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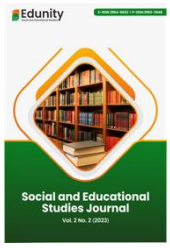

Contribution of Resin Commodity Exports to Gross Domestic Product and Employment in Indonesia

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ABSTRACT

Exports of resin commodities significantly affect Indonesia's economy, particularly in terms of Gross Domestic Product (GDP) and employment. This study aims to analyze the effects of resin commodity exports on Indonesia's GDP and employment opportunities, and to provide recommendations for enhancing the sector's contribution through strategic initiatives. The research employs the Error Correction Model (ECM) to assess the relationship between resin exports, GDP, and employment, utilizing secondary data over the past decade. Results indicate a strong positive correlation between resin exports and GDP growth, with the latter significantly influenced by export revenue. The findings also reveal that the resin sector creates numerous job opportunities, benefiting not only the industry itself but also related sectors such as logistics and manufacturing. Enhanced export capabilities can lead to increased national income and reduced trade imbalances, further stabilizing the economy. In conclusion, the study highlights the importance of resin commodity exports in driving economic growth in Indonesia. It provides actionable insights for policymakers to strengthen the resin sector, improve product quality, and expand market access. By focusing on sustainable practices and technological advancements, Indonesia can capitalize on its natural resource wealth, fostering job creation and elevating living standards across local communities.

Keywords: exports; resin; GDP; employment

Introduction

Indonesia is rich in natural resources, including wood and rubber, which are used as raw materials for resin manufacturing. As a result, Indonesia is now one of the largest global resin producers (Imanuddin et al., 2020; Millati et al., 2019). However, like other sectors of the economy, Indonesia's resin commodity sector faces various constraints such as variations in raw material prices and intense international competition. The Indonesian resin sector must continue to

seek new ideas for production techniques and commercial strategies to remain competitive. The resin commodity sector in Indonesia has the potential to continue to grow and drive the national economy with the help of technology and skilled labour.

To increase exports of Indonesia's resin commodity sector, it is crucial for the government and businesses to continue introducing innovative techniques in the production process, improve product quality, and uphold the sustainability of resin natural resources. Indonesia can become a more significant player in the global resin business by developing export markets and upholding product quality (Nugraha, 2023).

To remain competitive in the global market, Indonesian resin producers and exporters must improve their product quality. To modify their products to suit the demands and preferences of overseas customers, businesses should also conduct market research. In addition, it is crucial to cooperate with the government and relevant organizations to improve market accessibility and convenience of doing business. The attractiveness of Indonesian resin goods in the international market can also be improved by considering sustainability criteria (Dahiri, 2022).

Indonesia's Gross Domestic Product (GDP) can benefit from the export of resin commodities. The country will make more money from this industry as a result of resin export growth. As resin exports are a potential source of foreign exchange for the country, this could boost overall economic growth. However, there are also dangers associated with changes in global prices and consumer demand, which could affect Indonesia's resin exports and, in turn, the country's GDP (Sritrisniawati & Evi Gravitiani, 2021).

Countries that depend on resin exports can reduce their dependence on other industries, including mining or agriculture, contributing to economic diversification. Sustainable resin exports can be reliable sources of income, helping countries adjust to changes in the world economy. In addition, higher resin exports can contribute to a smaller trade imbalance, which will strengthen the value of the currency and improve economic stability (Putri, 2023).

Exports of resin-producing goods from Indonesia can boost the country's GDP in several ways. First, by expanding resin exports, Indonesia can increase revenue from foreign trade, which will boost the country's GDP. Secondly, the selling price of Indonesian resins may increase in response to increased demand for resins abroad, which directly increases GDP (Andriansyah et al., 2023).

Resin exports have the potential to increase industrial investment and create new jobs, both of which would benefit the Indonesian economy as a whole. As the resin industry, it can employ local people for production,

distribution, and marketing purposes, resin commodity exports have the potential to create jobs in Indonesia. In addition, employment opportunities in adjacent industries including the chemical, manufacturing and trading industries may arise from the export of resin goods. Increased exports of resin-based commodities have the potential to spur economic expansion, which will help the Indonesian labour market (Ding & Liu, 2023).

The sector will continue to grow and add jobs as a result of the increasing demand for Indonesian resins abroad. Moreover, resin companies will require additional staff to meet the demand from overseas markets in case of continued exports, which will lower the unemployment rate and increase the number of jobs available to the community (Feenstra et al., 2019).

Companies frequently spend in employee training and skill development due to the rising demand for resin goods. This improves worker skills and opens up new career prospects in the training industry. A greater number of graduates prepared to work in this industry can be achieved by encouraging educational institutions to offer pertinent technical training programs in response to the demand for jobs in the resin sector. Sustainable exports contribute to economic stability, which in turn fosters the expansion of employment. Businesses are more inclined to grow and add more staff when they are optimistic about their export prospects (Zengin-Taşdemir et al., 2023)

In addition to generating jobs, the resin industry's prosperous growth raises community income. Gains in income can support both regional consumption and general economic expansion. The establishment of jobs in the resin sector can support the growth of nearby communities. The standard of living and access to essential services can be enhanced by higher income and employment possibilities. Increased social stability in communities can lower poverty rates and boost economic activity participation when there are more job options.

Researchers from all across the world have carried out a number of theoretical studies and earlier research on the effects of resin commodity exports on GDP and job prospects. The study "Imports, Exports and Growth of Gross Domestic Product (GDP)-A Relational Variability Analysis" by Anis Ali, Nadeem Fatima, Basel Jamal Abdel Rahman Ali, and Firoz Husain (2023) was published in the international journal International Journal of Sustainable Development and Planning Vol. 18, No. 6, June 2023 (Ali et al., 2023). Furthermore, the study "The Impact of Export and Import on Economic Growth of Ghana," which was done by Isaac Okyere and Liu Jilu and published in the European Journal of Business and Management Vol.12, No.21, 2020("The Impact of Export and Import to Economic Growth of Ghana," 2020). Then, in

2020, the Journal of Developing Economies Vol. 5 No. 2, published a study by Syukri A. U. titled "Causality Between Gross Domestic Product, Exports, Imports, Foreign Exchange Reserves, And Foreign Debt In Indonesia." (Syukri, 2020). Next, the study "The Impact Of Tariff Increase On Export And Employment Of Chinese Firms," which was carried out by Yang Ding and Yuanchun Liu in 2023 and published in China Economic Quarterly International Volume 3, Issue 3, September 2023 (Ding & Liu, 2023). Published in the Journal of Development Economics Volume 125, March 2017, the study "Roads, Exports, and Employment: Evidence From A Developing Country" was carried out by Christian Volpe Martincus, Jerónimo Carballo, and Ana Cusolito (Volpe Martincus et al., 2017). The last study was "Exports and Employment in China, Indonesia, Japan, and Korea," which was done in 2016 and published in Asian Economic Papers Volume 15, Issue 1 (Kiyota, 2016).

This study introduces a novel approach by integrating the dynamics of resin commodity exports with their direct impact on Indonesia's GDP and employment. While previous research has explored various commodities, this paper specifically focuses on resin exports, highlighting their unique contributions to economic growth and job creation in Indonesia.

The main objectives of this study are to analyze the impact of resin commodity exports on Indonesia's GDP, evaluate the impact of resin exports on domestic employment opportunities, and provide recommendations to increase the resin sector's contribution to the economy through strategic policies and initiatives. This research provides several benefits, including policy implications that can assist policy makers in formulating strategies to strengthen the resin sector and increase its contribution to national economic growth. In addition, an understanding of the role of resin exports will enable stakeholders to make informed decisions in utilizing the sector for sustainable development.

Research Method

Both descriptive and verificative research methodologies are employed. Whether there are one or more variables, the descriptive technique is used to calculate each one's value independently without comparing or connecting them. In the meantime, the link (cause and effect) between two or more variables is ascertained using the verificative approach(Sugiyono, 2018). The factors pertaining to job opportunities, GDP, and the realization of resin commodity exports are identified using the descriptive technique. Concurrently, the verificative approach is employed to ascertain the correlation between two or more variables, particularly to elucidate or scrutinize the

impact of resin commodity exports on the gross domestic product and job prospects.

This study employed secondary data for its data collection. Information gleaned from secondary sources is called secondary data (Bungin, 2013). The Error Correction Model (ECM) is the analysis technique employed in this investigation. An effective econometric method for modeling the link between non-stationary cointegrated time series variables is the Error Correction Model (ECM). Cointegration suggests a long-term equilibrium relationship because, despite the possibility of non-stationarity in individual time series, their linear combination is stationary. For capturing both short-term dynamics and long-term equilibrium adjustments between variables, ECM is highly helpful.

The degree to which the imbalance of the prior period influences the adjustment of the current period is indicated by the phrase "error correction" in ECM. This enables the model to represent transient variations as well as the rate at which variables return to equilibrium.

Result and Discussion

a. Test of Stationarity

The unit root test or stationarity of the data on each variable that will be used in the research is the first step in the testing process when employing regression. The probability value of the ADF can be used to establish whether the data is stationary. If the ADF value is less than α 0.05 or 5%, the data is regarded as stationary; if it is greater than α 0.05 or 5%, the data is regarded as non-stationary.

Table 1 Results of Stationarity Test for Export & GDP

Variable	Level		1st Difference	
	ADF Prob	Explanation	ADF Prob	Explanation
Resin Export	0,4191	Not Stationary	0,0001	Stationary
GDP	0,2069	Not Stationary	0,0000	Stationary

Source: Data processed with Eviews 12

Resin Exports and GDP statistics are both stationary, as indicated by Table 1 findings of the ADF statistical test on the first difference, which rejects the null hypothesis has a likelihood that is smaller than 0.05. This indicates that all of these variables have stationary data circumstances at the first difference level and are no longer experiencing unit root issues. On the other hand, degree of integration one, with the exception of short-term residuals, which call for the variables to meet the criteria for using the Error Correction Model analysis (ECM) and to be stationary at the Level.

Table 2 Results of Stationarity Test for Export & Employment

Variable	Level		1st Difference	
	ADF Prob	Explanation	ADF Prob	Explanation
Resin Export	0,4191	Not Stationary	0,0001	Stationary
Employment	0,6768	Not Stationary	0,0003	Stationary

Source: Data processed with Eviews 12

As the data on both variables—Resin Export and Employment—are stationary, the null hypothesis is rejected, according to Table 2 results of the ADF statistical test on the first difference has a likelihood that is smaller than 0.05. With the exception of the short-term residual, which necessitates that the variables be stationary at the Level and have fulfilled the prerequisites in order to use the Error Correction Model analysis, all those variables are thus free of unit root issues and have stationary data conditions at the first difference level, or degree of integration one. (ECM).

b. Cointegration Examination

The Johansen method was used to conduct a cointegration test between the variables of the Indonesian culinary industry, the number of restaurant entrepreneurs, foreign and domestic investment, per capita food consumption, and digital transactions. The results of this method are displayed as follows:

Table 3 Johansen Cointegration Test Results for Export & GDP

Trace Statistic	0,05 Critical Value	Probability	Explanation
53,40922	15,49471	0,0000	Cointegrated
Max Eigen Statistic	**0,05 Critical Value**	**Probability**	**Explanation**
49,31462	14,26460	0,0000	Cointegrated

Source: Data processed with Eviews 12

Table 3 displays the outcomes of the aforementioned test. It indicates that the Max Eigen Statistic value (49.31462) > Critical Value (14.26460) and the Probability value 0.0000 < 0.05, and the Trace Statistic value (53.40922) > Critical Value (15.49471) do not match. Consequently, it can be said that the equation model's long-term cointegration between GDP and resin commodity exports is present.

Table 4 Johansen Cointegration Test Results for Export & Employment

Trace Statistic	0,05 Critical Value	Probability	Explanation
44,20685	15,49471	0,0000	Cointegrated
Max Eigen Statistic	**0.05 Critical Value**	**Probability**	**Explanation**
44,18945	14,26460	0,0000	Cointegrated

Source: Data processed with Eviews 12

As can be seen in Table 4, the aforementioned test's findings indicate that the Max Eigen Statistic value (44.18945) > Critical Value (14.26460) and the Probability value 0.0000 < 0.05, as well as the Trace Statistic value (44.20685) > Critical Value (15.49471), are both greater than 0.05. Thus, the equation model's long-term cointegration between resin commodity exports and employment may be deduced, satisfying the criteria for an error correction model analysis (ECM).

c. Evaluation of the Error Correction Model

Because there is a long-term equilibrium, the analysis employed is the Error Correction Model (ECM), which is based on many requirement tests that have been carried out above. To display the short- and long-term relationships between variables, the ECM estimation is performed.

Table 5 ECM Estimation Export & GDP

SHORT-TERM ESTIMATE				
Dependen Variables : Gross Domestic Product				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0,016236	0,004866	3,336848	0,0018
D(Ln_EXPORT)	0,974850	0,024489	39,80837	0,0000
R-squared	0,783042	**Prob(F-statistic)**	0,000000	
Adjusted R-squared	0,782100	**Durbin-Watson stat**	1,804076	
LONG-TERM ESTIMATE				
Dependen Variables : Gross Domestic Product				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	6,084423	0,449366	13,54002	0,0000
Ln_EXPORT	0,701610	0,063085	11,12162	0,0000
R-squared	0,764983	**Prob(F-statistic)**	0,000000	
Adjusted R-squared	0,758798	**Durbin-Watson stat**	1,901424	

Source: Data processed with Eviews 12

1) Partial Examination

Impact of Resin Commodity Export Realization on GDP

Statistics show that the probability value of resin commodity export realization is smaller than α (0.0000 ≤ 0.05) in the short-term estimate and α (0.0000 ≤ 0.05) in the long-term estimate, based on the calculation results shown in the estimation results table. Thus, it can be said that the gross domestic product is significantly and favorably impacted by the variable of resin commodity export realized. The significance is in the ability to significantly and effectively demonstrate how the realization of resin commodity exports affects the gross domestic product. Conversely, the positive interpretation is that rising gross domestic product follows rising resin commodity export realized.

2) Coefficient of Determination (R-Squared)

Based on table 4.5's findings, the coefficient of determination results—R Square = 0.783042 for the short-term ECM estimation and R Square = 0.764983 for the long-term ECM estimation—significantly indicate the degree to which the realization of resin commodity exports influences the gross domestic product. Accordingly, the realization of resin commodity exports has a considerable impact on GDP, with a short-term estimate of 78.30 percent and a long-term estimate of 76.49 percent.

Table 6 ECM Estimation Export & Employment

SHORT-TERM ESTIMATE				
Dependen Variables : Gross Domestic Product				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	2,630205	0,356079	7,386578	0,0000
D(Ln_EXPORT)	0,635390	0,065653	9,677961	0,0000
R-squared	0,806999	**Prob(F-statistic)**	0,000000	
Adjusted R-squared	0,790851	**Durbin-Watson stat**	1,928270	
LONG-TERM ESTIMATE				
Dependen Variables : Gross Domestic Product				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	5,807213	2,148080	-2,703444	0,0102
Ln_EXPORT	0,596129	0,131048	4,548939	0,0001
R-squared	0,743567	**Prob(F-statistic)**	0,000054	
Adjusted R-squared	0,721030	**Durbin-Watson stat**	1,964803	

Source: Data processed with Eviews 12

1) Partial Examination

The Impact of Resin Commodity Export Realization on Employment

Statistics-wise, the probability value of resin commodity export realization is smaller than α ($0.0000 \leq 0.05$) in the short-term estimate and α ($0.0001 \leq 0.05$) in the long-term estimate, according to the calculation results shown in the estimated results table. Thus, it follows that the variable of resin commodity export realization positively and significantly affects employment. The theory on the impact of resin commodity export realization on employment may be substantially and persuasively demonstrated, which is why it is significant. Conversely, the positive interpretation suggests that a rise in employment follows an increase in the realization of resin commodity exports.

2) Coefficient of Determination (R-Squared)

According to table 4.6's findings, the coefficient of determination results—R Square = 0.806999 for the short-term ECM estimation and R Square = 0.743567 for the long-term ECM estimation—strongly suggest that the realization of resin commodity exports has an impact on employment. This indicates that, at 80.70 percent for the short-term estimate and 74.35 percent for the long-term estimate, the impact of resin commodity export realization on employment is significant.

Conclusion

The study's conclusions, derived from the discussion analysis and research findings, indicate that the realization of commodity exports involving resin has a noteworthy and favorable impact on Indonesia's GDP. Additionally, these exports significantly and positively affect employment levels in the country.

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