ANALYSIS OF TRADE INTENSITY AND EXPORT PERFORMANCE IN ASEAN-AUSTRALIA-NEW ZEALAND FREE TRADE AREA (AANZFTA) USING TRADE INTENSITY INDEX (TII) AND CONSTANT MARKET SHARE (CMS) METHODS

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INTISARI

ASEAN-Australia-New Zealand Free Trade Area yang telah diberlakukan sejak 1 januari 2010 bertujuan untuk membangun pertumbuhan ekonomi yang berkelanjutan dikawasan dengan menyediakan rezim pasar dan investasi yang lebih liberal, fasilitatif dan transparan antara negara-negara anggota yang tergabung dalam perjanjian pasar bebas. Perdagangan antara ASEAN-Australia-New Zealand yang memiliki nilai perdagangan cukup besar harus dianalisis untuk dapat mengetahui kinerja perdagangan antara ASEAN-Australia-New Zealand dan menganalisis faktor-faktor yang mempengaruhi kinerja perdagangan antara dua kerja sama tersebut sehingga Perdagangan diharapkan efektif dan efisien. Penilitan ini bertujuan untuk menganalisis intensitas perdagangan bilateral dan kinerja ekspor antara negara-negara yang tergabung sebelum dan sesudah diberlakukan ASEAN-Australia-New Zealand Free Trade Area. Penelitian ini menggunakan data tahunan dari tahun 2004-2016 yang diperoleh dari United Nations International Trade Statistics Database. Alat analisis yang digunakan dalam penelitian ini adalah Trade Instensity Index dan Constant Market Share. Hasil penelitian menunjukkan bahwa dari hasil analisis intensitas perdagangan antara negara-negara ASEAN-5 ke Australia mengalami penurunan, sedangkan intensitas perdagangan antara negara-negara ASEAN-5 ke Selandia Baru mengalami peningkatan setelah diberlakukan ASEAN-Australia-New Zealand Free Trade Area, sedangkan hasil analisis kinerja ekspor menghasilkan tiga efek. World Trade Effect menjadi kelebihan ekspor negara-negara ASEAN-5 ke Australia dan Selandia Baru. Sementara Commodity Composition Effect dan Competitiveness Effect adalah kelemahan negara-negara ASEAN-5 dalam perdagangan bilateral dengan Australia dan Selandia Baru. ASEAN-Australia-New Zealand Free Trade Area memberi dampak yang berbeda-beda terhadap negara-negara ASEAN-5 yang mengalami perubahan dari tren negatif ke positif ataupun sebaliknya dan tetap konsisten.

Kata kunci: Trade Intensity Index, Costant Market Share, World Trade Effect, Commodity Composition Effect, Competitiveness Effect

ABSTRACT

The ASEAN-Australia-New Zealand Free Trade Area which has been implemented since January 1th 2010 aims to build sustainable economic growth in the region by providing market and more market liberalization, facilitative and transparent among member countries incorporated in market agreements free. Trade between ASEAN-Australia-New Zealand which has a considerable trade value should be analyzed in the trade to be able to find out trade performance between ASEAN-Australia-New Zealand and analyze the factors that affect trade performance between the two cooperation so that the trade is expected to be effective and efficient. The aim of this research is to analyze the intensity of bilateral trade and export performance between the countries joined before and after the enactment of the ASEAN-Australia-New Zealand Free Trade Area. This study uses annual data from 2004-2016 obtained from United Nations International Trade Statistics Database. Analyzer used in this research is Trade Intensity Index and Constant Market Share. The results showed that the trade intensity between ASEAN-5 countries to Australia decreased, while the trade intensity between the ASEAN-5 countries to New Zealand increased after the implementation of ASEAN-Australia-New Zealand Free Trade Area while the export performance analysis resulted in three effects. World Trade Effect has become an export surplus of ASEAN-5 countries to Australia and New Zealand. While Commodity Composition Effect and Competitiveness Effect is the weakness of ASEAN-5 countries in bilateral trade with Australia and New Zealand. ASEAN-Australia-New Zealand Free Trade Area has had different impacts on ASEAN-5 countries that have changed from negative to positive or vice versa and there are countries that remain consistent.

Keywords: *Trade Intensity Index, Costant Market Share, World Trade Effect, Commodity Composition Effect, Competitiveness Effect*

I. BACKGROUND

In general, the development of the international market has a major impact on the national economy across the country. Globalization and liberalization of the main causes, because it brings the impact of a very large and rapid change for the economy in every country. Many countries seek partners in bilateral cooperation to form an economic integration zone. This globalization of the economy has triggered many countries around the world to become an integrated market power with no territorial borders. An example of globalization is the free trade system between countries. Free trade affects the economic, social and political conditions of a country (Mugiono, 2017: 72).

International trade policy in addition can be done by one country, can also be done by a group of countries. As in the European Union (EU) where has 28 member countries that make policies for international trade. Similarly to the countries of Southeast Asia region or which we now know ASEAN, is a region of Southeast Asian regime that organizes its organization in the Bangkok Declaration on August 08th , 1967 with five founding countries are Indonesia, Malaysia, Philippines, Singapore and Thailand.

ASEAN countries that also take the initiative to create a joint policy on free trade area or better known as the ASEAN Free Trade Area (AFTA) is free trade among ASEAN countries. Based on the table 1.1 ASEAN developed a new free trade policy with developed countries with based on geo-economic and geopolitical have advantages and good relations with all other ASEAN countries such as ASEAN-China Free Trade Agreement (ACFTA), ASEAN-India Free Trade Agreement (AIFTA), the ASEAN-South Korea Free Trade Agreement (AKFTA), and the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA).

Table 1.1
ASEAN Trade by Partner Countries/Regions, 2015.

Trade partner country	Value of trade (US$ million)			% Share to total		
	Exports from ASEAN	Imports by ASEAN	Total trade	Exports from ASEAN	Imports from ASEAN	Total trade
China	134,249.40	211,514.80	345,764.20	11.4	19.4	15.2
Japan	113,694.00	124,350.40	238,044.40	9.6	11.4	10.5
EU 28	127,583.80	100,056.40	227,640.20	10.8	9.2	10
United states	129,170.50	83,172.43	212,343.00	10.9	7.6	9.4
Korea, Republic	45,808.80	76,675.69	122,484.50	3.9	7	5.4
Taiwan	33,076.83	61,261.29	94,338.12	2.8	5.6	4.2
Hong Kong	77,302.92	14,113.30	91,416.22	6.5	1.3	4
India	39,100.75	19,452.77	58,553.52	3.3	1.8	2.6
Australia	32,958.95	18,783.57	51,742.52	2.8	1.7	2.3
New Zealand	4,945.33	3,402.88	8,348.21	0.4	0.3	0.4
Others country	444,139.80	375,495.30	819,635.10	37.6	34.7	36
Total	1,182,031.00	1,088,279.00	2,270,310.00	100%	100%	100%

Source: ASEAN Secretariat, 2017

The ASEAN-Australia-New Zealand Free Trade Area (AANZFTA) entered into force for 8 (eight) signatories on January,1st 2010 by Australia, Brunei Darussalam, Myanmar, Malaysia, New Zealand, Philippines, Singapore and Viet Nam. While Thailand joined in 2010, Laos and Cambodia joined in 2011, and the last of Indonesia on January, 10th 2012. So 12 (twelve) countries are Indonesia, Malaysia, Singapore, Thailand, Philippines, Myanmar, Cambodia, Lao, Vietnam, Brunei Darussalam, Australia, and New Zealand have approved the AANZFTA as free trade area agreement and are officially involved in the market competition. AANZFTA aims to sustainable economic growth in the region by providing a more liberal, facilitative and transparent market and investment regime among the twelve signatories to this Agreement.

This AANZFTA Agreement was born from a long period of state and corporate interests in the countries involved. The region wants the economic growth of each of its members by applying market integration (single market). ASEAN itself on the agreement through a long stage to arrive at the agenda of the agreement AANZFTA.

Economic relations between ASEAN-Australia-New Zealand have the same goal in improving the growth of each country region. The impact of AANZFTA has opened and created new opportunities for approximately 663 million people and an area with a combined Gross Domestic Product (GDP) of approximately USD 4 trillion by 2016 (www.aanzfta.asean.org, 2017). Some countries must, of course, directly attempt to exploit this free market to increase the income or stability of one country's trade to another and increase multilateral efforts to liberalize further international trade (Prathama, 2015).

This Agreement has eighteen chapters and four appendices covering various aspects of trade in goods, services and investments as well as competition and intellectual property rights. It also includes a schedule of specific commitments on tariffs, specific services and the movement of natural persons. The countries involved in AANZFTA will receive the proceeds, as tariffs will decrease from the entry into force of this Agreement, and eliminate at least 90% of all tariff lines within the prescribed time limit; The movement of goods will be facilitated through a more modern and flexible regulatory framework, simplified customs procedures, and more transparent mechanisms; barriers to trade in services will be further liberalized thus allowing greater market access to service suppliers in the region; The movement of business people, those engaged in trade and investment, will be facilitated; and Investments covered will be provided with various protections, including the possibility of handling disputes through state-investor dispute resolution mechanisms.

II. LITERATURE REVIEW AND THEORICAL BASIS

The emergence of mercantilism is the beginning of the period of international trade. This mercantilism economic system holds that one country's profits are the losses of other countries. This view that led to international trade at that time known as Fear Trade, where the European countries continue to expand its power by expanding its territory by colonizing the countries of the world.

Export Theory

Export is the sale of goods produced by a country to another country. A country may export the goods it produces to other countries that cannot produce their own goods produced by the exporting country. In international trade especially export has an important role, namely as a motor of national economy. For exports can generate foreign exchange, which can then be used to finance the import and finance the development of sectors in the country (Lipsey *et al.*, 1995).

Another definition of export can be interpreted as an activity related to the production of goods and services produced in a country to be consumed outside the borders of the country (Triyaso, 1994). Clearly, adds that exports are an overproduction of domestic production which then excess production is marketed abroad. (Deliarnov, 1995)

Export Supply Theory

Supply of a commodity is the quantity of commodity offered by the producer to the consumer in a market at a certain price and time level. Several factors that influence the supply of a commodity are the price of the commodity concerned, the price of the factor of production, the level of technology, taxes and subsidies (Lipsey *et al.*, 1995).

Systematically can be formulated as follows:

$$SXt = Qt - Ct + St - 1$$

Where:

SXt = Total commodity export time period *t*

Qt =Total domestic production time period *t*

Ct =Total domestic consumption period *t*

$St - 1$ =Stock of previous time period (*t*-1)

Export Demand Theory

The demand for the export of a commodity is a comprehensive relationship between the quantities of commodity to be purchased by consumers over a given period at a price level. The market demand of a commodity is the horizontal sum of the individual demands of a commodity (Lipsey *et al.*, 1995).

As a request, the export of a country is affected by several factors, including the domestic price of the export destination country (HDIt), the import price of the destination country (HIt), the income per capita of the export destination country (YPIt) and the taste of the destination country community (CPIt).

Overall function of export demand of a commodity can be formulated as follows:

$$PXt = f\ (HDIt, Hit, YPIt, CPIt)$$

International Trade Theory

International trade has existed long ago but in limited quantities and scope, where the fulfillment of domestic unproductive needs of each country involved in the trade is met by means of barter. Initially, international trade was the exchange or trade of labor with other goods and services, followed by trade in goods and services now with compensation for goods and services in the future. It eventually develops to exchange countries with riskier assets, such as shares, mutually beneficial foreign exchange of both parties and even all the countries involved. This allows each country to diversify or diversify its trading activities that can increase their revenues through the expansion of export commodities and increase foreign exchange earnings.

Classical Theory

- **Mercantilism**

  Mercantilism is an economic system centered on the belief that governments can regulate trade by using tariffs and other safeguards to achieve a balance of exports over imports. When the government establishes trade rules and imposes tariffs to ensure that there is an appropriate balance between export and import, this government method is an example of mercantilism. The theory of international trade of mercantilism is economic practice and theory, dominant in Europe from the 16^{th} to the 18^{th} century, promoting the economic rule of a country's government at the expense of its rival national power. It is a partner of economic politics of absolutism or absolute monarchy.

  - **Absolute Advantage**

  According to Adam Smith, a country will benefit from international trade by exporting if it has absolute advantage and imports if it has no absolute disadvantage. Adam Smith's absolute advantage is the ability of a country to produce goods and services per unit using fewer resources than the ability of other countries (Deliarnov, 1995).

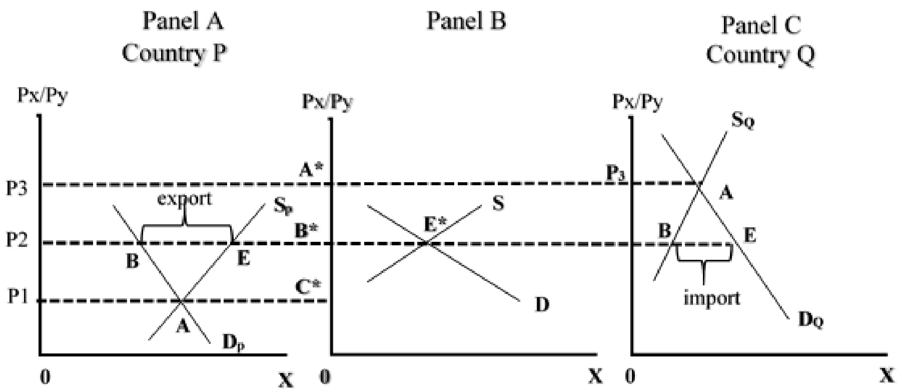
Modern Theory

- **Heckscher-Ohlin Theory**

According to Heckscher-Ohlin theory there are differences in the opportunity cost of a product between countries with other countries due to the difference in the number or proportion of each country. Countries that have relatively large and inexpensive production factors in their production will specialize in the production and export of goods. On the contrary, each country will import certain goods if the country has a relatively rare and expensive production factor in its production (Hady *et al.*, 2004).

International trade between two countries resulting from differences in demand and supply can be seen in *Figure 2. 1* which describes trade between Country P and Country Q. DP and SP is the supply curve for Country P and DQ and SQ is the supply curve for Country Q.

In conditions where the two countries are not in trade, the production and consumption of the Country P for a commodity is at equilibrium at point A, based on the relative price of P1. In Country Q production and consumption occur at the point of equilibrium A 'with the P3 price level. This condition assumes that the domestic price in Country P is lower than the price in Country Q (P1<P3).



Source : Salvatore, 1997

Figure 2.1
Balance in International Trade

If the price condition is above P1, then Country P will supply or produce more textile commodity than domestic demand level (consumption) so that it will cause excess supply in country P. The surplus of production will then be exported to Country Q. In other if the current price is less than P3, then Country Q will experience an increase in demand (because consumers will demand more at a relatively cheap price level), so the demand rate is higher than its domestic production. This will encourage the Country Q to import the shortage of its needs on the textile commodity from a Country experiencing an overproduction of textile commodity P.

Based on the relative price of P1, the quantity of textile commodity offered will be equal to the quantity demanded. At the time of the international trade between Country P and Q the price level stays at point P2 and takes the assumption that there is no transportation cost in the trade process, then Country P will export its output surplus shown by the BE line. Meanwhile, because the prevailing price level in the international market is lower than the domestic price level of Country Q, then Country Q will import its production deficit as big as B'E 'line. The supply and demand relationship between the two countries at the P2 price level will lead to an international balance at point E* (Panel B). The S and D curves in panel B show the level of supply and demand occurring in international trade. At the equilibrium level, the quantity of exports offered by Country P is the same as that requested by Country Q (BE = B'E ').

- **Ricardian Model (Comparative advantage)**

Another international trade theory was introduced by David Ricardo. The theory is known as the theory of comparative advantage or Ricardian Model. In contrast to absolute excellence theory which prioritizes absolute superiority in certain production owned by a country compared to other countries, this theory argues that international trade can occur even if one country has no absolute advantage, provided that the comparative price in both countries is different. Ricardo argues that it is better for all countries to specialize in commodities where it has a comparative advantage and imports only other commodities. This theory emphasizes that international trade can be mutually beneficial if one country does not have an absolute advantage over a commodity as expressed by Adam Smith, but rather has a comparative advantage in which the price for a commodity in one country is relatively different. Trade between two countries can benefit both countries if each country exports goods that have a comparative advantage (Krugman *et al.*, 2012).

III. METHODOLOGY AND DATA SOURCE

In this study, the object used is the annual data of export and import of countries involved in the ASEAN-Australia-New Zealand Free Trade Area (AANZFTA) in the years 2004-2016 ie ASEAN countries, Australia, and New Zealand. In the object of this study only take into account the five ASEAN countries, it is Indonesia, Malaysia, Singapore, Thailand and Philippines (hereinafter referred to as ASEAN-5). This is because the level of the economy of the five countries especially in international trade is relatively higher compared to Brunei Darussalam and CLMV Countries (Cambodia, Laos, Myanmar, and Vietnam) still limitations of information and unavailable data in the country.

The data used in this research is secondary data. Secondary data is data obtained from related agencies. The data sources in this study are the United Nations International Trade Statistics Database (www.comtrade.un.org) with two digits Standard International Trade Classification (SITC) code Rev.2 and as well as several other sources that support this research.

This research uses descriptive quantitative research methods conducted to provide an overview of phenomenon and the results of this study which then processed and analyzed to take conclusions.

Descriptive method is used to analyze the development of data used in this study. While the method of quantitative by combining two tools of analysis method. First method is analysis of Trade Intensity Index (TII). TII calculations are used to determine the trade intensity between ASEAN-5 (Indonesia, Malaysia, Singapore, Thailand and Philippines) with Australia and New Zealand in 2004-2016. second method is Constant Market Share analysis (CMS) by calculating the three variables used; (1) world export growth effect; (2) commodity composition effect; and (3) competitiveness effect. There are affecting export performance between ASEAN-5 with Australia and New Zealand in 1996-2016. The result is that these two analytical tools can analyze export performance and trade intensity for the case study of free trade agreement between ASEAN-5, Australia, and New Zealand.

1. Trade Intensity Index (TII)

The analysis formulated by Drysdale and Garnout (1982) is an index used to measure the intensity of trade between a country and another country or region. The TII index is formulated as follows:

$$\boldsymbol{TII_{jk}} = \frac{(\boldsymbol{X_{jk}}/\boldsymbol{X_j})}{(\boldsymbol{X_{wk}}/\boldsymbol{X_w})}$$

Where :

TII_{jk} = TII from country *j* to country or region *k*

X_{jk} = Export from country *j* in country or region *k*

X_{wk} = World export on country or region *k*

X_j = Total country exports *j*

X_w = Total exports *w* (world)

The value of TII from country *j* to country or region *k* if it has a value more than 1 (TII>1) then indicates the intensity of trade conducted by country *j* to country or region *k* above the world average level and indicates the intensity of the country's important trade partner in the trade of a country or region *k*. But if the value of TII from country *j* to country or region *k* has a value of less than 1 (TII<1) then indicates the intensity of trade made by country *j* to country or region k below the world average level and indicates the intensity of the country's trade is not important as partner in country or region trade *k*.

1. **Constant Market Share Model (CMS)**

The CMS model used in this study only used three operational variables:

- World Trade Effect (WTE)
- Commodity Composition Effect (CCE)
- Competitiveness Effect (CME)

The Market Distribution Effect (MDE) variables not used in this study only test the export performance between ASEAN-5 countries to the Australian market and to New Zealand market only, so that the export destination market is only Australia and New Zealand.

So the variables of the CMS model in this research as a whole can be formulated as follows:

$$\boldsymbol{x_i^2 - x_i^1 = rx_i^1 + \sum\nolimits_{i=1}^{n}(r_i x_i^1 - rx_i^1) + \sum i \sum j\ (X_i^2 - X_i^1 - r_i X_i^1)}$$

(i) (ii) (iii)

Where:

i. World Trade Effect

These variables indicate whether the increase in export value of commodities between ASEAN-5 (Indonesia, Malaysia, Singapore, Thailand and Philippines) to Australia and New Zealand is due to the increasing demand for total world commodity exports or not. The World Export Growth Effect (WTE) in this research can be formulated as follows:

$$\boldsymbol{rx_i^1}$$

Where:

r = percentage change of world export total to Australia and New Zealand between two different periods.

X_i^1 = commodity export value *i* from ASEAN-5 countries to Australia and New Zealand in period 1

The growth effect variable of the World will show results with a positive (+) or negative (-) sign. If the results are positive sign, then the export of ASEAN-5 countries to Australia or increased export of ASEAN-5 countries to New Zealand is due to the increase in world demand, so that the ASEAN-5 countries are able to maintain their market share in Australia or New Zealand. On the contrary, if the result is negative sign, then it shows the exports of ASEAN-5 countries to Australia or the export of ASEAN-5 countries to New Zealand is not affected by world demand. Thus, the negative sign indicates the ASEAN-5 countries failed to maintain their market share in Australia or New Zealand.

ii. Commodity Composition Effect

This variable shows how exports of ASEAN-5 countries (Indonesia, Malaysia, Singapore, Thailand and Philippines) are concentrated into commodity classes that have a growth rate more than the world average growth. The Commodity Composition Effect (CCE) can be identified as follows:

$$\sum_{i=1}^{n}(r_i x_i^1 - r x_i^1)$$

Where:

r_i = percentage increase in total of world exports to Australia and New Zealand in commodity group *i* between two different periods.

If the growth of commodity exports of ASEAN-5 countries rose higher than the world average growth for all commodities, commodity effect would be positive. If the growth of commodity exports of ASEAN-5 countries rose lower than the world average growth for commodities, the commodity effect would be negative. This positive sign (+) indicates that exports of ASEAN-5 countries to Australia or New Zealand have been concentrated in commodity groups with relatively fast market growth, and vice versa if the negative sign (-) indicates that exports of ASEAN-5 countries to Australia or New Zealand have been not concentrated in commodity groups with relatively fast market growth.

iii. Competitiveness Effect

This variable is a residual that shows the difference or difference between the actual export change of export result of ASEAN-5 countries (Indonesia, Malaysia, Singapore, Thailand and Philippines) to Australia or to New Zealand between two periods. This effect can know the exports of the ASEAN-5 countries whether it is able to maintain its market share for every commodity in the Australian market or in the New Zealand market. The Competitiveness Effect (CME) can be seen as follows:

$$\sum i \sum j \ (X_i^2 - X_i^1 - r_i X_i^1)$$

Where:

X_i^2 = the value of commodity exports from ASEAN-5 Countries in the period 2

X_i^2 - X_i^1 = the actual change value exports from ASEAN-5 to Australia and New Zealand

If the competitiveness effect shows a positive sign (+), then it shows an increase in exports of ASEAN-5 countries to Australia or to New Zealand because the export commodities have competitive. On the contrary, a negative sign (-) indicating the export commodities of ASEAN-5 countries to Australia or to New Zealand has no competitive.

IV. RESULT AND DISCUSSION

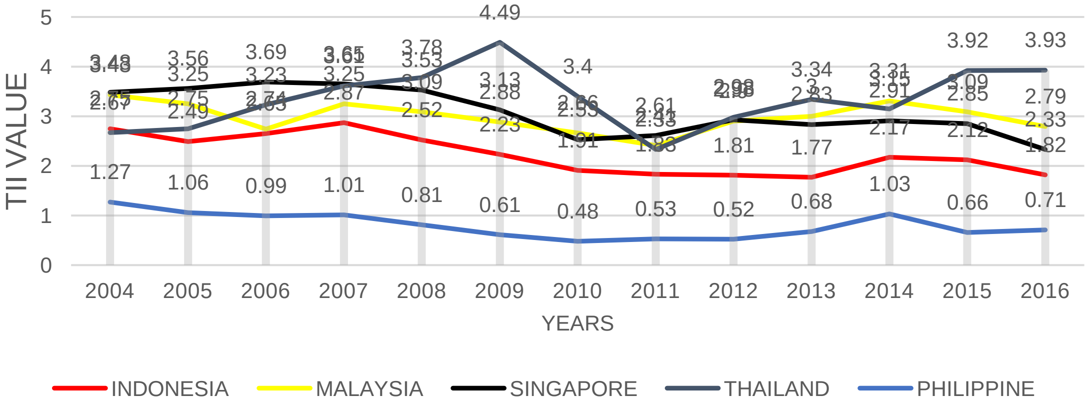
A. Trade Intensity Index Analysis

1. Trade Intensity Index Analysis ASEAN-5 to Australia

From Table 4.1 we can see that the value of Trade Intensity Index (TII) of ASEAN-5 to Australia 2014-2016 almost all have value more than one (TII>1) which shows the intensity of exports by ASEAN-5 countries to Australia above the average level of other countries to export to Australia, but only Philippines of the ASEAN-5 which has a TII score of less than one (TII<1) indicating that the export intensity below the average of other countries exporting to Australia.

Trade Intensity Index (TII) of Indonesia, Malaysia, Singapore and Philippines to Australia always declined from 2004 to 2016 when in 2010 the ASEAN Australia New Zealand Free Trade Area (AANZFTA) came into effect. Only Thailand has increased TII value in 2010 and 2016.

Table 4.1
Trade Intensity Index (TII) ASEAN-5 to Australia, 2004-2016

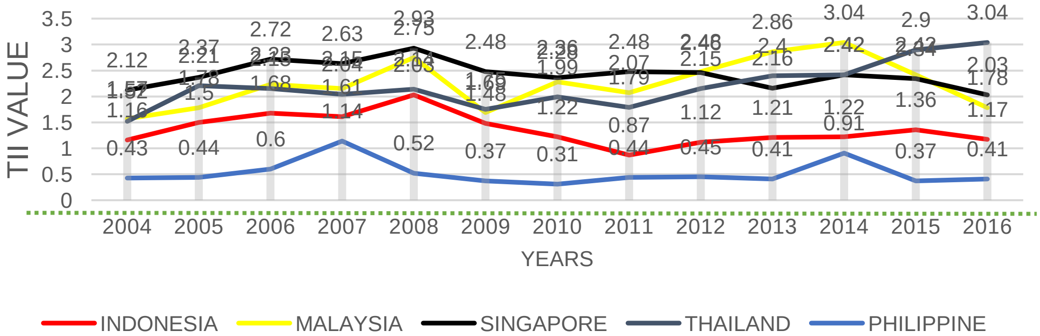


Source: UN-COMTRADE, Author Estimation

This is a negative trend after the implementation of AANZFTA can occur because in the same year that in 2010 ASEAN countries imposed a free trade area agreement with several other countries such as ASEAN-China Free Trade Area (ACFTA), ASEAN-Korea Free Trade Area (AKFTA), and ASEAN-India Free Trade Area (AIFTA) so that ASEAN countries also seek to increase exports to China, South Korea and India in 2010. While only Indonesia among the ASEAN-5 countries started to implement AANZFTA in 2012, but the value of TII Indonesia continues to decline after the introduction of AANZFTA.

2. Trade Intensity Index Analysis ASEAN-5 to New Zealand

Table 4.2
Trade Intensity Index (TII) ASEAN-5 to New Zealand, 2004-2016



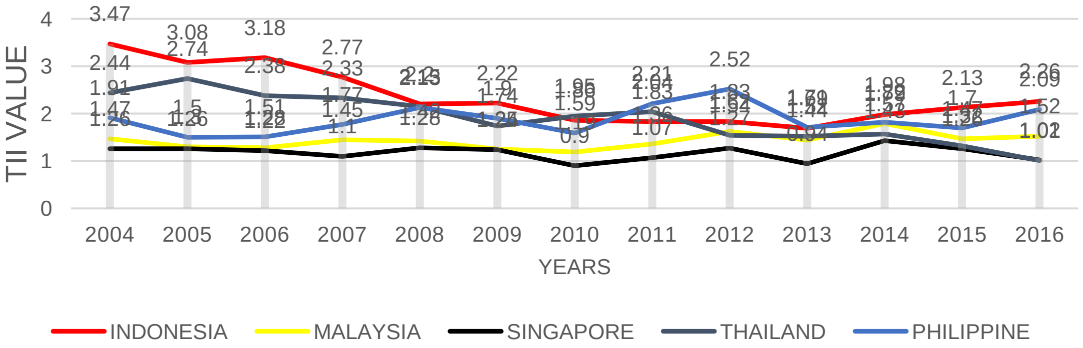
Source: UN-COMTRADE, Author Estimation

From Table 4.2 it can be seen that the value of Trade Intensity Index (TII) of ASEAN to New Zealand in 2004-2016 all has a value more than one (TII>1) which shows the export intensity of ASEAN-5 countries to New Zealand above the average level of other countries doing export to New Zealand except Philippines. This indicates that the intensity of Philippines export to New Zealand is below the average level of other countries exporting.

The value of Trade Intensity Index (TII) Malaysia and Thailand to New Zealand always increased export to the New Zealand, Indonesia and Singapore have decreased export to the New Zeeland but still shows more than one TII Value (TII>1), except for Philippines which still shows less than one TII value (TII<1). From the results of TII, it can be seen that AANZFTA gives positive results for some ASEAN-5 countries.

3. Trade Intensity Index Analysis Australia to ASEAN-5

Table 4.3
Trade Intensity Index (TII) Australia - ASEAN-5, 2004-2016



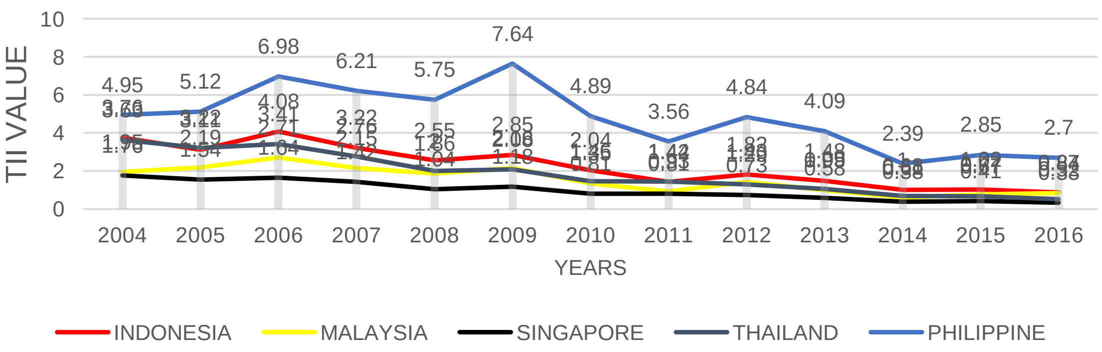
Source: UN-COMTRADE, Author Estimation

From Table 4.3 we can see that Australia Trade Intensity Index (TII) value to Indonesia became Australia largest importing country of 3.47 in 2004, followed by Thailand with a TII value of 2.44 in 2004, then the intensity of Australian exports to Philippines with a TII value of 1.91 in 2004, and the intensity of Australia exports to Malaysia with a TII value of 1.47. While the intensity of Australia exports to Singapore became the smallest in 2004 of 1.26. The value of TII Australia to the ASEAN countries-5 in 2004 all have values above one (TII>1). This indicates that the intensity of exports carried out by Australia to the ASEAN-5 countries has been above the average level of other countries exporting to the ASEAN-5 countries (Indonesia, Malaysia, Singapore, Thailand, Philippines).

This is inversely related to what happened to the value of TII ASEAN-5 to Australia where the value of TII has a negative trend because from the TII analysis results it can be seen that AANZFTA still give positive results for the intensity of Australian exports to the ASEAN-5 countries even though the value TII Australia decreased after AANZFTA was applied when compared before AANZFTA was applied. While in the case of ASEAN-5 countries to Australia give negative results for the export intensity of ASEAN-5 countries to Australia.

4. Trade Intensity Index Analysis New Zealand to ASEAN-5

Table 4.4
Trade Intensity Index (TII) New Zealand - ASEAN-5, 2004-2016



Source: UN-COMTRADE, Author Estimation

From table 4.4 From Table 4.1 we can see that the value of New Zealand Trade Intensity Index (TII) to the Philippines became the largest importer of New Zealand at 4.95 in 2004, followed by Indonesia with TII value of 3.76 in 2004, then the intensity of New Zealand exports to Thailand with a TII value of 3.63 in 2004, and the intensity of New Zealand exports to Malaysia with a TII value of 1.95. While the intensity of New Zealand exports to Singapore became the smallest in 2004 of 1.76. The value of

TII New Zealand to the ASEAN countries-5 in 2004 all have values above one (TII>1). This indicates that the intensity of exports made by New Zealand to the ASEAN-5 countries has been above the average level of other countries exporting to the ASEAN-5 countries (Indonesia, Malaysia, Singapore, Thailand, Philippines).

From the analysis of TII, it can be seen that AANZFTA still gives negative results for the intensity of New Zealand exports to the ASEAN-5 countries. This shows that the implementation of AANZFTA experienced by AANZFTA member countries is different. Australia had a positive effect after enacting of AANZFTA, while New Zealand had a negative impact after enacting AANZFTA.

B. Constant Market Share (CMS) Analysis

1. Constant Market Share (CMS) Analysis ASEAN-5 in Australia

In table 4.3 Indicates that the case of Indonesia, Malaysia, and Thailand the effects that sustain export Indonesia, Malaysia, and Thailand to Australia years 2004-2010 only World Trade Effect (WTE). While the Commodity Composition Effect (CCE) and Competitiveness Effect (CME) into the weakness of Indonesia, Malaysia, and Thailand in the bilateral trade to Australia.

The calculation results for the 2010-2016 period give different results from the calculation of the previous period. In the results of this calculation, some of the ASEAN-5 countries have the same pattern of results that is the World Trade Effect (WTE) except Thailand and Commodity Composition Effect (CCE) except Philippines to export excellence ASEAN-5 countries to Australia. While the Competitiveness Effect (CME) became the weakness of the exports of ASEAN-5 countries to Australia except Thailand. Positive signs (+) on the World Trade Effect (WTE) show Indonesia, Malaysia, Singapore, and Philippines exports to Australia are due to the increase in world demand means that Indonesia, Malaysia, Singapore and Philippines have

Table 4.3
Constant Market Share (CMS) ASEAN-5 to Australia 2004-2016
(in million US Dollar $)

Result	Australia							
	World Trade Effect		**Commodity Composition Effect**		**Competitiveness Effect**		**Actual Change**	
	rXij1		***{(ri - r)Xijk1}***		***{Xijk2 – Xijk1 – riXijk1}***		***Xi2-Xi1***	
Years	**2004-2010**	**2010-2016**	**2004-2010**	**2010-2016**	**2004-2010**	**2010-2016**	**2004-2010**	**2010-2016**
IDN	12,345,454,741.87	8,385,483,623.47	-1,158,182,830.27	3,202,399,395.55	-9,402,789,202.54	-3,952,370,173.75	19,543,352,445.00	31,031,794,148.00
MYS	21,424,117,532.92	13,894,795,431.07	-8,802,814,937.18	5,312,540,845.42	-16,021,130,039.42	-5,705,204,308.78	36,574,647,782.00	57,327,137,856.00
SGP	38,773,053,740.93	25,013,431,785.06	20,817,023,102.94	9,996,920,937.62	-28,498,610,728.93	-10,870,380,605.06	68,256,338,761.00	99,001,358,260.00
THA	16,829,543,562.64	-244,717,605.75	-3,904,909,006.97	1,061,938,766.15	-11,457,866,352.14	9,526,227,114.47	34,691,539,827.00	64,970,566,561.00
PHL	621,325,831.40	638,107,793.28	-286,541,226.48	-129,348,023.86	-167,912,528.57	-179,112,929.85	3,202,217,120.00	3,212,964,044.00

Result	Australia							
	World Trade Effect		**Commodity Composition Effect**		**Competitiveness Effect**		**Actual Change**	
	rXij1		***{(ri - r)Xijk1}***		***{Xijk2 – Xijk1 – riXijk1}***		***Xi2-Xi1***	
Years	**2004-2010**	**2010-2016**	**2004-2010**	**2010-2016**	**2004-2010**	**2010-2016**	**2004-2010**	**2010-2016**
INA	+	+	-	+	-	-	+	+
MYS	+	+	-	+	-	-	+	+
SGP	+	+	+	+	-	-	+	+
THA	+	-	-	+	-	+	+	+
PHL	+	+	-	-	-	-	+	+

Source: UN-COMTRADE, Author Estimation

successfully followed the world export trend to Australia. Positive signs (+) on the Commodity Composition Effect (CCE) show that Indonesia, Malaysia, Singapore and Thailand exports to Australia have been concentrated in commodity groups with relatively fast market growth. A positive sign (+) on the Competitiveness Effect (CME) shows Thailand export commodities have competitive with similar commodities from other countries in Australia market.

Changes in negative (-) to positive (+) sign on Commodity Composition Effect (CCE) experienced by the ASEAN-5 countries after the enactment of AANZFTA may occur before the free trade agreement is applied, the right export commodities for the Australia market are difficult to enter Australia due to trade barriers such as tariff and quota or vice versa.

A consistent negative sign (-) on the Competitiveness Effect (CME) of Indonesia, Malaysia, Singapore, and Philippines from 2004-2016 occurred because products from Indonesia, Malaysia, Singapore and Philippines were not competing with other countries in the Australia market. The low price of local Australia products makes commodities from outside Australia that enter the Australia market will compete in quality because of the difficulty of competing prices with local products. A negative sign changes to positive Thailand Competitiveness Effect (CME) after the enactment of AANZFTA show that Thailand has more competitive than the quality of other countries in the Australia market.

2. Constant Market Share (CMS) Analysis ASEAN-5 In New Zealand

Based on table 4.4 that all ASEAN-5 countries the effect of sustaining the export of ASEAN-5 countries to New Zealand in 2004-2010 is only the World Trade Effect (WTE). While the Commodity Composition Effect (CCE) and the Competitiveness Effect (CME) became the weakness of ASEAN-5 countries in bilateral trade to New

Table 4.4
Constant Market Share (CMS) ASEAN-5 to New Zealand 2004-2016
(in million US Dollar $)

Result	New Zealand							
	World Trade Effect		Commodity Composition Effect		Competitiveness Effect		Actual Change	
	rXij1		*{(ri - r)Xijk1}*		*{Xijk2 – Xijk1 – riXijk1}*		*Xi2-Xi1*	
Year	2004-2010	2010-2016	2004-2010	2010-2016	2004-2010	2010-2016	2004-2010	2010-2016
IDN	1,617,489,780.22	235,515,431.05	-52,157,505.58	990,009,224.36	-1,278,085,814.05	185,286,177.67	2,223,595,225.00	2,945,611,261.00
MYS	4,412,686,797.03	2,820,229,018.18	-660,489,862.12	1,705,322,481.67	-3,744,183,701.87	-1,729,491,987.75	4,458,526,418.00	7,635,159,213.00
SGP	5,111,138,770.21	3,337,370,690.55	-2,858,048,504.13	113,497,384.33	-3,718,849,031.55	-1,463,872,284.84	9,300,056,246.00	13,114,488,840.00
THA	2,473,955,239.36	967,500,849.30	-2,431,408,892.41	-12,526,469.29	-1,929,084,813.70	21,467,400.84	3,598,507,042.00	6,922,777,751.00
PHL	152,585,606.86	290,677,712.87	-1,214,619,945.58	88,467,095.03	-98,805,521.03	-236,675,699.87	361,150,104.00	378,014,091.00

Result	New Zealand							
	World Trade Effect		Commodity Composition Effect		Competitiveness Effect		Actual Change	
	rXij1		*{(ri - r)Xijk1}*		*{Xijk2 – Xijk1 – riXijk1}*		*Xi2-Xi1*	
Year	**2004-2010**	**2010-2016**	**2004-2010**	**2010-2016**	**2004-2010**	**2010-2016**	**2004-2010**	**2010-2016**
IDN	+	+	-	+	-	+	+	+
MYS	+	+	-	+	-	-	+	+
SGP	+	+	-	+	-	-	+	+
THA	+	+	-	-	-	+	+	+
PHL	+	+	-	+	-	-	+	+

Source: UN-COMTRADE, Author Estimation

Zealand. Positive signs (+) on the World Trade Effect (WTE) show the increasing export of ASEAN-5 countries to New Zealand due to the increase in world demand means that ASEAN-5 countries successfully follow the world export trend to New Zealand. Negative sign (-) on the Commodity Composition Effect (CCE) points to the export of ASEAN-5 countries to New Zealand is not concentrated in commodity groups with relatively fast market growth. Negative sign (-) on the Competitiveness Effect (CME) shows export commodities ASEAN-5 countries do not have competitive with similar commodities from other countries in New Zealand market.

The results of the 2010-2016 period after the implementation of AANZFTA in 2010 gave different results from the calculation of the previous period. In this calculation, ASEAN-5 countries have a different pattern of results on each effect. In the case of Malaysia, Singapore, and Philippines the effects which sustains the export of these three countries to New Zealand in 2010-2016 is the World Trade Effect (WTE) and commodity composition effect. While the Competitiveness Effect (CME) is still a weakness of Malaysia, Singapore and Philippines in bilateral trade to New Zealand. a positive sign on the World Trade Effect (WTE) showing Malaysia, Singapore and Philippines exports to New Zealand due to increased world demand means Malaysia, Singapore and Philippines managed to follow the trend of world exports to New Zealand.

IV. CONCLUSION

Conclusion

Based on data analysis conducted, it can be concluded as follows:

1. Trade Intensity Index (TII) value ASEAN-5 to Australia and New Zealand 2004-2016 generally has a value more than one (TII>1) which shows the export intensity of ASEAN-5 countries to Australia and New Zealand above average, other

countries exporting to Australia and New Zealand, only Philippines still have less than one (TII>1) which shows the intensity of exports by Philippines to Australia and New Zealand below the average rate of other countries exporting to Australia and New Zealand. In this case Australia still has a value more than one (TII>1) which shows Australia exports to the ASEAN-5 countries above the average level of other countries exporting to the ASEAN-5 countries except to Singapore in 2010-2016, The value of TII New Zealand to ASEAN countries still has a value more than one (TII>1) which shows New Zealand exports to the ASEAN-5 countries above the average rate of other countries exporting to the ASEAN-5 countries except to Singapore starting in 2010.

2. Based on the results of data processing by Constant Market Share (CMS) method produces three effects. In 2004-2010 or before the enactment of AANZFTA the World Trade Effect (WTE) has become an export advantage of the ASEAN-5 countries to Australia and New Zealand. While the Commodity Composition Effect (CCE) and the Competitiveness Effect (CME) is the weakness of ASEAN-5 countries in bilateral trade with Australia and New Zealand. After the enactment of AANZFTA, the ASEAN-5 countries generally experience a change from negative to positive trend or the opposite and there are countries that remain consistent.
    a. In the case of World Trade Effect (WTE) for ASEAN-5 countries have value consistent with the positive trend from period 2004-2010 to 2010-2016 before or after enacted AANZFTA. However, the World Trade Effect (WTE) Thailand in 2010-2016 has changed from positive to negative towards Australia.
    b. In Commodity Composition Effect (CCE) generally, ASEAN-5 countries experienced an increase after AANZFTA applied to Australia and New

Zealand. Only Philippines that remain consistent with the negative trend towards the export of Philippines to Australia and Thailand remain consistent with the negative trend towards Thailand exports to New Zealand.

c. On the Competitiveness Effect (CME) is generally still a weakness of some ASEAN-5 countries in sustaining exports of ASEAN-5 countries 2010-2016. The case of ASEAN-5 to Australia, only Thailand able to change from negative to positive trend towards Thailand export to Australia. While in the case of ASEAN-5 to New Zealand only Indonesia and Singapore are able to change from negative to positive trend towards exports of Indonesia and Singapore to New Zealand.

Implications

Based on the results of these studies can be put forward the following implications:

1. Free Trade Area with other countries.

   In 2010, in addition to enacting AANZFTA, ASEAN has enacted Free Trade Agreements (FTAs) against ASEAN friendly countries, such as ASEAN-China Free Trade Area (ACFTA), ASEAN-Korea Free Trade Area (AKFTA) and ASEAN-India Free Trade Area (AIFTA). ASEAN countries are increasing exports to China, South Korea and India. This is in line with the gradual focus of the countries joined in AANZFTA rising not only within the scope of AANZFTA but against other countries that have more effective and efficient export performance.

2. People's Republic of China (PRC) trade dominance with AANZFTA members.

   The dominance of countries joined in AANZFTA has been dominated by China trade. ASEAN is a very aggressive country in cooperation with China especially enacting the ASEAN-China Free Trade Area (ACFTA), within 5 years the significant increase in exports and imports between ASEAN-5 countries and China. Australia and New Zealand also participate in the dominance of Chinese trade in Australia and New Zealand. So this has an impact on the decline of exports of ASEAN-5 countries to Australia and New Zealand.

3. Competitiveness

Based on the results of CMS, the main weakness of export performance of ASEAN-5 countries in AANZFTA is the effect of competitiveness. This is because the export products of ASEAN-5 countries to AANZFTA market that are not competitive, potentially competing or experiencing a change of competitiveness are the products included in the ASEAN Priority Integration List (ASEAN PIS) sector. Thus, this export product faces competition challenges derived from trade facilitation in the AANZFTA scheme as well as the ASEAN PIS.

4. Most Favored Nations (MFN)

Cooperation of People's Republic of China (PRC) is able to dominate trade in ASEAN-5 countries by decreasing 0% tariff on almost all commodities traded by China import duty tariff, so this export performance of both parties more effective and efficient. the AANZFTA scheme The number of tariff postings at 0% rates in New Zealand and Australia is higher than the number of tariff posts at 0% tariffs on New Zealand and Australian import duty tariff. In addition, the number of tariff posts where the tariff has reached 0% in 2010 based on a scheme of the trade agreement is also more than the number of products where the MFN tariff rate is the same as the AANZFTA scheme. This implies that the exports of some of the fewer ASEAN-5 countries are being compared to Australia and New Zealand.

Recommendation

From the result of research, the researcher has some recommendations those are:

1. Governments in each of ASEAN-5 countries can review the benefits they gain from free trade area policy with Australia and New Zealand or better known as the ASEAN-Australia New Zeeland Free Trade Area (AANZFTA) because after the policy is done the export intensity of countries ASEAN-5 to Australia and New Zeeland generally decline, especially to the export of ASEAN-5 to Australia.
2. ASEAN-5 countries can work to increase the intensity and improve the quality of export products of ASEAN-5 countries by providing export subsidies and technological improvements because of the CMS analysis of the ASEAN-5 countries managed to export commodities to the Australian and New Zealand market but not has competitiveness with other countries' commodities in the Australia and New Zealand markets.
3. for researchers who want to research the same case, can add effects in the CMS analysis in order to perform a more comprehensive analysis.

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