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Analysis of Determinants of Indonesian Non-Oil and Gas Exports to China on Indonesian Economic Growth for the Period 2000-2018

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ABSTRACT

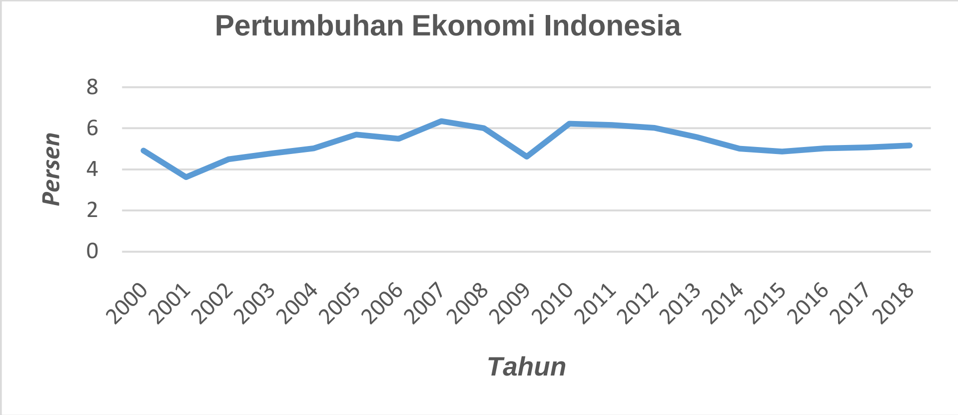
This study aims to examine and analyse the direct and indirect effects of exchange rates, China's GDP per capita, investment and inflation on Indonesia's economic growth through non-oil and gas exports to China. The data used in this study is secondary data in the form of time series from 2000 to 2018. In this study, the structural equation regression analysis method using AMOS software is used.

The results of this study indicate that all variables have a significant effect on economic growth in Indonesia through non-oil and gas exports to China except that inflation is not directly significant to economic growth in Indonesia. This study shows that monetary and fiscal policies in maintaining exchange rate stability, inflation, increasing investment realization, and bilateral trade cooperation between countries have an impact on export productivity so as to increase Indonesia's economic growth.

Keywords: Indonesia's growth, non-oil and gas exports, exchange rate, China's GDP per capita, investment, and inflation.

I .Introduction

Economic growth is long term problems and being affected by a lot of factors and be a benchmark for progress and development of a country. Of a country called experienced economic growth when there was a rise in the GNP real in the country, in other words an increase in economic growth indicates the success of national economy economic development. One of the factors which is considered very important in this era of globalization this of course is international trade .But as far as being good benchmark of a country economic before the praise in the other countries, also the success of which are the development policies applied in the country. International trade can be used as an engine of economic growth a nation (us trade engine growth) Salvatore 2006.



Source: World Bank, 2019

Figure 1. 1 Graph of Indonesia's Economic Growth 2000-2018

The conditions for fluctuating economic growth in Indonesia can be seen from the graph above. In 2009 it decreased by 4.63% due to the impact of the global crisis that occurred in 2008, then in 2010 increased to 6.22%. However, since 2011 economic growth in the State of Indonesia has continued to decline continuously until 2018 up to 5.17 % (World Bank, 2019).

Indonesia has been heavily involved in international trade, both export and import with various countries around the world. With the existence of exports can contribute to the growth of international trade, and especially can advance the economies of developing countries. In this regard, Indonesia places exports as an effort to advance Indonesia's economic growth, especially non-oil and gas commodities (Bustami, 2013).

If you look at the development of Indonesia's exports for two decades, it can be seen that there has been a change in the structure of the sector, where the role of oil and gas exports is getting smaller while the role of non-oil and gas exports is getting bigger. In 1990, the role of oil and gas exports was still above 40 percent, but in 2013, the role of oil and gas exports was only 18 percent. The greater contribution of exports from the non-oil and gas sector is in line with the development of the industrial sector that has developed over the past two decades.

China is the largest export destination country, among Indonesia's many international trading partners. As one of the world's most populous countries, China is a potential market for Indonesian products, especially since the start of the trade agreement entitled ACFTA (ASEAN China Free Trade Area) in 2001 and came into effect in 2010.

Overall, non-oil and gas exports to China have increased from year to year, it is hoped that in the future it can be further increased, especially with the existence of the ACFTA (ASEAN China Free Trade Area). On the one hand, the implementation of the ACFTA has indeed boosted Indonesia's exports to China. But on the other hand, the amount of Indonesia's exports to China is less than the amount of imports from China. China's superior products are products that are easy to renew, while products that are superior to Indonesia's exports are primary products that are difficult to renew. The increase in trade transactions between the two countries was followed by an increase in Indonesia's trade balance deficit. The condition of Indonesia's trade with China which always experiences a deficit, one of which is reflected in the inability of the government to encourage increased competitiveness which is actually the main prerequisite for benefiting from the implementation of ACFTA.

It is thought that fluctuations in the value of Indonesian exports are influenced by various factors, both economic and non-economic. Economic factors that are thought to have an effect on fluctuations in export value include: exchange rate, inflation, investment, interest rates, money supply, national income, real GDP of destination countries and the position of the international balance of payments. Meanwhile, non-economic factors that are thought to affect fluctuations in export value include: national resilience, politics, cultural and security issues. Based on the theory that exports can spur national economic growth (export lead growth). Efforts to maintain and increase the capacity of the national economy by emphasizing the aspect of increasing high non-oil and gas exports are important to note.

II. Theory Review

Apart from affecting the balance of payments, export activities can also build the economy when exports are higher than imports. Foreign trade has been considered as an engine of growth, foreign trade has led to a steady increase by expanding the reach and links of cooperation. There is a positive relationship between exports and economic growth in the long run, while imports have a negative relationship with economic growth. It is assumed that the fluctuation in exports is influenced by various internal and external factors. Internal economic factors include fluctuations in exchange rates, inflation rates, interest rates, money supply, national income and the position of the international balance of payments, while non-economic factors include national security, politics, socio-culture and security.

The exchange rate plays a very important role in translating prices from various countries into the same language (Krugman, 2005). Furthermore, the exchange rate is one of the economic factors that affect the increase or decrease in export activity (Mankiw, 2006). Exchange rates fluctuating uncontrollably will cause difficulties in determining policies, especially for business actors who intend to import raw materials from abroad or for actors who sell their goods on the export market, therefore the policy of keeping currency values in a stable position is wrong. one monetary factor that supports the macro economy (Pohan, 2008).

China is one of Indonesia's non-oil and gas export destinations. China's GDP growth since 2000 has always been above 7% and peaked in 2007 at 14%. Even though in 2014 China's GDP experienced a slowdown, it still maintained its growth rate around 7%, where the growth in per capita income of China's population in 2014 was 6.8% (World Bank, 2015). With this condition, China is a potential export market, including Indonesia. According to Sukirno, an increase in GDP will increase the amount of income per capita which results in increasing consumption, on the other hand, if the GDP obtained by a country decreases, it will reduce its per capita income so that the ability to buy the desired goods and services will decrease (Sedyaningrum, et al, 2015).

Investments that have a multiplier effect have a profound impact on improving welfare, which is measured by increasing income. This means that if income increases, the number of goods and services to be consumed will also increase. If the demand for goods and services increases, it will increase employment opportunities. This reduces the unemployment rate. The reduction in unemployment is due to the absorption of the workforce in investment projects. Harrod Domar play a key role for investment in the process of economic growth, especially regarding the dual nature of investment. Investment creates income and investment can increase the production capacity of the economy by increasing the capital stock. Exports and investment are the "engine of growth". Therefore, a high and sustainable level of economic growth is generally supported by increased exports and investment.

Inflation is a process of increasing general prices of goods continuously for a certain period (Nopirin, 2013). In general, the occurrence of inflation triggers import growth to develop faster than export growth (Sukirno, 2002). If domestic inflation increases, it will cause the price of domestic goods to increase. This causes people to tend to seek alternative offers from other countries that are cheaper or save money. As a result, imports increased and exports decreased, and the demand for foreign currency increased along with the increase in products demanded from abroad. This resulted in the depreciation of the domestic exchange rate. The existence of exports and imports is an activity that is expected to encourage economic growth. In Indonesia, export activities are the driving force for the country's economic growth (Tambunan, 2005).

III. Research methods

The data collection method used in this research is library research. Data is done through reading and recording data, reports, theories or brochures that have a relationship with the issues discussed. This method is used with the hope of obtaining secondary data through recording sources from literature books related to this research, such as research journals, theses, dissertations and other published books related to this research. The data collection technique used is direct recording in the form of time series data over a period of 19 years (2000-2018).

This research model uses structural equation data analysis techniques using AMOS software to estimate the relationship between variables that have been predetermined based on theory. First, the data is processed to be presented as a description and general description for the research and simultaneous equation regression analysis. Second, simultaneous equation regression analysis which is estimated according to the Reduced Form coefficient. Third, the results of the simultaneous Reduced Form 5 coefficient estimation were analyzed both in the form of direct and indirect relationships with (significant level $\alpha = 0.05$) a number of implications and recommendations as the findings of this study.

The equation model from this study can be seen from the following equation:

Y1 = f (X1, X2, X3, X4) ....(5.1)

Y2 = f (Y1, X1, X3, X4) ....(5.2)

Where:

X1 = Exchange Rate (Rupiah / Yuan)

X2 = GDP per capita of China (Rupiah)

X3 = Investment (Rupiah)

X4 = Inflation (%)

Y1 = Non Oil and Gas Exports (Rupiah)

Y2 = Indonesia's growth (Riil GDP)

IV. Results and Discussion

Describing the research results to be obtained, first the analysis method and hypothesis testing are carried out. This is intended to describe the stages in analyzing data with certain methods that will be used to answer the formulation, the problem is followed by testing the research hypothesis. The data analysis method in this research is regression analysis (time series) using Amos software to produce an estimation model.

Description of the research results of the variable relationship between the influence of the exchange rate, China's GDP per capita, investment, and inflation respectively on economic growth through non-oil and gas exports to China in 2000-2018. To see the direct and indirect relationship between variables can be seen in Table 1 the estimation results of the coefficient of direct and indirect influence between variables.

Table 1 Estimation Results of Direct and Indirect Effect Coefficients between Variables

No.	Direction of Influence Between Research Variables	Estimation Coefficient Number for Variable Effect		
		Direct	Indirect	Total Effect
1.	a. $X_1 \rightarrow Y_2$	1,072*		
	b. $X_1 \rightarrow Y_1 \rightarrow Y_2$		-0,194*	
	c. Total Efek			0,88
2	$X_2 \rightarrow Y_1 \rightarrow Y_4$		0,151*	
	c. Total Efek			0,151
3.	a. $X_3 \rightarrow Y_2$	0,121*		
	b. $X_3 \rightarrow Y_1 \rightarrow Y_2$		0,004*	
	c. Total Efek			0,125
4.	a.X_4. $\rightarrow Y_2$	0,014		
	b. $X_4 \rightarrow Y_1 \rightarrow Y_2$		-0.006*	
	c. Total Efek			0,008

Source: SPSS Amos, Processed.

Information:

* Significant at α = 5%

a. Direct Effect of Exchange Rates on Indonesian Economic Growth

The regression results show that the rupiah exchange rate directly has a significant effect and has a positive relationship with Indonesia's economic growth. Exchange rate depreciation indicates Indonesia's trade balance is experiencing a deficit, this is because imports are greater than exports. The depreciation of the exchange rate also burdens the government and industry due to foreign debt which will bear a heavy burden in repaying their funds due to the declining exchange rate of the rupiah.

b. The Indirect Effect of Exchange Rates on Indonesia's Economic Growth

The regression results show that indirectly it has a significant and negative effect on Indonesia's economic growth through non-oil and gas exports to China. If the exchange rate rises, it will result in lower exports. The decline has an impact on reducing output and affects GDP. This condition shows that economic growth has decreased. Exchange rates are influenced by changes in demand and supply of traded goods / services and investment flows.

c. The Indirect Effect of China's GDP per Capita on Indonesia's Economic Growth

The regression results show that indirectly China's GDP per capita has a significant and positive effect on the level of economic growth in Indonesia through non-oil and gas exports to China. An increase in a country's GDP can increase the purchasing power of imported products. The increase in the GDP of the importing country causes an increase in people's needs and not all of the people's needs can be met by domestic production.

d. The Effect of Direct Investment on Indonesia's Economic Growth

The regression results show that direct investment has a significant and positive effect on economic growth. This indicates that investment is capable of driving the economy in Indonesia. This result is in line with the opinion of economists in general who state that investment is positively correlated with economic growth.

e. The Indirect Effect of Investment on Indonesia's Economic Growth

The regression results show that investment indirectly has a significant and positive effect on the level of economic growth in Indonesia through non-oil exports to China. Increased investment (PMA and PMDN) can increase capital and production, which in turn increases Indonesia's exports so that investment has a major contribution to Indonesia's economic growth.

f. Direct Effect of Inflation on Indonesia's Economic Growth

The regression results show that direct inflation has no significant effect on the level of economic growth in Indonesia. The insignificant effect of inflation is due to other factors affecting Indonesia's economic growth. This result is not in accordance with the research hypothesis which states that inflation has a significant effect on economic growth. Inflation has no effect on Indonesia's economic growth at a significance level of 5 percent, presumably because the inflation rate in the 2000-2018 observation year was still below 10 percent or an average of 6.97 percent.

g. The Indirect Effect of Inflation on Indonesia's Economic Growth

The regression results show that inflation indirectly has a significant and negative effect on economic growth through non-oil and gas exports to China. High inflation has a negative effect on economic stability, including threatening the finances of companies / industries engaged in the export sector. Increased inflation can cause high input or basic material prices, so it is very difficult for producers to market their production at high prices, including exporting goods to their destination countries so that company / industrial income and profits decline. The high price of products due to inflation makes domestic products unable to compete with foreign products. This will result in the export value being smaller than the value of imports so that the balance of payments experiences a deficit and causes economic growth to decline.

Conclusion

Based on the results of the research and analysis that has been carried out, it can be concluded as follows:

1. The exchange rate directly has a significant and positive effect on Indonesia's economic growth. However, indirectly it has a significant and negative effect on Indonesia's economic growth through non-oil and gas exports to China.

2. China's GDP per capita indirectly has a positive effect on Indonesia's economic growth through non-oil and gas exports to China.

3. Direct and indirect investment has a significant and positive effect on Indonesia's economic growth.

4. Inflation does not directly affect Indonesia's economic growth and indirectly has a negative and significant impact on Indonesia's economic growth through non-oil and gas exports to China.

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