Poverty Alleviation, Human Capital, Technology and Economic Growth in Indonesia

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Abstract

This study aims to determine the impact of human capital as reflected in education, technology, economic growth on poverty in Indonesia using secondary data from world banks and using the moving average autoregression method. We find that poverty is negatively related to GDP and technology inclusion. However, it is positively related to the educational investment needs issued by the Indonesian government. This means that the more the poor, the government needs more money to subsidize education so that all citizens can get decent and equal educational opportunities. When the poor continue to decrease, the cost of education can be financed independently by the population so that the need for subsidies or education investment that is spent is less.

Keywords: Poverty Alleviation, Indonesia, Human Capital

JEL Classification : C0, J24,J64

Background

Poverty is a social problem that needs a solution to end poverty. Social capital is one solution to breaking the chain of poverty. Social capital impacts the human ability to work and earn money. With sufficient human capital, a person can work and earn money to support himself and his family so that they can slowly move out of poverty independently (Kotler & Lee,2009).

Policies regarding human development are very important in terms of alleviating poverty. Poverty is very dangerous because poverty can trigger economic and social inequalities which in turn can trigger an increase in crime and make the environment uncomfortable. Poverty also tends to lead to weak economic performance which will have a devastating effect if poverty continues to increase (Monchuk,2014).

A life of poverty and deprivation has an impact on the weak ability to invest both in financial investment and human capital investment. In the end, someone who lives in poverty will find it difficult to develop himself and increase his income. And their children will also have difficulty accessing human capital investment. This has become a vicious cycle of poverty that never ends. Social assistance is only temporary because it will be consumed. However, education and an increase in human capital will have an impact on increasing the ability to make more money so that it is better able to increase human capital in the future, which in turn can get out of poverty by continuously increasing human capital (Keeley,2015).

Human capital encourages the development of technology that helps improve human performance. The inclusion of technology and social capital can boost human productivity so that both have great

potential in accelerating poverty alleviation while improving general welfare, which is reflected in the gross domestic product (Bhattacharya,2017).

Literature Review

Poverty and crime have a positive relationship and are very disturbing for the community. Criminality tends to disrupt the lives of citizens. Poverty creates a vicious cycle of poverty that continues and has the potential to spread. Increasing poverty is accompanied by an increase in crime and violations of general norms and rules. This is very risky and dangerous for children's education which has an impact on the spread of new poverty among the younger generation. This is of course very dangerous (Stopford,2020).

Poverty needs to be resolved and ended in order to maintain the general welfare and a comfortable and safe environment. Poverty can be reduced and the poverty chain can be broken by means of improving education and training or through mechanisms for increasing human capital. Increased human capital has an impact on increasing one's income. Human capital also encourages technological and technological developments to make human work easier and has an impact on increasing income even further (Akenji & Briggs,2015).

An increase in income can help someone to continue investing in human capital so that they can continue to increase their income until they get out of poverty and this will be passed on to their children who can earn enough and continue to grow so that the poverty chain can be broken. In aggregate terms, an increase in income and an increase in population productivity have an impact on GDP. When GDP increases, production will increase, job opportunities are greater and people's income tends to increase and has an impact on improving people's welfare. A prosperous society can alleviate poverty in a systematic and measured manner (Weisbrod et al,2021).

Research Method

This study aims to determine the impact of human capital as reflected in education, technology, economic growth on poverty in Indonesia using secondary data from world banks and using the moving average autoregression method with the following equation:

$$Pov_t = C_t + \beta_1 GDP_{t1} + \beta_2 T_{t2} + \beta_3 Ed_{t3} + e_t$$

Where,
Pov = Poverty
GDP = Gross Domestic Product
T = Technology Inclusion
Ed = Educational Investment
e = Error Term

Poverty data is calculated for each person who is in the poverty line with a daily income below $ 3.2, GDP is calculated based on USD, education investment is calculated from the level of Indonesian government spending on education development and is calculated based on USD. Technology inclusion is calculated based on the number of devices accessing the internet.

Result and Discussion

The estimation results are as follows:

POV = 91897385.2424 - 0.000022*GDP + 0.00000936*ED - 0.000011*T

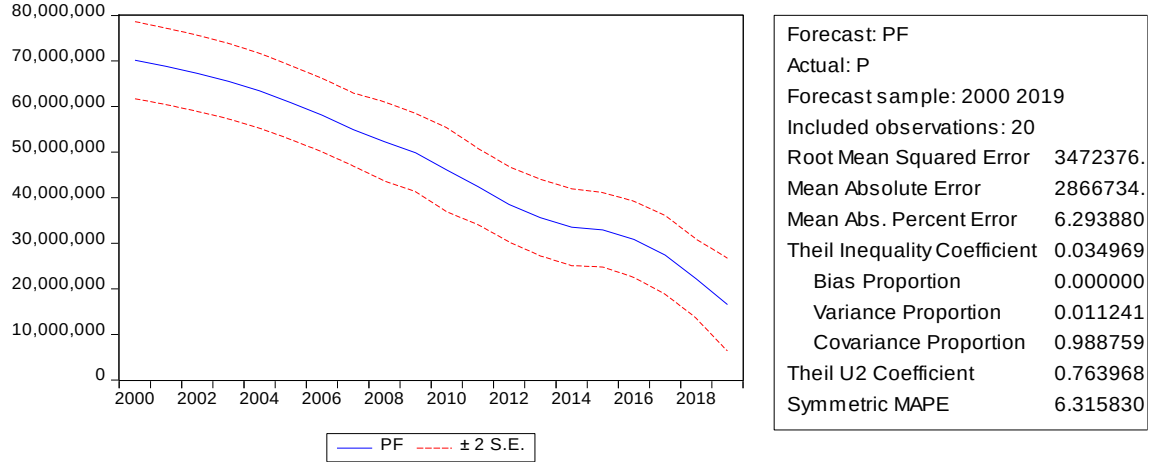
From the estimation results, poverty (POV) is negatively related to GDP and technology inclusion. However, it is positively related to the need for education investment issued by the Indonesian government. This means that the more poor the government requires more money to subsidize education so that all citizens get decent and equal educational opportunities. When the poor continue to decrease, the cost of education can be financed independently by the population so that the need for subsidies or education investment that is spent is less. Table 1 illustrates the estimation results as follows:

Table 1. Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	91897385	5.39E+06	17.05026	0
GDP	-0.000022	6.92E-06	-3.178319	0.0058
ED	0.00000936	6.58E-05	0.142291	0.8886
T	-0.000011	3.73E-05	-0.295313	0.7716
R-squared	0.956031	Mean dependent var		46870000
Adjusted R-squared	0.947786	S.D. dependent var		16989876
S.E. of regression	3882234	Akaike info criterion		33.35858
Sum squared resid	241000000000000.00	Schwarz criterion		33.55772
Log likelihood	-329.5858	Hannan-Quinn criter.		33.39745
F-statistic	115.9635	Durbin-Watson stat		1.123194

Based on the estimation results described in Table 1., it can be seen that the R-square is very high, namely 0.956031, so the quantitative calculation results show a 96% level of truth. This means that the possibility of a decrease in the number of poor people when GDP and technology inclusion increases by 96% and the possibility of the need for subsidies or education investment issued by the government decreases when the number of poor people decreases due to increased citizen productivity as reflected in an increase in GDP and technology inclusion by 96%. Figure 1 illustrates the forecasting of the decline in the number of poor people in Indonesia in the study period 2000 to 2019 as follows:

Figure 1. Forecasting the decline in the number of poor people in Indonesia during the study period 2000 to 2019



Source: Author Computing

Based on the results of forecasting from 2000 to 2019, it can be seen that the graph of the number of poor people continues to decrease in Indonesia. This shows that the poverty alleviation program in Indonesia during the research period carried out by the Indonesian government has been running well.

Conclusion

Poverty alleviation is a program developed by the Indonesian government in reducing the number of poor people by increasing the welfare and productivity of Indonesian citizens by investing in improving education services and various other programs. The more poor the population is, the greater the need for subsidies and investment in the Indonesian government to spur increased human capital in order to promote economic growth and technological inclusion, which in turn can break the chain of poverty in Indonesia by increasing human capital so that it can work properly and incomes proper so that they can get out of poverty independently and help the next generation to be more productive and prosperous.

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