

Education and Economic Growth And The Role in Controlling Unemployment In Indonesia

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Abstract

The purpose of this research is to find and analyse the relationship between education and unemployment in Indonesia. This analysis makes use of World Bank information for the years 1996-2020. The GDP, the unemployment rate, and the level of education are used as independent variables. The VECM (Vector Error Correction Model) was used for the testing. The findings indicate that a rise in educational attainment is inversely related to the unemployment rate. Unemployment rates tend to fall as the economy expands. The unemployment rate in Indonesia can be lowered if the country's education system is strengthened. The Indonesian government, as a policymaker, must provide educational opportunities for all citizens of the country. The policies for long-term economic growth will benefit from this. As a result, this will serve to moderate and ultimately lower Indonesia's high unemployment rate.

Keyword: Education, Unemployment, GDP.

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Background

Unemployment occurs when those who want to work cannot find employment opportunities. Recession, technological change, mismatched structures, social alienation, and psychological suffering are all possible results of being unemployed. Young individuals, women, people of colour, and those with few skills may all feel the effects of the job market differently. Therefore, it is of paramount importance for politicians, scholars, and society at large to get an understanding of unemployment and work to alleviate it (Prabowo, Sasongko, & Damayanti, 2022).

The economic, educational, physical, and emotional well-being of individuals are all impacted by unemployment, making it a phenomena with many facets. Economic situations, technology advancements, personal traits, and societal standards are all examples of variables that might affect the unemployment rate. Unemployment can be a means of integration for certain vulnerable groups but not others. There is less variety among those who are self-employed with employees because of the weak start-up impact and high risk aversion. In most cases, the effects of flexibility on the labour market only go one way. The proportion of elderly people and young people with low levels of education who are self-employed changes from those who work alone to those who hire others when the unemployment rate rises. "Schumpeter" effect for the elderly self-employed without employees, men with college degrees, and low-educated self-employed people (Grigorescu, Pîrciog, & Lincaru, 2020).

Long-term economic expansion and joblessness are intertwined in Jordan. Higher unemployment rates are associated with slower economic growth in the long run while shorter-term increases in unemployment tend to dampen economic expansion. Okun's law, which asserts that unemployment and economic growth have a negative connection, holds true in Jordan, where the two are strongly and dynamically intertwined (Al-Sawaiea, 2020).

Human capital and productivity may be improved through education, which entails the acquisition of knowledge, skills, and values. In addition to improving individual lives, education may have far-reaching effects on the community, economy, and environment as a whole. As a result, education plays a pivotal role in the progress and prosperity of both individuals and nations. The growth of one's understanding, competence, character, and motivation via educational experiences is a varied and intricate phenomena. Different elements, including culture, technology, legislation, and society, can have an impact on education regardless of whether it is conducted in a formal, informal, or non-formal context. Increasing access to quality education is often regarded as one of the most effective means of fostering economic and social progress (Widarni, Irawan, Harnani, Rusminingsih, & Alim, 2022).

The 21st century presents numerous potential and difficulties for education, including the effects of the COVID-19 epidemic, the development of novel approaches to teaching and learning, the requirement for equity and inclusion, and the insistence on continuous improvement and development. Therefore, educational research is necessary to comprehend, assess, and enhance the quality and efficacy of education in various settings and for various ends. More chances and resources for lifelong learning should be made available to the elderly by the government, which may increase their well-being and contentment. Three crucial factors in every nation's progress are its educational system, its unemployment rate, and its economic growth (Widarni & Bawono, 2023).

Human capital and productivity may be improved through education, which entails the acquisition of knowledge, skills, and values. The state of being unemployed and actively seeking work. Increases in a country's output of goods and services over time constitute economic growth. There are several ways in which these three factors might influence one another. Several variables affect the relationship between unemployment and higher education in Asia. These include economic growth and development, the demand and supply of labour, social and cultural standards, and the quality and usefulness of higher education. More study is required to identify effective strategies for bridging the gap in expectations among graduates, businesses, and educational institutions. When formulating plans to boost higher education and cut unemployment, authorities should keep each country's unique characteristics in mind (Abdullah, Abd Majid, & Hussin, 2022).

Poverty rates are significantly affected by education and unemployment rates in four cities in North Sulawesi. The government increases work possibilities and social security for the jobless and underemployed while also enhancing the quality and accessibility of education, particularly for the poor and marginalised groups (Roring & Rondonuwu, 2022). In Indonesia, economic expansion has not helped alleviate poverty. The article suggests that the government provide stimulant assistance and subsidies, more effective and targeted poverty alleviation programmes, funding assistance for education, skills development training programmes, more jobs, support for small and medium-sized businesses, a decrease in labour outsourcing, and fair and impartial treatment of employees with no favouritism. Economic expansion is affected by unemployment, poverty, and access to education over the long term. It shows that there is a correlation between income and both educational participation and GDP. The effects of commerce and education on economic growth are positive, but unemployment has a negative influence (Yasmin et.al, 2021).

The relationship between economic development and unemployment and schooling is nuanced, fluid, and context-dependent. Human capital and productivity may be increased via education, leading to greater economic growth and lower unemployment rates. However, the quality and availability of educational services might differ between areas and groups, which can have an

impact on students' ability to succeed in school. While unemployment's negative effects on economic growth stem from diminished income and spending, the positive effects stem from the incentives it provides for new business ventures. More jobs and lower unemployment are two benefits of economic expansion, while structural shifts and inequality are two costs. The government is better able to help the needy when the economy is growing well because more people are employed, have higher incomes, and pay taxes. There was minimal difference in poverty rates across educational attainment. Poor education will lead to the downfall of a country since it determines the character of its citizens. Unless education is a top priority, low-income people tend to be intellectually stunted (Kusumaningsih, Setyowati, & Ridhwan, 2022). This article takes a close look at the impact that education and the unemployment rate have on Indonesia's economic development.

Research Method

The purpose of this study is to investigate the effect that higher education has on unemployment and the economy. This study is to investigate the effect that education has on unemployment and the expansion of the economy in Indonesia. For the years 1996-2020 in Indonesia, we collect statistics from the World Bank. The Vector Error Correction Model (VECM) is used to analyse the relationships between levels of education, unemployment, and GDP. The statistical equation model is as follows:

$$\begin{aligned}
 EDU_t &= \beta_0 + \beta_1 UEM_{t-1} + \beta_2 GDP_{t-2} + e_t \\
 UEM_t &= \beta_0 + \beta_1 EDU_{t-1} + \beta_2 GDP_{t-2} + e_t \\
 GDP_t &= \beta_0 + \beta_1 EDU_{t-1} + \beta_2 EDU_{t-2} + e_t
 \end{aligned}$$

Information:

- EDU = Education Rate
- UEM = Unemployment Rate
- GDP = Economic Growth (in percent)
- β = Konstanta
- e = Error term
- t = Time Period

Result and Discussion

In the first experiment, we used static data. Data in the research will be confirmed to be free of stationarity issues if the unit root test indicates that they are stationary. The unit root test will be shown in table 1 below:

Table 1. Unit Root Test Result

Variable	Level		First Difference	
	Prob.	Description	Prob.	Description
EDU	0.9965	Not Fulfil	0.0000	Fulfil
UEM	0.7757	Not Fulfil	0.0045	Fulfil
GDP	0.0161	Fulfil	0.0000	Fulfil

The above table shows the results of the root test, indicating that the study data is not affected by a lack of data stationarity. At the same value of initial difference, all variables are considered to be stationary. Once the data stationarity problem is solved, an optimal lag test is performed to determine the appropriate latency for the analysis which will be shown in the table below:

Table 2. Lag Optimum Test

Lag	LogL.	LR	FPE	AIC	SC	HQ
0	-271.0198	NA	4476456.	23.82781	23.97592	23.86506
1	-206.0447	107.3501*	34804.26*	18.96041*	19.55284*	19.10941*

Table 2 above on the optimum lag test shows that the lag to be used is lag 1. Next is the cointegration test as a step to check the use of Vector Error Correction Model (VECM) analysis which will be shown in table 3 below:

Table 3. Cointegration Test

Hypothesized	Eigenvalue	Trace Statistic	0,05 Critical Value	Probability
None *	0.716620	39.35336	29.79707	0.0030
At most 1	0.405266	11.61211	15.49471	0.1765
At most 2	0.008150	0.180024	3.841466	0.6713

In the cointegration test shown in table 3 above, it can be seen that there is 1 cointegration so that the use of VECM can be continued. The following are the results of the VECM test in this study:

Table 4. VECM Test Resultit

	D(EDU)	D(UEM)	D(GDP)
D(EDU(-1))	-0.718152 (0.20541)	-0.001655 (0.00163)	3.65E-05 (0.00476)
	[-3.49617]	[-1.01813]	[0.00766]
D(UEM(-1))	7.819225 (32.6152)	-0.033778 (0.25802)	0.524802 (0.75605)
	[0.23974]	[-0.13091]	[0.69413]
D(GDP(-1))	-3.294490 (4.23053)	-0.014541 (0.03347)	-0.015733 (0.09807)
	[-0.77874]	[-0.43446]	[-0.16043]
C	142.1804 (22.3125)	0.070709 (0.17652)	0.526233 (0.51723)
	[6.37223]	[0.40057]	[1.01741]

Based on the VECM results above, it can be seen that education has a negative effect on unemployment as evidenced by the significant relationship D(EDU(-1)) and D(UEM) with the t-statistic value [-1.01813]. On the other hand, education is aligned with economic growth with a significant positive effect D(EDU(-1)) with D(GDP) t-statistic value [0.00766]. In addition, economic growth has an impact on unemployment with a significant negative impact D(GDP(-1)) and D(UEM) with a t-statistic value [-0.43446]. The unemployment rate is increasing due to past unemployment rates. This is of course in the spotlight because the impact is very large on the Indonesian economy. Education has a negative effect on unemployment, in other words, an increase in education will reduce the unemployment rate. In addition, economic growth also has a negative effect on unemployment. Thus, improving the quality of education will support Indonesia's economic growth, which in turn will reduce the unemployment rate.

Table 5. Granger Causality Teat Result

Null Hypothesis:	Obs	F-Statistic	Prob.
UEM does not Granger Cause EDU	23	0.00510	0.9438
EDU does not Granger Cause UEM		9.92198	0.0050
GDP does not Granger Cause EDU	23	0.16964	0.6848
EDU does not Granger Cause GDP		1.02693	0.3230
GDP does not Granger Cause UEM	23	3.61652	0.0717
UEM does not Granger Cause GDP		1.96633	0.1762

Use the results of the Granger causality test (see Table 6 above) to deduce which way one variable causes another. There is a 0.0050-likelihood unidirectional causal link between the EDU and UEM variables. This might be read to mean that the unemployment rate has no bearing on the degree of education attained, whereas education does have an impact on the unemployment rate.

Conclusion

The increase in the unemployment rate as a result of the unemployment rate in the past needs to be given a solution by the Indonesian government. Education has a negative influence on unemployment. In addition, economic growth also has a negative effect on unemployment. Thus, the Indonesian government as a policy maker must improve the quality of education by increasing access to education that is equitable throughout the region. This will support the policy of sustainable economic growth. Thus, it will help mitigate and reduce the unemployment rate in Indonesia.

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