Kajian Ekonomi & Keuangan

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China's Economic Development and its Impact on the Indonesian Economy

Perkembangan Ekonomi China dan Dampaknya Terhadap Ekonomi Indonesia

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Riwayat artikel:

- Diterima 20 September 2016
- Direvisi 30 Agustus 2017
- Disetujui 6 September 2017
- Tersedia online 3 November 2017

Keywords: Trade; Indonesia's export to China; China's economic growth; Role of China in the Indonesian economy; Quantitative analysis of China's demand for Indonesia's export.

JEL Classifications: F140

Abstrak

Ekonomi China terus bertumbuh selama tiga dekade ini. Analisis kualitatif menunjukkan bahwa pertumbuhan ekonomi China untuk tahun 2014, 2015, dan 2016, tetap tinggi meskipun ekonomi dunia terus melemah. Karena besarnya peran China dalam perdagangan internasional di Indonesia, pertumbuhan ekonomi China sangat penting bagi perekonomian Indonesia. Dengan hipotesa bahwa pertumbuhan ekonomi China akan memiliki dampak positif terhadap ekspor Indonesia ke China, analisis kuantitatif dengan menggunakan two stages least squares antara Produk Domestik Bruto per kapita China dengan ekspor Indonesia ke China menunjukkan bahwa kenaikan Produk Domestik Bruto per kapita China dengan ekspor Indonesia her china sebesar satu persen saja akan mendorong naiknya ekspor Indonesia ke China sebesar 2,43 persen.

Abstract

China's economy has been growing for the past three decades. Qualitative analysis shows that China's growth for 2014, 2015, and 2016, was still quite high despite some deceleration in the world economy. Due to China's role in the Indonesian trade, the growth of China's economy is very important for Indonesia. Under the hypothesis that China's economic growth would have a positive impact on the Indonesia's export, quantitative analysis using two stages least squares between China Gross Domestic Product per capita and Indonesia export to China shows that a one percent jump in the China's Gross Domestic Product per capita would give a boost of 2.43 percent increase in the Indonesia export to China

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1. INTRODUCTION

Economic growth in China has been impressive for the past three decades. Its role is very important for Indonesian economic growth due to China's role in the Indonesian trade (export plus import). According to CEIC, using monthly data between 2012 and 2016, China's role on average was around 33.6 percent, the highest, followed by Japan (17.5 percent) and Singapore (6.6 percent). On the foreign direct investment, using similar period of observation, China took the fifth position. This short paper is trying to qualitatively elaborate the China's economy for the past three years, and quantified its importance for the Indonesia's export. The hypothesis for the quantitative approach is that China's economic growth would have a positive impact on the Indonesia's export. All analysis is using Eviews.

2. BACKGROUND

Until 2013, despite some deceleration in the world economy, China's economic development showed improvement. The data for the year shown that economic activity had somewhat accelerated, contributed by investment spending in infrastructure construction and state owned companies, which benefited the heavy industry, including the rebound of the steel price. For trade, a somewhat better than expected trade data seemed to create a positive impact on the equities market of emerging Asian countries in the end of 2013 (even though most likely the biggest impact would come from the US Federal Reserve monetary policy stance rather than by the strength of China's economic growth). In any case, a strong expansion of credit was followed by some rebound in domestic investment. Even though consumption has been stagnated for some time, this recovery should have helped local economy. CPI should also pick up, showing the near end of stagnation of domestic condition. There was an upward jump in the interbank call money market which affects the equities market in the emerging Asia, however. It was assumed that there was a liquidity squeeze in the China's money market. Official announcement later on stated that the squeeze was intended by the government to reduce the high growth of bank credit. At about the same time, there was a deterioration of the export data. Again it was officially announced that the decrease in export was due to government action to clamp down illegal activity in trade market. This improvement in China's economy definitely would be beneficial for Indonesia (Capital Daily and Barclays, various issues).

For the year of 2014, near the end of 2014, in a surprise move, the Central Bank of China cut the benchmark for one year lending rate, which has been stagnant for the past two years, from 6.0% to 5.6% and the one year deposit rate from 3.0% to 2.75%. Since the lending rate was not binding for banks and domestic demand was still weak, the impact of these loose monetary policies would probably not as big as expected. Due to the fall in the inflation rate, from 2.5% in January to 1.4% in November, real interest rates (nominal interest rates minus inflation rates) continue to rise. This and the appreciating of the exchange rates, were probably the impetus for a more aggressive monetary expansion. A more reduction in lending rate and the reserve requirement ratio (for example), according to some market analyst, is needed to avoid a slowdown or a sharp deceleration of the economy. In this year, there was information in the money market that in June, banks were given loan in amount of USD 163 billion, while in September and October another loan were provided in amount of around USD 125,5 billion. These were not confirmed by the Central Bank of China until November. This Chinese style quantitative easing is a huge amount, equal to about three months of the Federal Reserve quantitative scheme and about five months of Bank of Japan's similar program (The Economist, 2014).

In the year of 2015, by the fourth week of April 2015, the Central Bank pumped more money into the financial system by cutting the required reserve ratio. In this way, the Central Bank freed some 1.3 trillion yuan for new lending. Despite the boom in China's capital market, where on April 20th, more than 1.1 trillion yuan (around USD 180 billion) of shares swapped hands that day, it seems that the Central Bank was focused in its mandate to keep price stable and to support

economic growth. To achieve both goals, expansive monetary policy was the choice of the day. The target of the economic growth of 7% was still in line with the government objective. However, the slowdown in factory production and the slumps in property market might gave some risks to that target. In addition, inflation, measured broadly by Gross Domestic Product deflator, falling by 1.1% compared to the same period last year. Therefore, the Central Bank keeps pushing growth and inflation up through more stimulus which started with cut in interest rates in November 2014. On 30th of November 2015, the International Monetary Fund Board voted to include China's currency in its Special Drawing Right (SDR) basket. World analyst was hoping that this inclusion of the RMB in the SDR would be a bigger step of China's broader commitment to rebalancing its economy away from state direction. They did not expect however, that the RMB from then on could be regarded as a "safe-haven" currency. To be able to achieve this status, China would had to do more political decision, such as, making its central bank and financial regulators independent, which would represent a profound change in its policy making institutions (The Economist, 2015).

For the whole year of 2015, China had achieved the economic growth of 6.8% by the fourth quarter of 2015. Optimist analyst has projected that the economy will increase by 7% where slower growth in investment would be replaced by faster consumption growth by the end of 2016. Somewhat pessimist analyst however, gives projection of around 6.5% in 2016 under the assumption of further monetary easing and consumption growth more than the growth of investment, boosted by financial reform, for example the liberalization of deposit rates (Oxford Economics, various issues and Barclays Research, various issues).

In 2016, China's economy grew by 6.7%, somewhat smaller than in 2015. Note that in 2016, China government revised the 2015 grew to 6.9%. This making the 2016's grew as the slowest growth since 1990. China has beenone major player in the global economy, therefore a growth slowdown was a major concern for investors around the world. There was a dispute whether this particular figure was accurate or not, however. The dispute was not just between observers but also between China's official, for example between the Governor of Liaoning and the Director of the National Bureau of Statistics. Despite the disagreement, as stated above, China is one important factor in the world economy. For example, China was the world's second biggest importer of both goods and commercial services. Thus its economic performance has a very big impact on the world exporter's countries, such as Indonesia. The shift of the policy from investment oriented to domestic consumption, which augment its economic slowdown, reduce its import on natural resources commodity. This gave negative impact on the prices of such goods in the world market. On the domestic economy, the relationship between the new president of the USA and the leader of China also would likely gave potential damage to the USA-China trade ties.†

It is not an easy job to find out the future path of the China's economy and particularly its impact on the Indonesian economy. Definitely, one must rely on the data provided by the government of China or the reliable data provider companies. As stated in Pritchett and Summers (2014), China's record growth for the past 35 years was outstanding and they could not find any evidence that suggest that a sharp slowdown is probable in the near future. In other words, China's economic growth would continue in the near future.

Assuming that China's economy is still growing, one big question is its role to the Indonesian economy. There are several ways to analyze China's economy vis-à-vis Indonesia's economy. One among other is China's foreign exchange market with regard to Indonesia's. Another is China's capital market with regard to Indonesia's capital market. One other which is considered most important is China's trade with Indonesia, or Indonesia's export to China. The first two could be analyzed using qualitative approach. While the last one should be analyzed using quantitative approach.

[†]See BBC Analysis, 20 Januari 2017



GRAPH 1: Comparison between Rupiah per USD and Yuan per USD (monthly data 2009 until 2016)

Source: CEIC

Graph 1 shows the comparison between China foreign exchange currency (Yuan) and Indonesia foreign exchange currency (Rupiah). The graph shows that both were moving in opposite direction in the first half of the observation period. However, near the end of 2015, when Rupiah per USD, after depreciating for the past 4 years, began to appreciate, Yuan per USD started to depreciate, after appreciating for the past 4 years. This contradictory movement was probably due to the submission of the China currency to the IMF to be included as part of the Special Drawing Right (SDR). One important condition for the SDR currency is that, the currency should be under the regime of the free-floating exchange rate. To avoid a big volatility in its exchange rate which would happen when this currency was moved from the fixed exchange rate system to the floating exchange rate system, instead of directly adopted the floating exchange rate system, starting from the beginning of 2016, the China Central Bank started to introduce a basket of currency exchange rate system, in which Yuan was pegged to 13 foreign hard currency such as USD, Euro, Yen, Pound Sterling, Australian, New Zealand, and some other strong currencies. The impact of this policy was the depreciating of Yuan relative to US dollar, where the Yuan certainly would achieved a new level which would be much smaller than the target exchange rate which was decided by the Central Bank when Yuan was still using the fixed system.

As a result of the depreciation of Yuan, Rupiah was appreciating against Yuan from 2015 onward. Graph 2 confirms the condition of Rupiah vis-à-vis Yuan. There are benefit and cost of this condition. The benefit is that, as part of the SDR, Yuan could be used as component of Indonesia's foreign exchange reserve in addition to other hard currencies i.e. Euro, Yen, Pound Sterling, and US dollar. However, there would cost to this condition. The depreciation of Yuan would push Indonesia import from China and reduce Indonesia's export to China, depend on the direction of the depreciating of Yuan relative to Rupiah, in the next period.

The depreciation or weakening of Yuan, either by nature or by design, created a somewhat negative perception of the market on the condition of the China's economy, particularly the stability of Yuan. As a result, there was a flow out in China's capital market. Graph 3 below shows all three indicators of China's capital market which are Shanghai index, Shenzen index, and Hangseng index. All of them were moving downward since the end of 2015. Compare to Indonesia capital market index, within 2016, Shenzen has recovered somewhat and moved above the Indonesia capital market

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index. Shanghai and Hangseng however, still had not regain its position before the end of 2015 which were better and shown as sharp spikes in the graph below.



GRAPH 2: Movement of the Rupiah against Yuan (monthly data 2009 until 2016)

Source: CEIC

GRAPH 3: Movement of China's capital market index against Indonesia's capital market index (monthly data 2009 until 2016)



Source: CEIC

The last part, which is the China's trade with Indonesia, or Indonesian export to China, will be analyzed using quantitative approach in the next part, or the Analysis. In that part, this paper will try to test quantitatively whether China's economy growth, proxied by China's Gross Domestic Product per Capital, would have a positive impact on the Indonesian economy growth, in particular the Indonesian export to China. The hypothesis for the quantitative approach is that China's economic growth would have a positive impact on the Indonesia's export.

3. METHODOLOGY

The analysis in this paper is using econometric approach based on an economic model that is the demand function (Varian, 2010). This function is chosen since the value of Indonesia export to China represent China demand on Indonesia's exportable goods. As any demand function, China demand depend on its income and the price of the goods. China's income could be proxied by Gross Domestic Product per Capital while the price of the good could be proxied by the price of export.

Note that there are other variables that might affect the Indonesia export to China, They are among others China's domestic policy. In the past, due to the importance of investment as the biggest contributor to the China's economic growth, the rapid growth in China has boosted its imports of commodities and being a commodity exporter Indonesia has benefited from China's growth. One example is coal which accounts for half of China's energy needs to support growth[‡]. To accommodate this need, China had taken almost one third of Indonesian coal export where before the Indonesian export had gone to Japan. Another example is rubber. Indonesia is one of the biggest supplier of rubber to China after Taiwan. Half of China's import of rubber was contributed by Indonesia. Presently, there is a shift of China's domestic policy. Recognizing the potential of demographical advantages in terms of population, China has shift its policy from emphasizing investment as the biggest contributor of economic growth, to domestic consumption, thereby reducing its dependence on other countries. The shift eventually reduced China's import of commodity, not only coal, but also most all commodity, and not only from Indonesia but also from all other exporting countries. Slower growth of China's economy add the reduction of import of commodity from Indonesia. But shift in policy and slower growth will not be the only problem for Indonesian exports to China. In an effort to reduce pollutions, China has reduced the share of coal in its energy mix and China has been using energy more efficient. This has reduced the energy consumption in China. Note that the reduction of commodity export from Indonesia will definitely have negative impact on Indonesia. However, as stated in Booth (2011), commodity export is a pattern which reflect short-term comparative advantage, not a long-term one. When China change its policy from investment approach to domestic consumption, this might produce an opportunity to export consumption goods to China for example canned food which is manufactured domestically and have a somewhat longer term comparative advantage.

Geographical advantages also affect the trade between China and Indonesia. This reflected in some of the economic cooperation exist between Indonesia, and some other Asian countries, with China, among others between China and ASEAN countries (Booth, 2011). Despite some skepticism among ASEAN region, one ACFTA, or ASEAN-China Free Trade Agreement has been created in 2010. For Indonesia, given the high trade share with other countries in East and Southeast Asia, Indonesia's long term interest would be to push for more East Asia wide free trade area, and for progress on initiatives to secure greater monetary cooperation. After the 1997 Asian crisis, Indonesia together with Thailand, Korea, and Malaysia realized that they could not just depend only on the international institutions set up after the Bretton Woods i.e. IMF and the World Bank. Countries which was less affected by the Asian crisis such as Vietnam and China had reached the same conclusion. The Lehman Brothers crisis in 2008 probably strengthen the opinion that those countries should work together and cooperate in terms of trade, despite some facts that that kind of cooperation would give somewhat short-term cost to some producers in the region (Booth, 2011). Thus the regional cooperation between ASEAN countries and China, despite some disputes over barriers and dumping issues.

[‡] See The Economist and The Jakarta Post, various issues.

Adding variables on to the model however needs a more comprehensive approach. One needs to prove whether the additional variable is mathematically correct, have no autocorrelation with the existing variables, or have no multi collinearity, among others.

The demand function model in this paper is used to simplify the analysis in this paper which goals os to predict the impact of China's growth on the Indonesian export as one main component of growth through international trade. This model would be used to prove the hypothesis whether China's growth has positive impact on Indonesia as its trading partners.

This paper is in line with some other papers such as Dizioli et al (2016). Whereas most other researchers are using pool data from ASEAN countries for example ASEAN-5 (Dizioli et al, 2016) to measure the impact of China's growth, this paper is using country specific data in this case Indonesia to analyze China's growth impact.

Before using the function, some identification problems should be solved, either by using curvature approach or definition approach. Assuming that the demand equation is identified and the function is the result of the simultaneous equation between supply and demand, one might run a regression between quantity demanded and those variables. A Two Stages Least Squares regression would be run to incorporate some endogenous variables such as the price.

4. LITERATURE REVIEW

Most research support the positive correlation between China's economic growth and Indonesia's economy. As stated in Dizioli et al (2016), a slower growth in economy of China will have negative impact on Indonesia in the near term. There will be potential spillover through trade, commodity prices and financial markets. Compare to other ASEAN countries which are trade partners of China, Indonesia as a net commodity exporter would suffer the biggest impact. Every decline of China's growth by 1 percent point would affect Indonesia's growth by minus 0.2 to 0.5 percentage points. The impact would be larger if China's slowdown and rebalancing from investment to domestic consumption, coincides with a bigger volatility in the global financial condition. According to Booth (2011), for the past decade, Indonesian exports to China grew more rapidly than total exports Indonesia to all trade partners and accounted for around twelve per cent of the total growth in dollar terms. Coal was the most important single export, followed by palm oil, gas, crude petroleum, and crumb rubber where these products contribute to around 58 percent of total exports to China in 2009. In line with other ASEAN countries, Indonesia exports fell in terms of dollar in 2009 due to global economy slow down, but there was however a strong recovery in 2010. China had slowly become Indonesia's largets export market by overtaken Japan and Singapore.

5. ANALYSIS

This part will be divided into three sections, which are visual inspection analysis, correlation coefficient analysis, and regression analysis. This follows the approach from simple to rather advance analysis. Visual inspection or graphical approach is the simplest form of analysis. One might get the trend or the direction of the movement of the data. Note that using the same data will produce the same graph. However, there is always a possibility that the result might be subjective, from a same graph, a researcher might reached a different conclusion from another researcher. Therefore the correlation coefficient analysis is used. Correlation is one step forward from visual inspection. It quantifies the degree to which two variables are related. Correlation does not fit a line through the data points. It is a computation which gives a figure called r that tells how much one variable tends to change when the other one does. At least this approach in statistics is regression. In regression, one can predict the relationship between more than two variables and can use it to identify which variables x can predict the outcome variable y. The next part will be visual inspection, followed by correlation coefficient, and regression.

Graph 4 (using normalized axis scale) shows the movement of Indonesia's export to China using yearly data from 1980 to 2016 in million dollar. There were some small fluctuations during the period under observation, though. These were the impact of the Asian crisis in 1997 and the world financial crisis in 2008. In general until 2015, the trend shows an upward movement. After 2015 however, there was sharp down turn. This is in line with the movement of Rupiah vis-à-vis Yuan as shows in graph 2 which shows a strengthening of Rupiah relative to Yuan after 2015. An appreciation of Rupiah or depreciation of Yuan will push export from Indonesia to China down. This is a classic simple Keynesian approach where, assuming that price levels are sticky in local currencies, change in the exchange rate is directly related to the real exchange rate adjustment. So assuming that nominal and real exchange rate moves together, a Rupiah appreciation reduce the relative price of imports in terms of exports which tends to reduce export and raise imports which worsened the trade balance between Indonesia and China in that particular period (Rivera-Batiz et al 1994).

5.1. Visual Inspection Analysis



GRAPH 4: Indonesian Export to China - Yearly Data (1980-2016)



GRAPH 5: China GDP per Capita Yearly Data (1980-2016)



Graph 5 (also using normalized axis scale) shows China GDP per capita from 1980 until 2016 in USD. The graph shows a smooth upward trend. Comparing between graph 4 and graph 5, it

could be seen that both graphs moves in the same direction. Virtual inspection shows that there is a tendency for the increase in the Indonesia's export due to the increase in China income per capita.

5.2. Correlation Coeffecient Analysis

To avoid the subjectivity in the virtual inspection, a correlation coefficient analysis is done between Indonesia's export and China's GDP. Correlation coefficient is a statistical technique that can show whether and how strongly pairs of variables are related. It is a single number that describes the degree of relationship between two variables. Running a coefficient correlation analysis between Indonesia's export to China and China GDP per capita, after taking natural logarithm for both series, the result shows that the Indonesia's export is correlated with the China's income per capita with coefficient of 0.813. The figure shows a positive relationship above 0.5 which could be interpreted that the Indonesia's export is positivly related to China's GDP. Both are moving in the same direction. Since it is above 0.5, so the similarity in the direction of both movement is significant. When China's GDP increased, Indonesia's export will be going up. On the other hand, when China's GDP decreased, Indonesia's export will be going down. However, the result only shown that both are moving in the similar direction. It is unknown which one is the lead and which one is the follower. To be able to determine which is the independent variable and which one is dependent variable, a regression analysis is needed. This regression should be based on a formal and proven model, either mathematically or empirically. In this way, it is no need to determine which variable affecting what. What follows is the regression analisys using a formal demand model.

5.3. Regression Analysis

As stated above, this analysis will be done using regression based on the demand function (Varian, 2010). Before using the function, some identification problems must be solved, either by using curvature approach or definition approach. Assuming that the demand equation is identified either using curvature or definition approach, a regression then could be run. The regression is between export of Indonesia to China as quantity demanded or the dependent variable, and income of China as represented by GDP per capita, and price of that particular export goods which in this case is price of export, both as the independent variables. One problem facing this regression is that the regression is done assuming all independent variables are exogenous. In this demand function resulted from a simultaneous equation between demand and supply, price is endogenous variable such as the price.

Note that according to the visual inspection analysis above, there were some fluctuations in the period under observation, which were in 1997 due to the Asian financial crisis and in 2008 due to the world financial crisis mostly known as Lehman-Brothers 2008 crisis. To accommodate these, dummy variables, which were one in 1997, 1998 and 2008, and zero otherwise, will be used in the model.

The model is (Varian, 2010):

 $Demand_{x,t} = f(Income_{x,t}, Dummy_t, Price_{xt}, e_t)$

(1)

Using export f.o.b. from Indonesia to China as a proxy for quantity demanded by China, GDP per Capita of China as a proxy for income of China, dummy variables, and price of export from Indonesia as a proxy for price for goods demanded, model or equation (1) becomes:

Export_t = α + β (China GDP per Capita)_t + γ (Dummy)_t + θ (Price)_t (2)

To linearized the above variables, all series are multiplied by natural logarithm. The converted equation after using natural logarithm is as follows:

Ln Export_t = α + β (ln China GDP per Capita)_t + γ (Dummy)_t + θ (ln Price)_t (3)

The regression will use yearly data from 1980 until 2015 from CEIC.

Before running the regression, the time series properties of the data should be analyzed using unit root test (Enders, 2015). For unit root test using Phillips-Perron test, the result could be seen in attachment 1.

Running the unit root test for all variables, using Phillips-Peron test (1998), variable Indonesia's export to China is not stationary at the level using intercept, and trend and intercept, except when the test is using no intercept nor trend at 10% critical vlues. It is stationary in its first difference using intercept, trend and intercept, and no trend nor intercept. Thus, this variable could be considered as not stationary.

Variable China's GDP per capita is not stationary at the level (either using intercept, or trend and intercept) but stationary using no intercept nor trend, so it is not stationary. Its first difference is stationary under 5 percent using intercept, stationary under 10 percent using trend and intercept, but not stationary using no intercept nor trend. Therefore, this variable is considered as first difference weakly stationary.

For variable price of export, using the same test, this series is not stationary (either using intercept, trend and intercept, or no intercept nor trend). Its first difference is stationary under all approach. Since most variables are not stationary, the regression would be done in first difference. The Two Stages Least Square result between those variables, or of equation (3), are as follows (all calculations are done using E-Views version 8) (for regression result please see attachment):

 Δ ln Export_t = 1.11* (Δ ln China GDP per Capita)_t - 0.14 Dummy_t - 0.001 (ln Price)_t

The result shows that (t-Statistics in parentheses) China's GDP per capita is the only variable which is significant while the rest are not. The dummy variable gives the wrong sign. While the price of export gives the right sign, it is not significant. Note that in this Two Stages Least Squares, R squares and the F-statistics mostly are not reported. They are only asymptotically valid. There is no intercept in this equation, meaning that the line of regression is forced through zero.

China's GDP per capita has a significant positive impact on the export from Indonesia to China. A one percent jump up in the China's GDP per capita will give a boost of 1.11 percent increase in the Indonesia's export to China (or China's import from Indonesia). The hypothesis for the quantitative approach that China's economic growth would have a positive impact on the Indonesia's export is proven.

6. CONCLUSION AND RECOMMENDATION

In general, it could be concluded that the growth of China's economy, represented by GDP per capita, will have a positive impact on the Indonesian economy growth, in particular the Indonesian export to China. If China GDP per capital goes up by one percent, export from Indonesia to China would increase by 1.11 percent.

Recent developments in the Indonesia economies are broadly consistent with the findings above. Indonesia goods exports have slowed since 2011, and declined significantly in 2015, coinciding with the slowdown and rebalancing in China among other factors, and commodity prices have fallen, hurting the net commodity exporters. Domestic financial conditions have tightened in line with the tightening of global financial conditions. Although growth has slowed in recent years, it has remained robust in most of them due to the strength of domestic demand. It is also apparent from the data that not all recent developments in the Indonesia economies are due to developments in China. There are other factors that have a role, including a global slowdown in international trade, factors affecting commodity markets, and some factors amplifying the impact of external shocks on domestic financial conditions i.e. the somewhat tightening of domestic liquidity.

There are also opportunities from China's rebalancing for Indonesia economy. China's imports are shifting away from traditional goods linked to industrial activity towards consumption goods.

This could become a new engine of export growth for Indonesia economy. Thus, finding another alternative approach might be done, for example selling commodities such as processed food to be consumed by the huge China's market.

China's imports of services are also rising, particularly in tourism, with foreign travel of Chinese nationals growing exponentially in recent years. Indonesia economy could also benefited from this trend if she effectively market her tourist attractions in the Chinese market. Due to the importance of the China's economy for Indonesian economic growth, any slight movement on the China's economy data should be analyzed carefully.

OECD projected that a two percentage point decrease in the growth of China domestic demand for two years (i.e. 2015 and 2016) would reduce world GDP by 0.3 percentage points a year. For countries with strong ties like Japan, the impact would be more severe, that is around 0.55 (The Economist, November 29th - December 5th 2014). Indonesia is not included in the OECD analysis. Nevertheless, it could be assumed that the impact would still be considerably high due to the direct effect of China's demand on Indonesia's export, augmented by the indirect effect through growth reduction in other countries and therefore export demand widely. This definitely could not be ignored.

A further research by taking a breakdown of the export data and their destination would reveal the detail of the Indonesian export, how big the dependence, and thereby how importance the China's economic data for Indonesia. Booth (2011) show that the pattern of the trade between China and Indonesia reflect a short-term comparative advantage in both economies. However, while the two-way trade between China and Indonesia has grown rapidly from 2000 to the beginning of 2016, Indonesia's exports to China are mainly primary products while imports from China are mainly manufactures. Therefore, next research could try to find the longer term consequences of this pattern for Indonesia's economic development, despite the high positive expectation of the China-ASEAN Free Trade Agreement (ACFTA) in 2010 for Indonesia where Indonesia stands to benefit significantly since ACFTA will provide an easier access to new markets for manufactured products and raw materials (Hong, 2013).

7. ACKNOWLEDGEMENT

I would like to thank Alex Sienaert, World Bank, Jakarta Office, and Ross McLeod, Australian National University.

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Attachment 1

Unit root test of Log (Export to China)

Null Hypothesis: LNEXPORTTOCHINA2016 has a unit root Exogenous: Constant Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statist	ic	-2.347786	0.1633
Test critical values:	1% level	-3.626784	
	5% level	-2.945842	
	10% level	-2.611531	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: LNEXPORTTOCHINA2016 has a unit root Exogenous: Constant, Linear Trend Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statisti	ic	-1.101862	0.9148
Test critical values:	1% level	-4.234972	
	5% level	-3.540328	
	10% level	-3.202445	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: LNEXPORTTOCHINA2016 has a unit root Exogenous: None

Bandwidth: 4 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statisti	с	1.800959	0.9808
Test critical values:	1% level	-2.630762	
	5% level	-1.950394	
	10% level	-1.611202	

Null Hypothesis: D(LNEXPORTTOCHINA2016) has a unit root Exogenous: Constant Bandwidth: 3 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-5.341879	0.0001
Test critical values:	1% level	-3.632900	
	5% level	-2.948404	
	10% level	-2.612874	

*MacKinnon (1996) one-sided p-values.

Unit root test for Log (GDP Riel per Capital China)

Null Hypothesis: LNGDPRIELPERCAPITACHINA has a unit root Exogenous: Constant Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-0.122972	0.9392
Test critical values:	1% level	-3.626784	
	5% level	-2.945842	
	10% level	-2.611531	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: LNGDPRIELPERCAPITACHINA has a unit root

Exogenous: Constant, Linear Trend Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-2.346898	0.3996
Test critical values:	1% level	-4.234972	
	5% level	-3.540328	
	10% level	-3.202445	

Null Hypothesis: LNGDPRIELPERCAPITACHINA has a unit root Exogenous: None Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		13.14180	1.0000
Test critical values:	1% level	-2.630762	
	5% level	-1.950394	
	10% level	-1.611202	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(LNGDPRIELPERCAPITACHINA) has a unit root Exogenous: Constant Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat
Phillips-Perron test statistic		-3.445502
Test critical values:	1% level	-3.632900
	5% level	-2.948404
	10% level	-2.612874

*MacKinnon (1996) one-sided p-values.

Unit Root Test for Log(Price of Export)

Null Hypothesis: LNPRICE2016 has a unit root Exogenous: Constant Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-1.744494	0.4011
Test critical values:	1% level	-3.626784	
	5% level	-2.945842	
	10% level	-2.611531	

Null Hypothesis: LNPRICE2016 has a unit root Exogenous: Constant, Linear Trend Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-2.902312	0.1737
Test critical values:	1% level	-4.234972	
	5% level	-3.540328	
	10% level	-3.202445	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: LNPRICE2016 has a unit root Exogenous: None Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-0.532091	0.4793
Test critical values:	1% level	-2.630762	
	5% level	-1.950394	
	10% level	-1.611202	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(LNPRICE2016) has a unit root Exogenous: Constant Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-5.631408	0.0000
Test critical values:	1% level	-3.632900	
	5% level	-2.948404	
	10% level	-2.612874	

Attachment 2

Dependent Variable: D(LNEXPORTTOCHINA2016) Method: Two-Stage Least Squares Date: 08/24/17 Time: 14:03 Sample (adjusted): 1982 2016 Included observations: 35 after adjustments Instrument specification: D(LNEXPORTTOCHINA2016(-1)) D(LNGDPRIELPERCAPITACHINA(-1)) DUMMY2016(-1) D(LNPRICE2016(-1)) Constant added to instrument list

Variable Coefficient Std. Error t-Statistic Prob. D(LNGDPRIELPERCAPITACHIN 0.408052 2.724456 0.0103 A) 1.111719 DUMMY2016 -0.139373 0.236497 -0.589321 0.5598 D(LNPRICE2016) -0.000798 0.511022 -0.001561 0.9988 R-squared 0.065621 Mean dependent var 0.076524 Adjusted R-squared S.D. dependent var 0.007223 0.167865 Sum squared resid S.E. of regression 0.167258 0.895203 Durbin-Watson stat 2.080070 Second-Stage SSR 0.911858 J-statistic 1.775291 Instrument rank Prob(J-statistic) 0.411624

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