

# The Effect of Foreign Investment, Employment Rates, and Total Population on Educated Unemployment in Indonesia

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## ABSTRACT

Unemployment has significant economic and social impacts, especially educated unemployment. The increase in the number of educated unemployed is a major problem. As of February 2022, BPS RI data indicates 8.4 million people or 5.83% of the workforce are unemployed. Educated unemployment, such as High School, Diploma, and Bachelor graduates, has the potential to support economic growth which is unfortunate if it is not handled properly. As of February 2022, according to data from the Indonesian Central Bureau of Statistics, the total number of educated unemployed in Indonesia has reached 62.4% of the total number of unemployed in Indonesia. The projection of the demographic bonus in Indonesia, Cipta Kerja Law which has the aim of overcoming employment problems by supporting foreign investment and creating jobs through ease of licensing and the fluctuation of employment rates which are influenced by economic growth is the background of this research. This study analyzes the effect of foreign investment (FDI), employment rates, and total population on educated unemployment in Indonesia. The method used is the quantitative method and multiple linear regression analysis using SPSS 25. The results show that the employment rates and population have significant effect on educated unemployment while foreign investment (FDI) does not have significant effect in this study. Encouraging the quality of foreign investment remains an important role. The government should prioritize policies that support investment in potential sectors to create jobs for educated graduates. Managing population growth is also important in order to prevent increases in educated unemployment.

**Keywords:** Educated, Unemployment, Investment.

## INTRODUCTION

As developing nation, Indonesia has the fifth-largest population in the world. A high level of poverty is a sign of the welfare for the people in one of the developing third-world nations. This remains a significant issue that has to be resolved. When the Covid-19 pandemic struck in 2020, many individuals lost their jobs and became unemployed, which quickly increased the poverty rate. The high unemployment rate lowers economic growth to a negative value. In September 2022, the Ministry of Finance reported that 26.36 million Indonesians, or 9.57% of the population, were living in poverty. The poverty rate as of March 2023 was 9.54%, modestly increasing. Unemployment is a serious problem that can cause various economic and social problems, one of which is poverty. Based on data from the Republic of Indonesia BPS (Badan Pusat Statistik Indonesia) in February 2022 the number of unemployed people was 8.4 million people or 5.83% of the total workforce. Reducing the unemployment rate is certainly an effective thing in reducing poverty in Indonesia.

One type of unemployment is educated unemployment. According to the Badan Pusat Statistik Indonesia, educated unemployment is the ratio of the number of job seekers with a high school education and above (as the educated group) to the overall number of the workforce. Educated unemployed with the skills can certainly be a good potential for improving nation welfare. With the existing potential, educated unemployment is expected to participate in driving the wheels of economic growth in Indonesia. In 2018 there were 4.2 million educated unemployed in Indonesia, this number constituted 54.1% of the total number of total unemployed in Indonesia. The number of educated unemployed in the last five years has continued to increase. As of February 2022, according to data from the Indonesian Central Bureau of Statistics, the total number of educated unemployed in Indonesia has reached 62.4% of the total number of total unemployed in Indonesia. The increase in the number

of educated unemployed is due to the increasing number of high school, diploma and bachelor graduates. This is related to the population in Indonesia which continues to grow with the value of population growth at positive numbers every year. Indonesia's population has again increased to 275.77 million by mid-2022 according to BPS Indonesia. The demographic bonus is a phenomenon of a country's population civilization where, there is an explosion in the number of productive age population which can become the source in development (Sutikno, 2020). The demographic bonus can have a very good impact on the country's economy, but if it is not accompanied by adequate handling and availability of jobs, the demographic bonus can be disastrous for the Indonesia economy.

The Cipta Kerja Law in Omnibus law was passed as an effort to overcome labor problems, one of which is to meet the need for increased employment, the ratification of Law No. 11 of 2020 concerning Job Creation encourages investment with a simple licensing system. It is hoped that this convenience will attract foreign investment into the country and open up more jobs in Indonesia. One of many kinds of foreign investments is FDI (Foreign Direct Investment). In 2021 Indonesia's FDI is the 2nd largest in ASEAN. It is hoped that the positive development of FDI in the last 5 years will drive the wheels of the economy in Indonesia. With a better economy, there will be more jobs available so it is expected to reduce the number of educated unemployed and improve people's welfare and reduce poverty.

The employment opportunity rate or TKK in Indonesia in the last five years has shown a fluctuating trend due to the Covid-19 pandemic the employment rates in Indonesia has decreased from 66% to 63% until 2021. However, in the following year it has gradually increased due to improvement in the economic sector. The higher the economy in a region, the higher the opportunity for companies to develop and creation more job opportunities for the community. Because the level of employment rate reflects economic growth. The level of employment rates in society can be seen from the number of workforce who work. The occurrence of labor force growth rapidly and quickly, but not proportional to employment opportunities an cause an increase in the unemployment rate. Therefore this research was conducted with the aim of knowing the effect of foreign investment, especially FDI, Employment Rate, and the Total Population on the educated unemployment in Indonesia.

## Literature Review

### Foreign Investment

Article 1 of Law Number 25 of 2007 concerning Investment stipulates that foreign investment is an investment activity to conduct business in the Republic of Indonesia, either with foreign capital alone or jointly with domestic investors. According to Mankiw in his book *Mankiw's Principles of Macroeconomics 6th Edition*, a country does not only have the ability to invest through the savings of its own population. Foreign investment is an alternative option that can be done. The following are forms of foreign investment, including:

1. Investment capital owned and managed by a foreign company known as Foreign Direct Investment. For example, Indonesia could become a location for the construction of a Korean-owned Hyundai car factory.
2. Foreign portfolio investments are investments managed by internal investors within the country but financed by foreign capital. For example, Koreans can invest in Indonesian companies by buying their shares. By selling the shares, the Indonesian company can build a new factory with the money raised from the sale of the shares.

According to The Classical and Neo-Classical Theory on Foreign Investment, foreign investment benefits the economy of the recipient country as a whole. Classical theory also emphasizes the importance of saving as a source of investment. One of the main drivers of economic growth and development is investment. If investment growth is faster than population growth, it will also accelerate growth in the average volume of capital stock per worker. Harrod-Domar maintains the opinion of earlier economists, including the classics and Keynes, that capital growth plays an important role in economic growth. According to the Harrod-Domar theory, capital formation is considered an expenditure that will increase the demand for society as a whole, as well as an expenditure that will increase the ability of an economy to produce goods and services. Where the economy has the ability to produce larger products after capital formation was carried out in the erlier period.

According to Akalper and Adil in Saputra et al. (2021), it has been shown that in the last few decades, FDI has had a significant influence on increasing economic growth. Most economic analysts argue that FDI is a powerful tool for economic growth. FDI has a very important role in driving the progress of the Indonesian economy. Foreign Direct Investment (FDI) promotes the local raw material industry, expert process technology also good management. Therefore, it can be said that FDI has a significant influence on Indonesia's current

economic growth by enabling the creation of new jobs (Siregar et al, 2023).

### Employment Rate

According to BPS (2022), the Employment Rate is the percentage of the population aged above 15 years who is employed compared to the labor force. According to Harsenovia (2021), employment rates are considered as requests in situations that describe the availability of jobs that are ready to be filled by job seekers. According to Soesatyo in Amalia (2022), employment rates refer to opportunities or situations that indicate that there are jobs that can be accessed by all who are willing and able to work according to their respective expertise, skills, and talents. Employment rates (demand for labor) describe conditions that reflect the availability of jobs (work positions ready to be filled by job seekers). Therefore, employment rates can be interpreted as a demand for labor.

According to Keynes, the ability of the economy to self-correct and recover on its own is not enough to generate full employment after a decline in employment. It is very important to use artificially created stimulates, and the most effective way to stimulate the economy is by increasing spending, which will increase the demand for goods and services. Also explained by Mankiw, the more people spend their income, the more goods companies can sell, the more companies sell, the more output they will produce, and the more workers they will need. According to Keynesian theory, employment rates can be increased by increasing spending. According to BPS, the percentage of the working population aged 15 years and over in the labor force indicates the percentage of the working force. The higher the employment rates, the higher the job opportunity. The occurrence of labor force growth rapidly and quickly, but not proportional to employment opportunities can cause an increase in the unemployment rate. Rosalina, et al. (2018) in their similar research also provide an explanation, that when the employment rate level increases the demand for labor will also increase so that job offers will be fulfilled. This will increase employment and employment opportunities for the workforce, especially the educated workforce, as well as reduce the number of educated unemployed. According to Badan Pusat Statistik (BPS), the calculation of employment rates can be seen as follows:

$$\text{Employment Rates} = \frac{a}{b} \times 100\%$$

Where :

a = Total of Working Population

b = Total of Labor Force

### Total Population

The definition of a resident according to the Indonesian Central Bureau of Statistics, is any individual who has lived in the geographical area of the Republic of Indonesia for six months or more, as well as those who have lived for less than six months but intend to stay. According to Bidarti (2020), population growth is a change in the number of residents in an area within a certain period of time. The population growth rate is a very useful tool for predicting the future population size of an area. The social and economic needs of the community can be identified by knowing the population. To improve the quality of human resources, population growth is the main source of increasing the number of people that needs to be developed, trained and utilized. The relatively high population continues to cause social and economic problems. Karl Marx and Friedlich Engels created the population theory, which states that the pressure of population growth is not on food but on employment opportunities. If the population continues to increase, most people will be in the labor force category. As a result, a rapid increase in population will impact income, savings, and investment. this will slow down capital formation and lead to fewer employment opportunities, which in turn will lead to unemployment and a reduction in the number of jobs (Chandra et al, 2020).

## Educated Unemployment

Those who are unemployed but are looking for work, work less than two hours a week, are preparing to start a business, believe that finding a job is difficult, or have had a job offer but have not started work are unemployed, according to BPS (2021). According to the Badan Pusat Statistik, educated unemployment is the ratio of the number of job seekers with senior high school education and above to the available labor force in that group (as the educated group). Educated unemployment is also known as high school, diploma, and undergraduate graduate unemployment (Anjarwati & Juliprijanto, 2021). Educated unemployment is defined as someone who does not work or is looking for work but has at least a high school degree or equivalent (Mankiw, 2018).

## METHOD

In this study, time series data are used for 30 years, starting from 1993-2022. The analytical method used is the Ordinary Least Squares (OLS) method and processed using SPSS 25 software. In this study, multiple regression will be used to examine the effect of the independent variables (Foreign Investment, Employment Rates, and Total Population) partially on the dependent variable (Educated Unemployment). Multiple linear regression testing techniques consist of classical assumption tests, namely autocorrelation tests, multicollinearity tests, heteroskedasticity tests, hypothesis testing consisting of F tests, determination coefficient tests ( $R^2$ ), and t-tests. According to (Firdaus et al., 2021) the multiple linear regression equation can be expressed in the form of a formula as follows:  $EDUEP = \beta_0 + \beta_1FDI + \beta_2ER + \beta_3TP + e$

Explanation:

EDUEP = Educated Unemployment

$\beta_0$  = Constant

$\beta_1, \beta_2, \beta_3$  = regression coefficient Variable FDI, Employment Rates, and Total Population

FDI = Foreign Direct Investment

ER = Employment Rates

TP = Total Population

e = Error

Operational Definition

### 1. Educated Unemployment (EDUEP)

An educated unemployed is someone who has completed his education but has not found a job (Pratama & Setyowati, 2022). The data used in this study is data on the number of educated unemployed in Indonesia from 1993 to 2022. Data on the number of educated unemployed was obtained from Badan Pusat Statistik Indonesia in units of people.

### 2. Foreign Direct Investment (FDI)

Based on Law Number 25 of 2007 what is meant by Foreign Investment is an investment activity to carry out business in the territory of the Republic of Indonesia carried out by foreign investors, either using fully foreign capital or jointly with domestic investors (Article 1 of Law No. 25 of 2007 concerning Investment). The data used in this study is BoP (Balance of Payment) of Foreign Direct Investment inflow data in Indonesia originating from the World Bank from 1993 to 2022 or in a 30-year period in USD currency.

### 3. Employment Rates (ER)

According to BPS (2022), the Employment Rate is the percentage of the population aged 15 years and over who is working compared to the labor force. The data used in this study is data on the employment rates (EP) in Indonesia which comes from the World Bank from 1993 to 2022 or in a 30-year period in percentage (%).

### 4. Total Population (TP)

According to the Indonesian Central Bureau of Statistics (2023), Indonesian residents are all people who are domiciled in the territory of the Unitary State of the Republic of Indonesia for 1 year or more or those who have been domiciled for less than one year but intend to settle down. The data used is data on the total population of Indonesia obtained from the World Bank from 1993 to 2022, or for a period of 30 years in units of people.

**RESEARCH RESULTS AND DISCUSSION**

**a. Results**

Variabel	Unstandardized Coefficients		t Statistic	Sig (t-statistic)	Collinearity Statistics		F Statistic	Sig (F-statistic)	R Square	Run Test	Glejser Test
	B	Std.Error			Tolerance	VIF					
Constanta	14977372.29	4021239.935	3.725								
FDI	-1.471E-5	.000	-.918	.367	0.275	3.637	41.046	.000 <sup>b</sup>	.826	.577	.727
ER	-.31537639.8	5773357.418	-5.468	.000	0.769	1.300					.945
TP	.037	.006	6.758	.000	0.320	3.123					.363

Sources : secondary data, processed

From the above estimation results, the equation can be written as follows: Educated Unemployment (EDUEP) = 3.725 - .918 - 5.468 + 6.758 + e. Based on the test results, it is known that variable Foreign Direct Investment (FDI) has no negative and insignificant effect on Educated Unemployment, as evidenced by the statistically significant t-value (0.367 > 0.05). Variable Employment Rates has a negative and significant effect on Educated Unemployment, as evidenced by a statistically significant t-value (0.000 < 0.05). Variable Total population has a positive and significant effect on Educated Unemployment, as evidenced by a statistically significant t-value (0.000 < 0.05). For the F-test, the calculated F-value is 41.046, which is greater than F-table. The significant value (sig.) is 0.000, indicating a significant influence between independent variables (Foreign Investment, Employment Rates, and Total Population) on the dependent variable Educated Unemployment, simultaneously or together. Furthermore, the Run Test value is 0.577, suggesting that this regression equation is free from autocorrelation. The Variance Inflation Factor (VIF) for each variable is below 10 (<10), indicating that this regression model is also free from multicollinearity. The result of the Glejser Test shows that all variables have a significant value > 0.05 hence the model is concluded to be free from heteroskedasticity. Moreover, this regression model has an R-squared value of 0.826 or 82,6%, indicating that the independent variables in this study have the capability to influence the dependent variable by 82,6%, while the remaining 17,4% is explained by variables outside of this research.

**b. Discussion**

**The Effect of Foreign Investment on Educated Unemployment**

Even though the results of the statistical test show that the t-value of FDI is 0.367, indicating that there is no significant effect of FDI on the educated unemployment rate, this interpretation does not always imply that FDI has absolutely no impact on educated unemployment. The effect of FDI on the level of educated unemployment may be complex and depend on a number of contextual factors.

In her research, Merina (2019), regarding the effect of Foreign Investment (PMA) on educated unemployment in West Sumatra Province, also obtained the result that FDI did not have a significant effect on the level of educated unemployment. Apart from that, Rifai (2023), in his research, also obtained the result that foreign investment did not have a significant effect on educated unemployment in the Province of the Special Region of Yogyakarta which was caused by foreign companies' non-compliance with labor regulations regarding wages and proper leave. With this, based on previous studies, FDI as a form of foreign investment show no significant effect on educated unemployment. This indicates a complex relationship between foreign investment and educated unemployment which can be caused by various factors specific to a region.

Based on the literature, the effect of FDI on employment and educated unemployment can vary depending on the industrial sector, the qualification level of the population, government policies, and overall economic stability. In some cases, FDI can create job opportunities through investment and expansion of foreign companies in Indonesia, which can help absorb an educated workforce. However, in other cases, FDI may be more likely to bring in technology and automation machines that can reduce the demand for human labor, including educated labor.

It is important to view the results of statistical tests in the context of the broader analysis and consider the potential impact of FDI on the economy and workforce as a whole. In some cases, the impact of FDI may not be immediately apparent in the short term and it may take time to affect the rate of educated unemployment. In addition, other factors such as job training, skills development, and employment policies can also play an important role in reducing the rate of educated unemployment.

### **The Effect of Employment Rates on Educated Unemployment**

The effect of the Employment Rate (ER) on the Educated Unemployment Rate in Indonesia has a significance of 0.000, which indicates that there is a significant influence between the Employment Rate (ER) variable and the Educated Unemployment Rate. This indicates that changes in the Employment Rate can significantly affect changes in the Educated Unemployment Rate in Indonesia. In this context, the Employment Rate reflects the labor qualifications and skills available in the labor market. The ER results of -5,463 show a significant negative effect on the Educated Unemployment Rate, where a 1% increase in the Employment Rate will reduce the Educated Unemployment Rate by -5,463%. The significance value of 0.000 indicates that the relationship between the level of employment rates and the level of educated unemployment is strong and statistically consistent.

Based on various potential sectors that are developing and are the top contributors to economic growth. These sectors also become large absorbers of labor so that job opportunities grow, and the opportunities for educated unemployed to get jobs also increase, Harsenovia (2021). In her research Rosalina et al. (2020), Employment Rates has a significant negative effect on educated unemployment. This is indicated by the addition of jobs that reduce the level of educated unemployment.

The existence of a significant influence of the Employment Rate on the Educated Unemployment Rate means that the relationship between the employment rate and the educated unemployment rate is very relevant in the context of the labor market. The level of employment rates refers to how many opportunities or the number of jobs are available in an economy in a certain period. Meanwhile, the educated unemployment rate refers to the proportion of individuals with higher qualifications or education who do not have a job in the labor population. When the employment rate is lower than the number of individuals with a certain level of education or qualifications, there can be a skills mismatch. This means that there is a discrepancy between the needs of the job market and the qualifications of prospective workers. This can result in higher rates of educated unemployment, even if there are highly qualified individuals. The level of employment opportunities can be affected by the level of economic growth. As the economy grows, job opportunities usually increase as more companies create new jobs. However, if economic growth is not strong enough, employment opportunities may be limited, and educated individuals may experience higher unemployment rates.

Educated workforce may experience higher unemployment rates. A high rate of educated unemployment can lead to a decrease in overall economic productivity. Educated individuals usually have better skills and can make a greater contribution to the economy if provided with suitable employment opportunities. By increasing employment rates for educated individuals, potential economic productivity can be increased. High levels of employment rates can support sustainable economic growth. With sufficient job opportunities for all qualifications, more people will be involved in economic activities, which in turn can encourage the growth and development of economic sectors.

### **The Effect of Total Population on Educated Unemployment**

The influence of population on the educated unemployment rate in Indonesia with a significance of 0.000 indicates a very strong and significant relationship between the population variable and the educated unemployment rate. A significance of 0.000 indicates that the results of the hypothesis test related to this variable have a very low level of significance, close to zero, so it can be considered a real and strong effect. The result of t count 6,758 indicates that the total population has a significant positive effect on the educated unemployment rate. An increase of 1% in the total population will also increase the educated unemployment rate by 6,758%.

Large numbers of people will enter the labor force as a result of continued population growth. Furthermore, due to rapid population growth which has an impact on income, savings, and investment, capital formation will slow down and job prospects will be limited, resulting in a decrease in employment opportunities and increase in unemployment (Chandra et al, 2020). Huda, et al. (2018) in their research stated that the increasing

number of productive age population had an increasing effect on the level of educated unemployment. This shows a positive and significant relationship between the population and the level of educated unemployment.

The increase in population in Indonesia has a direct impact on the level of educated unemployment. The larger the population, the greater the potential number of educated individuals entering the labor market. However, if the pace of job creation is not in line with the growth of the population and their educational qualifications, an increase in the level of educated unemployment may occur. This impact can be further amplified by the existence of a skills mismatch, where the number of educated individuals exceeds the labor market demand for certain qualifications. This can result in many educated individuals finding it difficult to find jobs that match their education and skills, causing high levels of educated unemployment.

## **CONCLUSIONS**

Based on the multiple linear regression analysis that has been carried out using three independent variables, namely Foreign Direct Investment (FDI), Employment Opportunity Rate (TKK), and Total Population on the dependent variable Educated Unemployment Rate in Indonesia, several results are obtained. In conclusion, the results of this study indicate that the Employment Opportunity Rate (TKK) and Population have a very significant influence on the Educated Unemployment Rate in Indonesia. There is a strong relationship between changes in the level of employment opportunities and changes in total population with changes in the level of educated unemployment. Meanwhile, the Foreign Direct Investment (FDI) variable has no significant effect in the context of the multiple linear regression model in this study. the FDI variable does not have a strong or real impact on changes in the level of educated unemployment in Indonesia. Foreign direct investment (FDI) and educated unemployment can have a complex relationship that depends on a number of variables. Although FDI can boost a country's economy and create jobs, its impact on unemployment, especially among the educated unemployed, is not always on target. There are various other factors that can be more significant causes related to educated unemployment in Indonesia, such as the mismatch between demand and supply of labor, labor market efficiency, and economic structure.

For further research that focuses on the effect of foreign investment (FDI), employment opportunities, and population on the educated unemployment rate in Indonesia, the following are some suggestions that can be used as a reference: Even though the results show that FDI has no significant effect on the level of educated unemployment in this model, it remains important to encourage quality foreign investment. The government can formulate policies that support investment in sectors that have the potential to create jobs for educated workers to reduce numbers and overcome problems related to educated unemployment in Indonesia. 3. The government and related stakeholders need to prioritize efforts to increase employment opportunities for educated graduates. This can be achieved through training and skills development programs according to the needs of the labor market. In addition, it is important for the government to continue to manage population growth wisely. Family planning programs and education about pregnancy planning need to be improved to control population growth and prevent the potential increase in educated unemployment. Future research can broaden the scope of factors that affect the level of educated unemployment. For example, involving variables such as education level, industrial sector, geographic location, and employment policies. By including more variables, research can provide a more complete insight into the complexity of the issue of educated unemployment. In addition to multiple linear regression, future research may consider using other statistical models. Future research can also carry out comparative studies with other countries in a similar context which can provide insight into the unique factors that affect educated unemployment in Indonesia compared to other countries. Through future studies with a focus on the suggestions above, it is hoped that it can provide a deeper understanding of the factors affecting educated unemployment in Indonesia and provide a solid basis for the development of policies that are more effective in overcoming this problem.

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