# Trade Creation and Trade Diversion Effects of the ASEAN-China Free Trade Agreement, ASEAN-Korea Free Trade Agreement, and ASEAN-India Free Trade Agreement Implementation on the Export of Indonesia's Food and Beverages Industry Products

**Wahyudi Setia Darma[1], Fithra Faisal Hastiadi[2]***

[1]Universitas Indonesia, Indonesia, [2]Universitas Indonesia, Indonesia. *Email: fithra_faisal@yahoo.com

**ABSTRACT**

This research is aimed at analyzing the effect of trade creation and trade diversion which occurs on the establishment of such cooperation for the export of Indonesian food and beverage industry products with trading partners either with its members or non-members cooperation. This research is conducted by using a test from 12 countries in the period of 2005-2015 estimated using a modified gravity model by increasing the variable on dummy Free Trade Agreement (FTA) as a proxy from the impact on the implementation of ASEAN-China FTA (ACFTA), ASEAN-Korea FTA (AKFTA), and ASEAN-India FTA (AIFTA). The estimate results of this research suggest that the implementation of ACFTA, AKFTA and AIFTA provides positive and significant effect of trade creation and trade diversion on export of Indonesian food and beverage products. This signifies that the implementation of ACFTA, AKFTA and AIFTA creates a trade creation effect by increasing intra-regional trade between ACFTA, AKFTA and AIFTA member countries and not occur trade diversion with non-member countries.

**Keywords:** Asean-China Free Trade Agreement, Asean-Korea Free Trade Agreement, Asean-India Free Trade Agreement, Trade Creation, Trade Diversion, Gravity Model, Indonesian Food and Beverage Industry Products
**JEL Classifications:** F13; L15

## 1. INTRODUCTION

The number of Free Trade Agreement (FTA) surged during the last two decades and provided significant impacts to the development of international trade. Based on World Trade Organization (WTO) report, there are more than 270 schemes of regional FTA that at present actively apply in the world (WTO, 2015). This shows that the international trade development leads to a more free trade with various international cooperation patterns, either bilaterally or regionally.

The total free trades in the Asian region and its surroundings increased at the beginning of 2000. This is because Asia is considered one of the emerging markets and made as target market thanks to its above average economic growth. Moreover, the expanding production network, as the materialization and establishment of the FTA, which is supported by productive manpower availability as well as abundant resources, makes Asia the target in the middle of the global economic crisis(ADB, 2011). The asean free trade area (AFTA) is one of the FTA cooperation forms in the Asian region, which was established in 2002 and is the regional FTA among Southeast Asian countries. With regard to the implementation of AFTA, many circles value that this cooperation is not significantly increasing the trade among its members and several studies mentioned that AFTA is not successful in increasing the trade volume of its members, one of those is according to the report of BKF. The Ministry of Finance implies that the utilization rate of AFTA is only 30.43 % (BKF, 2012).

Along with the global economic growth, the government of Indonesia ratified the establishment of FTA jointly with countries incorporated in ASEAN, namely the frameworks of ASEAN-China FTA (ACFTA), ASEAN-Korea FTA (AKFTA), and ASEAN-India FTA (AIFTA), where such FTA was fully implemented in 2010

(BKF, 2012). The entry of Indonesia, which is a country with the largest population and market in ASEAN, simultaneously provides consequences on two matters, they are the opportunity to increase the market access of domestic products at the international market and simultaneously the challenge of the domestic industrial competitiveness against foreign products.

One of the industries in the country that has the opportunity and is facing challenges due to this existing agreement implementation of ACFTA, AKFTA, and AIFTA is the food and beverage industry. The food and beverage industry products are commodities included in the ACFTA, AKFTA, and AIFTA agreements and this industry is one of the strategic industries that provides large contribution to the economy of Indonesia. The food and beverage industry provided during the period of 2011-2015 the largest non-oil and gas processing industrial contribution to the GDP, i.e., 31% (Ministry of Industry, 2016). In addition, the growth of the food and beverage industry experienced a higher growth in 2015, that is 8% compared to the growth of the non-oil and gas industry of only 5%. In view of the importance of the processed food and beverage industry toward the national economy, this industry is included in the group/cluster of priority industries, which is contained in the Regulation of the President of the Republic of Indonesia Number 28 of 2008 concerning National Industry Policy (Ministry of Industry, 2008).

Figure 1 depicts that the export trade value of the food and beverage industry products of Indonesia with the member countries of ACFTA, AKFTA, and AIFTA, namely China, Korea, India, and ASEAN member countries was increased after such FTA was fully implemented in 2010. The value of export to the member country of ACFTA of US $3.99 billion in 2009 increased to US $6.99 billion in 2015. The value of export to the member country of AKFTA of US $2.06 billion in 2009 increased to US $3.84 billion in 2015. The value of export to the member country of AIFTA of US $5.50 billion in 2009 increased to US $6.95 billion in 2015.

Figure 2 suggests that the import trade value of food and beverage industry products of Indonesia with the member countries of ACFTA, AKFTA, and AIFTA, namely China, Korea, India and member countries of ASEAN also increased after such FTA was fully implemented in 2010. The value of import from the member country of ACFTA of US $1.14 billion in 2009 increased to US $2.23 billion in 2015. The value of import from the member country of AKFTA of US $995 million in 2009 increased to US $1.92 billion in 2015. The value of import from the member country of AIFTA of US $1.09 billion in 2009 increased to US $1.96 billion in 2015. Picture 1.5 and Picture 1.6 demonstrate that the export value of the food and beverage industry products is higher compared to the import value.
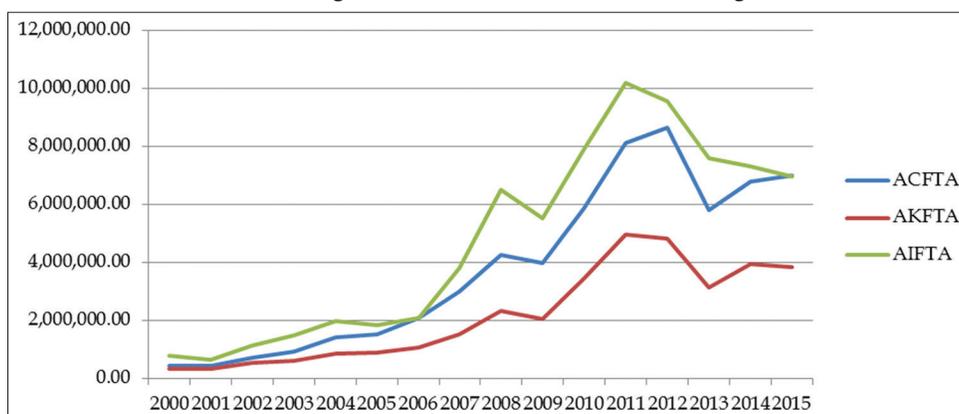
Viner (1950) argues that the economic integration may cause the trade creation among member countries and/or cause the occurrence of trade diversion with non-member countries, so that the main question of this research is namely whether the increase of the export trade of food and beverage industry products of Indonesia with the member countries of ACFTA, AKFTA, and AIFTA is the result of the trade creation effect due to the impact of the implementation of ACFTA, AKFTA, and AIFTA. Further, whether such trade development causes the occurrence of the trade diversion effect on the trade of Indonesia with the main trade partner countries of food and beverage industry products that are not members of ACFTA, AKFTA, and AIFTA. The main objective of this research is to analyze the effects of trade creation and trade diversion that occur due to the implementation of ACFTA, AKFTA, and AIFTA toward the export of the food and beverage industry products of Indonesia with trade partners that are members of ACFTA, AKFTA, and AIFTA as well as with non-members of ACFTA, AKFTA, and AIFTA during the period of 2005-2015.

## 2. LITERATURE REVIEW

The economic integration occurs when several countries join together in order to establish a larger economic unit with a special inter-member relationship (Appleyard, 2006). The trade agreement between two or more countries, either in form of the bilateral, regional, or multilateral trade system, has a similar principle, that is reducing or eliminating all forms of trade obstructions, either tariff or non-tariff.
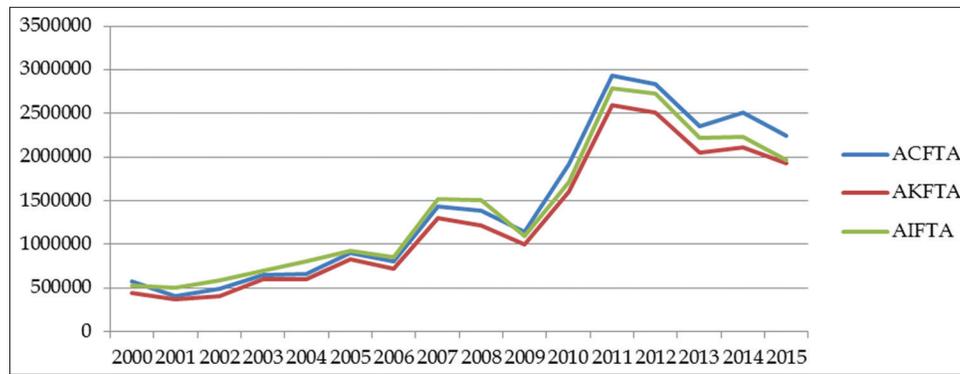
The discriminative treatment occurs in the economic integration between member countries and non-member countries outside the economic integration, so that it will provide the trade creation and trade diversion effects to the member countries (Salvatore,

**Figure 1:** Development of export value of indonesian food and beverage industry products with ASIAN-China Free Trade Agreement, ASEAN-Korea Free Trade Agreement and ASEAN-India Free Trade Agreement Countries



Source: World Integrated Trade Solution (WITS, 2017), (Re-processed)

**Figure 2:** Development of Import Value of Indonesian Food and Beverage Products by Country of ASIAN-China Free Trade Agreement, ASEAN-Korea Free Trade Agreement and ASEAN-India Free Trade Agreement



Source: World Integrated Trade Solution (WITS, 2017), (Re-processed)

2004). The most basic objective of the economic integration is to increase the goods and service trade volume, enhance the capital and manpower mobility, improve the productivity, improve the production efficiency, and increase the product competitiveness. Such condition will enhance the economic growth of member countries in an economically integrated region and thereby improving the community welfare. Krugman (1991) has the opinion that naturally the trade blocks are based on the geographical approach, which later on may provide efficiency and improve the welfare of its members.

Viner was the first person who explained about the difference of the trade creation and trade diversion effects that emerged from the establishment of the custom union. This theory of Viner is the relevant international economic theory related to the economic policy on the economic integration. Viner uncovered that an FTA will be able to improve welfare based on the trade creation and trade diversion effects that ensue. The economic integration will be very advantageous if the trade creation effect is larger compared to the trade diversion effect (Viner, 1950), Krueger (1999), Cabalu and Alfonso (2007).

The trade creation basically takes place if the establishment of an FTA is able to create trade that never occurred before. The countries that are incorporated in one FTA, with the existence of the trade creation, are able to obtain produced goods more efficient than the other members. It means that there is a shift from high cost domestic goods to goods with lower cost from the FTA fellow member countries. This means that there is a shift from domestic goods with high cost to goods with low cost from the FTA fellow member countries. Trade creation is the benefit obtained from the establishment of trade blocks, by assuming that all economic resources are fully used before and after the establishment of the custom union, so that the establishment of the custom union will improve the welfare of member countries that leads to the improvement of the production specialization based on the comparative superiority (Salvatore, 2004).

The trade diversion is namely the occurrence of trade shift from non-member countries to member countries (Salvatore, 2004). The trade diversion occurs since the goods from non-member countries with low cost (lower-cost import) are replaced by goods from member countries with high cost (higher-cost import). This occurs

due to the preferential treatment to fellow member countries, namely the reduction or elimination of tariff, so that the products from non-member countries, which are actually cheaper, become more expensive as they should still bear the tariff (Salvatore, 2004).

The economists in the past have the opinion that the RTA may improve welfare and is an effective measure into the direction of free trade and then Viner (1950) uncovered that an RTA will be able to improve welfare based on the size of the trade creation and trade diversion effects that befall, where the free trade or regional cooperation is strongly determined by one of the more dominant effects. In case the trade creation is larger, the regional cooperation can improve the welfare of its members, and conversely, in case the trade diversion arises, then it may cause detriment to its member countries. This existing controversy in the RTA FTA attracts the economists and researchers to conduct the empirical research related to those two trade effects.

There are two empirical method approaches in the analysis on the RTA implementation impacts that are normally used. The first approach is by using the ex-ante approach model, i.e., the simulation analysis using the computable general equilibrium (CGE) model in order to estimate the effects of reduction or elimination of trade obstructions prior to the RTA implementation. One of the researches conducted in order to analyze the ACFTA implementation impacts on the export of Indonesia employs the GTAP model, viz. the CGE multi regional model (Ibrahim and Wibowo, 2010).

The second approach in the analysis of RTA impacts is by using the ex-post approach which is used to analyze the trade effects after the RTA implementation. This approach normally applies the gravity model in order to look at the RTA impacts on trade. Several empirical researches utilize the gravity model, which is modified by adding two variables, the dummy trade creation and trade diversion, since proxy of the RTA implementation impacts on the RTA inter-member countries and non-member countries trade. This is carried out in order to identify that RTA is not only providing impacts on the member countries, but is also providing impacts on the non-member countries. The empirical research that employed this gravity model was carried out by Jayasinghe and Sarker, (2008), who investigated how the trade creation effect and

trade diversion effect ensued from the RTA implementation on the export in the NAFTA member countries and made the gravity model estimation by using two dummy variables-the trade creation and trade diversion.

The empirical research then developed in the RTA impact analysis by using the gravity model that is modified by using three FTA dummy variables, namely trade creation, export trade diversion, and import trade diversion. The export trade diversion and import trade diversion showed the RTA impacts on the extra regional trade, where trade diversion is distinguished from the aspects of export and import in order to know the RTA impacts on the trade with non-member countries viewed from the aspects of export and import. Several researches that applied this model were performed by Endoh (1999), Carrère (2006), Zidi and Dhifallah (2013), and Yang and Martinez-zarzoso (2014). The research of Endoh (1999) was the first that utilized the term export trade diversion that has a different definition than the trade diversion used by Viner (1950).

The impacts of the FTA implementation on trade may be distinguished based on its trade data analysis. Nearly most of the empirical studies aggregately used the trade data. The RTA implementation impacts will also give different effects on the commodity or product level, which is in general since the decline or reduction of tariff is also distinguished based on each commodity or product. Several researches that employed the gravity model which is modified by using the trade data based on the sector or commodity trade, such as what was carried out by Yang and Martinez-zarzoso (2014), Jayasinghe and Sarker (2008), Urata and Okabe (2010). Yang and Martinez-zarzoso (2014) conducted the analysis concerning the trade creation and trade diversion impacts on the export in the ASEAN-China FTA region from 1995 to 2010 utilizing the aggregated and disaggregated export data for agriculture raw materials, manufacture goods and chemicals, as well as machine and transportation equipment. The result obtained from this analysis was that on the overall ACFTA provided trade creation impacts to its member countries. For the meantime, Jayasinghe and Sarker (2008) performed the research in order to analyze the trade creation and trade diversion effects of the NAFTA member countries on the bilateral trade of agri-food products. Urata and Okabe (2010) made the research on 20 commodity groups based on SITC. It was found from the research that the establishment of FTA would provide different results for each different commodity, where the establishment of the European Union (EU) was able to create the trade creation, particularly at the agricultural products, while for ASEAN the largest trade creation impacts took place at the machine group and its derivative products and motor vehicles.

The empirical research related to the implementation of RTA experienced another development by looking at the trade creation and trade diversion of all RTAs that have been implemented using the trade data at the commodity or product level by using the gravity model. Karemera (2016) investigates the impacts of trade creation and trade diversion in the cooperation of NAFTA, EU, ASEAN, MERCOSUR on the export of processed meat products. The results of the above empirical researches signify that the implementation of FTA/RTA will provide the trade creation and/or

trade diversion effects on the intra-regional trade with member countries and extra-regional trade with non-member countries.

This research refers to the researches that have been carried out by Urata and Okabe (2010) and Yang and Martinez-zarzoso (2014) in order to analyze whether the establishment of ACFTA, AKFTA, and AIFTA has trade creation or trade diversion impacts, particularly for the export of the food and beverage industry products of Indonesia with members and non-members of ACFTA, AKFTA, and AIFTA. No previous researches has used the product/commodity approach and looked at the trade creation and trade diversion effects on export of food and beverage industry products. Previous researches have noteither looked from the perspective of only one country, Indonesia, on all the already running FTAs, consisting of ACFTA, AKFTA and AIFTA. In addition, in order to answer the objective of research, the dummy trade creation and trade diversion are used in the regression model by including the FTA implementation time element.

## 3. RESEARCH METHOD

This research applies the gravity model in order to find out the trade creation and trade diversion effects on the establishment of an FTA from the research model conducted by Urata and Okabe (2010) and Yang and Martinez-zarzoso (2014). The gravitation model in this research utilizes the FTA dummy variable as proxy of the effects on the implementation of ACFTA, AKFTA, and AIFTA, i.e. the trade creation and trade diversion. The trade creation andtrade diversion effects that occur are distinguished based on the membership status, the inter members (intra-regional trade) and non-members (extra-regional trade), so that the specification of model that is used in this research has the gravitation function and equation as follows:

$$\ln(X_{j,t}) = \alpha_0 + \beta_1 \ln\left(GDP_t\right) + \beta_2 \ln\left(GDP_{jt}\right) + \beta_3 \ln\left(DIS_j\right)$$
$$+ \beta_4 \ln\left(POP_{j,t}\right) + \beta_5 \left(FTA_{1j,t}\right) + \beta_6 \left(FTA_{2j,t}\right) + \varepsilon_{j,t}$$

The explanation on the dependent variable and independent variable that are used in this research is as follows:

Export ($X_{i,t}$) as the dependent variable is the initial variable of the gravitation model (Tinbergen, 1962). The export that is used in this research signifies the bilateral trade performance of the food and beverage industry products between Indonesia and the trade partners that are included in the member countries of ACFTA, AKFTA, and AIFTA and non-member countries of ACFTA, AKFTA, and AIFTA (Yang and Martinez-zarzoso, 2014).

Gross domestic product ($GDP_t$, $GDP_{j,t}$) is the total value of goods and service production in a country at a certain period. The GDP is used as proxy for the economic size of a country, which shows the size of the economic ability of a country, where the larger the GDP produced by a country, the larger the ability of such country to implement trade. This research model employs the real GDP, where the GDP variable used is the GDP of Indonesia ($GDP_t$) and the GDP of the trade partner countries ($GDP_{j,t}$) (Urata and Okabe, 2010).

Distance ($DIS_j$) is the geographical distance between the

capital city (economy center) of Indonesia and the trade partner countries, either the member countries or non-member countries of ACFTA, AKFTA, and AIFTA. This variable is used as proxy of the transportation costs (Urata and Okabe, 2010).

Population ($POP_{j,t}$) is the total population domiciled and settled in a country area. The population is measured with the inhabitant unit, which in this research is the population of the member countries ACFTA, AKFTA, and AIFTA as well as non-member countries(Urata and Okabe, 2010).

Dummy variable ($FTA1_{j,t}$) has the value of 1 if the exporting country is Indonesia and the importers are member countries of ACFTA, AKFTA, and AIFTA (country j) after 2009, and has the value of 0 if otherwise. In case the coefficient of the variable has a positive value, this variable reflects the existence of the trade creation effect (Yang and Martinez-zarzoso, 2014). Dummyvariable ($FTA2_{j,t}$) is 1 if the exporting country is Indonesia and the importers are non-member countries of ACFTA, AKFTA, and AIFTA (country j) after 2009, and has the value of 0 if otherwise. In case the coefficient value of the $FTA2_{j,t}$ variable is positive, this variable demonstrates that the existence of the trade diversion positively affects the export with non-member countries of ACFTA, AKFTA, and AIFTA, which means that there is no decline of the export of Indonesia with non-member countries of ACFTA, AKFTA, and AIFTA, but in case $FTA2_{j,t}$ has a negative value, it shows the existence of trade diversion on the export, which means that there is a decline of export with non-member countries of ACFTA, AKFTA, and AIFTA owing to the diversion of trade(Yang and Martinez-zarzoso, 2014).

## 4. RESULTS AND DISCUSSION

This variable used the data estimation method of the Random Effect Model (REM) panel, where REM is the best model based on the selection of the test result method of Hausman (attached). The overall result of this research panel data estimation is shown in Table 1, where most of the free variables in this model have high significance at $\alpha = 1\%$ and $\alpha = 5\%$, except the population value variable, which is not significant. The R-squared value of 0.5256 is obtained based on the result of estimation, which shows that the ability of the free variables to explain the non-free variables is 52,56% and the remaining is affected by other variables outside the model.

The main variable that is used to respond to the problem in the research is namely by adding two FTA dummy variables as proxy of the impacts on the implementation of ACFTA, AKFTA and AIFTA, namely the trade creation dummy (FTA1) and trade diversion dummy (FTA2). The result of estimation based on Table 1 display the two main variable coefficients, namely the trade creation dummy (FTA1) and trade diversion dummy (FTA2), which provide positive and significant effects to the export trade of food and beverage industry products of Indonesia.

The trade creation dummy (FTA1) variable has a positive coefficient value of 0.6746171 and significant probability at $\alpha = 1\%$, and this shows that the trade creation effect of the ACFTA, AKFTA, and AIFTA implementation has positive and significant effect on the bilateral export trade of food and beverage industry products of Indonesia with partner countries that are member countries of ACFTA, AKFTA and AIFTA. The positive and significant value at the trade creation variable indicates that the implementation of ACFTA, AKFTA and AIFTA is able to create the trade creation effect by increasing the intra-regional trade of food and beverage industry products of Indonesia with member countries of ACFTA, AKFTA, and AIFTA. The development of the export value of food and beverage industry products of Indonesia on the trade partners that are member countries of ASEAN-China FTA, ASEAN-Korea FTA and ASEAN-India FTA is shown in Figure 3.
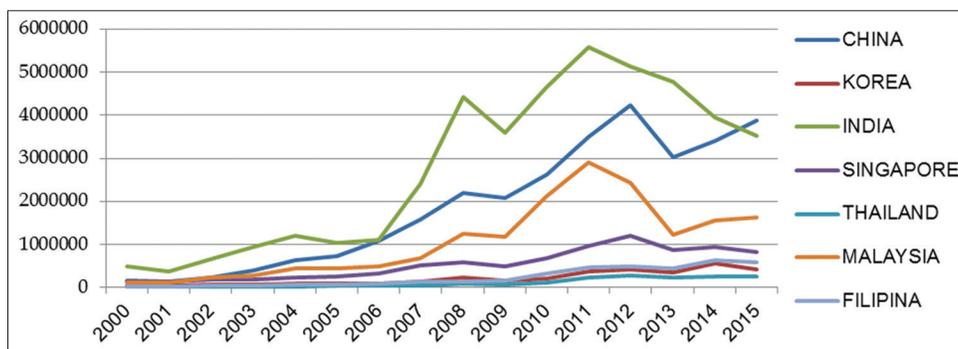
The export of food and beverage industry products of Indonesia to member countries of ACFTA, AKFTA, and AIFTA experienced a quite significant increase after the enforcement of those three FTAs. The export value of Indonesia to the member country of ACFTA of US \$3.99 in 2009 jumped to US \$6.99 billion in 2015. The export value of Indonesia to the member country of AKFTA of US \$2.06 billion in 2009 climbed to US \$3.84 billion. The export value of Indonesia to the member country of AIFTA of US \$5.50 billion in 2009 surged to US \$6.95 billion. This is in accordance with the research conducted by Frankle (1997), who found that the ASEAN cooperation was able to create the trade creation effect, so that the economy and welfare of its members was improved. Additionally, Robert (2004) in his research on ASEAN-China FTA found that the trade creation effect for member countries is more dominant compared to its trade diversion effect. In the interim, the research conducted by Lee and Shin (2006), who have investigated more than 15 RTAs/FTAs throughout the world, mention that AFTA tends to have the trade creation effect, so that the trade and welfare of its members is increased.

Figure 4 depicts that the average export growth of food and beverage industry products of Indonesia to member countries of

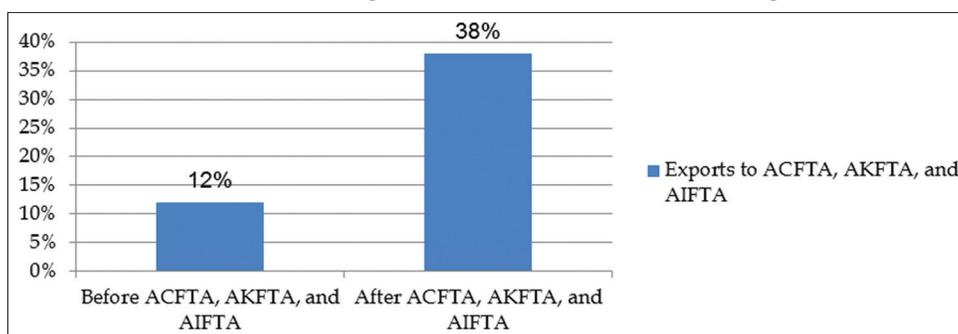**Table 1: Panel data estimation results**

| Variable | Coefficient | Standard error | Z | P >|Z| |
|---|---|---|---|---|
| C | −8.291113 | 6.745116 | 1.97 | 0.219 |
| LNGDPINDONESIA | 0.4335227** | 0.2198185 | 2.18 | 0.049 |
| LNGDPNEGARALAIN | 0.4287036** | 0.1963213 | −2.11 | 0.029 |
| LNJARAK | −1.062397** | 0.5042299 | 1.17 | 0.035 |
| LNPOPULASI | 0.3333781 | 0.3333781 | 4.54 | 0.244 |
| VARIABELDUMMYFTA1 | 0.6746171*** | 0.6746171 | 4.48 | 0.000 |
| VARIABELDUMMYFTA2 | 0.7089768*** | 0.7089768 | −1.23 | 0.000 |
| $R^2$ | 0.5256 | | | |
| WALD CHI 2 | 493.84 | | | |
| PROB>CHI 2 | 0.0000 | | | |

**Figure 3:** Exports of Indonesian Food and Beverage Products by Member Countries ASIAN-China Free Trade Agreement, ASEAN-Korea Free Trade Agreement and ASEAN-India Free Trade Agreement



Source: World Integrated Trade Solution (WITS, 2017), (Re-processed)

**Figure 4:** Average Export Growth of Indonesian Food and Beverages Industry Products with ASIAN-China Free Trade Agreement Member Countries, ASEAN-Korea Free Trade Agreement and ASEAN-India Free Trade Agreement in 2005-2015



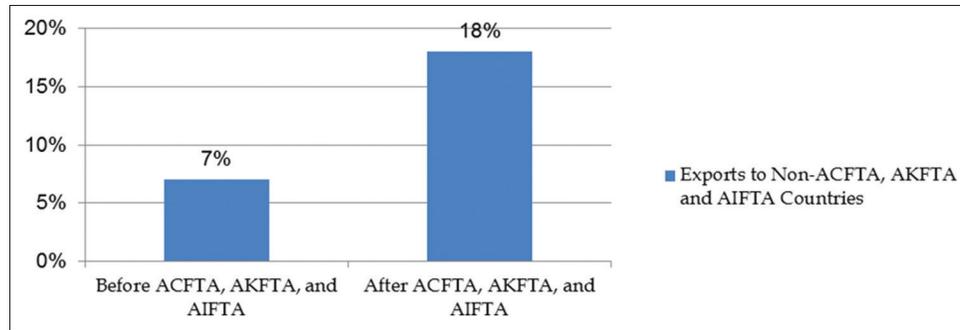Source: World Integrated Trade Solution (WITS, 2017), (Re-processed)

ACFTA, AKFTA, and AIFTA soars after the full implementation of such FTA in 2010, when the average growth of export prior to the enforcement ACFTA, AKFTA, and AIFTA was 12% and significantly rose to an average of 38% after enforcement of those three FTAs. The export of food and beverage industry products in 2015 was dominated by the largest value of export to China, namely US $ 3.87 billion. This is in accordance with the finding of Ibrahim and Wibowo (2010) who represented that viewed from the export aspect the commodities of Indonesia have the opportunity to increase by 2.1%, particularly sourced from the increase of export to China. The opportunity to expand the export to China is supported by characteristics of the export commodities of Indonesia that have a relative low competition degree. As such, the export of goods from Indonesia is relatively easier to expand.

The trade diversion dummy(FTA2) variable has a positive coefficient value of 0.7089768 and significant probability at $\alpha$ = 1%, which shows that trade diversion effect from the implementation of ACFTA, AKFTA and AIFTA has a positive and significant effect on the bilateral export trade of food and beverage industry products of Indonesia with main trade partners that are non-member countries of ACFTA, AKFTA, and AIFTA. The positive and significant value at the trade diversion variable indicates that the implementation of ACFTA, AKFTA, and AIFTA does not cause the trade diversion and the increase of the extra–regional trade of food and beverage industry products of Indonesia ensues with the main trade partners that are non-member countries of ACFTA, AKFTA, and AIFTA.

Figure 5 demonstrates that the average growth of export of the food and beverage industry products of Indonesia to non-member countries of ACFTA, AKFTA, and AIFTA experienced an increase after the full implementation of such FTAs in 2010, where the average growth of export prior to the implementation of ACFTA, AKFTA and AIFTA was 7% and rose to an average of 18% after the enforcement of those three FTAs. This is in accordance with the research conducted by Krugman (1991) who mentions that a country will agree to establish cooperation with another country if such country is the main trade partner due to the opinion that it is more profitable. In line with such representation of Krugman, Robert (2004) finds in his research on ASEAN-China FTA that the trade creation effect for member countries is more dominant compared to its trade diversion effect. In the meantime, the research conducted by Lee and Shin (2006), related to his investigation on the RTAs throughout the world, finds that AFTA, as one of the cooperation in the Asian region, is not only increasing the trade among its member countries but is successful to create the trade with non-member countries, which is the highest compared to the other RTAs.

The main export destination country of the food and beverage industry products of Indonesia to trade partners that are non-member countries of ACFTA, AKFTA and AIFTA, are namely the United States of America, the Netherlands, Australia, Brazil and Argentina, where United States of America is the third largest export market after China and India for food and beverage industry products of Indonesia with the export value of US $1.95 billion

**Figure 5:** Average Export Growth of Indonesian Food and Beverage Industry Products With Non-Member Countries ASIAN-China Free Trade Agreement, ASEAN-Korea Free Trade Agreement and ASEAN-India Free Trade Agreement 2005-2015



Source: World Integrated Trade Solution (WITS, 2017), (Re-processed)

in 2015. There are several factors that cause the export increase of food and beverage industry products of Indonesia to the main export destination countries that are non-member countries of ACFTA, AKFTA and AIFTA, and according to the association of food and beverage entrepreneurs of Indonesia (GAPMMI, 2016), the food and beverage products sector of Indonesia has a high competitiveness since it is supported by quite potential natural resources, such as agriculture, marine, farming, plantation and forestry.

The GDP variable of Indonesia ($GDP_t$) has a positive coefficient value of 0.4335227 and significant probability at α = 5%, which means that the GDP increase of Indonesia of 1 unit will increase the export of 0.433 unit, with the assumption that the other variables are constant (ceteris paribus). This showed that the GDP of Indonesia has a positive and significant effect on the export of food and beverage industry products of Indonesia. This research utilizes the GDP as proxy of the production of food and beverage products of Indonesia. The estimation result of this research is in accordance with the research hypothesis or theory, where the larger the GDP, the larger will be the produced products, so that it may increase the export from the exporting country. This research result is in accordance with that of Robert (200), Urata and Okabe (2010) and Y and Martinez-zarzoso (2014).

The GDP variable of the trade partner country ($GDP_{j,t}$) has a positive coefficient value of 0.4287036 and significant probability at α = 5%, which means that the increase of GDP of the trade partner country of 1 unit will increase the export of 0.423 unit, with the assumption that the other variables are constant (ceteris paribus). This shows that the GDP of the trade partner countries has a positive and significant effect on the export of food and beverage products of Indonesia. The GDP of trade partner countries shows the purchasing power of the consumers of the trade partner countries. This research estimation is in accordance with the research hypothesis or theory, whereas the larger the GDP of the partner country, the larger the purchasing power of consumers of the trade partner country. The result of this research is in line with that of Robert (2004), Urata and Okabe (2010), and Yang and Martinez-zarzoso (2014).

The distance ($DIS_j$) variable, as proxy of the distance in the gravity model has a negative coefficient value of −1.062397 and significant

probability at α = 5%, which means that each increase of distance of 1 unit of both countries that are trading will reduce the trade flow of 1.062 units, with the assumption that the other variables are constant (ceteris paribus). This shows that the distance has a negative and significant effect on the export of food and beverage products of Indonesia. This estimation result is in accordance with the research hypothesis or theory, which explains that the distance coefficient with negative value indicates that the larger the inter-country distance, the smaller the implemented trade. This research result is aligned with that of Urata and Okabe (2010), Zidi and Dhifallah (2013), and Yang and Martinez-zarzoso (2014).

The population variable ($POP_{j,t}$) ,as proxy of the total population of the trade partner country has a positive coefficient value with non-significant probability, i.e. with the probability of 0.244, which is larger than the significance level of 10%. This denotes that the population of the trade partner country ( has statistically no significant effect on the export of food and beverage products of Indonesia.

## 5. CONCLUSION

Based on the estimation result analysis that is conducted in the previous chapter, it is indicated that this research is intended to see whether the implementation of ACFTA, AKFTA, and AIFTA has trade creation and/or trade diversion impacts on the export of food and beverage products of Indonesia. Following is the conclusions that can be drawn in accordance with the research issues and objective that have been explained in the previous chapter:

Trade creation effect from the implementation of ACFTA, AKFTA and AIFTA that has positive and significant effects on the export of the food and beverage industry products of Indonesia to the trade partners that are members of ACFTA, AKFTA, and AIFTA. The positive and significant value at the trade creation variable indicates that the implementation of ACFTA, AKFTA and AIFTA is able to create the trade creation by increasing the intra-regional trade of the food and beverage industry products of Indonesia with the member countries of ACFTA, AKFTA, and AIFTA.

This significant increase of the intra-regional trade with ACFTA, AKFTA, and AIFTA is the implication of the existing preferential

tariff that applies among the member countries of ACFTA, AKFTA, and AIFTA. Additionally, the estimation result of this research also implies that the trade creation from the implementation of ACFTA, AKFTA, and AIFTA may provide the quite large opportunity for the market access of the food and beverage industry products to the markets of China, Korea, India, and ASEAN, where the market opportunity of 3.3 billion people is created.

This research also shows that the trade diversion effect from the implementation of ACFTA, AKFTA and AIFTA has positive and significant effect on the export of food and beverage industry products of Indonesia to the main trade partner countries that are the non-member countries of ACFTA, AKFTA, and AIFTA. The positive and significant value at the trade diversion variable suggests that the implementation of ACFTA, AKFTA and AIFTA does not cause the trade diversion and the extra-regional trade increase occurs for export of the food and beverage industry products of Indonesia with non-member countries of ACFTA, AKFTA, and AIFTA.

The estimation result of this research also implies that the implementation of ACFTA, AKFTA, and AIFTA is not only increasing the intra-regional trade among the member countries of ACFTA, AKFTA, and AIFTA but is also increasing the extra-regional trade with non-member countries of ACFTA, AKFTA, and AIFTA, without causing the occurrence of trade diversion.

## 6. SUGGESTIONS AND POLICY IMPLICATION

The participation of Indonesia in the cooperation framework of ACFTA, AKFTA, and AIFTA provides positive impacts on the export of food and beverage industry products of Indonesia, and therefore, such partnership relation needs to be continued and enhanced into the direction that provides more benefits. Furthermore, Indonesia can expand the membership with FTA that is still in the preparation process, either in form of exploration, reviewing, or negotiation by ASEAN, among others, ASEAN-European Union FTA, ASEAN-USA FTA, ASEAN-Canada FTA and Comprehensive Economic Partnership in East Asia (CEPEA). The positive trade creation and trade diversion effects in the implementation of ACFTA, AKFTA and AIFTA may increase the export of the food and beverage commodities/products of Indonesia to the markets of China, Korea, India and ASEAN member countries, so that it should be utilized in order to create long term advantage, namely by improving the competitiveness and improving the efficiency of the food and beverage industry products of Indonesia. The increase of the intra-regional trade and extra-regional trade in the implementation of ACFTA, AKFTA, and AIFTA toward the food and beverage industry products of Indonesia may provide a large economic contribution to the national economy, where the existing export of the food and beverage industry products of Indonesia may absorb larger amount of workers and add larger amounts of businesses and investments in this sector, so that it may ultimately improve the welfare of the Indonesian community.

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