

# The Influence of Education Health and The Internet on Poverty in Indonesia

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**Abstract**— Poverty is the focus in many countries. As in Indonesia, which includes the developing countries that the problems of poverty, welfare and lack of employment are important issues. Using the basic theory of the Poverty of the Poverty Circle (Vicious Cycle of Poverty) by Ragnar Nurkse (1953), the objective of this research was to determine the factors that influence on poverty in Indonesia. The data used were cross-section micro data obtained from IFLS5 (Indonesia Family Life Survey 5) in 2014. Data analysis was done by OLS regression with BLUE criteria. Results of this research showed partially education, health, and internet had a significant effect on poverty with a significance level of 1%. Simultaneously the three variables have a significant effect on poverty with a prob value of 0,000. The determination coefficient was 3.2%, meaning that the influence of the three variables on poverty was 3.2% while the other 96.8% was influenced by other variables. This is due to the many factors that influence poverty such as education facilities, health facilities, telecommunications and transportation network. For a better and meaningful result, we suggested to add the primary data of education, health and the internet from all of provinces in Indonesia.

**Keywords:** *Poverty, education, health, internet*

## INTRODUCTION

Poverty is the focus in how many developed and developing countries. Poverty can be defined as loss of welfare [1]. Loss of well-being means that there is a minimum fulfillment of certain living standards. Poor people have limitations in accessing education, health and access to services [2]. Nearly half the world's population or more than three billion people in the world live with income below \$ 2 per day [3].

Indonesia as a developing country faces various macro problems such as income inequality, inflation and unemployment. This will later have an impact on the low income, causing poverty. In Indonesia, the problems of poverty, welfare and lack of employment are important issues, leaving homework for the government and all elements.

The Indonesian government always strives to carry out various poverty alleviation programs. Various poverty alleviation programs have also been carried out by the government. Various programs have been carried out such as the launch of the Healthy Indonesia Card, the Smart Indonesia Card, the Family Hope Program, village funds and so on. Although the program has not been able to fully overcome the

existing poverty problems, the poverty rate has decreased to one digit, namely 9.82 percent.

However, the amount of poverty in Indonesia is still relatively high compared to Australia's country of only 22 million people [4]. The Central Statistics Agency said in September 2017, the number of poor people in Indonesia (population with per capita expenditure per month below the poverty line) in Indonesia reached 26.58 million people (10.12 percent) [5]. Although this number was reduced by 1.19 million people compared to the condition in March 2017 which was 27.77 million people (10.64 percent).

Countries that have relatively high poverty rates are indicated by the low value of human development [6]. According to BPS, the value of human development can be seen from the Human Development Index (HDI) which consists of longevity and healthy life, knowledge and decent living standards. When viewed from the income factor, the poor certainly have low income resulting from low productivity. Low productivity will affect market activities and market imperfections which result in low productivity.

Problems that need to be highlighted from the HDI are related to education, health and income. Ragnar Nurkse points out the subject of the Vicious Cycle of Poverty that causes a person to be poor because they are trapped in an endless cycle [6]. The theory says that poverty does not originate, namely problems that will move in a circle, are interrelated with each other and there is no end. Therefore, a joint effort is needed to break the cycle of poverty.

Poverty or underdevelopment was caused by lack / low productivity, low productivity causes low income so that people's savings are also low. The low level of community savings will result in low investment so that the capital needed will also be low. The low capital caused market imperfection and underdevelopment. The existence of backwardness results in a decrease in productivity, causing other effects as described previously, namely a circle with no end and base. Therefore, it is necessary to study certain aspects that can be used to break the circle so that poverty can be overcome.

Another economist who discusses poverty is Sharp et al who put forward the concept of poverty that

poverty is viewed from an economic standpoint, namely the inequality of ownership patterns of resources, the quality of human resources and differences in access to capital [7]. One of them is low income. Low income is caused by low productivity, the low productivity is caused by the low quality of human resources. The low quality of human resources is caused by low levels of education [9].

Besides that, poverty is also caused by the inequality of income distribution. Inequality of high-income distribution will result in an income gap that there will be people who have high income even very high but not a few people who have low income. This is due to the inequality of ownership patterns of resources. Another factor that affects poverty is the difference in access to capital. The difference in access to capital is the inequality of individuals with other individuals in obtaining capital from financing sources.

Some of the theories previously stated related to poverty and the factors that influence it, can be drawn a line that the basic theory used is the Poverty Theory proposed by Sharp et al. and Ragnar Nurske [6, 7]. This theory illustrates that a country has a serious problem, namely poverty which has no root.

From the two theories that can be about poverty that have been described previously, the theory of one another has similarities as well as differences related to the factors that influence poverty in Indonesia. Both theories suggest that education and productivity can affect poverty. However, productivity is influenced by the quality of human resources [10]. The quality of human resources can be influenced by the health of individuals. In addition, both theories do not use technology, which is where the digital age of technology plays a role in everyday life. One of them is the availability of internet access and health. Therefore, the researcher used one variable from the two theories of poverty, namely education and added other factors that might influence poverty, namely health and the internet (as a technological factor).

One indicator of HDI used by Ragnar Nurske is education. Education is included in the provision of public facilities for all people [6]. It has become a government program that requires nine years of compulsory education for all communities. Moreover, Indonesia has entered the era of the ASEAN Economic Community (MEA) which means that the Indonesian people must compete with foreign workers who have begun to enter Indonesia. One way that can be taken is through education.

Based on BPS data, the participation of 5-year-olds who are still in school is 2.53 percent, 6 years old is 44.85 percent, 7-12 years age group is 99.14 percent, 13-15 years age group is 95,08 percent, the age group 16-18 years is 71.42 percent, and in the age group 19-24 years is 24.77 percent [4]. The largest percentage is in the age group 7-12 and 13-15 years considering that

the age group is the age group that matches the level of primary and junior high school education. Meanwhile, school participation in the 19-24-year age education group decreased by only 24.77 percent. This shows that there is still a low population of tertiary education.

However, another opinion, Sharp et al, states that if viewed from the point of view of resource imperfection, there will be an imbalance in income distribution which will eventually lead to poverty [7]. In addition, mentioning that low capital will have an impact on low productivity. Low productivity will affect income and poverty.

The British Medical Association through the Low Income and Nutrition Diet survey shows that someone who does not take education will eat more energy-dense foods than meeting the needs of fruits and vegetables [8]. This is different from someone who has a higher education qualification. Other results from the study show that individuals with higher educational qualifications are associated with reduced smoking and increased physical activity.

Besides education, the HDI indicator is a health problem. Health is closely related to daily activities. If health decreases, daily activities also cannot be maximized, which in turn will result in decreased productivity. The decline in productivity has resulted in a decrease in income. The decline in income has an impact on the inability to meet daily needs and can lead to increased poverty if in the long term.

The Indonesian Ministry of Health mentions the health conditions of the Indonesian population in 2018 related to Tuberculosis (TB), stunting and immunization problems. Based on WHO data on the 2016 Global Tuberculosis Report, Indonesia ranks second with the highest TB burden in the world [11]. Trends in the incidence of TB cases in Indonesia have never decreased, there are still many cases that have not been reached and detected, even if detected and have been treated but have not been reported. While tuberculosis is a disease that usually attacks the lungs with one of the symptoms, namely a cough that does not heal and fever.

Technological progress will help people in their daily lives. For example, in getting news and making purchases/sales of goods online for now is increasingly prevalent. Someone who has not followed technological progress, in this case the internet, will be left behind in various ways so that it is related to welfare. For example, in the purchase of goods, the distribution of goods is now easier. Therefore, researchers add internet variables as one aspect of technology that will later be discussed with the problem of poverty. The objective of this study was to determine the factors that influence poverty in Indonesia by using the independent variables of education, health and the internet.

## METHOD

This research was conducted in Indonesia. Data collection was conducted in April 2018. The data used came from the IFLS5 data (Indonesia Family Life Survey 5). Taking the sample by equating individual identities with family identities. The variables used are poverty that is proxied by welfare, education is proxied by the highest or last level of education pursued, health is proxied by the frequency of illness and the internet is proxied with the availability of internet access. The data was taken by the RAND Corporate Survey institute with a questionnaire method which was summarized into IFLS5 (Indonesian Family Life Survey 5) in 2014. Data collection was carried out five to ten years and the 2014 data are the latest data from the IFLS. Data is summarized in a Likert scale and dummy variable and analyzed using STATA version 14.0.

Poverty variables are categorized as very prosperous, prosperous, less prosperous and not prosperous with values ranging from four to one each. Educational variables are classified from basic education to higher education (doctoral level) with a score of 1 for first to 22 primary education for doctoral level. Health variables are measured from the frequency of individual pain during the past month. If an individual is sick of one of the diseases or several diseases are given a score of 1 if there is no illness, then a score of 0 is given.

The analysis technique was done by multiple regression to determine the effect of independent variables with the dependent variable. Before the regression test, estimation parameters need to meet the BLUE criteria (Best, Linear, Unbiased, Estimator). BLUE criteria consist of linearity, multicollinearity, autocorrelation, and heteroscedasticity tests. After fulfilling BLUE criteria, the partial test, simultaneous test and coefficient of determination are used. Partial test is used to determine the effect of each independent variable on the dependent variable. Simultaneous test is used to determine the effect of independent variables together on the dependent variable. The test of the coefficient of determination aims to find out some of the large percentage variation of independent variables affecting the variation of the dependent variable.

## RESULT AND DISCUSSION

It is imperative for the state to be able to overcome various problems related to poverty. Various businesses have been carried out even though they have not been fully implemented. Efforts to reduce poverty certainly also correspond to the portion of each field. As in the field of education, the government has sought to improve education capacity. One of them is the Nine-year compulsory education and the launch of the Indonesia Smart Card (KIP). In the health sector the government has also provided a Social Security Administering Body (BPJS). Based on the BLUE test results, the data used has met BLUE criteria so that the

next test is done by looking at the influence of each independent variable (education, health and electricity availability) on the dependent variable, namely poverty. Each variable has an influence on poverty with a significance level of 1% ( $\alpha = 0.01$ ) using the number of observations as many as 31,326 respondents. Health variables have a negative influence on poverty because measurement of the health used the frequency of illness suffered by respondents.

### A. The influence of education on poverty in Indonesia

Education has a positive influence on poverty. This shows that increasing education or going to higher education can improve welfare. Increased welfare signifies reduced poverty. These results can be seen in Table 1. that education affects poverty with a significance value of 1%. Coefficient value of 0.0105 indicates that when education increases by 1% it will increase welfare by 1%. The increasing of welfare means poverty is reduced to an increase in welfare.

TABLE 1. THE INFLUENCE OF EDUCATION ON POVERTY IN INDONESIA.

| Variables | Poverty               |
|-----------|-----------------------|
| Education | 0.0105***<br>(0.0005) |

\*\*\*  $p < 0.01$

These results agree with Awam et al research which states that education affects poverty [12]. The study also found that the higher the level of education pursued would lead to an increase in the number of people who were prosperous. Improved education is also accompanied by an increase in achievements in the field of education so that the possibility of someone becoming poor decreases.

The higher the level of education someone influences welfare. Higher education makes the quality of resources high so productivity increases. Increased productivity results in increased income. Higher income results in increased welfare or reduced poverty. This is consistent with the theory of Sharp et al that education can affect poverty [7].

Poverty according to world bank, can be defined as loss of welfare. So that this study states that education can affect individual well-being or in other words an increase in education can reduce poverty. These results are supported by the opinion of Sidu stating that education as human capital can improve the ability of individuals in order to make individuals prosperous [11, 13]. In addition, states that increasing human capital can be achieved by improving education [14]. States that human capital can be measured clearly from the activities of the cumulative effects of formal education and skills [14].

Weiping also said that the strategy for reducing poverty in China could be done by issuing five-batch

policy. China, which has succeeded in reducing poverty from 1981 to 2013. For thirty-two years poverty in China has fallen dramatically from an initial 88% of people living below the poverty line-poverty line 1.9 dollars-to 1.85% or as much as 850 million people are free from poverty.

The results of the study conclude that women are more difficult to get out of poverty than men, because the opportunity to get education between men and women is not comparable. Although not a few women also pursue education to a high level. However, men can usually study at any age while women, if they are married and take care of children, the intensity of attending education will decrease. Education by men is higher than women so men could earn higher income than women. Therefore, men can bring themselves out of poverty compared to women.

A person with higher education will increase individual potential. Individual expertise will increase the potential that is owned so that it has a higher chance to get high income and bring someone out of poverty. The Indonesian government supports the improvement of education through education assistance derived from the State Budget. The provision of assistance in the field of education in accordance with Article 31 of the 1945 Constitution on Education and Culture states that the state prioritizes the education budget of at least 20% of the State Budget and Regional Budget to meet the need for national education. In fact, the government has budgeted 20% of the state budget for education.

The government has also raised the State Budget in the infrastructure sector with the aim of equal distribution in all regions of Indonesia. Infrastructure is expected to improve the distribution of goods and ease of transportation for increasing economic activities in remote areas and easy access in all fields.

#### B. The influence of health on poverty in Indonesia

In addition to education, there are health factors that affect a person's welfare. From the estimation results that have been made, health variables have a negative influence on welfare at the level of 1% significance. Which is a measure of health, namely the frequency of illness suffered by the community is not a healthy state of society. The types of diseases referred to headaches, runny nose, cough, difficulty breathing, fever, stomachache, skin infections, eye infections and toothaches. The higher of frequency value of pain means the sickness is more frequently.

TABLE II. INFLUENCE OF HEALTH ON POVERTY IN INDONESIA.

| Variables | Poverty                |
|-----------|------------------------|
| Health    | -0.0352***<br>(0.0039) |

\*\*\* p<0.01

Estimation results show in table 2 that health negatively affects poverty with coefficient value of

0.035 ( $\alpha = 0.01$ ). This shows that when the frequency of pain decreases by 1% it will improve welfare by 0.035% or in the sense that poverty will decrease by 0.035%. The more often someone is sick, the person's welfare will decrease so that poverty will increase too. A person whose health is disturbed, of course in carrying out daily activities will also be disturbed and unable to do the job optimally. Non-maximal work will certainly affect productivity.

Getting sick more often will certainly have an impact on the productivity of that person. When productivity decreases, the income received decreases. Reduced income will affect the lack of fulfillment of daily needs so that it can be said that welfare decreases or poverty increases.

Good health will produce good productivity, while productivity affects the amount of individual income that is increasing. Increasing education affects the level of well-being of these individuals. This is in accordance that human capital is one of which is that health can affect the empowerment process. Which is where the empowerment process can increase empowered communities so that they can improve welfare.

In accordance with what was stated by WHO that the main international agenda is the focus on health on the poor. The Millennium Development Goals (MDGs) want health in 2015 to increase. Health improvement is marked by reduced child mortality, maternal mortality, spread of HIV / AIDS, malaria and tuberculosis. This is certainly related to the goal of WHO to want to improve the welfare of the world population.

WHO also said that to improve the country's economic condition is by improving the quality of human resources through investment in the health of the poor. In addition to the health conditions that need to be improved also identify important components of a pro-poor health approach and provide a framework for action in the health system and health services.

#### C. The influence of internet on poverty in Indonesia

Current technological advances are indeed growing rapidly. The existence of technological progress helps in all fields. One of the fastest growing technologies is the internet to access easier all information. Not only in terms of information, obtaining daily needs is also easier to use the internet. By going through in the network, the purchase of goods every day is easier and faster.

TABLE III. INFLUENCE OF THE INTERNET ON POVERTY IN INDONESIA

| Variables | Poverty               |
|-----------|-----------------------|
| Internet  | 0.0178***<br>(0.0033) |

\*\*\* p<0.01, \*\*p<0.05, \*p<0.1



Estimation results in Table 3 show the internet influences poverty with coefficient value of 0.017% ( $\alpha = 0.01$ ). This shows that if someone can use the internet (one of the technologies) it can improve welfare. This shows that poverty can be reduced. Because once again, the measure of poverty used is the level of prosperity or inadequacy of a person.

Based on the results of research that has been done that the internet has a positive and significant effect on welfare with a significance value of 1%. The internet is included in technology that is currently growing rapidly. Technology is included in the aspect of physical capital in the empowerment process. Through the Internet, individuals can obtain the information needed so that they can increase the empowerment of the individual. Increased empowerment results in an increase in individual welfare.

A person who can access the internet well can be more prosperous than people who cannot access the internet. People who can access the internet get more information and the latest information. Even in the field of looking for jobs, the internet is very necessary in order to be announced throughout the world to get quality resources. In empirically the spread of the internet has a positive effect on the labor market even internet technology has a positive impact on the externalities of labor.

Furthermore, states that there is an influence of the internet on household income in the State of Peru in 2007-2009. These results indicate that individuals who use internet income increase compared to individuals who do not use the internet. The increase in income can indicate that individual welfare increases so that poverty can be reduced.

#### D. The influence of education, health, internet on poverty in Indonesia

Poverty is a serious problem and must be handled by various parties. Many studies have examined poverty and discussed factors that influence poverty. It also offers various solutions to these problems. Using three variables, namely education, health and the internet, researchers analyze factors that influence poverty.

Estimation results in table 4 show the three variables together affect poverty with a value of prob> F equal to 0.000. R-square value of 0.0329 or equivalent to 3.2% indicates that all three factors can affect poverty by 3.2% while the rest, which is 96.8%, is influenced by other variables outside the model. Although when these three factors are increased together, it will reduce poverty. Although there are many other factors that influence poverty. Like the Vicious Cycle of Poverty by Ragnar Nurkse that poverty is not endless so there needs to be a way to break the chain of the circle [6]. One way is to use several factors that are used together to reduce poverty in Indonesia.

TABLE IV. INFLUENCE OF EDUCATION, HEALTH AND THE INTERNET ON POVERTY IN INDONESIA.

| Variables    | Poverty                |
|--------------|------------------------|
| Education    | 0.0105***<br>(0.0005)  |
| Health       | -0.0352***<br>(0.0039) |
| Internet     | 0.0178***<br>(0.0033)  |
| Constant     | 0.8455***<br>(0.0053)  |
| Observations | 31,326                 |
| Prob > F     | 0.000                  |
| R-squared    | 0.0329                 |

\*\*\* p<0.01, \*\*p<0.05, \*p<0.1

## CONCLUSION

The influence of education, health and the internet on poverty in Indonesia was observed by the secondary data from IFLS5. Result of the research showed partially education, health, and the internet had a significant effect on poverty with a significant level of 1%. Simultaneously the three variables have a significant effect on poverty with a prob value Of 0,0000. Although the three factors significantly influence poverty, the R-square value is only 3.2%. This is because not all populations are sampled but only adapted to respondents who have been studied in the previous period, namely IFLS4. The number of respondents used as a sample is only more than 30,000 respondents who live in 13 provinces of 27 provinces in Indonesia. In addition, the age of respondents who were used as samples was only over 15 years and pregnant women were not included in the study. The poverty level of each province also differs and the level of education, health and the availability of internet access that have not been evenly distributed in all provinces in Indonesia. Therefore, this can still be used as a reference to reduce poverty in Indonesia but still pay attention to other factors.

Various ways have been done by the government to reduce poverty. One of them is by continuing to allocate education funds by 20% of the state budget and reduce subsidies to be in infrastructure development so that development in Indonesia is evenly distributed. Although the government has implemented several policies in the field of education such as Nine or twelve years of compulsory education and even the launch of the Smart Indonesia Card (KIP) and health policies such as the BPJS and Healthy Indonesia Card (KIS) programs, various parties are still needed to assist the government in poverty reduction efforts.

## RECOMMENDATIONS

Further research is needed to find out other factors that affect poverty. It is even recommended for special research in the field of education in each region so that

policies are applied in accordance with regional conditions. In addition, education is an investment for the future. The government also requires that a person take education and that the government's nine-year compulsory education program objectives can be carried out well and achieved one hundred percent.

Other factors that might influence poverty such as facilities from education and health are, they are in accordance with the standards and services expected. In addition to improving the quality of education, it is necessary to increase adequate education facilities and health facilities. The creation of superior resources must also have support from facilities and infrastructure both in the field of health and education. Other factors such as the number of family members, income and political conditions of a country. Because the number of family members and income will also affect the expenditure of a family. BPS also classifies poverty can be seen from the food poverty line and non-food poverty line, so based on that it can be seen how much expenditure in the food and non-food sectors.

However, the three factors taken are only as a factor that influences poverty. Even if further discussed gender differences also affect poverty as cited by research conducted.

## REFERENCE

- [1] World Bank 2007 *Era Baru dalam Pengentasan Kemiskinan di Indonesia* Public Disclosure Authorized
- [2] [www.globalissues.org/article/4/poverty-around-the-world](http://www.globalissues.org/article/4/poverty-around-the-world)
- [3] [www.tribunnews.com/nasional/2018/02/01/penduduk-miskin-indonesia-masih-lebih-banyak-dari-penduduk-australia](http://www.tribunnews.com/nasional/2018/02/01/penduduk-miskin-indonesia-masih-lebih-banyak-dari-penduduk-australia)
- [4] BPS 2017 *Potret Pendidikan Indonesia Statistik Pendidikan 2017* (Katalog: 4301008)
- [5] Fosu A K 2007 *Poverty and Development* (Buletin: WHO)
- [6] Nurkse R 1953 *Problems of Capital Formation in Underdeveloped Countries* (Oxford: Oxford University Press)
- [7] Shap et al, British Medical Association 2007 *Health at a Price Reducing the Impact of Poverty A Briefing From the Board of Science* (Buletin)
- [8] World Health Organization 2003 *Poverty and Health* (ADC Guidelines and Reference Series)
- [9] Awam M S et al. 2011 *Impact of Education on Poverty Reduction* (MPRA Paper No. 31826. <https://mpra.ub.uni-muenchen.de/31826/>)
- [10] Sidu D 2006 *Pemberdayaan Masyarakat Sekitar Kawasan Hutan Lindung Jompi Kabupaten Muna, Provinsi Sulawesi Tenggara* (Disertasi: Institut Pertanian Bogor)
- [11] Kesi W 2011 *Model Pemberdayaan Masyarakat* Jurnal Ekonomi Pembangunan Volume 12 Nomor 1.
- [12] Romer 1990 *Journal of Political Economy* Volume 98 Nomor 5 The University of Chicago.
- [13] Weiping T 2018 *China's Approach to Reduce Poverty: Taking Targeted Measures to Lift People out of Poverty*
- [14] Dirsi 2014 *The Internet and Poverty: Opening The Black Box* (Article)