach provides a relevant framework for analyzing the interaction between tax ratios and interest rates (PG, Aristokra, & Mohammad, 2024). By understanding this relationship, the government can establish more effective policies responsive to economic dynamics. This study explores the relationship between tax ratios and interest rates and their impact on budget deficit strategies in Indonesia.

## LITERATURE REVIEW

According to the OECD (2024), the tax ratio is a measure of how much tax contributes to Gross Domestic Product (GDP) and is the leading indicator in assessing the fiscal capacity of a country in Indonesia, this ratio is still below the average of ASEAN countries, thus reflecting the potential for state revenue that has not been fully optimized. According to Yossinomita *et al.* (2024), the tax ratio and economic growth relationship is not linear. Increasing taxes can initially suppress economic growth, but after exceeding the optimal threshold of around 15.29%, tax increases contribute positively to the economy. This aligns with the theory developed by Fenochietto and Pessino (2013), which emphasizes the importance of increasing tax efforts to achieve fiscal efficiency. Although tax reforms

have been carried out for more than four decades, tax institutions in Indonesia still face many structural challenges (Hendy, Dinata, & Asqolani, 2024). Low taxpayer compliance, weak administrative systems, and limited supervision make increasing the tax ratio significantly difficult. According to Kapriaji and Siswidiyanto (2022), also, countries with weak administrative capacity tend to have difficulty achieving fiscal sustainability, even when the tax ratio is increased. Therefore, increasing the tax ratio in Indonesia is not enough through tariff policies; it requires a more profound institutional transformation.

Meanwhile, interest rates play an important role in determining the cost of financing the deficit. Kurniawan et al. (2024) explained that increasing interest rates increases the debt interest burden and can narrow the country's fiscal space. Building (2011) showed that increasing global interest rates affects increasing fiscal risk in developing countries, especially those with large budget deficits and dependence on short-term debt. However, the research results by Kholis Timur and Dornbusch (2022) show that in the Indonesian context, the impact of global interest rates, such as the Fed Rate, on the budget deficit has not been significant in the short or long term. However, the study warns that in the medium term, a spike in global interest rates could put significant pressure on the bond markets of developing countries (Canuto, Silva, & García-Kilroy, 2014).

The Indonesian government has developed an alternative deficit financing strategy by issuing State Sukuk to overcome the challenges of low tax ratios and interest rate fluctuations. According to Amalia (2024), this instrument contributes positively to APBN financing and economic growth, mainly when supported by market liquidity. Sawe et al. (2024) also emphasized that Sukuk is a strategic choice because it can attract domestic and international investors while expanding the Sharia financing base. Previous studies have shown that the international sukuk market has positively contributed to the financial system's stability, especially during periods of global economic pressure (Tyo Prassogal, 2016).

However, the deficit financing strategy cannot be separated from the issue of fiscal sustainability. A study by Ikhsan and Virananda (2021) shows that although there is a positive response from the primary balance to the debt ratio, the response is asymmetric and tends to be weak. This indicates that Indonesia still has fiscal

vulnerabilities that must be watched. In a similar study, Surdikina et al. (2025) found that developing countries must keep their debt ratios below a certain threshold to not disrupt long-term growth. Meanwhile, Bloise and Vailakis (2024) underline the importance of maintaining market expectations of public debt to not trigger a crisis of confidence. Thus, a sustainable deficit financing strategy in Indonesia requires a balance between optimizing tax revenues, controlling debt, and diversifying instruments such as Sukuk (Bellasuti Solventiani, 2022)

## **RESEARCH METHOD**

This study uses a quantitative approach through Pearson correlation analysis to determine the relationship between the tax ratio and interest rates on deficit financing strategies in Indonesia. The data used are secondary data obtained from the World Development Indicators (WDI) and the Central Statistics Agency (BPS) from 2002 to 2024. To ensure the feasibility of the data in the analysis, a normality test was first carried out using the Skewness/Kurtosis Test for Normality. Data is declared normally distributed if the probability value ( $\text{Prob} > \chi^2$ ) exceeds 0.05. After the data meets the normality assumption, the analysis is continued with the Pearson correlation test to determine the direction and strength of the linear relationship between variables, namely between the square root of the financing deficit as the dependent variable and the tax ratio and interest rates as independent variables. The correlation results are then interpreted based on the correlation coefficient value and its significance value (p-value).

## **RESULTS AND DISCUSSION**

The budget deficit is a challenge many countries face, including Indonesia, where the balance between state revenue and expenditure is often under pressure (Usman Wartoyo, 2024). The tax ratio reflects the government's ability to optimize state revenue, while interest rates play a role in determining debt financing costs and fiscal stability (Adam, 2010). The results provide a clearer picture of the relationship between the three main variables and how they affect the deficit financing strategy. This section will present the results of the analysis systematically. Thus, this discussion interprets the numbers and provides a policy perspective that can be the basis for strategic steps in managing the budget deficit.

### **RESULTS**

#### **Analysis of Normality Test**

The data was processed using Stata to test

normality using the Skewness/Kurtosis test method with three variables: deficit, tax ratio, and interest rate.

**Table 5.1 Results Skewness/Kurtosis tests for Normality**

Variabel	Obs	Pr(Skewness)	Pr(Kurtosis)
sqrt_deficit	23	0.5506	0.2927
rasiopajak	23	0.6790	0.5077
sukubunga	23	0.2161	0.9592

**Source:** *Processed by the Author*

The results show that each variable has Prob>0.05, which is 0.4481 for the deficit, 0.7254 for the tax ratio, and 0.4308 for the interest rate. This value indicates that  $H_0$  is accepted, so each variable meets the normality assumption. Thus, Pearson correlation analysis can be carried out.

### Correlation Test Analysis

This study conducted a Pearson Correlation analysis to understand the relationship between tax ratios, interest rates, and financing deficits.

**Tabel 5.2 Results of Correlation**

Variabel	sqrt_deficit	rasiopajak	sukubunga
sqrt_deficit	1.0000		
rasiopajak	-0.8900	1.0000	
sukubunga	0.5241	-0.3248	1.0000
	0.0103	0.1305	

**Source:** *Processed by the Author*

The results show that the tax ratio and the financing deficit have a powerful negative relationship with a correlation value of -0.8900 and a p-value of 0.000, which means that the higher the tax ratio, the smaller the financing deficit. Meanwhile, interest rates have a strong positive relationship with the financing deficit, with a correlation of 0.5241 and a p-value of 0.0103, indicating that an increase in interest rates tends to increase the financing deficit. However, no significant relationship was found between the tax ratio and interest rates, indicating that these two

variables may not directly influence each other in the context of deficit financing. Unlike previous studies, this study uses Pearson Correlation analysis to present a new perspective on the contribution of the tax ratio and interest rates to the financing deficit. This approach provides baseline empirical evidence that is still rarely found in the public economics literature, especially in the Indonesian context.

### DISCUSSION

Previous research showed a powerful negative relationship between the tax ratio and deficit financing strategy, with a correlation coefficient of -0.8900 and a p-value of 0.000. This finding indicates that an increase in the tax ratio contributes significantly to reducing the budget deficit in Indonesia. This is in line with classical fiscal theory, which states that optimal tax revenues can reduce the need for state debt financing, thereby reducing the burden of the fiscal deficit (Purwiyanto et al., 2013). In the context of Indonesia, the low tax ratio is a significant challenge to the effectiveness of fiscal policy (Bayari, Isra, Warman, & Irianto, 2023). Therefore, increasing the tax ratio can be a sustainable solution to close the deficit gap rather than relying on debt.

On the other hand, the correlation test results also show that interest rates have a positive relationship with deficit financing, with a correlation coefficient of 0.5241 and a p-value of 0.0103, which means that this relationship is statistically significant. Increasing interest rates encourage an increase in the budget deficit. This phenomenon can be explained by increasing debt interest burden as interest rates increase. The higher the interest rate, the greater the government's expenditure to pay interest on debt, which ultimately increases pressure on the budget balance (Swasono & Martawardaya, 2015). This finding also matches the crowding-out theory, where an increase in interest rates due to deficit financing through domestic loans can reduce private investment and economic growth (Pravitarsi & Insukindro, 2023). In the long term, this condition risks causing fiscal dominance, where monetary policy becomes distorted because it has to support fiscal by maintaining low interest rates (Of & Tax, 2024). Meanwhile, the relationship between the tax ratio and interest rates was insignificant, indicating that these two variables can be analyzed separately in determining fiscal strategy (Mirhosseini & Montazeri, 2023). These results provide an important contribution to the public economics literature because they offer a new perspective that the direct effect of the tax ratio and interest rates on deficit financing can be studied through a

correlational approach, not just a structural regression model as is often used in previous studies (Haryadi, 2024); (Mokoginta & Stephanie, 2015).

Thus, this discussion underlines the need for a balanced fiscal policy, where the increase in the tax ratio needs to be optimized. In contrast, the interest rate increase must be maintained so as not to worsen the government's fiscal position. Coordination between fiscal and monetary authorities is crucial to maintain overall macroeconomic stability. To enrich the analysis and strengthen the findings in this study, several previous studies and relevant international journals were further reviewed. To strengthen the findings of this study, a review of fifteen relevant scientific journals was conducted. The results of the study support and broaden the understanding of the relationship between the tax ratio, interest rates, and deficit financing strategies, both in the Indonesian and global contexts. Dai & Philippon (2005) and (Mehrotra & Sergeyev, 2021) highlight how an increase in the tax ratio contributes to reducing the need for financing through debt. An increase in the tax ratio can reduce long-term fiscal pressures, even amidst lower interest rates than economic growth. This aligns with research findings that show a strong negative relationship between the tax ratio and the deficit. Blanchard (2019) and Harding, Lindé, and Trabandt (2023) emphasize the risk of interest rate spikes on deficit financing. In the post-pandemic context, inflationary pressures cause interest rates to rise, increasing the government debt interest burden. This aligns with research findings that interest rate increases increase the deficit. Patel (2024) shows that unstable economic growth affects the debt ratio more than direct fiscal policy. Therefore, sustainable deficit financing must also consider macroeconomic conditions (Patel, 2024). Basconcillo (2023) found that spending compositions such as energy subsidies increase inflationary pressures in the Indonesian context.

Meanwhile, Ikhsan and Virananda (2021) noted an asymmetric fiscal response: the government is more reactive when the debt ratio decreases than when it increases. Economides & Philippopoulos (2023) and Reis (2022) underline the importance of the difference between interest rates and economic growth rates ( $r - g$ ). Deficit financing is at high risk when interest rates are higher than growth. The concept of debt revenue, namely the government's profit from low interest rates on its debt, only applies in the short term. Escolano (2010) suggests using debt-based fiscal rules and automatic mechanisms to respond to imbalances. This is important so that

fiscal policy is not only political or temporary. MILLER (1993) explains that an unbalanced deficit will pressure inflation and interest rates, triggering a crowding-out effect. From the Ethiopian study, Alemayehu and Addis (2023) reinforce that deficit financing must be directed to the productive sector to maintain fiscal sustainability.

Rahman (2023) showed that Indonesia had a high interest-to-tax revenue ratio during the pandemic, indicating fiscal risk. Indrawati, Satriawan, and Abdurohman (2024) added that despite a primary surplus, the low tax ratio indicates the need for tax reform and spending efficiency. Meanwhile, Cioffi, Deleidi, and Capriati (2024) emphasized in the CRS report that deficit financing amid an era of high interest rates can create a fiscal tipping point if not balanced with growth or reform. Thus, these studies reinforce that a healthy fiscal policy must combine tax ratio optimization, interest rate control, spending efficiency, and a systematic policy response to fiscal pressures.

## CONCLUSION

This study concludes that the tax ratio is important in reducing the financing deficit, while interest rates tend to increase the deficit. Increasing the tax ratio helps increase state revenues, thereby reducing the need for deficit financing, while increasing interest rates increase the cost of government debt, contributing to the widening of the deficit. However, this study did not find a direct relationship between the tax ratio and interest rates, indicating that changes in tax policy do not always affect interest rate movements. Therefore, deficit financing strategies need to focus on strengthening fiscal policy, such as tax reforms that increase taxpayer compliance, improve administration, and expand the tax base. In addition, a balance in interest rate policy needs to be considered to maintain economic stability without worsening the financing deficit. Good coordination between fiscal and monetary policies is key to ensuring that the deficit remains controlled and encouraging long-term economic sustainability. Thus, this study provides an empirical picture of the relationship between the tax ratio, interest rates, and deficit financing strategies and presents an alternative approach through descriptive correlation analysis that has not been widely used in previous studies. The results can be the initial basis for further, more in-depth research and a reference for policymakers to formulate a data-based deficit financing strategy.

## REFERENCES

- Adam, K. (2010). Optimal Monetary and Fiscal Stabilisation Policies, (765). Retrieved from <http://dx.doi.org/10.1787/5kmfwj7s5pjk-en%5Cnhttp://ezproxy.lib.monash.edu.au/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ecn&AN=1117392&site=ehost-live&scope=site>
- Adiningsih, S. (2009). The Impact of Government Debt Issuance on Short-Term interest rates in Indonesia. *Gadjah Mada International Journal of Business*, 11(3), 301. <https://doi.org/10.22146/gamaijb.5521>
- Aisen, A., & Hauner, D. (2021). Budget Deficits and Interest Rates: A Fresh Perspective. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1096866>
- Aladejare, S. A. (2022). Deficit Financing Components, Inflation and Capital Formation in Nigeria: Evidence From a Direct and Indirect Analysis. *Asian Journal of Economic Modelling*, 10(1), 27–42. <https://doi.org/10.55493/5009.v10i1.4454>
- Alemayehu, G., & Addis, Y. (2023). PROMOTING A PANDEMIC RECOVERY : EVIDENCE TO SUPPORT MANAGING THE GROWING DEBT CRISIS PROJECT FUNDAMENTAL AND OF PUBLIC DEBT Alemayehu Geda.
- Amalia, E. (2024). INDONESIA TREASURY REVIEW IMPACT OF SUKUK NEGARA ISSUANCE ON APBN DEFICIT FINANCING AND ECONOMIC GROWTH: THE MODERATING ROLE OF MARKET. *JOURNAL OF TREASURY, STATE FINANCE AND PUBLIC POLICIES*, 9(2024), 186–200.
- Amaliah, I., & Aspiranti, T. (2017). State Sukuk Potential in Reducing Indonesia Budget Deficit, 2009-2015. *Journal of Economics, Business & Accountancy Ventura*, 20(1), 21. <https://doi.org/10.14414/jebav.v20i1.781>
- Basconcillo. (2023). Deficit Spending During Higher Inflation and Interest Rates: Implications for Debt Sustainability Deficit Spending During Higher Inflation and Interest Rates : Implications for Debt Sustainability.
- Bayari, B., Isra, S., Warman, K., & Irianto, E. S. (2023). 40 Tahun Reformasi Administrasi, Institusi Perpajakan Belum Berhasil Meningkatkan Tax Ratio. *Jurnal Hukum Dan Pembangunan Ekonomi*, 11(2), 277. <https://doi.org/10.20961/hpe.v11i2.80566>
- Bellasuti Solventiani, I. A. (2022). Pengaruh antara Penerbitan Sukuk Negara terhadap Defisit APBN Indonesia Tahun 2008-2019. *Jurnal Riset Ilmu Ekonomi Dan Bisnis*, 1(2), 118–125. <https://doi.org/10.29313/jrieb.v1i2.511>
- Blanchard, O. (2019). Public debt and low interest rates. *American Economic Review*, 109(4), 1197–1229. <https://doi.org/10.1257/aer.109.4.1197>
- Boburjon Turanboyev Qodirjon o'g'li, M. S. N. (2023). Fiscal Policy As the Primary Tool To Affect the Strength of the Capital Markets. *Qo'Qon Universiteti Xabarnomasi*, 8, 32–35. <https://doi.org/10.54613/ku.v8i8.796>
- Building, S. S. (2011). *The Fiscal Stimulus in 2009-11: Trade Openness, Fiscal Space and Exchange Rate Adjustment*.
- Canuto, O., Silva, A. C., & García-kilroy, C. (2014). Long-Term Finance in EMEs: Navigating between Risks and Policy Choices. *World Bank - Economic Premise*, (152), 1–5.
- Ciaffi, G., Deleidi, M., & Capriati, M. (2024). Government spending, multipliers, and public debt sustainability: an empirical assessment for OECD countries. *Economia Politica*, 41(2), 521–542. <https://doi.org/10.1007/s40888-024-00335-0>
- Dai, Q., & Philippon, T. (2005). Nber Working Paper Series Fiscal Policy and the Term Structure of Interest Rates, (August).
- Davies, J. (2011). Indonesia Selected issues. *International Monetary Fund*, pp. 215–218. [https://doi.org/10.1007/978-1-4684-3821-5\\_16](https://doi.org/10.1007/978-1-4684-3821-5_16)
- Economides, G., & Philippopoulos, A. (2023). Fiscal Sustainability: Interest Rates, Growth and Debt-based Policy Rules. *CESifo Forum*, 24(4), 11–15.
- Elizabeth, A. (2016). Household Economy in Rural

- Burundi. *The Social Analysis of Policy Change in Africa Project*, pp. 1–23.
- Escolano, J. (2010). A Practical Guide to Public Debt Dynamics, Fiscal Sustainability, and Cyclical Adjustment of Budgetary Aggregates. *Technical Notes and Manuals*, 2010(002), 1. <https://doi.org/10.5089/9781462396955.005>
- Fenochietto, R., & Pessino, C. (2013). *Understanding Countries' Tax Effort*. IMF Working Papers (Vol. 13). <https://doi.org/10.5089/9781484301272.001>
- Gazali, M. (2020). Budget Deficit and Debt: Descriptive Analysis of Indonesia's Case, (January 2020). <https://doi.org/10.2991/aebmr.k.200915.069>
- Governance, G. (2024). TAX REFORM IN INDONESIA: THE TRANSFORMATION FROM DIRECTORATE Article history: Keywords: State Revenue Agency; Tax Ratio; Tax Reform; TO THE STATE REVENUE AGENCY, 1–21.
- Handaria, Madris, & Saudi, N. D. S. (2022). State Budget Deficit Analysis in Indonesia Year 2002-2022, 7(3), 110–120.
- Haque, M. (2019). Deficit financing in contemporary economies: Effects and implications. *Journal of King Abdulaziz University, Islamic Economics*, 32(1), 87–95. <https://doi.org/10.4197/Islec.32-1.6>
- Harding, M., Lindé, J., & Trabandt, M. (2023). Understanding Post-COVID Inflation Dynamics, WP/23/10, January 2023, 1–42.
- Haryadi, Y. (2024). Maximizing Economic Growth in Indonesia: A Model-Based Exploration of Optimal Tax Ratios. *Indonesian Treasury Review Jurnal Perbendaharaan Keuangan Negara Dan Kebijakan Publik*, 9(2), 87–98. <https://doi.org/10.33105/itrev.v9i2.756>
- Hendy, I. P., Dinata, B., & Asqolani, A. (2024). Economics and Finance in Indonesia The Effect of Tax Avoidance , Tax Rate Change , and Sustainability Disclosure on Earnings Management The Effect of Tax Avoidance , Tax Rate Change , and Sustainability Disclosure on Earnings Management. *Economics and Finance in Indonesia E*, 70(1). <https://doi.org/10.47291/efi.2024.03>
- Ikhshan, M., & Virananda, I. G. S. (2021). Fiscal Sustainability in Indonesia with Asymmetry. *Economics and Finance in Indonesia*, 67(1), 19. <https://doi.org/10.47291/efi.v67i1.731>
- Indrawati, S. M., Satriawan, E., & Abdurrohman. (2024). Indonesia's Fiscal Policy in the Aftermath of the Pandemic. *Bulletin of Indonesian Economic Studies*, 60(1), 1–33. <https://doi.org/10.1080/00074918.2024.2335967>
- Istiqomah, N., & Mafruhah, I. (2022). Economics Development Analysis Journal The Effect of Budget Deficit in Indonesia: A Comparative Study Article Information. *Economics Development Analysis Journal*, (1), 110–119.
- Kapriaji, M. N., & Siswidiyanto, S. (2022). Desentralisasi dan Kapasitas Pemerintah dalam Pembangunan Sumber Daya Manusia di Indonesia. *Jurnal Ilmiah Administrasi Publik*, 8(2), 241–255. <https://doi.org/10.21776/ub.jiap.2022.008.02.14>
- Kholis, N., Timur, J., & Dornbusch, D. (2022). Deterinan Ketahanan Pembiayaan Defisit Anggaran Indonesia Tahun. *Prosiding Seminar Nasional Statistik Offstat STIS*, 2022, 231–240.
- Koroleva, E., & Kopeykin, M. (2022). Understanding of Macro Factors That Affect Yield of Government Bonds. *Risks*, 10(8). <https://doi.org/10.3390/risks10080166>
- Kuncoro, H. (2017). Fiscal policy and stock market returns volatility: The case of Indonesia. *International Journal of Economic Policy in Emerging Economies*, 10(2), 153–170. <https://doi.org/10.1504/IJEPEE.2017.085286>
- Kurniawan, G., Ramayani, N., Fadhilah, F., Zora, F., & Yamin, M. (2024). Pengaruh Perubahan Tingkat Bunga Bank Terhadap. *Jurnal Ilmiah Pendidikan Scholastic*, 3(3), 32–36.
- Mahmud, F. D. (2024). ECONOMETRIC STUDY OF STATE BUDGET DEFICIT: CAUSES AND SOLUTIONS. *EPRA International Journal of Economic and Business Review*, 12(December), 22–27. <https://doi.org/10.36713/epra2012>

- Mehrotra, N. R., & Sergeyev, D. (2021). Debt sustainability in a low interest rate world. *Journal of Monetary Economics*, 124(June 2017), S1–S18. <https://doi.org/10.1016/j.jmoneco.2021.09.001>
- Meita, I., & Nurdiniah, D. (2023). The Effect Of Changes In Corporate Income Tax Rates, Inflation And Interest Rates On Income Tax Revenues. *Jurnal Pajak Dan Keuangan Negara (PKN)*, 4(2), 563–570. <https://doi.org/10.31092/jpkn.v4i2.2033>
- MILLER, F. C. (1993). Fiscal Deficits and Interest Rates: Comment. *Australian Economic Papers*, 32(60), 185–190. <https://doi.org/10.1111/j.1467-8454.1993.tb00139.x>
- Mirhosseini, S. V., & Montazeri, M. R. (2023). The Role of Budget Deficit and Government Debt in Financing-Economic Growth of Selected Developing Countries. *International Journal of Management, Accounting and Economics*, 10(4), 284–296. <https://doi.org/10.5281/zenodo.7965707>
- Mokoginta, I. S., & Stephanie, R. M. (2015). Structural breaks and Fiscal Sustainability of the Indonesian Government Budget. *Economic Journal of Emerging Markets*, 7(1), 33–47. <https://doi.org/10.20885/ejem.vol7.iss1.art4>
- Mujasmara, F. D., Panggabean, R. T. T., Muliana, R. S., Nugrahadi, E. W., & Rinaldi, M. (2023). Peran Kebijakan Fiskal Terhadap Perekonomian di Indonesia. *Innovative: Journal Of Social Science Research*, 3(6), 2986–2997.
- Nuraisah, N., Amanda, R. P., Rambe, S., & Batubara, M. (2024). Analisis Imbas Defisit Anggaran terhadap Perekonomian di Indonesia. *As-Syirkah: Islamic Economic & Financial Journal*, 3(2), 1191–1203. <https://doi.org/10.56672/syirkah.v3i2.292>
- OCDE. (2024). *OECD Economic Outlook. Rapport final*.
- Of, A. M. E., & Tax, O. (2024). Maximizing Economic Growth in Indonesia: A Model-Based Exploration of Optimal Tax Ratios. *Indonesian Treasury Review Jurnal Perbendaharaan Keuangan Negara Dan Kebijakan Publik*, 9(2), 87–98. <https://doi.org/10.33105/itrev.v9i2.756>
- Patel, N. (2024). Public Debt Dynamics and the Impact of Fiscal Policy. *IMF Working Papers*, 2024(087), 1. <https://doi.org/10.5089/9798400273476.001>
- PG, G. S. P., Aristokra, D. M. C., & Mohammad, R. (2024). Similarity index for estimating tax reform program and its impact on tax revenue. *Scientax*, 5(2), 103–115. <https://doi.org/10.52869/st.v5i2.544>
- Pravitasari, C. F., & Insukindro, I. (2023). The Impact of Fiscal-Monetary Policy Interaction on the Indonesian Economy. *Jurnal Ekonomi Pembangunan*, 20(2), 159–172. <https://doi.org/10.29259/jep.v20i2.18586>
- Pulungan, A. M., & Listiyanto, E. (2021). Debt sustainability and debt management in Indonesia – lessons from China. *United Nations*, (November), 1–4.
- Purwiyanto et al. (2013). INDONESIA TREASURY REVIEW IMPACT OF SUKUK NEGARA ISSUANCE ON APBN DEFICIT FINANCING AND ECONOMIC GROWTH : THE MODERATING ROLE OF MARKET, 9(2024), 186–200.
- Rahman, Y. A., Rahmayani, D., & Hapsoro, B. B. (2023). Public Debt Sustainability in Indonesia after Financial Crisis and During COVID-19 Pandemic. *International Journal of Sustainable Development and Planning*, 18(1), 229–235. <https://doi.org/10.18280/ijstdp.180124>
- Ratna Wulandari, Ulil Farrohah, S. S. (2023). Penerbitan Obligasi Negara Sebagai Alternatif Pendanaan Defisit APBN Indonesia. *Jurnal Riset Rumpun Ilmu Sosial, Politik Dan Humaniora*, 2(2), 18–29. <https://doi.org/10.55606/jurrish.v2i2.1249>
- Reis, R. (2022). Debt Revenue and the Sustainability of Public Debt. *Journal of Economic Perspectives*, 36(4), 103–124. <https://doi.org/10.1257/jep.36.4.103>
- Rubianto Pitoyo, Zefriyenni, A. (2025). Crowding Out and Multiplier Effect in Indonesia. *International Journal of Analysis and*

*Applications*, 1–15.

- Saleh, A. S., & Harvie, C. (2005). The budget deficit and economic performance: A survey. *Singapore Economic Review*, 50(2), 211–243. <https://doi.org/10.1142/S0217590805001986>
- Sandra Olivia, A., & Yulianita, A. (2018). SRIWIJAYA INTERNATIONAL JOURNAL OF DYNAMIC ECONOMICS AND BUSINESS <http://ejournal.unsri.ac.id/index.php/sijdeb> Indonesia Budget Deficit, 2(2), 139–150.
- Sawe, A., Esso, R., Amiruddin, K., & Abdullah, M. A. (2024). Qualitative Study of Sukuk as an Alternative Sharia Financing and Its Impact on Economic Growth in Indonesia. *Journal of Economic Education and Entrepreneurship Studies*, 5(4), 644–655.
- Silfiani, F. (2022). Effect of Inflation, Economic Growth, and Tax Rates on Tax Ratios in Asian Countries in the Period 2015-2020. *International Journal of Current Science Research and Review*, 05(03), 781–794. <https://doi.org/10.47191/ijcsrr/v5-i3-23>
- Surdikina, N., Tompul, R. B., Sianipar, S. B., Santika, S., Maritim, U., Ali, R., ... Fiskal, R. (2025). STRATEGI PENGELOLAAN UTANG NEGARA : MENJAGA STABILITAS. *Jurnal Pendidikan Multidisiplin*, 2, 162–173.
- Swasono, D. A., & Martawardaya, B. (2015). Pengaruh Defisit Fiskal terhadap Pertumbuhan Ekonomi di Indonesia Periode 1990-2012. *Jurnal Ekonomi Dan Pembangunan Indonesia*, 15(2), 144–157. <https://doi.org/10.21002/jepi.v15i2.03>
- Turner, B. (2014). Asian Development Bank Institute, (1402), 75–75. [https://doi.org/10.1007/978-1-349-67278-3\\_116](https://doi.org/10.1007/978-1-349-67278-3_116)
- Tyo Prassoga1, D. S. (2016). Analysis of Factors Affecting Budget Deficit in Indonesia. *Jambura Equilibrium Journal*, 7(1), 1–23.
- Untuk, D., Tugas, M., Guna, S., & Gelar, M. (2010). Analisis dampak defisit anggaran terhadap penurunan investasi swasta (crowding.
- Usman Wartoyo, W. (2024). Analysis of Fiscal Policy in the Management of the National Budget in Indonesia. *Peradaban Journal of Economic and Business*, 3(1), 55–71. <https://doi.org/10.59001/pjeb.v3i1.154>
- Yolanda Wibawa, H. W., & Kamil, M. (2023). Policy Determinants of Budget Deficit in Indonesia. *Account and Financial Management Journal*, 08(03), 3141–3149. <https://doi.org/10.47191/afmj/v8i3.02>
- Yossinomita, Y., Haryadi, & Hodijah, S. (2024). Determining the Future Direction and Amount of Tax Revenue in Indonesia Using an Error Correction Model (ECM). *Ekonomika*, 103(1), 56–77. <https://doi.org/10.15388/Ekon.2024.103.1.4>
- Yuhendra, Syaukat, Y., Hartoyo, S., & Kusnadi, N. (2022). ANALISIS KEBERLANJUTANSISTEMUSAHATANI INTEGRASI KELAPA SAWITRAKYAT DENGAN TERNAK SAPIPOTONGDI PROVINSI RIAU. *Jurnal Agro Ekonomi*, 40(1), 1–16.