Effects of the ASEAN Economic Community (AEC) on Indonesian Exports and Imports to ASEAN Countries

Ngatno[a], [a]Department of Business Administration Diponegoro University Semarang Indonesia, Email: [a]ngatno_fisip@yahoo.co.id

The purpose of this study is to evaluate the impact of the ASEAN Economic Community (AEC), which took effect from January 2016, on Indonesia's exports and imports to ASEAN countries. The data used are exports and imports for 36 months before AEC and 36 months after AEC. To analyse the data, paired sample test and moderation regression analysis (MRA) were used. The results showed that there were no differences in the average of exports and imports between before and after AEC. When viewed from a trend, there is a significant difference, where before, AEC showed a downtrend; conversely, after AEC, there was an uptrend. Suggestions for further research need to be studied more broadly, not only in Indonesia, but in all ASEAN countries. Besides that, more research is specifically required on exports and imports for SMEs.

Key words: *AEC, export, import.*

Introduction

A country needs to conduct international trade to increase income and economic growth. Indonesia, which participates in international trade, actively carries out export and import activities. One effort to increase international trade is to be active in cooperative relations between countries in a group, hence the formation of a trade cooperation agreement called the ASEAN Economic Community (AEC).

AEC took effect on 31 December 2015 as a form of regional economic integration. Moreover, AEC will also become one of the engines of world growth. AEC is essentially a liberalisation that covers all areas of the economy, which so far have been partly constrained by entry, both through tariffs and non-tariffs. Technically, the achievement of AEC uses

mechanisms and initiatives that have been formed by ASEAN, which are reinforced by institutional strengthening in ASEAN cooperation. Each country is involved in five single market elements (free flow of goods, free service flow, free investment flow, free capital flow, and free labour flow) in an integrated production base.

AEC will affect the economies of the countries in it, consisting of: Singapore, Malaysia, Brunei Darussalam, Thailand, Indonesia, the Philippines, Viet Nam, Lao PDR, Cambodia and Myanmar. As a regional entity, ASEAN promises enormous economic potential. With a total population of 567.6 million (compared to the European Union of close to 500 million), and total GDP reaching around US $ 1.1 trillion, ASEAN promises huge market potential. In addition, the share of total trade in GDP and individual ASEAN countries is also quite high, which shows the region's active role in international trade. This condition is also supported by the abundant number of workers.

The purpose of establishing an economic union, such as ASEAN, is to increase the volume of trade, investment, and other economic cooperation among fellow member countries (although the initial goal or motivation for the formation of ASEAN was for the sake of security and defense). At present, Indonesia's main foreign trade partner countries are not from ASEAN, but Japan for exports and China for imports. Based on the above conditions, trade in ASEAN, which is still relatively weak so long after the formation of ASEAN, the implementation of the ASEAN single market in 2015 will encourage or make it easier for member countries to trade even more between themselves, so trade in ASEAN will ceteris paribus automatically increase. In Indonesia itself, before the introduction of the AEC, the position of exports and imports to and from ASEAN countries showed a declining trend (Figure 1). In addition, the amount of exports is smaller than imports, thus indicating a deficit trade balance.

Figure 1. Indonesia's Trade Balance Position towards ASEAN Countries (2013-2015)
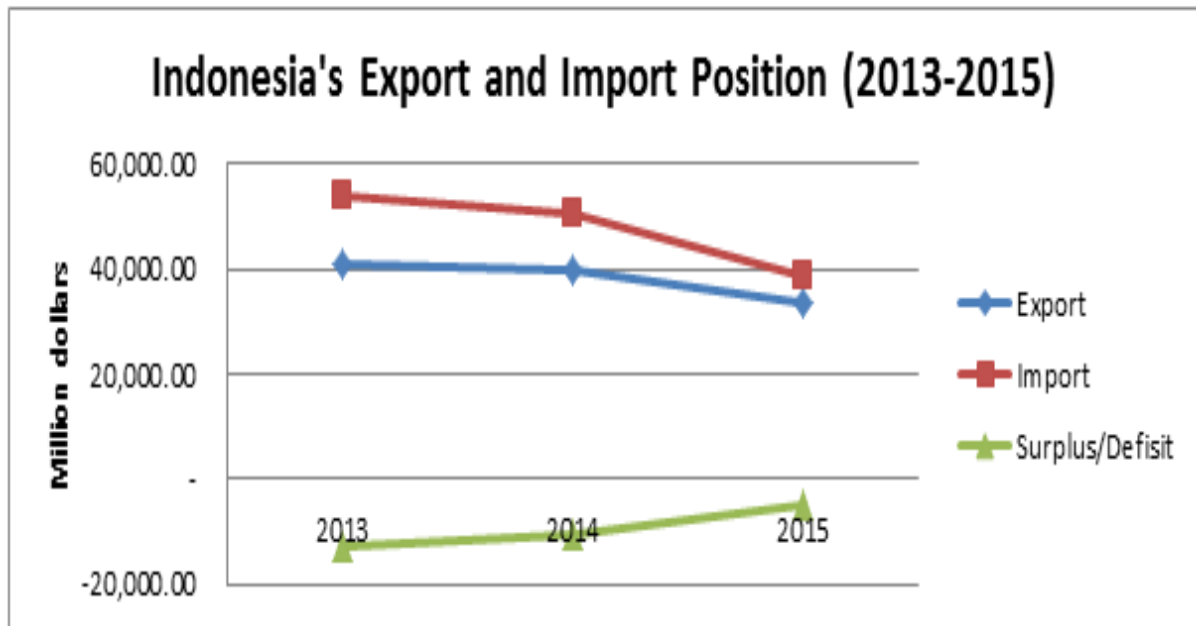
Based on the background of the problem, the objectives of this study are: (a) knowing the position of Indonesia in facing the ASEAN Economic Community (AEC) from an export-import perspective compared to the other nine ASEAN member countries and (b) knowing whether there are differences between the value of Indonesia's exports-imports before and after the entry into force of the AEC. It is important to identify whether the AEC has an impact on Indonesia's exports and imports to the ASEAN countries, so that future directions can be determined.

Literature Review

Referring to Baldwin & Wyplosz, 2004, the formation of a regional integration can have an economic impact: (a) allocation effect, integration of the economy will encourage businesses in each country to allocate their resources more efficiently; (b) accumulation effect, economic integration will encourage capital accumulation, both physical and human capital, so that it will increase output growth. In addition, economic integration can have a location effect, which will encourage a country to specialise in accordance with its comparative advantage (specialisation).

The theoretical framework for assessing the effect of the AEC on export and import changes is rooted in a new trade theory that was built on the basis of increasing economic and geographical scale, presented by Paul Krugman in 1991. Based on this theory, countries are the producers of global industrial exports (Krugman, 1991). The application of this theory has been confirmed by several authors (Bajona & Kehoe, 2010; Coyle et al. 1998 and Mitze,

2010) who use gravity models. Furthermore, in 1980, Paul Krugman predicted that a higher substitution elasticity could increase the impact of trade flows.

The effect of economic integration on export-import performance has been a hot topic of debate in the academic world. A number of studies have examined the impact of trade liberalisation on export growth in developing countries with inconclusive results. Several other studies have identified the positive effects of trade liberalisation on export performance (Bleaney & Wakelin, 2002; Coyle, et al. 1998; Hoque & Yusop, 2012). Others confirm an insignificant or even negative relationship (Greenaway et al. 1999 and Jenkins, 1997). One of the empirical studies conducted by Grossman & Helpman (1991), proves that the opening of trade will be followed by the transmission of knowledge so that in general it will increase economic growth. In addition, there are studies on economic integration that support the results that economic integration has the potential to guarantee economic growth and improve welfare through the export channel. For example, Coyle, et al. (1998), used a modified version of the global trade analysis project (GTAP) model to analyse the role of the different forces underlying the changes in composition in the world of agricultural and food markets in the past fifteen years. This study isolates supply and demand factors as well as changes in transportation costs and policy changes. The authors report that transportation costs and related factors are important determinants in explaining the shift in global trade. Jenkins, (1997) discusses theoretical arguments that underline such policies and major neo-structuralist criticisms. He examines the impact of liberalisation on resource allocation, productivity growth, and export performance and suggests that the results of trade liberalisation are disappointing. According to him, liberalisation has raised some skepticism about the benefits of wholesale trade liberalisation policies in low-income countries such as Bolivia. Although previous studies on economic integration cannot be concluded with certainty, in this study, the AEC will have a positive impact on trade in the ASEAN region. Therefore, the existence of the AEC will increase Indonesia's exports and imports with ASEAN countries.

Method

To find out the position of Indonesia in facing the ASEAN Economic Community (AEC) from the perspective of exports-imports to the other nine AEC member countries, and to find out the exports-imports of Indonesia before and after the entry into force of the AEC, the researchers used descriptive statistics and comparative tests (average difference test and difference test trend), with a 0.05 significance level. To support this research, the secondary data using time series data types are export and import data for 36 months before and 36 months after AEC is implemented. Sources of data needed in this study came from: the Central Bureau of Statistics, books and journals.

Results

Exports from Indonesia to ASEAN Countries

The results of Indonesia's exports to ASEAN countries from 2013 to 2015 showed a declining trend, whereas after that it showed an upward trend. Table 1 shows that in 2018, the order of Indonesia's top five exports to ASEAN countries was Singapore, followed by Malaysia, the Philippines, Thailand and Vietnam, where exports to each of these countries amounted to more than 10%. While exports to other ASEAN countries (Cambodia, Lao PDR, Myanmar, Timor Leste and Brunei) each amounted to less than 5%.

Table 1: Exports from Indonesia to ASEAN Countries before and after AEC

Countries	Before AEC						After AEC					
	2013		2014		2015		2016		2017		2018	
	Milllion $	%	Milllion $	%	Milllion $	%	Milllion $	%	Milllion $	%	Milllion $	%
Cambodia	312.46	0.76	415.83	1.04	429.72	1.27	426.87	1.25	513.91	1.30	525.60	1.25
Malaysia	10.666.61	26.09	9.730.01	24.39	7.630.85	22.58	7.121.67	20.91	8.441.14	21.37	9.271.58	22.02
Singapore	16.686.28	40.82	16.728.33	41.93	12.632.63	37.38	11.860.98	34.83	12.724.90	32.22	12.915.05	30.67
Philippines	3.816.96	9.34	3.887.83	9.75	3.921.68	11.60	5.270.87	15.48	6.629.64	16.79	6.832.17	16.23
Viet Nam	2.400.88	5.87	2.451.25	6.14	2.740.18	8.11	3.045.64	8.94	3.586.91	9.08	4.581.85	10.88
Brunei	122.68	0.30	100.30	0.25	91.23	0.27	88.67	0.26	64.51	0.16	61.19	0.15
Thailand	6.061.87	14.83	5.783.12	14.50	5.507.25	16.30	5.394.05	15.84	6.473.73	16.39	6.820.90	16.20
Lao PDR	5.85	0.01	4.55	0.01	7.75	0.02	5.87	0.02	4.21	0.01	7.30	0.02
Timor Leste	246.30	0.60	226.33	0.57	216.48	0.64	225.92	0.66	228.14	0.58	189.77	0.45
Myanmar	556.37	1.36	566.91	1.42	615.67	1.82	615.68	1.81	827.46	2.10	897.59	2.13
Total	40.876.25	100.00	39.894.44	100.00	33.793.44	100.00	34.056.23	100.00	39.494.54	100.00	42.103.00	100.00

Source: results of data processing.

Indonesia's exports to the Philippines and Vietnam have amazing growth (Figure 2) compared to other ASEAN countries. Therefore, both of these have enormous potential to be developed in the next period beside Malaysia, Singapore and Thailand.

Figure 2. Exports from Indonesia to ASEAN Countries (2013-2015)
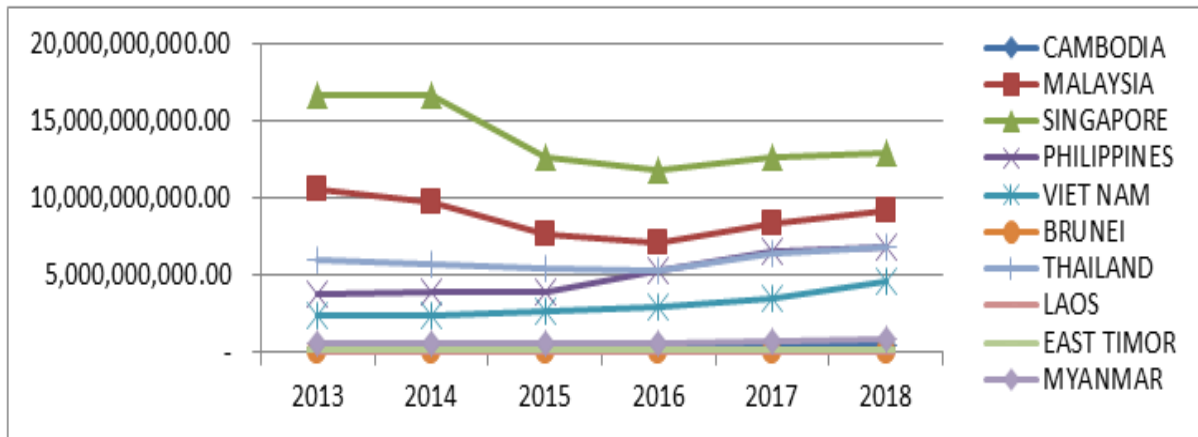
Imports to Indonesia from ASEAN Countries

Table II shows that most of Indonesia's imports came from Singapore, Thailand and Malaysia (more than 85%), while Vietnam, Cambodia, the Philippines, Myanmar, Brunei and Timor Leste were very small (less than 15%).

Table 2: Import Indonesia from ASEAN Countries before and after AEC

Countries	Before AEC						After AEC					
	2013		2014		2015		2016		2017		2018	
	Milllion $	%	Milllion $	%	Milllion $	%	Milllion $	%	Milllion $	%	Milllion $	%
Cambodia	17,84	0,03	18,70	0,04	21,13	0,05	25,32	0,07	28,33	0,07	33,02	0,07
Malaysia	13.322,53	24,74	10.855,39	21,40	8.530,67	21,99	7.200,94	20,75	8.858,20	22,51	8.602,89	18,71
Singapore	25.581,52	47,50	25.185,81	49,65	18.022,49	46,46	14.548,30	41,93	16.888,53	42,92	21.439,52	46,63
Philippines	777,38	1,44	699,74	1,38	683,08	1,76	821,81	2,37	859,30	2,18	958,43	2,08
Viet Nam	2.722,64	5,06	3.417,78	6,74	3.161,53	8,15	3.228,40	9,30	3.228,76	8,21	3.794,63	8,25
Brunei	645,39	1,20	594,30	1,17	131,44	0,34	87,73	0,25	42,52	0,11	20,10	0,04
Thailand	10.703,10	19,88	9.781,04	19,28	8.083,37	20,84	8.666,93	24,98	9.281,61	23,59	10.952,80	23,82
Lao PDR	7,55	0,01	51,26	0,10	0,81	0,00	4,20	0,01	11,89	0,03	25,68	0,06
Timor Leste	0,27	0,00	0,24	0,00	0,53	0,00	1,50	0,00	1,85	0,00	3,70	0,01
Myanmar	73,15	0,14	122,08	0,24	160,42	0,41	113,34	0,33	145,72	0,37	151,56	0,33
Total	53.851,38	100,00	50.726,34	100,00	38.795,45	100,00	34.698,46	100,00	39.346,70	100,00	45.982,33	100,00

Source: results of data processing.

Most of Indonesia's imports come from Singapore, Malaysia and Vietnam (more than 5 billion US dollars), while from other countries less is very small (less than 5 billion US dollars). It should be noted that the highest growth rate of Indonesia's imports is Thailand (Figure 3).

Figure 3. Imports to Indonesia from ASEAN Countries (2013-2015)
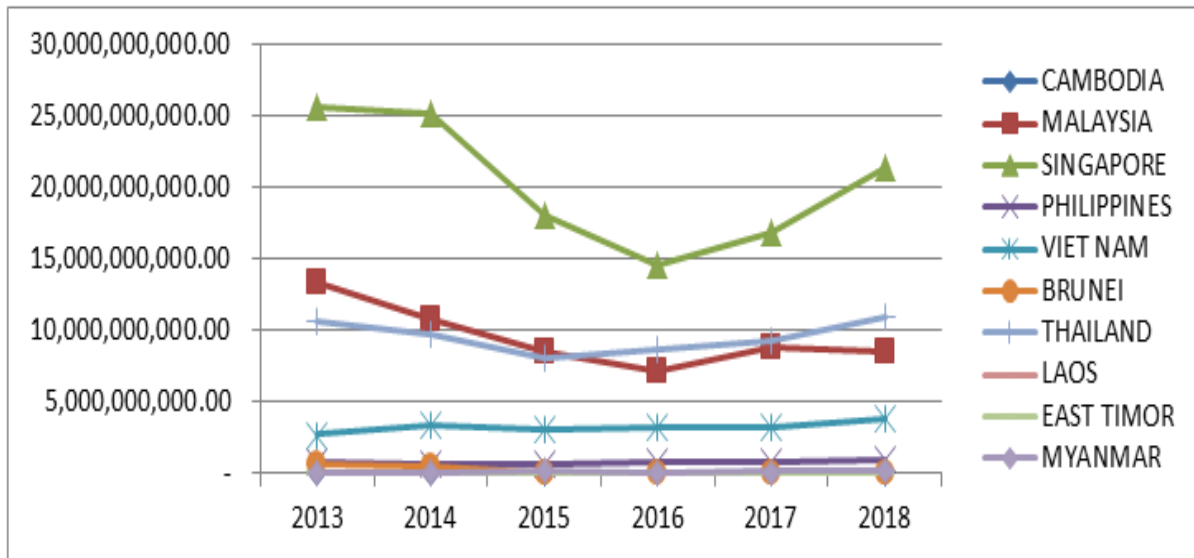
Furthermore, the growth of Indonesia's Trade Balance against ASEAN countries shows a declining trend. In 2018, Indonesia's Trade Balance against ASEAN countries showed a deficit. This deficit occurred especially in Singapore and Thailand. In the previous year (2017), Indonesia's Trade Balance against Malaysia and Viet Nam experienced a deficit, but in 2018 it changed to a surplus. In detail, the growth of Indonesia's Trade Balance against ASEAN countries is presented in Table III.

Table 3: Indonesia's Trade Deficit / Surplus against ASEAN Countries (2013-2018)

Countries	Before AEC (thousands US$)			After AEC (thousands US$)		
	2013	2014	2015	2016	2017	2018
Cambodia	294.616,37	397.128,56	408.588,07	401.556,74	485.584,93	492.574,82
Malaysia	-2.655.923,51	-1.125.383,53	-899.812,98	-79.278,50	-417.058,57	668.686,52
Singapore	-8.895.242,37	-8.457.484,91	-5.389.851,32	-2.687.318,07	-4.163.632,36	-8.524.476,44
Philippines	3.039.578,67	3.188.095,14	3.238.593,56	4.449.066,48	5.770.346,36	5.873.736,44
Viet Nam	-321.757,70	-966.526,35	-421.351,65	-182.760,44	358.146,37	787.221,82
Brunei	-522.716,76	-494.006,71	-40.207,48	940,90	21.987,62	41.096,67
Thailand	-4.641.227,31	-3.997.926,40	-2.576.115,31	-3.272.883,20	-2.807.880,55	-4.131.900,14
Lao PDR	-1.698,80	-46.712,89	6.935,44	1.676,86	-7.678,76	-18.377,93
Timor Leste	246.021,27	226.090,46	215.957,07	224.419,46	226.295,90	186.073,51
Myanmar	483.223,35	444.829,94	455.252,02	502.343,97	681.733,48	746.033,51
Total	-12.975.126,79	-10.831.896,68	-5.002.012,60	-642.235,79	147.844,41	-3.879.331,22

Source: results of data processing.

Different Export Tests Before and After AEC Applies

Table IV presents the results of the average difference in Indonesia's exports to ASEAN countries for 36 months before and after AEC. The difference in average Indonesian exports to all ASEAN countries during the 36 months before and after AEC shows an insignificant difference. However, when viewed from the average export in each country different results are shown. There are no significant differences in exports to Laos and Timor Leste. While Indonesia's exports to Malaysia, Singapore, Brunei and Thailand show significant negative differences, where the average exports after AEC is smaller than before AEC. On the contrary, the average Indonesian exports to Cambodia, the Philippines and Myanmar showed a significant positive difference, where exports were higher after AEC than before.

Table 4: Differences of Indonesia Exports to ASEAN Countries between, before and after AEC.

Countries		Mean	N	t	Sign.	Conclussion
Cambodia	After AEC	40.732.886,62	36	5,190	0,000	different (positive)
	Before AEC	32.166.733,97	36			
Malaysia	After AEC	689.843.928,52	36	-3,289	0,002	difference (negative)
	Before AEC	778.540.969,17	36			
Singapore	After AEC	1.041.692.314,24	36	-5,174	0,000	different (negative)
	Before AEC	1.279.089.964,94	36			
Philippines	After AEC	520.352.394,64	36	11,561	0,000	different (positive)
	Before AEC	322.957.530,77	36			
Viet Nam	After AEC	311.511.119,35	36	6,860	0,000	different (positive)
	Before AEC	210.897.473,61	36			
Brunei	After AEC	5.954.673,71	36	-3,046	0,000	different (negative)
	Before AEC	8.727.813,10	36			
Thailand	After AEC	519.129.912,93	36	2,341	0,022	different (negative)
	Before AEC	482.006.666,42	36			
Lao PDR	After AEC	482.944,35	36	-0,340	0,735	not different (negative)
	Before AEC	503.800,54	36			
Timor Leste	After AEC	17.884.229,76	36	-1,525	0,132	not different (negative)
	Before AEC	19.142.000,46	36			
Myanmar	After AEC	65.020.395,91	36	4,527	0,000	different (positive)
	Before AEC	48.304.224,79	36			
Total	After AEC	3.212.604.800,02	36	0,344	0,732	not different (positive)
	Before AEC	3.182.337.177,79	36			

Source: Results of data processing.

Different Import Tests Before and After AEC Applies

Table V presents the results of the average difference in Indonesian imports from ASEAN countries during the 36 months before and after AEC. There is a significant negative difference in the average of Indonesia's imports to ASEAN countries between, before and after AEC. This result implies that Indonesia's average imports were higher before AEC. However, when viewed from each country shows different results. Indonesia's imports from Laos, Myanmar and Thailand show no significant differences. Meanwhile, Indonesia's imports from Malaysia, Singapore and Brunei show significant negative differences, where the average import from them is higher before than after AEC. On the contrary, the average Indonesian imports from Cambodia, the Philippines, Vietnam and Timor Leste were higher after AEC than before.

Table 5: Differences of Indonesian Imports from ASEAN Countries between, before and after AEC.

Countries	Period	Mean	N	t	Sign.	Conclussion
Cambodia	After AEC	2.407.428,70	36	5,310	0,000	different (positive)
	Before AEC	1.601.928,67	36			
Malaysia	After AEC	685.056.444,00	36	-5,592	0,000	different (negative)
	Before AEC	908.572.080,64	36			
Singapore	After AEC	1.468.787.505,00	36	-5,763	0,000	different (negative)
	Before AEC	1.910.828.259,33	36			
Philippines	After AEC	73.320.470,41	36	5,126	0,000	different (positive)
	Before AEC	60.005.659,19	36			
Viet Nam	After AEC	284.772.015,26	36	2,117	0,038	different (positive)
	Before AEC	258.387.354,19	36			
Brunei	After AEC	4.176.196,02	36	-3,745	0,001	different (negative)
	Before AEC	38.087.006,06	36			
Thailand	After AEC	802.815.020,90	36	0,310	0,758	not different (positive)
	Before AEC	793.541.917,17	36			
Lao PDR	After AEC	1.160.161,82	36	-1,043	0,302	not different (negative)
	Before AEC	1.655.918,64	36			
Timor Leste	After AEC	195.649,94	36	4,019	0,000	different (positive)
	Before AEC	28.978,44	36			
Myanmar	After AEC	11.406.202,59	36	1,225	0,225	not different (positive)
	Before AEC	9.879.077,25	36			
Total	After AEC	3.334.097.094,64	36	-4,869	0,000	different (negative)
	Before AEC	3.982.588.179,58	36			

Source: Results of data processing.

Analysis of the Test Differences in Indonesia's Export and Import Trends Before and After AEC

Table VI shows the different trends in exports and imports both in total and in each country. The tendency of Indonesian exports to all ASEAN countries before AEC was implemented showed a declining trend, but on the contrary there was a change in trend (upward) after AEC. Likewise, Indonesia's imports from ASEAN countries showed the same tendency as exports. This difference is significant for both exports and imports (sig.: $0,000 < 0,050$). Figure 4 shows the different trends in total exports and imports to and from ASEAN countries. So, the existence of AEC can change the direction of Indonesia's export and import trends.

Figure 4. Total Exports and Imports for Indonesia to and from ASEAN Countries
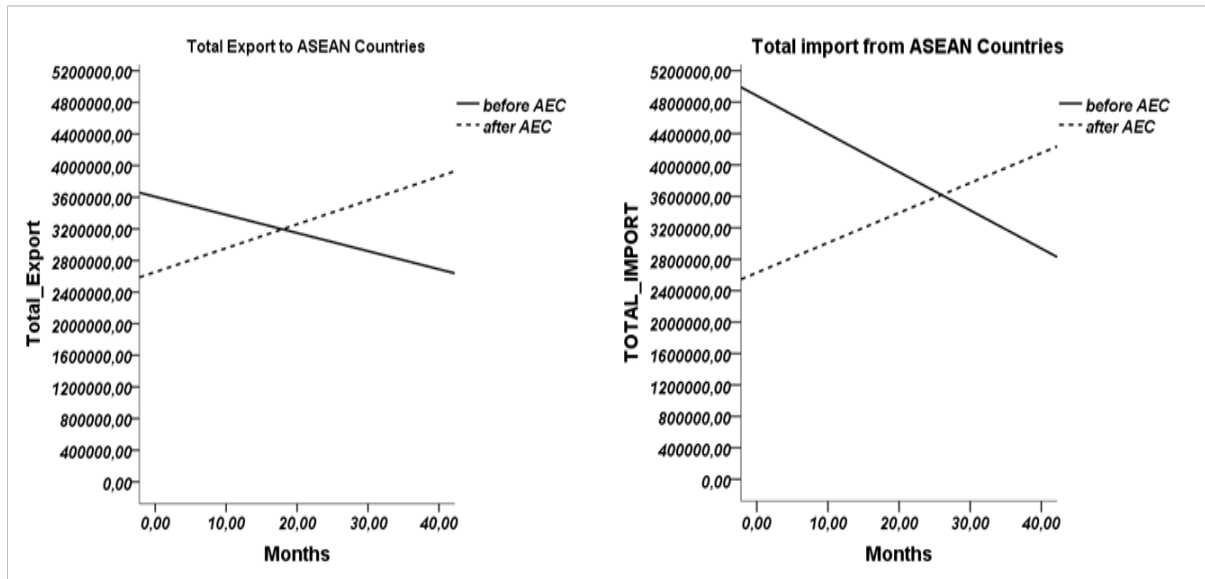
The tendency of Indonesian exports to Cambodia both before and after AEC shows an increasing trend, but the number is higher after AEC. The tendency of exports to Cambodia showed insignificant differences (sig.: 0,916 > 0,050). Therefore, AEC does not change Indonesia's export trends to Cambodia. While the tendency of Indonesian imports from Cambodia also shows insignificant differences (sig.: 0,260 > 0,050). Therefore, AEC does not influence Indonesia's exports and imports to and from Cambodia.

Table 6: Difference between Indonesia's export and import trends in total and each ASEAN country

Countries		Before AEC			After AEC			Interact (month*periode)			Conclution
		Estimate	t	sig	Estimate	t	sig	estimate	t	sig	
Total	Export	-0,706	-5,811	0,000	0,792	7,553	0,000	2,719	9,457	0,000	different
	Import	-0,835	-8,865	0,000	0,783	7,333	0,000	2,535	11,479	0,000	difference
Cambodia	Export	0,694	5,621	0,000	0,491	3,286	0,002	-0,033	-0,106	0,916	not different
	Import	0,152	0,897	0,376	0,545	3,791	0,001	0,398	1,137	0,260	not different
Malaysia	Export	-0,839	-9,001	0,000	0,804	7,873	0,000	2,761	11,957	0,000	different
	Import	-0,720	-6,048	0,000	0,470	3,108	0,004	1,821	6,777	0,000	different
Singapore	Export	-0,595	-4,316	0,000	0,309	1,894	0,067	1,461	4,617	0,000	different
	Import	-0,751	-6,628	0,000	0,818	8,297	0,000	2,338	10,356	0,000	different
Philippi-nes	Export	0,130	0,764	0,450	0,703	5,769	0,000	0,905	4,629	0,000	different
	Import	-0,353	-2,197	0,035	0,440	2,858	0,007	1,231	3,583	0,001	different
Viet Nam	Export	0,535	3,693	0,001	0,703	5,769	0,000	1,022	4,826	0,000	different
	Import	0,258	1,556	0,129	0,351	2,184	0,036	0,111	0,272	0,787	not different
Brunai	Export	-0,299	-1,827	0,076	-0,359	-2,246	0,031	0,176	0,448	0,656	not different
	Import	-0,367	-2,302	0,028	-0,233	-1,399	0,171	0,760	2,032	0,046	not different
Thailand	Export	-0,413	-2,643	0,012	0,651	4,998	0,000	1,899	5,486	0,000	different
	Import	-0,732	-6,266	0,000	0,606	4,443	0,000	2,432	7,504	0,000	different
Lao PDR	Export	0,315	1,938	0,061	0,265	1,604	0,118	-0,113	-0,268	0,789	not different
	Import	-0,178	-1,057	0,298	0,606	4,440	0,000	1,023	2,448	0,017	different
Timor Leste	Export	-0,135	-0,796	0,431	-0,307	-1,880	0,069	-0,233	-0,552	0,583	not different
	Import	0,332	2,051	0,048	0,445	2,895	0,007	0,915	2,572	0,012	different
Myanmar	Export	0,118	0,694	0,492	0,647	4,946	0,000	0,895	2,640	0,010	different
	Import	0,500	3,369	0,002	0,185	1,098	0,280	-0,644	-1,611	0,112	not different

Source: results of data processing.

The tendency of Indonesian exports to Malaysia before AEC showed a declining trend, conversely after AEC it showed an increasing trend. Likewise, Indonesia's imports from Malaysia. Table 6 shows the differences between exports and imports between, before and after AEC (for exports (sig.: 0,000 <0,050 for exports; sig.: 0,000 <0,050 for imports). So the entry into force of the AEC significantly changes the direction of Indonesia's export and import trends from negative to positive.

The trend of Indonesian exports to Singapore before the entry into force of AEC showed a declining trend; on the contrary the upward trend occurred after the implementation of AEC. This is also the case with Indonesian imports from Singapore. This difference is significant both for exports (sig.: 0,000 < 0,050) and for imports (sig.: 0,000 < 0,050). Thus with the entry into force of the AEC, it can change the direction of Indonesia's export and import trends to and from Singapore.

The trend of Indonesian exports to the Philippines before the entry into force of the AEC showed stagnant growth, whereas the upward trend occurred after the introduction of AEC. On the other hand, Indonesian imports from the Philippines were relatively stagnant both before and after AEC. This difference is significant for exports (sig.: 0,000 < 0,050) and for imports (sig.: 0,010 < 0,050). Thus, with the entry into force of the AEC, it can change the direction of Indonesia's export and import trends with the Philippines.

The tendency of Indonesian exports to Viet Nam before AEC showed stagnant growth, otherwise the upward trend occurred after AEC. On the other hand, Indonesia's imports from Vietnam are relatively stagnant both before and after AEC and not significantly different. The difference in Indonesia's export and import trends to Viet Nam is significant for exports (sig.: 0,000 < 0,050) and not significant for imports (sig .: 0.787 > 0,050). Thus, with the entry into force of the AEC, it can change the direction of export trends; on the contrary it did not affect Indonesian imports from Viet Nam.

The tendency of Indonesian exports to Brunei before and after the AEC shows a stagnant trend. On the other hand, the declining import trend occurred before the AEC was enacted and was relatively stagnant after the AEC was enacted. However, this difference was not significant for exports (sig.: 0,656 > 0,050) and significant for imports (sig.: 0,046 <0,050). So the AEC does not change the direction of Indonesia's export trends, but only changes the trend of Indonesia's imports from Brunei.

The trend of Indonesian exports to Thailand previously imposed by the AEC showed a declining trend, whereas the upward trend occurred after the AEC was imposed. This is also the case with Indonesian imports from Thailand. This difference is significant for both exports (sig.: 0,000 < 0,050) and imports (sig.: 0,000 < 0,050). Thus, the AEC can significantly change the direction of Indonesia's export and import trends to and from Thailand.

Indonesia's export trends to Lao PDR before and after AEC showed a stagnant trend. On the other hand, Indonesian imports from Lao PDR show a downward trend before AEC and an upward trend after AEC. This difference is not significant in exports (sig.: 0,789 > 0,050), on the contrary this difference is significant for imports (sig.: 0,017 < 0,050). Thus the AEC cannot change the direction of the export trend, on the contrary it can change the import trend from Lao PDR significantly.

Indonesia's export trends to Timor Leste before and after AEC showed a declining trend. On the other hand, Indonesian imports from Timor Leste show a rising trend before and after the AEC. This difference is not significant in exports (sig.: 0,583 > 0,050), on the contrary this difference is significant for imports (sig.: 0,012 < 0,050). Thus the AEC cannot change the

direction of the export trend significanly; on the contrary it can change the import trend from Timor Leste significantly.

Indonesia's export trends to Myanmar before and after AEC show an upward trend. Likewise, Indonesian imports from Myanmar also showed a rising trend before AEC and after AEC. This trend difference is significant in exports (sig.: 0,010 < 0,050), otherwise this difference is not significant for imports (sig.: 0,112 > 0,050). Thus AEC can change the direction of the export trend to Myanmar; on the contrary it cannot change the trend of imports from Myanmar.

Discussion

This research has contributed to the existing literature by overcoming fundamental market constraints that affect export-import performance in ASEAN countries. This study has denied previous findings by Tumwebaze & Ijjo, (2015), which found no evidence for regional economic integration in the ASEAN common market, but supported evidence from a number of studies (Bergstrand et al. 2013; Bergstrand et al. 2014; Arribas et al. 2009; Bakari & Mabrouki, 2018; Kabir et al. 2017), which provide evidence for regional integration in increasing trade volumes between each country. However, if examined according to the exports and imports of Indonesia, each country shows different results. With the introduction of the AEC, Indonesian exports to Malaysia, Singapore, the Philippines, Thailand, Viet Nam and Myanmar show a positive and significant trend, while exports to Cambodia, Lao PDR, Timor Leste and Brunei are not affected by the AEC. That is the case for Indonesia's imports from Malaysia, Singapore, the Philippines, Thailand, Viet Nam, Lao PDR and Timor Leste showing a positive and significant trend, while imports from Cambodia, Myanmar and Brunei are not affected by AEC.

Conclusion and Future Reseach

In accordance with previous studies, economic integration among ASEAN member countries can change the volume of Indonesian trade. The results of this study show that the AEC can change the trend of both exports and imports of Indonesia, to and from ASEAN countries. This change is positive in nature, where Indonesian exports and imports before the AEC show a negative direction and change in a positive direction after the AEC. Although currently Indonesian exports and imports are still owned by Singapore, Malaysia and Thailand, there is amazing growth for exports and imports to Viet Nam. Therefore, the export direction of Indonesia, in addition to these three countries, needs to be considered for Viet Nam. Then it needs to be studied thoroughly for each ASEAN country to show the impacts of the AEC for all ASEAN members. Based on the study, it is shown which countries benefit the most from integration. In addition, this study sets the stage for future work by providing

evidence that can be applied to other ambitious economic integration prospects such as ACFTA, and other Asian countries such as Japan and Korea, because exports and imports for these three countries are very significant for Indonesia. Further research is needed to evaluate the impact of the AEC on trade volume for all ASEAN members, so it can be seen which countries can enjoy the benefits of AEC and which countries cannot. Furthermore, it is also necessary to evaluate the impact of the AEC on exports and imports for each commodity.

REFFERENCES

Arribas, I., Pérez, F., & Tortosa-Ausina, E. (2009). Measuring Globalization of International Trade: Theory and Evidence. *World Development*, *37*(1), 127–145. https://doi.org/10.1016/j.worlddev.2008.03.009

Bajona, C., & Kehoe, T. J. (2010). Trade, growth, and convergence in a dynamic Heckscher-Ohlin model. *Review of Economic Dynamics*, *13*(3), 487–513. https://doi.org/10.1016/j.red.2010.05.002

Bakari, S., & Mabrouki, M. (2018). The Impact of Agricultural Trade on Economic Growth in North Africa: Econometric Analysis by Static Gravity Model The Impact of Agricultural Trade on Economic Growth in North Africa: Econometric Analysis by Static Gravity Model. *Online at Https://Mpra.Ub.Uni-Muenchen.de/85116/*, (85116), 15. Retrieved from https://mpra.ub.uni-muenchen.de/85116/1/MPRA_paper_85116.pdf

Baldwin, R., & Wyplosz, C. (2004). *The Economics of European Integration*. London: McGraw-Hill Education.

Bergstrand, J. H., Egger, P., & Larch, M. (2013). Gravity Redux: Estimation of gravity-equation coefficients, elasticities of substitution, and general equilibrium comparative statics under asymmetric bilateral trade costs. *Journal of International Economics*, *89*(1), 110–121. https://doi.org/10.1016/j.jinteco.2012.05.005

Bergstrand, J. H., Larch, M., & Yotov, Y. V. (2014). Economic integration agreements, border effects, and distance elasticities in the gravity equation. *European Economic Review*, *78*, 307–327. https://doi.org/10.1016/j.euroecorev.2015.06.003

Bleaney, M., & Wakelin, K. (2002). Efficiency, innovation and exports*. *Oxford Bulletin of Economics and Statistics*, *64*(1), 3–15. https://doi.org/doi:10.1111/1468-0084.00001

Coyle, W., Gehlhar, M., Hertel, T., Yu, Z. W., & Wusheng. (1998). Understanding the Determinants of Structural Change in World Food Markets: Discussion. *American Journal of Agricultural Economics*, *80*(5), 1064. https://doi.org/10.2307/1244205

Greenaway, D., Morgan, W., & Wright, P. (1999). Exports, export composition and growth. *The Journal of International Trade & Economic Development*, *8*(1), 41–51. https://doi.org/10.1080/09638199900000004

Grossman, G. M., & Helpman, E. (1991). Quality Ladders in the Theory of Growth. *The Review of Economic Studies*, *58*(1), 43–61. https://doi.org/10.2307/2298044

Hoque, M. M., & Yusop, Z. (2012). Impacts of Trade Liberalization on Export Performance in Bangladesh: An Empirical Investigation. *South Asia Economic Journal*, *13*(2), 207–239. https://doi.org/10.1177/1391561412457235

JENKINS, R. (1997). Trade Liberalisation in Latin America: the Bolivian Case1. *Bulletin of Latin American Research*, *16*(3), 307–325. https://doi.org/doi:10.1111/j.1470-9856.1997.tb00056.x

Kabir, M., Salim, R., & Al-Mawali, N. (2017). The gravity model and trade flows: Recent developments in econometric modeling and empirical evidence. *Economic Analysis and Policy*, *56*, 60–71. https://doi.org/10.1016/j.eap.2017.08.005

Krugman, P. (1991). Increasing returns and economic geography. *Journal of Political Economy*, *99*(3), 483–499. https://doi.org/10.1086/261763

Mitze, T. (2010). *Estimating Gravity Models of International Trade with Correlated Time-Fixed Regressors: To IV or not IV? Economics and Econometrics Research Institute (EERI),*.

Tumwebaze, H. K., & Ijjo, A. T. (2015). Regional Economic Integration and Economic Growth in the COMESA Region, 1980–2010. *African Development Review*, *27*(1), 67–77. https://doi.org/doi:10.1111/1467-8268.12123