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ASEAN Economics Community: impacts and challenges

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ABSTRACT

ASEAN is the largest regional integration and as one of the most successful and pushy regional economic integration in the world post the European Economic Community. It was established since 1957, which is the only project design in the developing country. ASEAN Economic Community (AEC) is one of the essential pillars an ASEAN community embodied at the Bali Summit in October 2003 (Bali Concord II). The aim of the research is to investigate and simulate the enforcement ASEAN Economic Community for the ASEAN member countries and key trading partners. Whether the AEC will improve welfare or economic decline is the focus of the analysis in this study. In addition, this study to analyse impact and challenges of AEC. Equivalent variation (EV), price, trade, investment, gross domestic product, added value industry, sectors are variables analysis in this research. Computable general equilibrium (CGE) and gravity model is the analytical approach used in this research. The variables of this research include Equivalent variation (EV), price, trade, investment, gross domestic product, industrial added value, sectors, and labour. The CGE model is based on multi-region, multi-sector, perfect competition, zero profit, and constant returns to scale, with a bilateral trade model using the Armington assumption. While the gravity model was used to analyse the impact the influence of some indicator economics ASEAN to rest of the world. Results show that ASEAN Economic Community will benefit for most ASEAN members through increased equivalent variation, trade both inter and intra-trade, jobs creation, their added value in the most industries, and became global investment destination in the world. On the other hand, AEC will have a negative impact on some countries include rest of the world, especially developing countries such Cambodia, Laos, Vietnam and Myanmar (CLMV)..

Type of Paper: Empirical

Keywords: Economic integration, AEC, CGE, welfare and inequality.

1. Introduction

ASEAN is the largest regional integration and as one of the most successful and pushy regional economic integration in the world post the European Economic Community. It was established since 1957, which is the only project design in the developing country. ASEAN Economic Community (AEC) is one of essential pillars an ASEAN community embodied at

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the Bali Summit in October 2003 (Bali Concord II). While the ASEAN Security Community and the ASEAN Socio-Cultural Community is the two other principal factors of sustainable and mutually couple to one another in shaping of the ASEAN community in 2015. AEC are attended by Brunei, Cambodia, Lao PR, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam as ASEAN members, which has goal to expand and sharpen regional economic integration through initiative of individual stakeholder within clear time line and focused.

The existence of AEC in the form regional economic integration (REI) is predicted will bring a significant effect to the economic development for ASEAN member countries or non-member countries. Besides that the implementation of AEC blueprint needs high commitment from the shareholders in creating a set of policy in supporting the creation of ASEAN integration. Massively, the implementation of AEC may brought large contribution in improving welfare and value/volume of international trading in ASEAN union, especially if they made an agreement with non-member countries (RRC, Japan, Republic of Korea, India, Australia, USA, and Europe) (Petri, Plummer, & Zhai, 2012);this economic integration will affect in the increase in income, especially for skilled labour (Sudtasan, 2014); ASEAN economic integration has significant effect on the increase in export and service (tourism) among member countries (Yap, 2011); and single market and production base of ASEAN is possible to advantage from economies of scale and efficiency in production network processes (Zhao & Kalloe, 2014).

The main problem faced by ASEAN in implementing this integration is discrepancies between political will and economic gap among member countries (Witkowska, 2016) (Chia, 2011); ASEAN+5 invest more focus on the new ASEAN member (CLMV) than each other, while develop countries (European, Japan and USA) are prefer ASEAN5 as investment destination than new ASEAN member (Ismail, Smith, & Kugler, 2009); incompatibility between domestic economic interest and union economic objective causes the inhibition of the economic integration process (Yean & Das, 2015).

ASEAN economic community has been implemented since December 2015 in accordance with declaration of ASEAN charter Concord II (Bali Concord II). The AEC purpose is to deepen and broaden economic integration trough initiative, mutual promotion, and appropriate time, in the form of free movement of goods, services, investment, skilled labor, and free flow of capital. The principles of AEC are open, outward-looking, inclusive, and market-driven economy consistent with multilateral rules as well as adherence to rules-based systems for

effective compliance and implementation of economic commitments. In order to realize of AEC objectives, The ASEAN chair/secretariat has drawn up AEC blueprint 2008-2015, which is applied in 2007. AEC blueprint consist of (a) a single market and production base (free flow of goods, services, investment, capital, skilled labor, priority integration sectors, food, agriculture, and forestry; (b) a highly competitive economic region (competition policy, consumer protection, intellectual property rights, infrastructure, development, taxation, and e-commerce); (c) a region of equitable economic development (SME development and initiative for ASEAN integration (IAI): developed ASEAN states to help less developed ASEAN states in 7 priority projects); and (d) a region fully integrated into the global economy (coherent approach towards external economic relations and enhanced participation in global supply networks) (ASEAN, 2016).

This study aims to investigate the effect of the implementation of ASEAN Economic Integration and challenge for member countries. The analysis used in this study is qualitative and quantitative in nature. Qualitative analysis is used to see economic development of ASEAN members, agreement, and politic policy of shareholder that encourage overall economic integration both ASEAN+5 (Indonesia, Malaysia, Philippines, Singapore, and Thailand) and CLMV (Cambodia, Laos, Myanmar, and Vietnam). While quantitative analysis using Computable General Equilibrium (CGE) approach to explore various economic impact of the implementation of the integration. The construction of this paper consists of five parts, the next point discusses the economic comparison of ASEAN member countries as the reference for qualitative analysis, the third point discusses about the method used, while the next part covers the discussion on the result of qualitative analysis, and the last part discusses about the conclusion and implication of this study

2. Literature Review

2.1. The Progress of ASEAN as a Regional Economic Integration

ASEAN is one of the most successful economic blocks what has large potential to actively participate in global economic environment. This is supported by various macro-economic indicators such as large number of population, high gross domestic product (GDP), level of goods and services trade both intra and extra trade and investment. ASEAN member countries have economic characteristic that flexible to various economic unrest, in which this is reflected in the recovery process that take place quicker in various economic crisis. Economic flexibility of ASEAN member countries is caused by, among other, the similar structure, developing

countries, except Singapore. Macro-economic condition, supported by regional supply chain, major infrastructure, and modern project development, leads expert to predict that ASEAN will become the fourth strongest economic power in the world (Rosli, 2014).

Regionalism in South East Asia Region is started with the establishment of Association of South East Asian Nations (ASEAN) on August 8th, 1967 in Bangkok, initiated by Indonesia, Malaysia, Philippines, Singapore, Thailand, and joined by Brunei Darussalam (1984), Viet Nam (1995), Laos (1997), and the latest is Cambodia in 1999.

Along with the changes in global economic structure toward global liberation in early 1990s, in 1992 ASEAN agreed to form ASEAN Free Trade Area/AFTA in the form of tariff reduction with a comprehensive direction and purposes. Economic integration in the form of single market, investment, and liberalization of intra-ASEAN trading as well as regional economic growth is one of AFTA objectives (ASEAN, 1967).

The implementation of FTA later is known to focus only on tariff reduction in which deeper and wider integration cannot be achieved. In its development, Second Informal ASEAN Summit conducted in Malaysia, December 14th, 1997 has formulate ASEAN Vision 2020 regarding the establishment of ASEAN Community that based on three pillars, ASEAN Security Community-(ASC), ASEAN Economic Community (AEC), and ASEAN Socio-Cultural Community (ACC). Ninth ASEAN Summit (Bali Concord II) conducted in Indonesia, October 7th, 2003 is the legal basis to declare ASC, AEC, and AEC as pillars or regionalism ASEAN communication. AEC is the main integration objective of ASEAN according to ASEAN Vision 2020, in which Single Market and Production Base, Competitive Economic Region, Equitable Economic Development, and Full Integration into Global Economy is the main elements of AEC. To facilitate the implementation of AEC, the head of ASEAN member countries through Thirteenth ASEAN Summit have agreed to formulate ASEAN Economic Community Blueprint as the reference and guideline for all ASEAN member countries in realizing ASEAN Economic Community in 2015.

AEC Blueprint is a comprehensive master plan formulated as a benchmark in implementing the objectives of ASEAN regional integration; to transform this region into a stable, prosperous, and highly-competitive region with equitable economic development, reduced poverty, and socio-economic disparities, progressing in tandem with the establishment of the ASEAN Political Security Community and the ASEAN Socio-Cultural Community using clear target and timeline that consistent with Bali Concord II. AEC Blueprint formulated through four related and supporting pillars, (i) single market and production base through free

flow of goods, services, investment, skilled labor, capital, and priority integration sector. Generally, this pillar is a form of market liberation through the creation of larger trade opportunity and business and becomes investment destination both for intra- and inter-ASEAN.

Table 1 AEC Blueprint and Core Elements

Core	Core Elements	Action
A. Single market and production base		
	A1. Free flow of goods,	A1.1 Tariff, nontariff berriers and duties reduction/elimination
		A1.2 Trade in goods into a single document (Rules of origin/ROO)
		A1.3 Customs union and border procedures and inspections/Customs improvements
		A1.4 Trade facilitation
		A1.5 ASEAN single window (ASW)
		A1.6 Technical barriers, product standards and mutual recognition
		A1.7 Efficient delivery of physical goods.
	A2. Free flow of services,	A2.1 AFAS
		A2.2 Services trade liberalization
	A3. Free flow of investment,	A3.1 AIA agreement
		A3.2 ASEAN Comprehensive Investment Agreement (ACIA): Investment
	A4. Free flow of skilled labor,	A4.1 movement of professionals only
		A4.2 MRA frameworks for professional qualifications
		A4.3 Liberalization of all limitations (cross-border supply, consumption abroad and
		A4.4 issuance of visas and employment passes
		A4.5 Mutual Recognition Arrangements
	A5. Free flow of capital	A5.1 Financial services liberalization, capital market development, and capital account liberalization
		A5.2 ASEAN Exchanges initiative and ASEAN Bond
		A5.3 CMIM
	A6. Priority integration sector	A6.1 Priority sector
	A7. Food, agriculture, and forestry	A7.1 Sanitary, quality standard, phytosanitary, chemical use and transfer technology
B. competitive economic region		
	B1. Competition policy	B1.1 Competition policy network, guidance and handbook
	B2. Consumer protection	B2.1 Guidance and develop network
	B3. Intellectual property rights	B3.1 IP and IPR Action Plan
	B4. Infrastructure development	B4.1 Liberalization of Passenger Air Services and ASEAN Open Skies
		B4.2 ASEAN Single Shipping Market was developed
		B4.3 The ASEAN ICT Master Plan 2015
		B4.4 The ASEAN Plan of Action on Energy Cooperation (APAEC)
	B5. Taxation	B5.1 Bilateral agreements
	B6. E-commerce	B6.1 ASEAN Technical Architecture Framework for e-commerce interoperability
C. Equitable Economic Development		
	C1. Small and medium enter prise (SME) development	C1.1 AEC Blueprint practice and ASEAN SME Development
	C2. Initiative for ASEAN Integration	C2.1 Technical assistance and capacity building programs for CLMV (IAI Strategic
D. Integration into Global Economy		
	D1. Coherent approach toward external economic relations	D1.1 Judicial review of ASEAN agreement and purpose of ASEAN integration
		D1.2 RCEP
	D2. Enhanced participation in global supply networks	D2.1 Supply chain management network

Source: (ASEAN, 2008) and (Chia, 2011)

(ii) competitive economic region, partnership between countries in various fields and the clear collective concept is the key for this pillar. This is also will support better interrelation of transportation system between the regions, thus stimulate the creation of new business network, market base expansion and jobs creation through movement of strategic sources among the regions; (iii) equitable economic development, prevalent and equal economic growth and development is the key of this pillar. This condition will encourage new business people to enter global market which in turn will create global supply chain, thus accelerate ASEAN integration; and (iv) integration into global economy, synergy between outward looking and AEC objectives is a form of participation in global economic integration (Minh, 2015). Table 1 shows progress of AEC and model used in conducting model simulation.

AEC implementation has started new chapter, this is reflected from various actions performed by member states. In order to achieve the first pillar (single market and production base), until the end of 2015 there is intra-regional tariff reduction up to 99.2% from post tariff for ASEAN-6 (Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore, and Thailand) and 90.86% CLMV (Cambodia, Laos, Myanmar, and Viet Nam). Table 2 shows the average applied tariff among ASEAN member countries and rest of the world in 2011. In term of tariff reduction, the average intra-tariff is under 5 percent except Cambodia (12.6%) and Thailand (10.1%). Singapore is a country with the highest degree of readiness in facing ASEAN free trade area with tariff elimination up to zero percent, followed by Philippines, and Indonesia which each 0.1 and 0.3 percent, consecutively. Generally there is a significant change in term of tariff reduction; however there is job that needs to be sorted quickly in term of AEC implementation. For example the average tariff rate in ASEAN is 3.7% lower than tariff in global level at 8%, however at country level, exporter from Thailand, Cambodia, and Lao PDR are faced to higher tariff rates in ASEAN market compared to the average tariff in global market.

Tariff reduction performed by ASEAN member countries cannot improve market or open new market by itself. This is only as a preference in improving trade relationship among ASEAN member countries both for final and intermediated goods through the scheme of Rules of Origin certification. Besides that, intra ASEAN tariff reduction scheme is not followed with the application of similar tariff for non ASEAN member countries. In common market, substantial reduction of all tariff and trade obstacle both of goods and production resources, and the implementation of tariff and similar policy for countries outside the union must be fulfilled, because if it is not, it will leads to trade diversion and decline in welfare (Balassa,

1961). Policy inconsistencies between inward and outward ASEAN will leads to the decline in trade relationship between outside member countries, thus the policy will be followed by non-member countries.

Cambodia is a country that implement the highest tariff from outside ASEAN amount the member countries, while Singapore applies the lowest tariff, with the average of 0.5%. This condition will result in a high gap among member countries, especially in term of welfare. The difference in the measurement of economic advancement become one of the problems that need to be finished as soon as possible in order to achieve full ASEAN integration. This need synergy and policies from all shareholders so that economic development will be distributed evenly.

Table 2. Tariff Rate Intra and Inter-ASEAN in 2011 (percent)

	Cambodia	Indonesia	Lao PDR	Malaysia	Philippines	Rest of Southeast Asia	Singapore	Thailand	Viet Nam	ASEAN	World
Cambodia		11.9	13.7	12.5	12.8	12.7	13.5	12.2	11.9	12.6	13.5
Indonesia	0.0		0.0	0.4	0.1	0.1	0.9	0.1	0.0	0.2	6.5
Lao PDR	3.3	2.3		4.8	3.0	4.8	2.7	3.0	2.5	3.3	9.4
Malaysia	2.0	1.6	1.2		3.2	1.0	1.6	2.2	1.3	1.8	7.8
Philippines	0.1	0.1	0.1	0.1		0.5	0.1	0.1	0.1	0.1	5.8
Rest of Southeast Asia	2.3	2.5	2.1	2.1	1.7	2.5	2.5	3.5	2.5	2.4	3.7
Singapore	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.5
Thailand	9.3	10.0	10.6	10.4	10.6	7.8	11.1		11.4	10.1	9.6
Viet Nam	3.5	3.2	3.5	2.6	3.1	2.1	2.6	2.8		2.9	9.4
ASEAN	2.6	3.9	3.9	4.1	4.3	3.5	4.4	3.0	3.7	3.7	7.4
World	7.5	8.4	6.9	7.9	8.3	8.3	7.9	8.2	8.2	8.0	7.7

Note: Rest of Southeast Asia consists of Brunei Darussalam, Myanmar, and Timor Leste Democratic Republic.

Source: International Trade Centre, 2017

Institutional based indicator as a form of institutional impediment (including lack among member countries) must be eliminated in an economic integration. The steps taken institutionally through various forms of elimination of institutional obstacles (bureaucracy, permit, institutional office, etc.), will provide larger incentive for taking place in a custom union or cross-border economic activity. Trade facilitation is the form of trade data and information exchange electronically through ASEAN Single Window (ASW) and other trade facilities through simplification of bureaucracy and administrative will fasten and reduce transaction cost, thus this will increase trade and production flow in ASEAN. the weak cross-

border exchange of trade data in electronic and digital format, Legal gaps in domestic law that will reduce the full implementation of ASW, mutual recognition agreements (Protection of intellectual property rights, Consumer protection in electronic commerce, Unsolicited electronic communications, and Cybercrime) and finishing ASEAN Single Window Legal Framework Protocol (standardization, e-document, signature, competition law issues, liability issues, organizational for the single window, information sharing, data protection, and privacy) (Luddy, 2008).

2.2 ASEAN External Integration

Regional Comprehensive Economic Partnership (RECP) is a form of trans-regional ASEAN free trade partnership with six partners (Australia, People's Republic of China, India, Japan, Republic of Korea, and New Zealand) launched in August 2012, at the same time with 21st ASEAN Summit and Related Summits in Phnom Penh, Cambodia. RCEP has a very promising business potential considering the economic size of this partnership reaches 30 percent of total global GDP and more than a quarter of global export is run by the 16 countries in the partnership. ASEAN's FTA partners, RCEP, has agreed free trade for goods and services, investment, economic and technical cooperation, intellectual property, competition, dispute settlement, e-commerce, small and medium enterprises (SMEs), and committed to create fair and beneficial regional economic policy for both sides. The other regional economic agreement "mega regionalism" is Trans-Pacific Partnership (TPP) that consists of 12 Asia–Pacific Economic Cooperation (APEC) economies (Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, United States, Vietnam, and Japan; there is probability that Philippines and Thailand will join). Even though institutionally TPP is not ASEAN partner, but most of ASEAN members are also the member of TPP, thus it is very possible that this organization will affect ASEAN free trade policy, thus it will be unfair to TPP non-member.

TPP is a form of free trade partnership that is knotty and composite in nature, because there is mixed economies size. United State, Canada, and Japan are the countries with strongest economic power, while Brunei Darussalam, Vietnam, and New Zealand in the contrary position. Intra-investment among member countries, Canada is the biggest investor for US; $ 18,661 million, followed by Japan and Australia each with $ 18,598 million and $17,446 million. While Viet Nam, Chile, and Brunei Darussalam are the smallest investors with $ -39, $ -20, and $ -1 each. Similar condition happened in the export to US market. This condition

will create a very large gap for member countries, thus it is possible that the benefit from this liberation will only affect countries with large economic size.

High diversity in term of population, economic development, and geographical factor among TPP member countries create obstacle in achieving comprehensive objective and high standard agreement (Williams, 2013). ASEAN must be more focused on enlarging and deepening regional integration through RCEP scheme. Acceleration of integration for CLMV through various technical assistance and problem solving will strengthen the structure for ASEAN integration internally. The comprehensive, clear, and on time formulation of economic agenda with RCEP partners (China, Japan, Korea, India, Australia, and New Zealand), will accelerate the integration process of ASEAN's FTA partner deeply and strongly.

3. Research Methodology

Quantitative analysis model in this study is developed using Computable General Equilibrium (CGE) approach to measure the effect of ASEAN Economic Community (AEC) implementation for member countries and non-member countries based on several economic indicators. The approach used in CGE model is General Balance Theory. This theory explains that market that consists of goods, labour, and capital is related. This relation is a condition in which a market in equilibrium states will be followed by another market, thus this will reflects equilibrium price and quantity happened simultaneously in various markets. CGE model with non-stochastic and nonlinear characteristic is developed by (John B. & Whalley, 1984); (Manne, 1985); (Devarajan, Jeffrey, & Sherman, 1986); (Decaluwe & Martens, 1988); (Gunning & Keyzer, 1995) and further developed in various studies using Global Trade Analysis Project (GTAP) regarding the effect of Japan-Singapore free trade (Hertel, Walmsley, & Itakura, 2001); India-Srilanka free trade model (Siriwardana, 2004); Global Land Use Data Base for CGE Analysis of Climate Policy (Lee, Hertel, Rose, & Avetisyan, 2008); and application of CGE model on free trade (Morley, Piñeiro, & Robinson, 2011); ASEAN economic community (Petri, Plummer, & Zhai, 2012), and ASEAN-India-Korea FTA (Shohibul, 2014).

CGE model is formulated from various equations, exogenous variables, endogenous variables, and various parameters. CGE model is an interaction among various variables such as labour, income and price, economic agents (household and government), saving and investment, production, product market equilibrium, and numeraire. Thus the model of this equation is grouped into several blocks, production, consumption, export, import, investment,

and saving. The design of CGE model with multiclass and multi-sectoral nature is the characteristics of the emergence of distributional effect from shocks and policy. International trade and labour policy are macro-economic mechanism that is relatively easier to be understand. In CGE model, domestic and imported goods are imperfect substitutes, thus export and import depend on the relative price (Janvry & Sadoulet, 1995).

CGE model is formulated to simulate the socio economic effect based on several conditions, (i) foreign shock, the changes in term of trade and the condition in which a country has to reduce their foreign debt; (ii) changes in economic policy, determination of tax and subsidy are the more prevalent component to be analysed, especially in trade section; and (iii) changes in socio-economic structure, such as changes in agricultural technology, asset redistribution, and creation of human capital. CGE model can be used to simulate or evaluate various model of government policy that focused on tax and tariff reform, mark up pricing and imperfect competition market, and decline in market neutrality. While the basic model of CGE according to Gunning and Keyzer is how economic agents interact in achieving the equilibrium that consists of maximization of consumer's utility with budget constraint, and maximization of profit for companies or producers. Thus, the equilibrium solution is relative/positive price (Gunning & Keyzer, 1995).

Indicators of economic integration based on institution and outcome based (Prakash & Hart, 2000). Institution based focus on institutional impediments that based on readiness indicators the stages of integration scale, while outcome based is the interpretation of final result of an institutional process. Outcome based indicators include changes/trade ratio and GDP, foreign direct investment (FDI), added value industry/output, and changes in capital labor structure and welfare. Both indicators are used in this study, the first indicator as reference for how and how far the enforcement of AEC (discussed in the previous part) and the second is indicator is used to understand the probability of economic impact of this regionalism.

Refers to the studies regarding CGE (Janvry & Sadoulet, 1995); (Gunning & Keyzer, 1995), and (Decaluwe & Martens, 1988), the analysis model in this study used Global Trade Analysis Project (GTAP) approach as conducted by (Hertel, Walmsley, & Itakura, 2001); (Siriwardana, 2004); (Ismail, Smith, & Kugler, 2009); (Morley, Piñeiro, & Robinson, 2011); and (Shohibul, 2014). The scenario for liberation policy, in the form of shock, is based on the development of policy and action taken by ASEAN in achieving full integration. The full specification of the model is described in table 3 that refers to table 1, shows the model of policy/shock used in this study. The calibration of this analysis is performed using GTAP

version 8 released in 2012 with basic data set from 2004 and 2007 to make a projection of AEC in 2015-2020. The projection from changes in policies, shock, refers to AEC blueprint, IMF growth projection, World Trade Organization, and GATT scheme. Besides intra-ASEAN integration, the simulation model also performed to ASEAN partners in ASEAN–China–Japan –Korea–India–Australia–New Zealand FTA scheme.

Table 3 Scenario Modeling Approach

Core	Core Elements	Action	Model CGE
A. Single market and production base			
	A1	A1.1 A1.2 A1.3 A1.4 A1.5 A1.6 A1.7	- Tariff & NTB Elimination (ex agriculture sector & CLMV): tms (TRAD_COMM*REG*REG) - Lower cost of service - Value added tech change in region r: avareg (REG) - Tech change shipping to s: atd (REG)
	A2	A2.1 A2.2	- lower cost: tms (TRAD_COMM*REG*REG)
	A3	A3.1 A3.2	- Investment leads to increases in capital stocks, production and exports: qo, aoreg and
	A4	A4.1 A4.2 A4.3 A4.4 A4.5	- Lower services, factor input tech change in region r: afereg (REG)
	A5	A5.1 A5.2 A5.3	- Capital formation: dpsave (REG)
	A6	A6.1	- Agriculture: tms (TRAD_COMM*REG*REG)
	A7	A7.1	- NTB
B. Competitive economic region			
	B1 B2 B3 B4 B5 B6	B1.1 B2.1 B3.1 B4.1 B4.2 B4.3 B4.4 B5.1 B6.1	- Change in subsidy on exports of i from r to s, lower good: txs (TRAD_COMM*REG*REG) - NTB and lower cost: ats (REG) Tech change shipping from region r: atf Change in subsidy on exports of i from r: tx (TRAD_COMM*REG) & output (or income) tax in region r: to (NSAV_COMM*REG)(TRAD_COMM) lower services
C. Equitable Economic Development			
	C1 C2	C1.1 C2.1	
D. Integration into Global Economy			
	D1 D2	D1.1 D1.2 D2.1	- ASEAN agreements: China, Japan, Korea, India, AANZ

Source: model simulation

4. Results and Discussion

The scenario in the research using four scheme is AFTA, AEC, AEC+RCEP and AEC+RCEP+TPP. Build upon AEC Blueprint, The first two scenarios demonstrate how the three pillars (single market and production base, competitive economic region and equitable

economic development) in the AEC blueprint has been built, while others are implementing integration into the global economy (the last pillar). The important goals of the AEC is to make ASEAN more attractive in the global economy it must establish free trade relations outside the region through the Free Trade Agreement (FTA) scheme. ASEAN+6 is the economic integration are addressed outside the ASEAN region which consists of Australia, China, India, Japan, Korea and New Zealand in Regional Comprehensive Economic Partnership (RCEP) formation. RCEP prepared with passion to strengthen economic ties and boost trade and investment with the non-member and participate contributed in reducing the economic development gap in the region. The possible expansion of free trade relations with the ASEAN + 6 is the Trans-Pacific Partnership (TPP). Although the partnership with TPP are still partial, but most members of ASEAN are part of the TPP and possible future this cooperation will be followed up at the organizational level (ASEAN and TPP).

Four scenarios of the simulation results are presented in Table 4, 5, and 6, in which the main focus of discussion was the impact of the liberalization of the outcome-based approach in the field of welfare, macroeconomic effect include export, import, trade balance, investment, gross domestic product (GDP) and value added of sectors output.

4.1 Welfare effect

Table 4 presents the welfare impacts of four scenarios has been simulated. Measurement of net welfare calibrated with equivalent variation (EV), which EV is an adjustment that changes the consumer utility revenue at the same rate as economic change has occurred. This is a measure of how much money consumers will spend before the price increase to obtain the same satisfaction when the price increases, a negative EV shows that the change in the economic (income and prices) lead to a reduction of consumer welfare and vice versa. ASEAN regional integration provides a tremendous advantage in terms of net welfare. This is reflected in the change in net income received by a member state of the AFTA scheme to the AEC, the amount is more than 18 times that amount, US$ 3,418.42 million to US$ 67,822.79 million. Considerable improvement is due to a major commitment by member countries to achieve full integration. In addition, changes in policies and objectives of liberalization to be one cause of this great change, the implementation of AFTA is only focused on the tariff reduction so that the effects of this liberalization only on changes in the value of international trade and investment partially. While AEC wider scope, trade, movement factor, capital movement, production, elimination of non-tariff barriers in a comprehensive and scheduled. The future if

the policy is still run with full commitment, ASEAN as a single production base and market together will be realized.

Table 4 Welfare Effect under Four Scenario (US$ Million)

EV_ALT	AFTA	AEC	AEC + RCEP	AEC + RCEP + TPP
Cambodia	8.33	435.57	424.51	427.35
Laos	42.88	199.82	195.07	195.99
Indonesia	411.71	21,942.57	22,280.36	22,356.70
Malaysia	126.82	8,912.42	9,263.70	8,359.81
Myanmar	77.08	3,615.85	4,025.57	4,015.25
Philippines	229.90	7,428.22	7,402.50	7,413.44
Singapore	1,084.60	8,728.64	7,945.91	7,956.33
Thailand	1,179.59	13,069.66	14,110.70	13,982.66
VietNam	257.51	3,490.04	4,131.73	4,853.90
ASEAN	**3,418.42**	**67,822.79**	**69,780.05**	**69,561.43**
China	353.40	844.01	1,265.24	2,196.94
Japan	659.68	1,353.85	2,337.41	4,610.52
Korea	249.29	481.77	739.92	758.77
India	180.81	589.44	3,698.04	3,778.62
Australia	115.83	265.75	20.49	856.46
NewZealand	-6.59	9.83	-31.38	130.69
RCEP	**1,552.42**	**3,544.65**	**8,029.72**	**12,332.00**
Canada	-31.79	-45.08	-14.69	2,322.06
Chile	28.61	21.19	31.64	72.00
Mexico	-68.44	-80.4	-46.06	544.19
Peru	3.19	-0.63	7.35	129.57
US	1,215.02	2,254.54	2,002.88	1,778.02
TPP	**3,384.44**	**24,910.15**	**25,648.98**	**31,613.55**
World	-5149.21	-3304.01	-3327.89	-952.23

Note: 1. Both ASEAN and TPP without Brunei Darussalam.
2. The sum TPP's welfare includes Australia, Japan, Malaysia, New Zealand, Singapore and VietNam.

Source: Model simulation

The magnitude of net welfare of the scheme AEC are not enjoyed equally by the member states, Indonesia enjoyed a profit net of welfare is greatest when compared to other, amounting to US$ 21,942.57 million, followed by Thailand and Malaysia, respectively amounting to US$ 13,069.66 million and US$ 8,912.42 million, while Laos and Cambodia at less than US$ 500 million. It indicates the existence of inequality among member states. CLMV are the countries that suffer net welfare is lower when compared to other member states, so that the necessary support from member countries to accelerate the process of integration through various forms of technical assistance, problem solving, and other forms of consultation, including tolerance of policy implementation.

RCEP is a form of integration into the global economy provides net benefit in the form of welfare for ASEAN member countries, amounting to US$ 1,957.26. Although not as big as the AEC scheme, deal with RCEP countries needs to be improved so that is not limited to tariff

reduction. Whereas the fourth scenario that is still debatable, ASEAN's participation in the Trans-Pacific Partnership actually reduce welfare for ASEAN. It is necessary to study deeper and broader about the possible benefits when joined with the FTA. Whether the focus on enhancing cooperation with RCEP or join the TPP? It depends on the policies and purposes of ASEAN in accordance with the blueprint.

AEC has a negative impact in the form of trade diversion to countries other than members, this is reflected in the negative welfare especially countries outside member. Canada, Mexico, Peru and Res of the World are the countries that suffered the loss of their welfare the custom union. Trade diversion suffered by the world of more than US$ 3 billion. This FTA is generally only provides benefits for the member states and other countries that joined cooperation (agreement) with the custom union. TPP has characteristics similar to the AEC, one of which is the advantage of free trade agreements only enjoyed by countries with large economies. Canada and the United State is the country's largest welfare benefit from the TPP, each amounting to US$ 2,322.06 million and US$ 1778.02 million and the opposite occurred in Chile. Generally three scenarios (AFTA, AEC and RCEP) provide good benefits for the member and non-member countries, except Canada, Mexico and New Zealand. The magnitude of trade creation is higher than the trade diversion to the AEC and RCEP is US$ 92,847.47 (the difference between total benefits and losses in scenario 2) and US$ 100,070.11 (the difference between total benefits and losses in Scenario 3). While the incorporation of four scenarios (AFTA+AEC+RCEP+TPP) provide the greatest welfare benefit that is up to US$ 112,554.75 (total positive welfare is reduced by the loss of welfare in scenario 4).

4.2 Macroeconomic Effect under AEC and RCEP Scenario

Discussion on this section focused on the AEC and RCEP. The simulation results under free trade agreements through AEC scheme (the second scenario) and RCEP (third scenario) are described in Table 5 in terms of international trade, all countries experienced an increase in both export and import trade. ASEAN exports predicted to experience an average increase of 13.39 percent and 13.21 for import under the AEC formation. Whereas free trade agreements with RCEP will increase trade on average above 13 percent. Singapore is a country that experienced the largest increase in exports (scenario 2) reached 15.91 percent and Cambodia was the lowest ie 10.81 percent in the same scenario. ASEAN partner countries joined in RCEP and TPP having a similar export growth is above 9 percent. Myanmar highest import growth compared with the member states and non-member, 16.61 percent, the lowest of Thailand at less than 9 percent. In the third scenario (AEC + RCEP), Myanmar is a country that

experienced the highest growth for both exports and imports respectively at 17:41 and 18:11 percent, followed by Singapore (16.2 and 16.68 percent), Indonesia (15:01 and 13:27 percent) and Laos (13.67 and 13.77 percent).

Table 5 Macroeconomic Effect under AEC and RCEP Scenario

	Export	Import	Trade Balance	Rate on Capital	Change in GDP
AEC Scenario					
Cambodia	10.81	11.51	-81.45	4.13	15.52
Laos	13.85	13.9	-23.12	7.91	12.8
Indonesia	13.9	12.01	5021.98	6.01	14.63
Malaysia	13.64	12.83	8156.34	4.89	14.8
Myanmar	15.8	16.61	-2118.41	7.53	13.07
Philippines	12.41	14.38	-436.12	6.44	14.33
Singapore	15.91	16.15	7629.19	6.53	14.78
Thailand	11.34	9.39	6299.71	3.39	15.18
VietNam	12.85	12.14	-849.81	4.68	15.71
China	9.97	10.05	26207.67	0.06	9.97
Japan	9.91	10.16	6504.67	0.08	10.08
Korea	9.94	10.01	3311.79	0.09	10.06
India	9.9	9.99	-6033.96	0.08	9.97
Australia	9.99	10.13	-798.61	0.08	10.02
NewZealand	9.92	9.98	40.16	0.02	9.91
Canada	9.86	9.91	553.16	0.01	9.92
Chile	9.91	9.95	2235.96	0.02	9.91
Mexico	9.84	9.91	2662.61	0.01	9.9
Peru	9.84	9.91	838.06	0.01	9.86
US	9.85	10.02	-85610.85	0.04	9.97
World	9.75	9.78	26491.1	-0.02	9.78
AEC + RCEP Scenario					
Cambodia	10.93	11.69	-85.17	4.3	15.42
Laos	13.67	13.77	-23.56	8.01	12.55
Indonesia	15.01	13.27	5095.79	6.29	15.59
Malaysia	13.33	12.09	8625.46	4.54	15.26
Myanmar	17.41	18.11	-2269	8.76	13.12
Philippines	12.92	15.25	-639.88	6.99	14.26
Singapore	16.2	16.68	7338.77	6.02	13.99
Thailand	11.16	8.62	7114.2	2.89	15.94
VietNam	13.27	13.57	-1538.85	8.99	17.07
China	10.48	10.82	24920.24	0.21	9.99
Japan	9.71	9.85	7148.89	0.03	10.1
Korea	9.42	9.21	4311.34	-0.24	9.94
India	10.62	10.52	-5893.66	0.09	9.75
Australia	9.73	9.84	-735.98	0.02	9.82
NewZealand	9.62	9.62	61.64	-0.08	9.75
Canada	9.86	9.92	530.06	0	9.92
Chile	9.9	9.95	2233.67	0.02	9.91
Mexico	9.85	9.93	2650.22	0.01	9.91
Peru	9.85	9.93	835.53	0.01	9.86
US	9.86	10.03	-85800.26	0.04	9.98
World	9.74	9.77	26120.65	-0.02	9.78

Note: the magnitude of all the variables are percent, unless the trade balance in US$
Source: Model calculation

CLMV (Cambodia, Laos, Myanmar and Vietnam) is an ASEAN member countries that require special attention. In addition to low welfare received by these countries, they also tend to trade balance deficit for all the simulated scenarios. Myanmar suffered a trade deficit is the largest among the ASEAN countries to all scenario, US $ 42,118.41 under AEC scenario and

US $ 2269 million under the AEC + RCEP scenario, followed by Vietnam (US $ 849.81 million and US $ 1,538.85 million), Cambodia (US $ 81.45 million and US $ 85.17 million) and Laos (US $ 23:12 23:56 million and US $ million). The first condition is caused by the level of productivity of these countries still tend to be weak due to the economic structure has not been established and their imports are consumer goods' so that there is no added value of imports. Skilled labor and relatively low technological mastery is the cause of this problem. This is the duty of the other members (Indonesia, Malaysia, Singapore, Philippines and Thailand) to participate to improve their competitiveness through various forms of assistance and treatment, so that the gap between Member States can be resolved and ASEAN into a strong regional integration. ASEAN partner side, India (RCEP) suffered a trade deficit second largest after the United States (TPP). India's trade deficit reached US $ 6,033.96 million under the second scenario and US $ 5,893.66 million third scenario. High tariff applicable in the state is one of the causes, of the six partner countries of ASEAN (RCEP), India imposed a tariff is highest among other countries. US trade deficit is the largest among the countries in the world, more than US $ 85 billion, exceeding the total ASEAN and RCEP trade balance.

Another objective of the cooperation is an investment FTA. Savings are allocated to a region for investment purposes should have a high return rate. Perfect capital mobility encourages the same rate across regions. The consequences of the mobility of capital, if the rate of return is low, the investment also will go down and vice versa. The relationship between the rate of return and investment, the investment is a gradual movement of return rate differences between countries. Increasing the rate of return will encourage additional investment both domestic and foreign. Rate on capital ASEAN member countries tend to have increased above the partner countries for all scenarios. Laos (all scenarios), Myanmar (third scenario) and Vietnam (third scenario). While the partner countries who are members of RCEP and TPP tends to rise, although less than one percent. It is interpreted that the member countries of ASEAN is an attractive investment destination both intra and intra-region. however the trend, CLMV investment destination for intra-ASEAN while the developed countries that are partners tend to choose non-CLMV (Indonesia, Malaysia, Philippines, Singapore and Thailand) as an investment destination.

The existence of economic integration provides a significant influence on the formation of GDP, especially for ASEAN member countries. AEC formation and RCEP able to increase member country's GDP to double digits or more than 10 percent from baseline. This means that economic liberalization is able to mobilize and create economic activity of each country.

Vietnam with a relatively fast economic growth and Indonesia with GDP and the largest population among member countries obtain the largest GDP change among other member states. So it is possible the future will be an increase in economic activity and ultimately will strengthen the structure of the domestic economy as well as ASEAN.

4.3. Sectors Effect

AEC formation provide a major positive impact for ASEAN member countries. Table 6 indicates the influence of AEC to value-added output of various industries in each country. All industries (Food & Agriculture Product; Food & Agriculture Product; Mining; Food Products; Manufacture, Energy; Transportation and Infrastructure; Service and Investment Goods) in the simulation provides positive added-value for all ASEAN member countries. The value-added to the industry's largest Food & Agriculture Product enjoyed by Vietnam, followed by Thailand and Cambodia. These countries tend to have abundant factor and good agricultural technology, thus optimizing the related sectors can be achieved.

Table 6 Sectors Effect under AEC Formation

	Food & Agriculture Product	Live and Animal Product	Mining	Food Product	Maufacture	Energy	Transportation and Infrastructure	Services	Investment Goods
Cambodia	5.14	5.24	5.68	3.78	2.01	6.74	2.81	6.82	5.57
Laos	4.8	5.1	5.7	4.63	4.43	6.38	3.1	6.14	6.59
Indonesia	4.25	4.62	5.89	3.86	4.04	4.46	5.24	5.38	5.66
Malaysia	4.44	6.52	5.69	7.61	4.54	4.54	4.1	5.2	7.44
Myanmar	2.02	2.11	8.11	2.55	5.65	7.12	5.05	5.79	6.58
Philippines	2.24	5.22	6.35	5.47	3.22	4.93	7.04	6.16	11.77
Singapore	5.24	6.64	7.21	6.15	8.51	5.36	2.52	3.84	8.45
Thailand	5.88	5.93	12.14	8.07	0.98	4.4	6.02	6.54	4.7
VietNam	6.08	4.01	5.55	1.47	2.7	4.37	4.04	5.97	3.35
China	-0.11	0.01	-0.07	-0.11	0	0	0.01	0.03	0.07
Japan	-0.16	-0.17	-0.23	-0.08	-0.06	0	-0.14	0.03	0.21
Korea	-0.07	0	-0.35	-0.04	-0.03	0	-0.19	0.04	0.15
India	-0.09	0.02	-0.14	-0.24	0	-0.01	-0.01	0.04	0.09
Australia	-0.3	-0.17	0.01	-0.25	-0.12	-0.02	-0.09	0.04	0.13
NewZealand	-0.21	-0.18	0.14	-0.32	0.07	0	0.02	0.02	0.08
Canada	-0.38	-0.06	-0.09	-0.16	0.02	0	0.02	0.01	0.06
Chile	-0.15	-0.01	0.06	-0.17	-0.05	0.01	0	0.02	0.07
Mexico	-0.09	0	-0.11	-0.04	0	-0.01	0.01	0.01	0.09
Peru	-0.05	-0.03	-0.03	-0.15	0.01	0.01	0.03	0.02	0.07
US	-0.27	-0.02	-0.11	-0.08	-0.05	0	-0.02	0.01	0.11
World	-0.02	0	-0.04	-0.09	0.07	0.01	0.02	-0.01	0.04

Source: Model simulation

A positive output reflects optimal performance of each industry, which reflects the readiness of member states in the face of economic integration. Positive output is a result of the removal of trade barriers both tariff and non-tariff, investment climate, lowering transaction costs, reduction of subsidies, the implementation of trade facilitation among member countries

and trade facilitation / decrease in other costs in accordance with the AEC Blueprint. These policies are able to provide the incentives for industries that exist in the member states. Industrial output reflects the competitiveness and comparative advantage of each member state. Policy production base and single market can be implemented if the existing industries are competitive in comparison with other countries. In addition, this policy is also able to boost trade both intra and inter-trade, so as to improve the welfare of the member states.

6. Conclusion

AEC in the form regional economic integration (REI), as an ambitious economic integration, is predicted will bring a significant effect to the economic development for ASEAN member countries or non-member countries. Besides that the implementation of AEC blueprint needs high commitment from the shareholders in creating a set of policy in supporting the creation of ASEAN integration. Massively, the implementation of AEC may brought large contribution in improving welfare and value/volume of international trading in ASEAN union, especially if they made an agreement with non-member countries.

ASEAN's policy of removal of trade barriers in the form of tariff and non-tariff as will provide both opportunities and challenges for the member states and partner countries. The policy as a commitment in order to achieve a single market and production base to be followed by a government policy of each member state, because without their commitment to the goal of AEC difficult to achieve. Economic integration has been structured with a clear implementation, directed and scheduled, but the problem is whether all member states were ready with that policy. Member countries with strong economic structure and stable would tend to support this integration with the synergy between domestic policy goals of the ASEAN. Singapore is one country that is prepared in the presence of such integration, even all the tariff applicable in the country of zero percent. An example, the tariff reduction scheme undertaken by ASEAN member countries by itself can't increase the market/open new markets. It is only as a preference in enhancing trade relations among member countries both for final and intermediate goods. In addition, the scheme of intra-ASEAN tariff reduction was not followed by the application of the same tariff rates to countries outside ASEAN.

A weak regulation of trade, cross border exchange of data in electronic and digital formats, legal gaps in domestic law, consumer protection etcetera are problems in the implementation of trade facilitation. The fundamental problem is inequality among ASEAN member countries. CLMV member countries that require special treatment, in the form of technical assistance and

problem solving assistance, given the structure of their economies are likely not as strong as other countries.

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