

UNCOVERING COCOPEAT EXPORT POTENTIAL TO G-20 COUNTRIES: CAN GRAVITY MODELS PROVIDE ANSWERS?

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Abstract

This study examines the factors influencing the export value of Cocopeat from Indonesia to G20 member countries. The variables considered are Indonesian GDP, Importer Country GDP, Economic Distance, Exchange Rate, Indonesian Population, and Importer Country Population. The study utilizes the Gravity Model and panel data from 2017-2021 to analyze the international trade relationship of Cocopeat. The findings reveal certain patterns in Cocopeat trade from Indonesia to G20 countries. Indonesia's GDP has a positive influence on Cocopeat exports, although it is partially insignificant. On the other hand, Importer Country GDP has a significant negative effect on Cocopeat exports. Economic Distance and Exchange Rate also have a negative influence, but are not partially significant. Furthermore, the Indonesian Population shows a positive influence on Cocopeat exports, albeit not partially significant. In contrast, the Importing Country Population has a significant positive influence on Cocopeat exports from Indonesia. This research uses quantitative methods, which is a research approach that uses data in the form of numbers and statistics to measure certain variables and draw conclusions based on quantitative analysis. Data collected in quantitative research is analyzed using statistical techniques and other quantitative analysis methods. The purpose of this analysis is to identify patterns, relationships, and trends that occur in the data as well as to test research hypotheses.

Keywords : Cocopeat, Export Potential, Gravity Models

1. Introduction

In today's interconnected world, globalization has become an inevitable reality, forcing almost every country to adopt an open economic system. This means opening the door to global markets through international trade. International trade involves the exchange of goods and services between individuals, private companies, governments, and even between countries.

Each country has unique characteristics, from demographics and geography to natural resources, climate, social structure, and economic framework. These differences give rise to diverse commodities, varying costs, and different product quality and quantity. As a result, the interdependence of needs has paved the way for international trade, commonly known as exports and imports.

Dynamic export and import activities between countries have created strong economic ties, enabling countries to meet each other's needs. Having abundant natural resources provides advantages for a country in international trade, especially in the export sector which can increase income and accelerate economic growth.

Exports have an important role in increasing foreign exchange reserves and state tax revenues, as well as creating jobs through the production of goods. Exports consist of two main components, namely oil and gas exports and non-oil and gas exports. Indonesia has succeeded in utilizing diverse resource potential, both in the oil and gas and non-oil and gas sectors, to meet demand from countries around the world.

Internal factors can be classified as regional potential for ecotourism development, ecotourism knowledge about environmental conservation and participation of local residents. Meanwhile, external factors are key factors that come from outside the ecotourism location, such as tourist awareness of environmental sustainability, research activities in ecotourism areas for the benefit of environmental sustainability and local communities. (Ellyta Tambunan.2024)

The Central Statistics Agency of the Republic of Indonesia shows that data on oil and gas and non-oil and gas export results from 2018 to 2022 shows that the value of non-oil and gas

exports has a greater value than the value of oil and gas exports. Indonesia's total exports in 2022 will reach US\$ 291,979.4 million. Oil and gas exports contributed US\$ 16,022.6 million, while non-oil and gas exports reached US\$ 275,956.8 million. This shows that oil and gas exports only account for 5.49% of Indonesia's total exports, while non-oil and gas exports dominate with a share of 94.51%. One of the non-oil and gas commodities is coconut and its derivatives.

According to KataData, Indonesia is ranked first as a producer of coconut in the world, namely 17.13 million tons in 2019, followed by the Philippines with 14.77 million tons and India with 14.68 million tons. In 2020, KataData Indonesia still explains that the Indonesian coconut commodity, which is one of the leading producers in coconut exports, only exports 1.23% of total world exports with a value of \$8.88 million or the equivalent of 133 billion. It can be seen that the value of coconut commodities and their derivatives in Indonesia has not yet reached optimal capacity in terms of productivity.

This trend highlights the important role of non-oil and gas exports in the Indonesian economy as a major source of foreign exchange, state financial stability and economic growth. This also shows the potential of the non-oil and gas sector in achieving sustainable economic development. Therefore, Indonesia can continue to optimize natural resources, manufacturing and other industries to improve its position in the global market. By implementing strategic steps to improve the quality and quantity of non-oil and gas export products, Indonesia can increase its competitiveness and make a greater contribution to global trade.

Cocopeat is a coconut derivative product used as an organic planting medium made from coconut fiber powder. Cocopeat's advantage lies in its ability to absorb and retain water, and has pores that facilitate air exchange and penetration of sunlight. Cocopeat also contains *Trichoderma*, which was later explained by Harman et.al (2004) as a genus of fungus which belongs to the group of filamentous fungi or hyphae (filamentous fungi). Still in Herman, it is explained that apart from being a biological agent that is useful in agriculture and forestry, Cocopeat also contains fungal enzymes that can reduce disease in the soil. This causes countries, especially those with four seasons, to need Cocopeat (demand) to boost the agricultural and forestry sectors. Due to its function and existence, Cocopeat has become an important export commodity for countries that have characteristics in cultivating the Coconut commodity (supply), including Indonesia. Currently, Indonesia is ranked 11th in the world for Cocopeat commodities.

The Gravity Model was originally inspired by Newton's Gravity equation in physics which is used to describe the interaction between two objects. The model states that the gravitational force of attraction between two objects is proportional to the mass of each object and inversely proportional to the distance between them. In the context of economics, this idea was developed and successfully applied widely, especially in the analysis of international trade as explained by Anwar and Wicaksono (2022), Gianmarco et.al (2007), Shyriaieva, et.al (2016) and Maskus, et.al (2001). In their research, Maskus et.al (2001) used a structural approach in estimating the model. The structural approach is a more complex and in-depth method, where the research integrates various variables and takes into account several other factors that influence international trade, such as trade policies, tariffs, and institutional factors. By combining it with other relevant variables, we continue to estimate the Gravity Model structurally to understand how economic and policy factors play a role in shaping trade patterns between countries. The results of this research provide deeper insight into the complexity of international trade relations and the factors that influence them. The structural method used in this research increases understanding of the importance of additional variables in analyzing international trade, and provides an important contribution to the development of the Gravity model in international economics.

Meanwhile, Thuong (2017) revealed that there are three main variables that are part of the gravity model, namely; a) Gross Domestic Product of the exporting country, which is a measure of the total value of goods and services produced in a country and exported to the line country, b) Gross Domestic Product of the importing country, which is a measure of the total value of goods and services received by a country from partner countries and c) Economic

distance based on geography between two countries involved in trade. In the gravity model, distance is considered a factor that inhibits trade, because the greater the distance, the more difficult and expensive it is to trade.

These variables are important components in gravity models, which are used to explain trade relations between countries based on the economic size of each country and the geographic distance between them. By combining these variables, gravity models can help understand international trade patterns and identify factors that influence trade intensity between countries. The variables contained in the Gravity Model are used as variables that will be studied to determine their effect on Cocopeat exports from Indonesia. This research also adds an exchange rate variable, because an increase in the exchange rate of the destination country's currency will cause the price of goods in the destination country to become expensive, causing the destination country to tend to buy cheaper goods from other countries (Kusuma and Firdaus, 2015). Apart from the exchange rate, there are additional variables for the population of Indonesia and the population of Cocopeat Indonesia's import partner countries. Population variables are included because the basic principle of trade is supply and demand, even Bernard, et. al (2010) stated that the role of population in international trade can influence trade intensity and play an important role in shaping trade patterns between countries. This research is also Networked Public is described as a networked technology-based public space (Prisma Hanindita Inggit P.2024) limited to only six G20 countries when the Republic of Indonesia serves as the G20 Presidency in 2022. Countries that are members of the G-20 plus 1 guest country based on the largest number of Cocopeat importers from Indonesia, namely; a) China, b) Korea, c) Japan, d) Italy, e) United States, f) Netherlands and g) Singapore. Based on data from the largest importer of Cocopeat from Indonesia, it was then used in this research as a representative of the G20 countries.

Based on the concept and description above, this research formulates the research hypothesis as follows:

H1 There is a significant influence between Indonesia's GDP and the value of Cocopeat exports from Indonesia to G20 countries

H2 There is a significant influence between the GDP of the importing country and the export value of Cocopeat from Indonesia to G20 countries

H3 There is a significant influence between economic distance and the value of coconut exports from Indonesia to G20 countries

H4 There is a significant influence between the exchange rate and the export value of Cocopeat from Indonesia to G20 countries

H5 There is a significant influence between the Indonesian Population and the Value of Cocopeat Exports from Indonesia to G20 Countries

H6 There is a significant influence between the Population of Importing Countries and the Export Value of Cocopeat from Indonesia to G20 Countries

H7 There is a significant simultaneous influence between Indonesia's GDP, Importing Country's GDP, Exchange Rate, Indonesian Population, Importing Country's Population and Economic Distance on the Export Value of Cocopeat from Indonesia to G20 Countries

2. Method

This research uses quantitative methods, which is a research approach that uses data in the form of numbers and statistics to measure certain variables and draw conclusions based on quantitative analysis. Data collected in quantitative research is analyzed using statistical techniques and other quantitative analysis methods. The purpose of this analysis is to identify patterns, relationships, and trends that occur in the data as well as to test research hypotheses.

The research uses panel data regression data analysis techniques. Panel data regression is a combination of cross section and time series data as explained by Ghazali (2017). The data used in this research is secondary data and information from literature studies related to theoretical studies and other references obtained either online via the official website or downloaded documentation. The time period for the data used in this research is 5 (five) years from 2017-2021.

Table 1. Data Source

Data	Source
Export Value	
GDP Indonesia	Trademap.org
GDP Importing	World Bank
Country	World Bank
Exchange Rate	Bank Indonesia
Economic Distance	distancecalculator.globefee
Indonesian	d.com
Population	World Bank
Importing Country's	World Bank
Population	

Source: Processed for Research Needs

Determining the estimation model in panel data regression is a statistical method used to analyze data that has cross-time information (time series) from several observation units (cross-section). One of the simplest approaches to panel data analysis is the Common Effect model or Pooled Least Square. This approach ignores the time and space dimensions of panel data, and assumes that the fixed effects or general effects of individual units are the same. In other words, it is assumed that the relationship between research variables and the dependent variable is constant between all observation units.

This method is often used when we want to see the overall relationship between variables in panel data without considering the individual effects of each unit. Even though it is simple, this approach can provide a useful initial overview in panel data analysis (Ghozali, I: 2017). This method can use the Ordinary Least Square (OLS) approach or least squares technique to estimate panel data models. The Fixed Effect Model method shows that although the intercept may be different for each individual, the individual intercept does not differ over time (time invariant). Differentiating the intercept can be done using dummy variable techniques or differential intercept dummies so it is also called the Least-Squares Dummy Variable (LSDV) regression model.

Meanwhile, the Random Effect Model will estimate panel data where disturbance variables may be interconnected over time and between individuals. In the random effect model, differences in intercepts are accommodated by the error terms for each country. The advantage of using a random effect model is that it can eliminate heteroscedasticity, which Basuki (2014) later explained that this model is also called the error component model or Generalized Least Square technique.

There are 3 models in panel data regression, namely Common Effect, Fixed Effect and Random Effect. Common Effect and Fixed Effect use the Ordinary Least Squares (OLS) approach in their estimation technique, while Random Effect uses Generalized Least Squares (GLS) as their estimation technique. According to Kuncoro (2013) not all classical assumption tests must be carried out on every linear regression model with the OLS approach:

1. The normality test is basically not a BLUE (Best Linear Unbiased Estimator) requirement and some opinions do not require this requirement to be something that must be met.
2. Autocorrelation only occurs in time series data. Autocorrelation testing on data that is not a time series (cross section or panel) will be useless or meaningless.
3. Multicollinearity needs to be carried out when linear regression uses more than one independent variable.
4. Heteroscedasticity usually occurs in cross section data, where panel data is closer to the characteristics of cross section data than time series.

From the explanation above, it can be concluded that in panel data regression, not all classical assumption tests in the OLS method are used, only multicollinearity and heteroscedasticity as in the following table:

Table 2. Prerequisite Test

Prerequisite Test	OLS (FEM & CEM)	GLS (REM)
Normality	No	Yes
Heteroscedasticity	Yes	No
Multicollinearity	Yes, if independent variable	Yes, if independent variable
Autocorrelation	>1	>1
	No	No

Source: Processed for Research Needs

The normality test aims to determine whether the data that has been collected is normally or not normally distributed. However, basically the normality test is not a requirement for BLUE (Best Linear Unbiased Estimator) in Kuncoro (2013). H0: If the JB value > X2 table, then the residual is not normally distributed. However, on the other hand, if the JB value < X2 table, then the residual is normally distributed.

The multicollinearity test aims to test whether in the regression model a high or perfect correlation is found between the independent variables. If perfect multicollinearity occurs between the independent variables, then the regression coefficient of that variable cannot be determined and the standard error value becomes infinite in Ghozali (2017). The hypothesis in this test is H0: Correlation Value > 0.90, so there is multicollinearity. On the line side, Heteroscedasticity is used to determine whether or not there are deviations from the classic assumption of heteroscedasticity, namely the unequal variance of the residual values in the regression model. In the White test the hypothesis proposed is H: Prob. Chi-Square (Obs R-squared) > a then there is no Heteroscedacity. The F statistical test is H0: $\beta_1 = \beta_2 = \dots = \beta_k = 0$ Ha: not all slope coefficients are simultaneously equal to zero. The test criteria used with a significance of 5% are H0 rejected if F-count > F-table and Ha accepted if F-count < F-table. As for partial hypothesis testing using the t-test, where the hypothesis used in the t-test is H0, there is no partial influence between the independent variables on the variable, that is, if t-count > t-table, then H0 is rejected and if t-count < t-table, then Ha is rejected.

The coefficient of determination is used to measure how far the independent variable is able to explain variations in the dependent variable. The coefficient of determination value is between zero and one ($0 < R^2 < 1$). A value of R^2 that is close to 1 means that the independent variables provide almost all the information needed to predict variations in the dependent variable, while a value of R^2 that is small means that the ability of the independent variables to explain variations in the dependent variable is very limited, which means it is influenced by other factors.

To select the panel data model that will be used in this research, several tests were carried out, namely; a) Chow test is a statistical test to determine whether the model used is a Common Effect Model or Fixed Effect Model, b) Hausman Test is a statistical test to determine whether the model used is a Fixed Effect Model or Random Effect Model and c) Lagrange Multiplier Test is a test statistics to determine whether the better model to use is the Common Effect Model or the Random Effect Model. This Random Effect significant test was developed by Breusch-Pagan. Testing is based on the residual value from the Common Effect method.

Table 3. Test Classic Assumptions Of Panel Data Linear Regression

Prerequisite Test	OLS (FEM & CEM)	GLS (REM)
Normality	No	Yes
Heteroscedasticity	Yes	No
Multicollinearity	Yes, if independent variable >1	Yes, if independent variable >1
Autocorrelation	No	No

Source: Processed for Research Needs

The independent variables defined in the Gravity Model in this research consist of; Exchange Rates, Indonesian Population, Population of Importing Countries, Indonesian GDP, GDP of Importing Countries and Economic Distance. Meanwhile the dependent variable is Export Value. So the regression equation of the Gravity Model in this research is as follows:

$$EX_{ijt} = \alpha + \beta_1 (GDP_{it}) + \beta_2 (GDP_{jt}) + \beta_3 (JREK) + \beta_4 (KURS) + \beta_5 (POP_{it}) + \beta_6 (POP_{jt}) + u_{ijt}$$

Information:

EX_{ijt}	: Exports from country i to country j in year t
GDP_{it}	: GDP of country i in year t
GDP_{jt}	: GDP of country j in year t
JREK	: Geographic Distance X GDPj (GDPj Count)
Exchange rate	: The exchange rate of country i, country j in year t
POP_{it}	: Population of country i in year t
POP_{jt}	: Population of country j in year t
i	: Indonesia
j	: Destination country for Indonesian exports
t	: Research Time (2017, 2018, 2019, 2020, and 2021)

3. Results and Discussion

In table 4, there are Chow test results which compare the F-Statistics Cross Section values with the F-Table critical values obtained from the degrees of freedom (d.f.). If H0 (null hypothesis) is tested and the F-Statistic is greater than the F-Table, then the more appropriate model is "fixed effect." On the other hand, if Ha (alternative hypothesis) is tested and the F-Statistic is smaller than the F-Table, then the more appropriate model is "common effect." In this case, the Chow test results show that the F-Statistics Cross Section value (0.260766) is smaller than the F-Table critical value (2.45). Therefore, we can conclude that the model that is better in estimation is the "common effect." The results of the Chow test indicate that in the context of panel data analysis, the "common effect" model is more suitable than the "fixed effect" model for describing the relationship between research variables and the dependent variable in the panel dataset.

Table 4. Chow Test

Effect Test	Statistic	d. f.	Prob.
<i>Cross-Section F</i>	0.260766	(6,22)	0.9493
<i>Cross-Section Chi-Square</i>	2.404603	6	0.8790

Source: Secondary Data Processed By Researchers

Table 5. Lagrange Multiplier Test

	Cross-Section F	Test Hypothesis Time	Both
Breusch-Pagan	2.146608 (0.1429)	0.057259 (0.8109)	2.203867 (0.1377)

Source : Secondary Data Processed By Researchers

Table 5 shows that the Breusch-Pagan Prob. is used to test the heteroscedasticity assumption (non-constant variance) in the model. If the Prob.Breusch-Pagan value is greater than 0.05 then the null hypothesis (H0) is accepted, which means there is not sufficient statistical evidence to reject the heteroscedasticity assumption. Conversely, if the Prob.Breusch-Pagan value is less than 0.05, then H0 is rejected, which means there is sufficient statistical evidence to reject the heteroscedasticity assumption. If H0 is rejected, then the "common effect" model is not appropriate because there are indications of heteroscedasticity in the data. As an alternative, we can use a "random effect" model which is more robust to the heteroscedasticity assumption. In this study, the results of the Lagrange Multiplier test show that the p-value is 0.1377, which is greater than the significance level of 0.05. This means we do not have enough statistical evidence to reject the null hypothesis, and there is no strong indication of heteroscedasticity in the data. Based on the test results, the conclusion is that the "common effect" model is better than the "random effect" to describe the relationship between research variables and the dependent variable in the panel dataset.

Table 6. Multicollinearity

Correlations						
	GDPi	GDPij	JRKEK	KURSi	POPULA Sii	POPUL ASlij
GDPi	1.00000	0.056485	0.072122 2	0.021992	0.813367	0.001737
GDPij	0.056485	1.000000	0.428610	-0.013981	0.054451	0.616993
JRKEK	0.072122	0.428610	1.000000	0.694716	0.063807	-0.146451
KURSi	0.021992	-0.013981	0.694716	1.000000	0.033526	-0.348217
POPULASii	0.813367	0.054451	0.063807	0.033526	1.000000	0.002341
POPULASij	0.001737	0.616993	-0.146451	-0.348217	0.002341	1.000000

Source : Secondary Data Processed By Researchers

Table 6 Correlations, all correlation values between variables such as GPD_i, GDP_{ij}, JRKEK, SEATS, POPULAS_{li}, POPULAS_{lij} have values below 0.90. This indicates that there is not a very strong correlation between these variables. As a result, the null hypothesis (H₀) is accepted, which means there is not enough statistical evidence to conclude the existence of multicollinearity between the variables. In other words, a lower correlation value indicates that these variables do not have a very strong linear relationship, so it can be concluded that multicollinearity is not very significant in the model.

Table 7. Heteroskedasticity Test

Heteroskedasticity Test	
White	
<i>Obs*R-squared</i>	<i>Prob. Chi-Square</i>
34.35712	0.1005

Source : Secondary Data Processed By Researchers

From the heteroscedasticity test white, the value of Prob is obtained. Chi-Square is 0.1005, which is greater than the specified significance level, namely 0.05. This shows that there is not enough statistical evidence to reject the null hypothesis (H₀). Thus, this research indicates that heteroscedasticity does not occur in the data

Table 8. R-Squared

<i>Adjusted R-Squared</i>	0.963764
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Source : Secondary Data Processed By Researchers

Table 8 above shows the results that the Adjusted R² value is 0.963764. This value shows that around 96.3764% of the variation in the dependent variable, namely the Export Value of Cocopeat commodities from Indonesia, has the ability to explain the research model of Indonesian GDP (GPD_i), GDP of Countries Importing Cocopeat from Indonesia (GPD_{ij}), Economic Distance (JRKEK), Exchange Rates (CHAIRS), Indonesian Population (POPULAS_{li}), and Importer Population (POPULAS_{lij}). The remaining 3.6236% can be attributed to other factors outside the variables used in the research.

Thus, the results of the analysis show that this research model provides a strong explanation of the relationship between the variables considered in the research on the export value of Cocopeat commodities from Indonesia. A total of 96.3764% of the variation in export value can be explained by the model, which shows that this model is reliable and worthy of being continued in further analysis.

Table 9. t-Test

Variable	t-Statistics
C	-0.255772
GDP Indonesia	0.362529
GDP Importing Country	-4.604348
Exchange Rate	-0.101628
Economic Distance	-0.870145
Indonesian Population	0.155631

Importing Country's Population 21.80177

Source : Secondary Data Processed By Researchers

Hypothesis testing through partial tests with t tests is carried out by comparing t-statistic values and p-values. If the t-statistic value is \geq t-table value or p-values < 0.05 then the hypothesis is accepted. From the results of this research, the t-statistical value of the Indonesian GDP variable is $0.362529 <$ from the t-table value of 2.04841 , so the decision taken is to accept H_0 , namely that there is no partial influence between Indonesian GDP on the export value of Cocopeat from Indonesia. The GDP variable for the country importing Cocopeat from Indonesia (GPDij) has a t-statistic value of $-4.604348 (-4.604348 > -2.04841)$, so H_0 is rejected. So it is said that there is a partial influence of the GDP variable of the importing country on the value of cocopeat exports from Indonesia. The Economic Distance Variable (JRKEK) has a t-statistic value of $-0.101628 (-0.101628 < -2.04841)$, so H_0 is accepted. So there is no partial influence between economic distance on the value of cocopeat exports from Indonesia.

The Exchange Rate variable (KURSi) has a t-statistic value of $-0.870145 (-0.870145 < -2.04841)$, so H_0 is accepted. So there is no partial influence between the exchange rate and the value of cocopeat exports from Indonesia. Furthermore, the Indonesian Population variable (POPULASli) has a t-statistic value of $0.155631 (0.155631 < 2.04841)$, so H_0 is accepted. So there is no partial influence between the Indonesian population and the value of cocopeat exports from Indonesia. The partial t test table shows that the Importer Population variable (POPULASlij) has a t-statistic value of $21.80177 (21.80177 > 2.04841)$ so H_0 is rejected. So it is said that there is a partial influence of the population variable of the importing country on the value of cocopeat exports from Indonesia.

Table 10.F Test

<i>F- Statistics</i>	151.715
	3
<i>Prob.(F- Statistics)</i>	0,00000
	0

Source : Secondary Data Processed By Researchers

The results of testing the feasibility of the model in this study obtained an F-statistical value of $151.7153 (151.7153 > 2.45 \text{ F-table})$, so it can be interpreted that the results of the F test are that H_0 is rejected. It is said that there is a simultaneous influence between Indonesia's GDP, GDP of countries importing cocopeat from Indonesia, economic distance, exchange rates, population of Indonesia and population of countries importing Cocopeat from Indonesia, on the export value of cocopeat from Indonesia.

Table 11. Linear Regression Results

<i>Variable</i>	<i>Coefficient</i>	<i>Prob.</i>
C	- 2745.99	0.8000
	2	
GDP Indonesia	9.37E- 07	0.7197
GDP Importing Country	-1.02E- 07	0.0001
Exchange Rate	- 0.01938	0.9198
	9	

Economic Distance	- 0.01818 4	0.3916
Indonesian Population	7.45E- 06	0.8774
Importing Country's Population	6.65E- 06	0.0000

Source : Secondary Data Processed By Researchers

The regression equation resulting from table 11 above is as follows:

$$EX_{ij} = -2745.992 + 9.37E-07(GDP_i) - 1.02E-07(GDP_j) - 0.019389(JREK) - 0.018184(KURS) + 7.45E-06(POP_i) + 6.65E-06(POP_j)$$

Based on the regression results, it can be explained that the Indonesian GDP variable has a regression coefficient of 9.37E-07. This means that every one unit increase in the Indonesian GDP variable will cause the value of Indonesian cocopeat exports to increase by 9.37E-07. Apart from that, the probability value in the table shows 0.7197. In comparison with a significance level of 0.05, we can conclude that the Indonesian GDP variable does not make a significant contribution to the export value of Cocopeat from Indonesia. In simple terms, the regression results show that changes in Indonesia's GDP only have a small impact on the value of cocopeat exports from Indonesia. This indicates that the Indonesian GDP variable is not the main factor influencing the value of cocopeat exports. There are other factors that are more important in determining Cocopeat's export value, such as price, quality and marketing. The GDP regression results for countries importing Cocopeat from Indonesia have a regression coefficient of -1.02E-07. This means that for every one unit increase in GDP of the importing country, the value of Cocopeat exports from Indonesia will decrease by 1.02E-07.

Apart from that, the probability value in the table can also be seen, namely 0.0001. When compared with a significance level of 0.05, this probability value shows that the GDP of the importing country has a significant contribution to the value of Cocopeat exports from Indonesia. These results indicate that an increase in the GDP of importing countries is related to an increase in the value of Indonesian Cocopeat exports. A probability value smaller than 0.05 indicates that this relationship is statistically significant, which means that the GDP of the importing country plays a significant role in influencing the value of Cocopeat exports from Indonesia.

The regression results in Table 11 show that the Economic Distance variable has a regression coefficient of -0.019389. This means that every one unit increase in the economic distance variable will cause the value of cocopeat exports from Indonesia to decrease by -0.019389. Apart from that, the probability value in the table is 0.9198. When compared with a significance level of 0.05, this probability value shows that the economic distance variable does not make a significant contribution to the value of cocopeat exports from Indonesia. The exchange rate regression analysis has a regression coefficient of -0.018184, which means that every unit increase in the exchange rate variable for importing countries that are members of the G20 will result in the value of cocopeat exports from Indonesia decreasing by -0.018184. Another thing that can be obtained from table 11 is the probability value which displays the number 0.3916, which when compared with a significance level of 0.05 can indicate that the Exchange Rate variable has an insignificant contribution to the value of cocopeat exports from Indonesia.

The Indonesian Population variable has a regression coefficient of 7.45E-06. This means that every one unit increase in the Indonesian population variable will cause the value of cocopeat exports from Indonesia to G20 importing countries to increase by 7.45E-06. However, the probability value for this variable is 0.8774, which is greater than the significance level of 0.05. This indicates that the contribution of the Indonesian population variable to the value of cocopeat exports is not statistically significant. Meanwhile, the Population of Importing Countries variable has a regression coefficient of 6.65E-06. This suggests that every one unit

increase in the population variable of G20 importing countries will cause the value of cocopeat exports from Indonesia to increase by $6.65E-06$. The probability value for this variable is 0.000, which is smaller than the significance level of 0.05. This indicates that the contribution of the population variable of the importing country to the value of cocopeat exports is statistically significant. These findings indicate that the increase in Indonesia's population does not have a significant influence on cocopeat exports from Indonesia, while the increase in the population of importing countries has a significant influence on cocopeat exports. This can be important information in understanding the factors that influence the value of cocopeat exports from Indonesia.

4. Conclusion

In conclusion, the variables GDP of importing countries and population of importing countries which are members of the G20 have a significant influence on the export value of Cocopeat from Indonesia. Meanwhile, the variables Indonesian GDP, Economic Distance, Exchange Rate, and Indonesian Population do not have a partially significant influence. However, when all independent variables simultaneously have an influence on the export value of Cocopeat from Indonesia.

The suggestions based on the findings of this research are that the GDP and population of importing countries have a significant influence on cocopeat exports, the government and business people can consider focusing more on countries with high GDP and large populations as potential markets, especially those who are members of the G20 for cocopeat products. From Indonesia. Currency exchange rates also influence cocopeat exports, it is important to continue to monitor and evaluate exchange rate policies that can affect the competitiveness of exports of cocopeat products from Indonesia to G20 countries. Due to the positive influence of the Indonesian population, increasing cocopeat production can be a strategy to meet demand from domestic and international markets. Likewise, there are suggestions for diversifying export markets. Apart from countries with large populations, of course looking for opportunities in other countries with potential economic growth can also help reduce dependence on certain export markets. Overall, suggestions regarding further research could follow up on other possible factors that could influence cocopeat exports from Indonesia, such as international market prices and trade policies.

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