



## The Impact of Indonesia-China Trade Agreement on Indonesia Trade Performance

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### Abstract

This paper aims to analyze the impact of Indonesia-China trade agreement on Indonesia Trade performance. The study used is the simultaneous equation system model. The results of the study showed that the Indonesia-China Agreement in trade has positive impact on Indonesia's production, investment, trade and national income growth. Since CAFTA came in effect, the import tariff abolishment policy has had a positive impact on Indonesia's production, investment, trade, trade balance, and national income compared to the previous period. If China's economic growth reaches 14 percent, China's export to Indonesia would increase, but Indonesia's export growth would relatively small. China's investment in Indonesia has increased, but its growth is relatively stagnant. The depreciation of the Rupiah against US\$ has had a negative impact on Indonesia's production and trade performance and has caused the national income to be deficit. Indonesia's macro economic policies also strongly influence Indonesia's trade performance.

**Keywords:** Agreement, trade, prospect.

### 1. Introduction

Agreement in trade between Indonesia and China began thousands of years ago and was driven by both countries' interests. Before China opened up to international trade, the trade relationship was conducted through other countries such as Singapore and Hongkong. China has now transformed into an industrial country which is approaching the advancement of Japan and South Korea. At the moment, the agreement in trade between Indonesia and China pertains to CAFTA (China ASEAN Free Trade Area) in 2002 and the two countries began to conduct active collaboration in 2010. This collaboration has posed a challenge to domestic products; however, the purpose of all agreements was for positive impact on the economy. There are at least three positive opportunities that Indonesia could utilize in CAFTA: first, the reduction and abolishment of tariffs and non-tariff obstacles in China which give Indonesia an opportunity to increase the volume and value of trade to the country with the largest population and the highest economic growth in the world. Second, the creation of a competitive and open investment regime creates an opportunity for Indonesia to attract more investments from China. Third, an increased economic agreement in a wider scope would help Indonesia improve capacity building, accommodate technology transfer, and build managerial capability.

Indonesia's trade value with a number of countries such as Japan, India and the Philippines in the frame of bilateral agreement in trade has always experienced surplus, except with China, South Korea, India, Thailand, Malaysia, and the Singapore. In 2011, the non-oil-and-gas export to 5 (five) main export destination countries reached 49.4 percent of Indonesia's non-oil-and-gas export. China was the main export destination with a 13.3 percent proportion followed by Japan with 11.3 percent. On the other hand, the highest export growth was experienced by China with 53.4 percent, followed by India with 38.8 percent (BAPPENAS, 2012). Even though China is Indonesia's largest non oil-and-gas export destination, the products that are dominated by primary products are not equal to the huge import of processed goods from China to Indonesia. Chinese products that are relatively low in price and have good quality are the choice of Indonesian consumers who mostly have moderate to low incomes. In 2012, Indonesia's largest import value came from China, reaching 15.33 percent of Indonesia's total import value, followed by Singapore (13.61 percent) and Japan (11.88 percent) (BPS, 2013).

For Indonesia, initially, the agreement in trade with China benefited Indonesia, and the trade surplus tended to be large. The free-trade agreement between Indonesia and China had an important role in increasing the flow of trade from Indonesia to China. However, the increase was trivial compared to the increase in Indonesia's import value from China. Since China joined the World Trade Organization (WTO) and CAFTA, China's market share has reached all corners of the world. Agreement in trade with China has caused the trade balance to be deficit. In 2007 the deficit reached US\$ 2.708 billion, and in 2008 it increased drastically to US\$ 7.898 billion. In 2009 China was the main supplier of non-oil-and-gas imported goods at a value of US\$ 12.01 billion (BPS, 2010). This showed how weak Indonesia's product competitiveness is compared to China's. Indonesia needs to anticipate the flood of imported products from China by making policies that could increase production, investment, and export. Jaramillo

(1999) showed how Colombia with its free trade program made a rapid import growth while its agricultural product exports plummeted.

Based on the data from the Investment Coordination Board (BKPM)), the average realization of Chinese investment in Indonesia during the CAFTA era was US\$ 59.33 million (0.006 percent) and before CAFTA it was US\$ 32.43 million (0.006 percent). Even though the value of the investment increases, China's investment rate growth against the total foreign investment entering Indonesia is relatively stagnant. When compared to investments from other countries, the investments of ASEAN countries, Japan or the United States of America are much higher than China's investments in Indonesia. China's investment achievement in Indonesia before CAFTA (1990-2002) only contributed in the employment of 188 people annually or 0.2% of the total foreign investment workforce. After the signing of CAFTA (2003-2009), the employment was 2,996 people annually or 1.7% of the total foreign investment workforce (BKPM, 2010).

By observing the Indonesia-China trade performance before and after CAFTA, it is apparent that prior to CAFTA the goods trade from China was checked by tariff alone, Indonesia's trade balance was already deficit, and Indonesia's investment value growth in China was relatively stagnant; therefore, it made sense that there were concerns that CAFTA would lead to a growing trade balance deficit on Indonesia's side. The problem is that a larger deficit of the trade balance would lead to the disturbance of the balance of payments. This means that Indonesia must spend more foreign reserves to pay for the imports from China than the amount of foreign reserves received from export to China. Based on this condition, there needs to be an in-depth study pertaining to Indonesia's trade opportunity and performance in the frame of the Indonesia-China agreement in trade. The Indonesia-China agreement in trade under CAFTA is predicted to have broad implications on Indonesia's production, export and import of agricultural products, investment, trade balance, and national income.

## 2. Research Method

The data used is data aggregation nationally with the time span ( time series ) from 1996 to 2013. The study used is the simultaneous equation system model and estimated by the method 2 SLS . The model of Agricultural Trade performance is built on 5 blocks , namely : (1) block production, (2) blocks the workforce, (3) block pricing, (4) blocks of consumption, and (5) trade bloc, made up of 23 structural equations and 16 identity equation. Scenario simulations carried out policy simulation scenario consists of historical simulation (period 2006-2013) and forecasting simulation (period 2016-2023). Historical simulation is divided into two periods, namely 2006-2009 (CAFTA in transition period) and 2010-2013 (CAFTA takes effect). The policy simulation is performed The import tariff abolishment policy, China's economic growth and changes in exchange rate the yuan against the US\$ and depreciation of the Rupiah against the US\$.

## 3. Results and Discussion

### Indonesia's Economic Growth

Indonesia's economic growth had an increasing trend in the past decade. In 2000, Indonesia's economic growth was 4.9 percent and in 2007 it reached 6.35 percent. Indonesia was able to maintain a positive economic growth in 2009 and 2010 even though at that time other countries suffered from the negative effects of the global monetary crisis. Even though there was a decline in growth, from 6 percent in 2008 to 4.5 percent in 2009, it rebounded in 2010 to 6.1 percent. In the period 1998-2008, the development in Indonesia experienced significant advancement. Economic growth, for instance, was negative 13.1 percent in 1998 and in 2004 the economic growth increased significantly by 5.1 percent. Foreign reserves that totaled US\$ 33.8 billion, grew 69.1 percent in 2008 (Yudhoyono, 2009). In the period 2000-2013, Indonesia's average economic growth was 5.4 percent (Figure 1).

The domestic demand is the largest contributor to Indonesia's economic growth rate and this too is the reason why the economic growth managed to remain positive in 2009 and 2010 even though it was hit from outside. Between 2000 and 2009, the average household consumption contributed 49.8 percent, while government consumption contributed 13.4 percent. The growth rate of each component of the economic growth differed; government consumption had the highest growth rate, 8.9 percent, and household consumption had the lowest growth rate, only 4.3 percent. During the same period, the formation of the gross fixed capital had a contribution of 29.8 percent with the second highest growth rate after household consumption, 7.1 percent. This demonstrates that investment (the formation of the gross fixed capital) was influencing Indonesia's economic growth more significantly and its growth rate was second only to the government consumption growth rate.

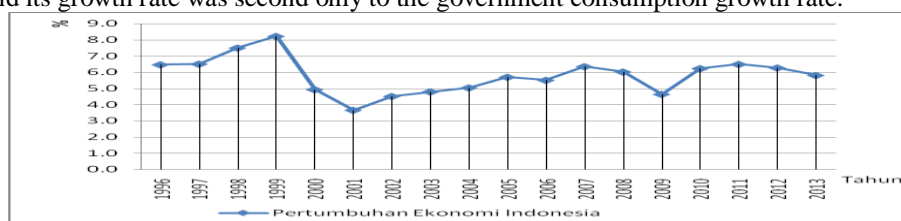


Figure 1. Indonesia's Economic Growth in the Period 1996-2013.

Source: World Bank, 2014.

Even though Indonesia's economic growth increased, it experienced a decline in growth quality because economic growth which was driven by the consumption sector and government expenditure was unsustainable. As a result, Indonesia's economic growth hovered between 4 and 6 percent; economic growth at this level was unable to overcome the unemployment rate which was still between 9 and 10 percent and the poverty rate was approximately 14-16 percent. However, if investment and export improved, it is possible that Indonesia's economic growth could reach 7-9 percent so that unemployment and poverty could be checked. On the other hand, the domestic factor also had an influence. The investment climate that did not yet improve put a heavy blow to Indonesia's product competitiveness in the international market. The availability of energy, infrastructure (roads, harbours, water, facilities) and various regulations in both the national and regional level have created obstacles in the investment climate. Moreover, the national macro economic conditions such as the interest rate and exchange rate are also suspected to have influenced Indonesia's investment and trade performance (export-import) (Direktorat Perdagangan, Investasi dan Kerjasama Ekonomi Internasional, 2011).

### China's Economic Growth

China's economic growth is the fastest in the world. Since 1979 and after China became a member of the WTO between 2001 and 2007, its gross domestic product (GDP) has grown at the average of above 9 percent per year with a real GDP growth in 2007 of 11.4 percent. Nevertheless, China still faces many challenges due to increased corruption, dependence on export and stagnant investment growth, increased income disparity, and increased inflation. In order to overcome these issues, the Chinese government has declared that they will strive to create a harmonious society hoping that it would help balance the economic growth and social issues. China's economic growth is dominated by two things, trade and investment. Between 2004 and 2007, the total trade value of Chinese goods increased nearly twofold. In 2007, for the first time China's total export value reached 1,218 billion dollars, exceeding the United States of America's total export value of 1,162 billion dollars. More than half of China's trade is dominated by foreign companies operating in China. This export increase resulted in China's economic growth which reached a peak of 14.2 percent in the period 2000-2013. China's average economic growth in that period was 9.9 percent (Figure 2).

According to the report from China's Administration and Customs Bureau, China's value and import value in 2012 exceeded that of the United States of America with an amount of US\$ 3.87 trillion, and according to the United States of America's Department of Trade, the USA's total trade value was US\$ 3.82 trillion. The Chinese export and import trade balance also had a surplus of US\$ 231.1 billion, while the USA experienced a trade deficit of US\$ 727.9 billion. Jim O'Neill, an economist at Goldman Sachs Group Inc., stated that the emergence of China as the largest trade country in the world has affected global trade. China's average economic growth reached 9.9 percent annually from 1978 to 2012. According to data from the World Bank, even though in 2012 China's total export import trade was larger, the USA's economy was twice the size of China's. In 2011 the USA's GDP was 15 trillion US dollars, whereas China's GDP was only 7.3 trillion US dollars.

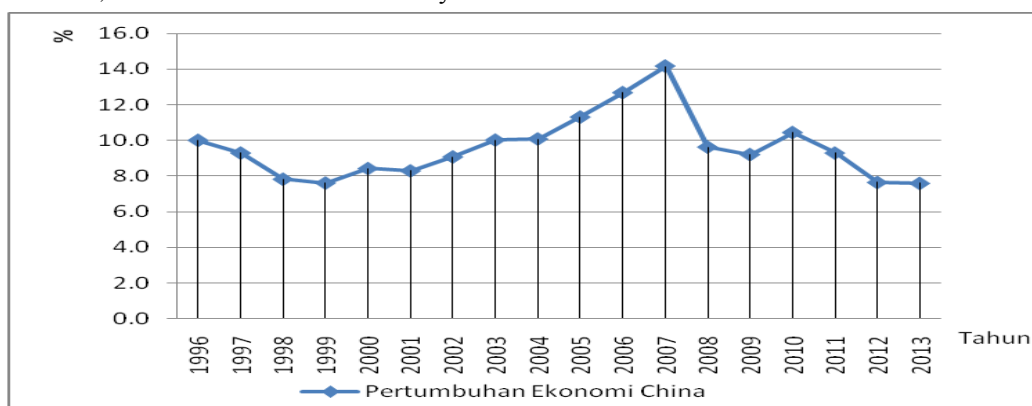


Figure 2. China's Economic Growth in the period 1996-2013.

Source: World Bank, 2014.

In the early reformation years, the ratio between household consumption and Gross Domestic Product was quite large, approximately 50 percent, whereas the ratio between investment and export and the GDP was far below that of household consumption. As China experienced an amazing economic growth, the ratio between household consumption and GDP continued to decline because China's economic growth was supported by a very large investment growth whose output was aimed at a very fast export development. China's successful economic growth has been very evident especially since 1994; the Chinese government declared that their currency would use a set exchange rate against US dollars, so before the global monetary crisis happened, China's household consumption ratio to China's GDP was already below the ratio investment and export ratios. At the end of 2011, the household consumption ratio to GDP was only approximately 35 percent. China's export had multiplied 7 times in merely 10 years, from 2001 to 2011 (Anthony, 2013).

### Indonesia's Trade Performance and Prospect

During the period 1996-2013, the trade performance between Indonesia and China demonstrated an increasing trend as presented in Figure 3. However, during this period, Indonesia's export growth rate was lower than its import growth rate. Atje and Gaduh (1999), in their study pertaining to the Indonesia-China economic relationship, demonstrated that between the early 1990s and the peak of the economic crisis, Indonesia's oil and gas and non-oil and gas export to China increased from US\$ 580 million to US\$ 1,320 million, whereas China's import to Indonesia increased from US\$ 800 million in 1991 to US\$ 1,270 million in 1997. In 1996 the Indonesia-China trade balance experienced a surplus of US\$ 0.525 million and in 1998 the surplus was US\$ 0.285 million. Indonesia continued to be flooded by Chinese products; on the other hand, Indonesia's export, especially that of the raw material group which has been Indonesia's mainstay, declined. As a result, Indonesia's trade balance experienced a US\$ 0.081 million deficit in 1999. Indonesia's export to China was only in the form of raw materials and fuel (coal, oil and natural gas) and foodstuffs such as cooking oil and marine products (Lindawati dan Widyaiswara, 2013). Data from Bank Indonesia (2009) stated that in 2006 Indonesia experienced a deficit of US\$ 0.993 billion. The Central Board for Statistics (BPS) stated that between January and November 2010 the Indonesia and China trade balance for the non-oil-and-gas sector experienced a deficit of US\$ 5.32 billion. This amount was much higher than that of the same period in 2009, namely US\$ 4.29 billion.

China's success in significantly increasing its export to the Indonesian market was due to its low-price strategy. To improve its market penetration in Indonesia and to anticipate the necessity in complying with the SNI (the Indonesian National Standards) in the future, China has been proactive and aggressive in studying Indonesia's product standards. As of March 2011, China bought and dominated 653 SNIs and is planning to buy another 6,779 SNIs. Most of the SNIs purchased by China were for electrics (15 SNIs such as SNI IEC 62115:2011 for children toy safety standards and SNI 04-3633-1994 for power leads), electronics (such as SNI 04-1685-1989 for household electronics and electric appliances, SNI 04-6716.1-2002 for resistors in electronic appliances), machinery and agricultural equipment (such as SNI 7589:2011 for farm tractors and SNI 7710:2011 for irrigation equipment) (BSN, 2012 *in* Setiawan, 2012). Indonesia's market potential in the future which walks hand in hand with the fulfillment of the SNI domestic standards is huge and has been anticipated by China through the purchase of those SNIs. Approximately 30% of all the SNIs are being used by Indonesian companies and the percentage will continue to grow, driven by the Presidential Regulation number 54 Year 2011 pertaining to government purchases of goods and services that must fulfill SNI standards (Setiawan, 2012).

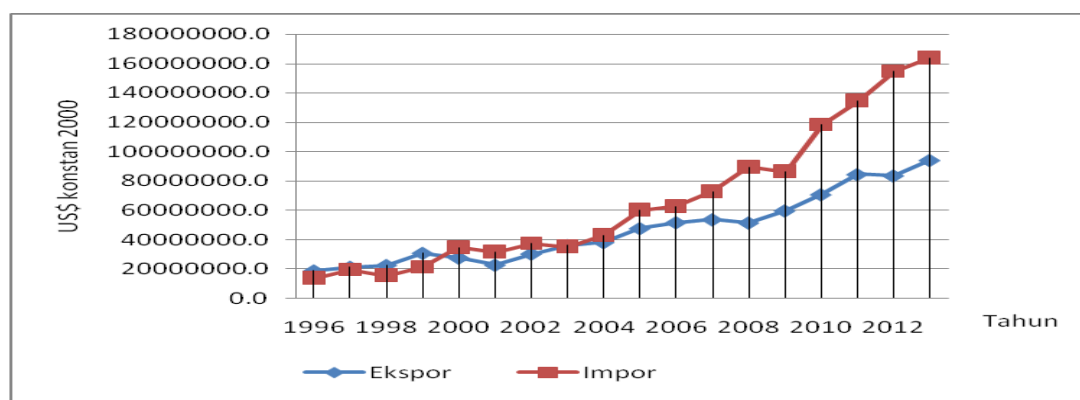


Figure 3. The Indonesia - China Trade Balance from 1996 to 2013.

Source: UNCTAD, 2013.

### The Period 2006 – 2009

Indonesia-China agreement in trade under CAFTA in this period was characterized by the Early Harvest Package (EHP) policy. The gradual tariff abolishment schedule for the EHP category was planned in three phases: phase 1 started on 1 January 2004, followed by phase 2 which was effective on 1 January 2005 and the last phase in which the tariff was lowered to 0% was effective since 1 January 2006. The results of simulation analysis on the various policies implemented in the period 2006-2009 demonstrated that they were unable to make any significant changes on a number of Indonesian economic variables such as production, investment, and Indonesia's national income, and the Indonesia-China trade balance tended to experience deficit. The results of this study were supported by Setiawan's finding (2012) that the total trade between the two countries in the last five years (2006-2010) has had a positive growth average of 30% with a trade surplus on China's side. In 2010 Indonesia recorded a trade surplus of US\$ 4,8 billion, which increased by 43,1% than the surplus in 2009 which was US\$ 3,4 billion. However, for China only, Indonesia recorded a trade deficit of US\$ 5,1 billion. This deficit increased US\$ 2,9 billion compared to the deficit in 2009 which was US\$ 2,2 billion.

The import tariff abolishment policy and depreciation of the Rupiah against the US\$ (15,0 percent) in this period was incapable boost Indonesia's exports to china and causing the Indonesia-China trade balance to experience deficit (76,72 percent). For China, the depreciation of the Rupiah against the US\$ caused Chinese product export to Indonesia to decrease (41,50 percent) because the depreciation caused Chinese products to

become more expensive, decreasing Indonesia's import demand. Yet food imports China from Indonesia rose predict (7,88 percent) because China needs food and raw materials for domestic industries. The import tariff abolishment policy and China's economic growth drove China to increase food import demand (7,89 percent). Investment and the agricultural GDP were relatively stagnant. The import tariff abolishment policy caused China's food import from Indonesia to increase and it was dominated by the import of food.

### **The Period 2010 – 2013**

Since 2010, CAFTA and the Indonesia-China agreement in trade have been in effect. One of the important indicators in assessing the effects of an FTA is the national income. National income is one of the three indicators for calculating the effects of an FTA on a certain country from its activities in international trade (Llyoid and McLaren, 2004). On the other hand, one of the national income components in the Keynesian four sector model is export contribution. Changes in export contribution to Indonesia and China's national income in the context of CAFTA goods trade agreement in effect could indicate the effect of CAFTA on the two countries (Kementerian Keuangan Republik Indonesia, 2014)

The analysis results of the various simulations demonstrate significant improvements in Indonesia's production, investment, prices, export, import, trade balance and national income. The import tariff abolishment policy is more suitable for increasing the Indonesia-China trade balance with a change of 11,44 percent. This is because the increase in export from Indonesia to China would be higher than the Indonesian import demand from China and the Indonesia-China trade balance experienced surplus. The results of this study are supported by studies Gingrich and Garber (2010) found that by implementing a free-trade policy Costa Rica would receive profit with an export growth rate higher than that of the import, so that Costa Rica would experience a surplus in the trade balance. Free trade area plays a role in increasing international trade in the OECD countries than in non-OECD countries (Kurihara, 2011). While Chia (2004), Feridhanusetiawan and Pangestu (2003) and *qualitative assesment* Park (2006) show the economic benefits of the implementation of CAFTA.

China's economic growth could increase investment in the agricultural sector up to 0,14 percent. This demonstrated that there was no significant increase in investment from China to Indonesia under either CAFTA or the Indonesia-China bilateral agreement. Decrease in domestic prices due to small relative of growth in export encouraged an decrease in Indonesia's domestic production. Results of this study supported the findings of previous studies that stated that the Indonesia-China agreement in trade under CAFTA resulted in a stagnant investment increase.

The Indonesia-China agreement in trade is an opportunity for Indonesia to increase its trade and investment. This opportunity could only be utilized if Indonesian products are competitive. There are industrial policies that could encourage industrial growth and create industrial added value, investment is facilitated, and infrastructure in areas strategic for agricultural and industrial development is improved. Setiawan (2012) stated that based on an analysis using the ARIMA model, it could be concluded that the CAFTA tariff scheme has improved Indonesia's export value Indonesia to China at an average of US\$ 116.376.857 per year, or that it has a direct contribution to Indonesia's national income at an average amount of US\$ 116.376.857 per year. In addition to the direct effect, this contribution would lead to secondary effects that are transmitted to other economic sectors so that in the end they all contribute to the national income. From the growth percentage point of view, Indonesia's export value to China which contributes to Indonesia's national income increased at an average of 5,83% every year as a result of the implementation of CAFTA. This means that there was a 1,36 times increase compared to if Indonesia had not joined CAFTA.

### **The Period 2016-2023**

The import tariff abolishment policy if China's economic growth reaches 14 percent is predicted to be unable to boost investment in Indonesia's agriculture. Yudhoyono (2004) stated the importance of increased investment growth, especially in agriculture. An increase in investment in the agricultural sector would increase not only the output of the agricultural commodities, but also the output of the manufacture sector. The output of electronic and textile products increased by 5.85 percent and 3.27 percent, respectively. This is possible because the agricultural sector has linkages with other sectors, both upstream and downstream. China's rapidly growing economy is spurring China to invest more in other countries and it is predicted to continue to grow even more in the future. China's economy puts an emphasis on the importance of investing abroad compared to investments that enter China and it focuses on parts of investment that have strategic value in China's economic growth. Three main points in China's investments are increasing the market scope of Chinese companies, obtaining critical knowledge and technology, and safeguarding resources for China's domestic development. The development of China's economy is focused on energy, reducing the consumption of energy, raw materials, biotechnology, agriculture, services, high-technology manufacture and innovative technology. China's total foreign investment has reached US\$ 80,2 billion, exceeding the investment value in 2012 which reached US\$ 77,2 billion. From that amount, more than 70 percent was aimed at Hongkong, ASEAN, the European Union, Australia, the United States of America, Russia and Japan.

The investment rate of Chinese companies grows 17,4 percent from year to year (Ministry of Trade, RI, 2013). Indonesia must strive to use that investment opportunity.



Results of the prediction show that the Indonesia-China trade balance could experience an increase up to 20.43 percent if the import tariff abolishment policy is applied. This policy is more suitable compared to the other policy analyses. The contribution of the surplus trade balance has been predicted because of the growth of the primary product export. The liberalization of CAFTA will improve the performance of trade between the two countries, but because China is much more ready for the growth of China's export performance will be much higher than other ASEAN (Chirathivat, 2002). Therefore, Indonesia needs to prioritize integration of the national economy to create strategic products that have high economic value. The World Bank projected that Indonesia's economic growth in 2016 would reach 5.3 percent. This projection is higher than the economic growth in 2015 which was predicted to be only 4.7 percent. The predicted increase in the Indonesian export and import next year is because the global trade is predicted to improve. China's economic condition is predicted to improve so that it could boost the demand on Indonesian commodities and result in the rise of domestic prices (Finansial, 2015).

Moreover, the HSBC Trade Connection Report 2011 reported that Indonesia is one of the four developing countries in Asia aside from India, Vietnam, and China, which will experience the highest trade growth until 2025. These four Asian countries are included in the top five countries in the world that are predicted to experience this achievement. The average growth of Indonesia's trade volume is 7.3 percent per annum. Moreover, in 15 years, Indonesia's total trade growth is predicted to increase by 144 percent. This would be triggered by increased commodity export. Urata and Kiyota (2003) discovered that free trade in Eastern Asia could boost economic growth.

In the future, the Indonesia-China trade balance is predicted to still experience a deficit except if the import tariff abolishment policy is established between Indonesia and China under CAFTA and the Rupiah exchange rate against US\$ is relatively stable. External factors (China's economic growth and the Yuan appreciation against the US\$) have a relatively small effect but they are still better than the depreciation of the Rupiah against the US\$ (15.0 percent) if government wants to rise the Indonesia-China trade balance.

#### 4. Conclusion

The free trade agreement between Indonesia and China in the CAFTA framework affected positively the increase of the trade from Indonesia to China. However, the increase is not parallel with the amount of imports from China. The trade agreement has caused the deficit in the Indonesia-China trade balance. It means that the competitiveness of Indonesia's products is weaker than the China's products. Therefore, Indonesia has to anticipate the high imports of China's products with the policy which can improve production, investment and exports. When CAFTA was applied effectively, the policy on elimination of import tariff affected positively to the increase of productions, investments, exports, trade balance, and Indonesia's Gross National Income compared to the ones in the previous years. However, this policy must guarantee to increase the local product competitiveness, to ease getting license and increasing investments, to develop technology to improve production efficiency and value-added industry, to improve infrastructure, to strengthen the integration of national economy with infrastructure that can smoothen mobility of goods inter-islands-and-regions, and to develop segments of export markets. The realization of investment from China to Indonesia was relatively small compared to that from other countries. Indonesia is considered not to be capable of utilizing the opportunity to increase the investment from China to Indonesia through the economic cooperation of Indonesia-China. There are many factors to be considered by the investors to invest in Indonesia, i.e interest rates, inflation, exchange, infrastructure and the situation of Indonesia's economy and politics, and also other facilities like the low administrative cost, the decrease of income tax and value-added tax for processing industries. The investment cost in Indonesia is higher compared to the fee in other countries. All factors will determine the value of investments in Indonesia.

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**Annexure**

Attachment 1. The impact of import tariff abolishment policy on Indonesia trade performance, in 2006 - 2025

Variabel	Unit	Simulation 1					
		2006-2009		2010-2013		2016-2025	
		Basic values <sup>1)</sup>	Change (%)	Basic values <sup>2)</sup>	Change (%)	Basic values <sup>3)</sup>	Change (%)
QFI	2000=100	154.2	-7.91	168.8	-0.06	221.4	-0.09
QNFI	2000=100	154.6	-7.12	164.5	-0.43	190.6	-0.52
WAI	US\$/person/month	31.8685	-10.99	35.2179	0.00	27.7932	-0.01
LAI	Person thousand	49507910	-0.38	49857287	0.00	50394506	0.01
IAI	US\$ ct 2000	1.51E+09	-16.30	1.37E+09	0.14	2.93E+09	0.00
YAI	US\$ ct 2000	8.66E+10	-13.15	1.03E+11	0.00	1.15E+11	0.09
PFI	2000=100	228.6	-18.07	277.3	-0.43	426.3	-0.19
PNFI	2000=100	203.9	-6.92	214	-1.95	233.2	-2.23
PAI	2000=100	332.4	-22.56	398.2	0.85	512.1	1.17
CFI	US\$ ct 2000	3.10E+10	-16.39	3.51E+10	0.57	3.03E+10	0.59
CNFI	US\$ ct 2000	7.87E+10	-10.30	9.14E+10	2.79	6.94E+10	1.76
CI	US\$ ct 2000	1.10E+11	-12.01	1.27E+11	2.17	9.98E+10	1.34
XFIC	US\$ ct 2000	1.19E+09	-19.73	1.46E+09	0.40	2.31E+09	0.08
XNFIC	US\$ ct 2000	9.39E+08	-13.64	1.06E+09	-0.15	1.29E+09	0.00
XAIC	US\$ ct 2000	2.13E+09	-17.05	2.52E+09	0.17	3.60E+09	0.05
XOIC	US\$ ct 2000	5.26E+09	-16.96	5.34E+09	0.13	1.44E+10	0.07
XIC	US\$ ct 2000	7.39E+09	-16.98	7.85E+09	0.14	1.80E+10	0.00
XI	US\$ ct 2000	6.84E+10	-8.58	7.35E+10	0.01	8.65E+10	0.01
XFCI	US\$ ct 2000	9.61E+08	-21.26	1.20E+09	-0.87	4.24E+09	-0.25
XNFCI	US\$ ct 2000	1.44E+08	-29.39	1.59E+08	-1.02	5.82E+08	-0.20
XACI	US\$ ct 2000	1.10E+09	-22.31	1.36E+09	-0.89	4.83E+09	-0.24
XOCI	US\$ ct 2000	1.95E+10	-28.99	1.81E+10	-0.22	7.77E+10	-0.18
XCI	US\$ ct 2000	2.06E+10	-28.69	1.95E+10	-0.31	8.25E+10	-0.19
XC	US\$ ct 2000	1.38E+12	-18.95	1.63E+12	0.00	2.56E+12	0.00
MFIC	US\$ ct 2000	6.48E+08	16.64	7.62E+08	10.78	9.56E+08	5.03
MNFIC	US\$ ct 2000	74276059	154.66	1.10E+08	53.72	72901684	162.23
MAIC	US\$ ct 2000	7.22E+08	30.84	8.71E+08	20.11	1.03E+09	16.17
MOIC	US\$ ct 2000	1.14E+10	-21.09	1.19E+10	3.49	2.11E+10	3.27
MIC	US\$ ct 2000	1.21E+10	-17.98	1.28E+10	4.85	2.22E+10	3.93
MI	US\$ ct 2000	7.67E+10	-15.90	8.74E+10	0.74	1.15E+11	0.79
MFCI	US\$ ct 2000	1.91E+09	7.89	2.29E+09	16.77	3.54E+09	-0.69
MNFCI	US\$ ct 2000	1.61E+09	-14.04	1.87E+09	2.40	2.62E+09	0.11
MACI	US\$ ct 2000	3.53E+09	-2.15	4.16E+09	10.87	6.16E+09	-0.36
MOCI	US\$ ct 2000	1.02E+10	-24.91	1.24E+10	1.67	1.11E+10	0.45
MCI	US\$ ct 2000	1.37E+10	-19.07	1.65E+10	4.18	1.72E+10	0.12
MC	US\$ ct 2000	8.92E+11	-19.25	1.06E+12	0.09	1.60E+12	0.00
BOTIC	US\$ ct 2000	-4.70E+09	-19.51	-4.91E+09	11.44	-4.17E+09	20.43
BOTI	US\$ ct 2000	-8.34E+09	-75.92	-1.40E+10	4.11	-2.80E+10	2.86
YOI	US\$ ct 2000	1.52E+11	-8.40	1.64E+11	1.26	1.39E+11	0.29
YI	US\$ ct 2000	2.39E+11	-10.13	2.67E+11	0.82	2.54E+11	0.24

Note :

Basic values<sup>1)</sup> = Predicted value at the applicable tariff in 2006-2009Basic values<sup>2)</sup> = Predicted value at the applicable tariff in 2010-2013Basic values<sup>3)</sup> = Predicted value at tariff in 2013

Change = Predicted value if import tariffs are eliminated.



Attachment 2. The impact of import tariff abolishment policy, China's economic growth and changes in exchange rate the yuan against US\$ on Indonesia trade performance, in 2006 - 2025

Variabel	Unit	2006-2009		2010-2013		2016-2023	
		Sim 10 <sup>1</sup>	Sim 11 <sup>1</sup>	Sim 10 <sup>2</sup>	Sim 11 <sup>2</sup>	Sim 10 <sup>3</sup>	Sim 11 <sup>3</sup>
QFI	2000=100	-7.91	-7.85	-0.06	-0.06	-0.09	-0.09
QNFI	2000=100	-7.18	-7.12	-0.43	-0.43	-0.52	-0.47
WAI	US\$/person/month	-10.99	-10.99	0.00	0.00	-0.01	-0.01
LAI	Person thousand	-0.38	-0.38	0.00	0.00	0.01	0.00
IAI	US\$ ct 2000	-16.31	-16.30	0.14	0.15	-0.01	0.01
YAI	US\$ ct 2000	-13.15	-13.16	0.00	0.00	0.09	0.09
PFI	2000=100	-18.07	-18.07	-0.47	-0.43	-0.19	-0.16
PNFI	2000=100	-6.96	-6.87	-2.00	-1.90	-2.36	-2.10
PAI	2000=100	-22.53	-22.59	0.87	0.82	1.25	1.11
CFI	US\$ ct 2000	-16.39	-16.42	0.59	0.57	0.63	0.56
CNFI	US\$ ct 2000	-10.22	-10.39	2.86	2.70	1.87	1.64
CI	US\$ ct 2000	-11.94	-12.07	2.24	2.09	1.44	1.34
XFIC	US\$ ct 2000	-19.72	-19.75	0.40	0.38	0.08	0.07
XNFIC	US\$ ct 2000	-13.65	-13.64	-0.15	-0.15	0.00	0.00
XAIC	US\$ ct 2000	-17.04	-17.05	0.17	0.16	0.05	0.05
XOIC	US\$ ct 2000	-18.89	-14.90	-2.06	2.35	-2.43	2.78
XIC	US\$ ct 2000	-18.36	-15.52	-1.34	1.66	-2.00	2.17
XI	US\$ ct 2000	-8.73	-8.42	-0.15	0.18	-0.42	0.45
XFCI	US\$ ct 2000	-94.78	5.00	-38.85	34.21	-13.02	18.05
XNFCI	US\$ ct 2000	-20.48	-38.30	5.79	-8.89	1.55	-1.95
XACI	US\$ ct 2000	-85.10	-0.63	-31.57	31.02	-11.27	15.64
XOCI	US\$ ct 2000	-33.40	-29.60	-0.95	3.77	-2.11	3.15
XCI	US\$ ct 2000	-36.21	-28.06	-2.64	6.35	-2.64	3.88
XC	US\$ ct 2000	-19.10	-18.95	0.00	0.12	-0.08	0.12
MFIC	US\$ ct 2000	16.60	16.69	10.75	10.81	4.97	-0.30
MNFIC	US\$ ct 2000	158.76	150.31	54.37	53.00	171.87	152.19
MAIC	US\$ ct 2000	31.23	30.44	20.34	19.86	16.79	10.49
MOIC	US\$ ct 2000	-21.10	-21.08	3.49	3.49	3.22	3.31
MIC	US\$ ct 2000	-17.97	-17.99	4.85	4.85	3.88	3.70
MI	US\$ ct 2000	-15.90	-15.90	0.74	0.73	0.79	0.70
MFCI	US\$ ct 2000	-1.20	16.98	11.89	21.14	-4.33	2.94
MNFCI	US\$ ct 2000	-14.02	-14.06	2.41	2.38	0.12	0.10
MACI	US\$ ct 2000	-7.07	2.77	7.87	13.69	-2.44	1.73
MOCI	US\$ ct 2000	-30.17	-19.66	-2.15	5.21	-4.24	5.14
MCI	US\$ ct 2000	-24.24	-13.90	0.60	7.50	-3.65	3.89
MC	US\$ ct 2000	-19.33	-19.17	0.00	0.09	-0.06	0.06
BOTIC	US\$ ct 2000	-17.31	-21.83	13.27	9.43	29.02	10.07
BOTI	US\$ ct 2000	-74.68	-77.24	4.76	3.45	4.29	1.43
YOI	US\$ ct 2000	-8.40	-8.40	1.26	1.32	0.07	0.57
YI	US\$ ct 2000	-10.13	-10.13	0.78	0.82	0.12	0.35

Note :

Sim 2<sup>1</sup> = Predicted value if TM = 0%, GC = 7 & ERC + 3% compared to applicable tariff in 2006-2009Sim 3<sup>1</sup> = Predicted value if TM = 0%, GC = 14 & ERC - 3% compared to applicable tariff in 2006-2009Sim 2<sup>2</sup> = Predicted value if TM = 0%, GC = 7 & ERC + 3% compared to applicable tariff in 2010-2013Sim 3<sup>2</sup> = Predicted value if TM = 0%, GC = 14 & ERC - 3% compared to applicable tariff in 2010-2013Sim 2<sup>3</sup> = Predicted value if TM = 0%, GC = 7 & ERC + 3% compared to tariff in 2013Sim 3<sup>3</sup> = Predicted value if TM = 0%, GC = 14 & ERC - 3% compared to tariff in 2013

Attachment 3. The impact of import tariff abolishment policy and depreciation of the Rupiah on Indonesia trade performance, in 2006 - 2025

Variabel	Unit	2006-2009		2010-2013		2016-2023	
		Sim 14 <sup>1</sup>	Sim 15 <sup>1</sup>	Sim 14 <sup>2</sup>	Sim 15 <sup>2</sup>	Sim 14 <sup>3</sup>	Sim 15 <sup>3</sup>
QFI	2000=100	-7.85	-7.91	-0.06	-0.06	-0.05	-0.09
QNFI	2000=100	-7.12	-7.18	-0.37	-0.49	-0.42	-0.58
WAI	US\$/person/month	-10.99	-10.99	-0.01	0.00	-0.01	-0.01
LAI	Person thousand	-0.38	-0.38	0.00	0.00	0.01	0.00
YAI	US\$ ct 2000	-16.15	-16.41	0.31	0.03	0.22	-0.15
IAI	US\$ ct 2000	-13.14	-13.16	0.10	0.00	0.09	0.00
PFI	2000=100	-18.02	-18.11	-0.40	-0.47	-0.14	-0.21
PNFI	2000=100	-6.72	-7.06	-1.71	-2.10	-1.80	-2.49
PAI	2000=100	-22.65	-22.50	0.75	0.90	0.96	1.33
CFI	US\$ ct 2000	-16.45	-16.35	0.51	0.62	0.49	0.66
CNFI	US\$ ct 2000	-10.62	-10.10	2.49	2.98	1.50	1.93
CI	US\$ ct 2000	-12.25	-11.84	1.94	2.32	1.14	1.54
XFIC	US\$ ct 2000	-19.79	-19.69	0.35	0.42	0.07	0.08
XNFIC	US\$ ct 2000	-13.63	-13.65	-0.13	-0.16	0.00	0.00
XAIC	US\$ ct 2000	-17.07	-17.03	0.15	0.18	0.04	0.05
XOIC	US\$ ct 2000	-6.97	-23.61	10.08	-7.82	13.14	-8.62
XIC	US\$ ct 2000	-9.89	-21.71	7.12	-5.12	10.45	-6.95
XI	US\$ ct 2000	-7.81	-9.10	0.81	-0.53	2.17	-1.44
XFCI	US\$ ct 2000	-23.55	-19.28	-2.54	0.51	-0.62	0.07
XNFCI	US\$ ct 2000	-68.15	3.65	-47.36	20.33	-7.84	6.32
XACI	US\$ ct 2000	-29.36	-16.30	-6.31	3.33	-1.49	0.82
XOCI	US\$ ct 2000	-42.18	-17.80	-14.63	9.45	-6.36	5.08
XCI	US\$ ct 2000	-41.50	-17.72	-14.00	9.02	-6.08	4.84
XC	US\$ ct 2000	-19.17	-18.81	-0.12	0.12	-0.20	0.16
MFIC	US\$ ct 2000	17.13	16.32	11.10	10.57	6.23	4.24
MNFIC	US\$ ct 2000	138.30	165.58	50.78	55.48	133.81	181.17
MAIC	US\$ ct 2000	29.60	31.68	19.29	20.64	15.26	16.77
MOIC	US\$ ct 2000	-40.03	-8.44	-16.45	13.34	-29.67	25.22
MIC	US\$ ct 2000	-35.86	-6.04	-13.02	13.90	-27.58	24.92
MI	US\$ ct 2000	-18.72	-14.03	-1.71	2.30	-5.33	4.80
MFCI	US\$ ct 2000	7.88	7.89	16.77	16.77	-0.70	-0.69
MNFCI	US\$ ct 2000	-14.11	-14.00	2.34	2.44	0.08	0.13
MACI	US\$ ct 2000	-2.18	-2.13	10.85	10.89	-0.37	-0.35
MOCI	US\$ ct 2000	-24.94	-24.90	1.67	1.67	0.36	0.45
MCI	US\$ ct 2000	-19.14	-19.07	4.12	4.18	0.12	0.17
MC	US\$ ct 2000	-19.25	-19.25	0.09	0.09	0.00	0.00
BOTIC	US\$ ct 2000	-76.72	18.63	-73.19	33.21	-191.86	161.39
BOTI	US\$ ct 2000	-108.13	-54.45	-17.65	14.63	-28.57	23.93
YOI	US\$ ct 2000	-6.82	-9.45	2.67	0.30	6.46	-3.80
YI	US\$ ct 2000	-9.12	-10.79	1.69	0.22	3.63	-2.05

Note :

Sim 4<sup>1</sup> = Predicted value if TM = 0% & ERI + 15% compared to applicable tariff in 2006-2009Sim 5<sup>1</sup> = Predicted value if TM = 0% & ERI - 10% compared to applicable tariff in 2006-2009Sim 4<sup>2</sup> = Predicted value if TM = 0% & ERI + 15% compared to applicable tariff in 2010-2013Sim 5<sup>2</sup> = Predicted value if TM = 0% & ERI - 10% compared to applicable tariff in 2010-2013Sim 4<sup>3</sup> = Predicted value if TM = 0% & ERI + 15% compared to tariff in 2013Sim 5<sup>3</sup> = Predicted value if TM = 0% & ERI - 10% compared to tariff in 2013

## Attachment 4. Operational Definition of Variables

No.	Variabel	Definisi Operasional Variabel	Satuan
1.	QFI	Indonesia's Food Production Quantity Index	index 2000=100
2.	QNFI	Indonesia's Non-Food Production Quantity Index	Index 2000=100
3.	WAI	Real wages of workers in the agricultural sector Indonesia	USD constan 2000/person/month
4.	LAI	Workers in the agricultural sector Indonesia	Person
5.	YAI	National income form Indonesia's agricultural sector	US\$ constan 2000
6.	IAI	Indonesia's Investment in the Agricultural Sector	US\$ constan 2000
7.	PFI	Indonesia's food consumer price index	index 2000=100
8.	PNFI	Indonesia's non-food consumer price index	index 2000=100
9.	PAI	Price index of agricultural producers Indonesia	index 2000=100
10.	CFI	Indonesia's food consumption	US\$ constan 2000
11.	CNFI	Indonesia's non-food consumption	US\$ constan 2000
12.	CI	Total consumption of Indonesia	US\$ constan 2000
13.	XFIC	Indonesia's Food Export Value to China	US\$ constan 2000
14.	XNFIC	China's Non-Food Agricultural Product Export Value to Indonesia	US\$ constan 2000
15.	XAIC	Indonesia's Agricultural Product Export Value to China	US\$ constan 2000
16.	XOIC	Indonesia's Non-Agricultural Product Export Value to China	US\$ constan 2000
17.	XIC	Total Export Supply from China to Indonesia	US\$ constan 2000
18.	XI	Indonesia's Total Export Supply	US\$ constan 2000
19.	XFCI	China's Food Export Value to Indonesia	US\$ constan 2000
20.	XNFCI	China's Non-Food Agricultural Product Export Value to Indonesia	US\$ constan 2000
21.	XACI	China's Agricultural Product Export Value to Indonesia	US\$ constan 2000
22.	XOCI	China's Non-Agricultural Product Export Value to Indonesia	US\$ constan 2000
23.	XCI	Total Export Supply from China to Indonesia	US\$ constan 2000
24.	XC	China's Total Export Supply	US\$ constan 2000
25.	MFIC	Indonesia's Food Product Import Value from China	US\$ constan 2000
26.	MNFIC	Indonesia's Non-Food Agricultural Product Import Value from China	US\$ constan 2000
27.	MAIC	Indonesia's Agricultural Product Import Value from China	US\$ constan 2000
28.	MOIC	Indonesia's Non-Agricultural Product Import Value from China	US\$ constan 2000
29.	MIC	Indonesia's Total Import Demand from China	US\$ constan 2000
30.	MI	Indonesia's Total Import Demand	US\$ constan 2000
31.	MFCI	China's Food Product Import Value from Indonesia	US\$ constan 2000
32.	MNFCI	China's Non-Food Agricultural Products Import Value from Indonesia	US\$ constan 2000
33.	MACI	China's Agricultural Product Import Value from Indonesia	US\$ constan 2000
34.	MOCI	China's Non Agriculture Product Import Value from Indonesia	US\$ constan 2000
35.	MCI	Total Import Supply from China to Indonesia	US\$ constan 2000
36.	MC	China's Total Import Value	US\$ constan 2000
37.	BOTIC	Indonesia-China trade balance	US\$ constan 2000
38.	BOTI	Indonesia's Trade Balance	US\$ constan 2000
39.	YI	National income (Indonesia)	US\$ constan 2000
40.	KAI	Capital stock of agriculture sector	US\$ constan 2000
41.	GEII	Government expenditures for capital expenditure	US\$ constan 2000
42.	RI	Indonesian real leading rate	Percent
43.	FLI	Inflation rate	Percent
44.	PFC	China's food consumer price index	index 2000=100
45.	ERI	The Rupiah against the US dollar	Rp/US\$
46.	ERC	The Yuan against the US dollar	Rp/US\$
47.	PW	Word's consumer price index	index 2000=100
48.	PNFIC	Ratio of Indonesia's non-food consumer price index	index 2000=100

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49.	PNFCI	With China's non-food consumer price index Ratio of China's non-food consumer price index with Indonesia's non-food consumer price index	index 2000=100
50.	ERCI	The Yuan against the Rupiah	Yuan/Rp
51.	ERIC	The Rupiah against the Yuan	Rp/Yuan

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