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The Effect of Economic Growth, Investment, and Urbanisation on Employment Opportunities in ASEAN

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Abstract

This study aims to analyze the effect of economic growth, investment, and urbanization on employment opportunities in the ASEAN region, both in the short and long term. The variables used in this study are Economic Growth (GDP Growth), Investment (Foreign Direct Investment, net inflows) and Urbanization (Urban Population Growth) to Employment Opportunities (employment-to-population ratio). The object of this research is ASEAN. This research is quantitative and uses secondary data. The analysis technique used is Panel ARDL (Autoregressive Distributed Lag) model, which combines cross-section data (Indonesia, Malaysia, Philippines, Thailand, and Vietnam) with time series from 2000 to 2023. The results show that in the long run, economic growth and urbanization have a negative and significant effect on employment opportunities, while investment has a positive and significant effect. Meanwhile, in the short term, economic growth has a positive and significant effect on employment opportunities, but investment and urbanization do not show a significant effect.

Keywords: Economic Growth; Investment; Urbanization; Employment Opportunity.

1. Introduction

The ASEAN region has recorded average growth of 4-5% in the past decade and will reach 5.7% by 2022 fueled by consumption, trade, and investment. ASEAN is the second largest foreign direct investment destination in the world. However, this economic growth has not fully impacted job creation. In theory, economic growth and investment should boost employment, but this is not always the case. Urbanization also complicates employment conditions in cities, as not all migrants find jobs immediately, which in turn increases the urban unemployment rate.

Economic development can be defined as a series of efforts in an economy to increase economic activity, which includes an increase in the availability of infrastructure, growth in the number and development of firms, an increase in the level of education, and advances in technology. As a consequence of this development, it is expected that there will be an increase in employment opportunities, a rise in income levels, and an improvement in people's welfare. In general, developing countries face various challenges, among which are constraints in the economy that can hinder economic growth, as well as fluctuations in the unemployment rate. Unemployment can occur due to a mismatch between the number of labour force and the number of available job opportunities [1].

Job creation is enhanced by the economic activity that takes place in a country. Macroeconomic activity, which can be measured through economic growth rates, serves as a key indicator of this dynamic. Conducive economic conditions encourage individuals who own a business to be more diligent in running their business, which has implications for increasing demand for production factors, including labor [2].

One important factor that affects people's income is investment. Quality investment has the potential to attract investors to invest their capital. Along with the increase in investment activity, both from foreign and domestic investment, it is expected to have an impact on the welfare of the community, investment that enters an area serves to absorb labor. This increase in production output will affect several production input factors, one of which is the demand for labor [3].

Urbanization is also one of the indicators in determining employment opportunities. This is because urbanization occurs along with economic progress in developing countries. According to the Push-Pull Theory proposed by Lee, migration occurs due to push factors from the area of origin, such as poverty and limited employment, and pull factors from the destination area, such as better economic opportunities and access to education. Urbanization encourages economic growth and access to education but

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also creates social and environmental challenges.This research was conducted because there is still a gap in previous studies that discuss the relationship between economic growth, investment, and urbanization on employment opportunities, especially in ASEAN. Many previous studies only focus on two variables, such as the impact of investment on employment opportunities or urbanization on the economy, without looking at the interconnectedness of these three factors as a whole. In addition, the results of previous studies are mixed, with some showing a significant effect, while others do not. This study aims to find out how the short-term and long-term effects of each variable of economic growth, investment and urbanization on employment opportunities in ASEAN.

2. Literature Review

2.1. Theory Solow-Swan

The theory explains the interaction between capital accumulation, labor growth, savings rate and capital depreciation that determines the level of output in the long run. The model is formed from the assumption that the economy produces output through a neoclassical production function that depends on capital (K) and labor (L). In the Solow-Swan theory, technological progress is the main factor in sustainable output growth. The model shows that under steady-state conditions, labor output can only increase if there is an increase in labor efficiency represented by technology. The model is based on the Cobb-Douglas production function [4].

2.2. Theory Economic Geography

Theory Economic Geography explains that investment tends to be concentrated in regions with economic advantages, rather than evenly distributed. The theory suggests that investment, both FDI and domestic, flows to industrially developed regions that have better infrastructure, labor, and market access, thus accelerating their economic growth. Undeveloped regions tend to be less attractive to investors, resulting in lower investment and employment opportunities there [5].

2.3. Theory Growth Endogen

The theory explains the importance of investment in human capital and labor skills as a major factor in long-term economic growth. Urbanization can increase employment opportunities if workers moving to cities have the skills required by industry and the service sector. However, in the short run, urbanization that is not matched by investment in education and labor training can lead to an increase in urban unemployment due to the mismatch of labor skills with industry demand [6].

2.4. Economic Growth

Economic growth is a process of transformation of the economic situation in a country in a sustainable manner towards more advanced conditions within a certain period of time. In addition, economic growth is a process of increasing the production capacity of an economy which is expressed in an increase in national income, with the occurrence of economic growth can create the success of national development. When this economic growth increases there will be an increase in production, from this production the company needs labor so that employment opportunities are created [7].

2.5. Investment

Investment is an important capital in the development of developing countries, contributing to increased production capacity, national income, and job creation. The existence of investment also determines the economic growth of a country. When this investment or capital is available for the production process, it can create new jobs [8].

2.6. Urbanization

More and diverse job opportunities in cities play a major role in encouraging individuals to move from villages to cities, thus becoming the main factor of urbanization [9]. Economic factors, such as better job opportunities and welfare, are the main drivers of migration. In addition, decent housing and a higher standard of living also attract people to move, thus encouraging urbanization [10].

3. Research Method

The type of research used is quantitative research. This research includes three independent variables, namely economic growth, investment, and urbanization. This study uses one dependent variable, namely employment opportunities. The data used in this study are time series data from 2000 to 2023 in five ASEAN countries (Indonesia, Malaysia, Philippines, Thailand, and Vietnam). The data in this study are sourced from World bank Open data and ILOSTAT. The type of data used in this study is secondary data.

The data analysis used in this study is the Panel Autoregressive Distributed Lag (ARDL) model analysis. To examine the effect of economic growth, investment, and urbanization on employment opportunities is shown in the following equation:

$$Employee = \alpha + \beta 1GDP_{it} + \beta 2FDI_{it} + \beta 3URBAN_{it} + \beta 4GDP_{it-n} + \beta 5FDI_{it-n} + \beta 6URBAN_{it-n} + \beta 7EMPLOY_{it-n} + \varepsilon_{it}$$

Description :

$EMPLOY_{it}$	= Employment Opportunities (%)
α	= Constant
$\beta 1, \beta 2, \beta 3$	= Coefficient of Independent Variable at Time t
$\beta 4, \beta 5, \beta 6$	= Coefficient Variable Independent at lag t-n
$\beta 7$	= Coefficient Variable Dependent at lag t-n
GDP_{it}	= Growth Economic (%)
FDI_{it}	= Investment(%)
$URBAN_{it}$	= Urbanization
ε_{it}	= error term

3.1. The steps of data analysis using the ARDL panel method in this study are as follows:

3.1.1. Stationarity Test

Stationarity test is a mandatory requirement before estimating the ARDL panel model. Stationarity test needs to be done to know whether the variable is stationary or not. In this study, the stationarity test used is the ADF (Augmented Dickey Fuller) test using levels of 1%, 5%, and 10%.

3.1.2. Optimum Lag Test

The optimum lag test is conducted to determine the optimum lag length that will be used for subsequent analysis. The lag in the ARDL model serves to show the effect of the time interval on the observation. The optimum lag criteria can be seen from the Akaike Information Criterion (AIC) model to select the maximum relevant lag length.

3.1.3. Cointegration Test

The cointegration test aims to see whether there are well-cointegrated regression residuals or not. If the variables are well co-integrated, it means that there is a stable relationship or correlation in the long run. And vice versa. If they are not cointegrated then the variables do not have a long-term correlation.

3.1.4. ARDL Model Estimation

If after knowing that the variables used are stationary, the next step is to estimate the ARDL Panel model. This study uses Pooled Mean Group (PMG) to produce long-run and short-run coefficients for the entire panel and short-run coefficients separately for each unit.

3.2. Hypothesis Testing

Hypothesis testing is a method used to make decisions based on data analysis. This test is used to determine whether or not the influence of each independent variable on the dependent variable is significant. Another criterion that can be used is to look at the

p value on the processed E-Views results. If the probability value is less than 5% or 0.05, the independent variable affects the dependent variable.

3.3. Results and Discussion

3.3.1. Panel Regression Results ARDL

This study uses ARDL panel analysis and uses the E-views 12 programmer analysis tool. The first thing to do in conducting this regression is to conduct a stationarity test, lag optimum test, and cointegration test to ensure that there is a long-term relationship between variables in this model.

3.3.2. Stationarity Test

At this stage to see if the data has stationary properties, namely at I(0) (stationary at level) or I(1) (stationary at first difference) but there must be no variables that are I(2) (second difference) and determine the order of integration using the Augmented Dickey Fuller (ADF) test. The unit root test results can be seen in table 1 below:

Table 1. Stationarity Test Results

Variable	Level		First difference		Integration degree
	t-statistic	Prob	t-statistic	Prob	
GDP	37.7503	0.0000	90.5632	0.0000	I(0)
FDI	39.8244	0.0000	72.3076	0.0000	I(0)
URBAN	7.07300	0.7185	37.3018	0.0001	I(1)
EMPLOY	34.5384	0.0001	75.3540	0.0000	I(0)

Source: Researcher Processed Data

Based on the stationarity test results in table 1 with ADF, there are three variables that are stationary at the level of economic growth, investment, and employment opportunities as indicated by a probability smaller than 1%. While the urbanization variable is stationary at the first difference level with a probability value smaller than 1%.

3.3.3. Optimum Lag Test

The result of lag optimum testing the best model selected in this study is the ARDL (3,4,4,4) model. That is, for the value of the log employment opportunity variable (Y) = 3 lags, the value of the economic growth variable (X1) = 4 lags, the value of the investment variable (X2) = 4 lags and the value of the urbanization variable (X3) = 4 lags.

3.3.4. Cointegration Test

In this study using the cointegration test Pedroni residual cointegration test approach because the model used is based on cross-section data. The following ARDL panel cointegration test results are in table 2 below:

Table 2. Cointegration Test Results

	Statistic	Prob	statistic	Prob
Panel PP-statistic	-5.753880	0.0000	-6.877221	0.0000
Panel ADF-statistic	-3.589103	0.0002	-3.249899	0.0006

Source: Researcher Processed Data

3.3.5. Panel ARDL Estimation Results

Table 3. Panel estimation results of ARDL (3,4,4,4)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run Equation				
GDP	-0.308172	0.047739	-6.455394	0.0000
FDI	0.275283	0.063883	4.309190	0.0001
URBAN	-0.494647	0.199678	-2.477218	0.0181
Short Run Equation				
COINTEQ01	-1.276221	0.512127	-2.492001	0.0174
D(LOG_EMPLOY(-1))	0.300487	0.271638	1.106203	0.2760
D(LOG_EMPLOY(-2))	0.091189	0.415769	0.219326	0.8276
D(GDP)	0.383109	0.144864	2.644608	0.0120
D(GDP(-1))	0.367590	0.146482	2.509448	0.0167
D(GDP(-2))	0.259931	0.212397	1.223800	0.2290
D(GDP(-3))	0.353185	0.209206	1.688216	0.1000
D(FDI)	0.073023	0.208953	0.349472	0.7288
D(FDI(-1))	-0.221549	0.160352	-1.381642	0.1756
D(FDI(-2))	-0.176947	0.245472	-0.720845	0.4757
D(FDI(-3))	-0.208185	0.201202	-1.034705	0.3077
D(URBAN)	-3.460655	2.535266	-1.365007	0.1807
D(URBAN(-1))	0.187664	2.860552	0.065604	0.9481
D(URBAN(-2))	-0.891029	1.422707	-0.626292	0.5351
D(URBAN(-3))	2.645446	2.084808	1.268916	0.2126
C	16.44132	6.782614	2.424039	0.0205

Source: Researcher Processed Data

Based on table 3, the form of the ARDL equation estimation obtained is as follows:

$$L0G\_EMPLOY_{it} = \alpha - \beta 1GDP_{it} + \beta 2FDI_{it} - \beta 3URBAN_{it} + \beta 4GDP_{it-1} + \beta 5GDP_{it-2} + \beta 6GDP_{it-3} - \beta 7FDI_{it-1} - \beta 8FDI_{it-2} - \beta 9FDI_{it-3} + \beta 10URBAN_{it-1} - \beta 11URBAN_{it-2} + \beta 12URBAN_{it-3} + \beta 13LOG\_EMPLOY_{it-1} + \beta 14LOG\_EMPLOY_{it-2} + \varepsilon_{it}$$

The accepted ARDL panel model is a model that has cointegrated lags, where the main assumption is that the value on cointeq01 has a negative slope coefficient with a significance level of 5%. In this study, the cointeq01 value is -1.276221 and significant (0.0174 <0.05), so the model is accepted.

3.3.6. Economic Growth

In the long run, it can be seen that economic growth has a coefficient value of -0.308172 with a probability value of 0.000. This means that economic growth has a significant negative effect on employment opportunities in the long run in the five ASEAN countries.

Meanwhile, in the short term, economic growth has a coefficient of 0.383109 with a probability value of 0.0120 which means that it has a significant positive effect on employment opportunities in ASEAN.

3.3.7. Investment

In the long run, investment has a significant positive effect on employment opportunities in ASEAN with a coefficient of 0.275283 and a probability value of 0.0001. Meanwhile, in the short term, the investment variable has no effect on the employment opportunity variable in ASEAN.

3.3.8. Urbanization

In the long run, urbanization has a coefficient value of -0.494647 with a probability value of 0.0181 which means that urbanization has a significant negative effect on employment opportunities in ASEAN. Meanwhile, in the short term, urbanization has no effect on employment opportunities in ASEAN.

3.4. Hypothesis Testing

TabLE 4. Hypothesis Test Results

Variable	Coefficient	T statistic	Prob.	Description
GDP	-0.308172	-6.455394	0.0000	Significant
FDI	0.275283	4.309190	0.0001	Significant
URBAN	-0.494647	-2.477218	0.0181	Significant
D(GDP)	0.383109	2.644608	0.0120	Significant
D(GDP(-1))	0.367590	2.509448	0.0167	Significant
D(GDP(-2))	0.259931	1.223800	0.2290	Not significant
D(GDP(-3))	0.353185	1.6882167	0.1000	Not significant
D(FDI)	0.073023	0.349472	0.7288	Not significant
D(FDI(-1))	-0.221549	-1.381642	0.1756	Not significant
D(FDI(-2))	-0.176947	-0.720845	0.4757	Not significant
D(FDI(-3))	-0.208185	-1.034705	0.3077	Not significant
D(URBAN)	-3.460655	-1.365007	0.1807	Not significant
D(URBAN(-1))	0.187664	0.065604	0.9481	Not significant
D(URBAN(-2))	-0.891029	-0.626292	0.5351	Not significant
D(URBAN(-3))	2.645446	1.268916	0.2126	Not significant
C	16.44132	2.424039	0.0205	Significant

Source: Researcher Processed Data

Based on the hypothesis test results in table 4, the following conclusions can be obtained:

- The constant value of 16.44132 means that when the value of the independent variables, namely economic growth, investment and urbanization, is assumed to be fixed, then employment opportunities will increase by 16.44132 units in ASEAN. Economic growth variable has a significant negative effect on the employment opportunity variable in the long run in ASEAN (Indonesia, Malaysia, Philippine, Thailand, Vietnam).
- Investment variable has a significant positive effect on the long-term employment opportunity variable in ASEAN (Indonesia, Malaysia, Philippine, Thailand, Vietnam).
- Urbanization variable has a significant negative effect on the long-term employment opportunity variable in ASEAN (Indonesia, Malaysia, Philippine, Thailand, Vietnam).
- Economic growth variable has a significant positive effect on employment opportunities in the short term in ASEAN (Indonesia, Malaysia, Philippine, Thailand, Vietnam).
- Economic growth in period one (lag 1) has a significant positive effect on employment opportunities in the short term in ASEAN (Indonesia, Malaysia, Philippine, Thailand, Vietnam).

3.5. Effect of Economic Growth on Employment Opportunities

The estimation results show that in the long run, economic growth has a significant negative effect on employment opportunities. This is not in line with the hypothesis that economic growth has a positive effect on employment opportunities. Theoretically, economic growth is the process of increasing the production capacity of an economy as reflected in the increase in national income. However, this result shows that although economic growth is increasing, it is not strong enough to encourage the creation of employment opportunities. One of the reasons is the limitation of supporting factors such as technological progress

and the mismatch of skills possessed by the workforce. This is made clear in the Solow-Swan theory that long-term economic growth occurs due to efficiency and technology.

In the short run, economic growth has a significant positive effect on employment opportunities in ASEAN. This result is in line with the hypothesis. In line with other studies that found that economic growth has a positive and significant effect on increasing employment opportunities in the short term. This happens because when the economy grows, demand for goods and services increases, thus encouraging companies to increase the number of workers directly [11]. The Solow-Swan theory explains that in the early stages of economic growth, output still depends on capital accumulation and labor growth. Therefore, firms move to expand production operations thus creating labor demand [4].

3.6. Effect of Investment on Employment Opportunities

The estimation results in the long run show that investment has a significant positive effect on employment opportunities in ASEAN. This is consistent with the research hypothesis, although investment contributes to economic growth, its impact on employment is only felt in the long run after the investment is realized and starts operating The process of employment takes time to build infrastructure, workforce training, and mature production processes [12].

However, in the short term, investment has no effect on employment opportunities in ASEAN. This result is not in line with the hypothesis. This is due to several factors such as innovation or technology which are important in creating new jobs, but these factors cannot move in the short term because it takes a long time for these factors to be realized [8].

3.7. Effect of Urbanization on Employment Opportunities

The long-run estimation results show that urbanization has a significant negative effect on employment opportunities in ASEAN. This result is not in line with the hypothesis. It is stated in Economic Geography Theory that urbanization does not always create inclusive employment opportunities without being accompanied by equitable policies. Rapid and poorly managed urbanization can cause negative pressure on employment opportunities [5].

In the short term, urbanization has no effect on employment opportunities in ASEAN. This result is not in line with the research hypothesis. Migration is driven by the hope of getting a better job, but in the short term, the number of available jobs may not be enough to meet the needs of the newly arrived labor force [13].

4. Conclusions

In the long run, economic growth and urbanization have a negative and significant effect on employment opportunities in ASEAN. Meanwhile, investment has a positive and significant effect on employment in ASEAN. In the short run, economic growth has a positive and significant effect on employment opportunities in ASEAN. Meanwhile, in the short run, investmentand urbanization have no significant effect on employment opportunities in ASEAN.

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