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# An Analysis of Factors Affecting Indonesian's Economic Growth

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**Abstract:** This study aims at analyzing factors affecting Indonesian's economic growth. This study is a qualitative study. Data in this study are obtained by using the documentation technique. The document used is publication data provided by ASEAN Development Bank (ADB). The analysis tool employed in this study is co-integration analysis by using Johansson, VECM and multiple regression tests. The finding shows that the long-term economic growth from 1990-2013 is affected by the consumption, investment, government expenditure and net export. In the short term, those variables do not relate significantly to the economic growth. Partially or simultaneously, the consumption, investment and net export affect significantly to the economic growth. The government expenditure does not affect the economic growth as it tends to be used as a tool to stabilize the economic condition due to the crisis and economic shock at certain period.

**Key words:** Economic development, consumption, investment, government expenditure, net export

## INTRODUCTION

The economic activities of a country always depends on the ups and downs in its economic growth. According to Sitepu, the economic growth is a development in economic activities which increases the production of goods and services by which the prosperity of the country improves. The economic growth is calculated by the gross domestic product. The success in the economic growth can be reflected by the increasing value of the gross domestic product from time to time. If seen from the expenditure side and referring to the theory of Keynes and Harold Domar, the gross domestic product is formed by the consumption, investment, government expenditure and net export in which each sector is related to each other in sustaining the value of gross domestic product.

Other than the economic growth, the consumption can also be used as the indicator to measure the society's prosperity. The biggest consumer in a country is the household consumption. A theory of neo-classical suggested by Solow Swan, cited in Nurhuda, states that the economic growth depends on the supply of production factors. The higher the economic growth, the bigger the production made by the country. The increasing production will also increase the society's consump tion as the improving prosperity is associated by the improving purchasing power of the society.

Another component affecting the economic growth is the investment. The investment in a country consists of state and private investments. The state investment is run by the policy of government expenditure while the private investment comes from the local or foreign countries (Ningsih, 2013). According to Sukirno (2000), the continuous investment by the society will be able to improve the economic activities and open the job opportunity, increase the national income as well as improve the prosperity. This is because investment is one of the significant expenditures in which the increasing investment goes hand in hand with productions, job opportunities and national income.

The government expenditure is a part of the fiscal policy done by the government to fund all economic activities set in the state budget. According to Sitaniapessy, the government expenditure is closely related to the economic growth as the expenditure is aimed to fund the agent of development function and the expenditure will result in the product needed to improve the economic advancement. Typically, the fundamental sector of the government expenditure is education, health and infrastructure. It is due to the fact that the government expenditure aims at improving the society's prosperity. The relationship between the administration and the renewal of economic, social, cultural and environment aspects is explained in the administration development (Mankiw, 2006).

Millia suggests that the net export is an external sector which can affect the internal sector of a country aiming to improve the prosperity. The export activities are an incentive for the growth and advancement of other economic sectors. The development of export will create a new demand in which the expanded export will improve the economic condition by triggering demands to other sectors. The higher the export value, the bigger surplus made in the trading which can improve the economic growth. Cooperation model and positive partnership

between the local government and society to overcome unemployment problem that is getting worse become one of ideas and activities of sustainable and equitable economic development (Nasikh, 2017).

Based on the background above, this study aims at analyzing factors affecting the Indonesian's economic growth from 1990-2013. In those periods, Indonesia faced the long economic crisis, namely monetary crisis in 1997 and global crisis in 2008. The effect of the crisis shocked the economic condition of the country and disturbed the stability of the economic growth. Therefore, the author attempts to explore which indicators can be used to measure the economic growth if seen from the expenditure side. This discussion was expected to be able to develop the economy sustainably and equitably as well as improve the acceleration in the social and local economy development (Nasikh, 2014).

## MATERIALS AND METHODS

The data used in this study are secondary data. The data are obtained by using literature study. The data are taken from the related departments or institutions, namely ASEAN. All data are taken from 1990-2013.

The research method employed in this study is the qualitative analysis in which the data obtained are analyzed according to the statistical method and economic mathematics. The data used are the sequential data, thus, before being analyzed, the data are tested to avoid the not genuine data. The stationary test uses the Augmented Dickey Fuller test with the estimated model as follows:

$$\Delta y_t = (\rho - 1) y_{t-1} + \alpha_i \sum^{m} \Delta y_{t-1} + \mu_t$$

After that, the co-integration analysis by using the Johansson test is carried out to see the long-term effect of the studied variable:

$$\lambda_{Tracc}(r) = -T \sum_{i=r+1}^{g} in(1-\lambda_i)$$

$$\lambda_{Max}(r, r+1) = -T\ln(1-\lambda_{r+1})$$

The VECM test is used to see the short-term relationship between variables:

$$\Delta Z_t = \alpha\beta Z_{t-1} \sum_{1}^{p1} \Gamma_1 \Delta Z_{t-1} + \delta\phi + E_t$$

Besides, the multiple regression analysis is carried out by doing t-test to see effect of the independent variable to the dependent variable partially. The f-test is used to see the simultaneous effect and determination coefficient:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

$$Y = \alpha + \beta_1 C_1 + \beta_2 I + \beta_3 G + \beta_4 XN + \varepsilon$$

To sum up, the analysis aims at identifying factors affecting the economic growth measured by the consumption, investment, government expenditure and net export from 1900-2013. The result of the analysis is explained descriptively by comparing it to the existing theory.

## RESULTS AND DISCUSSION

The result of the analysis displayed that the economic growth, consumption, investment, government expenditure and net export had stationary data in the level 1.

Based on the stationary test result in Table 1 it could be concluded that the data employed in this study had stationary level in the same degree, namely level 1. The stationary of the data could be measured by comparing the value on ADF test to the critical value. The data were considered stationary when the ADF test was bigger than the critical value.

After that, the data was tested co-integrally by using the Johansson test to see the long-term relationship. The result was as follows. Table 2 showed that the economic growth, consumption, investment, government expenditure and net export had the long-term relationship from 1990-2013. It was proven by the probability result of the Johansson test showing the significance value of <5%.

To see the short-term relationship, the VECM test was done. The result was as follows (Table 3). Based on the result above, it could be concluded that the economic growth, consumption, investment, government expenditure and net export did not have the short-term relationship from 1990-2013. This was indicated by the t value of all variables which was <1.96.

The result of the t-test could be seen in Table 4. The consumption, investment and net export affected significantly to the economic growth in 1990-2013 with 5% of error tolerance. This was indicated by the probability value of each variable which was <0.05. The consumption with positive regression coefficient meant that the additional one consumption made the economic growth improve to 1.073718 if other variables were considered constant. The investment with positive regression coefficient meant that the additional one consumption made the economic growth improve to 1.192951 if other

Table 1: The result of stationary test

| | Levels | | First difference | | Second difference | |
|---|---|---|---|---|---|---|
| Variables | ADF test | Critical value (1%) | ADF test | Critical value (1%) | ADF test | Critical value (1%) |
| Y | 0.146905 | 0-3.752946 | 0-4.805095 | 0-3.769597 | | |
| C | 0-0.134862 | 0-3.752946 | 0-4.803058 | 0-3.769597 | | |
| I | 0.683563 | 0-3.752946 | 0-4.728505 | 0-3.769597 | | |
| G | 0.331643 | 0-3.752946 | 0-4.483439 | 0-3.769597 | | |
| XN | -0.110819 | 0-3.752946 | 0-5.638118 | 0-3.769597 | | |

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Table 2: The result of co-integration test using the Johansson test

| Ho:r | Eigen value ($\lambda_i$) | Trace statistic | $\lambda_{Trace}$ (95%) | Probability |
|---|---|---|---|---|
| None* | 0.875045 | 106.3182 | 69.81889 | 0.0000 |
| At most 1* | 0.840650 | 60.56252 | 47.85613 | 0.0021 |
| At most 2 | 0.446438 | 20.15612 | 29.79707 | 0.4123 |
| At most 3 | 0.275389 | 7.145728 | 15.49471 | 0.5608 |
| At most 4 | 0.002682 | 0.059074 | 3.841466 | 0.8079 |

Table 3: The result of vector error correction model test

| | Y | C | I | G | NX |
|---|---|---|---|---|---|
| Y(-1) | -1.497195 | -1.528580 | -0.411529 | -0.223550 | -0.219314 |
| | (6.09986) | (3.50651) | (1.27924) | (0.43273) | (0.95626) |
| | [-0.24545] | [-0.43593] | [-0.32170] | [-0.51660] | [-0.22935] |
| Y(-2) | -4.585390 | -2.274950 | -0.570997 | 0.125121 | -0.730779 |
| | (8.86664) | (5.09700) | (1.85948) | (0.62901) | (1.39000) |
| | [-0.51715] | [-0.44633] | [-0.30707] | [ 0.19892] | [-0.52574] |
| C(-1) | 3.325635 | 3.120527 | 0.751411 | 0.359886 | 0.579909 |
| | (9.51556) | (5.47003) | (1.99557) | (0.67505) | (1.49173) |
| | [0.34949] | [0.57048] | [0.37654] | [0.53313] | [0.38875] |
| C(-2) | 4.280751 | 1.950094 | 0.246350 | -0.203729 | 0.548524 |
| | (13.3951) | (7.70019) | (2.80917) | (0.95027) | (2.09992) |
| | [0.31958] | [0.25325] | [0.08769] | [-0.21439] | [0.26121] |
| I(-1) | 0.153523 | 0.079995 | 0.454484 | 0.089269 | -0.367692 |
| | (8.37616) | (4.81504) | (1.75662) | (0.59422) | (1.31311) |
| | [0.01833] | [0.01661] | [0.25873] | [0.15023] | [-0.28002] |
| I(-2) | 6.027561 | 3.433219 | 0.915724 | -0.026074 | 1.218637 |
| | (6.84571) | (3.93526) | (1.43566) | (0.48564) | (1.07318) |
| | [0.88049] | [0.87242] | [ 0.63784] | [-0.05369] | [ 1.13553] |
| G(-1) | 0.373361 | -0.338218 | -0.172833 | 0.481497 | 0.486326 |
| | (15.3396) | (8.81801) | (3.21697) | (1.08822) | (2.40476) |
| | [0.02434] | [-0.03836] | [-0.05373] | [ 0.44246] | [ 0.20224] |
| G(-2) | 5.913365 | 2.946074 | 2.406450 | 0.274896 | 0.886728 |
| | (15.0790) | (8.66816) | (3.16231) | (1.06972) | (2.36389) |
| | [0.39216] | [0.33987] | [ 0.76098] | [ 0.25698] | [ 0.37511] |
| NX(-1) | 2.283085 | 1.412741 | 0.505926 | 0.198942 | 0.122823 |
| | (6.36205) | (3.65723) | (1.33423) | (0.45133) | (0.99736) |
| | [0.35886] | [0.38629] | [ 0.37919] | [ 0.44079] | [ 0.12315] |
| NX(-2) | 5.486741 | 2.939219 | 0.968177 | -0.021938 | 1.033137 |
| | (7.17830) | (4.12645) | (1.50541) | (0.50924) | (1.12532) |
| | [0.76435] | [0.71229] | [ 0.64313] | [-0.04308] | [ 0.91808] |
| C | 159.8916 | 100.6853 | 44.05723 | 6.177048 | -22.16522 |
| | (264.873) | (152.262) | (55.5481) | (18.7904) | (41.5234) |
| | [0.60365] | [0.66126] | [ 0.79314] | [0.32873] | [-0.53380] |

Table 4: The result of the multiple regression test

| Variables | Coefficient | SE | t-statistic | Prob. |
|---|---|---|---|---|
| C | -6.926816 | 10.49051 | -0.660293 | 0.5170 |
| Consumption | 1.073718 | 0.045918 | 23.383420 | 0.0000 |
| Investment | 1.192951 | 0.107641 | 11.082730 | 0.0000 |
| Goverment expenditure | 0.320177 | 0.413927 | 0.773510 | 0.4487 |
| Net export | 0.852205 | 0.199602 | 4.269520 | 0.0004 |

$R^2$ 0.999778; F-statistic, 21432.29; Prob. (F-statistic); 0.000000

variables were considered constant. The net export with the positive regression coefficient meant that the additional one consumption made the economic growth improve to 0.852205 if other variables were considered constant. Meanwhile, the government expenditure did not affect significantly to the economic growth from 1990-2013

as the error tolerance was 5%. This was proven by the probability value of 0.4487 which was >0.05. The government expenditure did not affect due to the fact that the economic condition was unstable so that the government policy in the government expenditure tended to recover the economic condition because of the monetary crisis. Simultaneously, the consumption, investment, government expenditure and net export affected significantly to the Indonesian's economic growth from 1990-2013. This was reflected in the probability of F statistic showing result <0.05. The result of determination coefficient test was 0.99 meaning that investment, government expenditure and net export could explain the Indonesian's economic growth from 1990-2013 as much as 99%.

The increasing consumption reflected the increasing productivity of goods and services as well. This forced the economic condition to increase its production as the demand from the society was higher. The increasing production of goods and services would make the economic growth grow better and vice versa (Ningsih, 2013).

The investment played a significant role in the economic growth in which it could be used as the source of income and became the tool to expand the production capacity. The increasing investment reflected the improvement in either local stock or foreigner one. The increasing stock would stimulate other economic sectors to produce more goods and services thus the economic growth could be reached in no time within certain period. Besides, the increasing investment in Indonesia was resulted from the government policy which gave easy access in either real or financial sectors. The investment could also open job opportunities which eventually improved the society's prosperity.

The major aim of the government making the expenditure was to fund sectors which could improve the society's prosperity. The government's role was shown in regular expenditure and development. Generally, the leading sectors that were prioritized by the government were education, health and infrastructure. The government expenditure was the part of the fiscal policy which was related to the state budget in national and regional levels. The expenditure was used to empower various economic resources which could stimulated the improvement of society's income. The role of the government in managing its income was used to activate the economy so that it could contribute to the economic growth of the country.

The improvement in net export indicated that there was increasing production of goods and services. If the good and service were able to compete in the international market, the demand of export would increase. When the proportion of export was bigger than the import, the economic condition would be in surplus state so that the net export would be bigger. This could affect the economic growth as the export was the part of indicators used to measure the economic growth from the expenditure side. The government's role in stimulating the export-based actors could be done by establishing the policy of export and import taxes.

This was in line with the theory developed by Keynes in Mankiew (2006) stating that the improvement in consumption, investment, government expenditure and net export made the production of goods and services increase which resulted in the improvement of the economic growth measured by the gross domestic product.

There were some factors affecting the fluctuation of the economic condition of a country. If seen from the macroeconomic side, the economic growth of a country could be measured by the gross domestic product. Meanwhile, referring to Harrod Domar's theory, the economic growth was affected by the consumption, investment, government expenditure and net export occurred in certain period of time. It could be concluded that there were a lot of indicators used to improve the Indonesian's economic growth.

The government's role was very important by establishing policy instruments in either fiscal or monetary policies to improve the investment. The investment made it possible to transfer technology and knowledge, so the productivity of the good and service improved and it resulted in the increasing export. This would bring a change in terms of prosperity of the society as the improved productivity would improve the society's income. The higher income would trigger the society to be more consumptive as the purchasing power got higher. Thus, all indicators mentioned above were related to each other to hold the Indonesian's economic growth.

## CONCLUSION

Consumption, investment, government expenditure and net export have long-term relationship with the Indonesian's economic growth from 1990-2013. However, they do not have significantly short-term relationship. Partially, the consumption, investment and net export affected significantly to the Indonesian's economic growth from 1990-2013. The government expenditure does not affect to the economic growth as it tends to be used as the tool to stabilize the economic condition due to the crisis and economic shock in certain

period. Simultaneously, all variables affect significantly to the Indonesian's economic growth from 1990-2013.

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