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The Relationship Between Granger Causality Analysis and Indonesian Trade and Economic Growth

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Abstract

These findings confirm that the contribution of domestic assets to economic growth is relatively limited, which is in line with the literature that emphasizes the more dominant role of foreign direct investment, household consumption, and fiscal and monetary policies in influencing the Indonesian economy. Second, the causality test on foreign assets also shows similar results, namely that economic growth has not been proven to affect changes in foreign assets, and vice versa. Based on the findings of this study, the recommendation for the government is to implement economic development policies that are more focused on strengthening the domestic foundation, particularly by encouraging productive investment, increasing the competitiveness of the real sector, and strengthening household consumption, which has been proven to be more significant in driving economic growth.
Keywords: Economic Growth, Foreign Trade, Granger Causality, and Trade Balance.

Abstrak

Temuan ini menegaskan bahwa kontribusi aset domestik terhadap pertumbuhan ekonomi relatif terbatas, yang sejalan dengan literatur yang menekankan peran yang lebih dominan dari investasi asing langsung, konsumsi rumah tangga, kebijakan fiskal dan moneter dalam memengaruhi perekonomian Indonesia. Kedua, uji kausalitas pada aset asing juga menunjukkan hasil yang serupa, yaitu pertumbuhan ekonomi belum terbukti mempengaruhi perubahan aset asing, dan sebaliknya. Berdasarkan temuan penelitian ini, rekomendasi bagi pemerintah adalah menerapkan kebijakan pembangunan ekonomi yang lebih fokus pada penguatan fondasi domestik, khususnya dengan mendorong investasi produktif, meningkatkan daya saing sektor riil, dan memperkuat konsumsi rumah tangga, yang telah terbukti lebih signifikan dalam mendorong pertumbuhan ekonomi.
Keywords: Neraca Perdagangan, Perdagangan Luar Negeri, Pertumbuhan Ekonomi, dan Uji Kausalitas Granger.

INTRODUCTION

Global trade plays a significant role in economic development. Through imports and exports, nations can access larger markets, meet each other's commodities demands, and boost production efficiency and specialization. International trade drives economic transformation toward a more profitable sector and increases foreign exchange earnings for emerging nations like Indonesia. The intricate interplay between several economic and financial factors, particularly economic growth, is reflected in the relationship between Indonesia's trade interaction and economic growth. To better understand how the trade balance influences economic growth and how policies might be implemented to attain an ideal economic balance, further investigation and analysis are thus required.

Investments in technology, infrastructure, and other areas are typically necessary for sustainable economic growth. Inflation, however, could result from too quick development devoid of higher productivity. Dependency on specific industries is also thought to be a contributing factor to inflation. When a nation is overly reliant on a single economic sector, changes in that area might have an impact on inflation and economic stability. Global business hazards that arise in the global arena are undoubtedly consistent with exchanges in international trade. The World Economic Forum (2023) published an examination of worldwide business risks, which is shown in Figure 1.

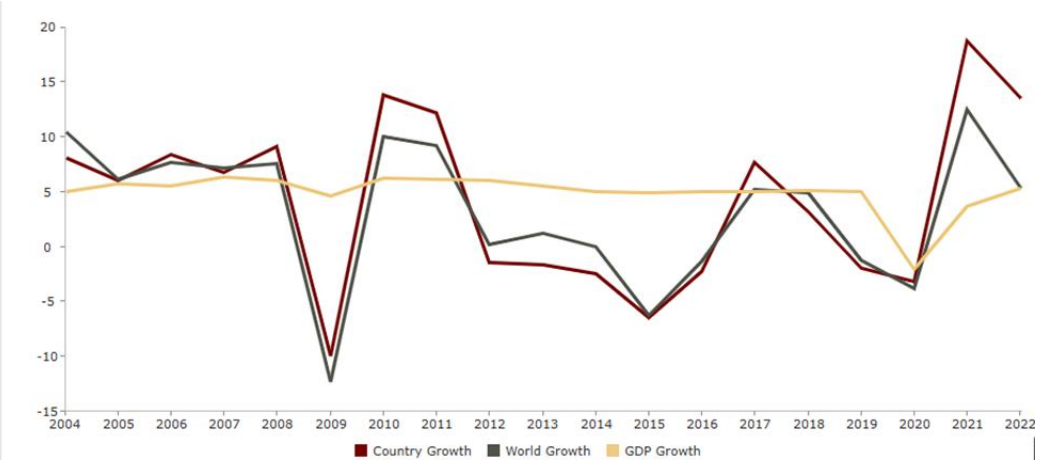

Figure 1.
Indonesia Growth Vs World's Growth Vs GDP Growth
Source: wits.worldbank.org 2025

Figure 1 illustrates the trajectory of economic growth during the 2004–2022 period, reflecting pronounced fluctuations in both national and global economic performance. Prior to the 2008 global financial crisis, economic growth at both levels exceeded 5 percent, indicating strong expansion. However, the crisis in 2009 triggered a sharp contraction, with growth rates falling into negative territory, underscoring the vulnerability of national economies to global financial shocks. Although fiscal stimulus measures and global recovery efforts supported a rapid rebound in 2010–2011, economic growth decelerated again during 2012–2016, largely due to structural constraints and heightened external uncertainties. Moderate and relatively stable growth resumed in 2017–2019 before collapsing once more in 2020 as a result of the COVID-19 pandemic, which simultaneously disrupted domestic and international economic activity. The subsequent recovery in 2021 was robust, with Indonesia's growth outperforming the global average, reflecting economic resilience and effective policy responses. 2022 is a year of recovery, with an overall improvement in growth. This dynamics indicate that Indonesia's economic growth is pro-cyclical and highly responsive to external distruptions.

The recurring pattern of economic expansion and contraction highlights the importance of understanding the underlying macroeconomic mechanisms that drive economic growth, particularly the interaction between the real sector and financial variables. Previous empirical studies have emphasized the role of trade, capital flows, and macroeconomic policy in shaping growth performance, especially in emerging economies that are more exposed to global volatility. In this context, monetary and fiscal policies are often identified as key transmission channels through which external shocks affect domestic economic activity. Adjustments in interest rates, exchange rate policies, and fiscal stimulus can influence investment behavior, capital mobility, and overall financial stability. However, much of the existing literature tends to focus on the effects of monetary policy on inflation, exchange rates, or trade balances in isolation, without explicitly examining how changes in asset structures interact dynamically with economic growth. Studies such as Holman and Rioja (2001) suggest that inflation and policy-induced interest rate changes can alter investment incentives and capital allocation, thereby affecting both domestic investment and foreign capital movements. Nevertheless, limited attention has been given to how domestic assets and foreign assets jointly evolve with economic growth over time, particularly within the Indonesian context.

This gap in the literature underscores the need for a more integrated analysis that captures the dynamic interdependence between asset accumulation and economic performance. Domestic assets (ADN) represent internal financial capacity and investment potential, while foreign assets (ALN) reflect external sector strength, including foreign exchange reserves and international capital flows. Economic growth (GRW), as a core real-sector indicator, both influences and is influenced by these financial variables through income expansion, investment dynamics, and external balance adjustments. Understanding whether asset accumulation drives growth or whether growth itself stimulates changes in domestic and foreign assets remains an empirical question that has not been thoroughly addressed. Therefore, this study focuses on examining the causal and dynamic relationships among domestic assets (ADN), foreign assets (ALN), and economic growth (GRW) in Indonesia. By employing time-series econometric methods, the research seeks to bridge the gap between macroeconomic theory and empirical evidence, providing a clearer understanding of how financial asset structures interact with economic growth under conditions of global uncertainty. The findings are expected to contribute not only to the academic literature but also to policy formulation, particularly in designing strategies to enhance economic resilience, manage external vulnerability, and support sustainable growth.

METHODOLOGY

This study employs a quantitative research design with an explanatory approach, as it seeks to explain the causal relationships among macroeconomic variables, namely domestic assets (ADN), foreign assets (ALN), and economic growth (GRW). The explanatory approach is appropriate because the research aims not only to identify relationships among variables but also to determine the direction and strength of causality based on established economic theory. By applying econometric methods, the study moves beyond descriptive analysis toward an analytical understanding of how changes in asset structures interact with economic growth dynamics in Indonesia. The quantitative explanatory methodology enables hypothesis formulation and empirical testing regarding whether variations in domestic and foreign assets influence economic growth or whether economic growth itself drives changes in asset accumulation. This approach is particularly relevant in macroeconomic studies, where interdependencies among financial and real-sector variables evolve dynamically over time. To capture these dynamics, the study applies econometric techniques, with a primary focus on the Granger Causality Test, which is designed to assess short-term predictive relationships among time-series variables.

The Granger Causality Test is used to determine whether past values of one variable contain statistically significant information that helps predict another variable. This method is especially suitable for analyzing macroeconomic interactions where simple correlation analysis may fail to reflect the temporal ordering of effects. Through this framework, the study is able to identify whether the relationship between domestic assets, foreign assets, and economic growth is unidirectional, bidirectional, or non-causal. It is important to emphasize that Granger causality does not imply true causation in a philosophical sense, but rather a predictive relationship based on time precedence. Recognizing that macroeconomic relationships in emerging economies are often nonlinear and subject to external shocks, this study conducts several preliminary tests prior to implementing the Granger Causality Test. These include stationarity tests, lag-length selection, and cointegration analysis to ensure the validity and robustness of the empirical results. Such procedures are necessary to avoid spurious regression outcomes and to confirm the stability of long-run relationships among variables. The integration of statistical rigor with theoretical grounding ensures that the resulting causal interpretations remain consistent with macroeconomic principles.

The empirical findings derived from this methodological framework have important policy implications. Understanding whether domestic and foreign assets act as drivers of economic growth or respond to growth dynamics provides valuable insights for macroeconomic management. In particular, the results can inform fiscal policy, monetary and financial-sector regulation, and strategies aimed at enhancing external resilience and sustainable economic growth in Indonesia. Regarding data sources, this study utilizes secondary annual time-series data covering the period from 2000 to 2024 to capture long-term economic dynamics and structural changes.

Data on domestic assets (ADN) and foreign assets (ALN) are obtained from Bank Indonesia's Economic and Financial Statistics reports, while economic growth (GRW) is measured using the annual growth rate of Indonesia's Gross Domestic Product (GDP), sourced from the Central Statistics Agency (BPS). Domestic assets (ADN) refer to domestic financial assets recorded in Bank Indonesia's financial statements and are measured in trillion rupiah. Foreign assets (ALN) include foreign financial assets, such as foreign exchange reserves, measured in trillion rupiah or million US dollars depending on data availability and adjusted accordingly. Economic growth (GRW) is expressed as the annual percentage change in GDP. Data collection is conducted through documentation analysis by tracing official publications from Bank Indonesia, BPS, the International Monetary Fund (IMF), and the World Bank. The collected data are tabulated, standardized in terms of units, and transformed when necessary—such as through natural logarithms—to reduce heteroscedasticity and harmonize variable scales.

Data analysis is performed using EViews version 9, which is selected for its comprehensive capabilities in time-series econometric analysis. The Granger Causality Test is applied to examine the direction of causal relationships among the variables. The null hypothesis (H_0) states that variable X does not Granger-cause variable Y, while the alternative hypothesis (H_1) states that variable if the p-value exceeds 0.05, the null hypothesis is not rejected, suggesting the absence of Granger causality.

The Theoretical Conclusion Map which supports the theoretical conclusion by the above theories is:

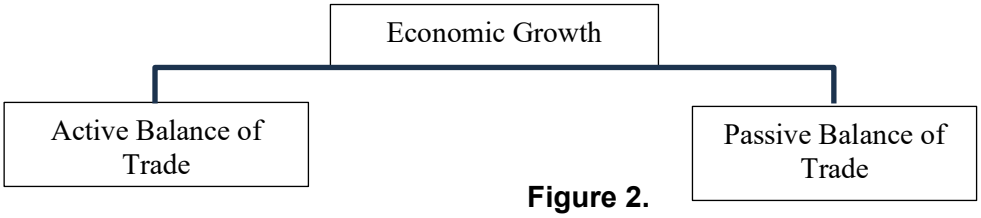

Figure 2.
The Theoretical Conclusion Map
Source: Researcher's Process, 2025

The Theoretical Conclusion Map illustrates the conceptual interrelationships among the main variables examined in this study, providing a synthesized framework that integrates theoretical perspectives and empirical findings. The map serves as a visual summary of how economic growth, foreign assets, and related macroeconomic indicators are interconnected through both direct and indirect causal pathways. Specifically, it depicts that economic growth (GRW) functions as a core real-sector variable that may influence financial dynamics through income expansion, investment stimulation, and fiscal capacity improvement. Conversely, foreign assets (ALN) — encompassing reserves, foreign holdings, and capital inflows — are positioned as externally driven variables whose movement is largely determined by international trade performance, capital mobility, and global market volatility. The map thus reflects the theoretical conclusion that while economic growth and foreign assets are linked in the long term through structural and institutional channels, their short-term interactions are often asymmetric and influenced by exogenous shocks.

In essence, the figure underscores that domestic macroeconomic progress does not automatically translate into stronger foreign asset accumulation without the support of sound external sector management and adaptive financial policies. Therefore, the theoretical conclusion map highlights the need to interpret causality not as a simple linear process, but as a dynamic interaction shaped by both domestic fundamental and global economic forces. In addition to the Granger Causality Test, this study employs the Vector Autoregression (VAR) model to examine the dynamic interactions among domestic assets (ADN), foreign assets (ALN), and economic growth (GRW). The VAR approach is particularly appropriate for this study because it treats all variables as endogenous, allowing each variable to be influenced by its own past values as well as by the lagged values of other variables in the system. This framework is well suited for macroeconomic analysis, where feedback effects and mutual interdependence among real and financial sector variables are common and cannot be adequately captured by single-equation models.

DISCUSSION AND FINDINGS

The two empirical results in this study are: (1) Domestic Assets and Economic Growth; (2) Foreign Assets and Economic Growth.

Table 1.
Level Stationarity Test Results

Variables	t-Statistic	Prob.	Conclusion
GRW	-3.71993	0.0104	Stationary
AND	-2.12031	0.2389	Not Stationary
ALN	-2.81721	0.0708	Non-Stationary

Source: Output Eviews 9

Based on the results of the stationarity test at the level level, it can be seen that not all variables have met the stationarity assumption. The GRW variable has a t-statistic value of -3.71993 with a probability of 0.0104 which is smaller than the 5 percent significance level, so the null hypothesis stating the presence of a unit root can be rejected. Thus, the GRW variable is declared stationary at the level level. Meanwhile, the AND variable shows a t-statistic value of -2.12031 with a probability of 0.2389 which is greater than 5 percent, so the null hypothesis cannot be rejected. This indicates that the AND variable is not stationary at the level level and still contains a unit root. Furthermore, the ALN variable has a t-statistic value of -2.81721 with a probability of 0.0708. This value is greater than the 5 percent significance level, so at the 95 percent confidence level the ALN variable is not stationary at the level. However, at the 10 percent significance level, the ALN variable can be said to be weakly stationary. Overall, because there are still non-stationary variables at the level level, the stationarity test needs to be continued at the first level of differentiation.

Table 2.
First Difference Stationarity Test Results

Variables	t-Statistic	Prob.	Conclusion
GRW	-6.68744	0.0000	Stationary
AND	-5.13651	0.0004	Station
ALN	-4.77257	0.0010	Stationary

Source: Output Eviews 9

Based on the results of the stationarity test at the first level of differentiation (first difference), all variables in this study have met the stationarity assumption. The GRW variable has a t-statistic value of -6.68744 with a probability of 0.0000 which is smaller than the 5 percent significance level, so the null hypothesis stating the presence of a unit root can be rejected and the GRW variable is declared stationary. The AND variable shows a t-statistic value of -5.13651 with a probability of 0.0004 which is also smaller than 5 percent, so the AND variable is stationary at the first level of differentiation. Furthermore, the ALN variable has a t-statistic value of -4.77257 with a probability of 0.0010 which is below the 5 percent significance level, so the ALN variable is also declared stationary. Thus, all variables are stationary at the first difference, so the analysis can proceed to the VAR model estimation stage.

Table 3.
Optimal Lag Test Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-144,279	NA	73.21608	12.80688	12.95499	12.84413
1	-124,735	32.29012*	29.57988*	11.89001*	12.48244*	12.03901*
2	-122,142	3.60826	54.22871	12.4471	13.48386	12.70784

Source: Output Eviews 9

The results of the stationarity test at the first level of differentiation indicate that all research variables, namely GRW, AND, and ALN, are integrated in the first order (I(1)), because they are not stationary at the level but become stationary after the first differentiation. This condition indicates that the fluctuations of each variable tend to have a trend in the level data, but their changes over time are stable. By fulfilling the stationarity assumption at the first difference, In addition, because all variables are integrated at the same order, the analysis can be continued with a cointegration test to determine the existence of a long-term equilibrium relationship between variables.

Table 4.
Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
GRW does not Granger Cause ADN	23	0.01281	0.9873
ADN does not Granger Cause GRW		0.22286	0.8024

Source: Output Eviews 9

The test results between ADN (Domestic Assets) and GRW (Economic Growth) with a lag = 2 why suddenly (effective observation = 23) showed that both null hypotheses were not rejected. Specifically, the "GRW does not Granger Cause DNA" hypothesis yields F = 0.01281 with p = 0.9873, and the "DNA does not Granger Cause GRW" hypothesis yields F = 0.22286 with p = 0.8024. Since both p-values are much greater than 0.05, the conclusion is that there is no statistical evidence that the prior values of economic growth can predict (Granger-cause) changes in domestic assets, and instead there is no evidence that the domestic asset lag helps predict economic growth at the lag 2 tested.

Table 5.
Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
GRW does not Granger Cause ALN	23	0.27318	0.7641
ALN does not Granger Cause GRW		0.03106	0.9695

Source: Output Eviews 9

The test results of the ALN (Foreign Assets) and GRW pairs provided the same pattern: the hypotheses "GRW does not Granger Cause ALN" (F = 0.27318; p = 0.7641) and "ALN does not Granger Cause GRW" (F = 0.03106; p = 0.9695) were both not rejected. In other words, there is no evidence that historical movements of foreign assets predict economic growth, nor that economic growth predicts foreign assets, across the range of data tested. Statistically speaking, "not rejecting the zero hypothesis" in the context of Granger means that the lag-lag of variable X does not provide significant additional information to project variable Y beyond the information already contained in the lag-lag Y itself (on the lag specification and sample used). It is important to note that the absence of Granger-causality does not mean that there is no structural causality relationship at all—rather there is no linear predictive evidence in the *Vector Autoregression* model tested. A real causal relationship may exist but cannot be detected due to model specifications, time horizons, or data problems.

The results of the Granger Causality test show that there is no causal relationship between economic growth (GRW) and domestic assets (ADN), either one-way or two-way. The probability of GRW to DNA is 0.9873 (>0.05), while the probability of DNA to GRW is 0.8024 (>0.05). Statistically, these findings indicate that changes in the pace of economic growth do not significantly encourage changes in domestic assets, and vice versa. This indicates that domestic assets are not necessarily the main instrument in driving short-term economic growth. On the other hand, economic growth is more determined by other structural factors, such as household consumption, foreign investment, and the role of fiscal and monetary policy. For example, Wibowo & Sihombing (2023) show that economic growth in Indonesia is more influenced by Foreign Direct Investment (FDI) and domestic consumption than the movement of domestic assets. This confirms that domestic assets are more passive and tend not to be reactive to growth dynamics in a short time horizon. This finding is also in line with the view of Kurniawan (2021) who emphasizes that economic growth instruments in Indonesia are more dependent on productive investment flows than on the dynamics of banking or domestic financial assets. Therefore, development needs to pay attention to the quality of investment and productivity of the real sector,

rather than just the accumulation of domestic assets that are financial in nature.

The Granger Causality test on the relationship between economic growth (GRW) and foreign assets (ALN) also showed the same result, namely that there was no two-way causality relationship. The probability of GRW to ALN is 0.7641 (>0.05), while the probability of ALN to GRW is 0.9695 (>0.05). Empirically, this means that Indonesia's economic growth has no significant effect on changes in foreign assets, and vice versa. This condition can be understood because foreign assets (including excess foreign exchange reserves) are determined by external factors, such as international trade flows, global commodity prices, and foreign capital movements. As explained by Haryanto (2022), foreign exchange reserves and foreign assets are very vulnerable to external dynamics such as exchange rate fluctuations and global market volatility, so they are not fully controlled by domestic economic growth. This shows that there is an inconsistency between domestic dynamics and the external sector, where Indonesia's relatively stable economic growth is not always directly proportional to the increase in foreign exchange reserves or foreign assets. For example, Yu and Wang (2023) show that short-term portfolio capital flows can increase macrofinancial risk, including the possibility of an impact on exchange rate stability and foreign exchange reserves due to their volatile nature and sensitivity to global investor sentiment. These findings support the view that portfolio flows can have a greater impact on foreign exchange reserves than macro fundamentals directly.

Overall, the results of this study strengthen the argument that the relationship between the real sector and financial instruments (domestic and foreign assets) in Indonesia is not direct in the short term. External factors such as global commodity prices, international capital flows, and monetary policy are more dominant in influencing the dynamics of foreign assets. Meanwhile, in domestic assets, domestic consumption and private investment factors are more decisive than economic growth alone (Setiawan & Gunawan, 2023). Thus, the results of this study support the literature that states that the relationship between financial variables and economic growth in developing countries is often indirect and requires a long period to be significant. As illustrated by Sari & Prabowo (2024), the integration between the financial sector and economic growth in Indonesia reflects more of a long-term relationship than a short-term causal relationship.In addition to the short-term findings you present (ie, the lack of Granger-causal links between economic growth (GRW) and foreign assets (ALN)), it is useful to emphasize the temporal dimension of the growth-assets/financial sector nexus. Many studies in developing and emerging economies find that while the real sector may not immediately drive financial asset dynamics, over longer horizons a more inter-dependent relationship emerges. For example, The Nexus between Financial Development and Economic Growth: Panel Data Evidence from Developing Countries (Ekanayake & Thaver, 2021) reports bidirectional causality for some regions but not others, and highlights that the direction of causality tends to vary depending on the maturity of the financial system.

In the context of Indonesia, the absence of short-the term causality between GRW and ALN may therefore reflect the fact that foreign assets are less responsive to domestic growth cycles and more governed by structural and external factors. Over the longer run, however, once institutional, financial and external linkages deepen, one might expect more meaningful linkages to develop. This suggests that your findings align with the literature: in the short term the real sector → external assets relationship is weak or non-existent, but in the long term, under favorable conditions, it may strengthen. Furthermore, your interpretation of emphasizing externa

vulnerability of foreign assets is consistent with broader empirical work on external versus domestic drivers of growth-finance linkages. For example, in their analysis of central & Eastern European economies, Effects of Internal and External Factors on Economic Growth: Evidence from Central and Eastern Europe (Bostan 2023) find that external debt and trade openness significantly influence growth trajectories, which underscores that in open economies the external channel often dominates internal growth-asset relationships.

CONCLUSION

Based on the results of the Granger Causality test between economic growth (GRW), domestic assets (ADN), and foreign assets (ALN) for the period 2000–2024, it can be concluded that there is no two-way causality relationship between these variables. First, the test results show that economic growth does not lead to changes in domestic assets, and conversely, domestic assets are also not the main determinant in driving economic growth (Prob > 0.05). These findings confirm that the contribution of domestic assets to economic growth is relatively limited, which is in line with the literature that emphasizes the more dominant role of foreign direct investment, household consumption, and fiscal and monetary policies in influencing the Indonesian economy. Second, the causality test on foreign assets also showed similar results. Economic growth has not been proven to affect changes in foreign assets, nor vice versa. This indicates that external factors such as global trade, international capital flows, and exchange rate stability play a greater role in determining the dynamics of foreign assets compared to domestic economic growth. Thus, neither domestic nor foreign assets have a direct causal relationship to economic growth in the short term, although they remain strategically relevant in the framework of long-term macroeconomic stability.

Based on the findings of this study, there are several suggestions that can be proposed. First, for the government, economic development policies should be more directed at strengthening domestic fundamentals, especially by productively encouraging investment, increasing the competitiveness of the real sector, and strengthening household consumption, which has proven to be more significant in encouraging economic growth. In addition, the government needs to maintain macroeconomic stability so that the contribution of domestic and foreign assets can be more optimal in supporting sustainable economic development. Second, for Bank Indonesia and the financial authorities, external sector management is an important key. Exchange rate stability, foreign exchange reserve management, and capital flow control must be strengthened to minimize the negative impact of global dynamics on foreign assets. Although the results show that there is no direct causal relationship, the existence of the external sector still has a strategic role in maintaining investor confidence, financial market stability, and long-term growth sustainability. Third, for investors and market participants, this result provides an understanding that the dynamics of economic growth are not necessarily reflected in changes in domestic and foreign assets. Therefore, investment decisions should consider external factors such as global market conditions, exchange rate fluctuations, and international trade, while also paying attention to other domestic variables that are more dominant in driving growth, such as household consumption and foreign direct investment.

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REFERENCES

Asnawi, A., Irfan, I., & Ramadhani, M F C. (2020, August 30). The Gap in Economic Growth from Foreign Investment and Domestic Investment across Provinces in Indonesia. Electronic Journal of Education, Social Economics and Technology, 1(1), 34-38. https://doi.org/10.33122/ejeset.v1i1.7

Baharumshah, A Z., Slesman, L., & Devadason, E S. (2015, April 8). Types of Foreign Capital Inflows and Economic Growth: New Evidence on Role of Financial Markets. Journal of International Development, 29(6), 768-789. https://doi.org/10.1002/jid.3093

Bostan, I. (2023). Effects of Internal and External Factors on Economic Growth: Evidence from Central and Eastern Europe

Chia, W., Jinjarak, Y., Rana, P B., & Xie, T. (2014, October 1). Net foreign assets and macroeconomic volatility. Journal of Asian Economics, 34, 42-53. https://doi.org/10.1016/j.asieco.2014.06.004

Ekanayake, E. M. & Thaver, R. (2021). The Nexus between Financial Development and Economic Growth: Panel Data Evidence from Developing Countries. Journal of Risk and Financial Management, 14(10): 489

Girton, L., & Henderson, D W. (1976, January 1). Financial capital movements and central bank behavior in a two-country, short-run portfolio balance model. Journal of Monetary Economics, 2(1), 33-61. https://doi.org/10.1016/0304-3932(76)90003-9

Haryanto, T. (2022). Exchange rate volatility, foreign reserves, and macroeconomic stability in Indonesia. Journal of Asian Finance, Economics and Business, 9(6), 123–132. https://doi.org/10.13106/jafeb.2022.vol9.no6.123

Holman, J A., & Rioja, F. (2001, August 1). International transmission of anticipated inflation under alternative exchange-rate regimes. Journal of International Money and Finance, 20(4), 497-519. https://doi.org/10.1016/s0261-5606(00)00054-1

Kurniasih, A., & Restika, Y. (2015, October 30). The influence of Macroeconomic Indicators and Foreign Ownership on Government Bond Yields: A Case of Indonesia. Mediterranean journal of social sciences. https://doi.org/10.5901/mjss.2015.v6n5s5p34

Lane, P R., & Milesi-Ferretti, G M. (2004, November 1). The Transfer Problem Revisited: Net Foreign Assets and Real Exchange Rates. The Review of Economics and Statistics, 86(4), 841-857. https://doi.org/10.1162/0034653043125185

Mochtar, F. (2005, May 20). Fiscal and Monetary Policy Interaction : Evidences and Implication for Inflation Targeting in Indonesia. Buletin ekonomi moneter dan perbankan, 7(3), 359-386. https://doi.org/10.21098/bemp.v7i3.114

Nupehewa, S. (2022). More than just investment: Causality analysis between FDI and economic growth across regions

Sari, M., & Prabowo, H. (2024). Financial sector development and economic growth: Evidence from Indonesia. International Journal of Economics and Financial Issues, 14(1), 45–54. https://doi.org/10.32479/ijefi.14456

Setiawan, B., & Gunawan, I. (2023). Domestic investment, household consumption, and economic growth nexus in Indonesia. Economic Journal of Emerging Markets, 15(2), 89–101. https://doi.org/10.20885/ejem.vol15.iss2.art1

Santoso, W. (2003, October 11). Pengendalian Moneter Dengan Sistem Nilai Tukar Fleksibel Dan Inflasi Sebagai Sasaran Tunggal Overview. Buletin ekonomi moneter dan perbankan, 2(2), 3-6. https://doi.org/10.21098/bemp.v2i2.199

Siregar, N. (2020, September 20). Analysis Of The Effect Of Inflation, Interest Rate, The Money Supply On Rupiah Exchange Rate Period 1996-2014. Quantitative Economics Journal, 8(1). https://doi.org/10.24114/qej.v8i1.19927

Wibowo, R., & Sihombing, M. (2023). Foreign direct investment, domestic capital, and economic growth in Indonesia: A causality analysis. Journal of Economics and Sustainable Development, 14(4), 76–85. https://doi.org/10.7176/JESD/14-4-08

Yu, C., & Wang, Z. (2023). *A study on how international portfolio investment flows affect macrofinancial risks and control channels*. *Discrete Dynamics in Nature and Society*. https://doi.org/10.1155/2023/1888284