IMPACT OF THE ASEAN-CHINA FTA ON INDONESIA'S AGRO-BASED PRODUCTS

By

Hamid Rizali Siregar

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

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ABSTRACT

IMPACT OF THE ASEAN-CHINA FTA ON INDONESIA'S AGRO-BASED PRODUCTS

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After the success of free trade agreements among ASEAN countries under the ASEAN Free Trade Agreement (AFTA), ASEAN countries expand its international trade cooperation with China and produced the ASEAN-China Free trade Agreement (ACFTA). There were apprehensions on the likely impact of this regional trade agreement. However, agro-based industries which known as one of the mainstay of Indonesia's industrial development was belived would gain benefit from the agreement . The objective of this study is to explore the ACFTA impact on agro-based products to the economy and industries during three different stages of the implementation (pre-ACFTA, Early Harvest Program and Post-ACFTA). Generally, the dynamics of several indicator shows that China has become more important market for Indonesia. Several industries emerges in the Early Havest Program and Post-ACFTA and shows to have comparative advantage relative to other ACFTA members. However, there are a lot of space for Indonesia to improve its trade performance under the ACFTA agreement. Export complementarity with China's import and compatibility between export pattern with its comparative advantage still have to be improved further to satisfy China's import demand on agro-based product.

Dedicated to my parents

TABLE OF CONTENT

LIST OF TABLES

LIST OF CHARTS

I. CHAPTER ONE

I.1. Introduction

The development of International Trade has main objective to foster trade among countries by liberalizing or reducing trade barriers which will expected to lead every countries to achieve economic welfare. Several international trade agreement between Indonesia and other countries have already in force, one of the succesful is the agreement among south-east Asian countries (ASEAN countries). ASEAN free trade agreement (AFTA) signed by the members on 28th January 1992. In its development, the trade agreement was extended by including other country outside south-east Asian region, such as China. Cooperation with China leads to the ASEAN-China free trade agreement (ACFTA).

The ASEAN-China Trade Agreement (AC-FTA) which came to effect on 1st January 2005 has made an impact on Indonesian industries and trade pattern. AC-FTA lowered the rates on more than 7,800 types of product, or about 90 percent of imported goods, to zero. This decrement applies to China and six original ASEAN members: Indonesia, Brunei, Malaysia, Singapore, Philippines and Thailand. According to Yu Sheng et al. (2012), "as part of the agreement, the average tariff on ASEAN-origin exports to the PRC was lowered from 9.8 percent to 0.1 percent in 2010, while the average tariff on PRC-origin exports to the six original ASEAN members was reduced from 12.8 percent to 0.6 percent. By 2015, the policy of zero-tariff rate for 90 percent of Chinese goods is expected to extend to the four new ASEAN members—Cambodia, the Lao People's Democratic Republic (PDR), Myanmar and Vietnam."[1] The implementation of tariff reduction was conducted in 3 stages: Early Harvest Program (EHP), Normal Track (NT) and Sensitive Track (ST). EHP began on 1 July 2005, while NT started on 1 January 2010. Tariff line belongs to NT has been reduced gradually and has been eliminated as shown in Table 1. Each member state can register up to 400 tariff lines in sensitive track (ST) as it will be postponed up to 2018. All members also have to maintain no

[1] Yu Sheng, Hsiao Chink Tang, and Xinpeng Xu. "The Impact of ACFTA on People's Republic of China–ASEAN Trade: Estimates Based on an Extended Gravity Model for Component Trade." *ADB Working Paper Series on Regional Economic Integration*, July 2012: 1.

quantitative restriction otherwise permitted under WTO disciplines and eliminate other non-tariff barriers.

Table 1. Tariff Reduction in Normal Track for ASEAN-6

X = Applied MFN Tariff Rate	ACFTA Preferential Tariff Rate (Not later than 1 January)			
	2005*	**2007***	**2009**	**2010**
X ≥20%	20	12	5	0
15% ≤ X < 20%	15	8	5	0
20% ≤X < 15%	10	8	5	0
15% < X < 10%	5	5	0	0
X ≤ 5%	Standstill		0	0

Source : Ministry of Trade, Indonesia

There were apprehensions on the likely impact of this regional trade agreement on some sensitive sectors of Indonesia such as manufacturing as large numbers of people depend on these sectors for their livelihood. Indonesia is a large consumer of manufactured products and also exports goods to international markets. Many believe that this agreement will have a negative impact on the domestic market as well as its industries. Some of the ASEAN partners of Indonesia have a large presence in international agro-based products and there is a possibility that they can have more advantages to export these products to China in the post-FTA period. After nearly seven years of implementation, we will look forward to seeing the impact of the agreement.

Theoretically, free trade is expected to increase production, increase specialization and lead to an increase in other long-term welfare issues for consumers and producers. Each country has a comparative advantage that can be used as a pattern of production and international trade can provide maximum benefit to each country. However, the experience and lessons learned from the implementation of the FTA in other countries do not give absolute support for conclusions that emerge from the theory of free trade. Comparative advantage is not an imperishable advantage, and at a time when a shock is applied, such as the removal of barriers in the form of tariffs, the effects do not always have a positive impact upon a country. The implementation of free trade has the potential to make domestic products fail to compete with more competitive products from other countries. Several industries could get hurt as competitors from ASEAN countries provide a challenge in seizing

markets in China, such as Thailand, Vietnam and Malaysia, who also have the same excellence in agro-based product.

Laying aside skepticism on the ASEAN-China Trade Agreement that the agreement would create a negative impact on Indonesia, China provides a huge market and together with ASEAN it provides one fourth of the world population, which represents a massive potential market. One outcome of a free trade arrangement is that the sector in which a country has a comparative advantage in production will benefit from free trade. Free trade provides an opportunity to maximize the benefits of national production in international trade. In 2004, access for agricultural products was opened to China's market. In 2005, access to China's market for 40 % of NT lines (± 1.880 tariff lines) are reduced to 0-5%. In 2007, export to China's market get an additional tariff cut down to 0-5% for another 20% of NT (± 940 tariff lines). And in 2010, Indonesia had a full access to all NT lines in China's market.

Wattanaputtipaisan (2003) argued that, as China joined the WTO, "...China's share of global trade will be considerably higher, by as much as 30 percent each in both export and import volumes. In particular, the net import of selected agricultural products may increase by US$1.5 billion a year between 2000 and 2009."[2] Indonesia, which has advantages on its agricultural and natural resources, utilizes this opportunity especially in agro-based products, some of which are processed palm oil, rubber, coffee, cocoa and margarine. Indonesia's agro-based products have high competitiveness in the world and China is a major importer from Indonesia.

Agro-based industry is very important for Indonesia's future mainstay. It is seen in its relatively abundant agricultural endowment which comes from farm, fishery, livestock, plantation and forestry. In 2012, the production of crude palm oil and crude palm kernel oil reaches over 25 million tons, rattan production for about 143 million tons, coconut production for about 3,3 million tons, rubber production for about 3 million tons, coffee production for about 750 thousand tons, and cacao production for about 0,8 million tons.[3] These figures make Indonesia as the largest crude palm oil,

[2] Thitapha Wattanapruttipaisan. "ASEAN-China Free Trade Area Advantages, Challanges, and Implication for the Newer ASEAN Member Countries." *ASEAN Economic Bulletin*, April 2003: 37.

[3] Data source: Ministry of Industry, Indonesia. Presented in the Workshop of Indonesia's Ministry of Industry, Jakarta, 5-7 February 2104.

rattan and rubber producer in the world, the second largest producer of rubber and the third largest producer of coffee and cacao.

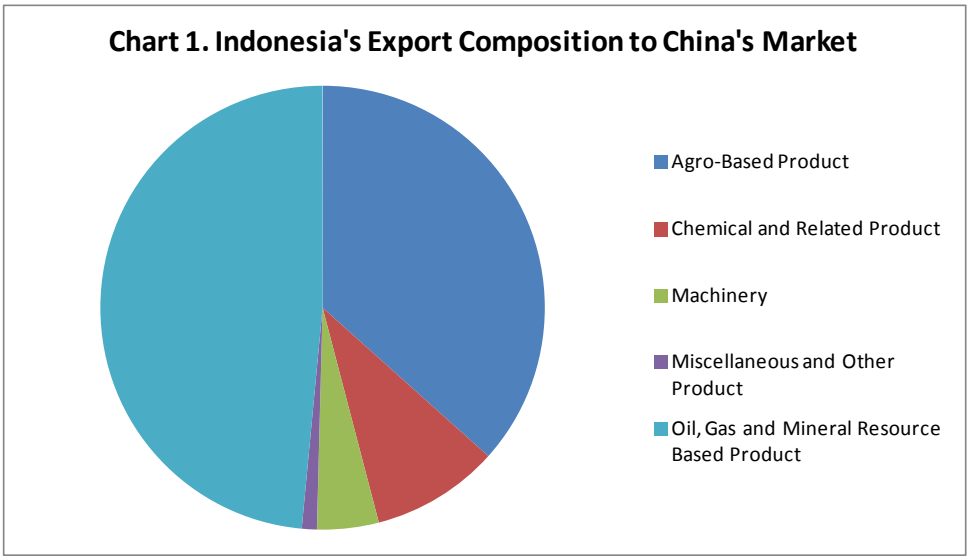

Chart 1 shows Indonesia's export composition to China's market during 2001-2012. The highest contribution comes from oil, gas and mining products which contributed as high as 48.50 percent of total Indonesia's exports to China. Although it has the largest contribution, oil, gas and mining resources will be exhausted in the long term. And as a country becomes more industrialized in the future, it is expected that energy resources, such as oil, gas and mining products, to be utilized for the needs of domestic industries. According to statistical review of world energy 2013, Indonesian oil is estimated to be exhausted in 2023, coal is estimated to be exhausted in 2026, and gas is estimated to be exhausted in 2053, assuming that there are no energy reserve found in the future and a constant production as of the end of 2012.[4]

For these reasons, agro-based industry will become more important because in the long term development, oil, gas and mining sector doesn't have a good prospect. Agro-based products have a large proportion in Indonesia's export for about 36.64 percent of total exports to China, while China's agro-based export only contributed for about 17.58 percent of total exports to Indonesia.

With the existence of this agreement, we argue that gains from the trade in agricultural and agro-processing products to China should increase and become more competitive than other country's

[4] BP. "About BP: Statistical Review of World Energy 2013." *BP Corporation Web Site.* http://www.bp.com/content/dam/bp/pdf/statistical-review/statistical_review_of_world_energy_2013.pdf (accessed November 10, 2013)

products. The impact should likely be seen in export performance improvement to China's market on agro-based products, enhancement on agro-based industry's performance and also agro-product competitiveness in international trade within the scope of ACFTA market.

As Jung and Marshall (1985) have pointed out, "Export growth may represent an increase in demand for the country's output and thus serve to increase real GNP."[5] Park et., al (2008) stated that ACFTA will help ASEAN exporters of intermediate goods where China have comparative disadvantage and provide better market access for agriculture products.[6] The WTO recorded that in 2010, imports of agriculture products from Indonesia to China recorded as high as US$ 3 billion while for non-agriculture products (include oil, gas and mineral resource product) imports were US$ 17.79 billion.[7] If Indonesia utilizes the ACFTA effectively, this demand of natural resources and agriculture products will increase as Indonesia is relatively better compared to China. Therefore, we suggest that after the implementation of the ACFTA there would be an improvement in the export performance on agro-based products.

Trade liberalization is found to generate intra-industry reallocations of resources, as businesses with low-productivity exit and more productive businesses expand to serve global markets. But according to a study by Ibrahim et al. (2010), China and Indonesia have a different commodity structure where in general are not competing with each other.[8] Therefore, as trade with China will tend to be relatively complement each other, strong competition in China's market would come from ASEAN countries. In the end, producers that will survive are firms which can compete in international trade providing a better price and qualities relative to others. The benefit of the ACFTA would likely be seen in the emergence of some industries under the agro-based industry which can relatively compete in the ACFTA market and will tend to specialize on producing goods where it could do relatively better than the other ACFTA countries.

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[5] Woo S.Jung, and Peyton J. Marshall. "Exports, Growth and Causality in Developing Countries." *Journal of Development Economics*, 1985: 2.

[6] Donghyun P., Innwon P., and Gemma E. B. E. Prospects of an ASEAN-People's Republic of China Free Trade Area: A Qualitative and Quantitative Analysis. *ADB Economics Working Paper Series*, Manila-Philiphines: Asian Development Bank, 2008:3.

[7] World Trade Organization. Statistics database: Tariff Profile. http://stat.wto.org/TariffProfile/WSDBTariffPFView.aspx?Language=E&Country=ID (accessed July 2, 2013).

[8] Ibrahim, Meily Ika Permata, and Wahyu Ari Wibowo. "The Impact of ACFTA Implementation on International Trade of Indonesia." *Bulletin of Monetary Economics and Banking*, July 2010: 51.

A country must have a comparative advantage in certain goods in order to be internationally competitive. National production specializes in areas where it has comparative advantage. Indonesia buys goods from China and other countries where it does not have a comparative advantage. This allows industries to use their resources in the most efficient way possible. To optimize the benefit of trade liberalization, a country would also follow the comparative advantage pattern on carrying out its trade. Therefore, goods which have comparative advantage relative to other ACFTA countries should be traded more.

This thesis will focus on answering some primary questions: What is the probable impact of the ASEAN-China FTA on agro-based products on Indonesia's international trade, and how does it performs relative to ASEAN countries? Does Indonesia utilized the agreement more effective than China or other ASEAN countries? Which agro-industries gain benefit from the implementation of the FTA and which agro-industries will be having a strong competition instead? Has the competitiveness level of agro-based industries in Indonesia improved, and in what ways? What opportunities and threats should Indonesian businesses be aware of? These are some of the issues that we address in this research.

I.2. The Significance

Protectionists make an impression that trade liberalization with China may lead to adverse conditions for domestic industries, job loss and a drop in income. This skepticism has appeared in several opinions in newspapers. According to the Chairman of the Indonesian Business Association (Detik Finance, 2013), "There would be no investment in labor intensive industries. Nobody would be interested in the textile industry or shoe industry. Nowadays, the investment is on capital-intensive industry." The head of Market Union in the Tanah Abang Area (detik Finance, 2013) argued that the proportion between domestic product to import product used to be 70: 30 but it changed to 40 : 60 after AC-FTA. The Vice Chairman of the Gerindra Party (Antara News, 2013) also mentioned that Indonesia only functioned as a target market for foreign products. For example, import growth after AC-FTA was 54.97 percent, while exports from Indonesia to China only grew 25.08 percent. Indonesia has suffered a trade deficit with China since 2008. Many people assumed that the trade deficit means that the trade gap has worsened and that the domestic industries can't compete with

global competition. However, we also have to consider the economy and business cycle. If the economy is expanding, for example Indonesia in recent years, a country would likely import more and provide price competition. Furthermore, it will restrict inflation and provide goods to meet the demand. And it is undesirable if the country is in a recession. These opinions are too focused on the sectors where Indonesia has a comparative disadvantage with China such as textiles and garments while other sectors where Indonesia has comparative advantage, such as palm oil, rubber, cocoa, processed seaweed, are rarely discussed. Furthermore, not all tariff line on textile and related products are being eliminated. Some tariff lines are in the sensitive list where the elimination of tariff will be executed around 2018 and possible for further negotiations. Textile and related products in a form of final products, such as clothing, are on the sensitive list. Despite its controversies, the agreement provide opportunities for clothing industry to grow more and to foster downstream industries by providing options on the input of production.

An estimation by the ILO on the free trade with the PRC noted that Indonesia's employment opportunities decreased by as much as 188,635 people.[9] The estimation showed that the agricultural sector lost most job opportunities. However, it did not provide a clear cause-effect relationship between the increased exports of agricultural products with the reduction in employment opportunities in the agricultural sector. Logically, the increase in the value of exports of agricultural products should increase the employment in the related sector. Therefore, the results of this estimate need to be questioned.

Trade produces losers as well as winners. However, there are still gains from trade in the limited sense that the winners could compensate the losers, and everyone would be better off. This implies that there's always gain from trade that makes both sides better off by buying goods that are not efficiently produced in the home country and selling goods that are not efficiently produced in foreign countries. Research by Ibrahim et al. (2010) estimated that Indonesian commodity exports could increase by 2.1 percent (after the zero percent shock rate applied), mainly coming from the increased exports to China. The opportunity for market expansion into China is supported by the

[9] Taofik Hidayat. "A Social Accounting Matrix (SAM) Analysis to Assess the Employment Effects of Trade Liberalization: Indonesia-China." *Fourth PWG Meeting*. Jakarta: International Labor Organization, 2012. 12.

characteristics of the export commodities of Indonesia and other ASEAN countries which have a relatively low degree of competition. Thus, export goods from Indonesia and ASEAN in general are much easier to expand.[10] In theory, free trade will result in specialization in products/industries that have a comparative advantage. This research will address the specialization occurs in agro-based industries in which Indonesia enjoys a comparative advantage and will end up producing and exporting more products from these industries. The findings of this research will give a better understanding on the outcome of free trade between Indonesia and China under the framework of AC-FTA.

I.3. Literature Review - Unscrambling the Free Trade Agreement

Concerns regarding the AC-FTA are simply about determining the net effect derived from the benefit and the loss we could get from FTA. Most of the time people are more concerned with minimizing the loss from the FTA rather than maximizing the country's advantage. To some extent, Indonesia has comparative advantage on several group under agro-based products and would be relatively more competitive than China. This assertion is based on some theoretical foundations of economics and consideration of earlier studies.

I. 3.a Economics of Free Trade

I.3.a. i. The Gains of Free Trade

Countries engaged in trade because of their differences from each other, trying to complement their needs by specializing in the things they do relatively well. Countries trade to achieve economies of scale by producing only a limited range of products rather than producing everything. The economic reasons for a free trade system built upon a multilateral agreement focus largely on commercial common sense. It is also supported by evidence recorded after World War II in the form of world trade growth and world economic growth trends. After the war, tariff barriers were greatly decreased. This encouraged world trade to increase and hence economic growth. Empirical data indicated that during 1950-1973, world trade grew nearly 8 percent a year, world GDP rose by nearly 5 percent a year, and GDP per capita rose nearly 3 per cent a year.[11]

[10] Ibrahim et. al., "The Impact of ACFTA Implementation on International Trade of Indonesia," 52.
[11] Angus Maddison. *The World Economy* (Paris: Development Centre Studies: OECD Publishing, 2006), 24.

Economic theory suggests strong reasons for the relationship. Every country is endowed with resources – labor, capital, land, and/or financial – which can be used to produce goods and services and supply domestic markets and/or foreign markets. Theoretically, a country could maximize the benefits from goods and services produced by engaging trade. The principle of comparative advantage simply says that a country should produce and export goods in which it is relatively better and import goods in which it relatively worse. The significance of free trade can be seen by the fact that there are currently 159 members of the World Trade Organization and many bilateral or regional free trade agreements are established.

I.3.a. ii.Historical Background

Although the embryo of the free trade idea emerged in 1776 in Adam Smith's *The Wealth of Nations*, the urgency of free trade was proven theoretically by an economist named David Ricardo in the 19th century. Ricardo demonstrated that under one factor of production, labor, if every country produces the goods in which it has a comparative advantage, then every country can benefit from trade. The idea is that specialization in production will maximize overall production and increase the level of countries' consumption through international trade. Ricardo's idea has produced many other international trade theories showing that even under more complex conditions, it prevails that free trade will benefit each party.

Another economist added a new factor of production, capital, and introduced the Heckscher-Ohlin theory, which stated that countries which are endowed with abundant labor have comparative advantage in labor-intensive goods while countries with abundant of capital have comparative advantage in capital-intensive goods. In other words, the theory may be utilized to support particular empirical observations including proof that labor-abundant countries such as China and Indonesia tend to export labor-intensive goods such as agro-based products.

I.3.a. iii. Barriers to Free Trade

Given the theoretical foundation favoring free trade, it is amazing that there is no free trade in the world. The purest form of free trade is export and import between countries which have no restriction and no government limitation on either side. However, barriers to trade exist in every country and include the following:

- Tariff barrier: levies imposed on goods when entering or exiting the country borders. It is usually applied to protect domestic industries.
- Non-tariff barrier: any restriction or limitation in the form other than tariff. A country could impose restriction on the amount of goods which enters or exits the country. A country could impose standards and safety regulations on products which will eventually inhibit certain goods from entering the country. Other common form of non-tariff barriers are anti-dumping measures, countervailing measures and safeguards measures which are intended to restrict unfair trade practices. Nowadays, as tariff barriers become less of an obstacle, non-tariff barriers have become an increasing concern.

It should be noted that there could be other measures imposed by governments, regulatory or administrative, which can indirectly restrict import quantities.

I.3.a. iv. Trade Liberalization and Free Trade Agreement

Given the fact that every country has barriers to trade, countries undertake measures to lower or even eliminate trade barriers among them. These efforts would be in the form of agreement between two countries, bilateral agreement, or in the case of more than two countries, multilateral agreement. The most well-known trade agreement is the General Agreement on Tariffs and Trade (GATT) which has become the basis of the broader agreement in the World Trade Organization, or agreements among a smaller set of countries. Some countries might want to perform trade liberalization more extensive, only applied among a smaller set of countries rather than lowering their barriers in a broader set of agreements such as the WTO. This type of agreement refers to preferential trade agreements that correspond to our analysis of the ASEAN-China Free Trade Area (AC-FTA).

Several benefits from free trade agreements have been analyzed theoretically and empirically. Theoretically trade openness will enable a country to achieve economies of scale and reduce inefficiencies from monopoly practices. Feenstra (2004) showed that free trade agreement could produce trade creation,[12] by eliminating tariff and reducing non-tariff barriers improving the market access. Broda and Weinstein (2006) showed an estimation of gain from imports in US and come up

[12] Gains from Trade and Regional Agreement in Feenstra, R. C. *Advanced International Trade: Theory and Evidence*. New Jersey: Princeton University Press, 2004.

with a result of an expansion of import varieties as trade becomes more liberalized.[13] Free trade agreement also has a plausible negative impact such as trade diversion,[14] and unemployment. FTA members will have more advantage than non-FTA members because they lower/eliminate barrier on internal trade while retaining barriers to trade with non-members and are, therefore, trade diverting.

In general, the benefits from elimination in tariff and non-tariff barriers to trade could be estimated by summing trade creation and trade diversion effects. Under a free trade agreement, trade creation take place when a more competitive export to trading partner decreased or replace domestic production or third country export with lower competitiveness, for example cheaper export to a country which substitute domestic production will result trade creation. A country's trade diversion take place when exports to its trading partner was displaced by export from third party countries, which still deal with high trade barriers.

Because of its dicriminatory characteristics, trade creation in an FTA country to its internal member could result trade diversion on non-member country. One would expect an FTA to generate in some amount of trade creation and trade diversion. Regional agreement woul be expected to produce a larger amount of trade creation than trade diversion. Some studies on several regional trade agreement indicate that FTA has been trade creating rather than trade diverting (Karemera and Koo, 1994, Susanto et al., 2007, and Lambert and McKoy, 2008).

I. 3.b China's Market Opportunity for Agro-Based Product

Studies shown that there are linkage between China's rapid growth and trade liberalization (Marelli and Signorelli, 2011). Since the accession of China to WTO in 2001, China's economic growth grew rapidly followed with a high trade volume competing United States and Europe. "In 2009, China overtook Germany for the first time to become the world's largest exporter. China's exports accounted for nearly 10 % of the world exports."[15] This was followed by the increased of per capita income and structural changes from agriculture to industrial sector. China's per capita income

[13] C. Broda, and D. E. Weinstein. "Globalization and the Gains from Variety." *The Quarterly Journal of Economics*, 2006: 541-585.

[14] Gains from Trade and Regional Agreement in Feenstra, R. C. *Advanced International Trade: Theory and Evidence*. New Jersey: Princeton University Press, 2004.

[15] Tao Yuan. 2014. *On China's Trade Surplus*. London: Springer, 1.

grew from $ 2,530 in 2000 to $ 5,720 in 2012 and around 30 percent of income share held by the highest 10 percent of the wealthiest population.[16]

Aside from its rapid economic growth, agricultural sector has become concern of policy makers and academics. This is based on prediction that agricultural sector will took the hardest impact from trade liberalization which focuses on the drop of food security and farmers income. Studies have shown that the increase in consumer income in China tends to increase the amount of food consumption and change its composition (Liu et al., 2009, and Gandhi and Zhou et al., 2012). These will increase demand for agro-based product and demand for products with a better quality.

In 2003, for the first time China was having trade deficit on its agricultural trade.[17] "The share of agricultural trade was only 4 per cent in 2005, and the share of agricultural exports in China's total exports declined even faster—from 7 per cent in 2001 to 3.5 per cent in 2005."[18] Since its accession into the WTO, "China's agricultural trade has been moving in line with its comparative advantages and is now more consistent with its resource endowments of relative scarcity of land resources and relative abundance of labor."[19]

"With the rapid economic growth, especially since China's entry into the WTO, it is likely that the comparative advantage of China's agricultural sector has been declining, and in particular that the comparative advantage of China's farming sector has been declining. This changing pattern of comparative advantage is consistent with China's resource endowments. China's per capita arable land is 0.11 hectares, only 43 per cent of the world average, and its per capita pasture land is 0.3 hectares, only 33 per cent of the world average."[20] "According to a recent survey by Tsinghua Media Survey Lab and Insight China, nearly 70 percent of the Chinese population remains very concerned

[16] The World Bank. World DataBank:Data. http://databank.worldbank.org/ (accessed January 2, 2014).

[17] Chunlai C., and Ron D. 2008. "Agriculture and Food Security in China - What effect WTO access ion and regional trade arrangements?" In *China's agricultural trade following its WTO accession*, by C. Chen, 305-345. Canberra: Asia Pacific Press:137.

[18] Ibid., 318.

[19] Ibid., 321.

[20] Ibid., 318.

about food safety, and more than half of survey respondents view government failure as the key reason behind unsafe food."[21]

The rising household income, growing population and shrinking share of output from agriculture is an open opportunity for other countries, especially agricultural resource-abundant country, to fill the high demand and lack of supply in Chinese market. As for ASEAN countries, with the elimination of tariff and reduction of non-tariff barrier, market access for agro-based products will be more open and provide more advantage relative to other countries which has no free trade agreement with China.

I. 3.c Existing Study

Since the negotiation leading up to the implementation of the FTA, the ASEAN-China Trade Agreement has received considerable attention from researchers to observe its implication or impact. A number of empirical studies have been conducted related to the impact of the ACFTA for both China and ASEAN countries. Qiu H., et al. (2007) reveals, "...CAFTA will improve economic welfare and stimulate the economic growth of both China and ASEAN."[22] Combining qualitative method and quantitative method (CGE model), Park D., et al. (2008) arrived at a conclusion that Indonesia will get a higher net trade gain and positive welfare gain but negative effect on output growth.[23]

Using the GTAP model, Ibrahim et .al. assessed the likely impact of the AC-FTA on international trade of Indonesia. They concluded that as the tariff barrier eliminated, Indonesia gained a net trade creation in international trade as big as 2.1 percent and total exports grew by 1.8 percent (percent deviation from the base).[24] Export commodities from Indonesia and other ASEAN countries are likely complementary in China's market; thus it would be easier for ASEAN to expand its market share in China.[25] However, their findings also showed that some highly competitive and highly intra-industry linked commodities have declined in export share. Furthermore, Indonesia and other

[21] The American Chamber of Commerce in Shanghai. 2011. *Agriculture in China - Boosting American Opportunities in the World's Largest Market.* Market Report, Shanghai: APCO Worldwide:8.

[22] Huang Qiu et al. "Impact of China-ASEAN Free Trade Area on China's International Agricultural Trade and Its Regional Development." *China & World Economy* 15, no. 4 (2007): 83.

[23] Donghyun P. Park, Innwon P., and Gemma E. B. E. *Prospects of an ASEAN-People's Republic of China Free Trade Area: A Qualitative and Quantitative Analysis.* ADB Economics Working Paper Series, Manila-Philiphines: Asian Development Bank, 2008, 13.

[24] Ibrahim, "The Impact of ACFTA Implementation on International Trade of Indonesia," 42.

[25] Ibid., 51.

ASEAN countries face new challenges as the ASEAN market is flooded with products from China. Export from ASEAN countries to the ASEAN market was estimated to have declined, including export from Indonesia; meanwhile exports from China to the ASEAN market have increased sharply. To seize benefit from the AC-FTA agreement on export development, they found an evidence where there has been a "decrease in the intensity of competition between China and Indonesia accompanied with the structure of export commodities which does not compete one with another."[26] Amalia A. W. (2010) found that in general, Indonesia's share in China's market tend to be stable with a slight increase. China has become a new market for several types of products but only a few industries could optimally seize China's market namely plastic, rubber, mineral products and footwear. Products which experiencing an increase of share in China are generally natural resources-based products comprises agriculture and mining.

A different result comes from Aslam (2012)[27] who was using two measurements of trade specialization indices to show the exchange of similar products in the same industry between ASEAN-China and to describe specialization and competition between ASEAN-China. He found that the trade has favored China rather than ASEAN. Another founding is that ASEAN and China tend to have similar trade (export and import) in the manufacture of "machinery, electrical and electronics, scientific equipment, transport equipment, non-ferrous metal, basic chemicals, and manufacture of paper and paper products."[28] In terms of industrial product classification, intra-industry trade occurs in "labor-intensive products, labor-intensive intermediate products, non-durable consumer products and capital-intensive products."[29] Based on Aslam's (2012) assessment, ASEAN will encounter competition from China in electrical and electronic products, food, textiles and clothing.[30] This result was somewhat different from another study, especially with Ibrahim et al. (2010), which said that export commodity structure between Indonesia and China are not competing with each other. This difference might emerge from the different data sets and methodology uses by these two researchers.

[26] Ibid.
[27] Aslam, "The Impact of ASEAN-China Free Trade Area Agreement on ASEAN's Manufacturing Industry."
[28] Ibid., 66.
[29] Ibid.
[30] Aslam, "The Impact of ASEAN-China Free Trade Area Agreement on ASEAN's Manufacturing Industry," 70.

Ibrahim et al. (2010) focuses on Indonesia's impact of ACFTA and testing the Revealed Comparative Advantage (RCA) correlation using Spearman Rank Correlation while Aslam (2012) focuses on the ASEAN impact of ACFTA and analyze the changes over the year between RCA and Intra Industry Trade indices. But a study from Ibrahim would have a more reliable explanation as it provides a more thorough analysis to test the RCA indicator.

It is important to note that data coverage of the above studies runs only up to 2010 when the tariff reduction was beginning to be fully implemented by ASEAN-China. Also, no analysis has been made focusing on the impact on Indonesia agro-based industry under the AC-FTA. The purpose of this study is therefore to fill this gap in assessing the impact of the AC-FTA on Indonesia's economy.

I.4. Methodology

To see the impact of an FTA on the economy, we will first analyze the trends in the bilateral export and import growth rates as well as the import and export shares from Indonesia's perspective. We will then present through the calculation of various indices such as the Hirschman index, the Export Intensity index and the Complementarity index. To see the impact of the FTA on Indonesian Industries, we will calculate Revealed Comparative Advantage (RCA). RCA indices utilize the trade pattern to tell us the sectors in which an economy has a comparative advantage, by comparing the country of interest's trade profile with the world average.

Export-import data acquired from UN-COMTRADE database in a 3-digit Standard International Trade Classification Revision 3 (SITC Rev.3) classification. The data coverage is within AC-FTA members consist of ASEAN-6 and China in which divided into 3 periods of time, pre-ACFTA period (2001-2004), Early Harvest Program (2005-2009), and Post ACFTA period (2010-2012).

Agro-based products are difficult to define precisely, especially in the context of international trade. In this research, we broaden the scope of agro-based products into any related product derived from plants or produced by animals whether it is in a raw form, intermediate, or processed products. In order to have a general overview on the analysis and for the purpose of simplicity, we re-group the SITC Rev. 3 into a more general classification as shown in **Appendix Table A**.

Several literature has provided indicators and guidance which generally used in international trade analysis. In this thesis, we apply indicators which considered practical to analyze whether Indonesian trade and industry become more competitive, or *vice versa*, after the implementation of ACFTA.

I.4.a. Export Intensity Index (EII)

The export intensity index is a measurement to determine whether a country's export to a destination country or region is more or less relative to other countries in the world/region. In this case, we will use EII to indicate whether Indonesia export its agro-based products to China more than other ACFTA countries on an average. It is defined as the ratio between export proportion of an ACFTA country's export to another ACFTA country in it's export to all ACFTA countries and the export proportion of all ACFTA export to an ACFTA country in the total export within ACFTA. The equation can be formulated as follows:

$$\boldsymbol{EII}_{ij} = \frac{\boldsymbol{x}_{ij} / \boldsymbol{X}_{i.}}{\boldsymbol{X}_{.j} / \boldsymbol{X}_{..}}$$

where $\mathbf{x_{ij}}$ is value of export from country i to country j, $\mathbf{X_{i.}}$ is the total export value from country i to the ACFTA, $\mathbf{X_{.j}}$ is the total export from the ACFTA to country j, $\mathbf{X_{..}}$ is the total export value in the ACFTA respectively. If the index is more than 1 (EII>1), it will indicate that trade flow between countries is larger than expected, given their position in ACFTA trade.

I.4.b. Sectorial Hirchman Index (SHI)

The sectoral Hirschmann index is a measure of the sectoral concentration of a region's exports. It tells us the degree to which a region or country's exports are dispersed across different economic activities. High concentration levels are sometimes interpreted as an indication of vulnerability to economic changes in a small number of product markets. Over time, decreases in the index may be used to indicate broadening of the export base.[31]

[31] UNESCAP. *Interactive Trade Indicators-UNESCAP.* 10 30, 2013. http://www.unescap.org/tid/aptiad/Sectoral%20Hirschmann.pdf (accessed 10 30, 2013).

Using the SHI, we might interested to find out the effect of ACFTA in broadening the economic activity of Indonesian within the agro-based industry towards China's market. The change will be seen by comparing SHI during the three periods of ACFTA implementation. The equation can be formulated as follows:

$$SHI = \sqrt{\sum_i \left(\frac{\sum_d x_{isd}}{\sum_d X_{sd}} \right)^2}$$

where **s** is the country of interest, **d** is the set of all countries, **i** is the sectors of interest, **x** is the commodity export flow and **X** is the total export flow. Each of the bracketed terms is the share of good **i** in the exports of country **s**.

I.4.c. Complementary Index (CI)

The complementarity index measures the degree to which the export pattern of one country matches the import pattern of another. A high degree of complementarity is assumed to indicate more favorable prospects for a successful trade arrangement.[32] Changes over time may tell us whether the Indonesian trade profiles are becoming more or less compatible with China. The equation can be formulated as follows:

$$CI = \left(1 - \left(\sum_i \left| \frac{\sum_w m_{iwd}}{\sum_w M_{wd}} - \frac{\sum_w x_{isw}}{\sum_w X_{sw}} \right| \right) \div 2 \right) \times 100$$

where **d** is the importing country of interest, **s** is the exporting country of interest, **w** is the set of all countries, **i** is the set of industries, **x** is the commodity export flow, **X** is the total export flow, **m** the commodity import flow, and **M** the total import flow.

I.4.d. Revealed Comparative Advantage (RCA)

Revealed comparative advantage or also known the Balassa Index is one method of calculation that can assess the relative trade performance of individual countries in particular products/commodities. It is an indirect way to identify in which sector a country has comparative advantage in production. In this case, "the comparative advantages concerned are those that are

[32] UNESCAP. *Interactive trade indicators-UNESCAP.* http://www.unescap.org/tid/aptiad/Complementarity.pdf (accessed 10 30, 2013).

revealed by the results of international trade."[33] In terms of ACFTA region, the equation can be formulated as follows:

$$RCA = \frac{\boldsymbol{x}_{ik}/\boldsymbol{x}_{i.}}{\boldsymbol{x}_{.k}/\boldsymbol{x}_{..}}$$

where $\mathbf{x_{ik}}$ is country i export to ACFTA on commodity k, $\mathbf{x_{i.}}$ is country i export to ACFTA and $\mathbf{x_{.k}}$ is ACFTA export on commodity k, and $\mathbf{x_{..}}$ is the total ACFTA export. The numerator is the share of a country's export on a commodity to its total trade, while the denominator is the proportion of a commodity export in ACFTA export. A country is indicated to have comparative advantage on production relative to other countries if the RCA on the concerned group of products/commodities is larger than unity (RCA > 1) and it is indicated to have comparative disadvantage when the RCA is less than unity (RCA < 1).

[33]Kang Taeg Lim. "Analysis of North Korea's Foreign Trade by Revealed Comparative Advantages." *Journal of Economic Development* XXII, no. 2 (1997):98.

II. CHAPTER TWO – Data Analysis

The economies of China and ASEAN together comprise a $ 10,447.88 billion with a total population of almost 1.8 billion peoples. Indonesia and China are developing countries which is one of the major economies in the world and members of the G20 group that collects countries with the largest economies around the world. Together with other ASEAN countries, it has an increasing importance and influence in world trade and commerce. Indonesia already has an effective trade agreement with ASEAN countries (1992), Japan (2008), Australia-New Zealand (2010), India (2010), South Korea (2010), and a plurilateral agreement under the Global System of Trade Preferences among Developing Countries (GSTP). While China has free trade agreement in force with Hong Kong (2003), Macao (2003), New Zealand (2008), Singapore (2009), Chile (2006) and Costa Rica (2011).

Total trade (export and import) as a percentage of GDP for Indonesia stands at 50.1 percent, and for China the figure stands at 50.8 percent. For certain ASEAN countries this figure goes up as high as 379.1 percent (Singapore); 163 percent (Malaysia); 148.8 percent (Thailand); and 112.5 percent (Brunei Darussalam). United States, Europe and Japan are the main trade partners for Indonesia and China. China is the 4th largest export destination for Indonesia. These numbers indicate that there is substantial opportunity for Indonesian businesses to improve and expand its trading relations within ASEAN-China cooperation.

II.1. Indonesia-China Trade and Impact of the ACFTA on the Economy

In this part, we present an elaboration of the recent profile of the international trade between Indonesia and China at an aggregate level. We first elaborate the trends in Indonesia-China export and import growth rates as well as the import and export shares from Indonesia's perspective. We then provide Indonesia-China trade relations in the context of Indonesia's trade patterns through the calculation of various indices such as the Trade Intensity index, the Regional Hirschman index and the Complementarity index.

Indonesia's agro-based trade with China accounted for $1.5 billion in 2001 consist of 30 percent import and 70 percent export. This figure continuously grew up to $12.3 billion with 67

percent of import and 33 percent of export. Although the trade growth was as high as 9.83 percent but the composition of trade had been reversed.

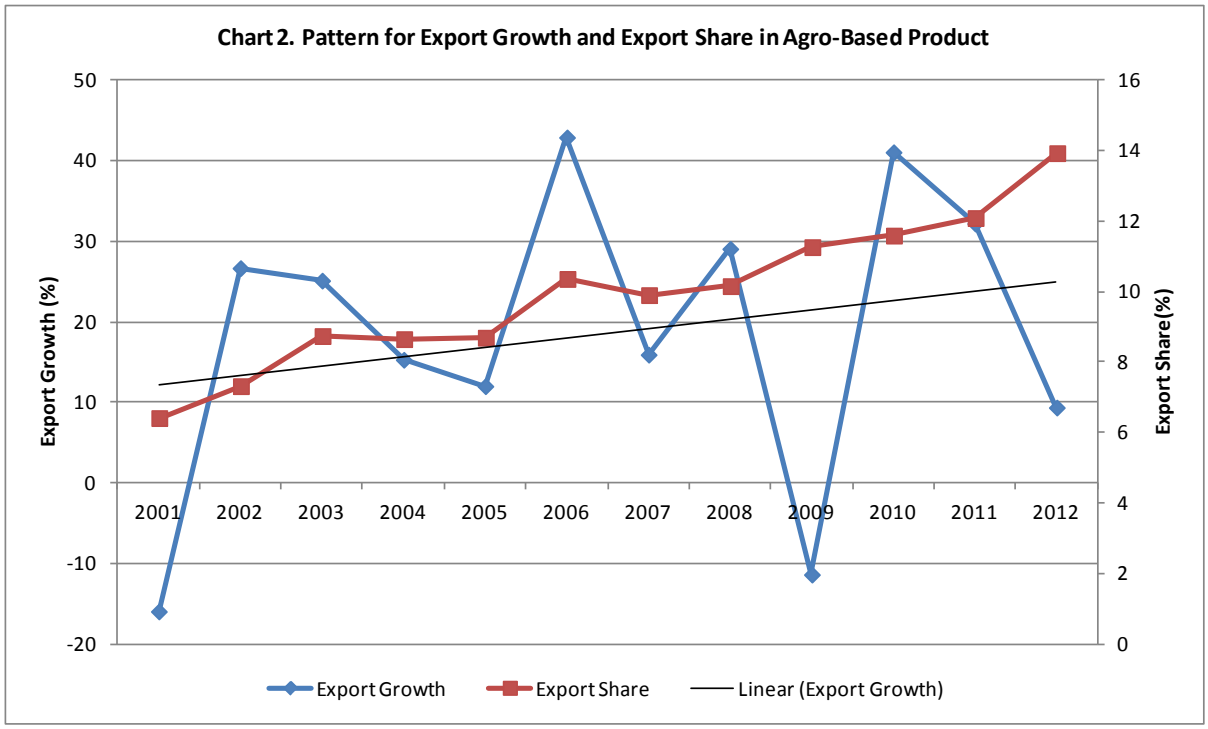
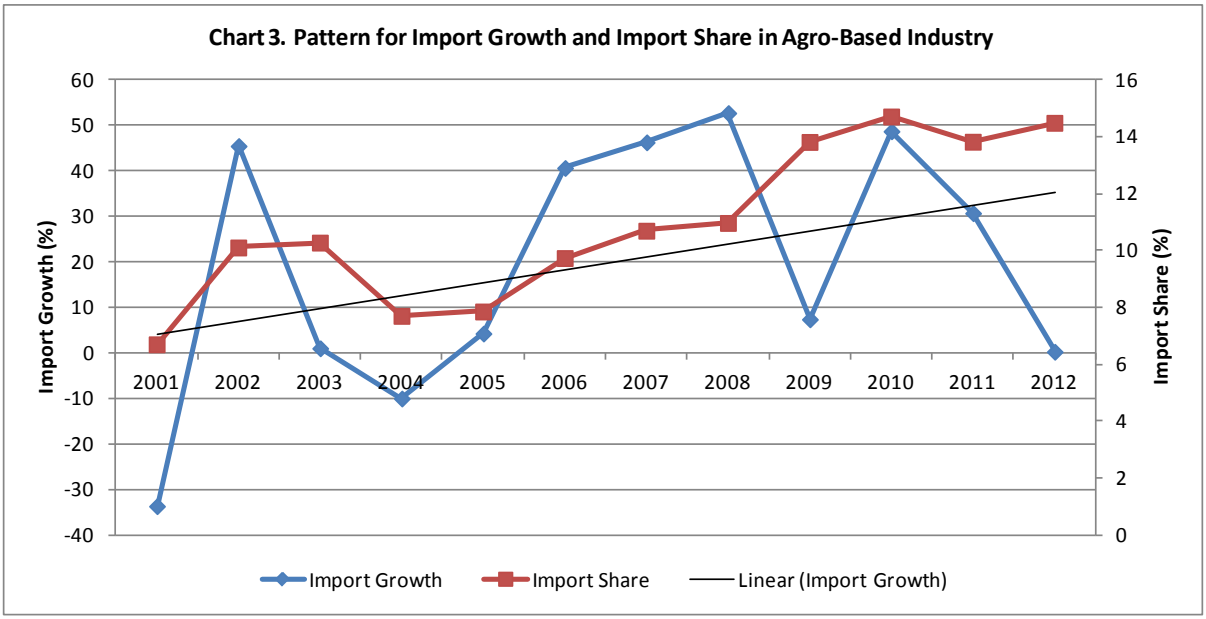


Chart 2 shows the observed pattern of the two variable namely, Export Growth and Export Share (%) over the period of twelve years from 2001 to 2012 on the Agro-Based Products. The export growth variable plots the year-on-year growth of Indonesia's export on agro-based products to China during 2001-2012. The export share plots the yearly proportions of Indonesia's export to China on its total export to the world. The linear line provide a regression of the export growth.

The chart exhibits a steep fall in export on 2009, when growth rates became negative. This was due to the Global Financial Crisis of 2007-2009, where a number of large financial institution collapse causing slowdown or even negative growth in global economy including ASEAN countries and China. However, once the unpleasant effect of the Global Financial Crisis subsided, Indonesia's export to the region recovered to pre-crisis levels. There has also been a gradual increase in the share of Indonesia's export as shown by a gradual rise in the export share variable. The share of China's market in Indonesia's agro –based products has risen from 6 percent in 2001 to 14 percent in 2012.

With respect to imports, during the period of 2001-2012, though the growth of China's export to Indonesia has the similar increasing growth trend, but at a time of crisis year 2009 the depression in import side is smaller. It shows that export side is more volatile especially when it is being faced with crisis. China's import share out of Indonesia's total imports in agro-based product has increased from 6.7 percent in 2001 to 14.5 percent in 2012.



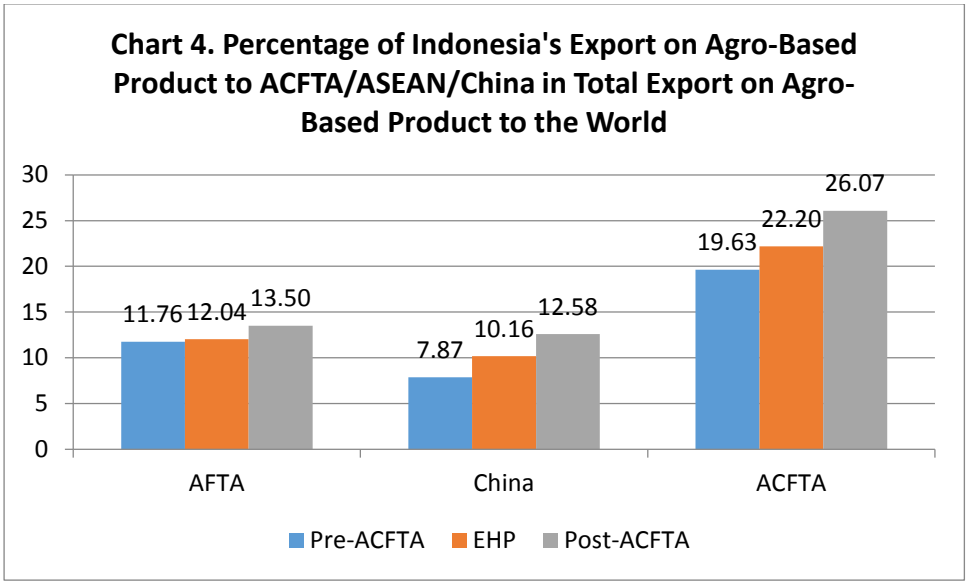
As a whole, the share of Indonesia's trade with China has shown a steady increase over the period of analysis. China's share in Indonesia's total trade on agro-based product has increased to 14.1 percent in 2012 growing 280.5 percent since 2001. Although in 2008-2012 trade with China suffers a deficits, the trade balance on agro-based products stays on surplus. In the other hand, China's export on agro-based to Indonesia is always on deficit. But derived from Chart 2 and Chart 3, it has to be noted that the trend of import growth is steeper than the export growth.

II.1.a. Indonesia's Export-Import within ACFTA during Three Period of ACFTA

The performance of Indonesia's export on agro-based product was relatively doing well,[34] where each year the export value was rising continuously. There has been increased of export to ACFTA country during three period of ACFTA, with an average export of $ 3.68 billion in pre-ACFTA, then rises up to $ 7.54 billion in the EHP and doubled as big as $ 14.79 billion in the post-

[34] Look at Appendix Table B.1. for more detail

ACFTA. Thus, every period of ACFTA Indonesia's average export on agro-based product grew up to 100 percent.



The percentage of Indonesia's export on agro-based products to ACFTA towards Indonesia's export on agro-based product to the world was recorded to rise during the implementation of ACFTA. It is shown inn Chart 4. The percentage of Indonesia's export to ACFTA went up from 19.63 percent in pre-ACFTA became 22.20 percent in the EHP and continues to rise in the post-ACFTA as much as 26.70 percent of Indonesia's export on agro-based product to the world. This hike was contributed from the rises of agro-based export to China. Export on agro-based products to China hiked from $ 1.47 billion on average in pre-ACFTA to $ 3.45 billion on average in the EHP period and continued to goes up in the post-ACFTA became $ 7.14 billion. If it is compared with the development of Indonesia's exports on agro-based product to ASEAN countries, Indonesia's export to China grew faster. It is seen from Indonesia's export proportion to China, 12.58 percent of total Indonesia's export on agro-based products to the world, which was almost equal to Indonesia's export proportion to ASEAN, 13.50 percent of total Indonesia's export on agro-based products to the world, in the post-ACFTA.

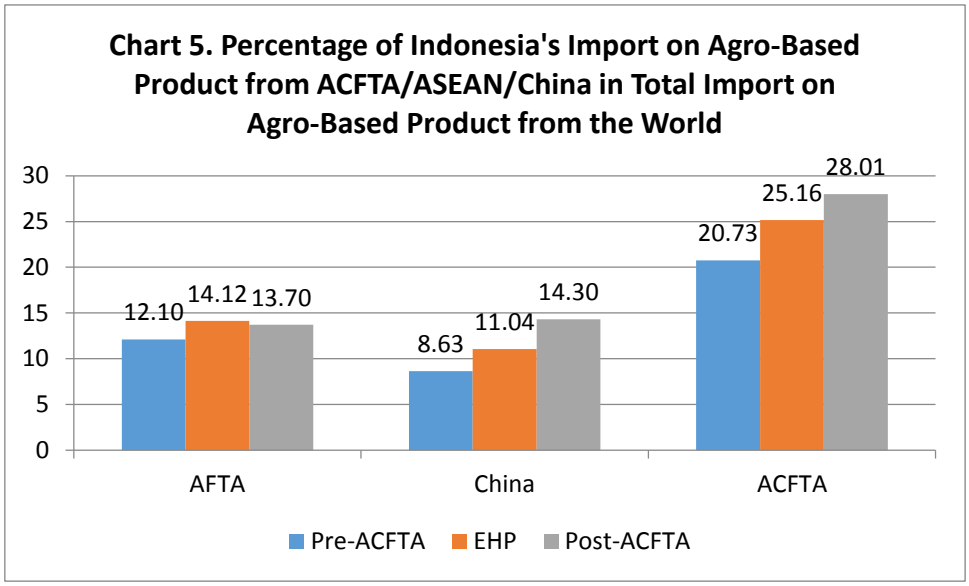
The highest contribution of Indonesia's export on agro-based products to ACFTA came from fixed vegetable fats & oil, crude, refined or fraction and natural rubber & similar gums, in primary forms. These two categories experienced a huge increase over the three period of ACFTA. Export under the fixed vegetable fats & oil, crude, refined or fraction category was recorded to rise from

$ 0.63 billion on average in the pre-ACFTA to $ 2.39 billion on average in the EHP period and continued to rise in the post-ACFTA as big as $ 5.61 billion. For the most part of this category, the export was came from palm oil and its derivatives which is already well-known as Indonesia's top products. Meanwhile, in pre-ACFTA export on natural rubber & similar gums category reach $ 0.17 billion on average and continued to grow as high as $ 0.93 billion and $ 1.92 billion on average in the EHP period and the post-ACFTA, consecutively.

Similar to the export figure, the development of import on agro-based products[35] was also rising along with an improving Indonesia's economic performance. Import on agro-based products from ACFTA countries shows an increase from $ 1.43 billion on average in the pre-ACFTA to $ 3.13 billion and $ 7.42 billion on average in the EHP and post-ACFTA, consecutively.

Proportion of import on agro-based product to ACFTA towards import on agro-based product to the world was having an increase during three period of ACFTA. Chart 5 shows the percentage of Indonesia's import on agro- based product from ASEAN/China/ACFTA towards Indonesia's import on agro-based product from the world. The percentage of Indonesia's import from ACFTA went up from 20.73 percent in pre-ACFTA became 25.16 percent in the EHP and continues to rise in the post-ACFTA as much as 28.01 percent of Indonesia's import on agro-based product from the world. This hike was contributed from the rises of agro-based import from China. Import on agro-based products from China hiked from $ 0.60 billion on average in pre-ACFTA to $ 1.37 billion on average in the EHP period and continued to goes up in the post-ACFTA became $ 3.79 billion. Indonesia's import from China grew faster than import from ASEAN countries. In the post-ACFTA, the proportion of Indonesia's import from China, 14.30 percent of total Indonesia's export on agro-based products to the world, has exceeded the proportion of Indonesia's import from ASEAN, 13.70 percent of total Indonesia's export on agro-based products to the world.

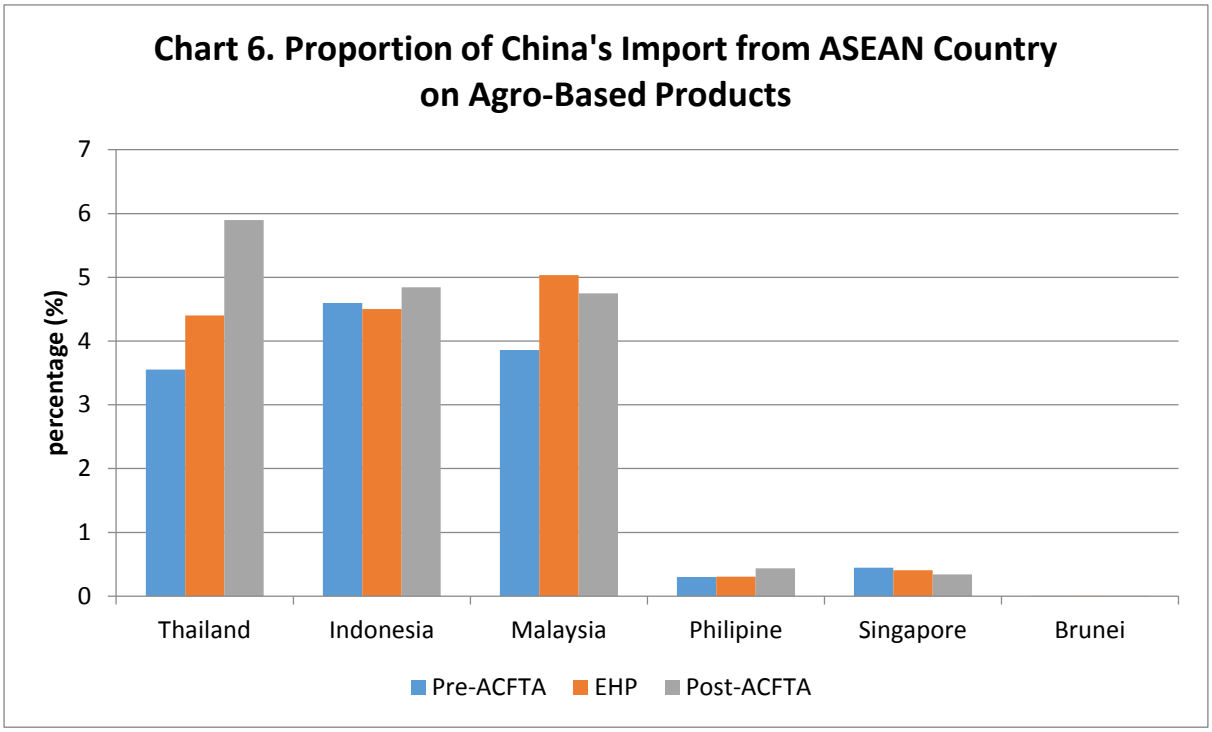
[35] Look at Appendix B.2. for more detail



The highest contribution of Indonesia's import on agro-based products from ACFTA came from sugar, molasses and honey and cotton fabrics, woven. Import on sugar, molasses and honey category was recorded to rise from $ 0.16 billion on average in the pre-ACFTA to $ 0.35 billion on average in the EHP period and continued to rise in the post-ACFTA as big as $ 0.86 billion. Most of the imports came from Thailand that reaches ± 86 percent of the total import on sugar, molasses and honey. Meanwhile, in pre-ACFTA import on cotton fabrics reach $ 0.05 billion on average and continued to grow as high as $ 0.17 billion and $ 0.59 billion on average in the EHP period and the post-ACFTA, consecutively. Most of the imports came from China that reaches ± 91 percent of the total import on cotton fabrics. The high growth of export/import to/from China after the implementation of ACFTA signify the more open market access between Indonesia-China and also increasing trade relation between Indonesia-China.

II.1.b. Export Intensity

In this part, we will see the importance of China's market by looking at the export intensity on agro-based product. It is by looking at the share of each ASEAN country to China in an average share of ACFTA export. It is also important to see the importance of ASEAN's market, especially Indonesia's market, from China's perspective within the scope of ACFTA. Thus, we can know the importance agro based product trade between both parties engage in this agreement.



Before we see the export intensity from Indonesia to China, it would be useful to know the proportion of China's import from each ASEAN country. Chart 6 shows us the proportion of China's import from ASEAN country during three period of ACFTA on agro-based product. It is the ratio of China's import from each ASEAN country to China's import from the world.

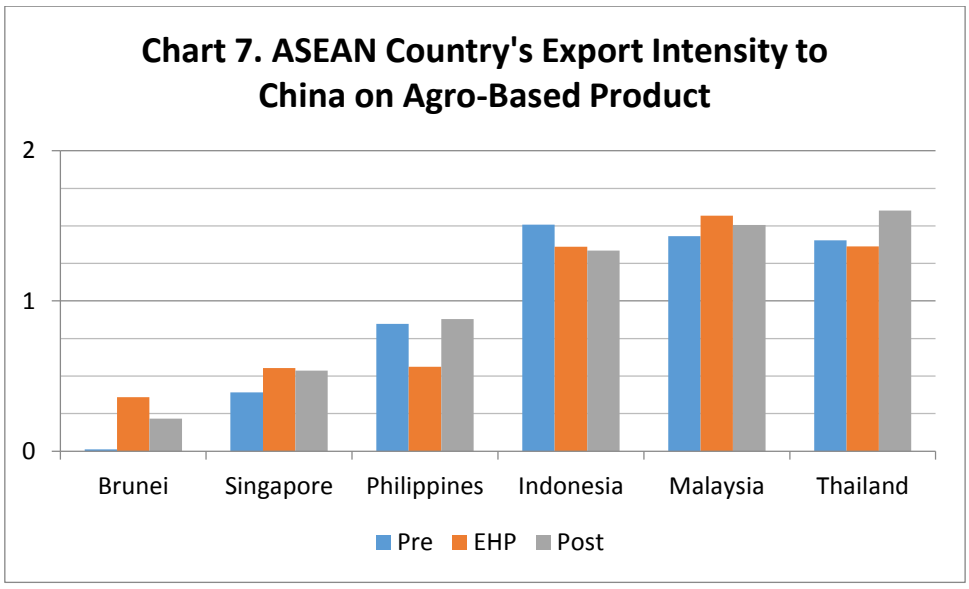
Among ASEAN members, China's import are dominated by Thailand, Indonesia and Malaysia. Generally, China's import from Indonesia was increased although it was declining in the EHP period but bounced back in post-ACFTA with a value higher than in the pre-ACFTA period. The import value from Indonesia rises from $ 2.2 billion in pre-ACFTA became $ 8.0 billion on average in post-ACFTA. The highest leap among ASEAN countries was made by Thailand with a rising import value from $ 1.7 billion in pre-ACFTA to $ 9.8 billion on average in post-ACFTA.

Although China's import from Indonesia seems to be rising during three period of ACFTA, the performance is not necessarily better relative to ASEAN countries. It is when we compare the figure with other ASEAN country. In pre-ACFTA, China's import from Indonesia has the highest proportion relative to other ASEAN countries but in the EHP period Malaysia comes up to be the first and in the post-ACFTA Thailand became the highest agro-based exporter to China among ASEAN

country. This indicates a declining performance of Indonesia's export to China on agro-based product. The relative value of export could be expressed in export intensity.

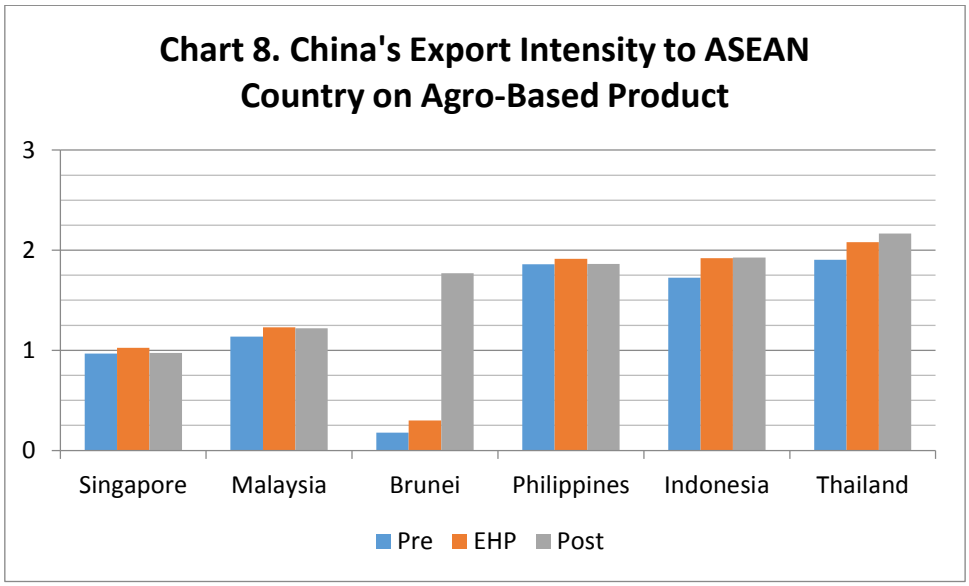
To indicate the export intensity, we utilize export intensity index which already described in the methodology section. The higher the index, the higher the intensity of export to the destination country. An index valued 1 interpreted as a normal. If a country's export share to a country of destination is greater than the export share of the ACFTA as a whole, the partner country has a great importance to the exporter country.

Chart 7 plots the export intensity indices on agro-based product for each ASEAN country to the corresponding China's market during three periods of ACFTA implementation. Each plot indicates whether each ASEAN country export more to China than the whole ASEAN does on average. As we can observe, among six ASEAN countries, Indonesia, Malaysia and Thailand export intensity to China's market are above normal. A rise in a country's export intensity will be followed by a decline in another country's export intensity. In early harvest program, a rise of export intensity in Brunei Singapore and Malaysia are followed by a fall in Philippines, Indonesia and Thailand. In post-ACFTA, a rise of export intensity in Philippines and Thailand are followed by a fall in other ASEAN countries. For Malaysia and Thailand the trend is rising while for Indonesia is declining over the three periods indicated by the decline of export intensity to China. This could be a sign of the slowdown in export performance to China which result in the decline of Indonesia's export to China on an average of the ASEAN export to China.



On the other hand, Chart 8 plots China's export intensity on agro-based product to each ASEAN country during three periods of ACFTA implementation. A rise of export intensity from China to ASEAN country will be followed by a fall of export intensity from some ASEAN countries to the destination country. The highest rise occurred for Brunei in the post-ACFTA. This rise will be followed by a fall of export intensity to Brunei on some ASEAN countries.

From Chart 8, we can see that China was having an intense export to most of ASEAN country, especially in post period of ACFTA. This might due to specialization of China's production which is textile yarn and related product that contributed for the most part of China's export to ASEAN. On average, during the period of 2001-2012, for about 40 percent of total exports to ASEAN comes from textile yarn and related product.



Initially, China has already had an intense export to ASEAN countries and not much change shown in the after ACFTA implementation except for Brunei. Moreover, export intensity from China to ASEAN is higher than the export intensity from ASEAN country to China. In terms of agro-based products, this could be one indication that China utilized the agreement better than ASEAN countries.

II.1.c. Sectorial Export Concentration

The sectorial Hirschmann index is a measure to see the overall concentration of commodity/sectors in a market. It will provide information about how broad types of products exported and scattered across different economic activities. An increase in Hirschmann index signifies

that the country's export is becoming focused on a fewer products than scattered across a wide range of product profile.

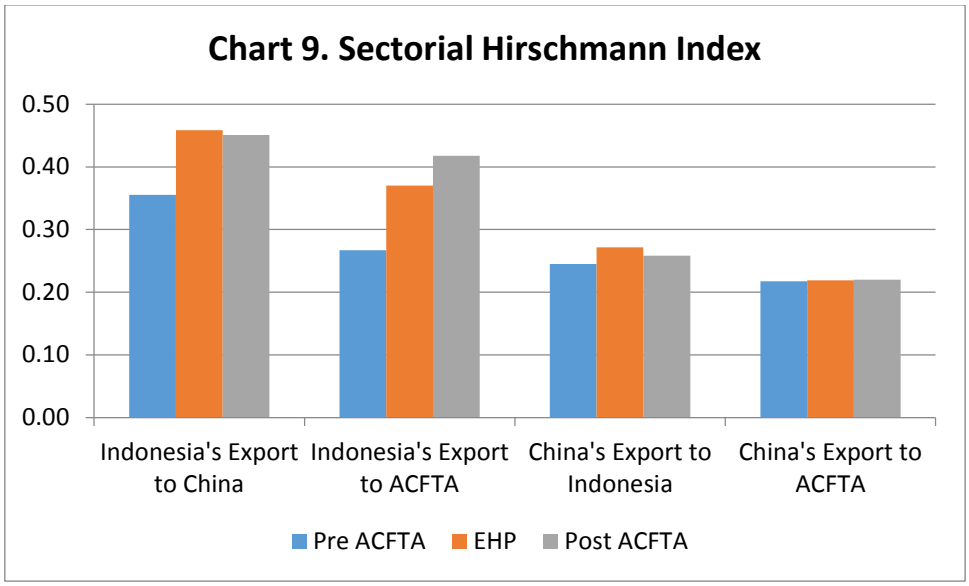
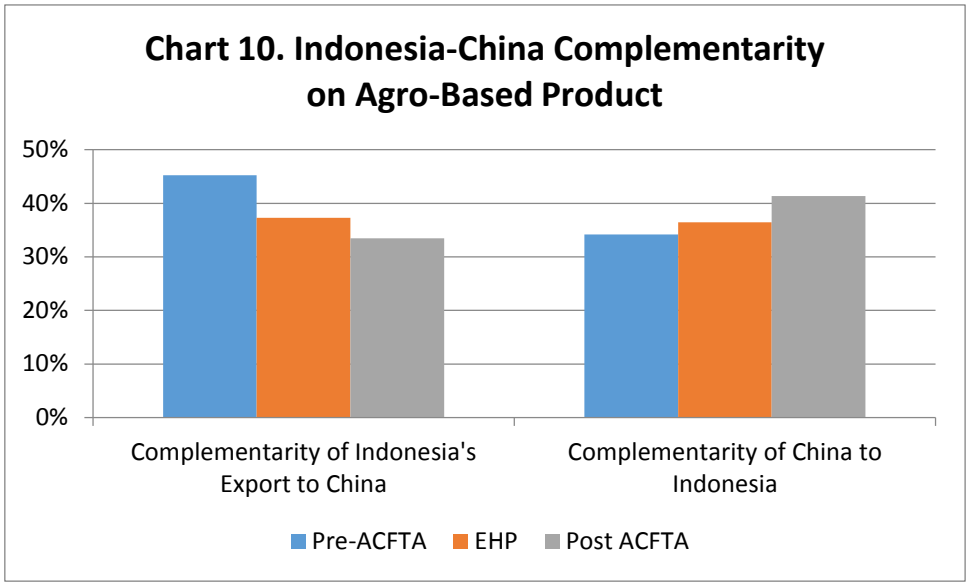


Chart 9 shows the sectorial Hirschmann index from both Indonesia and China on agro-based products during three periods of time. The "Indonesia's export to China" and the "Indonesia's export to ACFTA" bars explained the concentration of Indonesia's agro-based export to China and ACFTA while the "China's export to Indonesia", and "China's export to ACFTA" represent the concentration of China's agro-based export to Indonesia and ACFTA. The trend seems to have a rising concentration for Indonesia's agro-based export to China and the ACFTA. While for China, its agro-based export concentration seems to be not having much change and relatively have a broader range of agro-based export products than Indonesia in general.

II.1.d. Complementarity

The complementarity index quantifies the level to which the export pattern of a country is similar to the import pattern of the partner. A high level of complementarity is considered to show more favorable prospects for successful trade arrangement.



Complementarity, as shown in Chart 10, tells us about whether the trade profiles of China and Indonesia becoming more or less compatible. The trend of complementarity of Indonesia's export to China seems to be declining, indicating an export pattern of Indonesian agro-based product is becoming less complement to China's import pattern. In the other hand, China's export pattern is becoming more complement to Indonesia's import pattern, addressing that Indonesian market is becoming more fit to China's trade pattern. We could also see that in the post period of ACFTA complementarity of China to Indonesia is almost similar to the level of complementarity of Indonesia to China in the pre-ACFTA period. It means that the current state has been reversed.

In the future, we could estimate that China's interest in Indonesia's market will increase. The trade profile of China is becoming more compatible to Indonesia, thus assumed to indicate more favorable prospect to China's trade in the future. And as for Indonesia, there should be evaluation and improvement to its agriculture and agro-based industry to counterbalance the decline of trade pattern complementarity. If the trade profile with China becoming less compatible and declining importance of China's market continues, Indonesia seems not utilizing the ACFTA effectively.

II.2. Impact of ACFTA on Indonesia's Agro Based Industries using Revealed Comparative Advantage

As we mentioned before, one result of an FTA is that the sector in which a country has a comparative advantage in production will benefit from it. If Indonesia has comparative advantage in agro-based production relative to ACFTA countries and China has comparative advantage in another

sector of production, Indonesia will specialize and export those agro-based products to China's market. Therefore, discovering the comparative advantage under agro-based industry will shed light on the specific impact of the ACFTA.

Chart 11. Revealed Comparative Advantage on Agro-Based Products in Indonesia and China

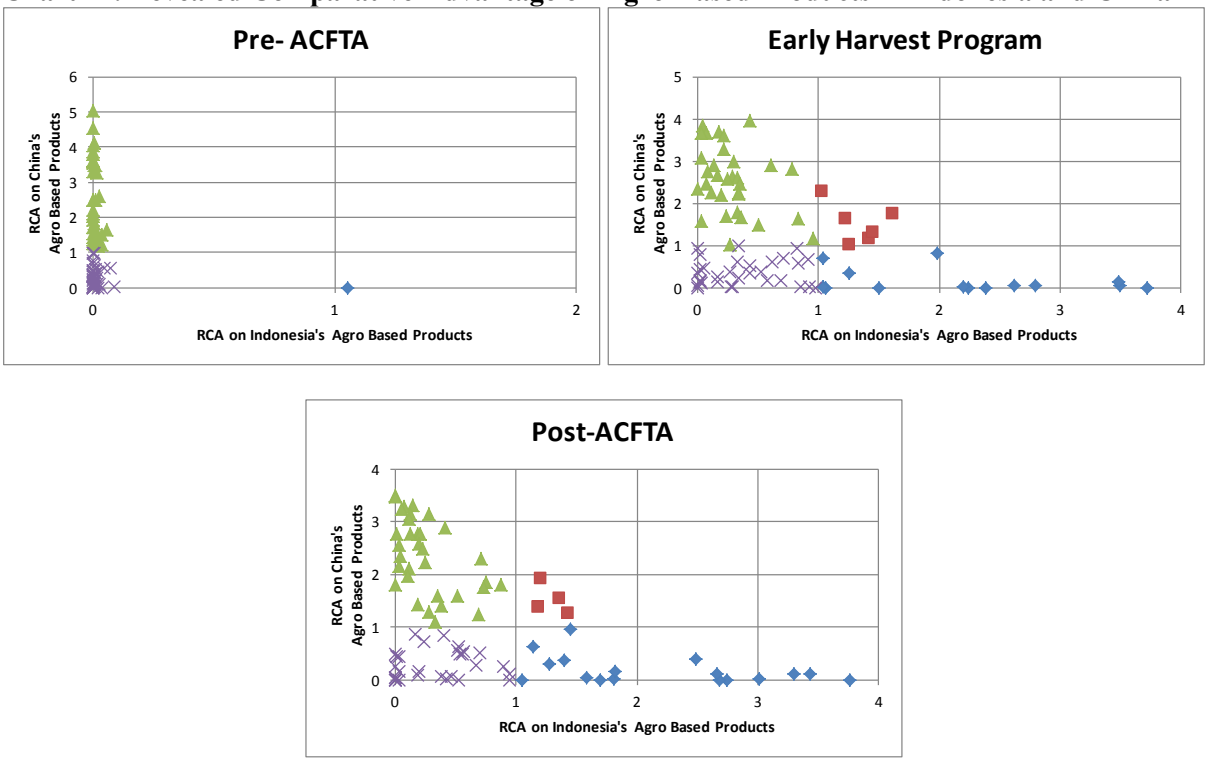


Chart 11 plotted RCA on agro-based products in Indonesia and China during three period of ACFTA. The triangle symbol, "▲", shows where China has comparative advantage in production relative to ACFTA countries (China's RCA > 1 and Indonesia's RCA < 1), the box symbol, "■", shows where competition between Indonesia and China are high (both country has RCA > 1), diamond symbol, "◆", shows where Indonesia has comparative advantage in production relative to ACFTA countries (Indonesia's RCA > 1 and China's RCA < 1) and the "**x**" symbol shows either Indonesia and China has RCA < 1.

From chart 11 we can see the progress of group of industry under agro-based industry during three period of the ACFTA. Before the ACFTA, Indonesia only has one product which relatively has more advantage. But after the implementation of ACFTA more products emerged to have a comparative advantage, and this trend continues in the post period of ACFTA. It is clearly seen that several group of industry which has low RCA number (RCA < 1) in the pre-ACFTA beginning to

move rightward, showing an improvement of performance on several sub-group of industry. Generally, in the products where Indonesia has comparative advantage, China has a disadvantage in that product. Only on several products, such as tea, textile yarn, fresh fish, veneer, plywood and spices, Indonesia have a smaller value of RCA. In Pre-ACFTA, Indonesia's export to China with RCA > 1 accounted for only 0.77 percent of total agro-based export to China. After the ACFTA, this figure increased to 81.79 percent of total agro-based export to China in the EHP period and 84.03 percent in post-ACFTA. The highest exports value from Indonesia to China comes from fixed vegetable fats & oils, crude, refined, fract. and paper & paperboard.

Table 2. Revealed Comparative Advantage of Indonesia's Agro-Based Industry

No.	Pre-ACFTA		
	Products/Commodity Groups	RCA	
		Indonesia	China
1	Live animals other than animals of division 03	1.053	0.010

No.	Early Harvest Program			Post-ACFTA		
	Products/ Commodity	RCA		Products/Commodity	RCA	
		Indonesia	China		Indonesia	China
1	**Cocoa**	3.721	0.006	**Margarine and shortening**	3.764	0.007
2	**Pulp and waste paper**	3.489	0.055	**Pulp and waste paper**	3.431	0.107
3	**Fuel wood (excluding wood waste) and wood charcoal**	3.485	0.142	**Fuel wood (excluding wood waste) and wood charcoal**	3.297	0.115
4	**Oil seeds & oleaginous fruits (incl. flour, n.e.s.)**	2.797	0.046	**Cocoa**	3.011	0.010
5	**Margarine and shortening**	2.615	0.062	Wheat (including spelt) and meslin, unmilled	2.743	0.000
6	**Wood in chips or particles and wood waste**	2.381	0.007	**Fixed vegetable fats & oils, crude, refined, fract.**	2.685	0.002
7	**Fixed vegetable fats & oils, crude, refined, fract.**	2.242	0.005	**Coffee and coffee substitutes**	2.660	0.118
8	**Coffee and coffee substitutes**	2.200	0.012	**Oil seeds & oleaginous fruits (incl. flour, n.e.s.)**	2.486	0.407
9	**Paper and paperboard**	1.980	0.809	Meat, edible meat offal, salted, dried; flours, meals	1.823	0.169
10	**Tea and mate**	1.609	1.758	Vegetable textile fibres, not spun; waste of them	1.809	0.009
11	Furskins, raw, other than hides & skins of group 211	1.496	0.000	**Wood in chips or particles and wood waste**	1.696	0.005
12	**Crude vegetable materials, n.e.s.**	1.445	1.318	**Animal or veg. oils & fats, processed, n.e.s.; mixt.**	1.586	0.050

No.	Early Harvest Program			Post-ACFTA		
	Products/ Commodity	RCA		Products/Commodity	RCA	
		Indonesia	China		Indonesia	China
13	**Fish, fresh (live or dead), chilled or frozen**	1.419	1.162	**Paper and paperboard**	1.448	0.953
14	**Tobacco, manufactured**	1.255	0.357	**Crude vegetable materials, n.e.s.**	1.428	1.264
15	Wood manufacture, n.e.s.	1.252	1.010	**Tobacco, manufactured**	1.400	0.361
16	Textile yarn	1.221	1.632	**Tea and mate**	1.359	1.558
17	Cheese and curd	1.061	0.001	Butter and other fats and oils derived from milk	1.280	0.304
18	**Natural rubber & similar gums, in primary forms**	1.060	0.002	**Fish, fresh (live or dead), chilled or frozen**	1.203	1.931
19	Leather	1.038	0.695	Veneers, plywood, and other wood, worked, n.e.s.	1.181	1.386
20	**Animal or veg. oils & fats, processed, n.e.s.; mixt.**	1.038	0.035	Cereal preparations, flour of fruits or vegetables	1.138	0.631
21	Spices	1.026	2.276	**Natural rubber & similar gums, in primary forms**	1.052	0.006

Table 2 provides an indication of export products which has a comparative advantage among ACFTA countries during three periods of ACFTA implementation and its comparison with China. Before the ACFTA, types of product which has comparative advantage are in a form of raw products, live animals. But after the implementation of ACFTA, types of product are more for downstream products where raw commodities are being processed and have more value added.

Specialization of production of Indonesia's industry is also visible after the ACFTA implementation. There are about 60 percent of products/commodities under agro-based in the Early Harvest Program repeated to have high RCA in post-ACFTA, see products/commodities which are bolded in Table 2. These industries have opportunities to achieve higher output and also opportunities to achieve economies of scale. A gap of improvement also seen in several export commodities, such as cocoa, rubber and palm based product, to be processed further creating a wide range of variety of products.

In order to map the probability of intense competition for products with high RCA in post-ACFTA period between Indonesia and another ASEAN country in China's Market, we use two indicators which are the RCA value and the ratio of export from a country to China's market and the

average of all ASEAN countries to China. It is considered "high" if an ASEAN country's RCA is high (RCA > 1) and the ratio of export from an ASEAN country to China's market and the average of all ASEAN countries to China is higher than one. It is considered "moderate" if RCA is higher than one and the ratio is less than 1, or if the RCA is less than one and the ratio is higher than one. And it is considered "low" if the RCA is less than one and the ratio is less than one. This mapping is only provide a rough indication and only served as possibilities of intense competition in China's market from another ASEAN country.

Table 3. Probability of Intense Competition on Indonesia's products (post-ACFTA with RCA > 1) with Another ASEAN Country in China's Market

No	Products/ Commodities	Malaysia	Singapore	Brunei Darussalam	Philippines	Thailand
1	Margarine and shortening	Low	Low	Low	Low	Low
2	Pulp and waste paper	Low	Low	Moderate	Moderate	Low
3	Fuel wood (excluding wood waste) and wood charcoal	Low	Low	Low	Moderate	Low
4	Cocoa	High	Moderate	Low	Low	Low
5	Wheat (including spelt) and meslin, unmilled	Moderate	Moderate	Low	Low	Low
6	Fixed vegetable fats & oils, crude, refined, fract.	High	Low	Low	Low	Low
7	Coffee and coffee substitutes	High	Moderate	Low	Low	Low
8	Oil seeds & oleaginous fruits (incl. flour, n.e.s.)	Moderate	Low	Low	Low	Low
9	Meat, edible meat offal, salted, dried; flours, meals	Moderate	Moderate	Moderate	Low	Low
10	Vegetable textile fibres, not spun; waste of them	Low	Low	Low	Moderate	High
11	Wood in chips or particles and wood waste	Low	Low	Low	Low	High
12	Animal or veg. oils & fats, processed, n.e.s.; mixt.	High	Low	Low	Low	Low
13	Paper and paperboard	Moderate	High	Low	Low	Moderate
14	Crude vegetable materials, n.e.s.	Moderate	Moderate	Low	Moderate	Low
15	Tobacco, manufactured	High	High	Low	Moderate	Low
16	Tea and mate	High	High	Moderate	Low	Low
17	Butter and other fats and oils derived from milk	Moderate	High	Low	Low	Low
18	Fish, fresh (live or dead), chilled or frozen	Moderate	Moderate	Moderate	Low	Moderate
19	Veneers, plywood, and other wood, worked, n.e.s.	High	Moderate	Low	Low	Moderate
20	Cereal preparations, flour of fruits or vegetables	Moderate	Moderate	Moderate	Moderate	Low
21	Natural rubber & similar gums, in primary forms	Low	Low	Low	Low	High

As we can see from Table 3, Indonesia's margarine and shortening industries are relatively facing a low competition with other ASEAN countries in China's market. Its export value to China accounted for $25 million in 2005 and increased by $328 million in 2012 or grew 1200 percent in the past 7 years. Several industries dealing with moderate or low competition with other ASEAN countries, such as Pulp and waste paper; Fuel wood (excluding wood waste) and wood charcoal; Wheat (including spelt) and meslin, unmilled; Oil seeds & oleaginous fruits (incl. flour, n. e. s.); Meat, edible meat offal, salted, dried; flours, meals; Crude vegetable materials, n. e. s.; Fish, fresh (live or dead), chilled or frozen; and Cereal preparations, flour of fruits or vegetables.

High possibility of intense competition comes from Malaysia, Singapore and Thailand. Industries producing Cocoa; fixed vegetable fats & oils, crude, refined, fract.; coffee and coffee substitutes; animal or veg. oils & fats, processed, n. e. s.; mixt.; and veneers, plywood, and other wood, worked, n. e. s. facing a high competition with Malaysia. Industries producing paper and paperboard and also butter and other fats and oils derived from milk competing with Singapore. Industries which produce vegetable textile fibres, not spun; waste of them; wood in chips or particles and wood waste; and natural rubber & similar gums, in primary forms are facing high competition with Thailand in China's market. And tobacco and tea industries are competing with both Malaysia and Singapore. In post-ACFTA, vegetable textile fibres, not spun; waste of them; wood in chips or particles and wood waste; animal or veg. oils & fats, processed, n. e. s.; mixt.; and natural rubber & similar gums, in primary forms accounted to have a higher value compared to Indonesia's export for the similar group products.

To see the overall changes on the comparative advantage of Indonesian agro-based products over the three period of ACFTA implementation, we conduct paired sample t-test. In this way, we want to see if the different of the average RCA number between two periods of time is statistically significant. The results consist of two pairs which are pair one, differences between pre-ACFTA and early harvest program, and pair two, differences between early harvest program and post-ACFTA.

Table 4 shows that the changes of RCA after the early harvest program is statistically significant while after the post period of ACFTA the RCA did not change significantly. From this test we could say that the effect of agreement on RCA has already emerged on the early harvest program

while in post-ACFTA there is no significant change in RCA. The effect could be seen in the improvement of Indonesia's comparative advantage on agro-based products on average.

Table 4. Paired Samples Test - RCA on Indonesia's Agro-Based Product

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Dev	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	EHP - Pre	.70003	.84784	.09251	.51603	.88402	7.567	83	.000
Pair 2	Post -EHP	.00424	.48299	.05270	-.10057	.10906	.081	83	.936

Table 5 shows changes of RCA in China during the three periods of ACFTA implementation. Unlike Indonesia, the changes in the overall RCA are negative means that there is a decline in China's comparative advantage of agro-based products on average. Although there are negative changes, t-test shows that the differences in China's RCA between three periods of the ACFTA did not show any significant differences in its means. The influence of the ACFTA on China's revealed comparative advantage could be considered very small on the average RCA.

Table 5. Paired Samples Test - RCA on China's Agro-Based Product

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Dev	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	EHP - Pre	-.01392	.69334	.07565	-.16438	.13655	-.184	83	.854
Pair 2	Post -EHP	-.10562	.62537	.06823	-.24133	.03010	-1.548	83	.125

To deepen the analysis, we try to examine the correlation between the export shares with RCA in each commodity. In this case, we want to know whether there is a correlation between the magnitudes of RCA with the export share of each product. We suggest that a high RCA will correspond with a high export share. To achieve the objectives, we use Spearman rank correlation. Firstly, we rank the export share of Indonesia to China on 3 digit SITC classifications and rank the RCA of Indonesia on 3 digit SITC classifications from the highest value to the lowest value. To see

the comparison between Indonesia and China, we do the same treatment in China by ranking the export share to Indonesia and ranking the China's RCA.

Table 6. Spearmann Rank Correlation Test

Country	Pre-ACFTA	EHP	Post-ACFTA
Indonesia	0.383 (0.001)	0.567 (0.000)	-0.284 (0.017)*)
China	0.657 (0.000)	0.659 (0.000)	0.641 (0.000)

Note: All correlations are significant at the 0.01 level (2-tailed), except *)
*) correlation is significant at the 0.05 level (2-tailed)

Table 6 shows the relationship of RCA and export share for Indonesia and China in three periods of ACFTA enforcement. Similar results are found for China and Indonesia where the relationship turned out to be positive and significant at the 0.001 level, except for Indonesia in post-ACFTA which is negative and significant at 95 percent confidence level. China has a bigger correlation compared to Indonesia. This shows that China has a more efficient export than their partner, Indonesia. It is by exporting more on products which has a comparative advantage relative to Indonesia.

In the EHP period, there is an increase correlation where Indonesia had a greater change compared to China. For Indonesia, this is a good pattern of trade to optimize benefit from the ACFTA. Negative correlation for Indonesia in post-ACFTA shows that Indonesia is exporting less on products where it has a comparative advantage and exporting more on products where it has comparative disadvantage. This could be one of the reasons that cause a trade deficit with China after 2008. Export products which actually had a high RCA did not optimally utilized by increasing its export share to China.

III. CHAPTER THREE – Conclusions and Recommendations

III. 1. Conclusions

Trade arrangement within the framework of ACFTA provides opportunities to increase Indonesia's export on agro-based products. The increase in export share of Indonesian agro-based products to China from year to year implies a growing importance of the Chinese market to Indonesia. Indonesia has been enjoying a surplus with China in agro-based trade and this surplus has grown. But in the other hand, the export intensity index shows that the exports of Indonesia to China's market tend to be declining over the three periods of ACFTA in an average of ASEAN export to China.

In general, trade among ASEAN-China has grew rapidly and China's status as an export destination for Indonesia agro-based products will be further enhanced. Based on the RCA, China will look forward to export more on labor-intensive goods such as textiles and Indonesia would be expected to export more on land-intensive goods such as palm oil, cocoa, coffee and its downstream products.

Another setback accrues where Indonesia's export patterns tend to be less compatible to China's import over the three periods of ACFTA implementation. The complementarity index shows that the level of complementarity of Indonesian export is declining. The China's figure seems to have an inverse trend to Indonesia. The level of China's complementarity index in post–ACFTA was rising to nearly equal to the level of Indonesia in Pre-ACFTA. If the trend keeps going then it seems that Indonesia can't utilize the ACFTA effectively.

Despite the negative impacts that have been mentioned previously, at least there are several indications that Indonesia gained benefits from the trade arrangement. The sectorial Hirschmann index shows that Indonesia's export of agro-based products become more concentrated on several sectors rather than exporting on a broad group of agro-based products. This could be an indication of specialization in the production which is reflected in the export pattern.

Although a high number of sectorial Hirschmann could also be interpreted as an indication of vulnerability to economic changes where there are only a small number of product markets, another

indicator reject the possibility. The RCA index during the three periods of ACFTA shows an emerging industries entering the competitions in ACFTA. In the early harvest program, about 21 groups of products have high comparative advantage relative to other ACFTA countries, a large increase compared to the previous period. In the post-ACFTA, the number of products which has a comparative advantage maintained and most of the product groups are similar as in the early harvest program. The similarities of RCA composition between the early harvest program and post –ACFTA support the findings on a sectorial Hirschmann index where the rising concentration of export indicates the specialization of production and export to ACFTA, particularly to China's market.

The improvement also supported by several statistical tests. Using the t-test, we found that over time in general there is an improvement in the level of comparative advantage. And using the Spearmann rank correlation test, we also found that there is a positive and significant correlation between market share and RCA in the early harvest period. In the post-period Spearmann correlations show a negative correlation which means that products with high comparative advantage are tend to have smaller export share in China's market.

III. 2. Recommendations

To take advantage of the opportunity of the ACFTA arrangement, especially China's market, it requires strategy to optimize the production which we have comparative advantage relative to other ACFTA members. The measurement approach to define the comparative advantage in this research might be far from perfect, but RCA could be useful for policy maker to make responsive measures related to trade policy. Creating production pattern and thus trade pattern which compatible with the needs of partner country import will result a best potential benefits from international trade.

Products/commodities which has comparative advantage could be used by government to select sectors to be prioritized fro development. Government support for industry will certainly affect the development of the domestic industry. By focusing on sectors that have high efficiency, the industry will promotes growth to the economy. However, as we already mentioned before RCA is an indirect measurement to identify sectors which has comparative advantage. The calculation could be affected by any distortion towards the trade patterns, e.g. subsidy from government or non-tariff barrier.

Therefore, the use of this research should be done with cautious, not to be geared for any bold intervention by the government, e.g. subsidy.

Meanwhile, in accordance with the surge of Chinese product to the domestic market, Indonesia should utilize imports from China and also from other countries as it could provide options at a competitive price of intermediate products or products where Indonesia relatively have disadvantages and also provide good competitors for domestic producers to make Indonesian Industries more efficient and productive. Thus, the course of the ACFTA arrangement could intensify the welfare of the area.

APPENDICES

APPENDIX A

Reclassification of Industry from SITC Rev.3

NO.	INDUSTRY	Standard International Trade Classification Rev. 3
1	Agro Based Industry	**0** - Food and live animals; **1** - Beverages and tobacco; **2** - Crude materials, inedible, except fuels (**not included**, **232** - Synthetic rubber; reclaimed rubber; waste, parings and scrap of unhardened rubber; **266** - Synthetic fibres suitable for spinning; **267** - Other man-made fibres suitable for spinning; waste of man-made fibres; **27** - Crude fertilizers, other than those of division 56, and crude minerals (excluding coal, petroleum and precious stones); **28** - Metalliferous ores and metal scrap); **4** - Animal and vegetable oils, fats and waxes; **61** - Leather, leather manufactures, n.e.s., and dressed furskins; **62** - Rubber manufactures, n.e.s.; **63** - Cork and wood manufactures (excluding furniture); **64** - Paper, paperboard and articles of paper pulp, of paper or of paperboard; **65** - Textile yarn, fabrics, made-up articles, n.e.s., and related products; **8215** - Furniture, n.e.s., of wood
2	Chemical and related industries	**266** - Synthetic fibres suitable for spinning; **267** - Other man-made fibres suitable for spinning; waste of man-made fibres; **5** - Chemicals and related products, n.e.s.
3	Oil, gas and mineral resource based industry	**27** - Crude fertilizers, other than those of division 56, and crude minerals (excluding coal, petroleum and precious stones); **28** - Metalliferous ores and metal scrap; **3** - Mineral fuels, lubricants and related materials; **66** - Non-metallic mineral manufactures, n.e.s.; **67** - Iron and steel; **68** - Non-ferrous metals; **69** - Manufactures of metals, n.e.s.
4	Machinery	**7** - Machinery and transport equipment
5	Miscellaneous and Other Industries	**8** - Miscellaneous manufactured articles (not included, 8215 - Furniture, n.e.s., of wood); **9** - Commodities and transactions not classified elsewhere in the SITC

APPENDIX B

Table B.1. Indonesia's Export during three period of ACFTA (in USD)

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA
Live animals other than animals of division 03	27.973.625	33.758.497	58.966.359	317.076	78.591	125.969	28.290.701	33.837.088	59.092.328
Meat of bovine animals, fresh, chilled or frozen	80.856	11.006	3	0	0	0	80.856	11.006	3
Other meat and edible meat offal	2.728.354	780.729	567.851	59.315	112.516	501.751	2.787.669	893.244	1.069.603
Meat, edible meat offal, salted, dried; flours, meals	68.018	56.428	7.442	2.366	16.309	451.317	70.384	72.737	458.759
Meat, edible meat offal, prepared, preserved, n.e.s.	328.291	38.413	85.208	2.155	13.783	137	330.446	52.196	85.345
Milk, cream and milk products (excluding butter, cheese)	29.925.278	24.926.358	30.216.372	42.694	47.680	3.973	29.967.971	24.974.038	30.220.346
Butter and other fats and oils derived from milk	7.384	736.035	3.610.185	0	10	1.801	7.384	736.045	3.611.986
Cheese and curd	524.407	1.512.161	2.411.868	0	3.287	206	524.407	1.515.449	2.412.075
Birds' eggs, and eggs' yolks; egg albumin	372.404	26.912	12.612	8.845	43.578	0	381.249	70.491	12.612
Fish, fresh (live or dead), chilled or frozen	93.413.406	134.183.903	226.128.551	28.340.998	26.914.149	71.546.199	121.754.404	161.098.052	297.674.751
Fish, dried, salted or in brine; smoked fish	4.009.801	4.526.492	6.223.141	499.068	1.070.991	2.129.331	4.508.869	5.597.483	8.352.472
Crustaceans, mollusks and aquatic invertebrates	35.590.798	27.388.260	40.895.027	13.496.989	19.238.714	56.867.443	49.087.787	46.626.974	97.762.470
Fish, aqua. invertebrates, prepared, preserved, n.e.s.	1.316.353	6.262.587	26.756.146	49.354	151.245	929.807	1.365.707	6.413.832	27.685.953
Wheat (including spelt) and meslin, unmilled	2.246.402	7.040.750	2.445.638	41.669	0	0	2.288.071	7.040.750	2.445.638

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA
Rice	503.919	321.099	478.620	0	60	0	503.919	321.159	478.620
Barley, unmilled	8.736	496	0	0	0	0	8.736	496	0
Maize (not including sweet corn), unmilled	3.420.778	10.909.106	7.481.601	5.902	340	0	3.426.680	10.909.446	7.481.601
Cereals, unmilled (excluding wheat, rice, barley, maize)	118.269	48.067	48.402	0	3.012	0	118.269	51.079	48.402
Meal and flour of wheat and flour of meslin	1.694.188	4.012.435	8.354.259	1.431	0	32.312	1.695.619	4.012.435	8.386.571
Other cereal meals and flour	532.512	306.232	317.617	688	611	0	533.200	306.843	317.617
Cereal preparations, flour of fruits or vegetables	30.606.233	47.649.396	139.147.380	186.698	3.582.626	25.241.517	30.792.931	51.232.022	164.388.897
Vegetables	20.937.333	28.765.683	35.464.634	8.308.910	18.476.675	20.753.701	29.246.243	47.242.358	56.218.335
Vegetables, roots, tubers, prepared, preserved, n.e.s.	1.718.756	3.999.184	5.878.944	981.196	602.120	431.239	2.699.951	4.601.304	6.310.183
Fruits and nuts (excluding oil nuts), fresh or dried	34.514.826	59.338.438	85.896.446	772.849	4.661.083	17.724.044	35.287.674	63.999.521	103.620.490
Fruit, preserved, and fruit preparations (no juice)	9.162.384	11.942.897	7.955.171	148.211	549.918	3.183.553	9.310.595	12.492.815	11.138.724
Fruit and vegetable juices, unfermented, no spirit	7.145.752	3.562.330	2.522.984	12.504	24.218	99.302	7.158.256	3.586.548	2.622.285
Sugar, molasses and honey	1.393.789	3.057.737	11.332.756	76.282	422.097	2.596.935	1.470.072	3.479.834	13.929.691
Sugar confectionery	24.240.360	21.177.957	35.277.083	731.355	884.310	1.846.728	24.971.715	22.062.268	37.123.811
Coffee and coffee substitutes	27.575.077	95.908.068	307.576.152	540.046	3.053.241	15.852.686	28.115.123	98.961.309	323.428.838
Cocoa	212.334.797	436.483.031	615.606.219	9.311.636	29.776.888	84.330.032	221.646.433	466.259.919	699.936.251

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA
Chocolate, food preparations with cocoa, n.e.s.	5.194.687	9.649.331	24.817.842	525.016	705.904	1.154.258	5.719.702	10.355.236	25.972.100
Tea and mate	10.266.142	17.476.654	22.563.947	24.820	498.824	4.873.084	10.290.962	17.975.478	27.437.031
Spices	60.828.193	38.679.024	50.738.537	2.020.228	618.994	7.216.748	62.848.421	39.298.018	57.955.284
Feeding stuff for animals (no unmilled cereals)	8.079.360	14.604.958	21.646.750	2.209.204	3.814.994	22.582.923	10.288.563	18.419.952	44.229.673
Margarine and shortening	6.392.532	13.793.656	45.348.864	9.009.191	49.157.593	246.643.389	15.401.723	62.951.249	291.992.253
Edible products and preparations, n.e.s.	30.576.037	118.432.442	271.912.139	122.167	3.811.986	13.654.646	30.698.204	122.244.428	285.566.784
Non-alcoholic beverages, n.e.s.	5.630.033	6.208.839	28.285.735	5.051	84.769	267.890	5.635.085	6.293.608	28.553.625
Alcoholic beverages	3.500.115	3.086.838	8.963.323	8.329	45.241	1.224.327	3.508.444	3.132.079	10.187.650
Tobacco, unmanufactured; tobacco refuse	17.816.243	31.412.587	55.040.406	33.631	1.234.691	5.997.552	17.849.873	32.647.278	61.037.958
Tobacco, manufactured	112.901.297	157.836.066	273.157.919	55.670	229.527	165.646	112.956.968	158.065.593	273.323.565
Hides and skins (except furskins), raw	349.294	40.417	410.326	30.600	18.227	13.695	379.894	58.645	424.021
Furskins, raw, other than hides & skins of group 211	18.437	311	0	105	0	0	18.542	311	0
Oil seeds and oleaginous fruits (excluding flour)	2.357.383	4.197.174	3.693.213	35.621	359.015	751.453	2.393.003	4.556.189	4.444.666
Oil seeds & oleaginous fruits (incl. flour, n.e.s.)	8.860.982	17.086.867	17.068.988	145.695	661.881	85.173	9.006.676	17.748.748	17.154.162
Natural rubber & similar gums, in primary forms	70.244.433	281.790.659	387.760.465	104.987.853	645.428.175	1.535.122.933	175.232.286	927.218.833	1.922.883.398
Cork, natural, raw & waste (incl. blocks, sheets)	132.953	8.376	14.029	0	0	229	132.953	8.376	14.258

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA
Fuel wood (excluding wood waste) and wood charcoal	3.049.661	3.638.528	3.796.131	401.666	3.850.856	10.546.955	3.451.327	7.489.384	14.343.086
Wood in chips or particles and wood waste	2.541.607	141.985	33.084	285.389	14.996.427	91.957.933	2.826.996	15.138.412	91.991.017
Wood in the rough or roughly squared	1.987.555	47.180	0	6.548.694	4.051	0	8.536.249	51.231	0
Wood simply worked, and railway sleepers of wood	23.178.477	18.761.409	20.385.100	111.483.794	61.665.701	88.385.957	134.662.270	80.427.110	108.771.057
Pulp and waste paper	10.681.672	12.894.885	15.895.644	302.192.407	531.767.176	770.929.244	312.874.079	544.662.061	786.824.888
Silk	75.771	41.678	2.046	5.176	6.852	0	80.947	48.530	2.046
Cotton	2.806.660	3.624.738	5.817.721	2.117.594	1.969.950	2.042.575	4.924.254	5.594.688	7.860.296
Jute, other textile bast fibre, n.e.s., not spun; tow	194.138	17.642	259	989	10.908	0	195.127	28.551	259
Vegetable textile fibres, not spun; waste of them	65.278	66.648	150.431	60.728	2.286.729	12.642.197	126.006	2.353.377	12.792.627
Wool and other animal hair (incl. wool tops)	226.309	75.706	15.551	28.053	3.723	36.150	254.363	79.430	51.701
Worn clothing and other worn textile articles	346.109	3.431.948	9.689.235	38.054	199.307	13.368.375	384.163	3.631.255	23.057.610
Crude animal materials, n.e.s.	449.783	309.999	389.019	461.748	2.130.044	4.933.095	911.531	2.440.043	5.322.114
Crude vegetable materials, n.e.s.	12.542.619	29.673.895	44.974.420	11.736.199	41.695.529	115.498.892	24.278.818	71.369.424	160.473.311
Animals oils and fats	265.754	395.473	56.295	91.476	141.156	53.356	357.230	536.629	109.651
Fixed vegetable fats & oils, crude, refined, fractio.	3.893.592	576.180	712.660	103.388	192.002	6	3.996.979	768.182	712.666
Fixed vegetable fats & oils, crude, refined, fract.	318.831.400	1.075.271.209	2.966.022.425	310.777.780	1.313.178.248	2.647.282.220	629.609.180	2.388.449.457	5.613.304.645

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA
Animal or veg. oils & fats, processed, n.e.s.; mixt.	14.690.455	41.387.814	219.430.087	16.364.775	149.615.637	424.893.925	31.055.230	191.003.451	644.324.013
Leather	8.001.464	34.367.912	19.318.189	3.806.165	27.205.527	15.634.579	11.807.629	61.573.440	34.952.768
Manufactures of leather, n.e.s.; saddlery & harness	518.541	5.590.382	3.737.157	32.420	30.455	15.229	550.961	5.620.837	3.752.386
Furskins, tanned or dressed, excluding those of 8483	20.707	2.894	446.485	13.473	19.725	0	34.181	22.619	446.485
Materials of rubber (pastes, plates, sheets, etc.)	3.323.551	4.249.200	11.222.029	1.488.297	33.040.987	135.087.876	4.811.848	37.290.187	146.309.906
Rubber tyres, tyre treads or flaps & inner tubes	42.448.134	88.248.797	179.016.472	546.997	2.030.516	12.261.974	42.995.131	90.279.313	191.278.445
Articles of rubber, n.e.s.	32.927.090	57.503.356	55.996.832	1.981.102	5.430.633	10.597.361	34.908.192	62.933.989	66.594.193
Cork manufactures	427.750	28.919	47.820	3.533	2.771	0	431.282	31.690	47.820
Veneers, plywood, and other wood, worked, n.e.s.	45.686.652	43.604.398	73.271.024	137.588.196	101.296.684	216.821.596	183.274.848	144.901.081	290.092.620
Wood manufacture, n.e.s.	30.413.427	22.088.956	15.786.592	64.385.047	24.259.546	5.551.883	94.798.474	46.348.502	21.338.475
Paper and paperboard	276.215.975	486.809.939	616.774.602	179.535.065	181.279.155	173.792.892	455.751.040	668.089.094	790.567.494
Paper & paperboard, cut to shape or size, articles	65.245.335	49.048.856	97.635.562	9.597.552	2.628.580	4.269.310	74.842.887	51.677.436	101.904.872
Textile yarn	125.710.805	149.747.743	120.444.920	73.779.155	73.900.300	144.555.371	199.489.960	223.648.043	265.000.290
Cotton fabrics, woven	29.752.141	34.104.879	32.666.804	18.973.776	13.970.880	16.428.532	48.725.917	48.075.759	49.095.336
Fabrics, woven, of man-made fabrics	134.783.429	134.323.741	149.743.999	22.273.695	22.502.610	26.930.298	157.057.124	156.826.352	176.674.298
Other textile fabrics, woven	866.081	1.005.583	207.945	111.827	238.932	103.025	977.908	1.244.515	310.970

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	**EHP**	**Post-ACFTA**	**Pre-ACFTA**	**EHP**	**Post-ACFTA**	**Pre-ACFTA**	**EHP**	**Post-ACFTA**
Knitted or crocheted fabrics, n.e.s.	10.528.869	13.156.717	20.008.245	1.579.866	4.343.412	8.595.211	12.108.735	17.500.129	28.603.455
Tulles, trimmings, lace, ribbons & other small wares	5.968.119	7.731.578	8.516.247	163.390	347.296	448.969	6.131.509	8.078.874	8.965.216
Special yarn, special textile fabrics & related	30.999.407	37.676.016	42.492.806	9.221.405	12.291.181	24.488.161	40.220.812	49.967.196	66.980.967
Made-up articles, of textile materials, n.e.s.	14.316.949	17.082.634	19.152.527	420.778	621.358	3.972.389	14.737.727	17.703.991	23.124.916
Floor coverings, etc.	7.806.786	7.153.409	9.174.854	254.590	619.057	914.354	8.061.376	7.772.465	10.089.208
Furniture, n.e.s., of wood	23.998.919	24.623.649	19.713.977	2.234.204	4.816.947	8.821.164	26.233.122	29.440.596	28.535.142
Total	**2.203.428.172**	**4.091.541.359**	**7.655.832.347**	**1.473.839.849**	**3.450.988.723**	**7.136.264.983**	**3.677.268.021**	**7.542.530.081**	**14.792.097.330**

Table B.2. Indonesia's Import during three period of ACFTA (in USD)

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA
Live animals other than animals of division 03	1.684.090	251.031	183.690	123.098	13.512	8.472	1.807.188	264.543	192.162
Meat of bovine animals, fresh, chilled or frozen	31.587	144.226	2.054.795	19.188	2.412	0	50.775	147.241	2.054.795
Other meat and edible meat offal	163.925	3.240.688	681.367	381.840	8.737	0	545.765	3.249.425	681.367
Meat, edible meat offal, salted, dried; flours, meals	48.785	3.975.266	5.764	25.463	1.317	0	74.248	3.976.911	5.764
Meat, edible meat offal, prepared, preserved, n.e.s.	315.217	355.180	719.268	1.200.115	1.665.407	434.162	1.515.332	2.020.587	1.153.430
Milk, cream and milk products (excluding butter, cheese)	49.413.739	114.859.714	82.926.911	376.040	128.775	282.081	49.789.779	114.988.490	83.208.992
Butter and other fats and oils derived from milk	123.360	314.273	2.117	23.996	156	94	147.356	314.429	1.505
Cheese and curd	435.698	1.544.475	2.635.682	13.936	18.467	0	449.634	1.562.943	2.635.682
Birds' eggs, and eggs' yolks; egg albumin	255.312	204.931	17.045	166.442	670.799	87.697	421.753	834.744	93.379
Fish, fresh (live or dead), chilled or frozen	1.831.490	6.792.524	19.096.750	2.172.389	17.778.903	78.576.654	4.003.879	24.571.427	97.673.404
Fish, dried, salted or in brine; smoked fish	1.224.972	6.410.121	8.777.904	8.857	102.914	16.807	1.233.829	6.513.035	8.794.711
Crustaceans, mollusks and aquatic invertebrates	5.788.699	2.077.296	2.098.084	9.491.956	3.430.042	5.638.112	15.280.655	5.507.338	7.736.196
Fish, aqua. invertebrates, prepared, preserved, n.e.s.	1.346.115	6.114.392	6.622.695	84.001	349.768	1.228.138	1.430.116	6.464.160	7.850.833
Wheat (including spelt) and meslin, unmilled	10.475	3.764.097	171.307	9.204.094	36.722.851	94.888	9.211.951	40.486.948	266.194
Rice	73.573.951	71.096.809	276.958.491	10.360.830	4.397.798	13.133.723	83.934.781	75.494.607	290.092.214
Barley, unmilled	351.409	4.040	3.341	2.935	105	3.167	266.492	4.172	8.091

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA
Maize (not including sweet corn), unmilled	19.253.326	32.236.199	10.623.259	85.298.221	13.840.233	216	104.551.547	46.076.432	10.623.475
Cereals, unmilled (excluding wheat, rice, barley, maize)	42.072	64.828	2.058	1.204.620	1.180.828	1.929.870	1.246.692	1.232.690	1.930.556
Meal and flour of wheat and flour of meslin	4.698.340	1.850.621	2.108.573	14.594.257	9.150.880	37.460	19.292.596	11.001.501	2.146.033
Other cereal meals and flour	2.040.327	2.064.179	1.612.667	111.574	601.231	32.458	2.151.901	2.665.410	1.645.125
Cereal preparations, flour of fruits or vegetables	11.159.379	27.579.502	45.931.154	3.359.965	7.749.871	10.021.952	14.519.344	35.329.373	55.953.107
Vegetables	9.943.075	31.397.309	44.003.261	53.622.917	137.629.632	304.144.080	63.565.991	169.026.940	348.147.342
Vegetables, roots, tubers, prepared, preserved, n.e.s.	2.847.928	6.418.585	9.581.422	5.619.759	12.338.242	19.634.807	8.467.687	18.756.828	29.216.230
Fruits and nuts (excluding oil nuts), fresh or dried	26.031.403	79.092.729	144.626.071	75.553.014	212.656.080	396.225.853	101.584.417	291.748.809	540.851.924
Fruit, preserved, and fruit preparations (no juice)	1.905.248	4.794.271	8.661.435	1.320.872	2.211.801	5.113.996	3.226.119	7.006.072	13.775.431
Fruit and vegetable juices, unfermented, no spirit	906.715	2.067.544	2.921.149	199.014	1.034.320	2.687.433	1.105.729	3.101.864	5.608.582
Sugar, molasses and honey	156.890.103	335.059.012	800.056.280	5.633.655	14.879.098	56.394.270	162.523.758	349.938.110	856.450.550
Sugar confectionery	6.254.188	4.259.294	7.545.844	7.787.273	11.536.931	15.247.881	14.041.461	15.796.225	22.793.725
Coffee and coffee substitutes	2.501.687	6.340.298	17.665.211	2.811.511	18.029.471	2.866.673	5.313.197	24.369.769	20.531.883
Cocoa	5.808.608	11.517.922	63.151.985	470.704	46.121	220.230	6.279.312	11.564.043	63.372.215
Chocolate, food preparations with cocoa, n.e.s.	13.545.477	23.254.733	16.703.599	588.728	420.705	960.471	14.134.205	23.675.438	17.664.070
Tea and mate	320.533	1.001.067	1.361.363	437.568	2.719.911	7.478.333	758.101	3.720.978	8.839.696
Spices	1.935.753	1.577.661	14.342.482	2.519.658	3.550.170	12.947.821	4.455.411	5.127.831	27.290.303
Feeding stuff for animals (no unmilled cereals)	31.767.486	65.781.392	98.919.512	17.097.982	22.434.180	57.307.960	48.865.468	88.215.572	156.227.472
Margarine and shortening	258.785	1.531.239	8.734.897	12.878	251.653	86.698	271.663	1.782.892	8.821.595

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA
Edible products and preparations, n.e.s.	32.811.520	76.867.664	245.483.485	4.091.054	25.251.162	146.355.238	36.902.574	102.118.826	391.838.723
Non-alcoholic beverages, n.e.s.	13.246.309	42.575.457	52.478.231	51.600	5.618.288	2.379.569	13.297.910	48.193.745	54.857.800
Alcoholic beverages	319.194	516.523	1.911.717	8.626	23.396	117.450	327.820	539.919	2.029.167
Tobacco, unmanufactured; tobacco refuse	996.199	11.859.680	33.901.901	44.604.601	79.059.070	231.112.383	45.600.800	90.918.750	265.014.284
Tobacco, manufactured	66.431.780	49.960.504	78.268.256	387.618	2.085.897	8.863.634	66.819.398	52.046.401	87.131.891
Hides and skins (except furskins), raw	199.446	309.350	898.681	132.656	160.537	488.388	332.102	469.887	1.387.069
Furskins, raw, other than hides & skins of group 211	10.263	3.824	15.805	5.165	13.407	161.205	20.592	19.627	177.010
Oil seeds and oleaginous fruits (excluding flour)	13.181.373	15.709.050	82.992.724	9.263.573	12.899.254	27.183.509	22.444.945	28.608.304	110.176.233
Oil seeds & oleaginous fruits (incl. flour, n.e.s.)	158.140	960.829	1.317.488	128.368	672.489	241.497	286.508	1.633.318	1.558.986
Natural rubber & similar gums, in primary forms	3.712.964	5.536.303	28.321.238	64.547	101.665	733.422	3.777.510	5.637.968	29.054.660
Cork, natural, raw & waste (incl. blocks, sheets)	6.212	10.262	131.788	18.395	33.112	30.769	24.607	43.374	162.558
Fuel wood (excluding wood waste) and wood charcoal	22.355	298.109	31.408	37.530	8.891	3.065	59.885	306.999	34.473
Wood in chips or particles and wood waste	51.938	67.733	106.300	2.788	10.371	33.474	54.725	78.105	139.774
Wood in the rough or roughly squared	504.064	508.296	1.846.165	63.320	57.327	278.616	567.383	565.623	2.124.781
Wood simply worked, and railway sleepers of wood	2.953.683	9.539.266	6.756.695	3.232.541	3.008.079	4.869.978	6.186.224	12.547.345	11.626.673
Pulp and waste paper	48.041.342	78.881.866	123.911.970	961.191	3.967.447	17.245.922	49.002.533	82.849.313	141.157.892
Silk	9.465	360.295	19.313	102.207	181.053	9.765	106.939	541.349	29.078
Cotton	2.562.782	9.923.755	6.659.951	20.846.141	2.642.920	1.633.668	23.408.923	12.566.675	8.293.619

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA
Jute, other textile bast fibre, n.e.s., not spun; tow	56.919	64.170	624	2.803	11.017	113.928	60.656	45.856	114.344
Vegetable textile fibres, not spun; waste of them	138.806	67.990	84.384	65.796	63.987	81.349	204.601	131.978	165.733
Wool and other animal hair (incl. wool tops)	1.770.883	2.188.688	3.002.104	101.379	550.689	3.589.069	1.429.542	2.739.377	6.591.172
Worn clothing and other worn textile articles	59.354	13.018	689.302	68.173	56.628	132.602	127.527	69.647	821.904
Crude animal materials, n.e.s.	798.535	317.482	171.155	4.406.445	6.585.754	11.422.309	5.204.980	6.903.235	11.593.464
Crude vegetable materials, n.e.s.	4.377.339	8.066.241	12.055.231	3.122.710	8.782.070	22.224.873	7.500.048	16.848.310	34.280.105
Animals oils and fats	258.754	247.190	443.159	70.962	387.802	710.466	329.716	634.992	1.153.625
Fixed vegetable fats & oils, crude, refined, fractio.	9.690.081	17.626.705	33.602.568	49.276	266.087	337.520	9.739.357	17.892.793	33.940.088
Fixed vegetable fats & oils, crude, refined, fract.	5.388.789	10.184.353	26.358.445	564.914	1.457.406	1.010.316	5.953.702	11.641.759	27.368.762
Animal or veg. oils & fats, processed, n.e.s.; mixt.	8.334.747	28.948.364	52.901.832	200.466	3.182.872	10.397.757	8.535.213	32.131.236	63.299.589
Leather	13.282.846	14.503.675	32.507.144	10.513.991	9.208.347	30.968.161	23.796.837	23.712.023	63.475.305
Manufactures of leather, n.e.s.; saddlery & harness	66.883	439.761	380.484	109.742	673.753	1.112.838	176.625	1.113.514	1.493.321
Furskins, tanned or dressed, excluding those of 8483	4.528	346	26	43.519	27.347	958.345	46.914	27.485	958.354
Materials of rubber (pastes, plates, sheets, etc.)	14.105.367	43.764.286	94.070.654	2.772.741	8.176.362	22.589.097	16.878.107	51.940.648	116.659.750
Rubber tyres, tyre treads or flaps & inner tubes	26.939.971	50.828.963	92.606.614	8.824.209	27.189.545	66.993.736	35.764.179	78.018.507	159.600.351
Articles of rubber, n.e.s.	13.006.344	51.155.785	111.613.738	3.715.623	13.760.491	49.657.140	16.721.967	64.916.275	161.270.878
Cork manufactures	54.455	370.595	1.080.192	172.609	333.571	993.541	227.064	704.166	2.073.733
Veneers, plywood, and other wood, worked, n.e.s.	6.661.849	57.532.543	104.086.351	4.588.208	30.568.195	74.480.606	11.250.057	88.100.738	178.566.957

ISIC 3-DIGIT	Indonesia's Export with AFTA			Indonesia's Export with China			Indonesia's Export with ACFTA		
	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA	Pre-ACFTA	EHP	Post-ACFTA
Wood manufacture, n.e.s.	524.699	4.022.857	11.572.487	1.796.416	5.388.192	10.778.062	2.321.116	9.411.049	22.350.549
Paper and paperboard	28.680.972	82.175.306	178.468.344	15.207.404	43.656.798	94.504.547	43.888.376	125.832.104	272.972.891
Paper & paperboard, cut to shape or size, articles	32.171.464	88.149.182	177.520.988	8.470.320	22.450.900	70.013.414	40.641.784	110.600.082	247.534.403
Textile yarn	15.176.230	34.014.226	83.015.545	30.370.653	70.804.547	169.870.992	45.546.883	104.818.773	252.886.537
Cotton fabrics, woven	5.693.663	17.457.182	39.011.718	48.102.267	155.716.636	549.613.939	53.795.930	173.173.818	588.625.657
Fabrics, woven, of man-made fabrics	5.183.260	15.331.698	36.206.979	18.184.756	100.282.649	448.557.998	23.368.015	115.614.347	484.764.977
Other textile fabrics, woven	1.217.864	2.854.274	2.425.565	8.197.002	18.867.859	63.911.618	9.414.865	21.722.133	66.337.184
Knitted or crocheted fabrics, n.e.s.	3.623.422	15.464.474	47.126.414	8.347.195	64.021.239	271.941.021	11.970.617	79.485.713	319.067.435
Tulles, trimmings, lace, ribbons & other small wares	2.118.288	7.959.831	22.207.550	3.534.622	17.589.548	55.680.036	5.652.910	25.549.379	77.887.586
Special yarn, special textile fabrics & related	13.006.884	26.831.290	77.831.140	13.497.175	64.893.582	237.193.711	26.504.059	91.724.872	315.024.851
Made-up articles, of textile materials, n.e.s.	1.231.974	3.616.062	10.968.221	1.649.110	8.701.509	32.887.076	2.881.083	12.317.571	43.855.297
Floor coverings, etc.	679.230	2.890.105	4.485.977	276.171	3.136.704	15.615.124	955.401	6.026.809	20.101.101
Furniture, n.e.s., of wood	780.415	9.471.107	6.652.780	2.653.763	14.654.996	34.977.698	3.434.178	24.126.103	41.630.478
Total	**835.013.088**	**1.759.483.959**	**3.629.708.266**	**595.581.680**	**1.374.794.773**	**3.787.902.898**	**1.430.061.811**	**3.134.198.596**	**7.417.599.081**

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