

## The Effect of Short-Term Aggregate Demand in Indonesian Economy: The Era of ASEAN Economic Community

Bambang Bemby SOEBYAKTO  
Department of Economic Development  
Faculty of Economic, Universitas Sriwijaya, South Sumatra, Indonesia  
[bambangsoebyakto@gmail.com](mailto:bambangsoebyakto@gmail.com)

Abdul BASHIR  
Department of Economic Development  
Faculty of Economic, Universitas Sriwijaya, South Sumatra, Indonesia  
[abd.bashir@unsri.ac.id](mailto:abd.bashir@unsri.ac.id)

### Suggested Citation:

Soebyakto, B.B., Bashir, A. 2017. The effect of short-term aggregate demand in Indonesian economy: The era of ASEAN economic community. *Journal of Applied Economic Sciences*, Volume XII, Spring, 2(48): 594 – 605

### Abstract:

This research aims to see the interaction of the aggregate demand variables such as consumption, investment, government spending, exports and imports in influencing the economy in Indonesia that entered the era of the free market, generally refers to ASEAN Economic Community. The data used is secondary data obtained from the Central Statistics Agency in the period of 2000-2013. Quantitative approach is used as analysis method using simultaneous equation through the estimation of two-stage least square (TSLS). The results of the study show that consumption, investment, government spending, exports and imports affect the national income significantly. Proportionally, household consumption and investment still has the dominant proportion and greater influence on the national income compared to other macro variables. Meanwhile, the government expenditure is positively and significantly influences the investment in Indonesia. This indicates that the increase in exports can be affected by the amount of investment flow to in Indonesia and vice versa, while the increase in imports is influenced by the amount of national income, especially on the proportion of the level of household consumption.

**Keywords:** Consumption, investment, government spending, exports, imports and National Income

**JEL Classification:** E43; E44; E50.

### 1. Introduction

Economic developments in Indonesia shows fluctuations, which are quite diverse, but in reality, a macroeconomic variable such as consumption plays an important role in Indonesia. The high public consumption is caused by the high population and the competition of the trading partner countries that are trying to export to Indonesia with potentially high demand due to the population as the fourth largest in the world, therefore, it also can be a trigger for a high demand in Indonesia. Economic development is the government's efforts to improve the standard of living of a nation. One indicator of economic development is the increasing sustainable economic growth. Economic growth is the development of production of goods and tax services which are realized in the form of an increase in national income. Many researches tries to develop macroeconomic models to look at the factors that influence national income or expenditure approach, which is often also known as the balance of open economy models.

An open economy is an economy that engages in international trade (exports and imports) in goods and services and capital with other countries. An open economy is a hot topic that is frequently discussed by economists of the world; this is one form of a macroeconomic model of development of a dynamic and unique. The relationship between economic openness (especially trade) and economic growth is the attractive proposition found in any textbook

of international trade. There are several different theories that explain the adverse effects of trade openness on economic growth.

According to the conventional view, the high economic growth will trigger high inflation, but inflation is lower in countries that have a higher degree of openness because real depreciation caused by monetary expansion is not anticipated, causing a bad influence such as increased costs of production with a growing degree of openness, thus the government will limit the rise in inflation and try to reduce the inflation rate (Romer, 2006). The heavy reliance on import tariffs as a source of government revenue, and also a major aspect of the way of the process of trade openness in the economy, however, it is slowly beginning to decrease in the presence of free trade agreements among trading partner countries.

Mankiw (2007) argues that fluctuations or economic shocks may be caused by changes in aggregate demand "demand shock" as well as changes in aggregate supply "supply shock" rising import prices of intermediate goods e.g primary raw material prices. Implications of the rise in prices of imported goods on the economy, in general, can be understood through the mechanism of demand and supply. The mechanism of demand and supply can be translated through two transmission channels, among others: first, the rise in prices of imported goods will lead to a negative shock to the supply side "negative supply-side shock". This means that the rise in prices say the price of capital goods will lead to increased costs for companies (business), which in turn will influence the company's decision to increase the number of production or for certain products even reduce the number of production companies; second, the rise in prices presented the fundamental shifts in terms of trade (terms of trade) from importing countries to exporting countries. As a result, real income and expenditure in the importing countries will be reduced.

Thus, the transmission of the rise in prices of imported goods through the two lines will cause a reduction in aggregate demand and aggregate supply and will give implication in decreasing of output and weakening economic growth. This will increase production costs and the price of domestic goods offered by manufacturers. The implication of the impact of the declining in aggregate demand is the reduction of output. In another word, a supply shock will result in stagflation in which the economy will experience stagnation (falling output) and inflation (rising prices). In the long run, there will be an adjustment of economic equilibrium.

In this study, the relationship between household consumption and investment impact on national income in the short term. In addition, this study tries to see the relationship between government spending on the development of investment into Indonesia. Furthermore, the study also looked at the relationship of export growth to investment and vice versa, and whether an increase in imports can be influenced by national income. The conclusion of Serrano and Summa (2012); Kiley (2014); Bania and Stone (2006); and Gupta et al. (2002) that fiscal adjustment achieved through cuts in spending, and tax increases on consumption, will prevent every country lost the status "investment grade" status with international investors and avoid increases in the external interest rate spread and possible external credit constraints, in accordance with the "rudimentary" fiscal dominance view described above. This will also supposedly improve the credibility of macroeconomic policy and simultaneously raise the state of confidence of internal investors and stimulate private investment, while reducing consumption, thus leading to an increase in domestic savings. The Model in this study can provide an example, but economic conditions and policies in each country that can be an underlying economic model in preparing that entered the ASEAN Economic Community (AEC) especially for Indonesia.

The next section presents the literature. The third section presents the research model specifications. The fourth section gives the estimation results for both models and explores the plausibility of features and present empirical estimates of the implications of the estimation results for the effects of a shift in the interaction of macroeconomic variables in the short-term economic activity, by comparison to other forecasts. The last section concludes.

## **2. Theoretical Framework**

### **2.1. The theory of aggregate demand**

According to Mankiw (2007), the classical theory on goods stated that the output or income is only determined by the real factors and cannot be influenced by the government through engineering request as government spending, public consumption expenditure, investment, nor the supply of money. Keynes stated that the output can be influenced by the

expenditure of aggregate and itself can be influenced by the wisdom of the government. The output and aggregate spending can affect each other mutually. The higher the output or income and the higher spending or aggregate expenditure and aggregate demand will be higher again. On the contrary when the aggregate spending high (means of aggregate demand also high) then the output was also high as the response from the manufacturer to raise its output to meet the aggregate demand. The high output will result in *income* also high.

High income means higher economic growth, something that is expected by everyone including policy makers, because it will bring prosperity to the community. The question is how the mechanism of aggregate demand in determining the output or income. According to the theory of Keynesian, namely the relationship between aggregate demand expenses with revenue or output. The components of aggregate demand, is the consumption (C), investment (I), government spending (G) and foreign trade (NX). The four components are the factors that determine the amount of output or *income*. In the form of similarities can be written as follows:

$$AD = C + I + G + NX$$

In a state of balanced then the AD must be the same with the income or output:

$$AD = Y = C + I + G + NX$$

When one of the components of aggregate demand changes, the equation becomes imbalances. For example, the planned aggregate expenditure is greater than the output causing a lack of output or production, oppositely when aggregate spending plan is smaller than the output then there would be and excess production and inventory will be accumulated (Romer, 2006). In the next period, the manufacturer will be making adjustments to increase or decrease the output in accordance with the aggregate demand. In the end, it will return to balance. Economic growth is the movement of the equilibrium point to another higher point. And before the point of balance is reached is always a process of more imbalances toward a new equilibrium point and higher or lower than the previous point. In this description, we assume that the price is a constant or not changed. This also means that all the variables are assumed gives you real and no inflation.

## 2.2. The concept of the Open Economy

In general, the economy expressed by countries in the world is an open economy and closed economy. The sense of the open economy is the economy of a nation that is involved in trade between countries. Meanwhile, the closed economy does not know the existence of international trade. Almost all countries in the world adhere to the open economy. To participate in international trade could spur the national economy, because with international trade it will expand the market share and improve the competitiveness of domestic production. International Trade activities include export and import. International Trade is one of the state revenue in the form of foreign exchange reserves. Lipsey et al. (1995); Mankiw (2007) state in international trade there are 4 factors that become a motivation for all countries in the world to perform a foreign trade, such as:

- (1) Obtain goods that cannot be produced in the land

The reason for the various countries trade with one another is because every country does not produce all the goods that are needed. The developed countries require natural resources produced only from countries in Southeast Asia especially in Indonesia, Malaysia, and Thailand, while these countries are not able to produce some of the results of modern industry such as the developed countries.

- (2) Import advanced technology from other countries

Foreign trade enables a country to learn more modern production techniques and how to lead the company that more modern. More importantly, foreign trade allows the country import machinery or the tools to realize the more modern production techniques and a better way. These benefits will be enjoyed in developing countries. In these countries, economic many activities are still using traditional production techniques and management. Therefore, productivity is still very low and productions are very limited. By importing advanced technology, the country can improve productivity and this will accelerate the increase of national production.

- (3) To expand the market for the domestic product

Some types of the industry have been able to meet the demand for the land before the engine fully used. This means that the industry was still able to raise production and zoom in profit when there is still a market for the

goods produced by the industry. Because of all the request from the land has been fulfilled, the only way to obtain market share is to export them overseas. When the capacity of the machines used are still very low and acceptance of our machines have not yet reached the optimum level foreign exports will enhance the efficiency of the machines used and reduce the cost of production. These factors then will lead to more benefit.

(4) Benefit from specialization

The main reason for foreign trade activities is to gain benefit through specialization in between the various countries. Although a country can produce goods of the same type as that produced by other countries, but perhaps the country prefer to import goods from abroad and not produce it themselves. Instead, the country will expand its activities in producing goods that can be sold with the benefit to the overseas. In this way, the country can use factors of production that he possessed more efficiently, and the inhabitants of the country will be able to enjoy the more goods from the goods when the country does not perform specialization and trade.

### 2.3. Literature Review

Romer and Romer (2007) examine the influence of changes in taxes and tax level to the macroeconomic variables, which were based on the size of the fiscal shock. The finding from this research is that the tax increases is a policy that is a contraction of the economy. Its influence is very significant and adverse impacts on the economy, because the effect of the watershed is greater than the change in the tax level itself. The greatest effects on the negative influence are related to the tax investment and according to Kiley (2014) from the results of the research suggest that both short- and long-term interest rates affect aggregate spending. The result shows that the short-term interest rate has more influence on economic activity, through its impact on the entire structure of the long-term from the term and risk premium (for movements with the same size in the long-term interest rates). The potential policy implications will be discussed.

In addition, Kiley (2014) the estimation results clearly suggest that both short- and long-term interest rates affect spending; the role of short-term interest rates (current and expected) in aggregate demand is to determination is larger than that of long-term rates, implying that the shifts in term/risk premiums have smaller effects on spending than shifts in short-term interest rates for equal-sized movements in long-term interest rates. These results have a similar to results from Andres, Lopez-Salido, and Nelson (2004); and Chen, Curdia, and Ferrero (2011) but move beyond their analysis in several ways. First, these previous analyses focused on Treasury yields, and our analysis finds some differences across results, most especially in a restricted optimization-based framework similar to Andres, Lopez-Salido, and Nelson (2004) or Chen, Curdia, and Ferrero (2011) when considering, Treasury and private bond yields. Second, the models considered, allow comparison of models strictly derived from optimization-based behavior with a model designed to match the data well, thereby illustrating robustness (in contrast to the more limited explorations of Andres, Lopez-Salido, and Nelson 2004 and Chen, Curdia, and Ferrero 2011). Finally, our presentation focuses on the impact on output of alternative paths for long-term interest rates associated with movements in short-term interest rates or term/risk premiums, thereby addressing policy issues confronted in Chung et al. (2011), Fuhrer and Olivei (2011), and Gagnon et al. (2011).

Research Bania, et al. (2006), examine to see the relationship between the tax, government spending and economic growth in the US find that tax revenue, which is then used as productive government spending such as, education and infrastructure that have a positive effect on the economic growth. This research using nonlinear model and adopted the theory of endogenous from Robert Barrow. In addition, Maryatmo (2004), conducted a research that aims to examine the impact of the policy of the budget deficit against macroeconomics variable and monetary variables in the short term and long term. This research uses rational model specification expectation that allows decision makers to prevent the effects of the other. The model constructs the 8 common long-term and eight short-term equations and 12-identity equation. The estimation uses *two-stage least square* and the results of the study show that the budget deficit affects the rate of interest in the short term and long term and the budget deficit also affects the exchange rate and the price level in long-term. Furthermore, the *causal test result* shows that the exchange rate and the price level had the effect of the opposite of the budget deficit.

Gupta et al. (2002) studies the case of 39 ESAF and PRGF-tests with the period of 1990-2000, which is intended to know whether *fiscal adjustment* and improvement of the composition of government spending have

benefits both for the economic growth in poor countries. The source of government financing is also observed here with the backdrop of the fact that during these studies are not yet pay attention to whether the deficit is financed from abroad have different impacts of the growth compared with a deficit of which is funded by the sources of funds in the land. In addition, Gupta et al. (2002) find that the composition of government spending more productive is important for growth and this means that the achievement of fiscal *adjustment* sustainable development. Gupta et al. (2002) also mention that the composition of deficit financing is also an important factor that affects the economic growth in poor countries. In addition, Gupta et al. (2002) thus find that the deficit financing of the government from domestic sources more harm economic growth from foreign loans. Furthermore, Turnovsky (2004) investigate the relationship between fiscal policy and the output in the United States. The method used in this research is the OLS. His research found that fiscal policy has no impact on the balance of economic growth in the long term. The slow growth rate gives the fact that the good fiscal matters only in the short term on the transition period. The increase in fiscal instrument in a relatively large number of gives not too great influences on output.

### 3. Research Method

#### 3.1. Data sources

The Data used in this research is the annual secondary data obtained from the Bank of Indonesia (BI) in the year 2000-2013. The Data includes household consumption, investment, government consumption, export and import in national scale that happened in Indonesia. The variables used in this research are divided into two namely endogenous variables and exogenous variables.

#### 3.2. Model Specification

The model specification is the beginning stage and is an important stage. Formulation econometric model developed based on the results of research (Hartati, 2012) and (Pamuji, 2008) with some adjustments. The following models are:

$$Y_t = CRT_t + CG_t + I_t + (X_t - M_t) \quad (1)$$

$$CRT_t = a_0 + a_1 Yd_t + a_2 CRT_{t-1} + \varepsilon_{1t} \quad (2)$$

$$I_t = a_3 + a_4 Y_t + a_5 SB_t + a_6 I_{t-1} + \varepsilon_{2t} \quad (3)$$

$$CG_t = a_7 + a_8 I_t + a_9 CG_{t-1} + \varepsilon_{3t} \quad (4)$$

$$X_t = a_{10} + a_{11} NT_t + a_{12} I_t + a_{13} X_{t-1} + \varepsilon_{4t} \quad (5)$$

$$M_t = a_{14} + a_{15} NT_t + a_{16} Y_t + a_{17} M_{t-1} + \varepsilon_{5t} \quad (6)$$

where:  $Y$  (National Income);  $Yd$  (Disposable Income);  $CRT$  (Household Consumption);  $I$  (Investment);  $X$  (Export);  $M$  (Import);  $CG$  (Government Expenditure);  $SB$  (Domestic Interest Rate); and  $NT$  (Exchange rate of Rupiah/Dollar). That the four structural models are the equation over identified, so that simultaneous equation model can be done with estimation using two-stage least square (TSLS) model (Gujarati, 2009).

### 4. Results and Discussions

#### 4.1. Estimation Results of Consumption Model

Prediction model for household consumption (CRT) started with the macro model approach by linking changes in the national income ( $Y_t$ ) and the consumption of the past ( $CRT_{t-1}$ ) against the value of the household consumption, and the result of the estimation can be seen in the table below. In the table below, it shows that the value of the correlation coefficient (R) of 0.994 which means that the degree of relationship is very closely by 99.4 percent between

independent variables against the dependent variables. While the value of the determination coefficient ( $R^2$ ) is 0.989 which means of 98,9 percent of all independent variables are able to explain the dependent variables, 1.1 percent can be explained by other variables, assuming that the other factors are considered constant.

In table 1, the aggregate demand shows the value of f-test greater than the value of f-table, which means the statistics of all exogenous variables affect the endogenous variable on the model. It is also visible that the value of the *p-value* is significance of smaller than alpha 0.05. In general, the consumption is defined as the use of resources to get customer satisfaction or utilities. The consumption and investment are two related activities. Current consumption delay can be interpreted as an investment to consumption in the future.

**Table 1. The results of Consumption Model**

Model	Unstandardized Coefficients		Beta	t-test	Sig.
	B	Std. Error			
(Constant)	-7.529	4.792		-1.571	0.147
$Yd_t$	0.790	0.054	0.919	14.652	0.000
$CRT_{t-1}$	0.061	0.044	0.088	1,397	0.193
Multiple R	0.994				
R Square	0.989				
F-test	447.740				

Source: Data Analysis Results

According to the results of the estimation equation model with two-stage least square (TSLS) shows that income per capita ( $Yd_t$ ) affect significantly to household consumption ( $CRT_t$ ). Meanwhile, the household consumption of the past ( $CRT_{t-1}$ ) does not affect significantly to household consumption ( $CRT_t$ ). It cannot be denied that consumption is still dominated the economic growth. BPS (2012) explains that the main source of economic growth in *y-on-y* on the quarter III-2012 is household consumption with 3.12 percent. In this study the model predictions for the consumption of the inhabitants of running with the macro model approach by linking changes in the national income and the previous consumption against the value of the household consumption.

#### 4.2. Estimation Results of Investment Model

Conceptually, it is clear that the investment is influenced by negative territory by the rate of interest. This indicates that when higher interest rates, the economic agent would prefer to invest the money in the Bank with the hope will benefit greater than the bank rate, compared to if they make any risky investment. The results of the estimation of the model of the demand for investment in this study are as follows.

The table below shows that the value of the correlation coefficient (R) of 0.999 which means that the degree of relationship which very closely by 99.9 percent between independent variables against the dependent variables. While the value of the determination coefficient ( $R^2$ ) 0.989 which means of 99,7 percent of all independent variables are able to explain the dependent variables, 0.3 percent can be explained by another variable, assuming that the other factors are considered constant.

In table 2, it shows that the value of f-test is greater than the value of f table, which means the statistics of all exogenous variables affect the endogenous variable on the model. It is also visible that on the value of the *p-value* is significance as it is smaller than alpha 0.05. In general, investment is defined as the activity of the delaying current consumption to use in the efficient production over a long period of time.

**Table 2. The results of Investment Model**

Model	Unstandardized Coefficients		Beta	t-test	Sig.
	B	Std. Error			
(Constant)	-14.768	23.412		-6.308	0.000
$Y_t$	0.313	0.018	0.927	17.240	0.000
$SB_t$	-1.812	1.388	0.046	-1.306	0.224
$I_{t-1}$	0.098	0.062	0.111	1.581	0.148
Multiple R	0.999				
R Square	0.997				
F-test	119.957				

Source: Data Analysis Results

According to the results of the estimation equation model with *two-stage least square* (TSLS), it shows that the national income ( $Y_t$ ) affect significantly on the investment levels ( $i_t$ ). Meanwhile, the level of interest ( $SB_t$ ) and past investment ( $I_{t-1}$ ) does not affect significantly on Investment ( $i_t$ ). In theory, the economy defines investment as "expenses for the purchase of capital goods and equipment production equipment with the aim to change and especially the increase of capital goods in the economy that will be used to produce goods and services in the future".

In the concept is clear that the investment is influenced by negative territory by the rate of interest. This indicates that when the interest rate is higher, the economic agent would prefer to invest money in the Bank with the hope will benefit greater than the bank rate, compared to if they have to make risky investment.

#### 4.3. Estimation Results of Government Expenditure Model

Government spending (government expenditure is a decision made by the government to provide public goods and services to the public. The total government spending is the overall addition sums of budget decisions on each of these levels of government (the center of the province of local). In general improvement of central government spending will cause increase revenues, because the increase in aggregate demand will encourage investment rise and eventually cause increase production.

The result shows that the value of the correlation coefficient (R) of 0.983 which means that the degree of relationship which very closely by 98.3 percent between independent variables against the dependent variables. Meanwhile, the value of the determination coefficient ( $R^2$ ) 0.966 which means 96.6 percent of all independent variables are able to explain the dependent variables, 3.4 percent can be explained by other variables, assuming that the other factors are considered constant.

Table 3 shows the value of f-test is greater than the value of f table which means the statistics of all exogenous variables affect the endogenous variable on the model. It shows also on the value of the *p-value* is significance as it is smaller than alpha 0.05. Government Spending is a decision made by the government in providing public goods and services to the public. The total government spending is the overall addition sums of budget decisions on each of these levels of government (the center of the province of local).

**Table 3. The results of Government Expenditure Model**

Model	Unstandardized Coefficients		Beta	t-test	Sig.
	B	Std. Error			
(Constant)	29.240	8.599		3.400	0.007
$I_t$	0.188	0.044	0.625	4.301	0.002
$CG_{t-1}$	0.301	0.115	0.378	2.605	0.026
Multiple R	0.983				
R Square	0.966				
F-test	141.295				

Source: Data Analysis Results

According to the results of the estimation equation model with *two-stage least square* (TSLS) shows that the investment ( $I_t$ ) affect significantly against the government spending (YT). Meanwhile, the previous government consumption ( $CG_{t-1}$ ) also affect significantly against the government spending ( $CG_t$ ). For each level will have the final decision and the process of making a different and only a few things the government under which can be influenced by the government that higher (Lee Robert, Jr and Ronald W. Johnson, 1998). Therefore the understanding of the various financing arrangements for the central government and the regional government must be aware of the diversity of the functions be imposed.

Arndt (1998) have the argument about public policy in relation to the policy of the government spending, which is based on the situation that the market cannot play itself to activate the mobilization of economic activity especially to reach efficiency since the existence of public expenditure due to the failure of the market. According to Rao (1998), market failure is caused by: (1) Not all goods and services are traded, (2) goods that cause externality in production and consumption of forcing a contradiction between the market price with the social assessment and the market and the market could not ensure to meet the desired conditions, (3) Some goods have characteristics increasing returns to scale. In the condition of the natural monopoly as the people can obtain lower prices and higher output when the government role as the manufacturer or there are subsidies on the private sector to cover the costs for producing optimally. (4) The Information asymmetry between consumers and producers in the field of services such as social insurance can give increased moral hazard and selection of good enough. Therefore the intervention of the country is required in order to ensure the distribution of the income. In general, improvement of central government spending will cause increase revenues, because increased fastener demand will encourage investment rise and eventually cause increase production.

#### 4.4. Estimation Results of Export Model

Indonesian exports on October 2012 is declining by 1.45 percent compared to September 2012, namely from US\$.15.898 million to US\$.15.667 million. When compared with the October 2011, the decline in export is 7,61 percent. The decline in export in October 2012 is caused by the decline in non-oil and gas export of 2.42 percent from US\$13.127,6 million to US\$.12.678 million while oil and gas export increased up to 7.87 percent US\$.2.770,5 million to US\$2.988,6 million. Furthermore, the increase in oil and gas is caused by the increase in crude oil export by 0.80 percent to US\$950,8 million.

Moreover, petroleum products increased up to 31.09% to US\$378,9 million and gas export increased up to 7.845 to US\$1.658,9 million. The volume of gas export in October 2012 on September 2012 for crude oil is 6.27% meanwhile the crude oil and gas increased up to 41.05% and 5.66%, respectively. Meanwhile, the price of Indonesian crude oil in the world market is decreasing from US\$.111,02 per barrel in September 2012 to US\$.109,85 per barrel in October 2012. The export of non-oil and gas Indonesia in October 2012 to China, Japan, and the US is US\$.1.821,8 million, US\$.1.418,4 million and US\$.1.154,0 million, respectively.

Non-oil and gas export decline in October 2012 if compared with the September 2012 happens to most host countries, namely India US\$.199,3 million; Singapore US\$85.1 million; Malaysia US\$54.1 million; South Korea US\$.41,4 million; Japan US\$.38,7 million; US\$. 25,6 million; Germany US\$4.2 million; and English US\$.1.2 million. On



the contrary, exports to China have increased by US\$.144.5 million, followed Australia US\$.97.5 million; Taiwan US\$.47.8 million; Thailand US\$7.5 million; and French US\$.5.0 million. Meanwhile, exports to the European Union (27 countries) on October 2012 reached US\$.1.482.3 million. Overall, the total export to the countries above is declining by 1.58%. This study creates the demand model of export functioned with the exchange rate ( $NT_t$ ), investment ( $I_t$ ) and export the past ( $X_{t-1}$ ). The result of the estimation can be seen the following table.

**Table 4. The results of Export Model**

Model	Unstandardized Coefficients		Beta	t-test	Sig.
	B	Std. Error			
(Constant)	174.297	224.559		0.776	0.458
$NT_t$	-1.502	2.429	-0.039	-0.618	0.552
$I_t$	1.840	0.314	0.949	5.854	0.000
$X_{t-1}$	0.033	0.134	0.040	0.249	0.809
Multiple R	0.984				
R Square	0.968				
F-test	91.869				

Source: Data Analysis Results

Table 4 shows that the value of the correlation coefficient (R) of 0.984 which means that the degree of the relationship that is closely connected to 98.4 percent between independent variables against the dependent variables. While the value of the determination coefficient  $R^2$  0.968 which means of 96,8 percent of all independent variables are able to explain the dependent variables, 3,2 percent can be explained by other variable assuming other factors are considered constant.

Table above shows the value of f-test is greater than the value of f table, which means the statistics of all exogenous variables affect the endogenous variable on the model. It shows also on the value of the *p-value* is significance since it is smaller than alpha 0.05, assuming that the other factors are considered constant. According to the results of the estimation equation model with two-stage least square (TSLS), it shows that the investment ( $I_t$ ) affect significantly against the export performance ( $X_t$ ). While the exchange rate ( $NT_t$ ) and export the past ( $X_{t-1}$ ) does not affect significantly on exports ( $X_t$ ).

#### 4.5. Estimation Results of Import Model

The total imports in October 2012 US\$17.214,3 million, imports of raw materials/helper provides the biggest role, namely 74,64 percent with the value of US\$12.848,1 million, followed by the import of capital goods by 19.22 percent (US\$3.308,2 million), and import goods by 6,14 percent (US\$1.058,0 million). If compared to the previous period, during January-October 2012 the import value of the raw material/helper and capital goods have increased.

Raw material increased from US\$108.225,3 million to US\$116.270,8 million ( a rose by 7.43 percent) and the import of capital goods US\$26.145,1 million to US\$31.862,4 million (up 21,87 percent). Meanwhile, consumer goods imports fell from US\$11.195.7 million to US\$11.047,2 million or 1.33 percent. Next, the role of the Indonesian imports according to the use of goods in January-October 2011 and 2012. Import Model is assumed as a function of the exchange rate ( $NT_t$ ), the national income ( $Y_t$ ) and the previous year import ( $M_{t-1}$ ). The result of the estimation can be seen in the following table.

Table 5. The results of Import Model

Model	Unstandardized Coefficients		Beta	t-test	Sig.
	B	Std. Error			
(Constant)	-88.086	265.091		-0.332	0.747
NT <sub>t</sub>	-4.994	26.858	-0.016	-0.186	0.857
Y <sub>t</sub>	0.426	0.110	0.801	3.877	0.004
M <sub>t-1</sub>	0.152	0.174	0.180	0.874	0.405
Multiple R	0.967				
R Square	0.935				
F-test	43.299				

Source: Data Analysis Results

Table 5 above shows that the value of the correlation coefficient (R) of 0.967 which means that the degree of relationship which is very closely by 96.7 percent between independent variables against the dependent variables. While the value of the determination coefficient (R<sup>2</sup>) is 0.935, which means of 93.5 percent of all independent variables are able to explain the dependent variables, 6.5 percent can be explained by other variables assuming other factors are considered constant.

The value of f-test is greater than the value of f-table, which means the statistics of all exogenous variables affect the endogenous variable on the model. It shows also on the value of the *p-value* is significance as it is smaller than alpha 0.05, assuming that the other factors are considered constant. According to the results of the estimation equation model with two-stage least square (TSLS) shows that the national income (Y<sub>t</sub>) affect significantly against import (M<sub>t</sub>). While the exchange rate (NT<sub>t</sub>) and import the past (M<sub>t-1</sub>) do not affect significantly against import (M<sub>t</sub>).

The results of the research showed that Indonesia is still quite many obstacles, however, Indonesia potentially reaps the benefits of foreign investment as well as increased exports noted as an important driver of growth for the economy. Meanwhile, the World Bank estimates that the enforcement of AEC will Attract Foreign Direct Investment (FDI) in the range of 28 to 63 percent. Increased FDI is important for Indonesia to maintain economic growth especially when export performance declines. The potential for Indonesia is great as long as Indonesia is prepared to take advantage of the momentum (www.tax.thomsonreuters.com, 2015).

AEC 2015 poses to bring a very significant impact on the development of Indonesian businesses because it not only creates a free market for trade in goods and services, but also touches all the joints of other economies in the areas of employment, competition, and policies relevant to the development of Indonesia. AEC should not be viewed as a threat to the Indonesian business world because of increasing competition from ASEAN countries, but also as a golden opportunity because of the removal of barriers and encouragement of investment from the ASEAN region (www.tax.thomsonreuters.com, 2015).

## 5. Conclusion

Based on the discussion of the results above, shows that in general, all macroeconomic variables have a significant effect on economic conditions in Indonesia. Furthermore, when viewed in the proportion of household consumption and investment still has a dominant proportion and greater influence national income than other macro variables. As for government spending is positive still affected by the large-small investment into Indonesia, it means that the increased in investment will increase government spending along with the construction and improvement of public goods.

The increase in exports in Indonesia is still influenced by the amount of investment in Indonesia and vice versa, while the increase in imports is driven by the size of national income, especially in the high proportion of the level of household consumption, this shows that the population in Indonesia cannot be separated of the consumption of imported goods. Therefore, the government must make a new breakthrough in terms of trade policy. Moreover, the current State of Indonesia is already faced with the free market era in this case the ASEAN Economic Community (AEC).

## References

- [1]. Andres, J., D. Lopez-Salido, and E. Nelson. 2004. "Tobin's Imperfect Asset Substitution in Optimizing General Equilibrium." *Journal of Money, Credit, and Banking*, 36 (4): 665-690.
- [2]. Arndt, W. H. 1998. *Development and Equitable Distribution in Indonesia*. Jakarta: LP3ES Publisher.
- [3]. Bania, N., Gray, J. A., & Stone, J. A. 2006. "Taxes, Government Expenditures, and State Economic Growth: The Role of Nonlinearities." *The Department of Planning. Working Paper Public Policy and Management*, University of Oregon. Available at: [https://www.researchgate.net/publication/5206679\\_Taxes\\_Government\\_Expenditures\\_and\\_State\\_Economic\\_Growth\\_The\\_Role\\_of\\_Nonlinearities](https://www.researchgate.net/publication/5206679_Taxes_Government_Expenditures_and_State_Economic_Growth_The_Role_of_Nonlinearities)
- [4]. Chen, H., V. Curdia, and A. Ferrero. 2011. "The Macroeconomic Effects of Large-Scale Asset Purchase Programs." *Staff Report No. 527*, Federal Reserve Bank of New York. Available at: [https://www.newyorkfed.org/medialibrary/media/research/staff\\_reports/sr527.pdf](https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr527.pdf)
- [5]. Chung, H., J.-P. Laforte, D. Reifschneider, and J. C. Williams. 2011. "Have We Underestimated the Likelihood and Severity of Zero Lower Bound Events?" *Working Paper*, 2011-01, Federal Reserve Bank of San Francisco. Available at: <http://www.frbsf.org/economic-research/files/wp11-01bk.pdf>
- [6]. Fuhrer, Jeffrey C. and Olivei, Giovanni P. 2011. "The Estimated Macroeconomic Effects of the Federal Reserve's Large-Scale Treasury Purchase Program." *Federal Reserve Bank of Boston Public Policy Briefs*, 11(2). Available at: [www.bostonfed.org/economic/ppb/2011/ppb112.pdf](http://www.bostonfed.org/economic/ppb/2011/ppb112.pdf)
- [7]. Gagnon, J., M. Raskin, J. Remache, and B. Sack. 2011. "Large-Scale Asset Purchases by the Federal Reserve: Did They Work?" *Economic Policy Review* (Federal Reserve Bank of New York), 17 (1): 41-59.
- [8]. Gujarati, Damodar and Dawn C. Porter. 2009. *Basic Econometrics*. 5th Edition, Palgrave Macmillan.
- [9]. Gupta, S., B. Clements, E. Baldacci, and C. Mulas-Granados. 2002. "Expenditure Composition, Fiscal Adjustment, and Growth." *IMF Working Paper*, 02/77. Available at: <https://www.imf.org/external/pubs/ft/wp/2002/wp0277.pdf>
- [10]. Hartati, E. S. Economic Impacts of Government Spending on Economic Growth, Employment Opportunities, and Poverty Levels. Ph.D. Diss. Bogor: Bogor Agriculture Institute, 2012. Available at: <http://repositoryipb.ac.id/handle/123456789/54829>
- [11]. Kiley, M. T. (2014). The Aggregate Demand Effects of Short- and Long-term Interest Rates. *International Journal of Central Banking*, 10(4), 69-104. Available at: <http://ideas.repec.org/a/ijc/ijcjou/y2014q4a3.html>
- [12]. Lipsey, R. G, P. N. Courant, D. D. Purvis, and P. O. Steiner. 1995. *Macroeconomics*. Tenth Edition. Jakarta: Aksara Binarupa Published.
- [13]. Lee, Robert D. Jr. and Ronald W. Johnson. 1998. *Public Budgeting Systems*. Sixth Edition. Gaithersburg, Maryland: Aspen Publishers, Inc.
- [14]. Maryatmo. 2004. The impact of monetary policy of the Government Budget Deficit and the role of Rational In Model Simulation Macroeconomic in Indonesia (1983:1-2002:4) *Newsletters Monetary Economy and Banking*, 10(1): 22.
- [15]. Mankiw, N. Gregory. 2007. *Macroeconomics*. New York: Worth Publisher. ISBN 0-7167-6213-7
- [16]. Pamuji, T. "The Impact of the Budget Deficit of The Macroeconomy in Indonesia (1993-2007). Ph.D. Diss. Semarang: Diponegoro University, 2008.
- [17]. Rao, M.G. 1998. "Poverty Alleviation under Decentralization". *World Bank Institute*. Available at: [www.worldbank.org](http://www.worldbank.org)
- [18]. Romer, David. 2006. *Advanced Macroeconomics*. Third Edition. Mc. Graw-Hill Irwin Publishing.

- [19]. Romer, C. D., & Romer, D. H. 2007. "The Macroeconomic Effects of Tax Changes: Estimates Based On A New Measure of fiscal shocks." *Working Paper* 13264. National Bureau of Economic Research 1050 Massachusetts Avenue Cambridge, MA 02138
- [20]. Serrano, F. and R. Summa. 2012. "Macroeconomic Policy, Growth and Income Distribution in the Brazilian Economy in the 2000s." *Investigación Económica* 71 (282): 55-92.
- [21]. Turnovsky, S. J. 2004. "The Transitional Dynamics of Fiscal Policy: Long-Run Capital Accumulation and Growth." *Journal of Money, Credit, and Banking*, 36(5), 883–910. <https://doi.org/10.1353/mcb.2004.0069>. Available at: <https://doi.org/10.1353/mcb.2004.0069>
- \*\*\* AEC 2015: Benefits and Challenges for Indonesia, [www.tax.thomsonreuters.com](http://www.tax.thomsonreuters.com). Accessed on November 9, 2015.
- \*\*\* UN. 2015: Transforming our world: the 2030 Agenda for Sustainable Development, United Nations Resolution A/RES/70/1 of 25 September 2015.