

The Effect of North Sumatra's Trade Balance on Economic Growth from an Islamic Economic Perspective

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Abstract: This study aims to examine and analyze the long-term and short-term impact of the trade balance on economic growth in North Sumatra. A quantitative approach using the Vector Error Correction Model (VECM) was employed to test the existence of both long-term and short-term relationships between export-import data and economic growth in North Sumatra. The study population includes all export-import and economic growth data published by the North Sumatra Central Bureau of Statistics (BPS), while the sample consists of quarterly data from 2012 to 2023, totaling 48 samples. The VECM analysis technique was implemented using EViews 10 software to estimate the model. The results show that in the long term, exports have a positive but insignificant effect on economic growth, while imports have no effect. In the short term, exports significantly influence economic growth, while imports do not. From an Islamic economic perspective, these findings suggest that trade balance policies have not yet achieved optimal results. Islamic economics emphasizes the importance of balance in trade for achieving broader societal well-being (*maslahah*). Therefore, the government should formulate more comprehensive policies that not only focus on increasing exports but also on product diversification, improving productivity, and enhancing human resource development to create a more sustainable and just economic environment.

Keywords: Economic Growth, Trade Balance, Exports, Imports, Islamic Economics

Abstrak: Penelitian ini bertujuan untuk menguji dan menganalisis dampak jangka panjang dan jangka pendek dari neraca perdagangan terhadap pertumbuhan ekonomi di Sumatera Utara. Pendekatan kuantitatif dengan menggunakan Vector Error Correction Model (VECM) diterapkan untuk menguji adanya hubungan jangka panjang dan jangka pendek antara data ekspor-impor dan pertumbuhan ekonomi di Sumatera Utara. Populasi penelitian ini mencakup seluruh data ekspor-impor dan pertumbuhan ekonomi yang diterbitkan oleh BPS Sumatera Utara, sedangkan sampel terdiri dari data triwulanan tahun 2012 hingga 2023 sebanyak 48 sampel. Teknik analisis VECM diimplementasikan melalui perangkat lunak EViews 10 untuk melakukan estimasi model. Hasil penelitian menunjukkan bahwa dalam jangka panjang, ekspor berpengaruh positif tetapi tidak signifikan terhadap pertumbuhan ekonomi, sedangkan impor tidak berpengaruh. Dalam jangka pendek, ekspor berpengaruh signifikan terhadap pertumbuhan ekonomi, sementara impor tidak berpengaruh. Dari perspektif ekonomi Islam, temuan ini mengindikasikan bahwa kebijakan neraca perdagangan belum mencapai hasil yang optimal. Ekonomi Islam menekankan pentingnya keseimbangan dalam perdagangan untuk mencapai kesejahteraan yang lebih luas (*maslahah*). Oleh karena itu, pemerintah perlu merumuskan kebijakan yang lebih komprehensif, yang tidak hanya berfokus pada peningkatan ekspor, tetapi juga pada diversifikasi produk, peningkatan produktivitas, serta pengembangan sumber daya manusia guna menciptakan lingkungan ekonomi yang lebih berkelanjutan dan adil.

Kata Kunci: Pertumbuhan Ekonomi, Neraca Perdagangan, Ekspor, Impor, Ekonomi Islam

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Introduction

Economic growth is a vital indicator used to measure the health and productivity of a region's economy. One key factor influencing economic growth is the trade balance, which reflects the relationship between exports and imports. North Sumatra, a province in Indonesia with significant trade potential, relies heavily on international trade. However, an imbalance between exports and imports may create vulnerability to external factors such as global commodity prices and international economic conditions.¹

In conventional economic theory, economic growth is associated with indicators such as inflation, unemployment, and poverty rates.² A nation's ability to sustain growth reflects its capacity to improve living standards and address the needs of its population. Continuous economic expansion is seen as a strategy for increasing per capita output, which, in turn, raises the overall well-being of society. North Sumatra has demonstrated steady growth over recent years, with trade playing a significant role. This report highlights the fluctuating export-import performance of the province from 2012 to 2023 and its implications for economic growth. The analysis reveals sharp declines in exports during certain years, such as 2015 and 2023, followed by slower growth rates. Conversely, during years of export booms, such as 2014 and 2021, economic growth in the region significantly improved.³

Table 1. Export, Import, and Economic Growth in North Sumatra (2012-2023)

Year	Export (%)	Import (%)	Economic Growth (%)
2012	3.80	4.90	6.22
2013	4.92	7.54	6.01
2014	7.53	7.82	5.23
2015	-1.10	-4.10	5.10
2016	2.68	-2.23	5.18
2017	6.34	6.65	5.12
2018	5.51	8.54	5.18
2019	2.05	-3.84	5.22
2020	-10.31	-14.87	-1.07
2021	15.09	18.34	2.61
2022	11.44	11.20	4.73
2023	-0.40	-1.70	5.01

Source: Badan Pusat Statistik (BPS) Sumatera Utara (2024)

The fluctuating trade performance of North Sumatra between 2012 and 2023 underscores the necessity for an integrated policy approach based on Islamic economics. During this period, significant variations in export and import levels impacted the region's economic growth.⁴ Islamic economics offers a framework for addressing these challenges by promoting policies that emphasize balanced trade, sustainable development, and ethical governance.⁵ Diversification of exports, investment in human capital, and the development of local industries are critical components of this approach. Moreover, trade policies should not only focus on boosting exports but also prioritize the fair distribution of economic gains across all

¹ Deimante Blavasciunaite, Lina Garšvienė, and Kristina Matuzevičiūtė, 'Trade Balance Effects on Economic Growth: Evidence From European Union Countries', *Economies*, 2020, doi:10.3390/economies8030054.

² Khoiril Ifa and Moh. Yahdi, 'Trade Openness and Economic Growth in Indonesia', *Wiga Jurnal Penelitian Ilmu Ekonomi*, 2020, doi:10.30741/wiga.v10i2.599.

³ Ayudya Utami, 'The Effect of Consumption, Export and Import on North Sumatra Regional Economic

Growth', *Jurnal Ekonomi*, 2020, doi:10.54209/ekonomi.v9i02.53.

⁴ Oktarini Khamilah Siregar, 'Regional Original Revenue, Regional Expenditure, Economic Growth and Human Development Index (City/Regency Government in North Sumatra Province)', *Economics Business and Management Science Journal*, 2022, doi:10.34007/ebmsj.v2i2.252.

⁵ Khairisma Khairisma, 'The Samsarah Existence In Aceh From A Morality Perspective: The Islamic Economics And The Freedom Of Contract Principle', *E-Mabis: Jurnal Ekonomi Manajemen Dan Bisnis*, 23.1 (2022), doi:10.29103/e-mabis.v23i1.804.

segments of society,⁶ in line with the Islamic objective of realizing *maslahah*⁷ (the common good) for the *ummah* (Islamic community).⁸

This study is unique because it integrates conventional economic analysis with the principles of Islamic economics to evaluate the long-term and short-term impacts of the trade balance on economic growth in North Sumatra. While several studies have explored the relationship between trade balances and growth, few have applied a dual approach that considers both economic efficiency and Islamic ethical values. The integration of these two perspectives provides a more holistic view of trade policies, offering insights not only into economic outcomes but also into the ethical implications of trade practices. By adopting Islamic economic principles, this study addresses broader concerns about equity, justice, and the moral responsibilities of the state in regulating economic activities to benefit society as a whole.

The importance of this research lies in its potential to inform policymakers in North Sumatra and other similar regions on how to optimize trade policies in alignment with Islamic principles. Given the province's reliance on international trade and its exposure to global market risks, developing strategies that emphasize both economic efficiency and ethical fairness is crucial.

⁶ Esther O Lawal and Kamtochukwu Ezeuchenne, 'International Trade and Economic Growth in Nigeria', *Iosr Journal of Humanities and Social Science*, 2017, doi:10.9790/0837-2206083543.

⁷ 'The Urgency and Strategic Role of Maqasid Shari'ah and Maslahah in Responding to The Legal and Economic Challenges of Muslim Business', *Jurnal of Middle East and Islamic Studies*, 10.1 (2023), doi:10.7454/meis.v10i1.158.

⁸ Dwi Astuti Wahyu Nurhayati and Novi Tri Oktavia, 'Relevance Of Al Mawardi's Reflection In The Development Of Islamic Economic Activities', *Journal of Nusantara Economy*, 1.1 SE-Articles (2022), pp. 48–58
<<https://juna.nusantarajournal.com/index.php/numy/article/view/24>>.

Furthermore, by demonstrating how Islamic economics can guide trade policy, this study highlights the relevance of moral and ethical considerations in contemporary economic governance.

From an Islamic economic perspective, trade plays an essential role in achieving economic justice and social welfare.⁹ Islamic economics differs fundamentally from conventional economics by prioritizing fairness, equity, and ethical considerations in all economic activities, including trade.¹⁰ The core objective of economic activities, in Islam, is not merely profit maximization but the equitable distribution of wealth and resources, ensuring that no segment of society is left behind.¹¹ In this context, government intervention is not only permissible but essential in guiding the economy towards just and balanced growth,¹² in accordance with the principles of the Qur'an and Sunnah.¹³

Islamic economic principles advocate for a trade system that fosters mutual benefit and prohibits exploitative practices such as *riba* (usury) and *gharar* (excessive uncertainty).¹⁴ The balance between exports

⁹ A M Hasan Ali, 'Community-Based Economic Development and Partnership Cooperation: The Economics Strategy for Prosperity of the Ummah', *Samarah*, 8.2 (2024), pp. 1280 – 1300, doi:10.22373/sjhk.v8i2.22925.

¹⁰ A Mirakhor and H Askari, *Islam and the Path to Human and Economic Development, Islam and the Path to Human and Economic Development* (Palgrave Macmillan, 2010), doi:10.1057/9780230110014.

¹¹ Achmad Fikri Oslami, 'Sharia Economic Dispute Settlement Between Religious Courts And Basyarnas', *Nurani: Jurnal Kajian Syari'ah Dan Masyarakat*, 22.1 (2022), doi:10.19109/nurani.v22i1.10667.

¹² K. Nisak, 'Usyur (Bea Cukai) Dalam Sistem Perdagangan Internasional Islam Menurut Abu Ubaid Dalam Kitab al-Amwal', . . *Journal of Islamic Economics (JoIE)*, 1.1 (2021), pp. 67–83.

¹³ International Monetary Fund, 'The Design of Instruments for Government Finance in an Islamic Economy', *IMF Working Papers*, 98.54 (1998), doi:10.5089/9781451847482.001.

¹⁴ M B Ribadu and others, 'Sharia Compliance Requirements Framework for E-Commerce Systems:

and imports must support national self-reliance while engaging in fair and just international trade.¹⁵ In this regard, a trade surplus—where exports exceed imports—supports economic growth by bringing in foreign exchange and promoting employment. However, Islamic economics also emphasizes the need to develop domestic industries to reduce dependency on imports, ensuring the resilience of the local economy.¹⁶ The government must play an active role in regulating trade practices to ensure they align with the moral and ethical standards of Shariah law, which seek to promote social justice, environmental sustainability, and the collective good.¹⁷

Several empirical studies have examined the relationship between trade balance and economic growth, with varying results. Some researchers, such as Hijri et al., have found that exports positively affect economic growth, while imports have little to no effect. Others, such as Setiani & Dasman,¹⁸ suggest that both exports and imports contribute positively to growth. In

contrast, Ladolo et al.¹⁹ argue that exports and imports can have negative impacts depending on the context. These diverse findings highlight the complexity of trade dynamics and the need for a more nuanced understanding within the framework of Islamic economics. This study aims to analyze the long-term and short-term impacts of trade balance on North Sumatra's economic growth from the perspective of Islamic economics, emphasizing the role of ethical trade policies and government intervention.

Literature Review

Economic Growth Theory

Economic growth refers to the process of increasing per capita output over the long term. Higher economic growth enables a country to better meet the needs of its population, leading to improved societal welfare.²⁰ Growth is quantitatively measured by comparing the economy's performance in one year to the previous year²¹.

Several factors influence economic growth, including GDP, human capital, natural resources, investment, innovation, government policies, political stability, and socio-cultural factors. The trade balance, which reflects the difference between the value of exports and imports, is also a key driver of economic growth. A trade surplus (exports exceeding imports) can enhance

An Exploratory Study', *Journal of Theoretical and Applied Information Technology*, 98.6 (2020), pp. 994–1008

<<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85083649848&partnerID=40&md5=2c7080f8a577899109043f60b1caba5e>>.

¹⁵ Marsam and others, 'Tinjauan Ekonomi Islam Terhadap Ekspor-Impor Sebagai Pendapatan Negara Indonesia', *FreakonomicS: Journal of Islamic Economics and Finance*, 1.1 (2020), doi:10.36420/freakonomics.v1i1.30.

¹⁶ Bambang Guritno and others, 'Culture of Islamic Economic Principles and Democracy and Welfare Based on Pancasila Ideology', *Journal of Intercultural Communication*, 23.1 (2023), doi:10.36923/jicc.v23i1.43.

¹⁷ Firman Menne and others, 'Sharia Economy, Islamic Financial Performance and Factors That Influence It—Evidence from Indonesia', *Economies*, 11.4 (2023), doi:10.3390/economies11040111.

¹⁸ Rijki Indah Setiani and Sunita Dasman, 'Dampak Neraca Perdagangan, Inflasi Dan Tingkat Investasi Terhadap Pertumbuhan Ekonomi Indonesia', *Jurnal Perlita Manajemen*, 01.01 (2022).

¹⁹ A., Husen, S. R., & Zakaria, S. Ladolo, 'Pengaruh Perdagangan Internasional Terhadap Pertumbuhan Ekonomi Indonesia Tahun 2010-2018: Effect Of International Trade On Indonesia's Economic Growth In 2010-2018', *Jurnal Ilmiah Produktif*, 10.1 (2022), pp. 6–10.

²⁰ Siti Hodijah and Grace Patricia Angelina, 'ANALISIS PENGARUH EKSPOR DAN IMPOR TERHADAP PERTUMBUHAN EKONOMI DI INDONESIA', *Jurnal Manajemen Terapan Dan Keuangan*, 10.01 (2021), doi:10.22437/jmk.v10i01.12512.

²¹ S. R., Harahap, I., & Tambunan, K. Hasibuan, 'Pengaruh Pertumbuhan Ekonomi, Pendidikan Dan Kesehatan Terhadap Indeks Pembangunan Manusia Di Provinsi Sumatera Utara', *Jurnal Manajemen Akuntansi (JUMSI)*, 3.2 (2023), pp. 767-780.

growth by increasing foreign exchange reserves and creating employment opportunities. Conversely, a trade deficit (imports exceeding exports) can depress growth if it is not managed efficiently.

According to Simon Kuznets' theory, economic growth is often accompanied by increased income inequality in the early stages, as some sectors, like industry, expand more rapidly than others. He highlights that structural changes, such as the transition from agrarian to industrial and service economies, are crucial for growth. Kuznets' theory also notes that urbanization and higher population growth rates are typical characteristics of economic expansion.²²

Islamic Economic Perspective on Growth

Islamic economics offers a distinct perspective on economic growth, prioritizing fairness, equity, and the holistic welfare of society (*maslahah*). In contrast to conventional theories that often emphasize maximizing output and efficiency, Islamic economics stresses balanced growth that avoids inequality and promotes social justice. Growth in an Islamic economy is measured not only by material outcomes but by its ability to contribute to **Al-Falah**—the well-being of individuals in both their material and spiritual lives.²³

Islamic economics rejects *riba* (usury) and encourages profit-sharing systems (e.g., **mudharabah** and **musharakah**), which are viewed as fairer mechanisms for distributing wealth. This system ensures that gains from

economic activities are shared among all parties, contributing to a more equitable distribution of resources. Furthermore, Islamic economics emphasizes moderation in consumption, discouraging waste and promoting sustainable development. Economic growth, in this framework, must not only improve material well-being but also safeguard the environment and future generations.

Kuznets' theory, which warns of inequality in the early stages of growth, contrasts with the Islamic emphasis on equity from the outset. Islamic economics encourages inclusive growth that benefits all layers of society, ensuring that the disadvantaged are not left behind in the process of economic expansion. Therefore, economic policies guided by Islamic principles prioritize social justice and ecological sustainability, in addition to growth.

The connection between economic growth and Islamic teachings is evident in the Quranic concept of **isti'mar**, the mandate to “develop and prosper the earth” as emphasized in the verse:

“And to Thamud (We sent) their brother Saleh. He said: ‘O my people, worship Allah, you have no god other than Him. He has produced you from the earth and settled you in it, so ask forgiveness from Him and repent to Him. Surely my Lord is Near, Responsive.’” (QS Hud: 61)

This verse underscores humanity's responsibility to develop the earth, ensuring prosperity in a way that aligns with divine principles. Economic growth in Islam is viewed as a moral responsibility, where economic activities must align with ethical norms to promote human welfare.

Trade Balance Theory

The trade balance, or the difference between a nation's exports and imports,

²² Tiara Salsabilla Ramadhania and Masfar Gazali, 'PENGARUH PENERIMAAN PAJAK, PMDN, DAN NERACA PERDAGANGAN TERHADAP PERTUMBUHAN EKONOMI INDONESIA', *Jurnal Ekonomi Trisakti*, 2.2 (2022), doi:10.25105/jet.v2i2.14821.

²³ Nurti Budiyantri, Aceng Kosasih, and Shafa Aulia Az-Zahra, 'Sharia Investment in Islamic Economic Principles', *FITRAH: Jurnal Kajian Ilmu-Ilmu Keislaman*, 7.1 (2021), doi:10.24952/fitrah.v7i1.3679.

plays a crucial role in economic performance. A trade surplus occurs when a country exports more than it imports, boosting economic growth by generating foreign exchange and supporting domestic industries. Conversely, a trade deficit can signal an over-reliance on foreign goods and may slow growth unless mitigated by appropriate policies.²⁴

Ricardo's **Comparative Advantage Theory** argues that countries benefit more from specializing in producing goods they can produce at a lower opportunity cost and trading these goods internationally. This theory supports free trade, suggesting that open economic policies can maximize benefits for all trading nations. Global trade has become a key driver of industrialization, globalization, and the rise of multinational corporations.

However, **Islamic economics** presents a different lens on international trade. While acknowledging the importance of trade, Islamic economics emphasizes **ethical trade practices** that align with the principles of **justice, fairness, and balance**. Free trade is encouraged, but only if it adheres to Shariah law, which prohibits *riba*, *gharar* (excessive uncertainty), and *maysir* (gambling).²⁵ Trade must not only benefit the economy but also uphold moral standards that ensure fair dealings between nations and protect weaker economies from exploitation.

Islamic economics also stresses **diversification and value addition** in trade. Countries are encouraged to develop a broad range of industries rather than relying solely on raw commodity exports. This

approach reduces vulnerability to global price fluctuations and promotes the development of domestic industries, ensuring economic resilience. Islamic principles also promote cooperation between countries, particularly in helping less developed nations build their trade capacities and improve living standards. This cooperation is in line with the **ummah** concept, which advocates for solidarity among Muslim nations.²⁷

The Quran reinforces the ethical framework for trade in the verse:

“And He set on the earth firm mountains, standing high above it, and blessed it with abundance. And in four days (for all) those who ask, He determined the sustenance on earth.” (QS Fushilat: 10)

This verse emphasizes that the earth's resources are meant for mutual benefit, encouraging nations to engage in fair trade that supports prosperity for all. The concept of **barakah** (blessing) in Islamic trade suggests that ethical and just trade practices attract divine blessings, resulting in long-term prosperity.

In conclusion, the Islamic economic perspective provides a comprehensive framework for understanding growth and trade. It emphasizes not only the importance of maximizing economic output but also the need to ensure fairness, justice, and sustainability in all economic activities. The combination of these principles with conventional trade and growth theories creates a balanced approach that addresses both the material and ethical dimensions of economic development.

Methods

This study employs a quantitative research design with an associative analysis approach to examine both short-term and

²⁴ S. Ngatikoh, 'Pengaruh Ekspor Impor Bagi Pertumbuhan Ekonomi Dalam Perspektif Islam', *Jurnal Ilmu Ekonomi Islam*, 4.1 (2020), pp. 90–103.

²⁵ Ririn Anjani Rangkuti and Muhammad Arif, 'Pemikiran Ekonomi Islam M. Umer Chapra Dalam Konteks Era Kontemporer', *Jurnal Ilmiah Research Student*, 1.2 (2024).

²⁶ Rangkuti and Arif.

²⁷ Rangkuti and Arif.

long-term relationships between export-import data and economic growth in North Sumatra Province. The analysis uses the Vector Error Correction Model (VECM), which corrects short-term disequilibrium towards long-term equilibrium (Engle & Granger, 1987). Data for this study was sourced from official publications of the Statistics Indonesia (BPS) of North Sumatra through the website sumut.bps.go.id/id, along with relevant literature, including journals, books, and previous research.

The dependent variable in this study is the economic growth of North Sumatra Province, proxied by the Gross Regional Domestic Product (GRDP). The independent variables are the export and import values of North Sumatra Province. The population consists of all quarterly data on exports, imports, and economic growth published by BPS from 2012 to 2023, yielding a total of 48 samples.

The VECM model is tested through several stages:

- 1. Stationarity Test (Unit Root Test):** The Augmented Dickey-Fuller (ADF) method is used to ensure that the time series data is stationary, which is crucial to avoid spurious regression results.
- 2. Optimal Lag Test:** This test determines the appropriate number of lags to include in the model, using criteria such as Akaike Information Criterion (AIC), Schwarz Criterion (SC), and Hannan-Quinn Criterion (HQ).
- 3. Cointegration Test:** This test is applied to determine if there is a long-term equilibrium relationship between non-stationary variables. The Trace Test and Maximum-Eigenvalue Test are employed, with a significance level of 0.05.
- 4. Granger Causality Test:** This test examines whether past values of one variable can predict future values of

another variable, using the optimal lag length based on AIC, SC, or HQ criteria.

- 5. VECM Model Test:** This test is applied to first-differenced stationary and cointegrated data, allowing for an examination of both short-term and long-term relationships between the variables.
- 6. Impulse Response Function (IRF):** IRF analysis evaluates how variables respond to a shock or sudden change in another variable and tracks how this impact evolves over time.
- 7. Variance Decomposition:** This analysis helps to determine the relative contribution of each independent variable to the fluctuations of the dependent variable over time.

All analyses were conducted using EViews 10 software.

Results and Discussion

Results of Tests

Stationarity Test

Table 2. Stationarity Test Results

Variable	Level	P-Value	First Difference	P-Value
	t-statistic	Critical		t-statistic
	ADF	value 5%		ADF
PE	-2.428997	-2.925169	0.1395	-6.506105
Export	-3.529380	-2.925169	0.0114	-3.898867
Import	-2.835516	-2.925169	0.0610	-5.989220

Source: Data Processed with Eviews 10 (2024)

The test results indicate that only the export variable is stationary at the level degree, while the economic growth and import variables are not stationary. Further testing at the first difference degree shows that all variables, including economic growth, export, and import, are stationary at first difference, with probabilities or F-values <0.05.

Optimal Lag Test

Table 3. Optimal Lag Test Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-326.5973	NA	1314.885	15.69511	15.81923*	15.74060*
1	-316.9996	17.36716	1280.179	15.66665	16.16313	15.84863
2	-311.6282	8.952369	1533.372	15.83944	16.70827	16.15790
3	-302.1399	14.45831	1526.158	15.81619	17.05738	16.27113
4	-283.2743	26.05250*	988.0518*	15.34640*	16.95995	15.93783
5	-274.6447	10.68429	1066.064	15.36403	17.34994	16.09195

Source: Data Processed with Eviews 10 (2024)

Based on the test results, Eviews recommends lag 4 as the optimal lag based on the best values of the L-R, FPE, and AIC tests. The SC and HQ tests recommend lag 0. Consequently, lag 4 is selected because it has the highest number of stars (*) in the lag 4 column. Furthermore, stability testing shows that the modulus values are less than 1, indicating that the model meets the stability requirements.

Cointegration Test

Table 4. Cointegration Test Results

Unrestricted Cointegration Rank Test (Trace)

Hypothesized	No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.
None	0	0.555716	67.66330	24.27596	0.0000
At most 1	1	0.414870	33.58911	12.32090	0.0000
At most 2	2	0.231887	11.08039	4.129906	0.0010

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level denotes rejection of the hypothesis at the 0.05 level MacKinnon-Haug-Michelis (1999) p-values

Source: Data Processed with Eviews 10 (2024)

The Trace and Max-Eigen statistics indicate that the variables are cointegrated, as the test statistics are greater than the critical values at the 0.05 level. This suggests that a long-term relationship exists between export, import, and economic growth. The presence of cointegration implies that the appropriate method to be used is the Vector Error Correction Model (VECM).

Granger Causality Test

Table 5. Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
IMPOR does not Granger Cause EKSPOR	44	1.43918	0.2417
EKSPOR does not Granger Cause IMPOR		0.43688	0.7810
PE does not Granger Cause EKSPOR	44	4.81745	0.0033
EKSPOR does not Granger Cause PE		2.95296	0.0334
PE does not Granger Cause IMPOR	44	3.96586	0.0093
IMPOR does not Granger Cause PE		2.88500	0.0365

Source: Data Processed with Eviews 10 (2024)

The Granger causality test results show that there is no causal relationship between import and export, meaning they do not predict each other. However, there is a significant bidirectional causality between economic growth and both export and import, indicating that economic growth influences international trade activities, and vice versa, where economic growth can predict and be predicted by both export and import.

Vector Error Correction Model (VECM) Analysis

Table 6. VECM Long-Term Test Results

Cointegrating Equation	CointEq1
D(PE(-1))	1.000000
D(Export(-1))	0.141433
D(Import(-1))	-0.104619

Source: Data Processed with Eviews 10 (2024)

The long-term VECM test results reveal that the export variable has a positive but

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized	No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value
None	0	0.555716	34.07419	17.79730
At most 1	1	0.414870	22.50872	11.22480
At most 2	2	0.231887	11.08039	4.129906

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level denotes rejection of the hypothesis at the 0.05 level MacKinnon-Haug-Michelis (1999) p-values

insignificant effect on economic growth, as evidenced by a t-statistic less than the critical value (1.33033 < 2.01289). Meanwhile, the import variable has a negative but insignificant effect on economic growth, as

shown by the t-statistic ($1.37422 < 2.01289$).

Table 7. VECM Short-Term Test Results

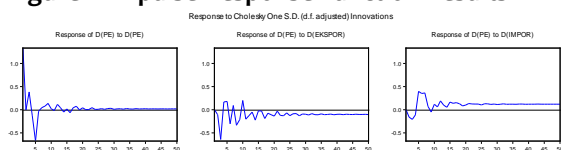
Error Correction	D(PE,2)	D(Export,2)	D(Import,2)
CointEq1	1.939268	6.757559	8.072945
D(PE(-1),2)	0.925875	6.805347	8.476571
D(Export(-1),2)	0.301708	-0.243207	0.661706
D(Import(-1),2)	-0.253798	-0.653641	-1.596168

Source: Data Processed with Eviews 10 (2024)

In the short term, the VECM test shows that export has a positive and significant effect on the economic growth of North Sumatra, as the t-statistic is greater than the critical value ($2.84680 > 2.01289$). On the other hand, import has a negative and significant effect on economic growth, as evidenced by the t-statistic ($2.47606 > 2.01289$).

Impulse Response Function (IRF) Test

Figure 1: Impulse Response Function Results



Source: Data Processed with Eviews 10 (2024)

The figure illustrates the response of export to economic growth shocks. Export responds with a negative trend in the early period (period 1) but increases by period 5 and then declines again by period 10. It stabilizes below the horizontal axis by period 15 and remains stable until period 50. Economic growth shocks negatively impact import in the initial period, with the IRF line rising above the horizontal axis, indicating increased economic growth in response to import shocks.

Variance Decomposition Test

Table 8 .Variance Decomposition Results

Variance Decomposition of D(PE):			
Period	S.E.	D(PE)	D(EKSPOR) D(IMPOR)
1	1.327906	100.0000	0.000000 0.000000
2	1.341899	97.92635	0.617425 1.456227
3	1.550575	79.51457	17.60941 2.876027
4	1.569275	78.35605	18.33213 3.311817
5	1.761567	76.74836	15.58038 7.671263
6	1.822281	71.75548	17.35283 10.89169
7	1.860725	68.87859	16.88405 14.23736
8	1.893638	66.66758	19.44451 13.88791
9	1.911509	65.92970	20.37254 13.69777
10	1.925786	64.96862	21.15873 13.87265
15	1.979527	61.94961	22.88339 15.16700
20	2.020176	59.81072	23.76363 16.42565
25	2.052403	57.99969	24.31690 17.68341
30	2.082792	56.36848	24.75087 18.88064
35	2.113024	54.80766	25.21048 19.98186
40	2.142696	53.33764	25.66089 21.00147
45	2.171751	51.95386	26.07534 21.97080
50	2.200326	50.64653	26.45929 22.89419

Source: Data Processed with Eviews 10 (2024)

The variance decomposition test shows that the largest contribution to economic growth variance is from economic growth itself, accounting for 100% in the first period. From periods 2 to 50, the influence of export and import variables gradually increases, while the contribution of economic growth decreases over time.

The Short-Term Impact of Exports and Imports of North Sumatra on North Sumatra's Economic Growth

The analysis results show that in the short term, an increase in exports significantly contributes to North Sumatra's economic growth. In contrast, changes in import levels show a significant negative impact on short-term economic growth. This indicates that in shorter periods, North Sumatra's economy is heavily influenced by fluctuations in foreign trade. On the other hand, the short-term increase in imports highlights a dependence on foreign goods, which suggests that reliance on imported goods can weaken the local economy's ability to grow, especially compared to the positive boost provided by export growth. These findings align with research by Hijri et al, which stated that exports have a positive

and significant impact on economic growth, and with research by Adnan et al.²⁸, which stated that imports have a negative and significant impact on economic growth.

Classical economic theory, such as David Ricardo's "Comparative Advantage," supports these findings. The theory suggests that countries that export goods in which they hold a comparative advantage will reap greater economic benefits. In the context of North Sumatra, the region has a comparative advantage in agricultural and plantation commodities, meaning that exporting these commodities has a direct impact on economic growth. The author argues that in the short term, policies aimed at increasing both the volume and quality of exports remain crucial for North Sumatra's economic growth. This means that focusing on exports, either by increasing the quantity of goods exported or improving product quality to make them more competitive in international markets, can significantly boost North Sumatra's economic growth.

From the perspective of Islamic economics, trade, including exports and imports, must be aligned with the principles of *Maqashid al-Shariah*, which emphasizes the overall welfare of society, including the protection of wealth (*hifz al-mal*). Ibn Khaldun's theory suggests that economic growth should be driven by a balance between domestic production and international trade. In this case, excessive dependence on imports, especially in the short term, could undermine local economic strength and stability.

The concept of *tawazun* (balance) in Islamic economics emphasizes that trade should contribute to a balanced economy, where both local industries and international

trade thrive without over-reliance on either. Export growth should ideally align with ethical considerations and the benefit of the community. For instance, focusing on the export of goods that do not negatively impact domestic availability or cause local price inflation would support the principle of economic justice. Likewise, reducing dependence on imported goods by fostering domestic industries aligns with the Islamic principle of *ihtikar* (avoiding hoarding) and encouraging local production, which can lead to more sustainable economic growth.

Thus, policies that promote exports while simultaneously developing domestic production capabilities can ensure more sustainable economic progress for North Sumatra, in line with Islamic economic values of fairness, community welfare, and balanced growth.

The Long-Term Impact of Exports and Imports of North Sumatra on Economic Growth

In the long term, exports have a positive but not significant impact on North Sumatra's economic growth, despite still contributing to growth. This indicates that over an extended period, exports no longer serve as the sole driver of the economy, and other factors, such as increased investment, labor productivity, and economic diversification, begin to play more crucial roles. Similarly, imports do not show a significant effect on long-term economic growth. Dependence on imports appears limited, and the economy is increasingly driven by local resources. These findings align with the research of Kintan et al. (2023), which states that while exports have a positive but insignificant effect on long-term economic growth, imports have a negative impact.

These results are consistent with Paul Romer's endogenous growth theory, which

²⁸ M., & Fernandi, M. Adnan, 'Pengaruh Ekspor Dan Impor Terhadap Pertumbuhan Ekonomi Di Provinsi Aceh', *Jurnal Ilmiah Basis Ekonomi Dan Bisnis*, 1.2 (2022), pp. 1–17.

emphasizes that long-term economic growth is driven by internal factors such as investment, innovation, research, and the development of resources as key drivers of sustained growth. Additionally, Raul Prebisch's Dependency Theory stresses that importing from developed countries by developing nations often creates economic dependency, hindering long-term growth. Developing countries tend to export raw materials with low added value while importing finished goods from developed countries that have much higher added value.

In this context, while exports remain one of the drivers of growth, achieving more sustainable growth requires efforts to enhance productivity and innovation across various economic sectors. Moreover, the lack of a significant long-term impact from imports may indicate that increasing imports does not necessarily correlate with economic growth unless accompanied by improvements in efficiency and competitiveness of domestic products.

From the perspective of Islamic economics, the long-term economic strategy should prioritize self-reliance (*istiklal*) and reducing dependence on foreign goods, which aligns with the principles of *Maqashid al-Shariah*—especially the protection of wealth (*hifz al-mal*). Ibn Khaldun's theory of economic development emphasizes the importance of a balanced economy supported by domestic production, trade, and innovation, which is reflected in the findings that internal factors such as investment and productivity play a more significant role in the long term.

Islamic economic principles stress the need for equitable growth that benefits the wider community. In this regard, the positive but insignificant impact of exports indicates that long-term economic sustainability should be focused on diversifying industries

and enhancing local capacities. Exporting raw materials without added value could lead to exploitation, which contradicts the principle of *adl* (justice). Therefore, increasing the value-added content of exported goods, particularly through innovation and local production, is crucial for promoting justice and achieving balanced economic growth.

Moreover, the limited effect of imports over the long term reinforces the importance of encouraging local production to reduce dependency on foreign goods. This is aligned with the principle of *tawazun* (balance), where imports should complement, not dominate, the local economy. Encouraging local industries and improving the quality and competitiveness of domestic products would not only contribute to economic growth but also to *maslahah* (public welfare) in the broader community, ensuring that the economy grows in a way that is socially responsible and sustainable in the long term.

Thus, fostering self-reliance, promoting innovation, and focusing on equitable economic growth through domestic production can provide a more sustainable path forward for North Sumatra's economy in line with Islamic economic principles

The Impact of North Sumatra's Trade Balance on Economic Growth from an Islamic Economic Perspective

The data analysis shows that in the short term, exports have a significant positive impact, while imports have a negative and significant effect on economic growth. However, in the long term, exports have an influence but are not significant, and imports do not affect economic growth in North Sumatra during the period from 2012 to 2023.

Based on these findings, exports from North Sumatra, driven by key commodities,

can make a significant contribution to economic growth. However, in the long term, dependence on raw material exports and the lack of product diversification may hinder sustainable growth. Raul Prebisch's Dependency Theory highlights that developing countries often face growth stagnation due to reliance on raw material exports and imports of high-value-added goods, exacerbating trade imbalances.

From an Islamic economic perspective, the trade balance should be viewed within the framework of *Maqashid al-Shariah*, which emphasizes the overall welfare of the community, including the preservation of wealth (*hifz al-mal*). Ibn Khaldun stated that economic growth should be driven by a balance between domestic production and international trade. The limitations of exports in the long term and reliance on imports, which do not show positive contributions, can create imbalances that harm the local economy. The principles of *istihlak* (consumption) and *ihthikar* (hoarding) in Islamic economics suggest that a nation must balance the importation of necessary goods with the development of its domestic sector to achieve general welfare.

Based on these theories and explanations, the researcher argues that efforts should be made to develop the domestic production sector and reduce dependence on raw material exports and the importation of consumer goods. A better balance in the trade balance and the development of local industries will support more sustainable economic growth. Increasing the quality and sustainability of exports can help improve the welfare of the population and strengthen North Sumatra's economic position on the international stage. However, it is important to note that excessive exports can reduce the availability of goods domestically and potentially harm

consumers.

In the context of *Maqashid al-Shariah*, an economy must aim to ensure *maslahah* (public interest), which includes equitable distribution of resources and economic justice. Over-reliance on raw material exports at the expense of local industries contradicts these principles as it risks draining domestic resources without enhancing long-term self-reliance. Furthermore, reliance on imports, especially for consumption, may signal inefficiency and hinder local development, potentially violating the principle of *adl* (justice).

To foster a more balanced and just economic growth, Islamic economics would encourage diversification and local industry development, reducing reliance on external markets for both imports and exports. By focusing on enhancing domestic production and innovation, North Sumatra could create a more stable economy that aligns with *hifz al-mal* and *adl* in its economic policies. This will ensure that the benefits of trade not only enhance external relations but also strengthen the local economy, creating an equitable and sustainable system for all members of society.

Conclusion

Based on the findings discussed, the analysis reveals both significant and non-significant relationships between the variables over different time periods. In the short term, exports have a significant impact, while imports do not affect economic growth. However, in the long term, exports have an influence but are not significant, and imports remain insignificant to the economic growth of North Sumatra during the period from 2012 to 2023. These results suggest that trade balance policies may not have been optimally implemented.

From an Islamic economic perspective, this situation may indicate that the current trade balance policy has not yet achieved its full potential. The government should

formulate more comprehensive policies that focus not only on increasing exports but also on product diversification, enhancing productivity, and developing human resources. In developing these policies, the principles of Islamic economics, such as *Maqashid al-Shariah*, which emphasize the welfare of society and justice in economic dealings, can serve as valuable guidelines.

Furthermore, aligning trade policies with Islamic principles, such as promoting fairness (*adl*) and protecting wealth (*hifz al-mal*), would ensure a more balanced and sustainable economic growth. This approach would mitigate dependency on external markets and support the development of local industries, fostering economic resilience and ensuring long-term welfare for the community.

Credit Authorship Contribution

Dinda Rizqa Aulia: Conceptualization, Methodology, Investigation, Writing - Original Draft, and Supervision. Khairina Tambunan: Methodology, Data Collection, and Writing - Review & Editing. Aqwa Naser Daulay: Formal Analysis, Resources, and Writing - Review & Editing.

Declaration of Competing Interest

The authors declare no competing interests related to this study. No financial or personal conflicts of interest are present.

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