ASSESSING THE IMPACT OF THE AKFTA ON INDONESIA-SOUTH KOREA TRADE FLOWS: A PANEL DATA ANALYSIS

Menilai Dampak AKFTA terhadap Arus Perdagangan Indonesia-Korea Selatan: Analisis Data Panel

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Abstrak

Penelitian ini mengkaji dampak dari adanya ASEAN-Korea Free Trade Area (AKFTA) terhadap arus perdagangan antara Indonesia dan Korea Selatan. Kerja sama tersebut akan menimbulkan dampak berupa pengalihan perdagangan atau bahkan penciptaan perdagangan antara Indonesia dan juga negara-negara di ASEAN-Korea. Penelitian ini menggunakan metode analisis regresi data panel dan sumber data sekunder tentang perdagangan dan ekonomi makro lainnya dari berbagai lembaga terpercaya, seperti UN Comtrade, Bank Dunia, dan sebagainya serta hasil-hasil penelitian ilmiah. Hasil penelitian menunjukkan bahwa penerapan AKFTA menyebabkan pengalihan perdagangan di sisi ekspor dan penciptaan perdagangan di sisi impor. Temuan kajian ini juga menyoroti bahwa implementasi AKFTA berdampak pada kecenderungan peningkatan nilai impor Indonesia baik dari anggota AKFTA maupun non anggota. Meskipun demikian, secara agregat dampak AKFTA memberikan penciptaan perdagangan masih lebih besar daripada pengalihan perdagangannya. Oleh sebab itu, untuk mengatasi fenomena pengalihan perdagangan dari adanya AKFTA, berbagai upaya dapat dilakukan pemerintah, salah satunya dengan melakukan negosiasi dengan negara mitra dagang untuk mendapat pengurangan tarif dan membuka akses pasar terhadap produk-produk baru.

***Kata kunci**: AKFTA, Penciptaan Perdagangan, Pengalihan Perdagangan, Perjanjian Perdagangan*

Abstract

This study examines the impact of the ASEAN-Korea Free Trade Area (AKFTA) on trade flows between Indonesia and South Korea. This cooperation will impact trade diversion or even trade creation between Indonesia and countries in ASEAN-Korea. This study uses panel data regression analysis and secondary data sources on trade and other macroeconomics from various trusted institutions, such as United Nations, World Bank, etc., as well as the results of scientific research. The research results show that the implementation of AKFTA causes trade diversion on the export side and trade creation on the

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import side. The findings of this study also highlight that the implementation of AKFTA has an impact on the tendency to increase the value of Indonesian imports from both AKFTA members and non-members. However, the aggregate effect of AKFTA on trade creation is still more significant than trade diversion. Therefore, to overcome the trade diversion resulting from AKFTA, the government can make various efforts by negotiating with trading partner countries to obtain tariff reductions and open market access to new products.

Keywords: *AKFTA, Trade Agreements, Trade Creation, Trade Diversion*

JEL Classification: F23, L16, L23, M11

INTRODUCTION

In today's global economy, countries are increasingly seeking to reduce trade barriers and promote economic integration. According to Salvatore (2014), this process involves simplifying the exchange of goods, services, technology, space, and ideas by lowering trade barriers. One way to achieve this is through free trade agreements (FTAs), which can reduce or eliminate duties for participating countries and increase market access through competition (Dewi et al., 2020). The ASEAN Free Trade Area (AFTA) was established in 1992 to increase economic cooperation and competitiveness among its member countries and has since signed agreements with other economic groups such as ASEAN-China, ASEAN-Korea, and ASEAN-Australia-New Zealand. Indonesia is a member of the ASEAN-Korea Free Trade Area (AKFTA), which was signed in 2006 to promote economic and trade integration. Indonesia has implemented a certificate of origin and eliminated import duties in stages to meet the agreement's goals, although its economic growth has been affected positively and negatively during this process (Ritaningsih, 2014). The trade transactions between Association of Southeast Asian Nations (ASEAN) and its partners have implications for the degree of openness of the countries involved, as reflected in the percentage of total trade. China remains the largest trading partner for ASEAN, followed by the Americas, the European Union, Japan, South Korea, and others.

Indonesia's economic development was positively and negatively affected by a series of these stages, this is an evidence of Indonesia's real Gross Domestic Product (GDP) growth which decreased by 0.2 percent from 2018 to

2019, prior inflation fluctuation from 3.3 percent to 3.8 percent (IMF, 2021). Trade transactions between ASEAN and trading partner countries are implications of the cooperation that exists between these countries which is manifested in the percentage of total trade as a form of goods trading activity between the two countries. The greater the value of a country's trade transactions, both exports and imports, it can be said that the level of openness of the country is higher. The largest percentage of ASEAN's total export and import trade in 2021 is China at 27 percent, followed by the Americas at 16 percent, the European Union at 12 percent, Japan at 11 percent, South Korea at 8 percent, and others 26 percent.

South Korea is the fifth largest trading partner. Over the years, trade between ASEAN and South Korea has been increasing, and in 2018, the total value of trade between the two stood at USD152 billion. This is one of the reasons why the ASEAN-Korea area of international trade cooperation has been selected for this study. Furthermore, South Korea's impressive economic development makes it a model for other developing countries. Having experienced successful democratic transitions, South Korea has achieved rapid economic growth compared to other developing countries. In 2019, Indonesia's total trade within ASEAN was valued at USD170 billion, while in 2020 it decreased to USD140 billion, indicating a decline in Indonesia's trade performance (ASEANStatistics, 2021).

Similarly, the overall trade volume between South Korea and Indonesia has reduced as compared to 2019, with USD15,655 and USD13,355 million recorded in 2020. The available data suggests a decline in the trade activities between the two countries, and there is an imbalance in the percentage of imports and exports that are being consumed by Indonesians from both ASEAN and South Korea. Such an uneven pattern of trade could impact the growth of the trade sector and may create either trade diversion or trade creation between Indonesia and ASEAN-Korea countries.

Viner (1950) posited that economic integration could lead to either trade creation or trade diversion, based on its impact on producer and

consumer surplus within the integrated area. Trade creation would enhance welfare, while trade diversion would diminish it. However, Lipsey criticized Viner's focus on imported goods, arguing that integration could boost income, shift countries along the production possibilities curve, and improve terms of trade. He agreed with Viner that trading within the integrated area may not always be more advantageous than trading with non-member countries (Lipsey & Lancaster, 1956). These contrasting views differ from Salvatore (1997) perspective, which suggests that economic integration benefits all participating countries. Darma & Hastiadi (2017) support Salvatore's argument with their analysis of the AKFTA, showing that trade cooperation between ASEAN and Korea has enhanced the economies and welfare of both parties. Therefore, this study seeks to investigate the static impact of AKFTA's economic integration, specifically whether it has led to trade creation or trade diversion for Indonesia, one of the largest economies in ASEAN.

Trade diversion happens when a free trade agreement persuades a country that typically offers low fees to another country to shift suppliers to a member country that is less competitive and efficient, leading to additional costs and decreasing the first country's revenue. To prevent a large influx of imported goods into the Indonesian market, the government implemented an import tariff policy through Minister of Finance Regulation (PMK) No. 1 and Minister of Trade Regulation (Permendag) No. 59/M-DAG/PER/12/2010, as well as Law No. 118/PMK.011/2012 regarding the Imposition of Import Duties in the ASEAN-Korea Free Trade Area (AKFTA) and Trade Law No. 7 of 2014 (Kemendagri, 2014).

Given the background and the problem statement, this study objective is to analyze the impacts of the AKFTA on both Indonesia and ASEAN-Korea trade flows, specifically regarding trade creation and trade diversion. This paper examines the effects of the AKFTA on trade flows between Indonesia and South Korea. As a member of ASEAN, Indonesia is part of

this free trade agreement which has been in place since 2007.

DATA AND METHODS

Data Source

The study utilizes secondary data obtained from the United Nation Comtrade (UN Comtrade) and the World Development Indicator. The data consists of annual time series panel data from 2012-2021 and covers 20 countries, including ten ASEAN-Korea trading partners (such as Malaysia, Singapore, Philippines, Thailand, Brunei Darussalam, Cambodia, Vietnam, Laos, Myanmar and Vietnam) and ten non-member trading partners (such as China, Japan, United States, Australia, India, Germany, Saudi Arabia, Netherlands, Italy, and Hong Kong). The choice of the 2012-2021 period for the study was based on data availability and to examine the influence of regional integration over the past decade since the establishment of ASEAN-Korea cooperation.

Variable Measurement

A quantitative approach is employed in this research, utilizing panel data regression analysis and E-Views 10 software as the testing tool to examine whether the ASEAN-South Korea trade agreement cooperation has an impact on Indonesia's trade creation and trade diversion for both exports and imports. The model's underlying assumption is that the exports from country *i* to country *j* and imports from country *j* to country *i* are influenced by panel data regression variables such as GDP, GDP per capita, and dummy RTA membership. The general equation for the panel data regression model is elaborated upon as follows:

$$Exp_{ji} = \alpha + \beta_1 GDP + \beta_2 GDP_{percapita} + \beta_3 DM_{akfta} + \varepsilon_{it} \quad \text{.....(1)}$$

$$Imp_{ij} = \alpha + \beta_1 GDP + \beta_2 GDP_{percapita} + \beta_3 DM_{akfta} + \varepsilon_{it} \quad \text{.....(2)}$$

The equation has five variables, namely Exp_{ji}, Imp_{ij}, GDP, $GDP_{percapita}$, and DM_{akfta}. Exp_{ji} represents the value of Indonesia's exports to partner countries in year *t* in USD, and Imp_{ij} represents the value of Indonesia's imports from partner countries in year *t* in USD. GDP is the nominal value of the GDP of Indonesia and its trading partners in year *t* in USD, while $GDP_{percapita}$ is the absolute value of the

difference between Indonesia's GDP per capita and its trading partners in year *t*. DM_{akfta} is a dummy variable that takes a value of 1 if the exporting and importing countries are members of AKFTA, and 0 if they are not. Finally, ε_{it} is the error of individual i and time t.

The dummy variable plays a crucial role in determining the impact of the ASEAN-South Korea trade agreement on Indonesia's trade creation and diversion. If the variable coefficient is positive, it means that there is a trade creation effect, and if the variable coefficient is negative, it indicates a trade diversion effect. In summary, this study employs a panel data regression model to analyze the impact of the ASEAN-South Korea trade agreement on Indonesia's exports and imports, taking into account various economic indicators, and provides a more comprehensive understanding of the dynamics of trade between Indonesia and its trading partners.

When using an econometric model, several classical assumptions must be tested. The first assumption is multicollinearity, which checks for high correlation between independent variables. If the correlation value is above 0.80, there is a multicollinearity problem, and if it is below 0.80, there is no issue. The second assumption is heteroscedasticity, which indicates if the model is heteroscedastic if the probability value is less than 0.05. Conversely, if H_0 is accepted and H_1 is rejected, there is no heteroscedasticity. The third assumption is autocorrelation, which checks the correlation between observations in one variable or the correlation between previous errors and current errors. This can be tested using the Durbin Watson (DW) test for panel data. Following these tests, a model parameter test is carried out to check whether the model works and whether the estimated coefficients align with the theory or hypothesis. This test includes the coefficient of determination (R^2), the overall regression coefficient test (F test), and the partial regression coefficient test (t test).

a. F-test

   The F-test is a statistical test used to either test the hypothesis of a regression coefficient or to evaluate the model parameters as a whole.

b. T-test

The decision for this test is based on comparing the t-value with the t-table or examining the probability value of the t-value. If the t-value is greater than the t-table value or if the probability value of the t-value is less than the significance level, then H_0 is rejected, indicating that the coefficient is significant, and vice versa.

c. Coefficient of determination

The Goodness of Fit, also known as the coefficient of determination, is a significant measurement in regression that evaluates the effectiveness of the estimated regression model. R^2, the numerical value obtained from this measurement, determines the extent to which the dependent variable X can clarify the variation of the independent variable Y.

RESULT AND DISCUSSION

Best Model Test

In the panel data regression model from 2012 to 2021, static panel data is used to analyze the impact of trade creation and diversion between Indonesia and ASEAN-Korea member countries. To determine the most suitable model for this research, three tests were conducted: the Chow test, Hausman test and Breusch Pagan LM test. The results of these tests indicate that the Random Effects Model (REM) is the most appropriate for this study. Unlike the Fixed Effects Model (FEM), the REM allows for the inclusion of dummy variables, such as the one representing membership in the AKFTA or non-membership. This flexibility addresses a significant weakness of the FEM, which ignores such variables.

Moreover, the REM was selected to address model deficiencies and correct violations of classical assumptions. The REM panel data model was estimated using General Least Squares (GLS) estimation. This choice was further supported by the LM test, which yielded a statistical value of 759.13 (Prob > chibar^2 = 0.00), indicating that the REM is not only a superior model but also statistically significant at the 5 percent level. Consequently, REM was chosen for analysis in this study.

Basic Assumption Test

To obtain the Best Linear Unbiased Estimator (BLUE), the basic assumption test must be satisfied. This

test includes checks for autocorrelation, multicollinearity, and heteroscedasticity. The assessment of multicollinearity in the export and import estimation data indicates that there is no multicollinearity present, as the correlation value between independent and dependent variables is less than 0.80. Table 1 presents the results of a multicollinearity test conducted on export-related variables. The table shows the correlation coefficients between each pair of variables: export (*Exp*), GDP (*GDP*), GDP per capita ($GDP_{percapita}$), and the dummy variable for the AKFTA (DM_{akfta}).

The correlation between *Exp* and *GDP* is 0.79, indicating a strong positive relationship. Similarly, *Exp* and $GDP_{percapita}$ have a positive correlation of 0.17, though weaker. In contrast, *Exp* has a negative correlation of -0.36 with DM_{akfta}, suggesting a possible inverse relationship.

GDP and $GDP_{percapita}$ exhibit a positive correlation of 0.34, while both variables have negative correlations with DM_{akfta} (-0.71 and -0.47, respectively), indicating potential relationships that warrant further investigation. Overall, these results provide insights into the interrelationships between export variables and their potential impact on the study's analysis.

Table 1. Multicollinearity Test on Export Variables

Variable	*Exp*	*GDP*	$GDP_{percapita}$	DM_{akfta}
Exp	1.00	0.78	0.17	-0.35
GDP	0.78	1.00	0.34	-0.71
$GDP_{percapita}$	0.17	0.34	1.00	-0.46
DM_{akfta}	-0.35	-0.71	-0.46	1.00

Source: Secondary data (2022), processed.

Table 2 displays the results of a multicollinearity test conducted on import-related variables. The table presents the correlation coefficients between each pair of variables: import (*Imp*), GDP (*GDP*), GDP per capita ($GDP_{percapita}$), and the dummy variable for the AKFTA (DM_{akfta}).

The correlation between *Imp* and *GDP* is 0.51, indicating a moderate positive relationship. *Imp* and $GDP_{percapita}$ also show a positive correlation of 0.33, though weaker. *Imp* has a negative correlation of -0.24 with DM_{akfta}, suggesting a potential inverse relationship.

GDP and $GDP_{percapita}$ exhibit a positive correlation of 0.34, while both variables have negative correlations with *DMakfta* (-0.71 and -0.47, respectively), indicating potential relationships that warrant further exploration. These findings provide insights into the interrelationships between import variables and their potential impact on the study's analysis.

Table 2. Multicollinearity Test on Import Variables

Variable	**Imp**	**GDP**	**$GDP_{percapita}$**	**DM_{akfta}**
Imp	*1.00*	*0.50*	*0.33*	*-0.23*
GDP	*0.50*	*1.00*	*0.34*	*-0.71*
$GDP_{percapita}$	*0.33*	*0.34*	*1.00*	*-0.46*
DM_{akfta}	*-0.23*	*-0.71*	*-0.46*	*1.00*

Source: Secondary data (2022), processed.

Table 3 presents the results of a heteroscedasticity test conducted on the variables *Exp* and *Imp*. The table displays the probability values associated with each variable: *GDP*, $GDP_{percapita}$, and the dummy variable for the AKFTA.

For the *Exp* variable, the probability values are 0.12 for *GDP*, 0.87 for $GDP_{percapita}$, and 0.02 for DM_{akfta}. These values suggest that there is no significant heteroscedasticity for *GDP* and $GDP_{percapita}$, but there is significant heteroscedasticity for DM_{akfta}.

For the Import variable, the probability values are 0.23 for *GDP*, 0.00 for $GDP_{percapita}$, and 0.51 for DM_{akfta}. These values indicate that there is no significant heteroscedasticity for *GDP* and DM_{akfta}, but there is significant heteroscedasticity *for* $GDP_{percapita}$. Overall, these results provide insights into the presence of heteroscedasticity

in the dataset, which may impact the reliability of the regression analysis.

Table 3. Heteroscedasticity Test Result

Variable	Export Probability	Import Probability
GDP	0.12	0.23
$GDP_{percapita}$	0.87	0.00
DM_{akfta}	0.02	0.51

Source: Secondary data (2022), processed.

A probability value less than 0.05 indicates the presence of heteroscedasticity in the model, as demonstrated in the table 3 above. Subsequently, the results of the DW test, as presented in Table 4, can be examined to assess autocorrelation.

Table 4 presents the results of the autocorrelation test conducted on the *Exp* and *Imp* variables. The Durbin-Watson (DW) statistic is used to assess the presence of autocorrelation in the estimated models. For the *Exp* variable estimation, the DW statistic is 0.02, indicating that there is no autocorrelation present. Similarly, for the Import variable estimation, the DW statistic is 0.47, also suggesting the absence of autocorrelation. These results indicate that the models for both *Exp* and *Imp* variables are free from autocorrelation, enhancing the reliability of the regression analysis.

Table 4. Autocorrelation Test Result

	DW	Conclusion
Export variable estimation	0.02	There is no autocorrelation
Import variable estimation	0.47	There is no autocorrelation

Source: Secondary data (2022), processed.

What is more that Table 4 shows the absence of autocorrelation in the model is confirmed by the fact that the 4-DU value is not greater than the DW value. In order to address any shortcomings in the model and to correct any violations of these assumptions, the panel data model

with General Least Square (GLS) is utilized.

Coefficient of Determination

The feasibility of the model is tested using the F-statistic, with a probability value of 0.00 indicating that at least one independent variable has an impact on the dependent variable during the two sub-periods analyzed. To evaluate the goodness of fit, the coefficient of determination (R^2) is used. The export variable estimation model has an R^2 value of 0.42, demonstrating that 42 percent of the variation in the export value can be explained by the independent variables (including *GDP*, $GDP_{percapita}$, and DM_{akfta}), while 58 percent of the variation is accounted for by other unobserved variables. The import variable estimation model, on the other hand, has an R^2 value of 0.34, indicating that the independent variable can account for 34 percent of the variation in imports, while 67 percent of the variation can be attributed to other unobserved variables not included in the study.

GLS Data Panel Model Estimation Results

Table 5 presents the estimation results, which indicate that several parameters have an impact on the value of Indonesian exports. Specifically, the analysis reveals that three independent variables, namely DM_{akfta}, *GDPpercapita*, and *GDP* have a significant influence on Indonesia's international trade flows at a level of one percent.

Table 5 displays the results of the parameter coefficient estimation using Generalized Least Squares (GLS) for the dependent variables, *Exp* and *Imp*, over the years 2012-2021. For *Exp* the coefficients are 0.32, 0.17, and -0.19, with corresponding t-values of 5.11, 2.40, and -3.49, respectively. The probability values associated with these coefficients are 0.00, 0.01, and 0.72, indicating that the first two coefficients are statistically significant, while the third coefficient is not.

For *Imp*, the coefficients are 0.68, 0.39, and 1.50, with corresponding t-values of 4.55, 2.53, and 2.32, respectively. The probability values

associated with these coefficients are all below 0.05, indicating that all three coefficients are statistically significant. These results provide insights into the relationships between the independent variables and the dependent variables, helping to understand the factors influencing export and import values.

Table 5. Parameter Coefficient Estimation Results with GLS

Dependent Variable	Year 2012-2021		
	Coefficient	T	Prob.
Exp (Export value)	0.32	5.11	0.00
	0.17	2.40	0.01
	-0.19	-3.49	0.72
Imp (Import value)	0.68	4.55	0.00
	0.39	2.53	0.01
	1.50	2.32	0.02

Source: Secondary data (2022), processed.

Flow of Indonesian Export Trade to ASEAN-Korea and Main Export Destination Countries

After joining the free trade area, Indonesia has been exporting to both AKFTA member and non-member countries. In 2007, Indonesia and Korea signed a goods trade agreement.

The Figure 1 illustrates that several AKFTA member countries, including Singapore, South Korea, Malaysia, and Thailand, receive a considerable amount of Indonesia's export products compared to other member countries. Among them, Singapore has been the top export destination for Indonesia from 1998 to 2021, with the highest export value of USD11,634 million in 2021. Singapore is a significant trade and financial center and a hub for goods in and out of the Southeast Asian region. Indonesia exports several commodities, such as gold, tin, gas, electronic equipment, processed food, and palm oil (CPO) to Singapore. Meanwhile, Malaysia contributed the most to Indonesia's export value in 2021, with USD12,006 million, and Indonesia exported goods worth

USD8,980 million to South Korea. Indonesia's exports to South Korea experienced a decline from 2011 to 2015, not only in South Korea but also in other countries due to the weakened global economy. On the other hand, Figure 2 shows that China is the largest export destination country for Indonesia, with a value of USD56,227 million in 2021, followed by Japan with USD14,644 million, Australia with USD9,425 million, and the United States with USD11,308 million, all of which are not members of the AKFTA.

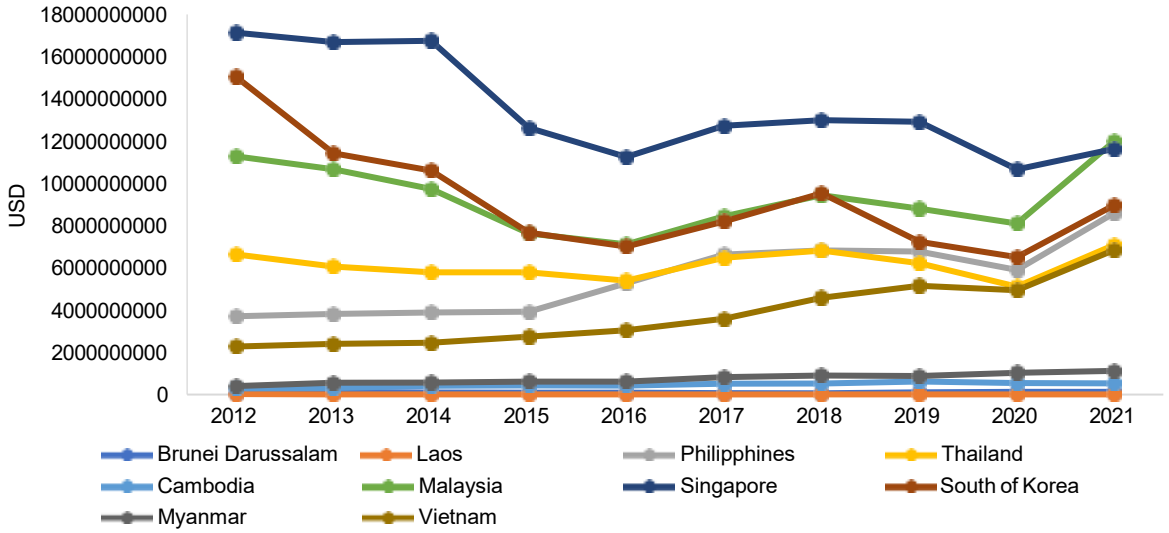

Figure 1. Value of Indonesian Exports to ASEAN-Korean Countries (USD)

Source: UN Comtrade (2022).

When it comes to Indonesia's export destinations, China emerges as the largest country for Indonesian exports. Although the value of Indonesia's imports from China exceeds the value of its exports to China, the export value to China has remained consistent over the years. Indonesia exports non-oil and gas commodities to China. Similarly, Japan was Indonesia's largest importer between 1998 and 2015, and its exports to Japan increased from 2009 to 2011 when the Indonesia-Japan Economic Partnership Agreement (IJEPA) reduced tariffs. Meanwhile, exports to Australia and the United States have increased but not as

significantly as to China and Japan. These changes may reflect price competition in the Indonesian market. However, Figures 1 and 2 demonstrate that Indonesia's export values to ASEAN-Korea and the main export destinations for non-AKFTA members have generally decreased between 2019 and 2020, with the exception of China and the United States. These trade patterns may reflect changes in each country's economic circumstances.

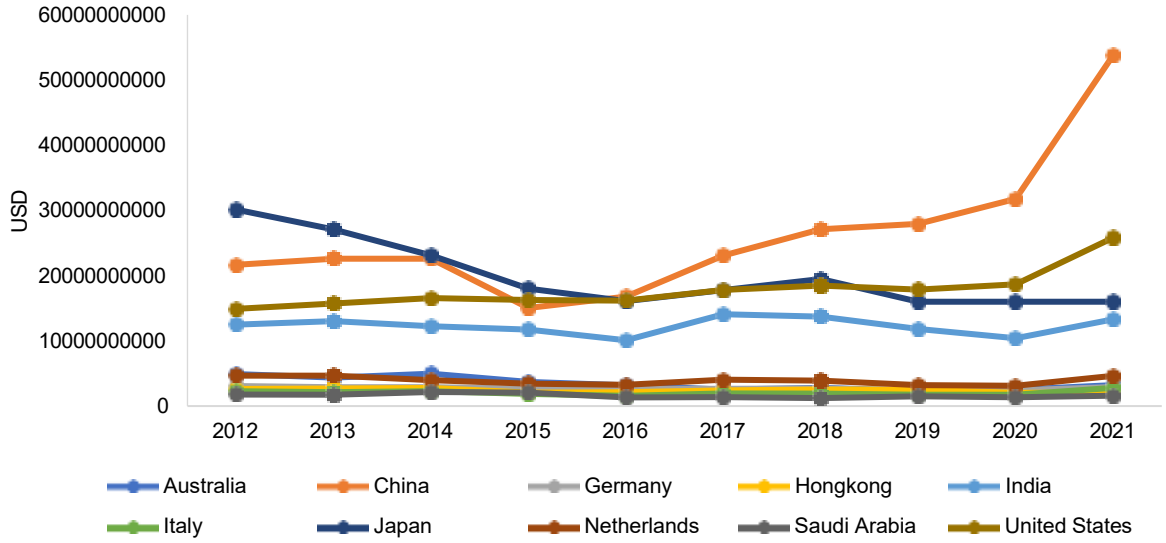

Figure 2. Value of Indonesian Exports to Ten Export Destination Countries of Non-AKFTA Members (USD)

Source: UN Comtrade (2022).

Flow of Indonesian Import Trade to ASEAN-Korea and Main Import Destination Countries

As a member of the free trade area, Indonesia has imported products from both member and non-member countries of the integration area. One of Indonesia's free trade agreements is the AKFTA, which was signed and entered into force in 2007.

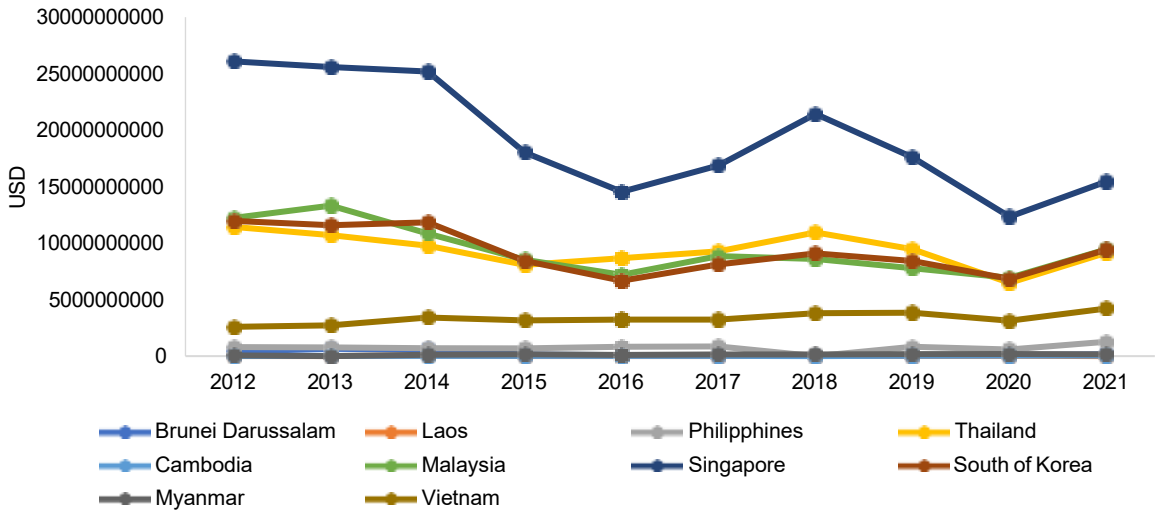

Figure 3. Value of Indonesian Imports from ASEAN-Korean Countries (USD)

Source: UN Comtrade (2022).

The Figure 3 illustrates those four countries, namely Singapore, Malaysia, South Korea, and Thailand, dominate the import trade of ASEAN-Korea in Indonesia. Singapore has been Indonesia's primary importer from 1998 to 2021 with an import value of USD15,451 million in 2021. It serves as a transit point for goods in and out of Southeast Asia and functions as a trade and financial center. Indonesia imports a variety of goods from Singapore, such as chemicals, nuclear reactors, plastics, mineral fuels, and electronic equipment. In the same year, Indonesia imported USD9,451 million and USD9,427 million worth of goods from South Korea and Malaysia, respectively, with the latter's import value increasing significantly. After the implementation of the AKFTA in 2007 and 2008, Indonesia's demand for imports, especially for production base materials such as mineral fuels, electronic equipment, electronics, plastics, nuclear, and chemicals, increased. As a result, Indonesia's imports from Singapore and Malaysia increased in 2011 and 2012, while imports from South Korea decreased. South Korea exports mineral fuel, iron and steel, nuclear, electronic and electronic equipment, and plastic to Indonesia. These three countries offer complementary goods to Indonesia, resulting in similar imported goods.

On the other hand, the countries with the lowest import values in 2021 are Laos, Cambodia, and Myanmar. The FTA's implementation has resulted in an increase in imports from ASEAN and Korea, indicating that Indonesia's imports have increased due to the agreement's formation and implementation. The member countries, including Indonesia, agreed to eliminate tariffs on imports entering their borders. There are two types of tariff removal, namely normal paths and sensitive lists. The sensitive list includes product categories that are regarded as sensitive, whereas the normal track category includes products whose import duty rates are accelerated. South Korea eliminated 70 percent of the tariff lines when the agreement went into effect in 2007.

By 2008, at least 95 percent of the tariff lines were eliminated, and all tariff lines were completely eliminated by 2010. Indonesia and ASEAN followed a similar path, decreasing tariff lines by 50 percent from the agreement's effective date, removing a minimum tariff line by 90 percent in 2009, and completely removing all tariff lines by 2010, with a maximum flexibility of 5 percent and postponing the tariff time limit to zero in 2012. The import duty rates for products in the sensitive list decrease at a slower rate than those in the normal track category. ASEAN and Korea can include 10 percent of the total number of tariff lines in the sensitive lanes. Finally, according to the Figure 3 and 4, China, Japan, the United States, and Australia are the top four countries of origin for Indonesia's main imports, excluding those from the ASEAN-Korea region, with import values of USD56,227 million, USD14,644 million, USD11,308 million, and USD9,425 million, respectively.

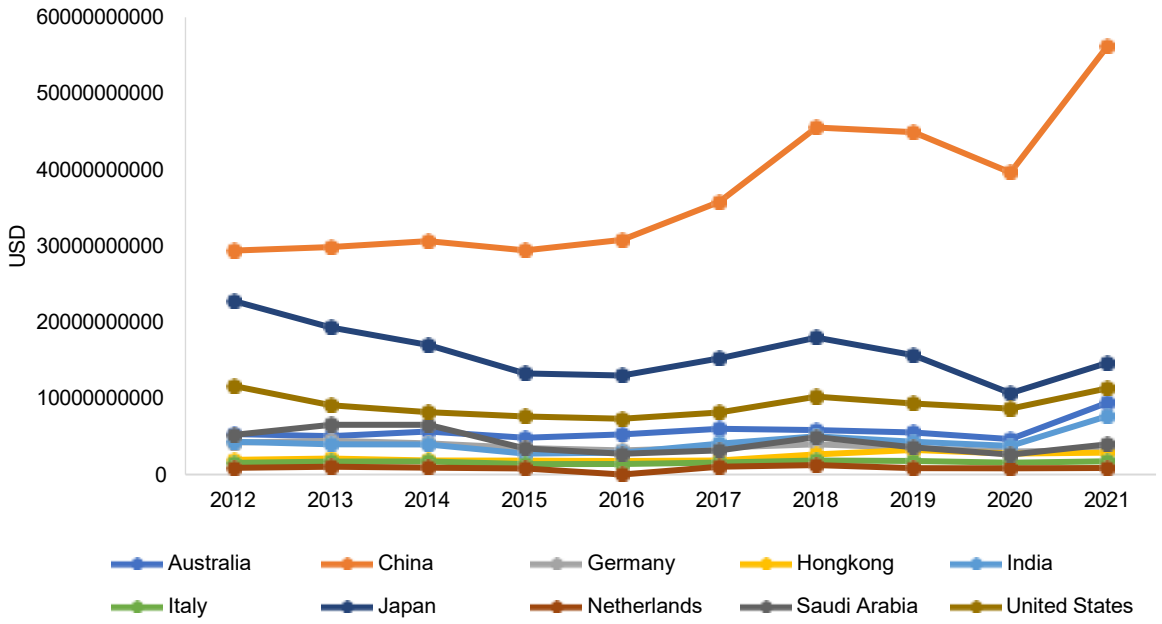

Figure 4. Indonesia's Import Value from Ten Import Origin Countries (USD)

Source: UN Comtrade (2022).

China can be considered as Indonesia's largest importer of main imports, except for a decrease in import values in 2020 due to the COVID-19 outbreak in Wuhan. The import values from China increased significantly compared to other non-AKFTA countries such as Japan, Australia, and the United States, from 1998 to 2021. Indonesia imports nuclear reactors, electronic and electronic equipment, iron and steel, parts of iron and steel, and organic chemicals from China. Similarly, Japan became Indonesia's largest importer from 1998 to 2005, and the Indonesia-Japan Economic Partnership Agreement (IJEPA) resulted in an increase in Japanese imports. Import trade between the United States, Australia, China, Japan and other countries has increased from 2000 to 2021. In 2019 and 2020, import values from ASEAN-Korea and Indonesia's main importers declined significantly, including imports from Singapore, Thailand, South Korea, China, and Japan. The economic crisis and the COVID-19 outbreak in 2019 contributed to the decline in import values. However, in 2021, the implementation of the new normal era and various

policies by countries to restore their national economy has increased the value of imports from these countries.

Trade Creation and Trade Diversion between Indonesia and ASEAN-Korea Member Countries

FTA collaboration can have both positive and negative consequences for member nations, such as trade creation and trade diversion, which occur in the involved countries, including ASEAN-Korea, as per Viner's 1950 research. The change in consumption from costly domestic goods to low-priced foreign goods leads to trade creation, leading to an increase in intra-member trade, according to Nopirin's (1997) study. A study carried out in the 2012-2021 period revealed that there was a rise in trade creation on the import side of Indonesia following the implementation of AKFTA. This was indicated by the AKFTA dummy variable's positive coefficient value of 1.50 in the estimated export model, implying that Indonesia has increased imports with AKFTA intra-regional countries following the implementation of AKFTA in 2012-2021. Trade growth was aided by lower bid prices and a gradual reduction in export tariffs from ASEAN-Korea member countries.

In 2012-2021, Indonesia's imports from non-member countries surpassed those from member countries by 2.32 percent, indicating the potential benefits of AKFTA. As an agreement that eliminates tariffs on imported goods, AKFTA stimulates trade creation and product diversification, leading to improved competitiveness in terms of quality and price. The long-term effect of AKFTA is expected to increase economic growth by maximizing the export potential of member countries. This view is supported by the research of Laird & Yeats (1990), which found that trade creation occurs due to changes in import duty rates in economic integration cooperation. Similarly, Nwali & Arene's (2015) study on ECOWAS showed that free trade areas have the potential to increase trade and generate positive welfare effects for member countries, as seen in Nigeria's case. Although the Nigerian government lost revenue from import duties and taxes due to the agreement, the overall benefit to the people of Nigeria is considered to be positive.

The study findings reveal a favorable impact of the AKFTA on Indonesian trade through trade creation, specifically on the import side. This is in line with the theory of economic integration that emphasizes the mutual benefits of cooperation among member countries to boost the volume and value of trade. Conversely, on the export side, imposing higher export product price tariffs on non-member countries while implementing lower price tariffs on AKFTA member countries may lead to trade diversion, reducing trade flows with non-member countries. This effect is captured by the FTA membership dummy variable, which shows a significant impact on Indonesia's export flows during the implementation of the AKFTA. The study's estimated coefficient value of the export variable in the AKFTA membership dummy is -0.19, indicating a trade diversion in Indonesian export flows. This suggests a decrease in the difference in export values by 19 percent to non-member trading partners after the implementation of the AKFTA. On the other hand, the estimation results also showed a significant positive effect of the FTA membership dummy on the value of Indonesian imports with a coefficient value of 1.50. This suggests an increase in the difference in the value of Indonesia's imports to non-member trading partners by 1.5 percent after the implementation of the AKFTA.

The AKFTA cooperation has not led to a significant increase in the volume of trade and investment within the ASEAN-Korea region, nor has it increased the volume of trade exports to countries outside the agreement area. This is because ASEAN-Korea countries have similar resources and trade in similar commodities, resulting in limited trade creation. After the AKFTA implementation, Indonesia's exports tend to be directed towards AKFTA member countries rather than countries outside the agreement area. However, the imposition of tariffs on Indonesian goods by non-AKFTA countries leads to losses for Indonesia due to trade diversion, resulting in decreased government revenues and national welfare.

This study found that a favorable impact of the AKFTA on Indonesian trade through trade creation, specifically on the import side. This is

likely because the AKFTA has facilitated easier access to the South Korean market for Indonesian goods, leading to an increase in Indonesian imports from South Korea. The agreement likely reduced or eliminated tariffs and other trade barriers, making South Korean products more affordable and appealing to Indonesian consumers and businesses. As a result, Indonesian imports from South Korea increased, contributing to trade creation under the AKFTA.

The phenomenon above also has been portrayed by Mareta (2018) used a gravity estimation model to analyze the effect of trade agreements between ASEAN-South Korea from 1990-2015 and found evidence of a trade diversion effect, indicating a decrease in the value of exports from AKFTA member countries. Another study by Hajar Aswad & Zulva Azijah (2021) looked at the impact of the ASEAN-China trade agreement on Indonesia's export performance for telephone commodities before and after the implementation of the ACFTA. The results showed that while the ACFTA variable had no significant effect on Chinese telephone exports to ASEAN, there was still a high demand for telephones in ASEAN countries, leading to exports.

Indonesia's GDP and Trading Partner Countries

Assuming all other variables remain constant, a 1 percent increase in Indonesia's GDP and trading partner countries will correspond to a 0.32 percent and 0.4 percent increase in Indonesia's export value, respectively. This finding is consistent with Kurniasari & Monica's (2019) research, which suggests that a higher GDP can lead to increased production and export capabilities in a country. Moreover, a positive relationship between Indonesia’s GDP and export value is observed, indicating that an increase in Indonesia’s GDP would likely result in an increase in Indonesian people’s consumption of foreign goods and services, thereby stimulating greater exports to Indonesia (Anggaristiyadi, 2011).

GDP per Capita of Indonesia and Trading Partner Countries

According to the study, there is a positive and significant relationship between Indonesia’s exports and

imports and the GDP per capita of its trading partners. An increase of 1 percent in Indonesia's GDP will result in a 17 percent increase in exports and a 39 percent increase in imports. This finding supports Zidi & Dhifallah's (2013) study, which found that Indonesia's GDP per capita is indicative of its trading capacity with partner countries. The study shows that higher GDP per capita in exporting countries is correlated with higher values of Indonesia's exports and imports. A country's ability and capacity to trade determine the amount of trade it engages in and its per capita income growth.

CONCLUSION AND POLICY RECOMMENDATION

In conclusion, the study shows that the implementation of the AKFTA leads to trade diversion on the export side and trade creation on the import side, with lower bid prices and gradual tariff reduction from member countries causing a diversion of trade. The analysis result show that of the impact of the AKFTA on trade creation and diversion between Indonesia and ASEAN-Korea member countries suggests that trade creation outweighs trade diversion.

Although Indonesia experiences an overall loss due to trade diversion, the country also benefits from increased national welfare as a result of the tariffs imposed by countries outside the ASEAN-Korea region, which protect Indonesian products. The study also highlights that the implementation of the trade agreement in the AKFTA results in an increase in the value of Indonesia's imports from both AKFTA members and non-members. Finally, the study suggests that Indonesia's GDP, GDP per capita, and the AKFTA membership are crucial factors affecting the country's exports and imports when the AKFTA is implemented.

Trade diversion that occurs in the trade sector can affect government income and reduce national welfare. To overcome this, the government needs to negotiate with non-member regional trading partner countries to provide offer prices that are lower or closer to the offer prices from regional member countries so that national welfare will increase. In order to create trade in the ASEAN-Korea region, the

government can increase exports and imports of products that have received reduced tariffs with member countries by opening market access for new products.

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