Comparative Analysis Trade Balance of the Indonesian Agricultural Products and the Strengthening of National Food: Case Study in IMT-GT Indonesia-Malaysia-Thailand Economic Triangle Cooperation and Integration)

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Abstract. The agricultural sector has an important role in the Indonesian economy so that this sector must get the attention of the government, especially those related to management and the utilization of the results strategically, especially those concerning food supply. So that it is expected that this agricultural sector can provide more optimum benefits and can be enjoyed by the entire population of Indonesia as well as the process of accelerating the transformation of the structure of the national economy from the agricultural sector to the processing industry sector. The data used is the Data Time Series during the period 2013-2017 obtained from DEPTAN, BPS, FAO, Bank Indonesia, and the World Bank. The analytical method used is Trend Analysis and influence analysis with Ordinary Least Square (OLS) analysis models, and Auto Correlation Models. The results of the study show that the Indonesian trade nearaca in the Indonesia-Malaysia-Thailand IMT-GT Growth Triangle Economic Cooperation and Integration is getting better and better every time, and together there is an influence of importer state income, the number of importers and the exchange rate against the volume of exports of Indonesian Agricultural products during this period.

1. Introduction
The agricultural sector has an important role in the Indonesian economy that needs attention from the government. Ufira Isbah et al (2016) argued that the agricultural sector is one of the sectors that is the center of attention in national development, especially relating to the management and utilization of strategic results, especially those concerning food commodities, for this reason the management and utilization of agricultural products. It is hoped that it can be carried out in a more planned manner with optimum utilization and can be enjoyed by the entire population of Indonesia. Furthermore, he added that the position of the agricultural sector in the economy Agricultural development is an integral part of national economic development and development. The results of the study of economic development in various countries indicate that there is a mechanism of linkages between agricultural development and industrial development and services.

The success of agricultural development, especially in increasing the income and availability of basic foodstuffs, will spur the development of industrial and service sectors and accelerate the transformation of the structure of the national economy. Empirical evidence also shows that the resilience of the industrial sector will be stronger if supported by the development of a resilient and sustainable agricultural
sector, so that the linkages between agriculture, industry and services appear (Agribusiness Agency, 2000 in Ufira Isbah et al 2016).

The role of the agricultural sector in the economy of a country or region can be seen from several aspects, namely. The contribution of the agricultural sector to Gross Domestic Product (GDP), the contribution of the agricultural sector to employment opportunities, the ability of the agricultural sector to provide a diversity of food menus which will greatly affect the pattern of consumption and nutrition, ability of the agricultural sector to support the development of upstream and downstream industries, and exports agricultural products will contribute to foreign exchange for the country. The agricultural sector is a very strategic factor, is the economic base of the people in the countryside, controls the lives of most of the population, absorbs more than half of the total workforce and even becomes a safety valve in the Indonesian economic crisis. (Arifin, 2004).

Agricultural products are one of Indonesia's export commodities which have a very important role in the Indonesian economy. Aside from being a source of income and welfare of the community and as a driver of economic growth. The Central Statistics Agency (2017) published that based on BPS data, the Indonesian agricultural sector experienced significant growth compared to the same period in the previous year with the condition of all agricultural sub-sectors going up, except horticulture. Food crops experienced the highest growth of 12.96%, whereas when viewed from the creation of sources of economic growth in Indonesia in the first quarter of 2017, the agricultural sector contributed to the GDP of 13.59% with a growth of 7.1% (year on year / yoy). The agricultural sector is one of the biggest contributors to the economy. Furthermore, the export performance of the agricultural sector shows a point where the value of exports in the agricultural sector reached Rp 440 trillion in 2017, where livestock contributed Rp 14 trillion.

The increasing world demand for agricultural products is an opportunity for Indonesia to place itself as a major exporter of agricultural products. Not only the intensification that can be done by Indonesia, but also extensification, which is not possible for other countries such as Thailand and Malaysia because of limited land. Indonesia can still develop the agricultural sector more widely because there are still many vacant land such as deforested forests, shrubs, and alang-alang fields that can be developed again. Thus the production obtained can not only meet domestic needs but also be able to encourage exports abroad.

2. Research Methods
Data in this study were collected through recording from various publishing sources as well as from related offices or agencies. The data used in this study are the 2013–2017 time series secondary data from institutions related to research, including: FAO (Food and Agriculture Organization), BPS (The Central Statistics Agency), Ministry of Agriculture, Ministry of Industry and trade, Bank Indonesia and the World Bank.

3. Data analysis method
The role of the Indonesian agricultural sector trade balance in Collaboration and Economic Integration of the Indonesia-Malaysia – Thailand Growth Triangle in the short and long term IMT-GT was analyzed using Trend Analysis with Beams chart as well as influence analysis with Ordinary Least Square (OLS) and Auto Correlation Models with modifications to several independent variables, structural equation models in this study are as follows.

\[
Q_{dt} = \beta_0 + \beta_1 I_t + \beta_2 E_{Rt} + \beta_3 P_{opt} + e
\]

Log \( Q_{dt} = \beta_0 + \log \beta_1 I_t + \log \beta_2 E_{Rt} + \log \beta_3 P_{opt} + e \)

Where:
- \( Q_{dt} \) = export volume of Indonesian Agricultural Products (thousand tons)
- \( I_t \) = importer country per capita income (US $)
- \( E_{Rt} \) = exchange rate (Exchange rate) of rupiah
Popt = population of importing countries (souls)
This (i = 1, 2, ..., 10) = regression coefficient
μt = an error term.

4. Results and Discussion

4.1 Indonesian Agricultural Products Trade Balance
Comparison of the trade balance of Indonesian agricultural products in Malaysia and Thailand in the
IMT-GT Collaboration is a comparative picture of how the Indonesian agricultural sector plays a role in
promoting increased national economic growth. Table 1. The following below illustrates the Indonesian
agricultural sector trade balance in the IMT-GT Indonesia-Malaysia-Thailand Economic Triangle
Cooperation and Integration.

**Table 1. Data and Trade Balance Histograms of the Agriculture Sector in Malaysia and Thailand**

| Period (Tahun) | NPIM (Ribuan US$) | NPII (Ribuan US$) |
|---------------|------------------|------------------|
| 2013          | 1,339,061.10     | -5,399,649       |
| 2014          | 618,703.00       | -4,691,838       |
| 2015          | 1,248,378.30     | -3,418,180       |
| 2016          | 1,291,383.10     | -3,990,869       |
| 2017          | 1,787,461.30     | -3,756,101       |

In the table and histogram, it can be seen that the trade balance of Indonesian agricultural products
with Malaysia in the IMT-GT Collaboration is positive and fluctuating, meaning that the export of
Indonesian agricultural products to Malaysia in 2013 to 2017 is greater than the Import value resulting in
a surplus with an average value 22.4% growth. However, from the annual growth trend the trade balance
of Indonesia's agricultural products with Malaysia continues to increase with the understanding that our
country continues to spur export value and suppress imports from Malaysia.

While the trade balance of Indonesian agricultural products with Thailand in the same period was
negative and fluctuating, meaning that the export value of Indonesian agricultural products to Thailand
had a greater import value than exports, resulting in a deficit with an average growth rate of -7.35%. But
the annual growth trend that continues to increase illustrates that our country continues to spur exports
and suppress imports from Thailand.

4.2 Factors Affecting Indonesian Agricultural Product Exports

4.2.1 Malaysia
The regression analysis results to obtain the factors that affect the export volume of Indonesian
Agricultural products to Malaysia in the Cooperation and Economic Integration of the Indonesia-
Malaysia – Thailand Growth Triangle IMT-GT in this study are shown in table 2 as follows:
Table 2. Results of Regression Analysis To see the factors that affect the volume of exports of Indonesian agricultural products to Malaysia

Table 2 above, explains that

a) Variable State Revenue Importer (ITMYS). The Standardized Coefficients value is 0.042, this result explains that if the income of the importing country (Malaysia) increases by 1%, the export volume of Indonesian agricultural products increases by 0.042 Percent assuming other variables are considered constant. Then from the t test partially, the Sigt-count value is 0.977 and this value is far greater than the significance value (α = 5%). This shows that the income variable of the importing country (Malaysia) does not significantly affect the export volume of Indonesian agricultural products at a 95% confidence level.

b) While the exchange rate of the Rupiah against the Malaysian Ringgit regression coefficient value is -0.267, this result also explains that if the exchange rate increases by 1%, the export volume of Indonesian agricultural products to Malaysia will decrease by 0.267%. The t test results obtained by the Sigt-count value of 0.828 and far greater than (α = 5%). This shows that the exchange rate variable does not significantly affect the volume of Indonesian agricultural product exports.

c) For variable regression coefficient values, the population of Malaysian importing countries (PoptMYS) is 0.751. These results indicate that if the population of Malaysia increases by 1%, the export volume of Indonesian Indonesian agricultural products to that country has increased by 0.751%. Whereas the t test is partially obtained by the Sigt-count value of 0.533 and this value is far greater than the significance value (α = 5%). This shows that the variable number of population of importers (Malaysia) does not significantly influence the volume of export of Indonesian agricultural products at a 95% confidence level.

The overall test results on the export volume of Indonesian agricultural products to Malaysia obtained a coefficient of determination (R^2) of 0.511, which means that there are around 51.1% of the volume of exports of Indonesian agricultural products to Malaysia can be explained by the country's per capita income exchange rate and population of importing countries in the model, while the rest (49.9%) is determined by other independent variables outside the analysis model used.

Table 3. Results of Regression Analysis to see the magnitude of the influence between the tested variables on the volume of exports of Indonesian Agricultural products to Malaysia

Whereas to see the level of significance of the effect of the overall variable income per capita of the importing country, the exchange rate and the population of the importing country together on the export volume of Indonesian agricultural products to Malaysia, the Ftest test is used, with the results as Table the following:
Table 4. Test results Ftes to see the magnitude of the level of significance of the overall effect between
the variables tested

| Model      | Sum of Squares | df | Mean Square | F    | Sig |
|------------|----------------|----|-------------|------|-----|
| Regression | 0.05           | 2  | 0.025       | 0.34 | 0.811 |
| Residual   | 0.04           | 1  | 0.04        | 0.34 | 0.811 |
| Total      | 0.09           | 4  |             | 0.34 | 0.811 |

The sigF-count value is obtained at 0.811 and this value is far greater than (ά = 5%). This shows that
the independent variables in this model together do not significantly affect the volume of exports of
Indonesian agricultural products to Malaysian countries at a 95% confidence level.

4.2.2 Country of Thailand

What are the factors that affect the export volume of Indonesian Agricultural products to Thailand in the
IMT-GT Economic Cooperation and Integration of the Indonesia-Malaysia – Thailand Growth Triangle
in this study:

Table 5. Results of Regression Analysis To see the factors that affect the volume of exports of
Indonesian agricultural products to Thailand.

In Table 5 above explains that

a) Importer (itThai) state income variable, the Standardized Coefficients value is -0.215. This result
explains that if the income of the importing country (Thailand) increases 1%, the export volume of
Indonesian agricultural products decreases by 0.215% assuming other variables are considered
constant. Then from the results of the Test t the Sig-count value is 0.820 and this value is far greater
than the significance value (ά = 5%). This shows that the income variable of the importing country
(Thailand) does not have a significant effect on the export volume of Indonesian agricultural
products at a 95% confidence level.

b) While the Rupiah exchange rate against Bath Thailand the regression coefficient value is 0.839, this
result also explains that if the exchange rate increases by 1%, the export volume of Indonesian
agricultural products to Thailand decreases by 0.839%. The t test results obtained by the Sig-count
value of 0.498 and far greater than (ά = 5%). This shows that the exchange rate variable does not
significantly affect the volume of export of Indonesian agricultural products.

c) For the variable regression coefficient value of the population of Thai importing countries
(PoptThai) of 0.330, this result shows that if the Thai population increases by 1%, then the export
volume of Indonesian Indonesian agricultural products to that country has increased by 0.330%. While
the t-test partially obtained a Sig-count value of 0.661 and this value is far greater than the
significance value (ά = 5%). This shows that the variable number of population of importers
(Thailand) does not significantly influence the volume of export of Indonesian agricultural products
at a 95% confidence level.

The overall test results on the export volume of Indonesian agricultural products to Thailand as
shown in table 5 below explain that the coefficient of determination is 0.855, this means that there are
around 85.5% of the export volume of Indonesian agricultural products to Thailand explained by the state
per capita income, the exchange rate and the population of the importing country in the model, while the
rest (14.5%) is determined by other independent variables outside the analysis model used.
Table 6. Results of Regression Analysis to see the magnitude of the influence between the tested variables on the volume of exports of Indonesian Agricultural products to Thailand

Whereas to see the level of significance of the influence of the overall variable income per capita of the importing country, the exchange rate, and the population of the importing country together on the export volume of Indonesian agricultural products to Thailand, the Ftest test is used, with the results as Table 7 as the following:

Table 7. Test results Ftest to see the magnitude of the level of significance of the overall effect between the variables tested

The sigF-count value is 0.473 and this value is far greater than (α = 5%). This shows that the independent variables in this model together do not have a significant effect on the export volume of Indonesian agricultural products to Thailand at a 95% confidence level.

From the results of the above research it can be seen that comparatively the National Agricultural Commodity Trade Balance continues to be driven towards a positive trend that is increasingly improving, especially in the IMT-GT Indonesia-Malaysia-Thailand Economic Triangle Growth and Cooperation Integration. This trend is considered very good because the country of Indonesia is an agrarian country whose competitive advantage is the agricultural sector and as a provider of national food needs. Agricultural commodities are also economically important commodities because the agricultural sector is able to increase national GDP, foreign exchange agriculture also has a large contribution to the increase in foreign exchange if the export value is greater than imports of agricultural commodities.

5. Conclusion/ Suggestion

5.1 Conclusion

From the comparative research results, as well as what factors influence the export of Indonesian agricultural products in the IMT-GT Indonesia-Malaysia-Thailand Growth Triangle Economic Cooperation and Integration, conclusions can be drawn as follows:

a) Strengthening the need for National Food can also be seen from how national strategies and policies encourage the development of the agricultural sector through encouraging exports and suppressing imports of agricultural products. The trade balance of Indonesian agricultural products with Malaysia in the IMT-GT Cooperation in the period 2013 to 2017, the trend is positive (surplus) with an average growth of 22.4%. Whereas with the Thai country the trend is negative with an average growth of -7.35%.

b) The results of the study explain that with the Malaysian state explaining that the variable state income is Importer, and the population of importers (Malaysia) has a positive effect, while the exchange rate of the Rupiah against the Malaysian Ringgit has a negative effect on the volume of Indonesian agricultural product exports. The value of R Square explains that there are 51.1% of the
volume of exports of Indonesian Agricultural products to the State of Malaysia can be explained by these three variables while the rest (49.9%) is determined by other independent variables outside the model. Whereas with the country of Thailand, the results of the study explain that the importer's income has a negative effect, while the exchange rate of Rupiah against Thai Bath and the population of the importing country have a positive effect on the volume of Indonesian agricultural product exports. The overall test results show the value of 85.5 or 85.5% of the three variables 14.5% are determined by other independent variables outside the analysis model used.

5.2 Suggestion
From the results of comparative research, and what factors influence the export of Indonesian agricultural products in the IMT-GT Indonesia-Malaysia-Thailand Economic Triangle Cooperation and Integration, the following can be suggested:

a) The central government must be able to establish appropriate policies in agricultural development so that it can encourage the growth of the agricultural sector, increase GDP and public welfare.

b) It is necessary to develop the management of agricultural sector products for export and the National market so that processed products in the form of materials can become finished products that are ready for export and have high value.

The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g.” Avoid the stilted expression “one of us (R. B. G.) thanks...”. Instead, try “R. B. G. thanks...”. Put sponsor acknowledgments in the unnumbered footnote on the first page.

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