Journal of Islamic Economics Lariba
(P-ISSN 2477-4839 E-ISSN 2528-3758)
2024, Vol. 10, No. 1, 45-68
https://doi.org/10.20885/jielariba.vol10.iss1.art3

Interaction analysis of sharia financial institution assets, sharia investment and exports on gross domestic product in Indonesia

Sultan Rasy Nasyaa[1], Imsar[1], Muhammad Ikhsan Harahap[2]

[1] Program Studi Ekonomi Islam (S1), Universitas Islam Negeri Sumatera Utara, Medan, Indonesia
[2] Program Studi Manajemen (S1), Universitas Islam Negeri Sumatera Utara, Medan, Indonesia

ABSTRACT

Introduction
In macroeconomics, one of the key indicators influencing a country's economic success is its economic growth. An essential factor in determining a nation's economic growth is the Gross Domestic Product (GDP).

Objectives
This research aims to analyze the level of interaction between Islamic financial institutions, Sharia investments, and export activities in Indonesia, examining their impact on the Gross Domestic Product (GDP) over the short and long term, spanning the period 2017-2022.

Method
The study employs a quantitative research approach, specifically utilizing the Vector Error Correction Model (VECM) method.

Results
The results of the Vector Error Correction Model (VECM) reveal two significant variables in the long term. The causality test results indicate a significant relationship between Indonesian exports and Sharia investment. The Variance Decomposition analysis reveals that Sharia Financial Institution Assets contribute 2.7 percent, followed by Sharia Investment at 0.3 percent, and Indonesian Exports at 0.03 percent to the variation in GDP.

Implications
This suggests that Indonesian exports significantly impact Sharia investment, and vice versa. However, concerning Gross Domestic Product (GDP), none of the variables exhibit significance. The development of income across various institutions and economic activities in Indonesia indicates a significant increase in the last three years.

JEL Classification:
G12, P4, Z12

KAUJIE Classification:
H41, I7, P2

ARTICLE HISTORY:

Submitted: January 4, 2024
Revised: January 22, 2024
Accepted: January 23, 2024
Published: January 25, 2024

KEYWORDS:

exports, gross domestic product, interaction analysis, sharia financial institution assets, sharia investment

Contact: Sultan Rasy Nasyaa ✉ sultannasyaa@gmail.com

Originality/Novelty
These findings provide valuable insights into the economic dynamics of Indonesia, offering a basis for further research and policymaking.

CITATION: Nasyaa, S. R., Imsar, & Harahap, M. I. (2024). Interaction analysis of sharia financial institution assets, sharia investment and exports on gross domestic product in Indonesia. *Journal of Islamic Economics Lariba*, *10*(1), 45-68. https://doi.org/10.20885/jielariba.vol10.iss1.art3

INTRODUCTION

In macroeconomics, one of the indicators influencing the success of a country's economy can be seen through its economic growth (Silitonga, 2021). Economic growth is a crucial aspect of economic policies across various countries and economic systems. It brings about various positive opportunities for a more equitable distribution of the economy (Muttaqin, 2018). When determining a country's economic growth, one of the indicators considered is the Gross Domestic Product (GDP). The Gross Domestic Product is the value of goods and services produced within a country during a specific period. Indonesia experienced a significant increase in GDP growth from 2017 to 2019 each year. However, in 2019 and 2020, the GDP values witnessed a drastic decline due to the outbreak of Covid-19 in early 2019, leading to an economic downturn in Indonesia throughout 2020. In 2021, the economy began to recover, marked by an increase in GDP data extending into 2022. A country that enhances its output can be defined as experiencing economic growth, characterized by an increase in the quantity of goods and services measured by their value in Gross Domestic Product (Imsar & Siregar, 2023).

Table 1

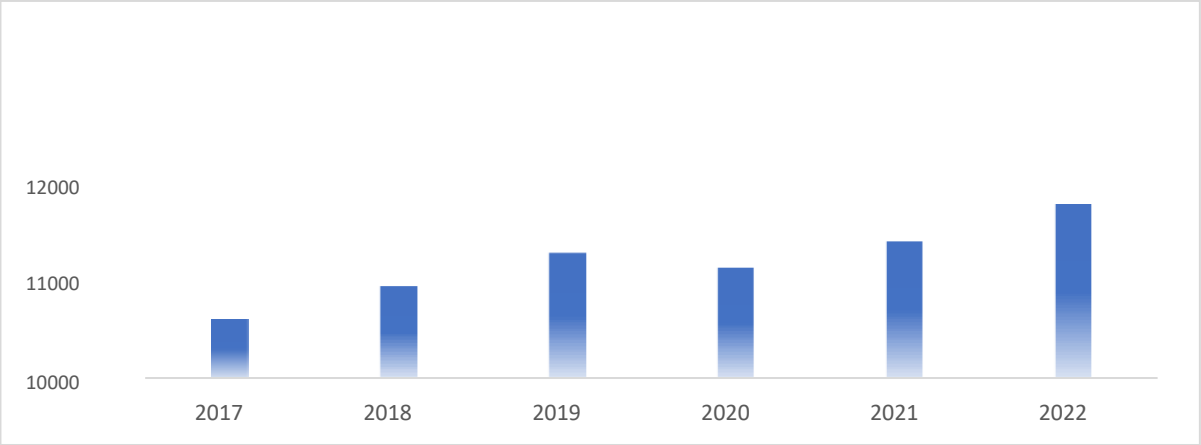
Gross Domestic Product Growth

Year	Gross Domestic Product (Billions of Rupiah)
2017	9.912,928
2018	10.425,851
2019	10.949,155
2020	10.722,999
2021	11.120,077
2022	11.710,397

Source: Badan Pusat Statistik (2022).

Figure 1

Gross Domestic Product Growth



Source: Badan Pusat Statistik (2022).

In influencing the Gross Domestic Product, particularly in Islamic economics, the share of the halal value chain occupies a unique position. The halal value chain is a concept that operates within a business ecosystem, not only focusing on the trade sector but also accessing halal tourism and finance. Its products include aspects of financing and funding, production processes, and regulations (Asri & Ilyas, 2022). Products within the financing and funding aspect include assets from Islamic financial institutions and Sharia-compliant investments. Additionally, Indonesia's export value contributes to the income of the Gross Domestic Product (Inayah, 2020).

Table 2

Sharia financial institution assets, Sharia Investment and Indonesian Exports (2017-2022)

Year	Sharia financial institution assets (Trillion of Rupiah)	Sharia Investment (Billions of Rupiah)	Exsport (Million US$)
2017	1.129,77	3.704.543,09	168.828,2
2018	1.287,65	3.666.688,31	180.012,7
2019	1.468,07	3.744.816,32	167.683,0
2020	1.801,40	3.344.926,49	163.191,8
2021	2.050,44	3.983.652,80	231.609,5
2022	2.375,84	4.786.015,74	291.979,1

Source: Badan Pusat Statistik (2023) & Otoritas Jasa Keuangan (2023).

The table above illustrates that from 2017 to 2022, the assets of Islamic financial institutions experienced consistent growth. Starting at 1,129.77 in 2017, the figures increased to 1,287.65 in 2018, marking a slight 0.2% rise to 1,468.07 in 2019. The overall

increase was significant, reaching 2,375.84 by 2022. Notably, Sharia-compliant investments witnessed fluctuations from 2017 to 2022. In 2017, the investment amounted to 3,704,543.09 and experienced a slight decline of approximately 0.1% to 3,666,688.31 in 2018. However, from 2020 to 2022, Sharia investments surged significantly, reaching 4,786,015.74 in 2022. Examining Indonesia's exports reveals a wave-like pattern, with some decrease of around 0.2% from 2018, i.e., 180,012.7 to 167,683.0. However, a positive upturn occurred from 2021 to 2022, showing an increase of 0.1%.

Investment, defined as capital infusion to enhance and positively impact the production process in business, leads to an increase in the number of consumers within households (Andini et al., 2023). In the Islamic perspective, investment is likened to planting seeds and hoping for them to grow and bear fruit, allowing one to reap the benefits of the planted crop (Dewi et al., 2023). Investing in Islam is encouraged, akin to planting seeds and expecting growth. Islamic teachings emphasize the importance of managing and developing one's wealth rather than spending it all. Believers are urged to be prudent in their expenditures and to invest wisely (Rorizki & Nasution, 2023).

The teachings (*ibrah*) and wisdom from Surah Yusuf verses 48-49 emphasize that individuals must be capable of setting aside a portion of their wealth to anticipate unforeseen events in the future. Human foresight is limited, and only Allah possesses absolute knowledge of what the future holds. Therefore, Prophet Yusuf's command in the mentioned verses is prudent. Similarly, investing a portion of surplus consumption and other essential needs yields far-reaching benefits compared to mere savings (Bahri et al., 2020). Export refers to goods and services produced in one country and sold to buyers in another. It plays a crucial role in the economy as the primary source of foreign exchange, funding domestic industrial needs, and driving economic growth, leading to increased employment opportunities and poverty reduction (Gevorkyan, 2019; Murady et al., 2022).

Previous studies have discussed many aspects of sharia financial institute and gross domestic product. Harniati et al. (2023) highlight the strategic role of Bank Syariah Indonesia in boosting Indonesia's economic growth post-Covid-19. Conversely, Tsani (2023) argues that the assets of conventional sharia banks do not influence Indonesia's economic growth. Maryam (2021) suggests that Sharia stocks, sukuk, and mutual funds significantly impact Indonesia's economic growth from 2012 to 2020. On the other hand, Salavy (2022) contends that Sharia bank investment does not significantly affect Indonesia's gross domestic product (GDP) from 2013 to 2020. Harun & Sari (2021) assert that exports have a positive and significant impact on the industrial sector's GDP in Indonesia, while Putri & Siladjaja (2021) argues the opposite, attributing it to Indonesia's export dependence on imports.

Financial statement analysis involves examining a company's balance sheet, income statement, and overall financial health (Martono & Harjito, 2011). Stiglitz et al. (2010) suggests that a multidimensional GDP formula must be used to define well-being, encompassing physical and economic welfare, material living standards

(money, consumption, and wealth), health, education, personal efforts such as labor, political voice, governance, social ties, and the environment. All these dimensions reflect society's living standards, requiring both objective and subjective data for measurement.

The differential rate of return hypothesis posits that choices requiring foreign direct investment should consider marginal benefits and costs. However, a study suggest no substantial relationship between GDP and FDI or direct investment in Indonesia (Cora & Wen, 2020). Exports are part of total expenditures, impacting the level of GDP. Consequently, if exports decrease, GDP will also decline (Harun & Sari, 2021). Consumption (C), investment (I), government expenditure (G), exports (E), and imports (M) are variables influencing GDP. This supports the idea that investment is a driving factor for GDP growth (Chamdani et al., 2022; Sujianto & Azmi, 2020).

Allocating resources or investing them in a way expected to bring future benefits is termed investment. Internal investment in the real and financial sectors represents two investment divisions based on their nature. Short-term investments are made in the financial industry due to prudence and easier distribution. Conventional and Sharia financial industries continue to attract significant investments. In this regard, the government plays a crucial role in the economy by monitoring industry financing needs and providing various financial investment instruments in accordance with both conventional and Sharia laws (Alam et al., 2017; El-Hawary et al., 2007; Nienhaus, 2011).

In another study, significant upward changes were noted, while within the outlined timeframe from the table, some data described fluctuations, indicating instability in their use and implementation in Indonesia. The Harrod-Domar growth model is one investment model developed and linked to economic growth, emphasizing the relationship between increased investment and economic development in the short term (Aminda & Rinda, 2019). Assets are resources used by companies to enhance their operations. Money collected by issuing liabilities (debt) allows banks to buy assets and generate profits. Bank assets are considered the use of money, and interest payments on these assets enable banks to make money (Harahap et al., 2022; Ilyas, 2018).

Gross Domestic Product (GDP) is a measure of economic expansion. It serves as an indicator of a country's economic well-being and can be used to assess the welfare level of a society. Therefore, as a country's exports increase, the income of its inhabitants also rises. The data from 2017-2022 illustrates the development of income across various institutions and economic activities in Indonesia, indicating a significant increase in the last three years (Natasa et al., 2023).

Given the above issues, it can be concluded that the interaction of assets in Islamic financial institutions, Sharia investments, and exports are among factors influencing gross domestic product. These factors bring many benefits in enhancing gross domestic product in Indonesia. However, some factors still do not affect gross domestic product. Based on the perspectives of these cases, this study aims to

examine the interaction of assets of Islamic financial institutions, sharia investments, and exports on Indonesia's gross domestic product.

LITERATURE REVIEW

Assets are diverse resources with economic value owned by individuals or companies, expected to yield profits in the future. In accounting, assets are a component of the balance sheet compared to liabilities and equity. The effective management of assets is crucial for generating accountable financial reports (Kusnawati et al., 2019; Shamim, 2021). Furthermore, assets play a vital role in providing responsible financial information for a region (Aituarauw, 2021). Islamic financial institutions engage in activities adhering to Sharia principles, involving the gathering and distribution of funds based on principles like buying and selling and profit-sharing (Jamaluddin & Abdullah, 2019; Pamuji et al., 2022). Indonesia's financial sector comprises various entities, including banks, insurance, non-banking financial institutions, and segments of the capital market. An example of a Sharia financial product is capital financing provided by Islamic banks to the public (Jannah, 2018).

Islamic financial institutions represent an economic value element possessed by various financial institutions that adhere to Sharia principles in their management. Sharia banking in Indonesia has experienced a significant increase, with a market share of banking comprising 14 Islamic commercial banks, 20 Islamic rural banks, and 164 Sharia rural banks. Moreover, the total assets have risen to 538.32 trillion, with an asset growth of 9.93%. Indonesia also boasts a robust non-bank financial sector, such as the insurance/takaful sector, which comprises 62 Sharia insurance companies with assets worth 45.453 billion. Other Islamic non-bank financial institutions, including Sharia microfinance institutions, have also experienced considerable growth (Nurzianti, 2021). State-owned Sharia pawnshops and the number of Sharia investors utilizing the Sharia Online Trading System (SOTS) have increased significantly year by year (Gorib & Asbaruna, 2022; Hapsari et al., 2023).

Investment refers to capital deployment or placing assets, whether in the form of property or funds, with the expectation of generating income or increasing value in the future (Capelle-Blancard & Monjon, 2012; Legum, 2006). According to Islamic economics, investment involves allocating funds or capital participation in a specific business field whose activities do not contradict Sharia principles, both in terms of its object and process (Umami et al., 2023). Sharia investment entails activities devoid of elements of gambling (*maysir*), uncertainty (*gharar*), and interest (*riba*), while also complying with the rules established by the principles of Islamic jurisprudence (*fiqh*) and the agreements of scholars as reflected in fatwas. Generally, investment activities aim to yield profits by increasing asset value; no investor seeks losses. Additionally, Islam does not prohibit any form of beneficial compensation for the utilization of capital, goods, or skills provided by other parties (Chapra, 2000).

Financial investment activities in Islamic economics essentially involve asset owners (investors) empowering business owners (issuers) to conduct their business activities, with investors expecting specific benefits. Therefore, investment activities

share similarities with other business activities in that they must uphold principles of legality and justice (Inayah, 2020). Currently, there is a growing trend of investment interest among young people, with millennials having the highest percentage of investment participation, accounting for 54.41% of their capital in the capital market (Annisa et al., 2021), indicating the younger generation's inclination toward investment.

Exports refer to goods and services produced in one country and sold to buyers in another country, forming international trade. Export is crucial for modern economies as it offers more markets for individuals and companies to sell their goods (Hodijah & Angelina, 2021). One of the core functions of foreign diplomacy and foreign policy between governments is to promote economic trade, encouraging both exports and imports for the benefit of all trading parties. Exported goods are advantageous for a country's economy, serving as a catalyst for economic growth in the exporting country (Todaro & Smith, 2017).

Gross Domestic Product (GDP) can be defined as the value of goods and services produced within a country in a specific year. Consistent with this, Rahardja & Manurung (2019) state that GDP is the value of final goods and services based on market prices produced by an economy within a period using production factors located within that economy. The growth of goods and services is assumed to increase employment opportunities, thereby reducing poverty levels. From an Islamic perspective, human economic development is the most crucial factor (Dalimunthe & Imsar, 2023). Economic growth is defined as an increase in real Gross Domestic Product (GDP) or real national income. GDP represents the total income obtained domestically, including income earned by foreign-owned production factors and total expenditure on domestically produced goods and services (Nasrullah, 2020; Rokhmat et al., 2020).

METHOD

This research employs a quantitative research method with the Vector Error Correction Model (VECM) approach. Quantitative research is a systematic scientific investigation into the parts and phenomena and the quality of their relationships (Sofian & Nurhayati, 2022). Typically indicated by numbers and precise testing, this study utilizes secondary data collected from various valid governmental sources such as the Financial Services Authority (OJK), various documents, manuscripts, and other sources. The quantitative data used in this research are tested and processed using the EViews 10 application, citing data from the years 2017-2022.

The Vector Autoregressive (VAR) model, a regression equation model using time series data, is followed by the Vector Error Correction Model (VECM) as its analytical tool. The Error Correction Model (ECM) appears in a multivariate variant called VECM. The Vector Autoregressive (VAR) model produces a vector between the reciprocal influences of variables and combines many Autoregressive (AR) models. If the data are stable at the original level, a normal VAR model is constructed. Otherwise, the construction of the VAR model is separated into three levels of stationarity. To determine whether a long-term relationship exists, cointegration tests should be

conducted on data that are stationary at the first difference but not at the original level. If so, the model created is a VAR Difference (VARD) model; otherwise, it is a Vector Error Correction Model (VECM) (Septiyarini et al., 2020).

To understand the connection between the assets of Islamic financial institutions, Sharia investments, Indonesian exports, and Gross Domestic Product (GDP) data, both short-term and long-term, this study utilizes the Vector Error Correction Model (VECM) method. The research involves stationarity tests, lag determination, Granger causality tests, cointegration tests, and the interpretation of VECM in the form of Impulse Response Function (IRF) and Variance Decomposition (VD) (Ardiyanto & Saputra, 2012). This comprehensive analysis aims to shed light on the intricate relationships between these economic variables.

RESULTS

The time series data is considered stationary when no unit roots are found. According to Gujarati, time series data can be deemed stationary if it meets criteria such as having constant mean and variance throughout the period and will continue to move steadily without showing positive or negative trend movements. This test is used to determine whether a data or VAR model object can be declared stationary or not using the Augmented Dickey Fuller (ADF) test. The guideline states that if the ADF value is smaller than the Mackimon Critical Value (critical region value), the data can be considered stationary because it lacks unit roots. Conversely, if the ADF statistic value exceeds the Mackimon Critical Value, it can be concluded that the data is non-stationary.

From the stationarity testing of financial institution asset data, Sharia investments, Indonesian exports, and gross domestic product, they were not stationary either at the level or at the first difference level. Therefore, differencing was conducted again until stationary at the second difference level.

Table 3

Stationarity Test

Variable	Unit Root Test In	ADF Test Statistic	Mac Kinnon			Conclusion
			1%	5%	10%	
ALK	Level	3.520072	-3.527045	-2.903566	-2.589227	No stationary
	1st Difference	-2.690479	-3.528515	-2.904198	-2.589562	No stationary
	2st Difference	-9.260989	-3.530030	-2.904848	-2.589907	Stationary
IS	Level	1.865294	-3.527045	-2.903566	-2.589227	No stationary
	1st Difference	-2.708349	-3.528515	-2.904198	-2.589562	No stationary
	2st Difference	-9.300545	-3.530030	-2.904848	-2.589907	Stationary

Variable	Unit Root Test In	ADF Test Statistic	Mac Kinnon			Conclusion
			1%	5%	10%	
EI	Level	0.858644	-3.528515	-2.904198	-2.589562	No stationary
	1st Difference	-2.388118	-3.528515	-2.904198	-2.589562	No stationary
	2st Difference	-9.196331	-3.530030	-2.904848	-2.589907	Stationary
PDB	Level	0.035012	-3.527045	-2.903566	-2.589227	No stationary
	1st Difference	-5.313533	-3.527045	-2.903566	-2.589227	Stationary
	2st Difference	-9.293600	-3.530030	-2.904848	-2.589907	Stationary

Source: Authors' estimation.

Based on the test results, it is evident that in the second differencing, the ADF values for all variables are greater than the absolute critical values of MacKinnon at various significance levels. This implies that financial institution asset data, Sharia investments, Indonesian exports, and gross domestic product are stationary at the second difference. In determining the optimal lag using the information criteria, the criteria with the smallest Final Prediction Error Correction (FPE) or the sum of AIC, SC, and HQ among the specified lags are chosen. The lag length specified in this test ranges from lag 0 to lag 4. Since there is a star indication on SC and HQ, the recommended optimal lag for further testing is lag 1. Components ALK, IS, EI, and PDB are stationary at the 2nd difference level with a significance level of 5%, indicating stationarity. The interpretation of the stationary results is as in the following passages.

Based on the stationarity test results (ADF), the variables in this study, namely ALK, pass at the 2nd difference level, with a probability value of 0.0000, smaller than the alpha value of 5%. Therefore, it is concluded that the ALK variable is stationary as X1. The IS variable passes at the 2nd difference level, with a probability value of 0.0000, smaller than the alpha value of 5%. Thus, it is concluded that the IS variable is stationary as X2. The EI variable passes at the 2nd difference level, with a probability value of 0.0000, smaller than the alpha value of 5%. Consequently, it is concluded that the EI variable is stationary as X3. The PDB variable passes at the 2nd difference level, with a probability value of 0.0000. Therefore, all variables, both dependent and independent, pass the stationarity test.

In the cointegration test results, there is one form of cointegrating equation, indicating a long-term relationship between financial institution assets, Sharia investments, Indonesian exports, and gross domestic product. Thus, estimation of the equation form in the Vector Error Correction Model (VECM) can be conducted.

Table 4

Optimal Lag Determination Test

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-586.8542	NA	414.2896	17.37807	17.50862	17.42980
1	389.4251	1808.988	2.25e-10*	-10.86544*	-10.21265*	-10.60679*
2	401.4149	20.80591	2.54e-10	-10.74750	-9.572464	-10.28191
3	416.5546	24.49060	2.64e-10	-10.72219	-9.024923	-10.04968
4	434.3754	26.73122*	2.56e-10	-10.77575	-8.556239	-9.896310

Source: Authors' estimation.

The Granger Causality Test is employed to determine whether there is a relationship between the variables of financial institution assets, Sharia investments, Indonesian exports, and gross domestic product (GDP). From the results of the causality test, it can be observed that there is only one pair of variables that has a relationship, namely Indonesian exports (EI) with Sharia investments (IS). This implies that Indonesian exports are significant for Sharia investments, but Sharia investments are not significant for Indonesian exports. However, concerning the variable Gross Domestic Product (GDP), there is no significant relationship with any other variable. Similarly, the variables of Sharia financial institution assets, Sharia investments, and Indonesian exports are not significant for gross domestic product.

Table 5

Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
IS does not Granger Cause ALK	68	0.23925	0.9150
ALK does not Granger Cause IS		1.42688	0.2363
EI does not Granger Cause ALK	68	0.13889	0.9672
ALK does not Granger Cause EI		1.65720	0.1721
PDB does not Granger Cause ALK	68	1.61320	0.1829
ALK does not Granger Cause PDB		1.81487	0.1380
EI does not Granger Cause IS	68	3.51394	0.0122
IS does not Granger Cause EI		1.96430	0.1118
PDB does not Granger Cause IS	68	1.23662	0.3053
IS does not Granger Cause PDB		0.91240	0.4628
PDB does not Granger Cause EI	68	0.87350	0.4853
EI does not Granger Cause PDB		1.89188	0.1238

Source: Authors' estimation.

Based on Table 5, it can be observed that the probability value for the hypothesis that Indonesian exports influence Sharia investments is less than 5%, hence it can be concluded that Indonesian exports influence Sharia investments. Therefore, the causality relationship between Indonesian exports and Sharia investments is a one-way causality (Lestari et al., 2022).

Regarding the cointegration test results, it shows that there is one cointegration value, with the trace statistic value exceeding the critical value at a 5% significance level. This implies that cointegration is accepted, and the alternative hypothesis stating that there is cointegration is rejected. Thus, it can be concluded that the variables are cointegrated and have a long-term relationship.

The Johansen cointegration test indicates a long-term relationship among variables (cointegration) forming a linear relationship. The research results show that ALK, IS, EI, and PDB used in this study have a cointegration relationship. It can be said that from the cointegration test results, ALK, IS, EI, and PDB have a stable or balanced relationship, even showing similarities in their long-term movements. In each short-term period, ALK, IS, EI, and PDB tend to adjust to each other in achieving their long-term equilibrium. Since they are cointegrated, the testing is continued with the Vector Error Correction Model (VECM) method.

Table 6

Cointegration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	**Eigenvalue**	**Trace Statistic**	**0.05 Critical Value**	**Prob.****
None *	0.333673	67.44850	47.85613	0.0003
At most 1 *	0.285728	39.43629	29.79707	0.0029
At most 2 *	0.148385	16.21836	15.49471	0.0389
At most 3 *	0.071725	5.135511	3.841466	0.0234

Source: Authors' estimation.

The results from the Vector Error Correction Model (VECM) table indicate both short-term and long-term relationships among the variables (Ristianti & Purwadi, 2019). In the short term, the Vector Error Correction Model shows two significant variables at a real level: the variable Sharia Financial Institutions' Assets (ALK) at 1.98094, where the t-statistic value is greater than the critical t-table value, and the variable Sharia Investment (IS) at 1.97302, where the t-statistic value is also greater than the critical t-table value. This implies that a one percent increase in the Sharia

Financial Institutions' Assets and Sharia Investment in the previous period will lead to a one percent increase in Sharia Financial Institutions' Assets and Sharia Investment. This indicates that the movements of Sharia Financial Institutions' Assets and Sharia Investment are strongly influenced by the previous period's movement of Gross Domestic Product.

In the long term, there are two significant variables at a real level: Sharia Investment at 5.52807, where the t-statistic value is greater than the critical t-table value, and Indonesian Exports at 2.07910, where the t-statistic value is also greater than the critical t-table value. This means that a one percent increase in Sharia Investment and Indonesian Exports in the previous period will lead to a 5.52 percent increase in Sharia Investment and a 2.07 percent increase in Indonesian Exports. This indicates that an increase in Sharia Investment and Indonesian Exports by one percent in the previous period will have a considerable impact in the long term.

Table 7

Vector Error Correction Model Test

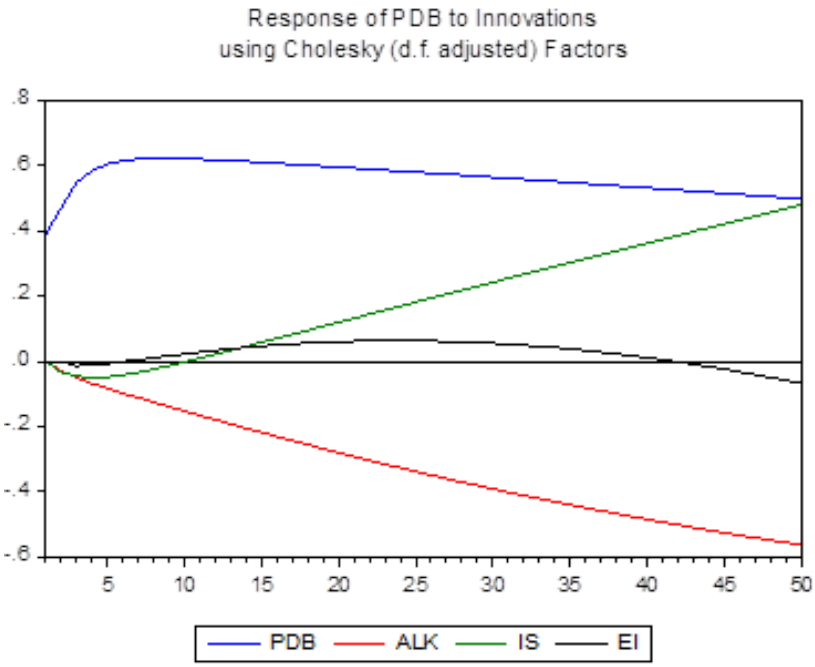
Variable	**Coefficient**	***t*-statistic**	***t*-table**	**Conclusion**
Short-term				
ALK	2.058450	1.98094	1.972.663	Significant
IS	5.831679	1.97302		Significant
EI	6.555013	1.00358		Insignificant
Long-term				
ALK	1.097033	1.41204	1.972.663	Insignificant
IS	1.025639	5.52807		Significant
EI	1.068299	2.07910		Significant

Source: Authors' estimation.

The figure below illustrates the Impulse Response Function (IRF) in the estimation of the Vector Error Correction Model (VECM), representing the response of Gross Domestic Product to shocks in the variables of Sharia Financial Institutions' Assets, Sharia Investment, and Indonesian Exports. The horizontal axis indicates the time period, where one period represents one month. In this case, the author uses a time frame of up to 100 periods, equivalent to the next 100 months. Meanwhile, the vertical axis indicates the changes in Gross Domestic Product due to a specific variable shock, expressed in standard deviations.

Figure 2

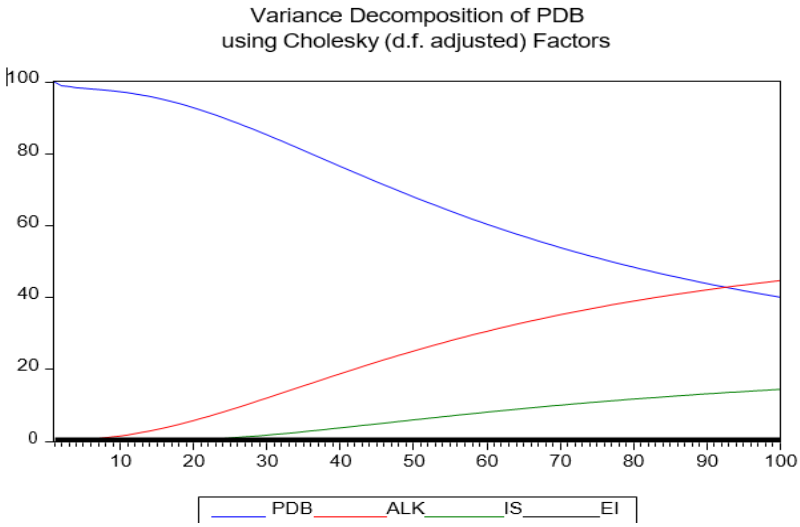
Impulse Response Function



Source: Authors' estimation.

Figure 3

Variance Decomposition



Source: Authors' estimation.

The figure below depicts the Variance Decomposition (VD) in the estimation of the Vector Error Correction Model (VECM), illustrating the variance of Gross Domestic Product in response to shocks in the variables of Sharia Financial Institutions' Assets, Sharia Investment, and Indonesian Exports. The horizontal axis represents the time period, where each period corresponds to one month. In this case, the author utilizes a

time frame of up to 100 periods, equivalent to the next 100 months. Meanwhile, the vertical axis indicates the changes in Gross Domestic Product due to shocks in a specific variable, expressed in standard deviations.

The Variance Decomposition (VD) is useful for predicting the percentage contribution of variance in each variable due to changes in a specific variable. Generally, in the case of the largest shock influencing the variance of each variable, it originates from the variable itself. By employing Variance Decomposition analysis in this study, one can gain insights into how the developments in the variables of Sharia Financial Institutions' Assets, Sharia Investment, and Indonesian Exports impact Gross Domestic Product. It can be observed that the variable contributing the most to this Variance Decomposition study is Sharia Financial Institutions' Assets at 2.7 percent, followed by Sharia Investment at 0.3 percent, and Indonesian Exports at 0.03 percent. The output results of Variance Decomposition obtained from the E-Views program, showing the influence of endogenous variables on exogenous ones, can be seen in the following table:

Table 8

Influence of endogenous variables on exogenous

Period	S.E.	PDB	ALK	IS	EI
1	0.391376	100.0000	0.000000	0.000000	0.000000
2	0.613642	99.50025	0.211357	0.288361	3.02E-05
3	0.826709	99.03499	0.475968	0.459846	0.029199
4	1.016146	98.65800	0.766468	0.551414	0.024120
5	1.186629	98.36615	1.049435	0.562434	0.021984
6	1.341425	98.09097	1.354952	0.536873	0.017205
7	1.482809	97.82247	1.673673	0.489005	0.014854
8	1.613596	97.53031	2.017873	0.434213	0.017608
9	1.735411	97.21076	2.383955	0.380781	0.024504
10	1.850000	96.85148	2.776146	0.335145	0.037227

Source: Authors' estimation.

Based on the test results, it can be observed that in the long run, the variable ALK has a positive and insignificant impact on Gross Domestic Product (GDP) because the t-statistic value is smaller than the t-table value. ALK has a coefficient of 1.097033, a t-statistic of 1.41204, and a t-table value of 1.972.663. Since the t-statistic value is smaller than the t-table value, it is confirmed that ALK has a positive and insignificant impact on GDP in Indonesia. This is evident from the smaller t-statistic value compared to the t-table value and a coefficient of 1.097033. Thus, when ALK increases, GDP will decrease (Tamimi et al., 2023).

In the short-term analysis, ALK negatively and significantly impacts GDP because the t-statistic value is smaller than the t-table. ALK has a coefficient of 2.058450, a t-statistic of 1.98094, and a t-table value of 1.972.663. The t-statistic value is larger than the t-table value, confirming that ALK negatively and significantly impacts GDP in Indonesia. This is evident from the larger t-statistic value compared to the t-table value and a coefficient of 2.058450. In the long run, the variable IS positively and significantly impacts GDP because the t-statistic value is smaller than the t-table. IS has a coefficient of 1.025639, a t-statistic of 5.52807, and a t-table value of 1.972.663. The t-statistic value is larger than the t-table value, confirming that IS positively and significantly impacts GDP in Indonesia. This is evident from the larger t-statistic value compared to the t-table value and a coefficient of 1.025639. Therefore, when IS increases, GDP will also increase. This finding aligns a study indicating that Sharia mutual funds, as a form of investment, have a positive impact on Indonesia's GDP (Rahmadhana et al., 2022).

In the short term, IS, like ALK, has a negative and significant impact on GDP because the t-statistic value is smaller than the t-table. IS has a coefficient of 5.831679, a t-statistic of 1.97302, and a t-table value of 1.972.663. The t-statistic value is larger than the t-table value, confirming that IS has a negative and significant impact on GDP in Indonesia. This is evident from the larger t-statistic value compared to the t-table value and a coefficient of 5.831679. In the long run, EI has a positive and significant impact on GDP because the t-statistic value is smaller than the t-table. EI has a coefficient of 1.068299, a t-statistic of 2.07910, and a t-table value of 1.972.663. The t-statistic value is larger than the t-table value, confirming that EI has a positive and significant impact on GDP in Indonesia. This is evident from the larger t-statistic value compared to the t-table value and a coefficient of 1.068299. Therefore, when EI increases, GDP will increase.

In the short term, EI, like IS, has a negative and not significant impact on GDP because the t-statistic value is smaller than the t-table. EI has a coefficient of 6.555013, a t-statistic of -1.4, and a t-table value of 1.972.663. The t-statistic value is smaller than the t-table value, confirming that EI has a negative and not significant impact on GDP in Indonesia. This result is consistent with another study stating that exports do not significantly influence Indonesia's GDP (Silaban & Rejeki, 2020). In conclusion, the study provides insights into the short-term and long-term impacts of ALK, IS, and EI on Indonesia's GDP. The findings suggest that these variables play varying roles in influencing GDP, with some variables having positive impacts in the long or short term, while others have negative impacts. The study contributes to the understanding of the complex dynamics between financial and economic variables, providing valuable information for policymakers and researchers.

DISCUSSION

The Impact of Sharia Financial Institutions' Assets on Gross Domestic Product

Based on the test results, it is evident that in the long run, Sharia financial institutions' assets have a positive and insignificant impact on Gross Domestic Product (GDP)

since the t-statistic value is smaller than the t-table value. The data indicates that the t-statistic value is smaller than the t-table value, confirming that Sharia financial institutions' assets have a positive and insignificant impact on GDP in Indonesia. However, in the short-term analysis, Sharia financial institutions' assets exhibit a negative and significant impact on GDP because the t-statistic value is smaller than the t-table value. This suggests that in the short term, the increase in Sharia financial institutions' assets decreases GDP. These findings are supported by previous research indicating that the strategic role of Bank Syariah Indonesia positively influences economic growth in Indonesia (Harniati et al., 2023). However, another study found that the assets of conventional Sharia banks do not significantly impact Indonesia's economic growth (Tsani, 2023).

The Impact of Sharia Investment on Gross Domestic Product

In the long run, the test results indicate that Sharia investment has a positive and significant impact on GDP as the t-statistic value is smaller than the t-table. The data shows that the t-statistic value is larger than the t-table value, confirming that Sharia investment has a positive and significant impact on GDP in Indonesia. Conversely, in the short term, Sharia investment, similar to Sharia financial institutions' assets, negatively and significantly impacts GDP as the t-statistic value is smaller than the t-table value. These results find support in previous research suggesting that Sharia stocks, sukuk, and Sharia mutual funds positively and significantly impact Indonesia's economic growth from 2012 to 2020 (Maryam, 2021). However, another study found that the financing of Sharia commercial banks does not significantly impact Indonesia's GDP growth from 2013 to 2020 (Salavy, 2022).

The Impact of Indonesian Exports on Gross Domestic Product

In the long run, the test results indicate that Indonesian exports, similar to Sharia investment, have a positive and significant impact on GDP as the t-statistic value is smaller than the *t*-table. The data shows that the t-statistic value is larger than the t-table value, confirming that Indonesian exports have a positive and significant impact on GDP in Indonesia. However, in the short term, Indonesian exports have a negative and insignificant impact on GDP as the *t*-statistic value is smaller than the t-table value. These findings align with research suggesting that exports have a positive and significant impact on the GDP of the industrial sector in Indonesia (Harun & Sari, 2021). However, another study found that exports do not significantly influence economic growth in Indonesia due to the country's dependence on imports as raw materials (R. K. Putri, 2021).

These results contribute valuable insights into the dynamics of Sharia financial institutions, Sharia investments, and export impacts on Indonesia's GDP, offering a nuanced understanding of their roles in both the short and long term. The varied impacts observed underscore the complexity of these relationships and provide policymakers and researchers with valuable information for decision-making and further investigations.

CONCLUSION

This study aims to scrutinize the extent of interaction among Sharia financial institutions, Sharia investments, and export activities in Indonesia, examining their impact on the Gross Domestic Product (GDP) over both short and long terms within the period 2017-2022. Employing a quantitative methodology with a VAR approach, the research reveals the following insights. The cointegration test results indicate the existence of a single cointegration equation, suggesting a long-term relationship between Sharia financial institutions, Sharia investments, Indonesian exports, and domestic gross product.

The Vector Error Correction Model (VECM) results for the short term reveal two significant variables at a real significance level: Sharia Financial Institutions' Assets (ALK) with a coefficient of 1.98094, and Sharia Investment (IS) with a coefficient of 1.97302. This implies that a one percent increase in the assets of Sharia financial institutions and Sharia investments in the preceding period leads to a corresponding one percent increase in both. It underscores that the movements of these variables are significantly influenced by the preceding period's GDP. In the long term, two variables stand out as significant at a real significance level: Sharia Investment (IS) with a coefficient of 5.52807 and Indonesian Exports (EI) with a coefficient of 2.07910. This suggests that a one percent increase in Sharia investment and Indonesian exports in the previous period results in a 5.52 percent increase in Sharia investment and a 2.07 percent increase in Indonesian exports. Notably, a causal relationship is observed only between Indonesian exports (EI) and Sharia investment (IS), signifying that Indonesian exports significantly impact Sharia investment, while the reverse is not significant. In the Variance Decomposition analysis, the contribution to variance is led by Sharia Financial Institutions' Assets at 2.7 percent, followed by Sharia Investment at 0.3 percent, and Indonesian Exports at 0.03 percent.

These findings provide a comprehensive understanding of the intricate dynamics between Sharia financial institutions, Sharia investments, Indonesian exports, and GDP in Indonesia over the specified period, contributing valuable insights for policymakers and researchers.

Author Contributions

Conceptualization	S.R.N., I., & M.I.H	Resources	S.R.N., I., & M.I.H
Data curation	S.R.N., I., & M.I.H	Software	S.R.N., I., & M.I.H
Formal analysis	S.R.N., I., & M.I.H	Supervision	S.R.N., I., & M.I.H
Funding acquisition	S.R.N., I., & M.I.H	Validation	S.R.N., I., & M.I.H
Investigation	S.R.N., I., & M.I.H	Visualization	S.R.N., I., & M.I.H
Methodology	S.R.N., I., & M.I.H	Writing – original draft	S.R.N., I., & M.I.H
Project administration	S.R.N., I., & M.I.H	Writing – review & editing	S.R.N., I., & M.I.H

All authors have read and agreed to the published version of the manuscript.

Funding

This study received no direct funding from any institution.

Institutional Review Board Statement

The study was approved by Program Studi Ekonomi Islam (S1), Universitas Islam Negeri Sumatera Utara, Medan, Indonesia.

Informed Consent Statement

Informed consent was not required for this study.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

Acknowledgments

The authors thank Program Studi Ekonomi Islam (S1), Universitas Islam Negeri Sumatera Utara, Medan, Indonesia, for administrative support for the research on which this article was based.

Conflicts of Interest

The authors declare no conflicts of interest.

REFERENCES

Aituarauw, I. F. A. (2021). Efektifitas pengelolaan aset daerah pada Badan Keuangan Daerah Kabupaten Tanah Datar [Effectiveness of regional asset management at the Tanah Datar Regency Regional Financial Agency]. *Jurnal Terapan Pemerintahan Minangkabau*, *1*(2), 99–110. https://doi.org/10.33701/jtpm.v1i2.1998

Alam, Md. M., Akbar, C. S., Shahriar, S. M., & Elahi, M. M. (2017). The Islamic Shariah principles for investment in stock market. *Qualitative Research in Financial Markets*, *9*(2), 132–146. https://doi.org/10.1108/QRFM-09-2016-0029

Aminda, R. S., & Rinda, R. T. (2019). Laju investasi bentuk pertumbuhan ekonomi Indonesia tahun 2008-2017 [The rate of investment in Indonesia's economic growth in 2008-2017]. *Inovator*, *8*(2), 40–48. https://doi.org/10.32832/inovator.v8i1.2505

Andini, R. D., Nur, L., Savitri, D., Fadhillah, N., & Nasution, J. (2023). Analisis peranan investasi syariah terhadap pertumbuhan ekonomi Sumatera Utara [Analysis of the role of sharia investment in North Sumatra's economic growth]. *Jurnal Manajemen Riset Inovasi, 1*(1), 38–46. https://doi.org/10.55606/mri.v1i1.628

Annisa, S., Hartarto, I., Damanik, S. N., & Hasibuan, R. R. A. (2021). Analisis faktor-faktor yang mempengaruhi minat mahasiswa berinvestasi di pasar modal syariah [Analysis of factors that influence students' interest in investing in the Islamic capital market]. *El-Mal: Jurnal Kajian Ekonomi & Bisnis Islam*, *5*(2), 347–361. https://doi.org/10.47467/elmal.v5i2.835

Ardiyanto, D., & Saputra, P. M. A. (2012). Analisa keterkaitan pengeluaran pemerintah dan produk domestik bruto di indonesia: Pendekatan vector error correction model (VECM) di Indonesia [Analysis of the relationship between government spending and gross domestic product in Indonesia: the vector error correction model (VECM) approach in Indonesia]. *Jurnal Ilmiah Mahasiswa FEB*, *1*(2), Article 2. https://jimfeb.ub.ac.id/index.php/jimfeb/article/view/571

Asri, K. H., & Ilyas, A. (2022). Penguatan ekosistem halal value chain sebagai pengembangan industri halal menuju Era 5.0 [Strengthening the halal value chain ecosystem as the development of the halal industry towards Era 5.0]. *Alif*, *1*(1), 37–47. https://doi.org/10.37010/alif.v1i1.712

Bahri, S., Musdawati, M., & Jinan, R. (2020). Ketahanan pangan dalam Al-Qur'an dan aktualisasinya dalam konteks keindonesiaan berdasarkan penafsiran terhadap Surat Yusuf Ayat 47-49 [Food security in the Al-Qur'an and its actualization in the Indonesian context based on the

interpretation of Surah Yusuf Verses 47-49]. *TAFSE: Journal of Qur'anic Studies*, *5*(2), 126–138. https://doi.org/10.22373/tafse.v5i2.9100

Capelle-Blancard, G., & Monjon, S. (2012). Trends in the literature on socially responsible investment: Looking for the keys under the lamppost. *Business Ethics: A European Review*, *21*(3), 239–250. https://doi.org/10.1111/j.1467-8608.2012.01658.x

Chamdani, M., Priadana, M., & Meirinaldi, M. (2022, August 8). Analysis of the influence of investment, export, import, consumption on economic growth (GDP) (Case study in Banten Province and DKI Jakarta Province 2007-2021). *Proceedings of the 2nd International Conference on Law, Social Science, Economics, and Education, ICLSSEE 2022, 16 April 2022, Semarang, Indonesia*. https://eudl.eu/doi/10.4108/eai.16-4-2022.2320105

Chapra, M. U. (2000). Is it necessary to have Islamic economics? *The Journal of Socio-Economics*, *29*(1), 21–37. https://doi.org/10.1016/S1053-5357(00)00051-2

Cora, A. N. D., & Wen, L. C. (2020). The relationship between foreign direct investment, export and GDP growth in Indonesia. *PalArch's Journal of Archaeology of Egypt / Egyptology*, *17*(7), 2679–2691. https://archives.palarch.nl/index.php/jae/article/view/1581

Dalimunthe, A. H., & Imsar, I. (2023). Pengaruh kemiskinan, pertumbuhan ekonomi, dan pengeluaran pemerintah terhadap Islamic human development index (I-HDI) di Indonesia [The influence of poverty, economic growth and government spending on the Islamic human development index (I-HDI) in Indonesia]. *Cakrawala Repositori IMWI*, *6*(1), 118–132. https://doi.org/10.52851/cakrawala.v6i1.198

Dewi, R. I., Imsar, I., & Tambunan, K. (2023). Pengaruh ekonomi digital, investasi dan dana zakat infak sedekah terhadap pertumbuhan ekonomi di Indonesia [The influence of the digital economy, investment and zakat infaq alms funds on economic growth in Indonesia]. *JIEP: Jurnal Ilmu Ekonomi dan Pembangunan, 6*(1), 315–326. https://doi.org/10.20527/jiep.v6i1.8690

El-Hawary, D., Grais, W., & Iqbal, Z. (2007). Diversity in the regulation of Islamic Financial Institutions. *The Quarterly Review of Economics and Finance*, *46*(5), 778–800. https://doi.org/10.1016/j.qref.2006.08.010

Gevorkyan, A. V. (2019). Exchange market pressure and primary commodity – exporting emerging markets. *Applied Economics*, *51*(22), 2390–2412. https://doi.org/10.1080/00036846.2018.1545077

Gorib, R. I., & Asbaruna, L. W. (2022). Investasi berbasis syari'ah di indonesia [Sharia-based investment in Indonesia]. *Jurnal Maps (Manajemen Perbankan Syariah)*, *5*(2), 63–75. https://doi.org/10.32627/maps.v5i2.428

Hapsari, A. P., Sabiq, F., & Nashirudin, M. (2023). Peran pasar modal syariah terhadap laju pertumbuhan ekonomi Indonesia [The role of the Islamic capital market in Indonesia's economic growth rate]. *Jurnal Pendidikan Tambusai*, *7*(1), 1818–1825. https://doi.org/10.31004/jptam.v7i1.6079

Harahap, M. I., Imsar, I., & Dongoran, R. N. (2022). Pengaruh sukuk korporasi dan total aset perbankan syariah terhadap pertumbuhan ekonomi di Indonesia tahun 2016-2020 [The influence of corporate sukuk and total sharia banking assets on economic growth in Indonesia in 2016-2020]. *Jurnal Ilmiah Ekonomi Islam*, *8*(1), 370–375. https://doi.org/10.29040/jiei.v8i1.3592

Harniati, R., Muttaqin, F., & Asnaini. (2023). Analisis peran strategis Bank Syariah Indonesia terhadap pertumbuhan ekonomi di Indonesia pasca Covid-19 [Analysis of the strategic role of Bank Syariah Indonesia in economic growth in Indonesia after Covid-19]. *JOVISHE: Journal of Visionary Sharia Economy*, *1*(1), 61–74. https://journal.makwafoundation.org/index.php/jovishe/article/view/78

Harun, I., & Sari, C. P. M. (2021). Analisis penanaman modal asing dan ekspor terhadap produk domestik bruto sektor industri di Indonesia [Analysis of foreign investment and exports on gross domestic product of the industrial sector in Indonesia]. *Jurnal Ekonomika Indonesia*, *10*(1), 1–9. https://doi.org/10.29103/ekonomika.v10i1.4504

Hodijah, S., & Angelina, G. P. (2021). Analisis pengaruh ekspor dan impor terhadap pertumbuhan ekonomi di Indonesia [Analysis of the influence of exports and imports on economic growth in Indonesia]. *Jurnal Manajemen Terapan Dan Keuangan*, *10*(1), 53–62. https://doi.org/10.22437/jmk.v10i01.12512

Ilyas, R. (2018). Manajemen permodalan bank syariah [Islamic bank capital management]. *BISNIS : Jurnal Bisnis Dan Manajemen Islam*, *5*(2), 323–338. https://doi.org/10.21043/bisnis.v5i2.3017

Imsar, I., & Siregar, I. A. (2023). Stabilitas ekonomi makro dalam perspektif ekonomi Islam: Teori dan praktek [Macroeconomic stability in an Islamic economic perspective: Theory and practice]. *Jurnal AKTUAL*, *21*(2), 1–5. https://doi.org/10.47232/aktual.v21i2.408

Inayah, I. N. (2020). Prinsip-prinsip ekonomi Islam dalam investasi syariah [Islamic economic principles in sharia investment]. *AKSY: Jurnal Ilmu Akuntansi Dan Bisnis Syariah*, *2*(2), 88–100. https://doi.org/10.15575/aksy.v2i2.9801

Jamaluddin, J., & Abdullah, M. W. (2019). The role of sharia financial institution to empowering SMEs. *Jurnal Iqtisaduna*, *Prosiding International Conference on Islamic Economics and Business 2019*, 155–169. https://doi.org/10.24252/iqtisaduna.v1i1.11825

Jannah, N. (2018). Pengaruh jumlah penduduk dan produk domestik regional bruto terhadap pembiayaan bank syari'ah di Sumatera Utara [The influence of population and gross regional domestic product on sharia bank financing in North Sumatra]. *AT-TAWASSUTH: Jurnal Ekonomi Islam*, *1*(1), 224. https://doi.org/10.30821/ajei.v1i1.2699

Kusnawati, E. F., Amartur, K., Armanu, A., & Hadiwidjojom, D. (2019). Effectiveness of asset management in the public sector with the application of asset management, accountability, monitoring and evaluation, and quality of human resources (Case study in Government of Blitar City-East Java). *Jurnal Aplikasi Manajemen*, *17*(4), 567–575. https://doi.org/10.21776/ub.jam.2019.017.04.01

Legum, B. (2006). Defining investment and investor: Who is entitled to claim? *Arbitration International*, *22*(4), 521–526. https://doi.org/10.1093/arbitration/22.4.521

Lestari, D. A. D., Kusnandar, D., & Perdana, H. (2022). Penerapan threshold vector error correction model pada analisis hubungan ekspor dan produk domestik bruto [Application of the threshold vector error correction model in the analysis of the relationship between exports and gross domestic product]. *Bimaster : Buletin Ilmiah Matematika, Statistika Dan Terapannya*, *11*(1), 177–184. https://doi.org/10.26418/bbimst.v11i1.52204

Martono, & Harjito, D. A. (2011). *Manajemen keuangan [Financial management]*. Ekonisia.

Maryam, M. S. (2021). *Pengaruh saham syariah, sukuk, dan reksadana syariah terhadap pertumbuhan ekonomi di Indonesia tahun 2012-2020 [The influence of sharia shares, sukuk and sharia mutual funds on economic growth in Indonesia in 2012-2020]* [Bachelor's thesis, UIN Sunan Gunung Djati Bandung]. https://digilib.uinsgd.ac.id/44245/

Murady, I., Oktarina, K., Ghafur, M., Wau, T., & Umam, K. (2022). The effect of the total value of exports, imports and economic growth on exchange rate with state governance as a variable moderating in Southeast Asia 2009-2019. *Optimum: Jurnal Ekonomi Dan Pembangunan*, *12*(1), 87–106. https://doi.org/10.12928/optimum.v12i1.5736

Muttaqin, R. (2018). Pertumbuhan ekonomi dalam perspektif Islam [Economic growth in an Islamic perspective]. *Maro, Jurnal Ekonomi Syariah dan Bisnis*, *1*(2), 117–122. https://doi.org/10.31949/mr.v1i2.1134

Nasrullah, M. (2020). Pengaruh konsumsi pangan dan produk domestik bruto terhadap impor Indonesia tahun 2010-2019 [The influence of food consumption and gross domestic product on Indonesian imports in 2010-2019]. *Jurnal Ilmiah Mahasiswa FEB*, *9*(1), Article 1. https://jimfeb.ub.ac.id/index.php/jimfeb/article/view/6976

Natasa, B. N., Sujianto, A. E., Laila, I. R., Rahmawati, H. R., & Rohmah, S. M. (2023). Pengaruh ekspor, impor dan nilai tukar rupiah terhadap stabilitas cadangan devisa Indonesia tahun 2017-2022 [The influence of exports, imports and the rupiah exchange rate on the stability of Indonesia's foreign exchange reserves in 2017-2022]. *Neraca: Jurnal Ekonomi, Manajemen Dan Akuntansi*, *1*(4), 243–249. https://doi.org/10.572349/neraca.v1i4.320

Nienhaus, V. (2011). Islamic finance ethics and Shari'ah law in the aftermath of the crisis: Concept and practice of Shari'ah compliant finance. *Ethical Perspectives*, *18*, 591–623. https://doi.org/10.2143/EP.18.4.2141849

Nurzianti, R. (2021). Revolusi lembaga keuangan syariah dalam teknologi dan kolaborasi fintech [The revolution of Islamic financial institutions in technology and fintech collaboration]. *Jurnal Inovasi Penelitian*, *2*(1), 37–46. https://doi.org/10.47492/jip.v2i1.600

Pamuji, A. E., Supandi, A. F., & Sa'diyah, M. (2022). Islamic financial institutions as strengthening the economy of the ummah Sstudy on the application of shariah agreements in Islamic financial institutions). *OECONOMICUS Journal of Economics*, *7*(1), 24–36. https://doi.org/10.15642/oje.2022.7.1.24-36

Putri, R. D. S., & Siladjaja, M. (2021). Pengaruh perdagangan internasional (ekspor—Impor) dan investasi terhadap pertumbuhan ekonomi di Indonesia [The influence of international trade (export—Import) and investment on economic growth in Indonesia]. *Journal of Public Auditing and Financial Management*, *1*(1), 13–26. https://doi.org/10.36407/jpafm.v1i1.361

Putri, R. K. (2021). *Pengaruh dana zakat infaq sedekah, reksadana syariah, ekspor dan impor terhadap pertumbuhan ekonomi di Indonesia [The influence of zakat infaq alms funds, sharia mutual funds, exports and imports on economic growth in Indonesia]* [Bachelor's thesis, Universitas Islam Negeri Sayyid Ali Rahmatullah Tulungagung]. https://doi.org/10/DAFTAR%20PUSTAKA.pdf

Rahardja, P., & Manurung, M. (2019). *Pengantar ilmu ekonomi (Mikroekonomi dan makroekonomi) [Introduction to economics (Microeconomics and macroeconomics)]*. Salemba Empat.

Rahmadhana, E., Rahma, T. I. F., & Tambunan, K. (2022). Pengaruh investasi syariah, sukuk dan reksadana syariah terhadap pertumbuhan ekonomi Indonesia tahun 2011- 2020 [The influence of sharia investment, sukuk and sharia mutual funds on Indonesia's economic growth in 2011-2020]. *Jurnal Manajemen Akuntansi (JUMSI)*, *2*(4), 676–691. https://doi.org/10.36987/jumsi.v2i4.3097

Ristianti, D. F., & Purwadi, J. (2019). Implementasi metode VECM (vector error corection model) dalam menganalisis pengaruh kurs mata uang, inflasi dan suku bunga terhadap Jakarta Islamic Indeks (JII) [Implementation of the VECM (vector error correction model) method in analyzing the influence of currency exchange rates, inflation and interest rates on the Jakarta Islamic Index]. *Jurnal Ilmiah Matematika*, *6*(1), 13. https://doi.org/10.26555/konvergensi.v6i1.19544

Rokhmat, A., Sasana, H., Sbm, N., & Yusuf, E. (2020). Analisis pengaruh pembangunan infrastruktur pelayanan dasar, jalan provinsi, air bersih, hotel, penginapan dan restoran terhadap produk

domestik regional bruto [Analysis of the influence of the development of basic service infrastructure, provincial roads, clean water, hotels, inns and restaurants on gross regional domestic product]. *Jurnal Riset Ekonomi dan Bisnis*, *13*(2), 70–88. https://doi.org/10.26623/jreb.v13i2.2598

Rorizki, F., & Nasution, Y. S. J. (2023). Analisis dana investasi dan biaya pertanggungan terhadap pendapatan asuransi jiwa syariah [Analysis of investment funds and insurance costs on sharia life insurance income]. *Al-Kharaj: Jurnal Ekonomi, Keuangan & Bisnis Syariah*, *5*(4), 1932–1956. https://journal.laaroiba.ac.id/index.php/alkharaj/article/view/3395

Salavy, R. N. (2022). *Analisis pengaruh pembiayaan modal kerja, investasi dan konsumsi bank umum syariah terhadap pertumbuhan produk domestik bruto (PDB) Indonesia tahun 2013-2020 [Analysis of the influence of working capital financing, investment and consumption of Islamic commercial banks on the growth of Indonesia's gross domestic product 2013-2020]* [Bachelor's thesis, UIN Sultan Maulana Hasanuddin Banten]. http://repostory.uinbanten.ac.id

Septiyarini, D., Sahbudin, S., Sulaiman, S. H., & Yurisinthae, E. (2020). Integrasi pasar daging sapi menggunakan metode vector error correction model (VECM) [Beef market integration using the vector error correction model (VECM) method]. *Jurnal Riset Agribisnis Dan Peternakan*, *5*(2), 62–74. https://doi.org/10.37729/jrap.v5i2.839

Shamim, M. (2021). Asset management of the local government financial reports' quality. *International Seminar*, *3*, 117–128. https://conference.unita.ac.id/index.php/conference/article/view/67

Silaban, P. S. M. J., & Rejeki, R. (2020). Pengaruh inflasi, ekspor dan impor terhadap PDB di Indonesia periode 2015 – 2018 [The influence of inflation, exports and imports on GDP in Indonesia for the 2015—2018 period]. *Niagawan, 9*(1), 56–64. https://doi.org/10.24114/niaga.v9i1.17656

Silitonga, D. (2021). Pengaruh inflasi terhadap produk domestik bruto (PDB) Indonesia pada periode tahun 2010-2020 [The effect of inflation on Indonesia's gross domestic product (GDP) 2010-2020]. *Esensi: Jurnal Manajemen Bisnis*, *24*(1), 111–122. https://doi.org/10.55886/esensi.v24i1.231

Sofian, Y., & Nurhayati, N. (2022). Kebijakan pemberdayaan UMKM dalam pemenuhan kebutuhan konsumsi dan keberlangsungan kegiatan perusahaan di wilayah kantor Walikota Medan [Policy for empowering MSMEs in meeting consumption needs and sustaining company activities in the Medan Mayor's office area]. *JIKEM: Jurnal Ilmu Komputer, Ekonomi Dan Manajemen*, *2*(1), 336–343. https://ummaspul.e-journal.id/JKM/article/view/3122

Stiglitz, J. E., Sen, A., & Fitoussi, J.-P. (2010). *Mismeasuring our lives: Why GDP doesn't add up*. The New Press.

Sujianto, A. E., & Azmi, M. F. U. (2020). Associative study on government spending, inflation, trade balance, and gross domestic product. *Ekuilibrium: Jurnal Ilmiah Bidang Ilmu Ekonomi*, *15*(1), 27–37. https://doi.org/10.24269/ekuilibrium.v15i1.2020.pp27-37

Tamimi, K., Imsar, I., & Syarbaini, A. M. B. (2023). Analisis interaksi dan kontribusi zakat, infaq, sedekah (ZIS) dan islamic human development index (I-HDI) terhadap kemiskinan di Indonesia [Analysis of the interaction and contribution of zakat, infaq, alms (ZIS) and Islamic human development index (I-HDI) to poverty in Indonesia]. *Inovasi: Jurnal Ekonomi, Keuangan, dan Manajemen*, *19*(3), 678–688. https://doi.org/10.30872/jinv.v19i3.13853

Todaro, M. P., & Smith, S. C. (2017). *Economic development* (12th edition). Pearson India.

Tsani, A. R. (2023). *Analisis kontribusi perbankan syariah terhadap pertumbuhan ekonomi Indonesia (Studi kasus pada bank umum syariah periode tahun 2015- 2017) [Analysis of the contribution of sharia banking to Indonesia's economic growth (Case study of sharia commercial banks*

2015-2017)] [Bachelor's thesis, Universitas Islam Indonesia]. https://dspace.uii.ac.id/handle/123456789/44860

Umami, A., Harmain, H., & Harahap, R. D. (2023). Pengaruh kontribusi peserta (premi) klaim dan hasil investasi terhadap pertumbuhan aset pada perusahaan PT Takaful Keluarga [The influence of participant contributions (premiums) claims and investment returns on asset growth at the PT Takaful Keluarga]. *JIKEM: Jurnal Ilmu Komputer, Ekonomi Dan Manajemen*, *3*(1), 1559–1601. https://ummaspul.e-journal.id/JKM/article/view/5803

This page intentionally left blank.