

Analysis The Influence Of Amount Domestic Production, Exchange Rate And Price On Rubber Export Value In Indonesia, 2015 - 2019

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Abstract

Export value is a part of the macro economy that can support performance in terms of profitability. In Indonesia, the plantation sector is a non-oil and gas sector that is very influential increasing the economy and the country's foreign exchange. The things that can result in export value are the amount of production, the exchange rate and the price. The study was conducted in Indonesia with a population of 60 and used secondary data. Simultaneously, the amount of domestic production, exchange rate or exchange rate and price have a significant effect on the export value of rubber in Indonesia. While partially, the amount of domestic production has a significant positive effect on the export value of rubber. The exchange rate partially has a significant negative effect on the value of rubber exports in Indonesia. Price has a partially significant positive effect on the value of rubber exports in Indonesia. The amount of domestic production is the most influential variable compared to the exchange rate and price on the export value of rubber in Indonesia.

Keywords: *Export value, amount of domestic production, exchange rate, price*

1. Introduction

Exports can be used as a driving factor for an economy. From the theory that comes from macroeconomics itself, it is stated that the net export can be a tool for the growth of an economy. The potential of an international market to become more global is determined by export efficiency (Export Performance). In particular, the rubber product industry is closely related to the main export products (Department of International Trade Promotion, 2012). The country of Indonesia enters the second position as the largest rubber producer and is included in the export commodity which contributes greatly to the country's stock exchange. Where, Thailand occupies the first position as the largest rubber producer in the world.

Table 1. Number of Workers, Total Production and Productivity of Rubber in Indonesia by Province and Month (Tonnes), 2014 – 2019

| <i>Period</i> | <i>Number of workers</i> | <i>Total Production (Ton)</i> | <i>Productivity (Kg/Ha)</i> |
|---------------|--------------------------|-------------------------------|-----------------------------|
| 2014 | 2,434,375 | 3,152,686 | 1,053 |
| 2015 | 2,464,542 | 3,145,398 | 1,036 |
| 2016 | 2,479,158 | 3,357,951 | 1,104 |
| 2017 | 2,479,158 | 3,357,951 | 1,104 |
| 2018 | 2,570,177 | 3,630,357 | 1,161 |
| 2019 | 2,579,516 | 3,448,782 | 1,237 |

Source: Indonesian Plantation Statistics, 2019

Through Table 1. it can be explained that the quantity of production, labor and productivity has increased each year. Judging from the comparison of production with other countries, Indonesia is a country that has the potential to produce natural rubber in large quantities, where in 2018 the total amount of Indonesian natural production reached 3.77 million tons or 26% of the total world production. Based on Table 2, it can be seen that the price of natural rubber in the world market tends to fluctuate from 2014 to 2019. Price fluctuations can occur because sales of natural rubber in Indonesia are highly

dependent on the export market, so when prices change in the international market, the export price of rubber in Indonesia will follow suit.

Table 2 Development of Monthly Prices for Rubber Commodities in International Markets (\$ / kg), 2014 – 2019

| Month | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------|------|------|------|------|------|------|
| Januari | 2.2 | 1.6 | 1.2 | 2.6 | 1.7 | 1.6 |
| Februari | 2.1 | 1.7 | 1.3 | 2.7 | 1.7 | 1.7 |
| Maret | 2.3 | 1.8 | 1.5 | 2.4 | 1.8 | 1.7 |
| April | 2.2 | 1.7 | 1.7 | 2.2 | 1.7 | 1.7 |
| Mei | 2.2 | 1.7 | 1.6 | 2.1 | 1.7 | 1.8 |
| Juni | 2.1 | 1.8 | 1.5 | 1.7 | 1.6 | 1.9 |
| Juli | 2.1 | 1.8 | 1.6 | 1.8 | 1.5 | 2.1 |
| Agustus | 1.9 | 1.6 | 1.6 | 1.8 | 1.5 | 2.3 |
| September | 1.6 | 1.4 | 1.6 | 1.9 | 1.4 | 1.8 |
| Oktober | 1.6 | 1.3 | 1.7 | 1.6 | 1.4 | 1.4 |
| November | 1.6 | 1.3 | 1.9 | 1.6 | 1.4 | 1.5 |
| Desember | 1.6 | 1.2 | 2.2 | 1.7 | 1.4 | 1.7 |

Source: www.bi.go.id, 2019

In order to increase the price of Natural Rubber commodity in the international market and also to develop the rubber industry in Indonesia, a policy called the Agreed Export Tonnage Scheme was issued. Given, the amount of demand for rubber as raw material in the industrial sector is increasing so that it can increase the amount of rubber demand from developed countries each year (Syaffendi et al, 2013). It can be seen from Figure 1 that Indonesia is in the second position as the largest natural rubber producing country in the world. The first position is occupied by Thailand, which has a total production of 30% of the total production of natural rubber worldwide.

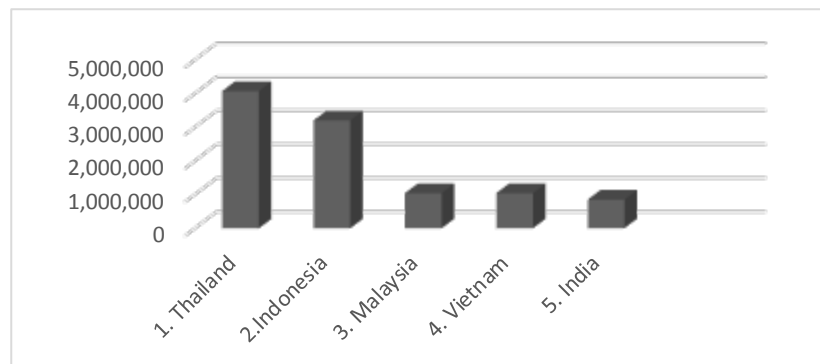


Fig. 1 The biggest natural rubber production in the world

Source: Association of Natural Rubber Producing Countries (ANRPC), 2015 Figure 1 Most Natural Rubber Producing Countries in the World (Tons), 2015

2. Literature Review

Febriyanto (2012) and Putra (2013) which state that the amount of production as a supplier for domestic industrial needs greatly impacts export performance. When the amount of production increases and the needs of the domestic industry are considered constant, exports will also increase. Alatas (2015) in his research found that the addition of international prices will increase the value of exports and there is a significant effect of the international price variable on the value of exports. Based on these results, it means that prices have a positive effect on export volume. Pujawati, Wiksuana, and Artini (2015) in their research show that the weakening of the rupiah exchange rate against the dollar will have a positive impact on the income to be received because the amount of rupiah received by companies will increase if the rupiah weakens against the dollar. Thus theoretically, currency exchange rates have a negative relationship with profitability (export value).

3. Problem Formulation

Based on the theoretical and research foundations that have been described, the following hypotheses can be formulated:

- i. The Amount of Domestic Production, Exchange Rate, and Prices simultaneously have a significant effect on the Export Value of Rubber.
- ii. The Amount of Domestic Production, Exchange Rate, and Prices partially have a significant effect on the Export Value of Rubber.
- iii. The independent variable that has a dominant influence on the export value of rubber in Indonesia

4. Research Methodology

- Monthly secondary data on variable of amount domestic rubber production, rubber prices on the international market, and the exchange rate from Rupiah to US Dollar in the 2015 - 2019 period
- Data collection is used by non-participant observation data methods
- Data analysis used is multiple regression coefficient test and classical assumption test (normality test, multicollinearity, heteroscedasticity, and autocorrelation)
- Significance test simultaneously using the F test
- Significance test partially using the T test

5. Analyst Results

In the Classical Assumption Test, there are test results for normality, autocholinearity, multicollinearity, and heteroscedasticity. The results of the normality test where the Asymp. Sig (2-tailed) 0.353 is greater than the level of significant, which is 5 percent (0.05). The conclusion is that the residual value in the regression model tested is normally distributed. The results of the autocorrelation test show that the d value of 1.938 is more than the upper limit (du) of 1.6889 and less than ($4-du$) $4-1.6889 = 2.3111$, it can be concluded that in areas there is no autocorrelation by using Durbin Watson test.

The multicollinearity test results show VIF and Tolerance values, which results in no Tolerance value of more than 0.1 (10 percent) or a VIF value that is not more than 10, so it can be concluded that there are no multicollinearity symptoms in the analysis model. The results of the heteroscedasticity test show that the significance value is greater than $\alpha = 0.05$, so the conclusion is that there is no heteroscedasticity.

The value of multiple regression coefficients on the independent variable has a t test significance value of less than 0.05, so that all variables in this study consisting of production amount (X_1), exchange rate (X_2) and rubber prices (X_3) have a significant effect on the variable. Rubber export value.

The result of the determination coefficient test showed that the value of R^2 was 0.740. It can be concluded that there are 74 percent of the variation in the value of rubber exports which can be significantly influenced by (X_1), (X_2) and (X_3) while 26 percent is another factor.

The results of the F test show that the calculated F value is 53.242 with a significance value of P value 0.000 so that it is smaller than $\alpha = 0.05$, it can be concluded that the amount of production (X_1), the exchange rate (X_2) and the price of rubber (X_3) can have a simultaneous effect. significant to the export value of rubber.

The results of the T test show the value of the regression coefficient X_1 , namely the amount of production of 0.980 with a t value of 6.467 which indicates a positive value with a significance level of $0.000 < 0.050$. This shows that the amount of

production has a significant positive effect on the export value of rubber. For the results of the T test on the coefficient of a regression value X_2 , namely the price of rubber which is positive with a level of 0.192 with a t value of 2.939 which indicates a positive value with a significance level of $0.005 < 0.050$. This shows that the price of rubber has a positive and significant effect on the export value of rubber. Furthermore, the results of the t test on the value of the regression coefficient X_3 , namely the price of -0.280 to the t value of -2.623 which indicates a negative value with a significance level of $0.011 < 0.050$. This shows that the exchange rate has a significant negative effect on the export value of rubber.

The dominant variable with Standardized Coefficients Beta states that the amount of domestic production (X_1) has the largest Standardized Coefficients Beta 0.929 of the other variables, so it can be concluded that the variable amount of domestic production (X_1) has a dominant effect on the value of rubber exports in Indonesia.

6. Conclusion

Based on the results of the analysis and discussion, it can be concluded:

- 1) The simultaneous test results show that the amount of domestic production, exchange rates and prices have a significant effect on the export value of rubber in Indonesia.
- 2) The amount of domestic production (X_1) partially has a positive and significant effect on the export value of rubber in Indonesia.
- 3) The exchange rate (X_2) partially has a negative and significant effect on the value of rubber exports in Indonesia.
- 4) Price (X_3) partially has a significant positive effect on the value of rubber exports in Indonesia.
- 5) The amount of domestic production (X_1) is the most dominant variable among other independent variables on the export value of rubber.

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