



Competitive Position, Trade Integration, and Determinants Of Indonesia's Basic Metal Exports To RCEP Countries: The Role Of Downstream Industrialization Policy

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Article Info

Article history:

Received May 20, 2026

Approved August 30, 2026

Keywords:

base metal exports, RCEP, competitiveness, RCA, IIT, EPD, Gravity Model

ABSTRACT

Increased trade integration within the Regional Comprehensive Economic Partnership (RCEP) presents both opportunities and challenges for Indonesia's base metal exports. This study analyzes the competitiveness of Indonesia's base metal exports to RCEP member countries and the factors influencing it, using a combination of Revealed Comparative Advantage (RCA), Export Product Dynamics (EPD), x-model, Intra-Industry Trade (IIT), and panel data gravity models. Results indicate that Indonesia holds a comparative advantage in most RCEP countries, with EPD identifying Vietnam, the Philippines, China, and New Zealand as rising star markets, while Japan, Brunei, Myanmar, and Cambodia are lost opportunities. X-model clustering further highlights Malaysia, Thailand, and Australia as potential markets, and IIT analysis shows that Indonesia engages in both exports and imports of similar products, reflecting diversified trade patterns. Gravity model results reveal that GDP, the Logistics Performance Index (LPI), economic distances positively influence exports, while FDI, REER and downstream policy is not significant. These findings suggest that enhancing competitiveness requires focusing on rising star and potential markets, improving logistics efficiency, and strengthening downstream strategies.

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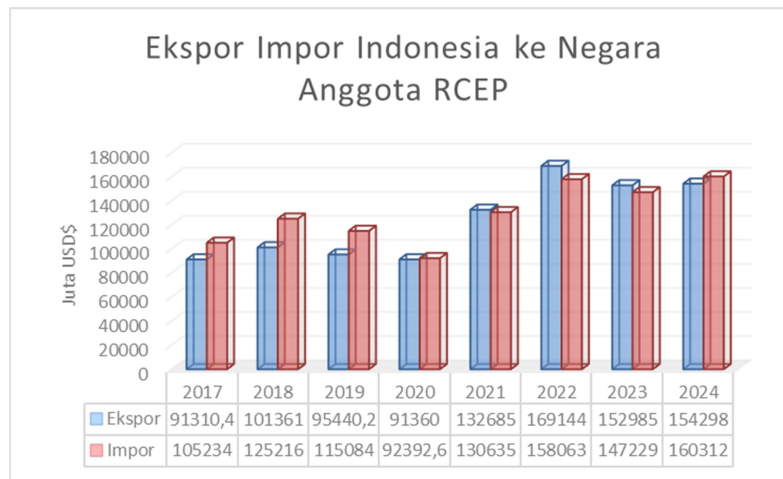


How to cite: Sari, F. Y., Rachmawati, F., & Nasikh, N. (2026). Competitive Position, Trade Integration, and Determinants of Indonesia's Basic Metal Exports To RCEP Countries: The Role of Downstream Industrialization Policy. *Jurnal Ilmiah Global Education*, 7(3), 3314–3327. <https://doi.org/10.55681/jige.v7i3.6129>

INTRODUCTION

The importance of domestic and international trade competition in export activities is driven by differences in comparative advantage, endowment factors, and economies of scale (Ricardo, 2006); endowment factors (Heckscher-Ohlin, 1933); and economies of scale (Krugman, 1979). One strategy is market diversification through various intergovernmental agreements, one of which is the RCEP (Regional Comprehensive Economic Partnership). RCEP member countries continue to dominate Indonesia's export destinations, with approximately 60% of total national exports directed to RCEP members (Dermoredjo et al., 2018); however, when

examining Indonesia's trade data with RCEP for the 2017–2024 period, a concerning trend emerges. In nominal terms, exports rose from approximately 91,310.4 million USD in 2017 to 154,298 million USD in 2024. Meanwhile, imports also increased from 105,234 million USD to 160,312 million USD over the same period.



Sumber: TradeMap

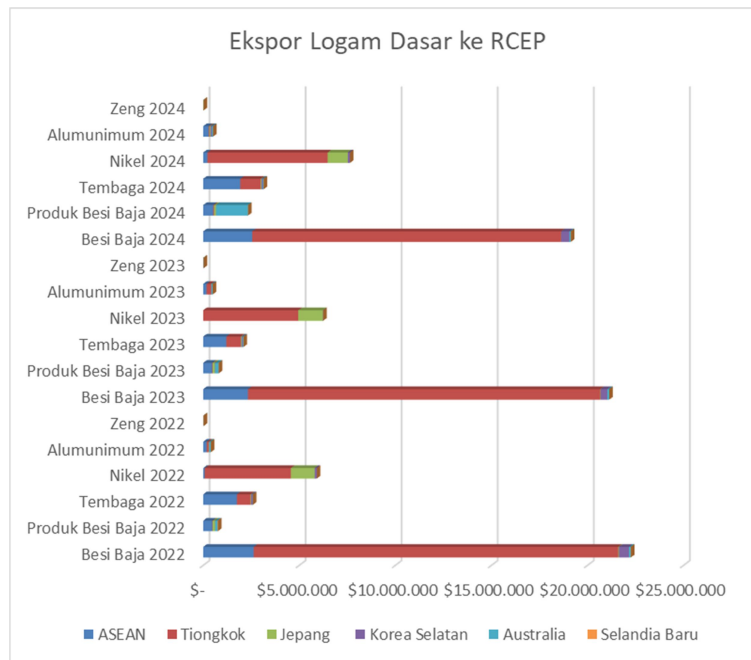
Gambar 1.1 Ekspor Impor Indonesia ke Negara Anggota RCEP

One of Indonesia's strongest export sectors comes from the manufacturing industry, which plays a vital role in a country's economic development due to its significant contribution to Gross Domestic Product (GDP) and its ability to generate high value-added (Asgari et al., 2024; Dyah Novitasari et al., 2015; Hotsawadi, 2025). One such industry is the steel sector, which is a high-resilience sector capable of weathering the COVID-19 pandemic and poised to once again enhance its capabilities and performance. The basic metals industry plays a strategic role in Indonesia's economy. This sector contributes 1.88% to the national GDP and employs 146,000 workers (Ministry of Industry, 2025). As a key component of national economic development, the metal industry sector has the potential to contribute to economic development through value addition and will have a positive impact on socio economic activities, employment, foreign exchange earnings, and ultimately serve as a driving factor for enhancing the nation's economic competitiveness (Lestari et al., 2017; Thoah & Restikasari, 2024).



Gambar 1.2 Nilai Ekspor Logam Dasar Indonesia Tahun 2024
Sumber : Badan Pusat Statistika, 2025

In 2023, the figure stood at US\$40.301 billion, increasing to US\$43.731 billion in 2024, and contributing to the national economy, particularly by driving industrial growth and strengthening Indonesia's trade position within the RCEP region (Directorate General of ILMATE, 2025). Major commodities include iron and steel, nickel, copper, and aluminum, which serve as vital raw materials for the construction, automotive, and technology industries in RCEP countries. Base metals are a commodity group consisting of non-precious metals used as primary raw materials in various industrial sectors such as construction, manufacturing, automotive, and technology.



Gambar 1.3 Nilai Ekspor Logam Dasar ke RCEP Tahun 2022-2024

Sumber: TradeMap, 2025

The selection of HS codes 72–81 is based on the research focus on metals that are priorities in the Indonesian government's downstream industrialization policy and have significant export volumes to the RCEP region. Figure 1.3, which shows the value of Indonesia's base metal exports by subsector to the RCEP region, indicates that the largest export value comes from the iron and steel industry to China, followed by nickel and copper. On one hand, global demand for base metal products is rising alongside infrastructure development and the energy transition, particularly in major trading partner countries such as China, Japan, and South Korea (World Bank, 2020). Regarding nickel, laterite nickel deposits are found in tropical regions. Ophiolites exposed to a humid tropical climate for millions of years have formed extensive and thick laterite nickel deposits. ASEAN countries such as Indonesia and the Philippines are rich in laterite nickel resources. These countries are close to China, Japan, and developing nations in Southeast Asia, supporting the needs of the major steel industry and the growing EV industry in this region (BGR, 2021). On the other hand, trade facilitation in the form of infrastructure (hard and soft infrastructure) can enhance export performance (Portugal-Perez and Wilson, 2012). According to the IMD World Competitiveness Report (2023), Indonesia's competitiveness ranking rose by 10 places, from 44th to 34th in the world. This ranking is based on four main criteria, one of which is infrastructure (Asikin et al., 2016).

Indonesia faces the challenge of competing with RCEP member countries such as Vietnam, Malaysia, and Thailand, which are also actively strengthening their manufacturing and export bases (Shandre Mugan Thangavelu, 2021). With the implementation of the RCEP in 2022, competition in the region has become increasingly intense, yet it simultaneously opens up broader market opportunities for Indonesia (Plumer & Petri, 2020). Additionally, from a pricing perspective, there is a risk of price declines due to economic slowdowns in developed nations, which reduce demand for metals. Downstreaming and environmental policies will also, in the

long term, influence the export value of base metals as the shift toward clean energy supports price stabilization, particularly for aluminum, copper, nickel, and tin (Yuliani et al., 2025). Therefore, it is necessary to diversify products with high added value (Ministry of Trade of the Republic of Indonesia, 2023; Nafi & Zaman, 2025; Voller & Hastiadi, 2024; Xue et al., 2024).

The implementation of downstreaming policies in the mining sector has proven to boost interest in and the realization of foreign direct investment (FDI) in Indonesia's metals industry. In 2022, FDI realization amounted to 10.961 million US\$, in 2023 to 11.878 million US\$, and in 2024 to 13.556 million US\$ (Ministry of Investment and Downstreaming/BKPM, 2025). Thus, the increase in FDI in the metal industry demonstrates the success of the downstreaming policy in attracting investment, increasing economic value added, and strengthening the national industrial structure (Wau et al., 2024). Given the various challenges and opportunities related to Indonesia's base metal exports particularly to the RCEP region it is imperative to address these issues, considering the strategic position of the metal industry in the RCEP region to strengthen export competitiveness amid intensifying global competition. On the other hand, the metal industry sector serves as the backbone of the national mineral downstreaming policy; thus, export analysis and prospects can support the formulation of trade and industry strategies based on value addition (Rakhmawan, 2021).

A number of previous studies have examined Indonesia's export competitiveness using the Revealed Comparative Advantage (RCA), Intra-Industry Trade (IIT), and Export Product Dynamics (EPD) approaches. RCA was first introduced by (Balassa & Marcus, 1989), while IIT was further developed in a study by (Ferto, 2007), and EPD was used to measure product dynamics in international trade (Obadi, 2017). However, most previous studies have focused on primary commodities such as palm oil or coal, or on the manufacturing sector in aggregate (Shofi & Setiawan, 2022) and research on the value of Indonesia's exports (Lailiyah, 2018). Thus, few studies have specifically highlighted the base metals subsector, particularly in the context of RCEP trade integration and by combining competitiveness analysis with panel models to assess the determinants of exports in creating value added through downstream processing.

This study addresses a gap in previous research regarding the novelty of analytical approaches. It combines four primary quantitative methods RCA, Intra-Industry Trade, Export Product Dynamics, and Gravity Panel to assess the competitiveness and factors influencing exports of Indonesia's base metal industry. The study specifically focuses on the base metal subsector (HS 72–81) in relation to the RCEP. The 2014–2024 period was selected to examine pre-pandemic dynamics, the pandemic, RCEP implementation, and the intensification of downstreaming policies, thereby providing an overview of the competitiveness of Indonesia's base metal exports.

The novelty of this study lies in its up-to-date empirical findings regarding the determinants of Indonesia's base metal exports through GDP, FDI, logistics infrastructure, distance, and downstreaming policies. The findings of this study are expected to identify and analyze the level of competitiveness of Indonesia's base metal exports in the RCEP region using the Revealed Comparative Advantage (RCA), Intra-Industry Trade (IIT), and Export Product Dynamics (EPD) approaches, thereby revealing Indonesia's competitive position relative to partner countries as well as the dynamics of its export performance. Additionally, through the gravity model, this study is expected to explain the impact of economic factors such as Gross Domestic

Product (GDP), Foreign Direct Investment (FDI), exchange rates, infrastructure, and distance on Indonesia's base metal exports, as well as to identify the dominant factors influencing them. Practically, the results of this study are expected to serve as a basis for formulating strategic policies to enhance export competitiveness in the face of competition within the RCEP region, while academically, they are expected to contribute as a reference for future research employing a multi-method approach in international trade analysis.

METHODS

This study employs a quantitative approach using descriptive analysis to examine the competitiveness of Indonesia's base metal exports to the Regional Comprehensive Economic Partnership (RCEP) region, as well as the factors influencing it. The data used consists of secondary data in the form of annual data for the 2014–2024 period covering 14 RCEP member countries. Sampling was conducted using a purposive approach, focusing on base metal industrial commodities based on Harmonized System (HS) codes 72–81. The dependent variable in this study is the value of Indonesia's base metal exports, while the independent variables include Gross Domestic Product (GDP), Foreign Direct Investment (FDI), the real effective exchange rate (REER), infrastructure proxied by the Logistics Performance Index (LPI), economic distance, and a dummy variable for downstreaming policy. The analysis was conducted by combining several methods, namely Revealed Comparative Advantage (RCA) to measure comparative advantage, Intra-Industry Trade (IIT) to assess the level of trade integration, Export Product Dynamics (EPD) to identify market position, and the X-Model to determine export market potential. Additionally, a panel data gravity model was used to analyze the impact of economic variables on Indonesia's base metal exports. All data were processed using Microsoft Excel and Eviews 12, with the analysis stages including the selection of the best model via the Chow and Hausman tests, as well as testing of classical assumptions to ensure the validity and reliability of the estimation results.

RESULTS AND DISCUSSION

The research findings indicate that the RCEP region holds significant potential as a market for Indonesia's base metal exports, supported by its contribution to the global economy and the elimination of over 90% of trade tariffs. Indonesia's base metal export performance to the RCEP region during the 2014–2024 period has generally shown an upward trend despite fluctuations, with major export destinations including China, Japan, and Vietnam. In terms of competitiveness, the results of the Revealed Comparative Advantage (RCA) analysis indicate that Indonesia holds a comparative advantage over several countries, including Malaysia, Singapore, Thailand, Vietnam, the Philippines, China, Australia, and New Zealand.

The Export Product Dynamics (EPD) analysis shows that Indonesia's export position falls into the "rising star" category in several markets, such as Vietnam, the Philippines, China, Laos, and New Zealand, indicating high market share growth. Meanwhile, some countries, such as Japan, Myanmar, and Cambodia, are in the "lost opportunity" category, indicating a loss of market opportunities. The combined results of RCA and EPD using the X-Model classify export markets into three categories: optimistic markets (Vietnam, the Philippines, China, New Zealand), potential markets (Malaysia, Thailand, Brunei Darussalam, Laos, Australia), and less-potential markets (Singapore, Myanmar, Cambodia, Japan, South Korea).

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RATA-RATA	KETERANGAN
Malaysia	1,41	1,12	1,41	1,53	1,35	1,73	1,38	1,58	1,46	1,41	1,81	1,47	UNGGUL
Singapura	3,30	2,82	2,90	2,53	2,21	3,23	2,72	2,96	2,56	2,61	3,10	2,83	UNGGUL
Thailand	2,05	1,66	1,71	1,83	1,61	1,73	1,40	1,91	2,02	1,74	2,35	1,82	UNGGUL
Vietnam	3,92	3,71	3,70	2,70	2,1	3,28	2,96	2,58	3,96	4,37	0	3,03	UNGGUL
Philipina	1,22	0,93	1,00	0,45	0,65	0,35	0,80	1,36	2,00	1,34	2,048	1,10	UNGGUL
Myanmar	0,33	2,50	0,53	0,76	0,29	0,49	0,58	0,49	1,80	0,65	0,13	0,78	TIDAK UNGGUL
Kamboja	0,69	0,54	0,55	1,47	3,23	1,11	0,47	0,92	0,87	0,14	0,53	0,96	TIDAK UNGGUL
Brunei Darussalam	12,59	6,13	19,7	7,86	1,39	0,21	3,76	1,26	1,52	0,38	0,50	5,03	UNGGUL
Laos	0,006	0,006	0,008	0,045	0,02	0,25	0,02	0,17	0,05	0,07	0	0,05	TIDAK UNGGUL
Jepang	0,72	0,66	0,64	0,67	0,74	0,85	0,91	0,86	0,73	0,79	0,67	0,75	TIDAK UNGGUL
China	0,27	0,38	0,78	1,27	1,35	1,54	3,43	2,78	3,11	3,43	3,11	1,95	UNGGUL
Korea Selatan	0,36	0,50	0,50	0,55	0,96	1,27	1,33	1,14	0,76	0,61	0,81	0,80	TIDAK UNGGUL
Australia	3,61	5,41	4,97	1,22	1,44	0,95	1,18	2,45	1,85	2,50	6,95	2,96	UNGGUL
Selandia Baru	0,883	0,86	1,70	0,99	1,14	1,70	1,198	1,170	1,34	0,81	0,74	1,14	UNGGUL

Sumber : Data diolah

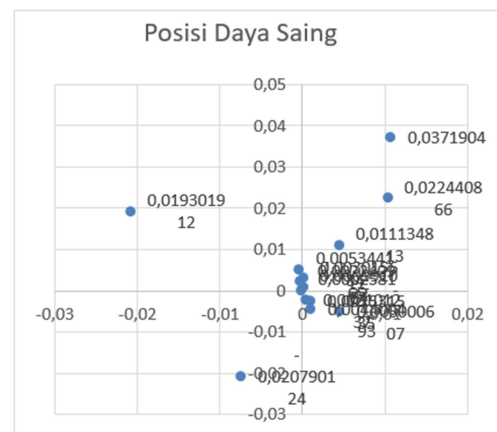
Table 1.1 Result RCA

The results of the EPD analysis indicate that Indonesia's exports of HS 72–81 commodities are in the “rising star” category in the markets of Vietnam, the Philippines, Laos, China, and New Zealand, reflecting an increase in market share for these dynamic commodities, while exports to Myanmar, Cambodia, Brunei Darussalam, and Japan are in a “lost opportunity” position due to negative market share growth, competition from other countries such as Malaysia in China, as well as policies to reduce imports of carbon-emitting goods in Japan and several European countries. Nevertheless, some markets, such as New Zealand, continue to show positive growth in certain years, indicating opportunities for further export development.

Table 1.2 Result EPD

	Sumbu X	Sumbu Y	Posisi Daya Saing
Malaysia	0,000982	-0,0044	Falling Star
Singapura	-0,00748	-0,02079	Retreat
Thailand	0,000426	-0,0021	Falling Star
Vietnam	0,004382	0,011135	Rising Star
Philipina	0,010673	0,03719	Rising Star
Myanmar	-0,00044	0,005344	Lost Opportunity
Kamboja	-0,00024	0,002241	Lost Opportunity
Brunei Darussalam	-0,02086	0,019302	Lost Opportunity
Laos	1,25E-05	0,000991	Rising Star
Jepang	-0,00019	0,000258	Lost Opportunity
China	0,010263	0,022441	Rising Star
Korea Selatan	0,000927	-0,00253	Falling Star
Australia	0,004479	-0,005	Falling Star
Selandia Baru	4,02E-05	0,003016	Rising Star

Sumber : Data diolah



The clustering results were used to determine export market potential using the X-model method. The calculations show that the development of Indonesia's base metal exports in the RCEP region varies across destination countries. Countries with high market potential include Malaysia, Thailand, Brunei Darussalam, Laos, and Australia, driven by growth in the manufacturing, construction, and infrastructure sectors, as well as limitations in domestic production. Meanwhile, markets with optimistic prospects include Vietnam, the Philippines, China, and New Zealand, which show positive demand trends despite high competition, particularly in China. On the other hand, less promising markets include Singapore, Myanmar, Cambodia, Japan, and South Korea due to limitations in industrial structure, political conditions, and intense competition from more advanced domestic industries. Thus, while Indonesia possesses a strong comparative advantage in base metal exports, the success of market development remains dependent on demand dynamics and the level of competition in each destination country.

Table 1.3 Result X-Model

No	Negara	Rata-Rata RCA	EPD	X-Model
1	Malaysia	1,47	Falling Star	Pasar Potensial
2	Singapura	2,83	Retreat	Pasar Kurang Potensial
3	Thailand	1,82	Falling Star	Pasar Potensial
4	Vietnam	3,03	Rising Star	Pasar Optimis
5	Philipina	1,10	Rising Star	Pasar Optimis
6	Myanmar	0,78	Lost Opportunity	Pasar Kurang Potensial
7	Kamboja	0,96	Lost Opportunity	Pasar Kurang Potensial
8	Brunei Darussalam	5,03	Lost Opportunity	Pasar Potensial
9	Laos	0,05	Rising Star	Pasar Potensial
10	Jepang	0,75	Lost Opportunity	Pasar Kurang Potensial
11	China	1,95	Rising Star	Pasar Optimis
12	Korea Selatan	0,80	Falling Star	Pasar Kurang Potensial
13	Australia	2,96	Falling Star	Pasar Potensial
14	Selandia Baru	1,14	Rising Star	Pasar Optimis

Sumber : Data diolah

Furthermore, the results of the Intra-Industry Trade (IIT) analysis show that the level of trade integration between Indonesia and RCEP countries falls into the "mild integration" category, with an average value of 0.45, indicating that trade is still dominated by one-way patterns, although two-way trade does occur in some cases. Countries such as Japan, South Korea, and Australia exhibit higher levels of integration compared to other countries.

Negara	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	RATA-RATA	KETERANGAN
Australia	0,29	0,31	0,39	0,82	0,74	0,71	0,79	0,59	0,66	0,64	1,09	0,54	<u>moderaty</u> strong integration
Brunei Darussalam	0,33	0,24	0,13	0,68	0,89	0,68	0,52	0,02	0,008	0,00	1,72	0,32	mild integration
China	0,88	0,85	0,74	0,66	0,59	0,45	0,37	0,30	0,19	0,23	8,1	0,48	mild integration
<u>Jepang</u>	0,62	0,69	0,75	0,75	0,69	0,63	0,748	0,71	0,68	0,66	1,47	0,63	<u>moderaty</u> strong integration
<u>Kamboja</u>	0,86	0,55	0,27	0,10	0,02	0,005	0,0001	0,23	0,28	0,32	3,15	0,24	weak integration
Korea Selatan	0,75	0,73	0,79	0,73	0,58	0,55	0,67	0,64	0,61	0,69	2,27	0,61	<u>moderaty</u> strong integration
Laos	0,008	0,97	0,97	0,01	0,01	0,002	0,23	0,004	0,88	0,00	3,15	0,28	mild integration
Malaysia	0,41	0,48	0,48	0,47	0,51	0,324	0,479	0,32	0,28	0,38	1,36	0,37	mild integration
Myanmar	0,97	0,68	0,90	0,73	0,82	0,79	0,58	0,50	0,39	0,29	1,34	0,60	<u>moderaty</u> strong integration
<u>Philipina</u>	0,54	0,73	0,69	0,60	0,58	0,55	0,39	0,28	0,18	0,21	4,04	0,43	mild integration
<u>Selandia Baru</u>	0,46	0,56	0,51	0,74	0,67	0,34	0,65	0,54	0,50	0,56	1,11	0,50	<u>moderaty</u> strong integration
Singapura	0,36	0,38	0,44	0,49	0,54	0,41	0,48	0,41	0,38	0,42	2,71	0,39	mild integration
Thailand	0,40	0,48	0,50	0,45	0,47	0,39	0,58	0,39	0,31	0,39	1,99	0,40	mild integration
Vietnam	0,60	0,61	0,63	0,67	0,65	0,40	0,51	0,38	0,28	0,23	9,94	0,45	mild integration
RATA RATA SEMUA NEGARA DARI TAHUN 2014-2024												0,45	mild integration

Sumber : Data diolah

Table 1.4 Result IIT

The results of the gravity model estimation using panel data is random effect model the best model and use white crose section robust because the are heterokedasity and autocorrelation. This result show to indicate that GDP, the Logistics Performance Index (LPI), economic distance, have a positive effect on Indonesia's base metal exports, whereas Foreign Direct Investment (FDI), REER, and downstreaming policy has no significant effect. A high GDP reflects increased purchasing power in the destination country, a weaker exchange rate enhances the price competitiveness of exports, a good LPI facilitates trade distribution, Meanwhile, the lack of significance of FDI indicates that investment in the destination country does not always correlate directly with the demand for base metal imports from Indonesia, and updownstreaming policy can be works with longtterm to added value export. Thus, this study shows that Indonesia has a great opportunity to increase base metal exports in the RCEP region, particularly by leveraging optimistic and potential markets, improving logistics efficiency, and strengthening downstreaming policies to enhance competitiveness in the international market.

Table 1.5 Result Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-17.83567	8.475568	-2.104362	0.0372
GDP	2.665760	0.969271	2.750272	0.0068
FDI	-0.059488	0.131594	-0.452057	0.6520
REER	0.053863	0.628085	0.085758	0.9318
LPI	3.496050	1.735149	2.014842	0.0459
JARAK EKONOMI	-2.560448	0.968137	-2.644716	0.0092

HILIRISASI	-0.006568	0.114964	-0.057131	0.9594
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Sumber : Data diolah

The estimation results show that the GDP variable has a positive and significant effect on Indonesia's base metal exports at the 5% significance level (coefficient 2.665760; p-value 0.0068). This indicates that as the income level or economic size of the destination country increases, demand for Indonesia's base metals tends to rise. The FDI variable has a positive coefficient of 0.059488, but it is not significant (p-value 0.6520), so it cannot be concluded to have a real effect on base metal exports. The REER (real effective exchange rate) variable has a positive coefficient but not significant level (coefficient 0.053863; p-value 0.9318), indicating that exchange rate appreciation (depending on the definition) is correlated with an increase in base metal exports. The LPI (logistics/infrastructure) variable also has a positive and significant effect at the 5% level (coefficient 3.496050; p-value 0.0459), meaning that the better the logistics performance of the destination country, the greater the volume of exports that can be absorbed. Furthermore, the economic distance variable has a positive and significant effect at the 5% level (coefficient 0.234519; p-value 0.0251). This result does not fully align with previous trade gravity theory, which states that distance hinders trade; thus, it is possible that other factors, such as trade relationships, logistics efficiency, or specific demand, influence these results. Finally, the downstreaming dummy variable has a positive coefficient but not significant effect at the 5% level (coefficient 0.006568; p-value 0.9594), indicating that downstreaming policies have a longterm to strong impact on increasing Indonesia's base metal exports.

CONCLUSION

Based on the research findings, it can be concluded that Indonesia's base metal exports to the Regional Comprehensive Economic Partnership (RCEP) region hold significant potential and show an upward trend during the 2014–2024 period, despite being subject to fluctuations. A competitiveness analysis using Revealed Comparative Advantage (RCA) indicates that Indonesia holds a comparative advantage in most RCEP member countries, particularly in Malaysia, Singapore, Thailand, Vietnam, the Philippines, China, Australia, and New Zealand.

The results of the Export Product Dynamics (EPD) analysis show that some countries, such as Vietnam, the Philippines, China, and New Zealand, are classified as “rising stars,” reflecting high market share growth, while other countries are classified as “lost opportunities” and “falling stars.” The combination of RCA and EPD analysis using the X-Model categorizes export markets into optimistic, potential, and less-than-potential markets, which can serve as a basis for formulating export strategies.

The results of Intra-Industry Trade (IIT) indicate that the level of trade integration between Indonesia and RCEP member countries falls into the “mild integration” category, suggesting that trade remains largely one-way, even though two-way trade has been observed with some countries. The results of the gravity model estimation indicate that GDP, exchange rates, the Logistics Performance Index (LPI), economic distance, and downstreaming policies have a positive effect on Indonesia's base metal exports, whereas Foreign Direct Investment (FDI) has no significant effect. This suggests that the size of the destination country's economy, price competitiveness, logistics efficiency, and downstreaming policies are key factors in driving export growth.

Based on the research findings, it is recommended that the Indonesian government strengthen its base metal export strategy by focusing on countries with high GDP levels that have demonstrated increasing demand, and continue to promote and optimize downstream policies, as these have the greatest impact on export growth. Additionally, improving the quality of infrastructure and logistics systems must be a priority to support smooth distribution and export competitiveness, in line with the positive impact of the LPI variable. Exchange rate stability must also be maintained to remain competitive in international markets. On the other hand, an evaluation of the role of FDI is needed to better direct it toward sectors that support exports, as well as further studies regarding economic distance results that do not align with theory, taking into account additional factors such as trade agreements and transportation efficiency. For future research, it is recommended to include other variables such as tariffs and non-tariff barriers and to employ different methodological approaches to obtain more comprehensive results.

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