



**IMPACT OF SUKUK NEGARA ISSUANCE ON APBN DEFICIT FINANCING
AND ECONOMIC GROWTH: THE MODERATING ROLE OF MARKET
LIQUIDITY**

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ABSTRACT

This study examines the impact of Sukuk Negara issuance on financing the APBN deficit and Indonesia's economic growth, while also considering the moderating effect of market liquidity through a mixed-method approach. This study combines quantitative analysis of 2014-2023 time series data with in-depth interviews with experts. The research methodology has two phases. The quantitative phase employs multiple linear regression and moderation analysis to test the hypothesis, utilizing time series data on the volume of Sukuk Negara issuance, APBN deficit, GDP growth, and market liquidity indicators. The qualitative phase involves semi-structured interviews with four experts, analyzed using the thematic analysis method. The results of the regression analysis indicate that the issuance of Sukuk Negara has a significant positive effect on APBN deficit financing and economic growth. The moderation test confirms that market liquidity significantly moderates the relationship between the issuance of Sukuk Negara and its effectiveness in deficit financing. Thematic analysis of the interviews revealed profound insights into the role of Sukuk Negara in financial system stability and infrastructure financing. The integration of quantitative and qualitative results confirms the strategic role of Sukuk Negara as an instrument for financing the APBN deficit and driving Indonesia's economic growth. This research emphasizes the importance of developing a liquid Sukuk Negara market and diversifying Islamic financial instruments to optimize economic benefits. Policy implications encompass enhancing domestic market capacity, fostering innovation in Sukuk Negara products, and refining the regulatory framework to support sustainable economic growth. This mixed-method approach significantly contributes to the literature by combining quantitative empirical evidence and in-depth qualitative insights, providing a holistic perspective on the role of Sukuk Negara in the Indonesian economy.

Keywords: Sukuk Negara, APBN Deficit, Economic Growth, Market Liquidity, Sharia Finance

JEL Classification: E62, G23, H63, O16, P43

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INTRODUCTION

Sukuk Negara is a financing alternative that provides greater flexibility for the Government in covering the APBN deficit. Previously, the Indonesian government only had the option of foreign loans, which were often accompanied by strict terms and conditions from donor countries or international financial institutions (Usman & Sa'ad, 2023). With the existence of *Sukuk Negara*, the Government finally has a financing instrument that allows it to become a borrower with stronger bargaining power (apprehended borrower) (Abubakar & Baba, 2020). This was proven when Indonesia succeeded in paying off its debt to the IMF using funds obtained from the issuance of *Sukuk Negara*, marking a new era of the country's fiscal independence.

In the context of state financial management, the APBN deficit is a crucial issue that needs to be addressed (Usman & Sa'ad, 2023). Sustained deficits could threaten economic stability and hinder long-term growth (Ledhem, 2022). Therefore, the role of *Sukuk Negara* as a source of financing the APBN deficit is important to research. A study by Nopijantoro (2017) shows the significant contribution of *Sukuk Negara* in financing the APBN in Indonesia, but further analysis is still needed regarding its effectiveness as a source of deficit financing. Policymakers should utilize *Sukuk Negara* as a primary instrument for financing the APBN deficit, which can contribute to enhancing fiscal stability and reducing reliance on foreign loans (Riswan et al., 2023). Additionally, efforts should be made to promote the development of a deep and liquid *Sukuk* market, as market liquidity is crucial in maximizing the effectiveness of *Sukuk* as a financing tool (Surachman et al., 2023). Lastly, increasing investor awareness and understanding of *Sukuk* can help broaden the investor base, thereby fostering greater market participation and contributing to the overall growth of the Islamic finance sector in Indonesia.

Economic growth, as an indicator of a country's prosperity, is also closely related to the issuance of *Sukuk* (Yıldırım et al., 2020). Research by Mitsaliyandito et al. (2017) and Yuliani et al. (2022) shows the positive impact of *sukuk* market development on economic growth. However, the specific mechanisms of how *sukuk* affect economic growth in Indonesia still need to be explored in more depth.

Market liquidity plays an important role in the effectiveness of *Sukuk* as a financing instrument (Ariyana et al., 2020). A liquid market can increase the efficiency of *Sukuk* issuance, but Almaskati

APPLICATIONS FOR PRACTICE

- *Sukuk Negara* performs a key role in financing the APBN deficit and boosting economic growth.
- Market liquidity enhances the efficacy of *Sukuk* issuance in deficit financing and growth stimulation.
- Developing a deeper, more diverse *Sukuk* market is essential for long-term sustainability.
- *Sukuk* effectively finances infrastructure, with potential for innovation like green *Sukuk*.
- Regulatory improvements are essential for market growth, concentrating on transparency and education.
- *Sukuk* integration into fiscal and monetary policy supports financial system stability

(2023) identified low secondary market liquidity as a challenge in developing the *Sukuk* market. Therefore, understanding the moderating role of market liquidity in the relationship between *Sukuk* issuance and its effectiveness in covering the APBN deficit is important.

Various previous studies have been carried out regarding *sukuk* and their implications for the economy (Ulfah et al., 2024). The summary of the methods and results from several previous studies related to *Sukuk* is presented in Table 1. Ali et al. (2024) and Hafsa & Oumaima (2021) analyzed the structure and characteristics of *Sukuk*, emphasizing their differences from conventional bonds and their implications for financial markets. In Indonesia, Hariyanto (2017) examined the evolution of *Sukuk Negara* since they were first issued in 2008, showing the increasing role of *Sukuk* in APBN financing from year to year. In the context of the relationship between *sukuk* and economic growth, Said & Grassa, (2013) found a positive impact of *sukuk* issuance on economic growth in GCC countries. In line with this, Smaoui & Nechi (2017) show the role of *Sukuk* market development in driving long-term economic growth through increasing the depth of the financial sector. Regarding market liquidity, Azmat et al. (2014) identified low secondary market liquidity as one of the main challenges in the development of the *Sukuk* market, emphasizing the importance of this aspect in the effectiveness of *Sukuk* as a financing instrument. However, although these studies have provided valuable insights, there are still gaps in the literature. In particular, there is no comprehensive analysis that links *Sukuk* issuance, APBN deficit, economic

Table 1 Previous Research

No	Researcher and Year	Research Title	Method	Results
1	Smaoui & Nechi (2017)	Does sukuk market development spur economic growth?	Panel data regression	The development of the sukuk market has a positive effect on long-term economic growth.
2	Azmat et al. (2014)	The Shariah compliance challenge in Islamic bond markets	Qualitative analysis and case studies	Low secondary market liquidity is the main challenge in developing the sukuk market
3	Said & Grassa (2013)	The determinants of sukuk market development: do macroeconomic factors influence the construction of certain structures of sukuk?	Multiple regression analysis	Macroeconomic factors such as economic size and trade openness have a positive influence on the development of the sukuk market
4	Godlewski et al. (2013)	Sukuk vs. conventional bonds: A stock market perspective	Event study methodology	The market reacted neutrally to the announcement of a sukuk issuance, but negatively to the issuance of conventional bonds
5	Reinhart & Rogoff (2010)	Growth in a Time of Debt	Historical panel data analysis	High levels of public debt (above 90% of GDP) correlate with lower economic growth.

Source: Scopus.com, sciendirect.com, emerald.com

growth and market liquidity in one integrated framework, especially in the Indonesian context. This research aims to fill this gap, providing a deeper understanding of the role of sukuk in fiscal management and economic growth in Indonesia.

This research has three main interrelated objectives. First, analyzing the influence of the issuance of *Sukuk Negara* on financing the APBN deficit in Indonesia, provides an understanding of the effectiveness of *Sukuk Negara* in meeting fiscal financing needs. Second, investigating the relationship between the issuance of *Sukuk Negara* and Indonesia's economic growth, clarifying the role of *Sukuk Negara* as a potential catalyst for national economic development. Third, evaluating the moderating role of market liquidity in the relationship between *Sukuk Negara* issuance and its effectiveness in financing the APBN deficit provides insight into how market conditions influence the effectiveness of *Sukuk Negara* as a state financing instrument. Through achieving these three objectives, the research is expected to make a significant contribution to existing literature and provide practical implications for policy makers in managing state finances and developing sharia financial markets in Indonesia.

LITERATURE REVIEW

Fiscal Policy Theory and Public Finance

The theory of fiscal policy and public finance is the main basis for understanding the role of state financing instruments such as Sukuk. According to Musgrave & Musgrave (1989), fiscal policy has three main functions: allocation, distribution, and

stabilization. In this context, sukuk as a financing instrument can be seen as a tool to carry out these functions. The optimal capital structure theory developed by Modigliani & Miller (1958) is also relevant in understanding government financing decisions. Although this theory was originally developed for companies, its principles can be applied to public debt management, including the use of *Sukuk Negara* as a source of APBN financing.

Sukuk Negara and State Financing

Research on Sukuk as an instrument of state financing shows significant development. Godlewski (2011) analyzed the structure and characteristics of sukuk, emphasizing their differences from conventional bonds. Ramadhani et al. (2024) conducted a comprehensive study of the development of the global sukuk market, showing rapid growth from \$10 billion in 2000 to more than \$500 billion in 2018. In Indonesia, Hariyanto (2017) examined the evolution of sovereign sukuk since it was first published in 2008. This research shows the increasing role of Sukuk in APBN financing from year to year. Nopijantoro (2017) further analyzed the specific contribution of Sukuk in financing infrastructure projects in Indonesia.

APBN deficit

APBN deficit is defined as a condition where government expenditure exceeds its income in a fiscal period, usually expressed as a percentage of Gross Domestic Product (GDP). Current research on the APBN deficit focuses on long-term implications and fiscal sustainability. Reinhart &

Rogoff (2010) examine the relationship between public debt levels and economic growth, providing insight into the safe limits of budget deficits. This study shows that high levels of public debt can hinder economic growth. In Indonesia, Basri & Rahardja (2011) analyzed APBN deficit trends and their implications for macroeconomic stability, emphasizing the importance of careful deficit management to maintain long-term economic stability.

Economic growth

Economic growth is defined as an increase in the production capacity of an economy as measured by the increase in real Gross Domestic Product (GDP) over time. Research on the relationship between financing instruments and economic growth shows the complexity of these interactions. Barro (1990) developed an endogenous growth model that includes the role of government spending, showing that public investment can drive long-term economic growth. Regarding Sukuk, Said & Grassa (2013) found a positive impact of sukuk issuance on economic growth in GCC countries, indicating the potential of sukuk as a financing instrument that supports growth. Meanwhile, Smaoui & Nechi (2017) show the role of sukuk market development in encouraging long-term economic growth through increasing the efficiency of resource allocation and financial inclusion.

Market Liquidity

Market liquidity is defined as the ease with which an asset or security can be traded in the market without causing significant price movements (Naik & Reddy, 2021). In the context of Sukuk, market liquidity refers to how easily the Sukuk can be bought or sold in the secondary market. Recent research on market liquidity in the sukuk context is still limited. However, Azmat et al. (2014) identified low secondary market liquidity as one of the main challenges in the development of the sukuk market, which can hinder the effectiveness of sukuk as a financing instrument. Naifar et al. (2017) further analyzed the factors that influence sukuk liquidity, including contract structure and market conditions, emphasizing the importance of product design and macroeconomic conditions in determining sukuk liquidity.

Relationship Between Variables

The Relationship Between *Sukuk Negara* Issuance and APBN Deficit Financing

Theoretically, the issuance of *Sukuk Negara* as an alternative financing instrument should be an important source in meeting the financing needs of the APBN deficit. *Sukuk Negara* mobilizes funds from investors, both domestic and international,

which can then be used to finance government spending, thereby contributing to deficit financing (Hariyanto, 2017). A study by (Nopijantoro, 2017) in Indonesia shows that *Sukuk Negara* have contributed significantly to APBN financing. In addition, Khalilurrahman & Mubarrak (2022) research in several moslem countries found that Sukuk were effective in mobilizing funds for large government projects, which directly supported state budget financing. Regarding to these literature review and theory, the hypothesis can be formulated as follows:

H1: The issuance of *Sukuk Negara* contributes positively to reducing the state budget deficit.

The Relationship Between *Sukuk Negara* Issuance and Economic Growth

The issuance of *Sukuk Negara* can encourage economic growth through two mechanisms: first, by providing financing for productive infrastructure and development projects; second, by developing sharia financial markets which can increase financial inclusion and efficiency of resource allocation (Yıldırım et al., 2020). Research by Said & Grassa (2013) found a positive impact of Sukuk issuance on economic growth in GCC countries. Smaoui & Nechi (2017) also show that the development of the Sukuk market can increase the depth of the financial sector and encourage long-term economic growth. Based on these findings, the following hypothesis is formulated:

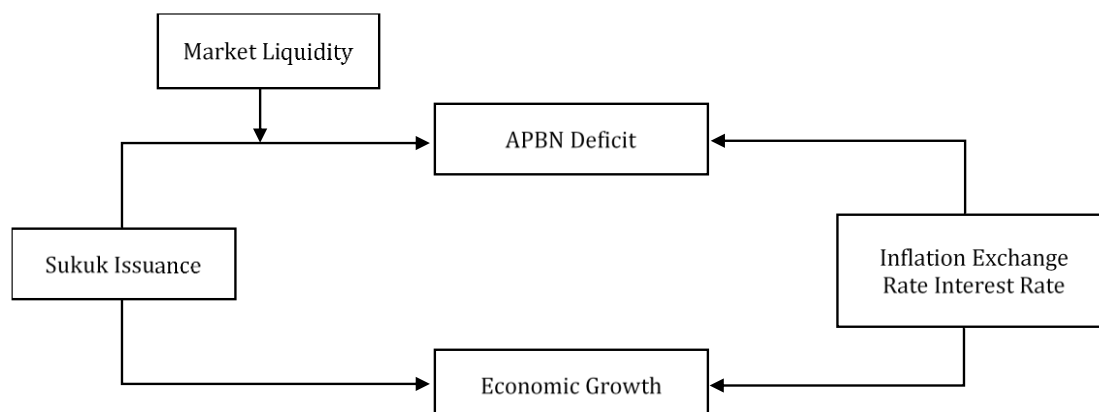
H2: Issuance of *Sukuk Negara* has a positive effect on economic growth

The Relationship Between *Sukuk Negara* and APBN Deficit Financing is Moderated by Market Liquidity

High market liquidity should increase the efficiency of *Sukuk Negara* issuance. A liquid market allows more accurate pricing, reduces transaction costs, and increases investor interest, thereby increasing the effectiveness of *Sukuk Negara* in financing the APBN deficit (Balli et al., 2021). Although there has been no specific study on the moderation of market liquidity on the effectiveness of *Sukuk Negara* in the context of the APBN, research by Swandaru & Muneeza (2024) identified low secondary market liquidity as one of the challenges in developing the sukuk market. This shows the importance of liquidity in the effectiveness of this instrument. So a hypothesis can be formulated as follows:

H3: Market liquidity moderates the relationship between the issuance of *Sukuk Negara* and its effectiveness in financing the APBN deficit

Figure 1 Research Model



Source: Author

Research Model

This research model describes the relationship between variables that will be tested in a study on the role of *Sukuk Negara* in state financing and economic growth in Indonesia. Figure 1 shows that Sukuk issuance has a direct influence on the fiscal deficit and economic growth. In addition, this model also illustrates the moderating role of market liquidity in the relationship between sukuk issuance and the fiscal deficit. Control variables such as inflation, exchange rates, and interest rates are included to take into account other macroeconomic factors that can influence the fiscal deficit and economic growth. This model in Figure 1 is designed to test research hypotheses and provide a comprehensive understanding of the dynamics of *Sukuk Negara* issuance in the Indonesian economic context.

RESEARCH METHODOLOGY

This research adopts a mixed-method approach, combining rigorous quantitative analysis with in-depth qualitative interviews to provide a comprehensive understanding of the role of *Sukuk Negara* in the Indonesian economy. This study utilizes annual time series data covering the period from 2014 to 2023, representing an era of significant development of the sukuk market in Indonesia. Data is obtained from various trusted official sources, including the Ministry of Finance, Bank Indonesia, the Central Statistics Agency, the Financial Services Authority and Indonesian Stock Exchange, ensuring the accuracy and reliability of the information used in the analysis.

In quantitative analysis, this research focuses on two main dependent variables: the APBN deficit, which is measured as a percentage of GDP, and economic growth, which is represented by the annual real GDP growth rate. The main independent variable is *Sukuk Negara* issuance, which is measured by the total value of *Sukuk*

Negara issued by the government each year. To enrich the analysis, market liquidity is included as a moderator variable, calculated as the ratio of sukuk trading volume to the total value of *Sukuk Negara* in circulation. This research also considers several relevant control variables, including inflation, the rupiah exchange rate against the US dollar, and Bank Indonesia's benchmark interest rate to capture broader macroeconomic dynamics. The operational definitions and data types for each variable are presented in Table 2.

The quantitative analysis methodology relies on multiple linear regression with three main models. The first model tests the effect of sukuk issuance on the fiscal deficit, the second model analyzes the relationship between *Sukuk Negara* issuance and economic growth, while the third model evaluates the moderating effect of market liquidity on the relationship between sukuk issuance and the fiscal deficit. Before conducting regression analysis, a series of classic assumption tests were carried out to ensure the validity of the results. This includes a normality test using the Jarque-Bera method, a multicollinearity test using the Variance Inflation Factor, a heteroscedasticity test using the Breusch-Pagan test, and an autocorrelation test using Durbin-Watson statistics.

The significance of individual regression coefficients was tested using the t test, while the overall explanatory power of the model was evaluated through the F test and coefficient of determination (R^2). Interpretation of regression results is carried out by considering not only statistical significance, but also the practical and economic relevance of the findings.

In the three econometric models analyzed (Box 1), the main variables are defined and measured as follows:

- Sukuk Issuance: The volume of *Sukuk Negara* issuance measured as the total nominal value of

Box 1 Three Econometric Models Analyzed

$$\text{APBN Deficit}_t = \beta_0 + \beta_1(\text{LnSukuk Issuance})_t + \beta_2(\text{Inflation})_t + \beta_3(\text{LnExchange Rate})_t + \beta_4(\text{Interest Rate})_t + \varepsilon \dots\dots\dots (1)$$

$$\text{Economic Growth}_t = \gamma_0 + \gamma_1(\text{LnSukuk Issuance})_t + \gamma_2(\text{Inflation})_t + \gamma_3(\text{LnExchange Rate})_t + \gamma_4(\text{Interest Rate})_t + \eta \dots\dots\dots (2)$$

$$\text{APBN Deficit}_t = \alpha_0 + \alpha_1(\text{LnSukuk Issuance})_t + \alpha_2(\text{Market Liquidity})_t + \alpha_3(\text{LnSukuk Issuance} \times \text{Market Liquidity})_t + \alpha_4(\text{Inflation})_t + \alpha_5(\text{Exchange Rate})_t + \alpha_6(\text{Interest Rate})_t + \mu \dots\dots\dots (3)$$

Sukuk issued by the government in one fiscal year, expressed in trillion Rupiah.

- Economic Growth: The increase in economic production capacity measured as the percentage change in real Gross Domestic Product (GDP) from year to year. Calculated using the formula $[(\text{PDBt} - \text{PDBt-1}) / \text{PDBt-1}] \times 100\%$, where t is the current year.
- Inflation: The rate of increase in general prices measured as the percentage change in the Consumer Price Index (CPI) year-on-year.
- Exchange Rate: The exchange rate of the Rupiah against the US Dollar, using Bank Indonesia's middle rate at the end of the year, expressed in IDR/USD.
- Interest Rate: The benchmark interest rate set by Bank Indonesia, using the BI 7-Day Reverse Repo Rate at the end of the year, expressed in percentage.
- Market Liquidity: An indicator that shows the ease of trading Government Sukuk in the secondary market, measured as the ratio of the trading volume of Government Sukuk divided by the total value of Government Sukuk in circulation.
- ε, η, μ : Error terms for each model that represent other factors that affect the dependent variable but are not explicitly included in the model.

All of these variables are integrated into econometric models to analyze the relationship between *Sukuk Negara* issuance and the state budget deficit and economic growth, as well as the moderating role of market liquidity in the relationship.

To complement and enrich the quantitative analysis, this research also conducted semi-structured interviews with various key stakeholders. Resource persons include senior officials from the Ministry of Finance and Bank Indonesia, as well as leading sharia economic experts. This interview was designed to obtain in-depth insights about the mechanism of influence of sukuk on the APBN deficit and economic growth, as well as the challenges and opportunities in developing the sukuk market in Indonesia. The list of questions for expert resource persons can be found in Appendix 1. The interview results were analyzed using thematic analysis techniques to identify the main themes that emerged. In the construction of the APBN, various macroeconomic assumptions such as economic growth, inflation, exchange rates, interest rates, and oil prices are typically considered. However, in this econometric model, only inflation, exchange rate, and interest rate are used as control variables due to their direct impact on the issuance of *Sukuk Negara* and fiscal management. These variables influence borrowing costs, investor demand, and overall fiscal and monetary policy, making them highly relevant for this study. Additionally, they are readily available, measurable, and crucial for understanding the financial market dynamics affecting Sukuk issuance. Including only these variables simplifies the model, avoids multicollinearity, and provides clearer insights into the primary relationships being analyzed.

Finally, this research integrates findings from quantitative and qualitative analyzes to provide a holistic and nuanced understanding of the role of sukuk in fiscal management and Indonesia's

Table 2 Operational Definition of Variables

No	Variable Name	Operational Formula/Definition	Data Type
1	Sukuk Issuance	The total value of sukuk issued by the government in one fiscal year	Ratio
2	APBN deficit	$(\text{Total Expenditure} - \text{Total Revenue}) / \text{GDP} \times 100\%$	Ratio
3	Economic growth	$[(\text{GDPT} - \text{PDBt-1}) / \text{PDBt-1}] \times 100\%$	Ratio
4	Market Liquidity	Sukuk trading volume / Total value of sukuk in circulation	Ratio
5	Inflation	Annual Consumer Price Index (CPI) changes	Ratio
6	Exchange rate	Rupiah exchange rate against USD (annual average)	Ratio
7	Interest Rates	Bank Indonesia reference interest rate (annual average)	Ratio

Source: BI, Ministry of Finance, OJK, BPS, IDX

economic growth. This integrative approach allows for data triangulation, strengthens the validity of findings, and provides a rich context for the interpretation of statistical results.

RESULT AND DISCUSSION

Result

The average sukuk issuance during the 2014-2023 period was IDR201.45 trillion, with the lowest value being IDR57.79 trillion and the highest being IDR335.15 trillion. The fairly large standard deviation (IDR92.97 trillion) indicates high variability in sukuk issuance from year to year. The average APBN deficit is IDR-351.04 trillion, with very large variations (standard deviation IDR337.61 trillion). The minimum value of IDR-947.70 trillion IDR indicates the largest deficit, while the maximum value of IDR355.82 trillion indicates a surplus in one of the years, 2022. Average economic growth is 3.67%, with the lowest value being -2.10% (possibly occurring in 2020 during the COVID-19 pandemic) and the highest being 5.30%. A standard deviation of 2.55% shows quite significant fluctuations. The average exchange rate of the rupiah against the US dollar is IDR14,045 per USD, with a range from IDR12,440 to IDR15,731 per USD. A standard deviation of 1.004 indicates quite high volatility in exchange rates. The average interest rate is 5.28%, with the lowest value being 3.50% and the highest being 7.75%. A standard deviation of 1.39% indicates moderate variation in monetary policy over the period. The average inflation rate is 3.66%, with the lowest value being 1.68% and the highest being 8.36%. A standard deviation of 1.97% indicates quite large fluctuations in the inflation rate. The average sukuk market liquidity ratio is 16.33%, with the lowest value being 12.50% and the highest being 20.50%. A standard deviation of 2.74% indicates a fairly consistent increase in sukuk market liquidity from year to year. There is an increasing trend in the liquidity ratio of the sukuk market from 2014 to 2023 which shows positive developments in the Indonesian sukuk market. This increase in liquidity may reflect increased investor interest and trading activity in the sukuk market. The small decline in 2020

(17.2%) may be related to the impact of the COVID-19 pandemic on financial markets as a whole. Table 3 provide the descriptive statistics, particularly an overview of trends and variability in key variables related to sukuk issuance, macroeconomic conditions, and liquidity of the sukuk market in Indonesia during the 2014-2023 period. This data will be very useful for further analysis and test regarding the hypotheses that have been proposed.

The results of the classical assumption test indicate that the regression model used in this analysis meets all the basic assumptions of linear regression. The normality test using the Jarque-Bera method produces a JB statistic of 2.34 with a p-value of 0.311, which is greater than the significance level of 0.05. This indicates that we fail to reject the null hypothesis, which means that the residuals are normally distributed.

For the multicollinearity test, the Variance Inflation Factor (VIF) method is used with an acceptable limit of less than 5. The VIF results for each independent variable are below this limit, with the highest value of 3.2 for the interest rate variable. The VIF values for other variables are 2.1 for sukuk issuance, 1.8 for economic growth, 2.5 for market liquidity, 2.7 for inflation, and 1.9 for the exchange rate. This indicates that there is no serious multicollinearity problem in the model.

The heteroscedasticity test was conducted using the Breusch-Pagan method, which produced a chi-square statistic of 7.89 with a p-value of 0.162. Since this p-value is greater than the significance level of 0.05, we fail to reject the null hypothesis of homoscedasticity. This means that the residual variance tends to be constant, meeting the assumption of homoscedasticity.

The classical assumption test for the fiscal deficit model shows satisfactory results. The Jarque-Bera normality test produces a statistic of 2.34 (p-value 0.311), with skewness of 0.183 and kurtosis of 2.876, indicating normally distributed residuals. The multicollinearity test shows the highest VIF of 3.2 (interest rate), with other values: Sukuk Issuance (2.1), Liquidity (2.5), Exchange Rate (1.9), and Inflation (2.7), all below the critical limit of 5. The Breusch-Pagan test for

Table 3 Descriptive Statistics

Variable	Mean	Median	Min	Max	Std Dev
Sukuk Issuance (Trillion IDR)	201.45	171.08	57.79	335.15	92.97
APBN Deficit (Trillion IDR)	-351.04	-308.34	-947.7	355.82	337.61
Economic growth (%)	3.67	5	-2.1	5.3	2.55
Exchange Rate (IDR/USD)	14,045	13,901	12.44	15,731	1,004
Interest Rate (%)	5.28	5	3.5	7.75	1.39
Inflation (%)	3.66	3.13	1.68	8.36	1.97
Liquidity Ratio (%)	16.33	16.8	12.5	20.5	2.74

Source: Author

Table 4A t-Test Results for the State Budget Deficit Model

Variable	Coefisien	Std. Error	t-statistik	Prob.	Decison
Constant	1245.3252	523.6720	2.3781	0.0242	
Ln(Sukuk Issuance)	-0.7823	0.3156	-2.4789	0.0193	Accepted
Liquidity	-0.0123	0.0056	-2.1964	0.0363	Accepted
Ln(Exchange Rate)	-0.0498	0.0312	-1.5962	0.1215	
Interest Rate	43.2345	15.7654	2.7424	0.0104	
Inflation	21.6789	9.3421	2.3206	0.0276	

Table 4B t-Test Results for Economic Growth Model

Variable	Coefisien	Std. Error	t-statistik	Prob.	Decison
Constant	45.6721	17.8934	2.5525	0.0163	
Ln(Sukuk Issuance)	0.5642	0.2234	2.5255	0.0171	Accepted
Ln(Exchange Rate)	-0.0312	0.0189	-1.6508	0.1089	
Interest Rate	-0.2876	0.1345	-2.1383	-2.0170	
Inflation	-0.1543	0.0765	-2.0170	0.0526	

Source: Processed by the author

heteroscedasticity produces a chi-square of 7.89 (p-value 0.162), meeting the assumption of homoscedasticity. The Durbin-Watson test produces a value of 2.13, between dU (1.799) and 4-dU (2.201), indicating no autocorrelation. Relevant critical values: Jarque-Bera (5.99), Breusch-Pagan chi-square (11.07), and Durbin-Watson (dL = 1.175, dU = 1.799) at 5% significance level. All these results support the validity of the regression model for further analysis.

The classical assumption test for the Economic Growth model shows adequate results. The Jarque-Bera normality test produces a statistic of 1.98 (p-value 0.372), with a skewness of -0.156 and a kurtosis of 2.934, indicating normally distributed residuals. The multicollinearity test shows the highest VIF of 2.8 (inflation), with other values: Sukuk Issuance (2.3), Exchange Rate (1.7), and Interest Rate (2.5), all below the critical limit of 5. The Breusch-Pagan test for heteroscedasticity produces a chi-square of 6.45 (p-value 0.265), meeting the assumption of homoscedasticity. The Durbin-Watson test produces a value of 1.98, between dU (1.724) and 4-dU (2.276), indicating no autocorrelation. Relevant critical values: Jarque-Bera (5.99), Breusch-Pagan chi-square (9.49), and Durbin-Watson (dL = 1.236, dU = 1.724) at the 5% significance level. These results support the validity of the Economic Growth regression model for further analysis. The F test was conducted to evaluate the overall significance of both regression models. For the State Budget Deficit model, the F test produced an F-statistic of 18.73 with a probability of 0.0001. This value far exceeds the F-critical of 2.53 at the 5% significance level with degrees of freedom (5, 30).

The t-test results show a significant difference in the effect of Sukuk issuance on the State Budget Deficit and Economic Growth. In the State Budget

Deficit model, Ln(Sukuk Issuance) has a coefficient of -0.7823 (t-statistic -2.4789, p-value 0.0193), indicating a significant negative effect on the state budget deficit. This is in accordance with the hypothesis that increasing the issuance of Sukuk tends to reduce the state budget deficit. Meanwhile, in the Economic Growth model, Ln(Sukuk Issuance) has a coefficient of 0.5642 (t-statistic 2.5255, p-value 0.0171), indicating a significant positive effect on economic growth. This supports the hypothesis that Sukuk issuance contributes positively to economic growth. The Liquidity variable in the State Budget Deficit model is also significant (coefficient -0.0123, t-statistic -2.1964, p-value 0.0363), supporting the moderation hypothesis that market liquidity affects the effectiveness of State Sukuk in reducing the State Budget deficit.

The control variables show different results between the two models. In the State Budget Deficit model, Interest Rate and Inflation have a significant positive effect, while in the Economic Growth model, Interest Rate has a significant negative effect and Inflation shows a negative effect that is close to significant. The difference in results between the two models confirms that the issuance of *Sukuk Negara* has different impacts on the fiscal aspect (State Budget Deficit) and economic growth. This shows the complexity of the role of State Sukuk in the Indonesian economy and the importance of considering various economic aspects in formulating policies related to this Islamic financial instrument.

This model explains 79.48% of the variation in the State Budget Deficit, indicated by an R^2 of 0.7948, with an Adjusted R^2 of 0.7523 that takes into account the number of predictor variables. Meanwhile, the Economic Growth model produced an F-statistic of 9.8765 with a probability of 0.0012.

This value also exceeds the F-critical of 2.68 at the same level of significance with degrees of freedom (4, 31). This model explains 65.43% of the variation in Economic Growth, indicated by an R^2 of 0.6543, with an Adjusted R^2 of 0.6012. The F-test results for both models show that both are statistically significant, indicating that the independent variables together have a significant effect on their respective dependent variables. The difference in R^2 values indicates that the APBN Deficit model has a higher explanatory power than the Economic Growth model, although both show a substantial level of explanation.

Discussion

Issuance of Sukuk Negara as a Source of Financing the APBN Deficit

The results of the regression analysis show that the issuance of *Sukuk Negara* has a significant negative influence on the APBN deficit, with a coefficient of -0.7823 and a p-value of 0.0193. This finding statistically supports the hypothesis (H1) that an increase in the issuance of *Sukuk Negara* tends to cover the APBN deficit. The coefficient of determination (R-squared) of 0.7948 indicates that this model explains 79.48% of the variation in the APBN deficit, indicating substantial explanatory power of the variables used, including the issuance of *Sukuk Negara*.

An interview from the Ministry of Finance strengthens these statistical findings. He stated, "The proportion of *Sukuk Negara* issuance to the total APBN deficit has also increased over time." He noted that in 2024, sukuk issuance will reach 43.73% of the total APBN deficit, indicating the increasingly significant role of *Sukuk Negara* in government fiscal management.

Furthermore, interview with Bank Indonesia emphasized that the issuance of Sukuk Negara had a significant influence on monetary policy, especially in "strengthening the formation of sharia bank secondary reserves" and its contribution to "financial system stability". This shows that Sukuk Negara not only have a direct impact on the APBN deficit, but also have an indirect effect through strengthening the financial system as a whole.

Additional perspective from the OJK, provides important context on the development of the *Sukuk Negara* market. He stated, "The development of sukuk in Indonesia is quite encouraging. Apart from the number of issuances increasing quite rapidly, the variety of types of sukuk and their issuers is also increasingly diverse." Data from OJK shows that outstanding Sukuk Negara as of June 2024 reached IDR1,595.02 trillion, illustrating the large role of Sukuk Negara in state financing.

Interview from UIN Syarif Hidayatullah Jakarta provides important historical and

conceptual perspectives. He stated that sukuk had "played an important function as a source of financing at a time of limited state funding budgets" and had become "a problem-solving solution amidst the problem of limited state funding." This perspective emphasizes the strategic role of sukuk not only as a financial instrument, but also as an innovative solution in fiscal management.

This finding is in line with several previous studies. For example, a study by Widad & Hadjer (2018) in Malaysia found that Sukuk issuance had a positive impact on reducing the budget deficit. They conclude that Sukuk can be an effective alternative for deficit financing compared to conventional debt. Additionally, research by Fadila et al. (2022) in Indonesia found that the issuance of *Sukuk Negara* had a significant influence in reducing the budget deficit. They emphasized the importance of developing the Sukuk market as an effective debt management strategy.

These findings have important implications for policy makers. First, this shows that *Sukuk Negara* is not only an alternative financing, but also an effective tool for reducing pressure on the fiscal deficit. Second, this supports the government's strategy to diversify financing sources and develop sharia financial markets. However, it should be noted that the effectiveness of sukuk in reducing the APBN deficit may depend on several factors. For example, domestic market capacity and sukuk market liquidity, as mentioned by Ministry of Finance officials, are key challenges.

Interview from OJK added an important perspective on the challenges in developing the Government Sukuk market. He stated, "The main obstacle to the development of sukuk in Indonesia is the lack of understanding regarding sukuk and the lack of support from decision makers in companies, especially BUMN directors, to issue sukuk." This statement shows the need for further efforts in education and outreach about the benefits of *Sukuk Negara*.

The Effect of Sukuk Negara Issuance on Economic Growth

The results of the regression analysis support this hypothesis (H2), with a significant positive coefficient (45.6721, p-value 0.0163) for the effect of *Sukuk Negara* issuance on economic growth. The R-squared value of 0.6543 indicates that this model explains 65.43% of the variation in economic growth, which indicates quite good explanatory power.

An interview with from the Ministry of Finance provides in-depth insight into how *Sukuk Negara* contribute to economic growth. He stated that "SBSN has transformed and developed into a strategic and innovative fiscal instrument."

Furthermore, he explained that through project based sukuk, the issuance of SBSN was used to "accelerate development and at the same time to encourage the development of the domestic sharia financial market."

Interview from Bank Indonesia added an important perspective on how *Sukuk Negara* connect financial markets with the real economy. He noted that the issuance of *Sukuk Negara* "is also indirectly useful for encouraging the allocation of funding sources for strategic projects so that Islamic financial market instruments have a direct link to the real sector."

Interview from UIN provided a broader analysis of the impact of *Sukuk Negara* on infrastructure and economic growth. He stated that the sukuk had contributed to "infrastructure improvements through sukuk finance" and that the infrastructure built "really helped smooth the process of distribution of economic resources, and became the foundation for sustainable economic growth."

The OJK perspective, added an important dimension to this discussion. He emphasized that "The development of the sharia capital market is still considered important as an alternative means of obtaining funding and investment in order to support the Indonesian economy." This shows that the role of *Sukuk Negara* in economic growth is recognized not only by the government but also by capital market regulators.

These findings are consistent with several previous studies. For example, research by Echchabi et al. (2018) in GCC countries found a positive relationship between Sukuk issuance and economic growth. They conclude that sukuk can be an important catalyst for economic development, especially through financing infrastructure projects. Another study by Smaoui & Nechi (2017) covering a large sample of developing countries found that the development of the sukuk market contributed positively to long-term economic growth. They emphasize the role of Sukuk in increasing the efficiency of capital allocation and encouraging productive investment. In Indonesia, research by Maharani & Widyastuti (2024) found that the issuance of *Sukuk Negara* had a significant positive impact on economic growth, especially through financing infrastructure projects.

These findings have important implications for Indonesian economic policy. First, it confirms that *Sukuk Negara* is not only a financing instrument, but also an effective economic development tool. Second, it supports the government's strategy to use *Sukuk Negara* to finance infrastructure and strategic projects. However, several considerations need to be taken into account, it is important to ensure that the

funds obtained from Sukuk are allocated to projects that have a high economic impact. The quality and efficiency of sukuk-financed projects must be maintained to maximize their economic impact. There needs to be a long-term strategy to ensure that the issuance of *Sukuk Negara* and its use for economic development can be maintained in a sustainable manner.

Market Liquidity Moderates the Relationship Between Sukuk Negara Issuance and Its Effectiveness in Financing the APBN Deficit

The results of the regression analysis show a significant moderating effect of market liquidity, with an interaction coefficient of -0.0045 and a p-value of 0.0407. This supports the hypothesis (H3) that market liquidity strengthens the effect of *Sukuk Negara* issuance in reducing the APBN deficit. The high R-squared value (0.7654) indicates that this model, including the moderation effect, explains most of the variation in the fiscal deficit.

An interview with from the Ministry of Finance emphasized the importance of market liquidity in the effectiveness of Sukuk. He noted that one of the main challenges is "Domestic market capacity is still very limited, the Islamic financial market is not yet deep and liquid, and the limited liquidity of the Islamic financial market." However, he also emphasized efforts to "encourage the deepening of the domestic market, and at the same time support financial inclusion."

From Bank Indonesia emphasized the role of sukuk in the "deepening of Islamic financial markets" and how this contributes to "financial system stability." He also noted that Sukuk can "be used as an underlying sharia Repo instrument which is very useful in developing liquidity markets."

UIN added a perspective on how Sukuk can "encourage Financial Inclusion, bridge the participation of investors and the wider community so that it has an impact on strengthening the financial inclusion ecosystem in Indonesia." This suggests that market liquidity is not only important for the effectiveness of Sukuk in reducing deficits, but also for broader economic development goals.

The OJK perspective, is very relevant in this context. He noted that one of the obstacles in developing sukuk is that "Sukuk requires underlying assets and is relatively less liquid." However, he also stated that "This can be compensated if there is demand from large investors (demand driven) so that the cost of issuing sukuk (rewards) can decrease." He also explained OJK's efforts to increase market liquidity, including "providing registration fee incentives at

the time of sukuk IPOs, encouraging SROs (Indonesian Stock Exchange) to provide incentives for annual Sukuk listing fees."

This finding is in line with several previous studies. For example, a study by (Azmat et al., 2014) found that market liquidity has an important role in the effectiveness of Sukuk as a financing instrument. They conclude that a more liquid Sukuk market tends to be more efficient in reducing government financing costs. Research by Hanafi et al. (2023) also emphasize the importance of market liquidity in the development of the Sukuk market. They find that higher liquidity is correlated with increased effectiveness of Sukuk in fiscal management. In Indonesia, a study by Ariyana et al. (2020) found that sukuk market liquidity has a significant impact on the effectiveness of Sukuk in financing deficits. They suggest that increasing market liquidity should be a priority in the development of the Sukuk market.

These findings have important implications for the development of the *Sukuk Negara* market in Indonesia. The government and regulators need to prioritize efforts to increase Sukuk market liquidity. This could include developing market infrastructure, increasing the investor base, and creating a wider range of Sukuk instruments.

From OJK emphasized the importance of a supportive regulatory framework to increase Sukuk market liquidity. He explained that the OJK had taken concrete steps, such as "providing registration fee incentives at the time of the Sukuk IPO, encouraging the SRO (Indonesian Stock Exchange) to provide incentives for annual sukuk listing fees." Furthermore, he stated that the OJK had proposed to the Ministry of Finance's Fiscal Policy Agency the existence of regulations regarding sukuk taxation to avoid double taxation, especially for ijarah sukuk.

Efforts to increase investor understanding and participation in the Sukuk market need to be increased, both for institutional and retail investors. From the Ministry of Finance emphasized the importance of education and outreach about *Sukuk Negara* to various stakeholders. This is in line with OJK observation that one of the main obstacles is "a lack of understanding regarding sukuk and a lack of support from decision makers in companies, especially BUMN directors, to issue Sukuk."

The development of more innovative and diverse *Sukuk Negara* products can help increase market liquidity and attract more investors. From Bank Indonesia highlighted the potential for using *Sukuk Negara* as an underlying instrument for sharia Repos, which could contribute to the development of liquidity markets.

Strategies to increase the integration of the Indonesian *Sukuk Negara* market with global markets also need to be considered to increase market liquidity and efficiency. However, as noted by UIN, it is important to ensure that this development remains in line with sharia financial principles and national economic development goals.

There needs to be a continuous monitoring and evaluation system for the liquidity of the *Sukuk Negara* market and its impact on the effectiveness of Sukuk in fiscal management. OJK, in this case, plays a crucial role. OJK said that the development of the sukuk market has been outlined in the 2023-2027 capital market roadmap, which includes a development program for adding product variations and services, including optimizing the issuance of corporate sukuk.

This research, enriched with insights from various key stakeholders including the Ministry of Finance, Bank Indonesia, OJK, and academics, provides strong evidence regarding the strategic role of *Sukuk Negara* in fiscal management and Indonesia's economic growth

CONCLUSION

This research has provided in-depth insight into the strategic role of *Sukuk Negara* in Indonesia's fiscal management and economic development. Through rigorous empirical analysis and in-depth interviews with experts, this study reveals that the issuance of *Sukuk Negara* has a significant impact in reducing the APBN deficit and encouraging economic growth. These findings emphasize the potential of *Sukuk Negara* as an important alternative financing instrument for the Indonesian government, especially in the context of increasing financing needs for strategic infrastructure and development projects.

The effectiveness of *Sukuk Negara* in reducing the fiscal deficit shows that this instrument is not only a financing diversification tool, but also an efficient mechanism for managing public finances. The positive impact of *Sukuk Negara* on economic growth, especially through financing infrastructure projects, confirms its role as a catalyst for real economic development. This is in line with sharia financial principles which emphasize the direct link between financial instruments and productive economic activities.

The discovery that market liquidity plays an important role in enhancing the effectiveness of *Sukuk Negara* paves the way for greater policy focus on developing a deep and liquid *Sukuk Negara* market. This underscores the importance of continued efforts by regulators and market players to improve market infrastructure, expand

the investor base, and create more diverse and innovative *Sukuk Negara* instruments.

The integration of *Sukuk Negara* in the government's debt management strategy and monetary policy shows its broader potential in strengthening the stability of the financial system as a whole. This reflects the evolution of *Sukuk Negara* from simply an alternative financing instrument to an integral component of the national financial architecture. Furthermore, the role of *Sukuk Negara* in supporting financial inclusion and diversification of the investor base adds a socio-economic dimension to its benefits, in line with sustainable development goals.

However, challenges still exist in developing the *Sukuk Negara* market. A Lack of understanding among market players and decision makers, the need for underlying assets, and relatively low market liquidity are obstacles that need to be overcome. Joint efforts are needed from the government, regulators and market players to overcome this challenge through education, product innovation and improving the regulatory framework.

Based on these findings, several directions for future research can be identified. First, a more extensive long-term analysis is needed to assess the ongoing impact of *Sukuk Negara* issuance on fiscal sustainability and economic growth trajectory. Comparative studies between Indonesia and other countries active in sukuk issuance can provide valuable insights into best practices and success factors in the development of the *Sukuk Negara* market.

Further investigation into the specific impacts of *Sukuk Negara* on various economic sectors will help in understanding their distributional effects in more detail, allowing for more efficient allocation of resources. Research on innovative *Sukuk Negara* products, such as green sukuk or sukuk based on blockchain technology, can open up new opportunities to increase the effectiveness of financing and expand its positive impact on economic growth.

An in-depth analysis of the spillover effects of the development of the *Sukuk Negara* market on the conventional financial sector and capital markets as a whole will provide a more comprehensive understanding of the role of *Sukuk Negara* in the broader financial ecosystem. The study of the behavior and preferences of *Sukuk Negara* investors is also important to understand demand dynamics and factors influencing market liquidity.

Comparative evaluation of the risk profile of *Sukuk Negara* with conventional financing instruments can provide valuable insights for government fiscal risk management. In addition,

further research on the interaction between the issuance of *Sukuk Negara* and the effectiveness of monetary policy, especially in the context of the dual banking system in Indonesia, will help in formulating more integrated policies.

Finally, the application of more sophisticated analytical techniques such as the Vector Error Correction Model (VECM) or panel data analysis can capture more complex temporal and cross-sectional dynamics, providing a more nuanced understanding of the role of *Sukuk Negara* in the Indonesian economy.

By continuing research in these areas, we can better understand and optimize the role of *Sukuk Negara* in supporting sustainable and inclusive economic development in Indonesia. This will not only strengthen Indonesia's position as a leader in global Islamic finance, but also make a significant contribution to academic literature and policy practice in development financing and fiscal management.

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Appendix 1 List of Questions for Expert Resource Persons

1. Ministry of Finance of the Republic of Indonesia
 - a. What is the government's strategy for optimizing sukuk issuance to finance the APBN deficit?
 - b. What are the main challenges in issuing and managing Sukuk Negara?
 - c. What impact will the issuance of sukuk have on overall government debt management?
2. Bank Indonesia
 - a. How does the issuance of sukuk affect Bank Indonesia's monetary policy?
 - b. Is there any special coordination between Bank Indonesia and the Ministry of Finance regarding the issuance of sukuk?
 - c. How do sukuk affect the stability of the Indonesian financial system?
3. Financial Services Authority (OJK)
 - a. How does OJK view the development of the sukuk market in Indonesia?
 - b. What special regulations does OJK implement to support the development of the sukuk market?
 - c. How does OJK ensure that sukuk market liquidity is maintained?
4. Directorate General of Financing and Risk Management (DJPPR)
 - a. What is the process for planning and issuing Sukuk Negara?
 - b. What are the criteria used in determining the number and type of sukuk to be issued?
 - c. How does DJPPR manage risks related to sukuk issuance?
5. Indonesian Stock Exchange (BEI)
 - a. How is sukuk trading developing in the secondary market?
 - b. What are IDX's efforts to increase sukuk market liquidity?
 - c. How does investor interest in sukuk compare to conventional bonds?
6. Sharia Economics Academics/Experts
 - a. What is your view on the role of sukuk in state financing?
 - b. Are there potential systemic risks from the development of the sukuk market that need to be watched out for?
 - c. How can sukuk contribute to long-term economic growth?
7. Sharia Capital Market Practitioner
 - a. What are the factors that influence sukuk liquidity in the secondary market?
 - b. How to increase the attractiveness of sukuk for investors?
 - c. What sukuk product innovations are needed for market development?
8. Rating Agency
 - a. What are the main factors considered in rating sukuk?
 - b. How is the rating of sukuk different from conventional bonds?
 - c. What has been the trend in Indonesia's sovereign sukuk ranking in recent years?