Economic Growth, Human Capital and Technology Inclusion in Indonesia

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Abstract

This study examines the relationship between technology inclusion, education and health investment made by the Indonesian government on economic growth in Indonesia. This study uses secondary data from world banks and processed regression using the moving average autoregression method. We find that investment in education and investment in health together with technology inclusion is positively associated with economic growth. This indicates that human capital investment and technology inclusion in Indonesia are able to drive economic growth in Indonesia.

Background

Failure of economic growth due to financial crises or epidemics has occurred several times in the world (Kose et al,2020). Since 2020, the Coviod 19 virus has spread throughout the world and many countries have multiplied the failure of their economic growth to even decline and their economies have not yet developed (Kellerman & Rakel,2020).

Economic performance is very important for every country to provide a decent life for all its citizens. Economic growth that can create new economic growth in the future with increased economic growth will have an impact on increasing investment, both physical investment such as better infrastructure and non-physical investment such as investment. human resources in the form of improved health services and affordable education services for all levels of society (Cheng,2020).

Technology is the driver of human resource performance. In an aggregate context, a country is the population of that country. The inclusion of technology is very important in economic growth. In this digital era, rapid advances in computers and digital technology are driving consumption and facilitating communication and economic coordination. Economic growth makes human capital investment better and technology absorption better. So as to support future economic growth (Best & Meikle,2019).

Literature Review

Economic growth is a reflection of the productivity of the national population which is usually reflected in the gross domestic product in one year. Economic growth indicates the number of goods and services produced in one year within the territory of the country. The production of these goods and services is to meet domestic needs and to be sold abroad (Fraumeni,2019).

In the process of producing goods and services, there is the absorption of labour so that there is a transfer of income between investors and residents and there is a sale of goods and services in the country so that there is a transfer of income from residents to investors as company owners. And sales abroad occur with cash inflow so that it can increase production capacity which in turn absorbs more labour. This economic process creates equity and increases the prosperity of a country. So that economic growth can be used as an indicator of a country's prosperity (Moosa,2002).

The increase in economic growth indicates an increase in the income of the population so that the population can pay more taxes so that the government can increase investment in infrastructure, health and education services and the need for other public goods so that it will support future economic growth. An increase in population income also increases population consumption and population investment. When consumption increases, companies will produce more and absorb more labour so that unemployment can decrease and increase general prosperity (Rofman & Apella,2020).

Economic growth increases the inclusion of technologies that help people be more productive. Economic growth which has an impact on increasing population income has an impact on increasing population investment in human capital, such as increasing education participation and improving better health services so that it can improve population performance and increase population income from improved performance and population participation in investment in the business sector so that the business sector increases and has an impact on the absorption of new workers (Adenle et al,2020).

Research Method

This study examines the relationship between technology inclusion, education and health investment made by the Indonesian government on economic growth in Indonesia. This study uses secondary data from world banks and processed regression using the moving average autoregression method with the following equation:

$$GDP_t = C_t + \beta_1 TI_{t1} + \beta_2 IE_{t2} + \beta_3 IH_{t3} + e_t$$

Where,
GDP = Gross Domestic Product
C = Constant
IT = Technology Inclusion
IE = Education Investment
IH = Health Investment
e = Error Term

All financial data is calculated in USD, technology inclusion data is calculated in the number of gadgets that access the internet in Indonesia.

Result and Discussion
The estimation results are as follows:
GDP = 439111090076 + 0.842247922302*EI + 4.45050694654*HI + 1.67300190603*TI
From the estimation results, education investment (EI) and health investment (HI) together with technology inclusion (IT) are positively related to economic growth. This indicates that investment in human capital and technological inclusion in Indonesia is able to drive economic growth in Indonesia. Table 1 illustrates the estimation results as follows:

Table 1. Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	439000000000.00	75700000000.00	5.797612	0
EI	0.842248	1.35447	0.621828	0.5428
HI	4.45	0.754851	5.895876	0
TI	1.673002	0.752355	2.223687	0.0409
R-squared	0.990187	Mean dependent var		2.03E+12
Adjusted R-squared	0.988347	S.D. dependent var		7.30E+11
S.E. of regression	78800000000.00	Akaike info criterion		53.19469
Sum squared resid	9930000000000000000000.00	Schwarz criterion		53.39384
Log likelihood	-527.9469	Hannan-Quinn criter.		53.23356
F-statistic	538.1453	Durbin-Watson stat		0.994984

Based on the estimation results described in Table 1., it can be seen that the R-square is quite high, namely 0.990187 so that the quantitative calculation results show a 99% level of truth. Figure 1. Shows the forecasting of economic growth in Indonesia

Figure 1. Forecasting Economic Growth in Indonesia

Source: Author Computing
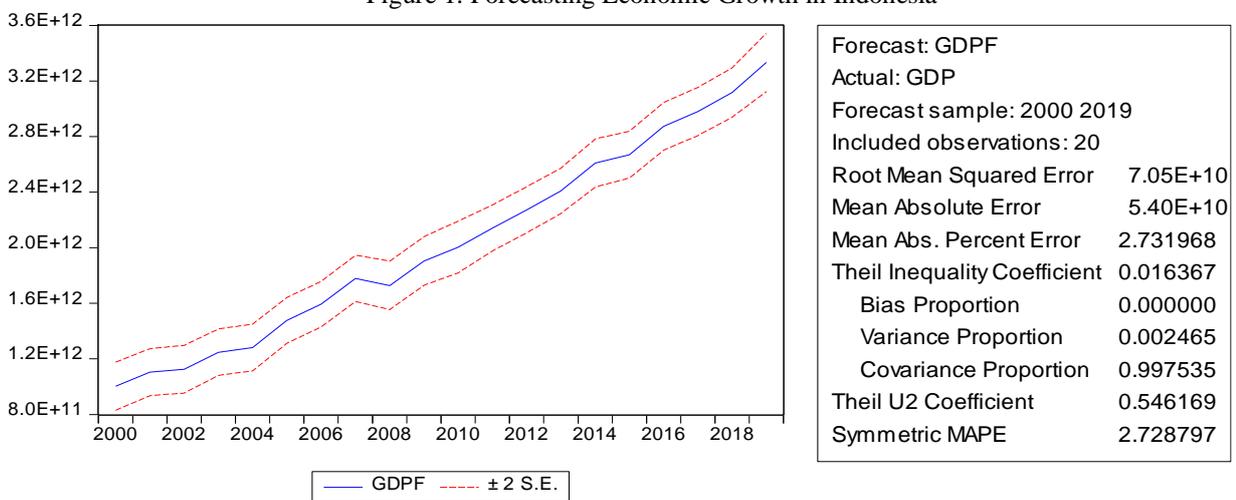
From the forecasting results, it can be seen that economic growth in Indonesia is experiencing very rapid growth with increasing technological inclusion and investment in Indonesian human capital that is going very well.

Conclusion

Inclusion of technology and investment in human capital are important factors in driving economic growth in Indonesia. Indonesia's growth before the corona virus pandemic took place has experienced very rapid growth. This indicates that Indonesia has a great opportunity to survive and rise from the corona virus pandemic in 2020.

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