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Import of Agricultural Products in the Intra-Regional Comprehensive Economic Partnership (RCEP)

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ABSTRACT

The flow of agricultural products through imports has the potential to increase with the geographical conditions of adjacent RCEP countries. Economic and non-economic factors can affect imports of agricultural products. This study aims to analyze the spatial effect and the factors that influence the import of agricultural products in Intra RCEP. This study uses a data period from 2013-2019. The analytical method used in this research is Moran's global index, Local Indicator of Spatial Autocorrelation (LISA), and Geographically Weighted Panel Regression (GWPR). The results show a spatial effect of imports of agricultural products in intra-RCEP. China, Japan, and South Korea are countries that are geographically concentrated in importing agricultural products within the intra-RCEP. The factors that significantly affect the total value of imports of agricultural products are GDP per capita, trade openness, Foreign Direct Investment (FDI), and government effectiveness. The policy recommendations in this study are implementing the RCEP agreement in the long term, open market access, encouraging increased investment in the agricultural sector, and an efficient bureaucracy.

Keywords: agricultural product; GWPR models; import; RCEP; spatial effects

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1. Introduction

ASEAN member countries (Indonesia, Malaysia, Singapore, Philippines, Thailand, Vietnam, Myanmar, Laos, Cambodia, and Brunei Darussalam) and ASEAN FTA Dialogue Partners (China, Japan, South Korea, Australia, and New Zealand) signed the *Regional Comprehensive Economic Partnership* (RCEP) trade pact on 15th November 2020, with one of the RCEP's representations being 27% of world trade (Gultom, 2020).

One of the products traded in intra-RCEP is products in the agricultural sector. Industrialization and the global economy's modernization have overtaken the agricultural sector's role. A slowdown in agricultural growth is inevitable as the share of the manufacturing and service sectors takes precedence over agriculture as the economy grows and matures. The decline in the importance of agriculture is evident in the fall in the growth rate of global agricultural trade from time to time (Hidayatie, 2014).

One of the activities in trading agricultural products on the global market is imports. The percentage of imports by type of product by intra-RCEP countries in 2018 was agricultural products (9.7%), industry (67.9%), and fuel with mining products (19.2%) (WTO, 2020).

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Agricultural products are in the lowest position against imports in intra-RCEP. In order to advance the agricultural sector among countries in the Asia Pacific area, agriculture is one of the most strategically important economic sectors to expand and increase cooperation in (Hermanto, 2018). Agriculture is growing due to lowered trade barriers (FAO, 2020). Trade liberalization will be accomplished through reduced tariffs under the RCEP framework. Many tariffs will be eliminated right away, Many tariffs will be eliminated immediately, while others will gradually decrease over the course of 20 years. The remaining tariffs will mostly apply to vital industries like agriculture, where several RCEP members have chosen not to make any liberalization commitments. Since many RCEP countries already have low import duties, the pact will provide primarily lower these tariffs on imports from China, Japan, and the Republic of Korea (UNCTAD, 2021).

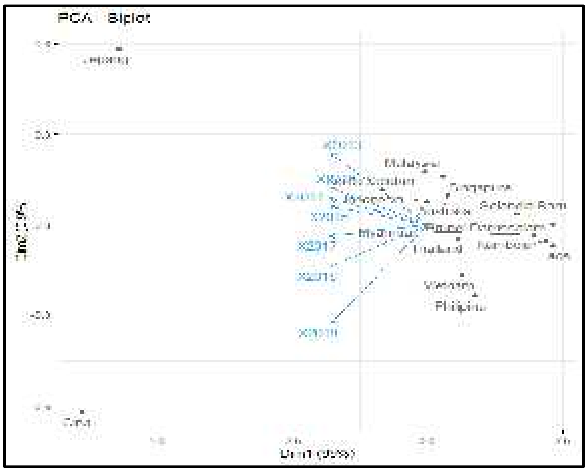

Figure 1. Biplot of Agricultural Product Imports in Intra-RCEP

An attempt to describe data as a two-dimensional graph is called a biplot analysis. The biplot's information incorporates variables (the total value of agricultural product imports) and research objects (15 nations participating in the intra-RCEP) in a single image. Dimension 1 displays the relationship between nations based on the total amount of agricultural products imported, whereas Dimension 2 displays the same relationship. Ninety-nine percent of the data on dimension 1 are diverse, while just 0.9 percent of the data on dimension 2 are diverse. Between dimensions 1 and 2, the total data diversity is 99.88 percent. The link between nations and the total value of agricultural product imports in 2013 and 2019 are both well explained by this information. Brunei Darussalam, Cambodia, Myanmar, and Laos are a group of countries with a total import value of agricultural products that tends to be the same. Indonesia and Australia also have a total import value of agricultural products, which tends to be the same. The total value of imports of agricultural products from RCEP countries from intra RCEP has a high correlation in 2014, 2015 and 2016, 2017, 2018, and 2019. Countries with neighboring positions have more powerful interaction and influence than far-apart countries. Hence, the flow of goods through imports, especially agricultural products in intra-RCEP, has the potential to increase with the geographical conditions of adjacent RCEP countries. Spatial effects are one of the factors that play a role in the trade of agricultural products within the RCEP, the influence of which is determined by the proximity of the RCEP countries' territories (Figure 1). RCEP as Asia's new trade architecture can revive the Doha cycle, and agricultural trade liberalization is key to RCEP (Hsieh, 2017). Previous research on imports within RCEP was generally related to service products, namely (Azhari & Widyastutik, 2016). This study analyzes the total agricultural products. Previous studies related to intra-RCEP trade or imports generally used *the gravity model*, such as Yunarwanto (2019), Azhari & Widyastutik, (2016), and Chang et al., (2020). These previous studies did not use the spatial aspect in the analysis method. RCEP is a trade agreement between countries that influence each other and areas between countries that are geographically close to each other, namely the Asia Pacific region. This research uses a spatial approach. This study aimed to analyze the spatial effects and factors that influence the import of agricultural products in intra-RCEP.

2. Theoritical Underpinning

International trade is by residents between countries based on mutual agreements. Import is an international trade activity that makes the market more competitive (Mankiw, 2007). A country can import goods produced using scarce local resources (Krugman et al., 2015). Imports are domestic demand based on foreign goods (Blanchard & Johnson, 2017).

Economic interaction across space is called geographic economics (Krugman et al., 2015). Based on the new economic geography model (*new economic geography model*), spatial factors have become essential to international trade (Zhu, 2019). Various factors can affect imports. Economic factors that influence imports are real income per capita (Mwangi, 2021), exchange rates (Blanchard & Johnson, 2017), investment and infrastructure support (Gultom, 2020), *Liner Shipping Connectivity Index* (Lin et al., 2020), and trade openness (Alamdarlo, 2016). Non-economic factors that influence imports are bureaucratic policies, one of which is government effectiveness (Ayuwangi & Widyastutik, 2013).

3. Research Methods

This study used secondary data from 15 intra-RCEP countries (Indonesia, Malaysia, Singapore, Philippines, Thailand, Vietnam, Brunei Darussalam, Cambodia, Laos, Myanmar, China, Japan, South Korea, Australia, and New Zealand) with a period of 2013-2019. Agricultural products analyzed in this study use codes 01-24 in the *Harmonized Commodity Description and Coding System* (HS) catalog. This study analyzes the spatial effects and factors that influence the import of agricultural products in intra-RCEP with the analytical method described as follows:

3.1. Method of Analysis of Spatial Effects on Imports of Agricultural Products in Intra-RCEP

The analysis of the global Moran index serves to see whether or not there is a spatial effect. Globally or across countries in intra-RCEP. Calculation of the Global Moran index using the following formula:

$$I = \frac{n \sum_{i=1}^{n} \sum_{j}^{n} w_{ii} (x_i - \bar{x}) (x_j - \bar{x})}{\sum_{i=1}^{n} (x_i - \bar{x})^2}$$

Description :

I= moran index of agricultural product imports; n=number of countries in intra-RCEP; x_i= value of imports of agricultural products in country i; x_j=total value of imports of agricultural products in country j; $\bar{x}$=The average value from n countries; w_{ii}=Elemen on a standardized weighting between countries i and j.

Analysis and grouping of countries with significant similarities to the value of imports of agricultural products locally using the *Local Indicator of Spatial Autocorrelation* (LISA) analysis method. The formula for calculating the global Moran index is:

$$I_i = Z_i \sum_{i=1}^{n} W_i \; Z_j$$

Description :

I_i = LISA Coefficient;

Z_i dan Z_j = Standardized data;

W_i = weighting between countries i and j where j is the country located around i (other than i).

The results of the LISA analysis on the grouping of the total value of agricultural product imports in intra-RCEP consist of four quadrants which show four import groupings, namely: (1) *High High cluster* (Quadrant I), namely countries that have high import value of agricultural products surrounded by countries with a high import value of agricultural products; (2) *Low-High outliers* (Quadrant II), namely countries with low import values surrounded by countries with high import values; (3) *Low-Low cluster* (Quadrant III), namely countries that have a low import value of agricultural products and are surrounded by countries with a low import value; and (4) *High-Low outliers* (Quadrant IV) are countries with a high import value of agricultural products but surrounded by countries with a low import value of agricultural products. Global Moran index analysis method and *Local Indicator of Spatial Autocorrelation* (LISA) using R Studio 4.1.2.

3.2. Methods of Analysis of Factors Affecting Imports of Agricultural Products in Intra-RCEP

The model of import of agricultural products in intra-RCEP represents the factors that affect the total value of imports of agricultural products in intra-RCEP. Factors affecting imports of agricultural products are Real Gross Domestic Product (GDP) per capita, percentage of total Foreign Direct Investment (FDI) inflow to total Foreign Direct Investment (FDI) inflow, real exchange, trade openness, Liner Shipping Connectivity Index (LSCI) and governance effectiveness.

Determination of the variables used in the regression model of the factors that affect the import of agricultural products in intra-RCEP based on the theoretical basis and previous studies have been described on the theoretical basis. Source of research data obtained from: (a) the International Trade Centre (the total value of imports and exports of agricultural products in intra-RCEP); (b) World Bank (Real Gross Domestic Product per capita, percentage of total Foreign Direct Investment inflow to total Foreign Direct Investment inflow, Liner Shipping Connectivity Index-LSCI, and governance effectiveness); (c) International Monetary Fund (real exchange rate).

The definition of each variable consists of (a) The average income of a country's population at a particular moment is measured as per capita income; (b) The Liner Shipping Connectivity (LSCI) Index is an average measurement of the five factors that make up the marine transportation industry: the number of ships, their container carrying capacity, the largest ship size, the number of services, and the number of businesses that use container ships in the port economy (LSCI), which UNCTAD calculates, essentially serves as a measure of the availability of shipping services; (c) a person of a foreign country who invests in another country is said to have made a foreign direct investment (FDI) if they receive loans from that country or buy stock in a foreign company; (d) trade openness is calculated as nominal GDP divided by the sum of intra-RCEP agricultural exports and imports; (e) The real exchange rate is the product of the nominal exchange rate and the foreign price level divided by the domestic price level; (f) government effectiveness is a stand-in for Worldwide Governance Indicators (WGI), the information for which is sourced from the World Bank's official electronic website. The efficacy of the government's policies is determined by perceptions of quality concerning service to activities in general and the community, independent political pressure, quality policy design, implementation, commitment, and credibility. The regression that uses panel data (combined time series and cross-section data) is panel data regression. This study uses panel data (15 intra-RCEP countries for the period 2013-2019). The panel data regression model used in this study are:

$$LnIKP_{it} = \beta_0 + \beta_1 \, LnPDK_{it} + \beta_2 \, FDW_{it} + \beta_3 \, LnNTR_{it} + \beta_4 \, KBP_{it} + \beta_5 \, LnLSC_{it} + \beta_6 \, LnEFP_{it} + \mu_{it}$$

Description:

$LnIKP_{it}$: natural logarithm of the total value of imports of agricultural products in country i year t (USD); $LnPDK_{it}$: natural logarithm of real GDP per capita of country i year t (USD); FDW_{it}: percentage of total Foreign Direct Investment (FDI) inflow to total Foreign Direct Investment (FDI) inflow of country i year t (percent); $LnNTR_{it}$: natural logarithm of the real exchange rate of country i against the year t USD (LCU/USD); KBP_{it}: trade openness in country i year t (percent); $LnLSC_{it}$: natural logarithm of Liner Shipping Connectivity Index country i year t (index); $LnEFP_{it}$: natural logarithm of the effectiveness of state government i year t (index); μ_{it}: *error term* country i year-t; β_0: intercept; $\beta_{1,2,3,4,5,6}$: estimation parameters; i: 15 RCEP member countries; and t: 2013-2019 period.

The location of a country influences trade cooperation between countries. Geographical location determines the distance between countries, which is called the spatial effect (Saputro et al., 2018).

This research is continued by using spatial analysis. Spatial analysis correlates with spaces or spatial correlation because each country is assumed to be not stochastic-free. The conditions of all observed areas are not the same, for example, geographical factors. This difference allows the emergence of spatial heterogeneity. The analytical method that can overcome spatial heterogeneity is Geographically Weighted Regression (GWR). The GWR analysis method only analyzes one country at a time or uses cross-section data. Factors affecting imports of agricultural products in intra-RCEP using panel data. Modifying the regression model, which combines the GWR model and panel data regression, is the Geographically Weighted Panel Regression (GWPR) model. The GWPR model is built from the point approach method, which is based on the position of the latitude and longitude coordinates.

GWPR is a classical regression model development with each model parameter calculated in each country so that each country studied has a different regression parameter value and processed with R Studio 4.1.2. The GWPR model of the factors that affect the import of agricultural products in intra-RCEP are:

$$LnIKP_{it} = \beta_0 (u_i,v_i) + \beta_1 (u_i,v_i) \, LnPDK_{it} + \beta_2 (u_i,v_i) \, FDW_{it} + \beta_3 (u_i,v_i) \, LnNTR_{it} + \beta_4 (u_i,v_i) \, KBP_{it} + \beta_5 (u_i,v_i) \, LnLSC_{it} + \beta_6 (u_i,v_i) \, LnEFP_{it} + \mu_{it}$$

Description: u : latitude coordinates of country i and v : longitude of country i.

The stages of the GWPR analysis method in this study are: (a) data exploration; (b) spatial effect test; (c) panel data regression analysis (poled least square, fixed, and random models); (d) selection of the best panel data models using Chow and Hausman test; (e) classical assumption test consisting of normality (Shapiro-Wilk normality test), non-autocorrelation (Durbin Watson test), homoscedasticity (Breusch-Pagan test), and non-multicollinearity (Variance Inflating Factor-VIF); (f) test for spatial diversity using the Breusch-Pagan test; (g) the estimation of the GWPR model which consists of determining the optimum bandwidth, comparison of the regression model of the FEM and GWPR panel data, mapping the significance of the variables.

4. Results and Discussion

RCEP is a trading block regulated as the world's largest trading block, which can become a new center of attraction in world trade. The agricultural sector is one of the economic sectors within the framework of the RCEP cooperation, in addition to the natural resources and industrial sectors. Agricultural trade in intra-RCEP generated a profit of US$ 10 billion, equivalent to an increase of 7 % (UNCTAD, 2021). This study analyzes the trade potential of agricultural products (imports) of RCEP member countries in the intra-RCEP region prior to the signing of the RCEP on 15th November 2020. This study focuses on trade in agricultural products among RCEP countries within the RCEP region. The total import value of agricultural products is the sum of the import values of HS 01 to HS 24 of RCEP member countries from intra-RCEP.

4.1. Results of Analysis of Spatial Effects on Imports of Agricultural Products in Intra-RCEP

The results of the spatial effect analysis based on Economy protection on a broader geographical scale is one of the motives for joining a country in a *Regional Trade Agreement* (RTA). The flow of goods and services and investment can increase for the countries involved based on the geographical aspect is the goal of RCEP (Karina and Puspaningrum, 2014) the global Moran index are presented in Table 1.

Table 1. The Result of The Global Moran Index

Year	Moran Index Value	*p-value*
2013	0.570	0,000*
2014	0.572	0,000*
2015	0.569	0,000*
2016	0.570	0.000*
2017	0.565	0,000*
2018	0.562	0,000*
2019	0.545	0,000*

Note: * Significant at the 0.05 level of significance

The global Moran index of agricultural product imports in intra-RCEP is significant. It means a positive autocorrelation or the total import value of agricultural products tends to be clustered in adjacent countries so that there is an interaction of imports of agricultural products between adjacent countries (Table 1).

The results of this study follow the economic theory of geography related to cross-spatial economic interactions (Krugman et al., 2015), spatial influence on international trade (Zhu, 2019), and the increase in trade is influenced by the proximity of geographical distances between research countries (Yunarwanto, 2019); (Kabir et al., 2017).

Table 2. Distribution of the Moran index and the significance of the LISA value of the total import value of agricultural products in the intra-RCEP period 2013-2019

Quadrant	Country
I *High-high* (HH)	Cina*, Jepang* dan Korea Selatan
II *Low-high* (LH)	-
III *Low-low* (LL)	Kamboja*, Laos*, Australia, Brunei Darussalam Myanmar, Philipina, Selandia Baru, Singapura, Thailand, Vietnam Indonesia (2015, 2019), Malaysia (2017-2019)
IV *High-Low* (HL)	Indonesia (2013-2014, 2016-2018), Malaysia (2013-2016)

Note: *Significant at the 0.05 level of significance

Table 2 shows that the total value of imports of agricultural products is more grouped in quadrant II and less in quadrants I and IV. China and Japan (RCEP countries originating from ASEAN+1) are significant countries in quadrant I. It means that these countries have a high total value of agricultural products surrounded by countries with a high import value of agricultural products or countries with a high value of agricultural products. The country is geographically concentrated in carrying out intra-RCEP imports of agricultural products (Table 2).

China and Japan have a value of imports that is greater than the value of agricultural product exports (WTO, 2020). RCEP member countries originating from ASEAN are generally in quadrant III, meaning these countries have a low import value of agricultural products surrounded by countries with a low import value of agricultural products. The agricultural sector is one of the important trade sectors in ASEAN. The export value of US$ 141,026.2 million is greater than the import value of ASEAN agricultural products of US$ 102,548.7 million in 2019 (Secretariat, 2020). ASEAN+1 countries such as China and Japan can import agricultural products from ASEAN countries, Australia and New Zealand. The results of this study contribute to the spatial mapping of imports of agricultural products in intra-RCEP, which should be contained in the one map policy. Karsidi (2014) stated that the one map policy is a policy for the preparation of geospatial information.

4.2. Results of Analysis of Factors Affecting Imports of Agricultural Products in Intra-RCEP

Import is one of the trade transactions in implementing the RCEP agreement (Gultom, 2020) and contribute to trade through product availability (WTO, 2021). The average value of total imports of agricultural products from intra-RCEP countries from intra-RCEP for the 2013-2019 period is USD 120.8 billion (ITC, 2021).

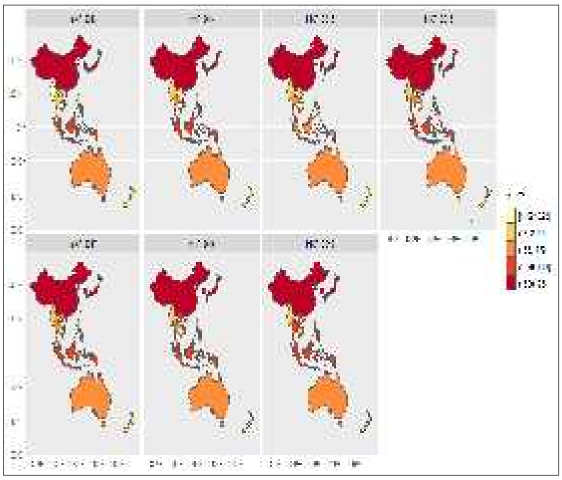

Figure 2. Mapping the Total Value of Imports of Agricultural Products from 15 RCEP Countries for the 2013-2019 Period

Countries in dark red have higher total imports of agricultural products. China, Japan, and South Korea had the highest total import values in intra-RCEP (Figure 2). International trade is by residents between countries based on mutual agreements. Import is an international trade activity that makes the market more competitive (Mankiw, 2007) and domestic demand based on foreign goods (Blanchard & Johnson, 2017).

The result of the GWPR analysis began with the results of the spatial effect test (as explained in the description of the results of the global Moran index and LISA analysis), then continued with the results of panel data regression analysis and GWPR.

Table 3. Chow and Hausman Test Results of Panel Regression

Test	*p-value*	Result
Chow	< 2.2 e-16*	FEM model is better than CEM
Hausman	< 2.2 e-16*	The FEM model is better than the REM model

Note: *Significant at the 0.05 level of significance

The panel data models analyzed in this study consist of Pooled Least Square (PLS) model, Fixed Effect Model (FEM), and Random Effect Model (REM). The selection of the best intra-RCEP agricultural product import panel model among the three-panel data models uses the Chow and Hausman tests. Based on the results of the Chow and Hausman test, it was found that the fixed effect panel model (FEM) was significant as the best panel model (Table 3). The fixed effect estimation model (FEM) of agricultural product imports in intra-RCEP is:

$$\widehat{IKP}_{it} = 1{,}290\ PDK^{*}_{it} + 0{,}002FDW_{it} + 0{,}072\ NTR_{it} + 141{,}270\ KBP^{*}_{it} + 0{,}005\ LSC_{it} + 0{,}124\ EFP^{*}_{it}$$

Result analysis of the FEM models shows that real income per capita, trade openness, and government effectiveness significantly positively affect agricultural products' imports in intra-RCEP. The R-Square value is 0.912, meaning that the independent variables in the model can explain the variable imports of agricultural products in intra-RCEP by 91.2%. In contrast, other variables outside the model explain the rest.

The results of the classical assumption test on the FEM panel regression model are significant at the 5% significance level. The normality test with a *p-value* = 0.0006471 means the model has a residual that is not normally distributed. Non-autocorrelation test with *p-value* = 0.02354, meaning autocorrelation exists in the model. The Homoscedasticity test with a *p-value* = 0.0004324 concluded that there was heteroscedasticity. Non-multicollinearity test model with a *Variance Inflation Factor* (VIF) value lower than 5 indicates no high risk of multicollinearity between independent variables. The cause of heteroscedasticity is the observation location or country condition that is not the same

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or homogeneous, resulting in a spatial effect strengthened by the Breusch-Pagan Test (Wati et al., 2021).

The spatial diversity test in this study used the Breusch-Pagan test. The results of the Breusch-Pagan test are the BP value of 24,445 with a p-value = 0.000, which is significant at a significance level of 0.005, meaning that there is spatial diversity in the resulting panel regression model. The Geographically Weighted Panel Regression (GWPR) model is a model that is suitable for use under conditions of heterogeneous diversity in each intra-RCEP country.

Table 4. Comparison of Kernel Weighting Functions

Kernel Function	Kernel Weighting Function	AIC	R-Square
Adaptive	Gaussian	-271.009	0.923
	Exponential	-278.530	0.930
	Bisquare	-289.800	0.939
Fixed	Gaussian	-271.721	0.925
	Exponential	-287.573	0.939
	Bisquare	-269.593	0.921

The estimation of the GWPR model begins with determining the optimum bandwidth presented in Table 4. Based on the model's goodness, modeling using the *Adaptive Bisquare* produces the smallest AIC value and the highest *R-Square* value compared to other kernel weighting functions. Therefore, the GWPR modeling uses spatial weighting with the Adaptive Bisquare kernel function.

Table 5. Comparison of Fixed Effect and Geographically Weighted Panel Regression Models

Model	R-Square	RSS	RMSE	AIC
GWPR	0.939	0.333	0.063	-289.800
FEM	0.912	0.477	0.075	-254.264

Based on R-square, Residual Sum of Squares (RSS), Root Mean Squared Error (RMSE), and the Akaike Information Criterion (AIC) that the GWPR model is better than the FEM model of imported agricultural products in intra-RCEP (Table 5).

GWPR produces model estimates at each location (country). The estimated value of the estimated coefficient of the resulting GWPR model differs for each country in the intra-RCEP. One of the GWPR models in intra-RCEP is the GWPR model for imports of Indonesian agricultural products, described as follows:

$$\widehat{IKP}_t = 1.281\ PDK_t^* - 0.001\ FDW_t + 0.114\ NTR_t + 145.373\ KBP_t^* + 0.024\ LSC_t + 0.070\ EFP_t$$

Real income per capita and trade openness have a significant positive effect on imports of Indonesian agricultural products. The R-Square value is 0.931, meaning that the independent variables in the model can explain the import of agricultural products by 93.1%, while other variables outside the model explain the rest.

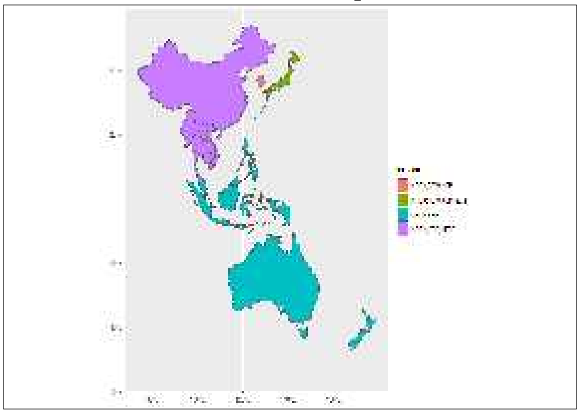

Figure 3. Factors that significantly affect the Import of Agricultural Products in the Intra-RCEP Period 2013-2019

Variables significantly affect the total value of imports of agricultural products intra RCEP by country at a significance level of 5 %. The real GDP per capita and trade openness variables significantly affect the total value of agricultural products in Australia, New Zealand, Indonesia, Singapore, the Philippines, and Brunei Darussalam (light blue). The value of total imports of agricultural products in other countries is influenced by real GDP per capita, trade openness, Foreign Direct Investment inflow, and government effectiveness (purple, green and pink colors) (Figure 3).

The analysis of the GWPR models shows that real income per capita has a positive and significant effect on imports of agricultural products in all RCEP countries. The results of this study follow the results of research by Mwangi (2021), which states that the GDP per capita has a positive and significant impact on imports of agricultural products. The average GDP per capita of 15 RCEP countries is US$ 19,507.9. RCEP countries can gain extensive trade benefits if the RCEP agreement has the same scope as other agreements and is implemented in the long term so that the effect on GDP increases larger (Shepherd, 2019). The projected total income earned by RCEP member countries in 2030 is US$ 43,516 billion (ADB, 2020).

Trade openness significantly affects the total import value of agricultural products in all intra-RCEP countries. The results of this study follow the results of Alamdarlo's (2016) research. The average trade openness of 15 countries in the intra-RCEP period 2013-2019 is 0.005. China has a positive and high influence on trade openness on imports of agricultural products in intra-RCEP. Imports of cheap agricultural products are influenced by trade openness, and trade openness is influenced by market access effects (Djokoto, 2013). One of the potential benefits or benefits of RCEP is increasing market access among ASEAN+1 FTAs, which are still closed (Gultom, 2020).

FDI has a positive impact on exports and imports (Safitriani, 2014). The GWPR models indicate that imports of agricultural products in Japan and South Korea are significantly affected by positive signs of FDI. This study's results follow the research results of Pasaribu *et al.* (2021). The average FDI of 15 countries in the intra-RCEP period 2013-2019 was 4.896%, with Singapore as the country with the most significant percentage of FDI, which was 24.343%. The increase in FDI in the agricultural sector is enhanced with a focus on flexibility in trade policies (Osabohien *et al.* 2021), paying attention to aspects and conditions of the agricultural sector consisting of : (a) specific features and production of the agricultural sector, (b) improvement of the national agricultural situation and agrarian structure, (c) market regulation, (d) the role of the state, (e) rural development, (f) level of competitiveness as critical agricultural issues, (g) provision of incentives for FDI in the agricultural sector in the context of improving macroeconomic conditions and the investment climate (Jovovic et al., 2014).

The GWPR models show that imports of agricultural products in Japan, China, Myanmar, Laos, Thailand, Malaysia, Vietnam, and Cambodia are significantly affected by positive signs of government effectiveness. The results of this study follow the results of research by Suntharalingam dan Hassan (2016). The average government effectiveness was 66.061% in intra-RCEP. The RCEP countries consist of 10 ASEAN countries and 5 ASEAN+1 countries. The average government effectiveness of ASEAN countries is 55,759%, lower than the average government effectiveness of ASEAN+1 countries of 86,667%. ASEAN countries generally comprise developing countries, and ASEAN+1 countries are developed countries. Ariabod et al., (2019). An effective bureaucracy controls the seamless flow of exports and imports of goods (Ayuwangi & Widyastutik, 2013).

5. Conclusion

RCEP member countries have a spatial effect so that there is an interaction of imports of agricultural products between neighboring countries in intra-RCEP. China and Japan are geographically significant countries importing agricultural products in intra-RCEP. The GWPR model is the best model to analyze the factors that influence the import of agricultural products in intra-RCEP. Factors that significantly positively affect imports of agricultural products in intra-RCEP are real per capita income, trade openness, FDI, and government effectiveness.

This study recommends a one-map policy related to imports of agricultural products, implementation of the RCEP agreement in the long term, more comprehensive market access for imports of agricultural products, increasing foreign investment in the agricultural sector, and implementation of efficient bureaucratic policies.

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