

Globalizational and Macroeconomics Performance: A Case of ASEAN Countries

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Abstract—The ASEAN Economic Community was formed with the aim of achieving the perfection of economic integration in the ASEAN region which is believed to provide tangible benefits to all elements of society. The phenomenon of globalization can be seen from the growth of cross-country economic activities in various forms. Among other things, the two forms of economic activity are significantly more global, namely the flow of trade and international capital flows. This study uses quantitative methods with secondary data by panel period 2012-2016 by combining 10 ASEAN countries (Indonesia, Malaysia, Singapore, Thailand, Philippines, Vietnam, Myanmar, Brunei, Laos, Cambodia). The result of t test partially obtained is the probability value of t-statistic obtained 0.0000. Then the statistical probability $\alpha = 5\%$ is $0.0000 < 0.05$. So, it can be concluded that the variable of capital partially has a positive significance to the variable GDP. While the probability value of t-statistics obtained is 0.4191, then the statistical probability $\alpha = 5\%$ is $0.4191 > 0.005$. So, it can be concluded that the variable labor partially does not affect the significance of the variable GDP. While the value of probability t-statistics obtained 0.0251. Then the statistical probability $\alpha = 5\%$ is $0.0251 < 0.05$. but t-statistically marked negative (-) So it can be concluded that the variable of labor partially has a negative effect and significance to the variable of GDP. F test results Simultaneous results are known that $F_{count} > F_{table}$ ($1807.174 > 3.69$) then H_0 rejected and H_1 accepted (F arithmetic is in reception area H_1). Then also probability (prob.) From above table that is equal to $0.000 > 0.005$, then H_0 is rejected and H_1 accepted. Hence, simultaneously or together the variable capital, labor, openness simultaneously positive and significant to the variable GDP. In the Capital Variables each ASEAN country has excellent capital so that it becomes the main support for the success of the ASEAN Economic Community. While the Labor Variables seen each country is still constrained to the workforce. While the influence of openness to GDP growth of ASEAN countries needs to be improved especially in producing products that can be exported and reduce the import of goods.

Keywords—economic globalization, capital, labor, openness, GDP, ASEAN

I. INTRODUCTION

The ASEAN Economic Community (AEC) is an initiative of ASEAN countries to realize ASEAN into a solid economic region and be taken into account in the international economic arena. AEC was formed with the aim to achieve the perfection of economic integration in the ASEAN region which is believed to provide real benefits for all elements of society.

According to Abdurofiq in [1], there are at least 4 (four) things that become the focus of AEC implementation, first,

countries in the market and production base areas. Secondly, the AEC will serve as an area with a very high level of competition. Thirdly, the AEC will serve as an inspiration with equitable economic development. Fourth, MEA integrated to equitable economic development among the entire ASEAN region.

The AEC has a broader scope of cooperation in regulating trade liberalization of goods. After December 31, 2015 there will be no drastic changes in the goods trading sector, since the last 5 years tariff-free is already applied to 99% of goods in ASEAN. According to Abduofiq in [1], the implementation of ACFTA and AEC has resulted in the reduction of import-export tariff rates to 0-5 percent and the elimination of other non-tariff and quantitative limits.

Zaroni in [2] stated that explains that in economics in general the phenomenon of globalization can be seen from the growth of cross-country economic activities in various forms. Among other things, the two forms of economic activity are significantly more global, namely the flow of trade and international capital flows. Therefore, the flow of globalization and the flow of world trade and investment take place simultaneously. International Trade Flows The share of domestic consumption spending on goods and services imported from other countries increases, and the share of domestically produced goods and services is increasing.

This study will focus on the extent to which the globalization of the economic impacts on ASEAN's GDP. Razmi in [3] state that Globalization according to Solow model consists of capital, labor, openness. This study uses secondary data in the form of panel data with the period of 2012-2016, from 10 ASEAN countries namely Indonesia, Malaysia, Singapore, Philippines, Thailand, Vietnam, Myanmar, Laos, Brunei, Cambodia.

The hypothesis of this research is (1) the variable of capital have positive and significant effect to the variable of GDP, (2) the variable of labor have positive and significant effect to GDP, (3) openness variable have positive and significant effect to GDP, (4) variable of capital, labor variable and openness variable together equal positive and significant effect on GDP variable.

The rest of this paper is organized as follow: Section II presents the literature review. Section III describes the proposed method. Section IV presents the obtained results and following by discussion. Finally, Section V concludes this work.

II. LITERATURE REVIEW

This section presents the literature review.

A. Globalization

According to Friedman in Zaroni [2], globalization has three dimensions. First, the dimension of ideas or ideology is "capitalism". In this sense includes a set of values that accompany it, namely the philosophy of individualism, democracy and human rights. Second, the economic dimension, namely the free market which means the flow of goods and services between countries is not blocked at all. Third, the technological dimension, especially information technology that will open the boundaries of the country so that the state is increasingly without borders. Still in Zaroni [2] explains that in economics outline the phenomenon of globalization can be seen from the growth of cross-country economic activities in various forms. Among other things, two forms of economic activity are increasingly globalized, namely trade flows and international capital flows. International Trade Flows The share of domestic consumption expenditure on goods and services imported from other countries increases, and the share of exported goods and services in the country increases.

In economics, in general the phenomenon of globalization can be seen from the growth of cross-border economic activities in various forms. Among other things, two forms of economic activity are increasingly globalized, namely trade flows and international capital flows. Therefore, the flow of globalization and the flow of trade and investment in the world took place simultaneously.

International Trade Flows The share of domestic consumption expenditure on goods and services imported from other countries increases, and the share of exported goods and services in the country increases. This increase makes the volume of trade between countries in the world increase, both in absolute and relative terms, namely the ratio of international trade (exports and imports) to GDP of each country individually or the world. Data from the World Bank in 2000 for example show that in a group of rich / developed countries, the share of international trade in total output rose from 27% to 39% during the period 1987-1998. Whereas in the developing countries group, the ratio of international trade to GDP rose from 10% to 17% in the same period.

International capital flows or interstate capital flows consist of private capital and government capital. Interstate private capital flows can take the form of investments or loans; while the flow of foreign capital of the government is generally in the form of loans, for example loans received from the government from countries that are members of the CGI (Consultancy Group on Indonesia) or in a bilateral context with the governments of individual donor countries. The definition of foreign government capital also includes loans from world bodies such as the International Monetary Fund (IMF), the World Bank and the Asian Development Bank (ADB).

B. GDP

A successful development program in developing countries is often assessed based on the high and low and or the speed of the level of output growth and national income generated. However, the main concern of development

through accelerating the level of national income growth or economic growth, on the other hand there is a spread of revenue growth is still very limited in scope, the strength between regions / regions in developing countries is not balanced, so it tends to widen the gap or inequality between regions / rich regions and poor regions / regions.

The initial stage of economic growth, the distribution of income tends to worsen, and the next stage, the distribution of income will improve, but at a time there will be an increase in disparity again and eventually decline again. In the short term there is a positive correlation between the growth of per capita income and income disparity. But in the long run the relationship between them becomes a negative correlation.

The previous review of Zaroni [2] describes the globalization of the economy and its implications for developing countries. Meanwhile, Semancikova in [5] examines trade, open trade and macroeconomics against 10 OECD countries. While Razmi in [3] examines the impact of open trade and free economy on the economic growth of the middle east and east Asia.

III. PROPOSED METHOD

The population that became the object in this study came from secondary data obtained from Knoema company, one of the providers of digital economic data. Sampling method using purposive sampling method, that is determination of sample with certain consideration. In this study the sample used using panel data obtained time series data for 5 years and cross section data of 10 ASEAN countries i.e. Indonesia, Malaysia, Singapore, Philippines, Thailand, Vietnam, Myanmar, Laos, Brunei, Cambodia.

A. Identify Variables

The research variables are independent and dependent. for independent variables that exist in this research is the globalization economy that is capital (X_1), Labor (X_2), Openness (X_3) while the dependent variable GDP (Y).

B. Data analysis

Astuti in [4] The method of analysis used in this research is quantitative techniques that use mathematical and statistical models classified in certain categories to facilitate the analysis by using EViews program. While the analytical technique used is multiple linear regression analysis techniques to see the relationship between independent variables with dependent variable. The data used is panel data there are three kinds of panel data estimation technique that is pooled least square, fixed effect model, and random effect model. Test the suitability of the model to determine the most appropriate model is to use the Chow test and Hausman test. After that, the test of classical assumption that is normality test, autocorrelation test and also hypothesis test that is partial t -test, F -test, coefficient of determination test.

C. Econometric Model

Razmi [3] in this research using basic solow model in input and output so obtained:

$$Y_t = F(K_t, L_t, O_t)$$

Where:

Y = output, K = capital, L = labor and O = Openness

As for the degree of economic openness of each country can be seen from the large openness index that is the ratio of the value of export (X) and import (M) to gross domestic product (GDP), The greater the index number obtained means the economy of the country concerned more open. namely:

$$\text{Openness} = \frac{X + M}{\text{GDP}} \times 100 \quad (1)$$

Where X = Expor, M = Import, and GDP.

The technique of analysis in this research is panel data regression analysis, while the regression model in log form can be written as follows:

$$\ln Y_{it} = \beta_0 + \beta_1 \ln X_{1it} + \beta_2 \ln X_{2it} + e_{it} \quad (2)$$

Where Y = GDP; X1 = capital; X2 = labor; X3 = Openness, i = Country; and t = time.

IV. RESULT AND DISCUSSION

A. Result

The panel data regression estimation test is three, common effect (OLS), fixed effect (FEM) model or Random Effect (REM) model. Determining the panel model to be used in this study, it must be done some testing. Chow test and Hausman test are tests that can be used to determine whether the panel data model can be reordered with common effect (OLS) model, fixed effect (FEM) model or Random Effect (REM) model. The Chow test is used to determine whether the panel data model is reordered with the Common Effect model or with the Fixed Effect model.

H0: The best model is Common Effect

H1: The best model is Fixed Effect

a. Chow Test

TABLE I. CHOW TEST

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	28.067635	(9,37)	0.0000
Cross-section Chi-square	102.880642	9	0.0000

The Table I above shows that the best model is fixed effect because Chi-square probability value below 0.05, this means H0 accepted.

b. Hausman Test

TABLE II. HAUSMAN TEST

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	25.755377	3	0.0000

The Table II above shows the result that Cross Section Random is worth 0.0000 that indicates that H0 is accepted. The most appropriate model used in this research is Fixed Effect Model.

TABLE III. FIXED EFFECT MODEL

Dependent Variable: GDP				
Method: Panel Least Squares				
Date: 29/07/18 Time: 21:47				
Sample: 2012 2016				
Periods included: 5				
Cross-sections included: 10				
Total panel (balanced) observations: 50				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
KAPITAL	0.685093	0.097847	7.001672	0.0000
LABOR	-0.504617	0.617507	-0.817185	0.4191
OPENES	-0.285415	0.122251	-2.334478	0.0251
C	-1.482428	4.029185	-0.367923	0.7150

From the result of panel data regression in Table III with selected model is Fixed Effect model, obtained equation of regression model as follows:

$$\text{GDP} = 0.685093 (\text{capital}) - 0.504617 (\text{labor}) - 0.285415 (\text{openness}) + e$$

c. Normality test

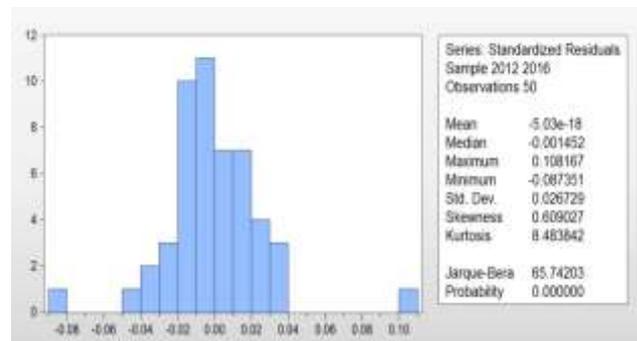


Fig. 1. Histogram

From the output that has been tested stated that the histogram form is distributed symmetrically so that the residual is distributed normally in Figure 1. Based on the JB statistical test, the value is 65.74203 with probability 0.0000 while the chi-square value with significance ($\alpha = 5\%$) is 0.05, so $JB < \text{Chi Square}$, Then H0 is rejected and H1 accepted means that the residual is normally distributed.

d. Autocorrelation Test

TABLE IV. AUTOCORRELATION OF COCHRANE URUTT

Dependent Variable: GDP-0.871326*GDP(-1)
 Method: Panel Least Squares
 Date: 29/07/18 Time: 21:53
 Sample (adjusted): 2013 2016
 Periods included: 4
 Cross-sections included: 10
 Total panel (balanced) observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.409498	1.212808	1.162178	0.2553
KAPITAL-0.871326*KAPITAL(-1)	0.255338	0.070097	3.642654	0.0011
LABOR-0.871326*LABOR(-1)	-1.591458	1.258933	-1.264132	0.2170
OPENES-0.871326*OPENES(-1)	-0.267548	0.080025	-3.343299	0.0024

Effects Specification

Cross-section fixed (dummy variables)			
R-squared	0.971571	Mean dependent var	0.273498
Adjusted R-squared	0.958935	S.D. dependent var	0.087774
S.E. of regression	0.017787	Akaike info criterion	-4.963748
Sum squared resid	0.008542	Schwarz criterion	-4.414862
Log likelihood	112.2750	Hannan-Quinn criter.	-4.765288
F-statistic	76.89356	Durbin-Watson stat	2.964080
Prob(F-statistic)	0.000000		

Autocorrelation test can be seen from Chi-Square probability value, if greater than 0.05 then the data does not contain autocorrelation problem. If the chi-square probability is smaller than 0.05 then the data contains autocorrelation problems.

The results of the research output indicate that there is an autocorrelation problem, for which researchers use Cochran Orcutt which is used to correct the problem of autocorrelation.

From the Table IV, output of Cochran Orcutt method obtained DW is 2.964080 where this DW value passed the test in autocorrelation problem. With DL value of 1.4206 and DU equal to 1.6739 then DW value equal to 2.964080 so if $DL < DW < DU$ (1.4206 < 2.964080 < 1.6739) can be concluded there is no problem autocorrelation.

e. T-test (Partial)

TABLE V. TEST T (PARTIAL)

Dependent Variable: GDP
 Method: Panel Least Squares
 Date: 29/07/18 Time: 21:47
 Sample: 2012 2016
 Periods included: 5
 Cross-sections included: 10
 Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
KAPITAL	0.685093	0.097847	7.001672	0.0000
LABOR	-0.504617	0.617507	-0.817185	0.4191
OPENES	-0.285415	0.122261	-2.334478	0.0251
C	-1.482428	4.029185	-0.367923	0.7150

Effects Specification

Based on the above results in Table V as follows:

a) Capital Influence on GDP

The probability value of t-statistics obtained 0.0000. Then the statistical probability $< \alpha = 5\%$ is $0.0000 < 0.05$. So it can be concluded that the variable of capital partially have a positive significance to the variable GDP.

b) Labor Influence on GDP

The probability value of t-statistics obtained is 0.4191, then the statistical probability $< \alpha = 5\%$ is $0.4191 > 0.005$. So

it can be concluded that the variable labor partially does not affect the significance of the variable GDP.

c) The effect of Openness on GDP

The probability value of t-statistics obtained is 0.0251. Then the statistical probability $< \alpha = 5\%$ is $0.0251 < 0.05$. but t-statistically marked negative (-) So it can be concluded that the variable of labor partially have a negative effect and significance to the variable of GDP.

f. F Test

From the Table VI, calculation of the value of F, it is known that $F_{arithmetic} > F_{table}$ ($1807.174 > 3.69$) then H_0 is rejected and H_1 accepted (F arithmetic is in reception area H_1). Then also probability (prob.) From above table that is equal to $0.000 > 0.005$, then H_0 is rejected and H_1 accepted. So that simultaneously or together independent variables have a significant effect on the dependent variable.

TABLE VI. F TEST (SIMULTANEOUS)

R-squared	0.998297	Mean dependent var	2.056289
Adjusted R-squared	0.997744	S.D. dependent var	0.647655
S.E. of regression	0.030760	Akaike info criterion	-3.906332
Sum squared resid	0.035008	Schwarz criterion	-3.409206
Log likelihood	110.6583	Hannan-Quinn criter.	-3.717024
F-statistic	1807.174	Durbin-Watson stat	1.276362
Prob(F-statistic)	0.000000		

g. Determination Coefficient

Based on the table above, the value of Adjusted R-Square is 0.9977. This shows that the model is able to explain 99.77% of the dependent variable, while the remaining 0.23 other factors influenced beyond the regression model.

B. Discussion

The effect of the globalization economy on GDP growth of ASEAN countries needs to be improved. The globalization economy has a variable of capital, labor variables, and variables of Openness. In the Capital Variables each ASEAN country has excellent capital so that it becomes the main support for the success of the ASEAN Economic Community. This result is in line with research conducted on East Asia and Central Asia Razmi [3] so that it can be concluded that all the countries in Asia have excellent capital to support their country's GDP growth. While Labor Variables seen each country is still constrained to labor, both labor at the level of workers and professional levels. These results are in line with research in East Asia and Central Asia [3]. Good competence is expected to exist for all workers in each country, hence it needs training that can improve competence.

TABLE VII. OPENNESS

OPENES	2012	2013	2014	2015	2016
Indonesia	0,44	0,46	0,47	0,47	0,36
Malaysia	1,47	1,44	1,36	1,36	1,34
Singapore	3,60	3,52	3,55	3,67	3,16
Thailand	1,30	1,31	1,38	1,34	1,23
Philippines	0,51	0,54	0,51	0,56	0,53
Vietnam	1,38	1,41	1,51	1,64	1,71
Myanmar	0,29	0,31	0,36	0,46	0,47
Laos	0,51	0,52	0,50	0,57	0,60
Brunei	0,97	1,11	1,18	1,36	1,02
Kamboja	1,16	1,21	1,29	1,31	1,30

From the Table VII, while the influence of openness to GDP growth of ASEAN countries needs to be improved. From the Table it is clear that especially in 2016 almost all ASEAN countries decreased only Vietnam's high level of openness from 1.64 to 1.71 and while Myanmar also increased although slightly from 0.46 to 0.47. This result is highly unexpected, especially in 2016 where the era of the ASEAN Economic Community began. Production problems, competitiveness, especially in producing products that can be exported, so that will reduce the import of goods. Arrangement of export duty tariffs can be given a return policy to foster export climate in each country. In research in East Asia and Central Asia the openness has been very good [3], so that countries in East Asia and Middle East Asia have been very advanced because it has a high openness. It is hoped that openness in ASEAN countries will increase so many investments will be present so that ultimately the purpose of the establishment of ASEAN Economic Community can prosper each ASEAN country.

V. CONCLUSION

This study has focussed on the extent to which the globalization of the economic impacts on ASEAN's GDP. This study has used secondary data in the form of panel data with the period of 2012-2016, from 10 ASEAN countries namely Indonesia, Malaysia, Singapore, Philippines, Thailand, Vietnam, Myanmar, Laos, Brunei, Cambodia. The results show that the variables capital, labor, openness simultaneously positive and significant to the variable GDP. In the Capital Variables each ASEAN country has excellent capital so that it becomes the main support for the success of the ASEAN Economic Community. Meanwhile, the Labor Variables seen each country is still constrained to the workforce. While the influence of openness to GDP growth of ASEAN countries needs to be improved especially in producing products that can be exported and reduce the import of goods.

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