

Human Capital and Work Productivity in Indonesia

Muhamad Mukhlis
STIE Jaya Negara Tamansiswa Malang, Indonesia

Abstract : This study examines the growth of human capital by measuring investment in education and health in Indonesia which has an impact on human labor productivity which is reflected in the growth of Indonesia's gross domestic product or GDP. We found that has cycle of influence that encourages the three variables to mutually reinforce and support each other so that there is an impact on sustainable growth between human capital and work productivity. Where in this study human capital is represented in education and health, and work productivity is represented in gross domestic product.

Keywords: Human Capital, Work Productivity, Indonesia

JEL Classification : C01,E24,J24, J43

1 INTRODUCTION

The development of Indonesian Human Resources (HR) is part of the process and goals in Indonesia's national development. Therefore, development thoughts that are developing in Indonesia today are strongly influenced by a growing awareness of the unavoidable participation of the Indonesian people in the ongoing global process. It is hoped that this process will bring benefits and encourage the national development process. At the same time, the Indonesian people also face the challenge of catching up with other nations that have advanced earlier. Therefore, the development of an advanced and independent nation, in order to realize prosperity, requires the development of a development concept that is based on humans and their communities. On that basis, to achieve such development goals, the emphasis of development is placed on the economic sector with the quality of human resources. The concept of human development indicators as a measure of development parallel to indicators of per capita income and growth rate. All of them are related to the process of social upheaval that has taken place in the last three decades since the 1960s. Improving the quality of human resources as a series of efforts to realize a complete human being and Indonesian society as a whole includes human development, as a human being puts emphasis on human dignity, rights, and obligations which are reflected in the values contained in humans both in terms of ethics, aesthetics, as well as logic which includes the spiritual values of personality and struggle. In the context of national development, complete human development, professional abilities, and personality maturity reinforce each other. Professionalism can help shape attitudes and behavior as well as a strong personality, while a strong personality is a prerequisite in forming professionalism. There are at least four main policies in an effort to increase human resources, namely: Improving the quality of life which includes both the quality of human beings such as physical and spiritual, as well as the quality of life such as healthy housing and settlements; Improving the quality of productive human resources and efforts to distribute it evenly; Improving the quality of human resources capable of utilizing, developing, and mastering science and technology that is environmentally sound; and Development of institutions that include institutional and legal roles that support efforts to improve the quality of human resources. Considering the strategic role of human resources in accelerating the country's development, policies and strategic steps for a comprehensive work program must be realized in order to produce many superior Indonesian human resources who are able to compete at the global level. Policy synergy between stakeholders in related sectors and across sectors is also absolutely necessary in order to unite existing resources and potentials to accelerate the development of Indonesian human resources (Lange,2010).

During the Covid-19 pandemic, the process of learning from home or online began to be implemented in Indonesia since the issuance of the Circular Letter of the Minister of Education and Culture No. 4 of 2020 dated March 24, 2020, concerning the Implementation of Education Policies in the Emergency Spread of Covid-19 (Setkab, 2020). The implementation of online learning certainly has many challenges, especially since there is no adjusted curriculum due to the Covid-19 pandemic. In terms of facilities and infrastructure, online learning may work well for urban areas which are identical to adequate technological facilities and infrastructure. But not for rural areas; there are still many areas that have not been reached by internet signal, as well as many people who do not have cell phones to access the

internet. It is not surprising that online learning is difficult to implement in all parts of Indonesia. In addition, online learning is also a new thing in the world of education in Indonesia. In addition to the difficulty of implementation, what needs to be considered is also related to the results. Online learning that is applied may not be optimal and have negative impacts, such as the potential for students to drop out of school and forced to work, a decline in the quality of education, and an increase in violence against children and early marriage. Looking at the development of human development as measured by the HDI, it can be seen that the Covid-19 pandemic greatly affects the achievement of human development in Indonesia. UHH, and RLS were still able to grow amidst the shocks of the Covid-19 pandemic, although their growth was slowing. While the per capita expenditure of the population is the most affected; the numbers have decreased. This is also in line with Indonesia's 2020 poverty rate which is increasing due to declining purchasing power or public consumption. The challenges of human development in 2021 will still be the same as in 2020. Referring to the initial conditions of 2021, the Covid-19 pandemic has also not shown any signs of decreasing the number of positive Covid-19 cases. In fact, the number of positive cases of Covid-19 tends to increase. In early January 2021, several new records were set for the number of positive cases of Covid-19 in one day. As happened on January 7; The number of positive cases of Covid-19 recorded a new record, which was recorded at 9,321 people. A day later, another new record was recorded, namely 10,617 positive cases of Covid-19, and on January 13 there were 11,278 positive Covid-19 people. Although the Covid-19 vaccination has started on January 13, it will take a long time to vaccinate all Indonesians. The government targets the vaccination to be completed within 12 months. If this is true, it means that the new vaccination will be completed in early 2022. Of course, the Covid-19 pandemic will affect the achievements of human development in the fields of health, education, and also a decent standard of living for the Indonesian population. It is worth waiting for whether this year's human development achievements calculated through the HDI will be able to grow positively or experience a decline (Daulay,N. (2021).

Increasing productivity per worker is one of the priorities in Indonesia. To increase people's income which has an impact on boosting economic growth. Measurement of productivity is an important thing to do to see the efficiency of the production process that has been carried out in producing output. By measuring the level of labor productivity, it will obtain an overview of the condition and quality of the country's Human Resources (HR) in realizing development goals and can see the extent of the contribution of labor to economic growth. One of the causes of the low level of productivity in Indonesia cannot be separated from the quality of the workforce and the field of work. The government believes that the high level of informal employment tends to provide low added value to the economy. Currently, the development of human resources in Indonesia is a top priority, and this does not require a short time. In addition to building the quality of human resources, Indonesia must also continue to improve the business climate and infrastructure so as to support higher productivity growth and be able to encourage improved competitiveness. To improve the quality of human resources through the mechanism of increasing human capital. Increased human capital can use the process of education and public health improvement. It is hoped that the increase in Indonesian human capital, can encourage the productivity of Indonesian human work (Ginting et al,2018).

This study examines the growth of human capital by measuring investment in education and health in Indonesia which has an impact on human labor productivity which is reflected in the growth of Indonesia's gross domestic product or GDP.

2 LITERATURE REVIEW

Humans are the estuary of the entire development process because development is carried out to improve the quality of human life itself. The main goal of human development is to create an enabling environment for its people to enjoy long, healthy, and productive lives. Human development is formulated as an expansion of choices for the population which can be seen as a process of efforts towards expanding choices and at the same time as the level achieved from these efforts as measured using the Human Development Index (HDI). The HDI explains how the population can access development outcomes in terms of income, health, and education. HDI is calculated from the three most basic dimensions of human development, namely long and healthy life, knowledge, and a decent standard of living. The dimensions of longevity and healthy life are described by Life Expectancy at birth (UHH). The dimension of knowledge was measured using the indicators of Average Length of School (RLS) and Expected Years of Schooling (HLS). A decent standard of living is described by adjusted real per capita expenditure, which is determined from the value of per capita expenditure and purchasing power parity (Ladi et al,2021).

Work productivity is a measure of the comparison of the quality and quantity of a workforce in a unit of time to achieve results or work performance effectively and efficiently with the resources used. Work productivity is the ability to produce goods and services from various resources or production factors that are used to improve the quality and quantity of work produced in a company. Productivity aims to produce or increase the yield of goods and services as high as possible by utilizing resources efficiently. Work productivity has two dimensions, namely effectiveness that leads to the achievement of maximum performance, namely the achievement of targets related to quality, quantity, and time (Zhang et al,2020). The next dimension is efficiency related to efforts to compare inputs with the realization of their use or how the work is carried out. Knowledge is the accumulation of the results of the educational process both formally and non-formally that contributes to someone in problem-solving, creativity, including doing or completing work. With broad knowledge and high education, an employee is expected to be able to do a good and productive job. Skills are operational technical abilities and mastery in certain fields, which are of work nature. Skills are acquired through the process of learning and practicing. Skills are related to a person's ability to do or complete tasks that are technical in nature. With the skills possessed by an employee, It is expected to be able to complete work productively. Abilities or abilities are formed from a number of competencies possessed by an employee. This concept is much broader, as it can cover a number of competencies. Knowledge and skills are included in ability-forming factors. Thus, if someone has high knowledge and skills, it is expected to have high abilities. Attitude is a patterned habit. If the patterned habit has positive implications in relation to one's work behavior, it will be profitable. This means that if the employee's habits are good, then it can guarantee good work behavior as well. It can be exemplified that an employee has a habit of being punctual, disciplined, simple, then his work behavior is also good, if he is given responsibility he will keep the rules and agreements.

Likewise, human behavior will also be determined by habits that have been embedded in employees so that they can support effective work or vice versa. With the condition of these employees, productivity can certainly be realized. To see the relationship between productivity and human resources, the manager/leader of the company can only look at the technical aspect. In other words, increasing work productivity is also related to good working conditions, climate, and atmosphere. Measurement of labor productivity is carried out based on a physical income system per person or per person's working hour based on labor time (hours, days, or years). The measurement is converted into worker units, namely the amount of work that can be done in one hour by workers who are working according to a standard implementation. Quantity of work is a result achieved by employees in a certain amount with a comparison of existing standards or set by the company. Quality of work is a standard of results related to the quality of a product produced by employees, in this case, is an employee's ability to complete work technically with a comparison of standards set by the company. Timeliness is the degree to which an activity is completed at the beginning of the specified time, viewed from the point of coordination with the output results, and maximizes the time available for other activities. Punctuality is measured from the employee's perception of an activity that is provided at the beginning of time until it becomes output (Zandin & Schmidt,2020).

3 RESEARCH OBJECTIVE AND METHODOLOGY

This study aims to understand the direction of the relationship between education, health and work productivity which in this study is indicated by GDP. Where education and health are represented in human capital. In the VAR model as follows:

$$\text{HEALTH} = C(1,1)*\text{HEALTH}(-1) + C(1,2)*\text{HEALTH}(-2) + C(1,3)*\text{GDP}(-1) + C(1,4)*\text{GDP}(-2) + C(1,5)*\text{EDUCATION}(-1) + C(1,6)*\text{EDUCATION}(-2) + C(1,7)$$

$$\text{GDP} = C(2,1)*\text{HEALTH}(-1) + C(2,2)*\text{HEALTH}(-2) + C(2,3)*\text{GDP}(-1) + C(2,4)*\text{GDP}(-2) + C(2,5)*\text{EDUCATION}(-1) + C(2,6)*\text{EDUCATION}(-2) + C(2,7)$$

$$\text{EDUCATION} = C(3,1)*\text{HEALTH}(-1) + C(3,2)*\text{HEALTH}(-2) + C(3,3)*\text{GDP}(-1) + C(3,4)*\text{GDP}(-2) + C(3,5)*\text{EDUCATION}(-1) + C(3,6)*\text{EDUCATION}(-2) + C(3,7)$$

4 RESULTS AND DISCUSSION

The results of the VAR estimation are as follows:

$$\text{HEALTH} = 0.636934669493 * \text{HEALTH}(-1) - 0.353760132257 * \text{HEALTH}(-2) + 0.0556117697024 * \text{GDP}(-1) - 0.0401453771779 * \text{GDP}(-2) - 0.878563324609 * \text{EDUCATION}(-1) + 1.07578639607 * \text{EDUCATION}(-2) + 266941978.814$$

$$\text{GDP} = 21.8452857628 * \text{HEALTH}(-1) - 14.6011131634 * \text{HEALTH}(-2) + 1.6174072739 * \text{GDP}(-1) - 1.54527442485 * \text{GDP}(-2) - 19.4337857089 * \text{EDUCATION}(-1) + 37.8810210821 * \text{EDUCATION}(-2) + 92582464345.3$$

$$\text{EDUCATION} = 1.89406115402 * \text{HEALTH}(-1) - 0.820752918317 * \text{HEALTH}(-2) + 0.0133277526008 * \text{GDP}(-1) - 0.0822781227391 * \text{GDP}(-2) - 0.265212614781 * \text{EDUCATION}(-1) + 2.24309346657 * \text{EDUCATION}(-2) + 4780903434.46$$

The estimation results are summarized and clarified in table 1. Following:

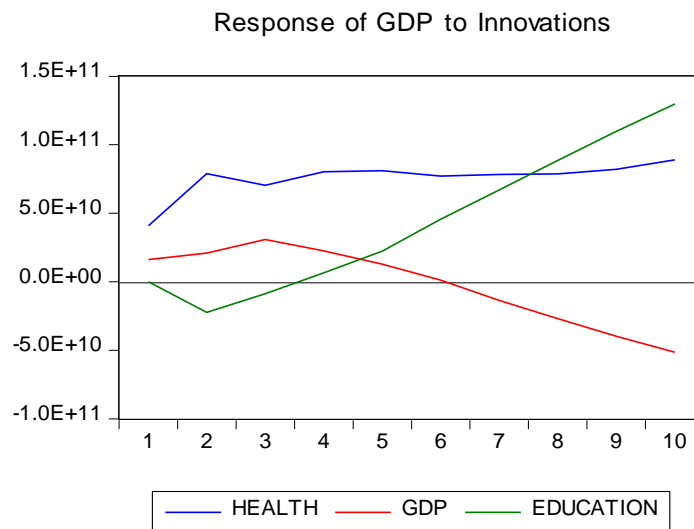
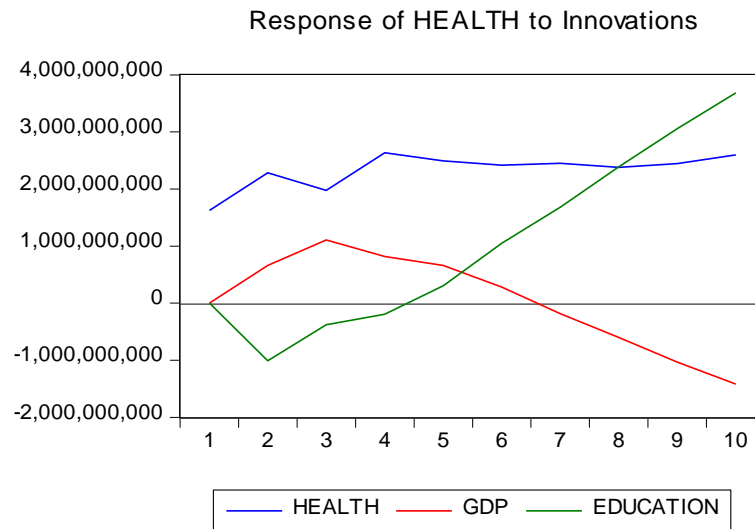
Table 1 Estimation result

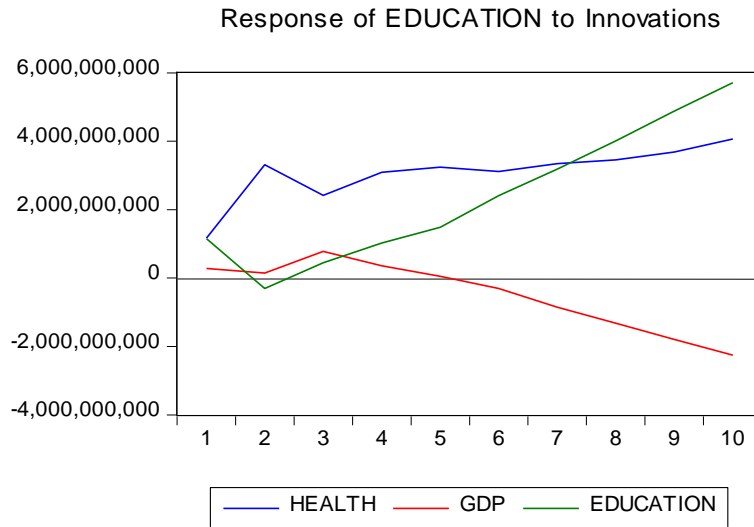
	HEALTH	GDP	EDUCATION
HEALTH(-1)	0.636935	21.84529	1.894061
	-0.63714	-17.2746	-0.65113
	[0.99968]	[1.26459]	[2.90889]
HEALTH(-2)	-0.35376	-14.60111	-0.820753
	-0.62731	-17.008	-0.64108
	[-0.56393]	[-0.85848]	[-1.28026]
GDP(-1)	0.055612	1.617407	0.013328
	-0.02231	-0.60491	-0.0228
	[2.49260]	[2.67382]	[0.58454]
GDP(-2)	-0.040145	-1.545274	-0.082278
	-0.02956	-0.80158	-0.03021
	[-1.35787]	[-1.92778]	[-2.72318]
EDUCATION(-1)	-0.878563	-19.43379	-0.265213
	-0.30873	-8.37039	-0.3155
	[-2.84577]	[-2.32173]	[-0.84060]
EDUCATION(-2)	1.075786	37.88102	2.243093
	-0.41213	-11.1739	-0.42118
	[2.61032]	[3.39013]	[5.32579]
C	2.67E+08	9.26E+10	4.78E+09
	-2.20E+09	-6.00E+10	-2.30E+09
	[0.12034]	[1.53939]	[2.10898]
R-squared	0.983102	0.98759	0.989248
Adj. R-squared	0.973885	0.980821	0.983384
Sum sq. resids	2.90E+19	2.13E+22	3.02E+19
S.E. equation	1.62E+09	4.40E+10	1.66E+09
F-statistic	106.6605	145.8999	168.6853
Log likelihood	-402.8386	-462.2386	-403.2295
Akaike AIC	45.53762	52.13762	45.58105
Schwarz SC	45.88387	52.48388	45.92731
Mean dependent	1.94E+10	6.75E+11	2.34E+10
S.D. dependent	1.00E+10	3.18E+11	1.29E+10
Determinant resid covariance (dof adj.)		9.21E+56	
Determinant resid covariance		2.10E+56	
Log likelihood		-1243.816	
Akaike information criterion		140.5351	
Schwarz criterion		141.5739	
Number of coefficients		21	

From the estimation results in the table, it can be seen that there is a significant and mutually influencing relationship

between education, health, and GDP. The direction of the influence of the three variables can be clarified by the impulse response graph in Figure 1.

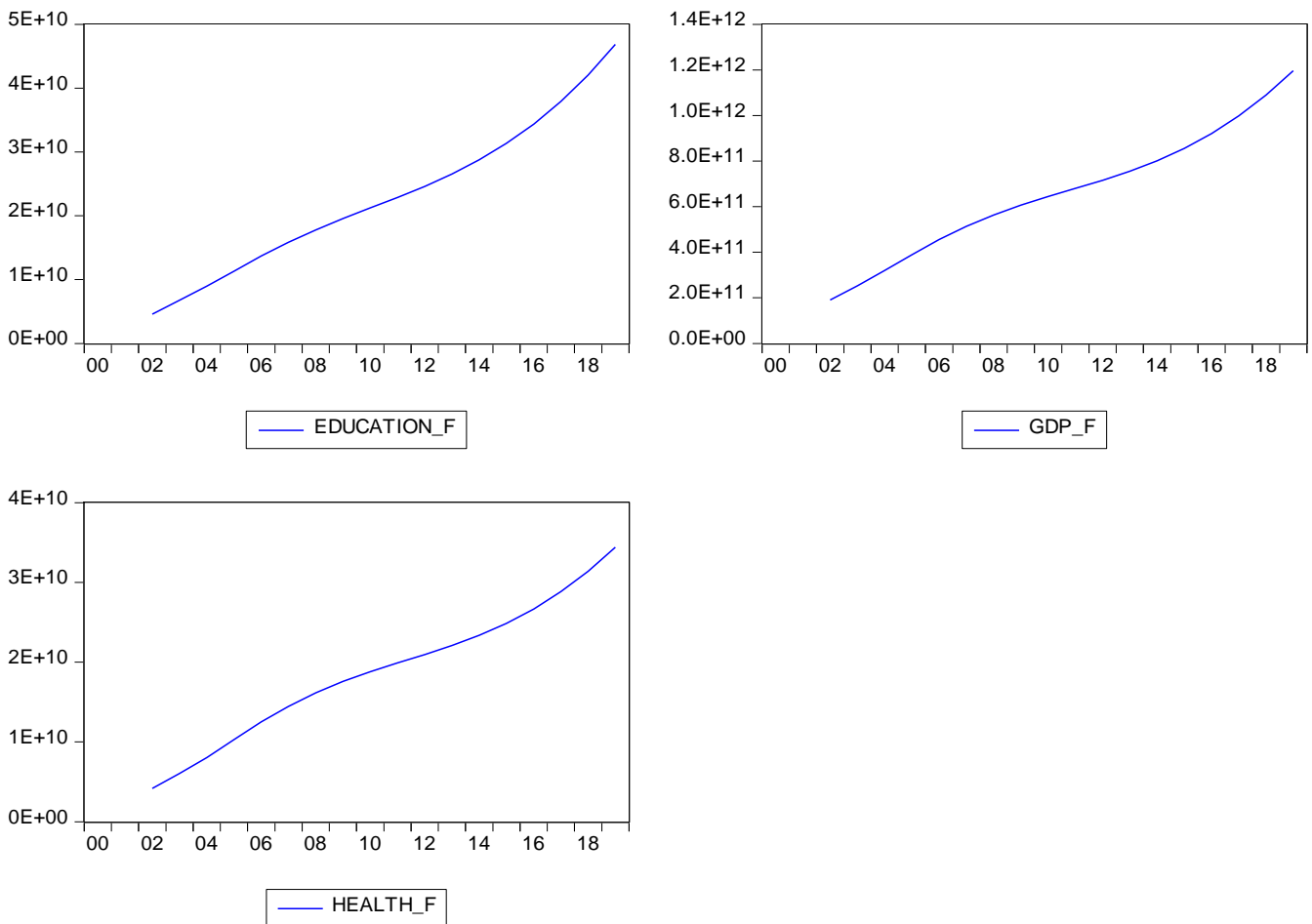
Figure 1. Response Impulse Graph
Response to Cholesky One S.D. (d.f. adjusted) Innovations





From the results of the response and impulse, it can be seen that the direction of influence between variables is getting clearer and shows that the three variables affect each other. To see how human capital, namely education, and health, can influence and encourage economic growth, the forecasting described in Figure 2.

Figure 2. Forecasting



In contrast to response and impulse graphs, forecasting graphs describe how the influence between variables in shaping the impulse of each variable. It can be seen from the forecasting graph that the three variables influence each other and are headed in the same direction, namely growth. This shows that there is a cycle when there is economic growth, there is an increase in investment in education and health where education and health encourage economic growth as an indicator of human work productivity.

5 CONCLUSION

There is a cycle of influence that encourages the three variables to mutually reinforce and support each other so that there is an impact on sustainable growth between human capital and work productivity. Where in this study human capital is represented in education and health, and work productivity is represented in gross domestic product.

REFERENCES

- Daulay,N. (2021). Home education for children with autism spectrum disorder during the COVID-19 pandemic: Indonesian mothers experience. *Research in Developmental Disabilities*, 114(6),35-45. doi : 10.1016/j.ridd.2021.103954
- Ginting,E, Manning,C, Taniguchi,K. (2018). *Indonesia: Enhancing Productivity through Quality Jobs*. Jakarta : Asian Development Bank
- Ladi,T, Mahmoudpour,A, Sharifi,A. (2021).Assessing impacts of the water poverty index components on the human development index in Iran. *Habitat International*, 113(7),32-37. doi : 10.1016/j.habitatint.2021.102375
- Lange,J.S. (2010). *Human Resource Management in Indonesia Important Issues to Know Before Establishing a Subsidiary in Indonesia*. Berlin : Bod Third Party Titles
- Setkab.(2020).Education Ministry Adjusts Several Policies Amid COVID-19. Retrived June 27,2021. From: <https://setkab.go.id/en/education-ministry-adjusts-several-policies-amid-covid-19/>
- Zandin,K.B, Schmidt,TM. (2020). *MOST® Work Measurement Systems*. London : CRC Press
- Zhang,S, Ai,Z, Lin,Z. (2020). Occupancy-aided ventilation for both airborne infection risk control and work productivity *Building and Environment*,118(1),50-56. doi : 10.1016/j.buildenv.2020.107506