PAPER – OPEN ACCESS

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DOI : 10.32734/lwsa.v8i1.2397
Electronic ISSN : 2654-7066
Print ISSN : 2654-7058

Volume 8 Issue 2 – 2025 TALENTA Conference Series: Local Wisdom, Social, and Arts (LWSA)

LWSA Conference Series 08 (2025)
TALENTA Conference Series
Available online at https://talentaconfseries.usu.ac.id

Factors Affecting the Unemployment Rate of the Community in Asean Countries

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Abstract

High unemployment remains one of the major economic development problems faced by ASEAN countries. Widespread unemployment is usually the degree to which the available labor force is unable to balance the number of available job opportunities. The purpose of this research is to find out what factors cause unemployment in ASEAN countries. This type of research is quantitative associative using secondary data obtained from the World Bank and the United Nations Development Program (UNDP). The sample of this research is 11 ASEAN countries with a time span of 2020-2022. The data analysis technique used is panel data regression with the Fixed Effect Model using the help of Eviews 12 software. The final result of this study shows that inflation has a significant negative effect on the unemployment rate, GDP has a significant negative effect on the unemployment rate, foreign investment has a significant positive effect on the unemployment rate and education has no effect on the unemployment rate in ASEAN countries.

Keywords: Inflation; GDP; Investment; Education; Unemployment.

1. Introduction

High unemployment remains one of the major problems faced by ASEAN countries. Widespread unemployment is usually the degree to which the available labor force is unable to balance the number of available job opportunities. The imbalance between the supply and demand aspects of both quantity and quality can have serious consequences on [1]. When unemployment is high, some people become depressed and stop looking for work. they are then excluded from the workforce. This means that the unemployment rate can fall or stop increasing even though there is no improvement in the labor market [2]. Unemployment is when individuals who belong to the labor force are actively looking for a job with a certain budget, but are unable to accept the expected job [3]. Based on data obtained from the World Bank for the period 2018-2022, every year there are some countries experiencing a decrease and some others experiencing an increase, this can occur due to the different economic conditions of each country. Brunei Darussalam is a country that has the highest average unemployment rate among other ASEAN countries with an average of 6.41%. This is followed by Indonesia (3.90%), Singapore (3.81%), Malaysia (3.76%), Laos (3.70%), Timor-Leste (2.74%), Philippines (2.58), Myanmar (1.99%), Vietnam (1.77%), Thailand (0.95%) and Cambodia (0.21%).

The problem of unemployment is certainly influenced by various factors, one of which is inflation [4]. Based on the Philips curve theory, it has been explained that inflation will affect unemployment and has a negative relationship in the short term, where when inflation is low it will be followed by high unemployment and vice versa, while in the longterm inflation does not affect the unemployment rate [5]. Apart from inflation, there are other factors that affect unemployment, namely GDP [4]. In Okun's law theory, there is a relationship between GDP and unemployment. When unemployment is high, the level of GDP tends to be low, and vice versa [5].

Furthermore, foreign investment (FDI) is also a factor that can affect unemployment [4]. The relationship between investment and unemployment can be seen in the Harrord-Domar GDP theory [6]. This theory argues that the existence of investment will certainly enlarge the production capacity of the economy by increasing the capital stock. Investment will affect the supply side. This means that by enlarging the production capacity, an increasingly large amount of labor will be required. Education is considered a key factor affecting economic growth in ASEAN. Education can help create high quality and competitive human resources, while the unemployment rate can affect purchasing power and demand in the economy.

Selection and peer-review under responsibility of Event of Young Researcher and Economics Students (EVEREST) VIII
p-ISSN: 2654-7058, e-ISSN: 2654-7066, DOI: 10.32734/lwsa.v8i1.2397

There are various theories that can explain the effect of education on GDP. Human Capital Theory, proposed by economist Gary Becker, says that education can be considered as an investment in human capital. In this theory, education is considered as a way to improve one's knowledge and skills, thus increasing one's productivity and competitiveness in the labor market. Thus, increasing the level of education can improve the quality and quantity of output produced by a country.

2. Literature Review

2.1. Labor Market Theory

This theory was proposed by Adam Smith, who stated that unemployment occurs due to an imbalance between labor supply and labor demand in the market. If the demand for labor is lower than the supply of labor, unemployment will occur [7].

2.2. Keynesian Theory

In this theory Keynes argues that the economy will be stable and grow well if there is no unemployment. This condition is based on the strength of the market mechanism that will always lead to equilibrium. In addition, the unemployment rate can be high even when the wage rate has adjusted itself flexibly.

2.3. Phillips Curve Theory

The Phillips curve was coined by [8] in his research phillips showed a correlation between unemployment and inflation in the short term and long term. In the short-term relationship between inflation and unemployment has a negative relationship and has to do with aggregate demand if aggregate demand rises then the aggregate demand curve shifts to the right so that inflation occurs and then the output that must be produced also rises to meet existing demand so that employment increases [9].

2.4. Okun's Law Theory

Okun's law was discovered by economist Athur Melvin Okun. Okun's law finds that the relationship between GDP and unemployment is [10]. According to this law, for every 1% decrease in the unemployment rate, GDP must grow about 2-2.5% faster than its potential growth rate.

2.5. Harrod Domar Theory

The Harrod Domar Growth Theory is a development of Keynes' classic thinking regarding the meaning of capital formation in economic activity. In the Harrod Domar Theory, capital formation is not seen as an expenditure that will increase the ability of an economy to produce goods and services, but will also increase the effective demand of society [11].

2.6. Inflation

Inflation is an economic condition that shows a tendency to increase prices in general (price level) and is continuous and affects individuals, businesses and governments, it cannot be called inflation if the price increase of one or two goods only unless the increase causes other prices to also rise [12].

2.7. Gross Domestic Product (GDP)

GDP can be interpreted as the value of goods and services produced in the country in a certain year [13].

2.8. Foreign Investment

Foreign Direct Investment (FDI) is the transfer of capital investment into a host country by a foreign company. Although foreign investors have a great deal of control over these investments, FDI is still growing in popularity in many countries around the world.

2.9. Education

Education is a conscious effort made by families, communities and governments through guidance, teaching and training activities that take place in school and out of school throughout life to prepare students to be able to play a role in various living environments permanently for the future.

3. Research Method

The method used in this research is a quantitative method with an associative approach. The data taken is annual data and the type of data used in this study is panel data, which is a combination of time series and cross section data on 11 ASEAN countries from 2020 to 2022. The data analysis technique used in this research is panel data analysis. Panel data is a combination of time series data and cross-section data, so the panel data model in this study can be written as follows:

$$TPit = \alpha - \beta 1CPIit - \beta 2GDPit - \beta 3FDIit - \beta 4RLSit \varepsilon it$$

Description:
α = Constant
β1- β4 = Regression Coefficient
TP = Unemployment Rate
CPI = Inflation
GDP = GDP
FDI = FDI
RLS = Education
ε = error

4. Results and Discussion

4.1. Chow Test

The chow test is to determine which test between common effect and fixed effect should be used in panel data modeling.

Table 1. Chow Test Results

Effects Test	***Prob***
Cross-section F	*0.00*

Source: Data Processing Results, 2024

Based on Table 1, the results of the probability value F < 0.05 are obtained, which means that the best model used is the Fixed Effect Model.

4.2. Hausman Test

The Hausman test is to determine which of the two methods, the fixed effect method or the random effect method, should be used in panel data modeling.

Table 2. Hausman Test Results

Test Summary	***Prob***
Chi-Square	*0.00*

Source: Data Processing Results, 2024

Based on table 2, the results of the Chi-Square probability value < 0.05 are obtained, which means that the best model used is the Fixed Effect Model. This it can be concluded that the most appropriate model selection is the Fixed Effect Model and there is no need to do the LM test again.

4.3. Multicollinearity Test

The multicollinearity test aims to determine whether the regression model finds a correlation between independent variables. A good regression model is a regression model whose independent variables do not have a correlation between the independent variables or are free from multicollinearity.

Table 3. *Multicollinearity Test Results*

	CPI	*GDP*	*FDI*	*RLS*
CPI	*1.000000*	*0.252559*	*-0.006425*	*-0.332876*
GDP	*0.252559*	*1.000000*	*0.135336*	*0.078396*
FDI	*-0.006425*	*0.135336*	*1.000000*	*0.435262*
RLS	*-0.332876*	*0.078396*	*0.435262*	*1.000000*

Source: Data Processing Results, 2024

Based on table 3, the correlation value < 0.85 is obtained, so it can be concluded that there is no multicollinearity problem.

4.4. Heteroscedasticity Test

The heteroscedasticity test is used to test whether in regression there is an inequality of variance in the residual value of one observation to another [14].

From the residual graph in Figure 1, it can be seen that it does not cross the boundaries (500 and -500), meaning that the residual variance is the same, therefore there are no symptoms of heteroscedasticity or pass the heteroscedasticity test [15].

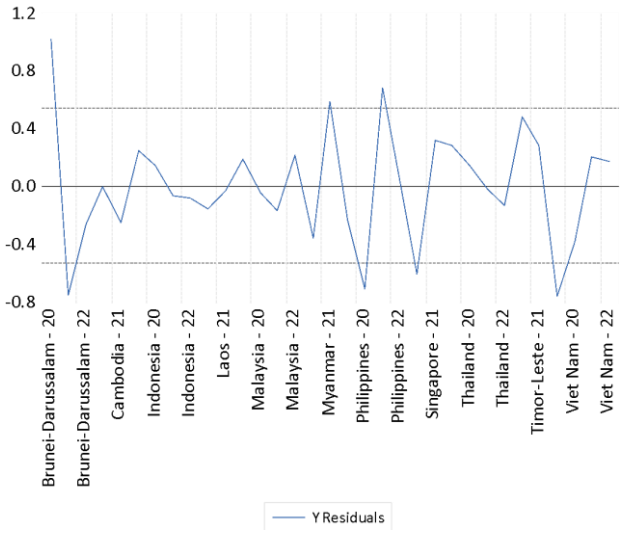

Figure 1. *Residual Value Results*
Source: Data Processing Results, 2024

4.5. Panel Data Regression

Table 4. *Panel Data Regression Test Results*

Variabel	Coefficient	t-Statistic	Prob
CPI	-0.05	-2.37	0.03
GDP	-1.77	-4.88	0.00
FDI	0.12	3.24	0.00
RLS	3.98	1.18	0.25

Source: Data Processing Results, 2024

Based on Table 4, it can be concluded that the effect of the independent variables on the dependent variable partially is as follows:

- *The result of t-test on inflation (X1) obtained t-Statistic value of -2.37 with Prob value of 0.03 < 0.05 and obtained coefficient result of -0.05. It can be concluded that inflation (X1) has a negative and significant effect on the unemployment rate (Y).*
- *The result of t-test on GDP (X2) obtained t-Statistic value of -4.88 with Prob value of 0.00 < 0.05 and obtained coefficient of -1.77. It can be concluded that GDP (X2) has a negative and significant effect on the unemployment rate (Y).*
- *The result of t-test on foreign investment (X3) obtained t-Statistic value of 3.24 with Prob value of 0.00 < 0.05 and obtained coefficient of 0.12. It can be concluded that foreign investment (X3) has a positive and significant effect on the unemployment rate (Y).*
- *The result of t-test on education (X4) obtained t-Statistic value of 1.18 with Prob value of 0.25 > 0.05 and obtained coefficient of 3.98. It can be concluded that education (X4) has a positive and insignificant effect on the unemployment rate (Y).*

4.6. The Effect of Inflation on Unemployment Rate in ASEAN Countries

The final result of this study shows that inflation has a negative and significant effect on the unemployment rate in ASEAN countries. This is obtained from the t-Statistic value of -2.37 with a Prob value of 0.03 <0.05 and a coefficient of -0.05. This means that if inflation increases by 1%, the unemployment rate will decrease by 5%.

The result of this study is in line with the theory proposed by A.W Philips. The theory says that inflation will affect unemployment and has a negative relationship in the short term, where when inflation is low it will be followed by high unemployment and vice versa, while in the long term inflation does not affect the unemployment rate [5].

4.7. Effect of GDP on Unemployment Rate in ASEAN countries

The final result of this study shows that GDP has a negative and significant effect on the unemployment rate in ASEAN countries. t-Statistic value of -4.89 with a Prob value of 0.00 < 0.05 and obtained a coefficient of -1.77. This means that if GDP increases by 1%, the unemployment rate will decrease by 177%.

The results of this study are in accordance with Okun's Law theory discovered by economist Athur Melvin Okun. Okun's law

found that the relationship between GDP and unemployment is negative [16]. When unemployment is high, the level of GDP tends to be low, and vice versa [5].

4.8. Effect of Foreign Investment on Unemployment Rate in ASEAN Countries

The final result of this study shows that direct investment has a positive and significant effect on the unemployment rate in ASEAN countries. t-Statistic value is equal to with Prob value of 0.00 < 0.05 and the coefficient of 0.12 is obtained. It means that if the investment increases by 1%, the unemployment rate will increase by 12%.

The result of this study is not in line with Harrord-Domar theory which states that if investment increases, the unemployment rate decreases.

4.9. Effect of Education on Unemployment Rate in ASEAN Countries

The final result of this study shows that education has a positive and insignificant effect on the unemployment rate in ASEAN countries. With a t-statistic value of 1.18 with a Prob value of 0.25 > 0.05 and a coefficient of 3.98. This means that if education increases by 1%, the unemployment rate will increase by 398%.

5. Conclusions

This research provides several suggestions that are deemed necessary to be considered and become material for consideration for academics in conducting further research and the authorities to reduce the unemployment rate, including the following:

1. For the inflation variable, it is expected that the central bank can control the amount of money in circulation by raising or lowering interest rates and the government can increase public spending on large infrastructure projects.
2. Regarding the GDP variable, it is expected that the government will provide incentives and support to Micro, Small, and Medium Enterprises (MSMEs) to help them develop and create more jobs.
3. For the investment variable, it is expected that the government will create a conducive business environment for foreign investment to bring new capital into the country, which can be used to build new industries and create jobs.
4. Against the education variable, it is expected that the government provides training and certification programs that are relevant to the needs of the industry can help the workforce acquire the skills needed.
5. It is hoped that the results of this study can be used as a reference for future researchers to develop this research by considering and adding other variables that are not included in this study.

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