Determinants Of Youth Unemployment Rate In Asean

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Abstract : In different countries, unemployment is a major problem. This study aims to analyze the factors that determine the growth of youth unemployment in ASEAN. Period of analysis between 2001 to 2017. Gross Domestic Product, Foreign Direct Investment, Openness, Human Development Index and Population aged 0-14 years are the variables used in this analysis. This study is using quantitative research techniques with the Least Square Dummy Variable (LSDV) estimator for panel data regression analysis.The results of this study show that for the youth unemployment rate, GDP, FDI, and inflation are negative and significant. While Openness, the Human Development Index and population aged 0-14 years have a positive and significant effect on youth unemployment rates.

Keyword : Youth Unemployment Rate, Gdp, Fdi, Opennes, Hdi, Inflation, Population Aged 0-14 Years

1. INTRODUCTION

Economic development in a country cannot only be measured by the level of income growth. However, quality development is how the income can be distributed equally to each population and can find out who benefits from the development (Todaro, 1998). There are many indicators to describe a country's economic development, one of which is the unemployment rate. Unemployment is a global problem that occurs not only in developing countries but also in developed countries. This is because unemployment is an important part of development, especially economic development. The International Labor Organization (ILO) defines unemployment as people who are of working age, not working, but actively looking for work. meanwhile, some people are of working age, not working and not active in looking for work. In its development, some things are not revealed in the problem of unemployment, namely the problem of youth unemployment. During this time, many countries in the world have focused their views on adult unemployment. Meanwhile, youth unemployment received less attention on the development agenda. In many countries in the world, the level of youth unemployment is much higher compared to adult unemployment (ages 25-64). In total, the global youth unemployment rate in 2010 was 13.1%, while adult unemployment was 4.8% (International Labor Organization (ILO), 2010b; O'Higgins, 2010). In the region of the Association of Southeast Asian Nations (ASEAN), youth unemployment rates are also much higher, compared to unemployment.

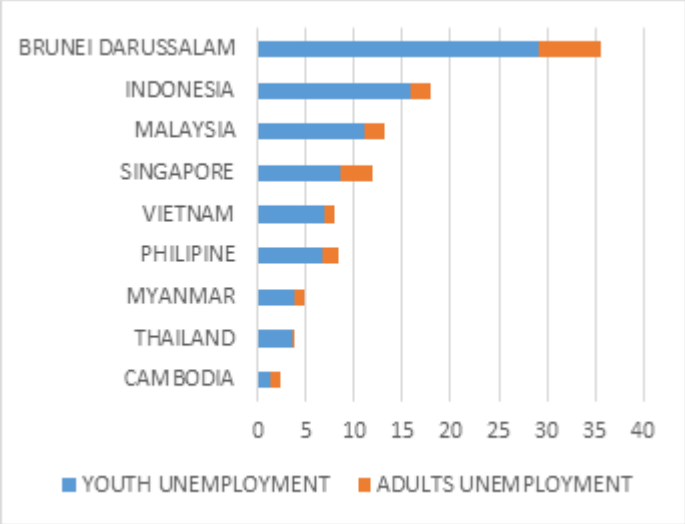

Figure 1: *Youth Unemployment and Adult Unemployment in ASEAN, 2018*

In ASEAN countries (Indonesia, Vietnam, Philippine, Malaysia, Singapore, Thailand, Myanmar, Cambodia, Brunei Darussalam), it can be seen in Figure 1, that there is a very high difference between youth unemployment and adult unemployed. Brunei Darussalam occupies the first position with a youth unemployment rate of 29.24%. Then Indonesia came in second place with a youth unemployment rate of 15.84%. Then followed by Malaysia with a youth unemployment rate of 11.18%, then Singapore 8.61%, Vietnam 6.95%, Philippines 6.76, Myanmar 3.86%, Thailand 3.54% and Cambodia 1.28%. This phenomenon is the same as what happened in Europe, where youth unemployment rates are twice as high as adult unemployment (Quintini, G., Martin, JP and Marti, 2007) (Perugini, C. and Signorelli, 2010). Seeing the increasing phenomenon of youth unemployment, it is necessary to discuss about the problem. In this study, the discussion on youth unemployment is focused on six main indicators, namely gross domestic product, foreign direct investment, openness, inflation, human development index, population aged 0-14 years. From the description above, the purpose of this study is to analyze the determinants that influence youth unemployment in ASEAN countries.

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2. LITERATURE REVIEW

2.1 Empirical Evidence on Youth Unemployment

The standard definition of unemployed people is those who did not work, or was looking for work in the last period, and are currently willing to work, including those who have lost their jobs or who voluntarily leaving work. The International Labor Organization (ILO) (International Labor Organization (ILO), 2010a) defines unemployment as a labor force that does not work but is willing and looking for work. While the unemployment rate is the amount of unemployment in an age group divided by the group's labor force. In the case of youth unemployment, the proportion of the youth population (15-24 years) in this age group replaces the labour force as the denominator. There are many pros and cons to debates about youth unemployment. This relates to the operational definition of youth unemployment, as well as its consequences in labor market studies as well as dynamics, see (O'higgins, 1997). As explained in the previous section, that in many countries in the world, youth unemployment rates are higher than adult unemployment. The global youth unemployment rate will remain stable until 2020 at 12.5%. If we focus on the Asia-Pacific region, statistics show that the youth unemployment rate of 2020 is 10.6%, continuing to fall below the global youth unemployment rate (International Labor Organization (ILO), 2018).

***Figure 2**: Youth Unemployment Rate in the ASIA Region,2018*

In Asia in 2019, the highest youth unemployment rate in South Asia is 10.9% and East Asia is 9.9%, but it is projected to experience a slight increase in 2020. in East Asia (International Labor Organization (ILO), 2018). Many factors cause the youth unemployment rate to increase. This is because young people are still lacking in experience, so the gap in youth experience is a key factor that can explain the youth unemployment rate, which is much higher than the adult unemployment rate (Caroleo and Pastore, 2007). The transition from school to work also affects an increase in youth unemployment (Ryan, 2001).

2.2 Determinant Youth Unemployment

This study uses socioeconomic indicators to explain the causes of increased youth unemployment. Regarding the increase in youth unemployment, this reflects the general bad economic situation (Choudhry, Marelli and Signorelli, 2010). In this study, using indicators of gross domestic product, foreign direct investment, openness, inflation, population ages 0-14 years and the human development index to analyze factors affecting youth unemployment in the ASEAN Region. Some previous studies used economic, demographic, and institutional factors to explain the determinants of youth unemployment (Ebaidalla, 2016; Bayrak and Tatli, 2018). The study begins with Okun's Law, which states that the unemployment rate has a negative relationship with real GDP. An increase in unemployment tends to be associated with lower real GDP growth. Many researchers link the effects of real GDP growth in unemployment. The low real GDP growth has a large impact on the unemployment rate, especially in cases where there is a financial crisis (Choudhry, Marelli and Signorelli, 2010; Bartolucci and Choudhry, 2011). The level of economic growth of a country can be achieved by encouraging foreign investment in the real sector to create jobs. With the foreign direct investment, it will reduce unemployment, including youth unemployment (Choudhry, Marelli and Signorelli, 2012). As much investment (foreign, public, private) will provide employment opportunities, especially for young people. The Philips curve explains the trade-offs or short-term negative relationship between inflation and unemployment. The validity of the Philips curve is confirmed in the Organization of Islamic Cooperation (OIC) countries (Ebaidalla, 2016) and the Organization for Economic Co-operation and Development (OECD) countries (Bruno et al., 2017). However, in ASEAN 4 (the Philippines, Thailand, Indonesia,and Malaysia) there were no trade-offs or a short-term negative relationship between unemployment and inflation (Puzon, 2009). Economic integration between countries is characterized by cooperative relations between countries in the trade sector. One aim is to increase economic growth. This will certainly affect the availability of job opportunities. So that openness will reduce the number of unemployed (Signorelli, Choudhry and Marelli, 2012; Ebaidalla, 2016). The proportion of the population in the age group of 0 to 14 years can affect the youth unemployment rate. The more the proportion of the population aged 0-14 years, it will increase the amount of unemployment (Bruno et al., 2014). Besides, to measure achievements in the social and economic dimensions, the human development index is used. This is related to the standard of living of the population in the fields of health and education. The better the human development index, the easier it is to integrate into the labor market, which will have an impact on the unemployment rate (Nurcholis, 2014).

3. RESEARCH METHOD

The data in this study uses secondary data from the World Development Indicator (WDI) and Key Indicators Of Labor Market (KILM). This research was conducted in countries that are members of the Association of Southeast Asian Nations (ASEAN) covering the period 2001-2017. One country (Timor Leste) was excluded due to a lack of data. The dependent variable is the youth unemployment rate. While the independent variables are gross domestic product, foreign direct investment, openness, inflation, population aged 0-14 years, and human development index. This study uses panel data analysis. The panel data analysis model can be illustrated by the following equation:

$$YUR_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 FDI_{it} + \beta_3 OPEN_{it} + \beta_4 INF_{it} + \beta_5 POP_{it} + \beta_6 HDI_{it} + e$$

Where :

YUR	: Youth Unemployment Rate
GDP	: Gross Domestic Product
FDI	: Foreign Direct Invesment
OPEN	: Openness
INF	: Inflation
POP	: Share Population In The 0 To 14 Years Age Group
HDI	: Human Development Index
i	: Country
t	: Year
e	: error

4. RESULT

4.1 Quantitative Analysis of Factors Affecting Youth Unemployment Rate

Based on the panel data model in the previous description, a chow test and a Hausman test are conducted to select the best model. Chow test is conducted to compare or choose the best model between Partial least Square (PLS) /Common Effect and Fixed Effects. While the Hausman test is done to choose the best model between Fixed Effects and Random Effects.

Table 1*Chow Test*

Redundant Fixed Effects Tests			
Equation: OUTPUT1			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	59.354727	(8,138)	0.0000
Cross-section Chi-square	228.099537	8	0.0000

Based on the Eviews output, it shows that the probability of the F-test and Chi-square is smaller than the significance level of 5% (Prob. 0.05). So the hypothesis model H0 is rejected, and H1 is accepted. Thus, the Fixed effects model is better than the Common Effect / PLS.

Table 1
Hausman Test

Correlated Random Effects - Hausman Test			
Equation: OUTPUT1			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	38.698212	6	0.0000

Based on the Eviews output, it shows that the probability of a cross-section random is smaller than the significance level of 5% (Prob. 0.05). So the Hypothesis H0 model is rejected and H1 is accepted. Thus, the fixed effects model is better than the random effect model. So based on the results of the chow test and Hausman test, the best model used in this analysis is the Fixed Effect model.

4.2 Fixed Effect Model Estimation Result

Table 3
Fixed Effect Model Estimation Result

Dependent Variable: YUR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	-1.35E-11	1.10E-12	-12.26844	0.0000
FDI	-1.55E-11	5.31E-12	-2.925730	0.0040
OPEN	9.07E-13	4.56E-13	1.986512	0.0490
INF	-0.005385	0.002100	-2.563967	0.0114
POP	1.66E-07	1.87E-08	8.833404	0.0000
HDI	17.15475	2.109901	8.130594	0.0000
C	-2.180199	1.426231	-1.528644	0.1286
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.987941	Mean dependent var		10.53641
Adjusted R-squared	0.986718	S.D. dependent var		18.95768
S.E. of regression	1.031335	Sum squared resid		146.7840
F-statistic	807.5603	Durbin-Watson stat		1.408101
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.949593	Mean dependent var		9.371157
Sum squared resid	375.0193	Durbin-Watson stat		0.379095

4.3 Coefficient Of Determination (R^2)

From the estimation of the fixed-effect model, the value of the coefficient of determination (R^2) of 0.9879. This means that 98 percent of the variation in the youth unemployment rate can be explained by the independent variables in the model gross domestic product, foreign direct investment, inflation, inflation, population aged 0-14 years and the human development index. While the remaining 2 percent is explained by other independent variables outside the research model.

5. HYPOTHESIS TESTING

5.1 F test statistics

In table 3 it can be seen that the results of the statistical F probability value are smaller than the significance level (Prob.<0.05). This means that simultaneously the independent variable gross domestic product, foreign direct investment, openness, inflation, population age 0-14 years and human development index affect the youth unemployment rate in ASEAN.

5.2 Statistic t-test

The statistic t-test is used to see the partial effect of the independent variable gross domestic product, foreign direct investment, openness, inflation, population age 0-14 years and human development index on the variable youth

unemployment rate. The confidence level is 95 percent with a two-way test. The value of df = 147 (df = 153-6). So that the t table value obtained for 1.97623. The t table statistics can be seen below :

Table 4
Statistic t value in the FEM Method

Variabel	t calculate	t tabel	Prob.	information
GDP	-12.26844	1.97623	0.0000	significant
FDI	-2.925730	1.97623	0.0040	significant
OPEN	1.986512	1.97623	0.0490	significant
INF	-2.563967	1.97623	0.0114	significant
POP	8.833404	1.97623	0.0000	significant
HDI	8.130594	1.97623	0.0000	significant

From the table above, it can be explained that the independent variable gross domestic product empirically has a negative and significant effect on youth unemployment in ASEAN. It can be seen in table 4, that the t value > t table, with a probability of 0.0000 is smaller than the significance level of 5% (Prob.<0.05). This means that the higher the gross domestic product in a country, it will reduce the amount of unemployment. This confirms the Okun law and is in line with many studies, that increasing GDP will reduce youth unemployment rates (Demidova and Signorelli, 2010; Bartolucci and Choudhry, 2011; Choudhry, Marelli and Signorelli, 2012; Bruno et al., 2014; Ebaidalla, 2016). The variable Foreign direct investment empirically has a negative and significant effect on the youth unemployment rate in ASEAN. It can be seen from table 4, that the t value > t table, with a probability of 0.0040 is smaller than the significance level of 5% (Prob.<0.05). This means that the greater the foreign direct investment in a country, it will reduce the youth unemployment rate. Increasing FDI in a country will provide employment opportunities for young workers. This increase in FDI can then reduce the number of youth unemployment rates. The openness variable empirically has a positive and significant effect on youth unemployment. It can be seen in table 4, the t value > t table, with a probability of 0.0490 smaller than the 5% significance level (Prob.<0.05). This means that the higher a country's openness, the more youth unemployment will be increased. This phenomenon is caused because, in ASEAN, import levels are very high, thus making domestic industries unable to develop and compete, and ultimately unable to absorb labor, especially younger workers. In the end, it will increase the number of youth unemployment rates (Ebaidalla, 2016). The inflation variable empirically has a significant and positive effect on the youth unemployment rate. It can be seen in table 4, the t value> t table, with a probability of 0.0114 smaller than the 5% significance level (Prob.<0.05). This means that the higher the inflation, the less the youth unemployment rate will be. This confirms the validity of the Philips curve, that there is a trade-off or a short-term negative relationship between inflation and unemployment. The variable proportion of the population aged 0-14 years empirically has a positive and significant effect on youth unemployment. It can be seen in table 4, the t value > t table, with a probability of 0.0000 less than the 5% significance level (Prob.<0.05). This means that the more the proportion of the population aged 0 to 14 years, the more the number of youth unemployment will increase. The human development index variable empirically has a positive and significant effect on youth unemployment. It can be seen in table 4, the t value> t table, with a probability of 0.0000 smaller than the significance level of 5% (Prob.<0.05). This means that the higher the value of the human development index will further increase the youth unemployment rate. This is because in the ASEAN countries the human development index has not been evenly distributed between regions. Causing the youth unemployment rate to increase. The same findings in the study (Nurcholis, 2014), that the higher the value of the human development index, the more it will increase the unemployment rate.

6. CONCLUSION AND SUGGESTION

This study analyzes the determinants that influence youth unemployment rates during the period 2001-2017 in ASEAN countries. The analysis used is using the fixed effect panel model. Empirical studies focus on economic and demographic factors in ASEAN countries. The main results of the study are as follows, empirically the variables of gross domestic product, foreign direct investment, and inflation have a negative and significant effect on youth unemployment. While the openness variable, the proportion of the population aged 0-14 years and the human development index have a positive and significant effect on the youth unemployment rate in ASEAN countries. Therefore, every country in ASEAN must always increase gross domestic product, foreign direct investment, and inflation. This is done to improve the industrial sector in the country, thereby providing opportunities for workers, especially young workers. Which will then reduce the youth unemployment rate in ASEAN countries. Meanwhile, stakeholders must pay attention to import levels. This is to grow the industrial sector of small and medium enterprises in the country, which has been the largest number and absorbs a lot of labor. Besides, stakeholders in ASEAN countries must pay attention to the proportion of the population aged 0-14 years. Because of the proportion of the population aged 0-14 years, will further increase the number of the young labor force. In the end, it will increase the youth unemployment rate. In connection with, the human development index, ASEAN countries must flatten the human development index in their respective countries. Because when there is an imbalance in human development, this tends to increase the youth unemployment rate.

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