Determinants of Indonesia's Coffee Commodity with Trading Partner Countries

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Abstract

This study measures the Intra Industry Trade Index / Rubel Lloyd Index of Indonesia's coffee commodities with trading partner countries (Singapore, Malaysia, Thailand, Vietnam and Philippines) and estimates factors the influence of Intra Industry Trade of Indonesia's coffee commodities. The presented data is obtained from secondary data with the research period from 2000 to 2019 using panel data analysis to know the extent influence of the independent variables (average GDP, GDP value differences per capita, exchange rates and distance) on the dependent variable (Intra-Industry Trade). Based on the estimation results, it can be concluded that the integration degree of intra-industry trade for Indonesian coffee commodities with trading partner countries has varying degrees. This indicates that there is a dependence on the coffee commodity trade. The availability of coffee commodities in these countries is highly dependent on intra-industry exports and imports value between Indonesia and its trading partner countries.

Keywords: Intra Industry Trade, Coffee Commodity, Indonesia, ASEAN **JEL classification:** (F02; F14; F15)

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1. Introduction

One of the most important commodities in the world and widely cultivated in various countries including Indonesia is the coffee commodity (Gabriele & Vanzetti, 2008). Coffee is a commodity from the agricultural sector which plays a role in contributing to the country's foreign exchange. The volume of coffee commodity production in Indonesia is very large, placing Indonesia as the fourth largest coffee exporter in the world after Brazil, Colombia and Vietnam (Wulandari, 2010).

The development of coffee consumption in Indonesia cannot be separated from the wave of transformation of world coffee development. In the first wave, all large coffee producing companies encourage an exponential increase in coffee consumption, namely the growth rate is proportional to the large quantity of coffee. The second wave of

coffee commodities was marked by the existence of specialty coffee, which started from the use of espresso machines from Italy to the American market. The third wave, the coffee industry and the global coffee business began to compete with local coffee shops that could serve specialty coffees from various regions. In early 2016, Indonesia entered the fourth wave, which was marked by a wider market and many coffee shops selling ready-to-drink coffee at relatively low prices.

There are many levels of Indonesian coffee commodity, ranging from home industry to multinational scale (Apriani, 2019). Through international trade, Turkchan & Ates (2010) stated that trade between countries is described as the exchange of products in different industries. This is evidenced by the Heckscher-Ohlin theory (HO Theory) which explains that this type of trade is

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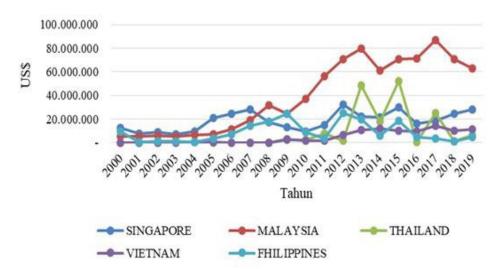


Figure 1 The development of Indonesia's coffee commodity exports to trading partners in ASEAN 2000-2019 Source: UN-Comtrade (processed 2021)

based on comparative advantage due to limited resources in producing a good or service so that it is more effective to obtain it from other countries. The form of economic integration in the Southeast Asian region is the Association of Southeast Asian Nations (ASEAN) which establishes geo-political and economic relations with fellow member countries. The development of Indonesia's coffee commodities export value to trading partner countries in the ASEAN region is shown in the Figure 1.

Based on these data shown, it can be seen that Indonesia's coffee commodity exports to trading partners (Singapore, Malaysia, Thailand, Vietnam, and the Philippines) show fluctuating numbers. Sahat et al., (2016) said that high fluctuations in the value of coffee exports were not only caused by technical matters and export volumes, but also because Indonesia's coffee exports were too dependent on commodities (coffee beans). The country's ability to supply domestic needs is very important, even though each country has limited capabilities. International trade is a solution for countries that have limited ability production. The relationships among countries in international trade activities that need each other are called trading partners (Kurniawan & Setyari, 2018).

Based on the description above, the problem can be formulated as follows: how big is the integration degree of intra-industry trade for Indonesian coffee commodities to trading partner countries and what are major factors that influence intra-industry trade of coffee commodities in Indonesia.

2. Research Method

This study measures intra-industry trade index Grubel Lloyd Index of Indonesian coffee commodities with trading partner countries (Singapore, Malaysia, Thailand, Vietnam and the Philippines) and estimates factors that influence the Intra Industry Trade of Indonesian coffee commodities.

The presented data is obtained from secondary data from various sources such as the United Nation Statistics Division (UNDS) Comtrade Database, Central Bureau of Statistics (BPS), Word Bank, the Ministry of Domestic Trade and other sources of information such as books, articles, journals and the internet with the research period from the year 2000 to 2019.

The variables used in this study are as follows:

a. Intra-Industry Trade Index

There are several ways to calculate the IIT index, one of which is by using the Grubel-Lloyd Index as follows:

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$$HT_{ij}^{k} = \frac{\left(\sum X_{ij}^{k} + \sum M_{ij}^{k}\right) - \left|\sum X_{ij}^{k} - \sum M_{ij}^{k}\right|}{\left(\sum X_{ij}^{k} + \sum M_{ij}^{k}\right)} \times 100 \tag{1}$$

Where:

 IIT_{ij}^{k} = Intra-Industrial Trade of Product k between country i and country j

 X_{ij}^k = Export of product k from country i to country j

 M_{ij}^k = Import of product k from country i to country j

I = Country of reporterj = Partner Countryk = Product Type

b. Average Gross Domestic Product

Differences in Gross Domestic Product can indicate market size, where restrictions or reductions, implementation of schemes or barriers to trade in the trade allow an increase in trade volume.

c. Gross Domestic Product Per Capita

The difference variable in Gross Domestic Product Per Capita is a representation of the absolute difference in the level of the economy between countries. Based on research conducted by (Kurniawan & Setyari, 2018), calculating this variable uses the following calculations:

PGDPCij = 1+
$$\frac{[vlnv + (1-v)ln(1-v)]}{ln 2}$$
 (2)

Where:

j

$$\mathbf{v} = \frac{GDPCi}{GDPCi + GDPCj} \mathbf{v}$$

GDP: Real Gross Domestic Product per capita i

: Reporter Country: Partner Country

d. Distance

Based on research conducted by Ayuwangi (2013), the distance calculation uses the effective distance, with the following equation:

$$\mathrm{JREKij} = \mathrm{Dij} \ \mathrm{x} \left(\frac{GDP_j}{GDP_i + \ GDP_j} \right) (3)$$

Where:

JREKij = Effective distance between countries i and j

Dij = Geographical distance between countries i and j GDP = Real Gross Domestic Product

i = Reporter countryj = Partner country

e. Exchange Rate

According to Mankiw (2007) the exchange rate is the price level of currency between two countries agreed by both countries to trade with each other. The exchange rate can affect the volume of international trade, because the exchange rate will change the relative prices of traded goods and services. To estimate Intra Industry Trade, use the panel data regression function as follows:

$$IITijt = 0 + 1ln (AVEGDPijt) + 2ln (PGDPCijt) + 3ln (EXRijt) + 4ln (DISTijt) + ijt$$
(4)

Where:

IITijt = IIT value between country i and j

in year t

0 = Constant

AVEGDPijt = Average GDP of country i and j in

year t

PDPPCijt = The difference in the value of GDP

per capita of country i and j in year t KURSijt = Exchange rate

of country i and j in year t

DISTIjt = Effective distance of country i and

j in year t ijt = Random Error

Panel data analysis was estimated using E-Views program to know the extent the influence of the independent variable (average GDP, differences in GDP per capita value, exchange rate and distance) on the dependent variable (Intra Industry Trade).

3. Results and Discussion

3.1 Results

Each country's production factors differences can allow for comparative advantage and result in product differentiation (LIoyd & Lee, 2002).

Every country that engages in intra-industrial trade can generate profits because countries can have various types of goods available. The results of Intra Industry Trade (IIT) index estimation can be used as an indicator of the integration that occurs in the coffee commodity. The integration degree was determined based on the vulnerable classification of the IIT index value used in the Austria (2004).

Table 1. Intra Industry Trade Indonesia - Coffee Commodity Trading Partner Countries

| Country | IIT Index | Category |
|-----------------|---------------|---------------------------|
| IND_Singapore | 0.00 > 24.99 | Weak Integration |
| IND_Thailand | 50.00 - 74.99 | Moderately Integration |
| IND_Malaysia | 0.00 > 24.99 | $Weak\ Integration$ |
| IND_Vietnamese | > 75.00 | $Strong \ Integration$ |
| IND_Philippines | 0.00 > 24.99 | Weak Integration |

Source: Comtrade.un.org/data,(data processed, 2021)

The estimation results of the Intra Industry Trade (IIT) index in 2000-2019 are generally quite strong, which means Indonesia's coffee commodity trade with its trading partner countries is quite integrated.

In general, intra-industry trade for coffee commodities between Indonesia and Vietnam is at the strongest level, while intra-industrial trade for coffee commodities between Indonesia and trading partners in the Philippines is at the weakest level.

Specifically, it was found that coffee commodity trade with trading partner countries the Philippines has an average index of 0.662 in the Weak Integration category. Based on data sources from UN Comtrade that imports of HS 0901 coffee commodities from the Philippines to Indonesia in the period 2000 to 2019 were only available in a few years including 2003, 2010, 2017, and 2018. Meanwhile for other years, if seen from the data, there is no activity of importing coffee commodities from the Philippines to Indonesia. This is caused by several factors including:

a. The global economy strength and climate change are obstacles in the Philippines's

- coffee production process, so this country did more coffee import activities than coffee exports to partner countries, especially Indonesia (Ang, 2011).
- b. Indonesia and Philippines have imposed trade barriers on each other, namely the special safeguard (SSG) in 2018 imposed by the Philippines government. The trade security measures were partly motivated by the Philippines' trade balance deficit against Indonesia. In addition, Manila, the capital city of the Philippines, thought that Jakarta has blocked the entry of Philippine agricultural products into Indonesia's market (Sari, 2019).
- c. The Philippines does not have the infrastructure for processing, warehousing, and trading coffee. Farmers are left alone. In addition, extreme weather and rapid urbanization have had an impact on the coffee industry. So that in several years Philippines has not produced enough to support its consumption (Soque, 2018).
- d. Philippines coffee production in the world market in 2011 is projected to fall by 5-6 percent due to the continued shift of coffee farmers to higher commodities. The non-productive coffee trees cutting, as well as the conversion of coffee plantations for non-agricultural uses. In addition, there was a shortage of labor for coffee harvesting due to the shift from agriculture to mining which contributed to the decline in coffee production in 2011 (Ang, 2011).

Besides the Philippines, other trading partner countries such as Singapore and Malaysia are also categorized as weak integration. Singapore has an average IIT index of 4,782 and Malaysia has 4,272. The low value is because the export value is greater than the import value of coffee commodities, Indonesia exports more to Singapore and Malaysia than Indonesia coffee imports from these countries.

Strong integration levels accured in Vietnam and Thailand with a rather strong category. According to the Kementerian Perdagangan Republik Indonesia (2013) that the ASEAN Free

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Trade Area (AFTA) is a manifestation of the agreement of ASEAN countries to establish a free trade area to increase economic competitiveness in the ASEAN region by making ASEAN a world production base and creating regional markets. Developments related to AFTA are the agreement to abolish all import duties of goods for ASEAN countries, especially among Vietnam, Thailand and Indonesia in 2015. The strong integration between Vietnam and Thailand towards Indonesia in the coffee commodity is due to several collaborations in the field of coffee. The economies formed between these countries are AFTA (ASEAN Free Trade Area) and MEA (ASEAN Economic Community) or AEC (ASEAN Economic Community).

There are several reasons for the country of Vietnam to have a fairly strong integration of Indonesia in the coffee commodity as follows:

- Kementerian Perindustrian Republik Indonesia (2019) revealed that Indonesia has opportunities in the development of coffee processing because in addition to having a large market, it is also supported by the potential availability of abundant raw materials. Indonesia is also known as the world's best coffee producer based on the diversity of its geographical indications, thus attracting the interest of several countries, one of which is Vietnam to increase trade integration with Indonesia in coffee commodities, even though these two countries are classified as the largest coffee exporting countries in ASEAN and even at the world level.
- b. The quality of Vietnamese coffee is still inferior compared to Indonesian coffee, despite intense competition; the two countries are still establishing trade integration, especially in the coffee commodity. In the research, Atmadji et al., (2019) revealed that Malaysian coffee drinkers prefer Indonesian coffee to Vietnamese coffee. For Malaysian coffee drinkers, Vietnamese coffee is only a coffee drink and they still choose Indonesian coffee as their main coffee drink. This shows that Indonesian coffee is coffee that has a

- strong character compared to Vietnamese coffee.
- c. Winata (2021) said that Vietnam is Indonesia's fourth largest trading partner in the ASEAN region. The value of trade between the two countries has almost doubled in the last five years. In addition, the Kementerian Perdagangan Republik Indonesia (2021) stated that Vietnam was listed as the 11th export destination country and the 12th largest source of imports for Indonesia in 2018 including exports and imports of coffee commodities.

In addition, the reasons Thailand has a fairly strong integration to Indonesia in the coffee commodity are:

Based on information obtained from the dan Pengembangan Pusat Penelitian Perkebunan (2020) that Thailand is one of the countries classified as a large coffee consumer. It's because drinking coffee has become a tradition for people. In Bangkok International Trade & Exhibition Center (BITEC) event held in Thailand in 2020, the Ministry of Agriculture through the Directorate General of Plantations also supported the exhibition, namely Thailand Coffee, Tea & Drink. The exhibition was attended by the Deputy Ambassador of the Republic of Indonesia, the Bangkok Trade Attaché and the staff/economic functions of the Indonesian Embassy in Bangkok, Thailand as well as plantation business players from Indonesia, including PT. Sarinah Mega Perkasa from Makassar, South Sulawesi (the product is coffee), PT. Friends of Strategic Partners from Jakarta (products in the form of Coffee, Stevia), PT. Bejana Kasih Sempurna from Jakarta (a product in the form of Mamasa Coffee/ La Mamasa). Through the 14th Thailand Coffee, Tea & Drink event, Indonesian coffee products managed to attract attention even to several other countries, especially coffee from PT. Perfect Love Vessel with La Mamasa Coffee products is in demand by

11 countries, especially Thailand. Around 70 percent of potential buyers come from Thailand and are very interested in La Mamasa Robusta coffee, especially to supply the needs of coffee shops in Thailand which are starting to spread among young people.

- b. Kementerian Perdagangan Republik Indonesia (2013) stated that although Thailand has its own processed coffee product, Kopi Gajah, Indonesia also has its own processed coffee product with a different taste and brand of coffee from other countries, especially in Thailand, such as Luwak Coffee, Toraja Coffe, Gayo Coffee, Mandheling Coffee, and Sumatra Lintong. The unique aroma and taste of Luwak Coffee have earned it the nickname "The Most Expensive Coffee in the World". Thai consumers also like its green beans for several reasons including:
- More durable. While roasted beans only stay fresh for 1 to 3 months, Luwak Coffee green beans can last up to 2 to 3 years if stored properly.
- Roasting profile can be determined according to the tastes of the retail consumer market. Consumer tastes are distinguished by roasting profile very dark, City Roast, and Full City Roast.
- The authenticity of Luwak Coffee can be seen from the green beans. The green bean Luwak Coffee has its characteristics compared to ordinary coffee beans, for example, from its clean shape, rather large evenly between one another, the part of the epidermis that sticks mostly with peach color, and the smell is more fragrant like pandanus.
- The price is relatively cheaper than the purchase price in the form of roasted beans or powder.

3.2 Model Estimation Results

Referring to the results of the Chow test (Appendix 1), it shows that the p-value in the F cross section is 0.0000 <= 0.05, so H1 is accepted, which means it is better to use the fixed effect model than the common effect model. Meanwhile, based on the results of the Hausman test (Appendix 2),

it shows that the p-value in the random cross-section is $0.0000 \le 0.05$, which means that H1 is accepted. So based on the results of this Hausman test, the model chosen or better to use is the fixed effect model (FEM).

Table 2. Fixed Effect Model (FEM) Estimation Results

| Variable | Coefficient | Std. Error | t-statistics | Prob. |
|----------|-------------|---------------|--------------|--------|
| С | 0.208008 | 6.394340 | 0.032530 | 0.9741 |
| AVEGDP? | -0.622192 | 0.249029 | -2.498470 | 0.0143 |
| PGDP? | -0.482142 | 0.603861 | -0.798432 | 0.4267 |
| EXR? | 0.448055 | 0.317692 | 1.410343 | 0.1618 |
| DIST? | 0.341181 | 1.002544 | 0.340314 | 0.7344 |

Source:Output Eviews 10, (data processed, 2021)

The estimation results from the selection model, namely the Fixed Effect Model, are as follows:

Ln IIT = -0.622192*AVGDP - 0.482142*PGDPC + 0.448055*EXR + 0.341181 DIST +0.208008

The regression result above shows the average value of the random error component is 0.208008. The average value of GDP (AVGDP) and GDP per capita (PGDPC) show a negative effect on the intra industry trade variable. Meanwhile, the exchange rate variable (EXR) and the distance variable (DIST) show a positive influence on the intra industry trade variable. Referring to the regression coefficient value of each independent variable, it can be explained how the relationship between variables, assuming other factors are constant. This model is the best model that has passed the classical assumption test. There is an average GDP variable (AVEGDP) that has a negative and significant effect on intra-industrial trade in coffee commodities in Indonesia with trading partners (Singapore, Thailand, Malaysia, Vietnam, and the Philippines) during 2000-2019. GPD is an important indicator to measure the economic condition of a country. In the context of intra-industrial trade, GDP indicates that the country specializes in several products so that it can increase trade activities between

countries. The results of this study are supported by research conducted by (Kurniawan & Setyari, 2018) which states that the value of GDP has a significant effect on the degree of integration of the intra-industry trade of Indonesian cosmetic commodities with ASEAN-5 trading partner countries.

It is known that the GDP per capita difference variable (PGDPC) has a negative and insignificant effect on the intra-industrial trade of coffee commodities in Indonesia with its five trading partner countries in the study period. In this study, the existing theory does not apply. A possible explanation is that there is a very large difference in GDP per capita between Indonesia and trading partner countries (Nisa, 2017). The greater the difference in GDP per capita between countries that trade, the trade will lead to comparative trade and not intra-industry (Ito & Umemoto, 2004).

The exchange rate variable on the intraindustrial trade variable for Indonesian coffee commodities with its five trading partners is positive and statistically insignificant during the study period. In other words, the depreciation of the dollar leads to a higher level of intra industry trade between countries of trade. Based on research conducted by Turkchan & Ates (2010) revealed that the exchange rate will have a significant effect if the depreciation of the dollar increases the market share of the vertically differentiated intra-industry trade, namely the automotive product industry. In addition, the rupiah exchange rate which tends to weaken every year indicates that Indonesia has not been able to provide enough confidence to the world in terms of economic, political and social aspects (Purba & Adi, 2015).

The distance variable (DIST) has a positive coefficient value, so it can be concluded that in the study period the distance variable (DIST) has a positive but not significant effect on the average variable of intra-industry trade in Indonesia's coffee commodities with its five trading partners. In this study, especially on the distance variable, the existing theory does not apply. Trade flows and export-import decisions are influenced by relative distances, one of which is economic distance.

However, if the export component is aggressed into the form of an export margin, it can produce different results (Sahat *et al.*, 2016). The model that aggregates export margins results in the conclusion that distance does not affect the value of exports, where the export value is a component for calculating the value of intra industry trade (IIT).

3.3 Discussion

The following is a table of intercept results obtained in the selected model (fixed effect model):

Table 3. Intercept Results of Fixed Effect Model

| Variable | Coefficient |
|---------------------|-------------|
| _IND_SINGAPORE-C | 1.780768 |
| _IND_THAILAND-C | 0.519764 |
| _IND_MALAYSIA-C | 1.026758 |
| _IND_VIETNAM-C | 0.839059 |
| _IND_PHILLIPPINES-C | -4.166349 |

Source: Output Eviews 10, (data processed, 2021)

Based on regression data results of Indonesia and its five trading partners, it shows four trading partner countries of Indonesia have a positive intercept value, namely Singapore at 1.780768, Thailand at 0.519764, Malaysia at 1.026758, and Vietnam at 0.839059. It means that the four trading partner countries affect the intraindustrial trade of Indonesian coffee commodities individually. If the variable is equal to 0 then intra-industrial trade will increase in the four trading partner countries, namely Singapore by 1.78 percent, Thailand by 0.52 percent, Malaysia by 1.03 percent, and Vietnam by 0.84 percent. The positive intercept value of the four trading partner countries in the intra-industrial trade of Indonesian coffee commodities is caused by one factor, namely the export value of coffee commodities between these countries which is quite high over 20 years period. It can increase the value of intra-industrial trade for Indonesian coffee commodities with its four trading partner countries.

Meanwhile, there is one trading partner country in the intra-industrial trade of Indonesian coffee commodities which has a negative intercept

value, namely the Philippines with a value of

-4.166349, which means that the intraindustrial trade of Indonesian coffee commodities individually is not influenced by the Philippines. The reason is the existence of export barriers that the Philippines has applied to Indonesian coffee commodities. This will also result in a decrease in intra-industrial trade of Indonesian coffee commodities with one of its trading partner countries (the Philippines). This condition is also shown if the variable is equal to 0, then the intraindustrial trade of Indonesian coffee commodities with the Philippines will decrease by 4.16 percent.

4. Conclusions

Based on the results of the study, it can be concluded as follows:

Intra-industry trade represents international trade in industries that have various trade benefits compared to conventional trade (inter-industry trade). The rise of intraindustrial trade carried out by Indonesia and its trading partners who are in the same region bind themselves in special economic cooperation, such as Indonesia's involvement in AFTA and APEC membership which resulted in changes in trade patterns between Indonesia and its trading partner countries. Based on the estimation results, it can be concluded that the degree of integration of intra-industrial trade for Indonesian coffee commodities to trading partner countries has varying degrees. Indonesia and its trading partner countries (Singapore, Malaysia and the Philippines) have a weak degree of integration (Weak Integration). Indonesia and its trading partner the Philippines are at the lowest level because they have trade barriers imposed by the Philippine government. Meanwhile, Indonesia and Thailand have rather strong integration (Moderately Integration) and Indonesia and Vietnam have strong integration (Strong Integration). This indicates that there is a dependence on the coffee commodity trade. The availability of coffee commodities in these countries is highly dependent on the value of intra-industry exports and imports

- between Indonesia and its trading partner countries.
- 2. The export value has an important role in encouraging economic growth, creating jobs, and alleviating poverty. Therefore, various efforts made by the government should be oriented to encourage increased exports to achieve this goal. By referring to this research, the government is expected to develop and improve industrial sectors that are still not showing good performance to be able to compete with similar industries in other countries.

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6. Appendixes.

Appendixes 1 Chow Test Results

| Effect Test | Statistics | df | Prob |
|-----------------|------------|---------|--------|
| Cross-section F | 19.442139 | (4, 91) | 0.0000 |

Source: Output Eviews 10, (data processed 2021)

Appendixes 2 Hausman Test Results

| Test Summary | Chi-Sq. Statistics | Chi-Sq. df | Prob. |
|----------------------|--------------------|------------|--------|
| Cross-section random | 68.220750 | 4 | 0.0000 |

Source: Output Eviews 10, (data processed 2021)

Appendixes 3 Heteroscedasticity Test Results

| Variable | Coefficient | Std. Error | t-statistics | Prob. |
|----------|-------------|------------|--------------|--------|
| С | 8.719904 | 6.391872 | 1.364217 | 0.1759 |
| AVEGDP? | 0.154846 | 0.269548 | 0.574466 | 0.5671 |
| PGDP? | 0.079760 | 0.643547 | 0.123938 | 0.9016 |
| EXR? | -0.186211 | 0.298039 | -0.624788 | 0.5337 |
| DIST? | -1.085316 | 1.010091 | -1.074473 | 0.2855 |

Source: Output Eviews 10, (data processed 2021)

Appendixes 4 Multicollinearity Test Results

| Residual Correlation Matrix | | | | | |
|-----------------------------|----------------------|-------------------|---------------------|---------------------------|------------------------|
| | _ENG_ SIN- GAPORE | _ENG_ THAILAND | _ENG_ MA- LAYSIA | _ENG_ VIETNAM- ES E | _ENG_ PHIL- IPPINES |
| _IND_ SINGA- PORE | 1.0000000 | -0.129693 | -0.132515 | -0.134650 | -0.220775 |
| _IND_ THAILAND | -0.129693 | 1.0000000 | -0.411456 | -0.195473 | -0.227455 |
| _IND_ MALAYSIA | -0.132515 | -0.411456 | 1.0000000 | 0.166191 | 0.494093 |
| _IND_ VIETNAM- ESE | -0.134650 | -0.195473 | 0.166191 | 1.0000000 | 0.280950 |
| _IND_ PHILIP- PINES | -0.220775 | -0.227455 | 0.494093 | 0.280950 | 1.0000000 |

Source: Output Eviews 10, (data processed 2021)

Appendixes 5 Statistical F Test Results

| F-statistics | Prob (F-statistic) |
|--------------|--------------------|
| 63.95066 | 0.000000 |

Source: Output Eviews 10, (data processed 2021)

Appendixes 6 Test Results R-squared

| R-squared | Adjusted R-squared |
|-----------|--------------------|
| 0.848989 | 0.835713 |

Source: Output Eviews 10, (data processed 2021)

Avalaible online at http://journals.ums.ac.id, Permalink/DOI: 10.23917/jep.v23i1.16081 Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi dan Pembangunan, 23 (1), 2022, 98-109

Appendixes 7 Statistical T-Test Results

| Variable | Coefficient | Std. Error | t-statistics | Prob. |
|----------|-------------|------------|--------------|--------|
| C | 0.208008 | 6.394340 | 0.032530 | 0.9741 |
| AVEGDP? | -0.622192 | 0.249029 | -2.498470 | 0.0143 |
| PGDP? | -0.482142 | 0.603861 | -0.798432 | 0.4267 |
| EXR? | 0.448055 | 0.317692 | 1.410343 | 0.1618 |
| DIST? | 0.341181 | 1.002544 | 0.340314 | 0.7344 |

Source: Output Eviews 10, (data processed 2021)