Human Development and Poverty Reduction through Economic Growth

by Arie Kawulur

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Abstract: This research aims to know the direct and indirect influence of education budget and health budget to economic growth and poverty reduction in North Sulawesi. The research method used quantitative descriptive by using documenter data. Data analysis technique is using path analysis and Focus Group Discussion (FGD). The results showed that education budget did not significantly influence to economic growth, but health budget had the significant influence on economic growth in North Sulawesi Province. Another result showed that education budget did not influence to poverty reduction through economic growth, but on the other hand health budget had the significant influence on poverty reduction through economic growth in North Sulawesi province. The Result of FGD exhibited that the creation of new entrepreneurs, the increase of the quality of graduates of schools and universities, the increase of the quality of health, and the movement of people's economy and MSMEs (Micro, Small and Medium Enterprises) are required.

Keywords: Education budget; Health budget; Economic Growth; Poverty

INTRODUCTION

The poverty in North Sulawesi seems to be interesting for investigation as the average per capita income is lower than the national average per capita income of Indonesia. In addition, the average per capita income between cities/regency is not evenly distributed, even though, North Sulawesi had higher human development index of 71.05. In another estimation, the province shows a rank of 9 out of 33 provinces in Indonesia (Giap, Amri, and Ahmad, 2017).

The high level of community welfare is reflected in the per capita income level of a community. Central Bureau of Statistics (2015) revealed high disparities in terms of per capita income level of each province such as Kalimantan USD 8,609.67 per year while North Maluku, only USD 486 per year. North Sulawesi Province has per capita income of USD 1,517 per year that is still below the national average per capita income of USD 2,363 per year. It is also seen that there are high-income disparities between regency/cities of North Sulawesi province. For example, Manado city has a per capita income of USD 2,364 per year while South Bolaang Mongondow has a per capita income of only USD 692 per year.

The poverty has long been reminded by Todaro (1998) that improving the lives of the poor through economic development is not only determined by the ways in which economic resources are allocated. The positive change in poverty situation also depends on the economic, social, political, institutional mechanisms, private sector as well as those in the government/public sector. He said all of these factors have proven to improve significantly living standards of the people in Asia, Africa and Latin America who face poverty, illiteracy, and hunger problems.

Efforts to alleviate poverty through economic growth with the utilization of the natural resources and physical capital have a positive contribution to economic growth but not achieved maximally and continuously. Other resources are intangible assets such as the power of human resources. According to Lanjouw et al. (2001) that human development in Indonesia is synonymous with poverty reduction. The existence of cheap educational and health facilities will greatly help to increase productivity and in turn, will increase revenue. Proper utilization of efficient human resources affects the rate of economic growth. This is also stated by economist Schultz (1961) that human capital investment through education and training in the United States results greater than investment through physical capital. It is also stated that the higher education level of the average population will result in faster economic growth (Barro, 1991).

Arabi and Abdalla (2013) stated that there was a positive impact of the human capital as measured by quality of education, health care facilities and human development index on the economic growth in Sudan in the period of 1982-2009. He added that the development of human resources through education can improve the level of community wellbeing by increasing economic growth. The same scenario can be observed in the North Sulawesi province but there are not many evidences from research point of view. It is assumed that the condition of the poor in the province, if left unchecked, will not help to improve community wellbeing. In addition to that the policy makers will not have a clearer picture on the impact of economic grown on the poverty scenario and human development in the province. Therefore, the improvement on the quality of human development becomes an urgent need so that the poverty level decreases. Thus, the current study

aims to investigate the direct influence of education and health budget on the economic growth in North Sulawesi. The study also determines the indirect influence of education and health budget on the poverty level of the province.

The following sections of this article discuss the relevant literature review followed by methodology used to meet the objectives. Results and discussion follow. Finally, concluding comments concludes with the implication of the study.

LITERATURE REVIEW

Human Development (Education and health), Economic Growth and Poverty

Silva and Sumarto (2015), in their study of dynamics of growth, poverty and human capital taking cases in Indonesia found that there is a relevant relationship in understanding the role of both health and education capital to accelerate economic growth and poverty reduction efforts.

Thus, the health and education factors as human capital accelerate economic growth and poverty reduction. Furthermore, Lanjouw, et al. (2001) had long observed that educational and health expenditures that help poor people in Indonesia contribute to quality of life and help increase the income of the poor.

DeNavas-Walt and Proctor (2015) described that in America there is a very significant influence of education levels on the poverty. The Census Bureau reports poverty levels with educational attainment for people aged 25 and older. By 2014, the overall poverty rate for people aged 25 and older is 12%. The poverty rate based on work experience for this age group ranges from 5% to 29%. 5% for people with a bachelor's degree or higher, 10% for people with some college but non-degree, 14% for people with high school diplomas and never sitting in college, and 29% for people who do not have a high school diploma. The quality of human development that is reflected in improving the quality of education and the quality of health will increase economic growth and impact on the reduction of poverty level.

Human Development (Education and Health) and Poverty

Prior to the 1970s, the achievement of a country's development focused more on the economic aspect by measuring only on national income, industrialization at the expense of agriculture sectors in the urban and rural outskirts. As a result, rural poverty is difficult to be reduced compared to poverty in urban. The level of community prosperity is difficult to achieve if there is still a gap in income in society and the unemployment rate is still high. Some countries, including the Third World, have achieved high levels of economic growth but failed to improve people's lives, because the development paradigm is more oriented to the economic approach using the GNP (gross national product) as a single indicator for the creation of prosperity and development performance criteria. In this case, the paradigm of economic development is no longer creating the highest growth rate of GNP, but the elimination or reduction of poverty level, the prevention of income inequality and the provision of employment in the context of an evolving economy. The replacement or adjustment of the current definition of growth based

on the concept of prosperity redistribution was a popular slogan of the day (Todaro, 1998). Economic development that is only oriented to the increase in GDP is not able to solve the fundamental development problems. It is seen that the standard of living and life expectancy can be higher that GDP of a country (Jones, 2016).

Basically, in deciphering and discussing the issue of economic development is not a new thing when we examine the economists since the mercantilist, the classical, until Karl Marx and John Maynard Keynes. Since a Classical Economist such as Adam Smith and John Stuart Mill issued a main stream of economic thinking frameworks, education has been recognized by the economic philosopher as one of the variables to accelerate the development process (Dessus, 2016). Thus, in the economic development of a nation, human development is very urgent in the effort to achieve the targets of economic development. There are 3 (three) basic components or core values that should serve as conceptual bases and practical guidelines for understanding the most intrinsic development as put forth by Professor Goulet cited by Todaro (1998) first, the adequacy of the ability to meet basic needs; second, the identity of being a whole person; and thirdly, freedom from the attitude of being willing to choose. Thus, in measuring an economic development not only measured from economic growth (GDP) but the human element of its adequacy, identity and freedom.

Furthermore, in measuring human development it is not only seen from its income economically but it needs to be supplemented by other factors specified by the literacy level or level of education achieved, including the quality of health from the community, the adequacy of basic needs such as food, clothing, and boards, etc. The UN, then, UNDP has succeeded in creating a measure of human development known as the human development index. In 1990 the United Nations Development Program (UNDP) introduced the "Human Development Index" (HDI) or Human Development Index (HDI). According to Drapper (1990) in his introduction to the 1990 Human Development Report, the rise of HDI does not mean disregarding the role of GDP, but how to translate the GDP into human development. Human development, by definition UNDP, is the process of expanding people's choices. Of the many options, there are three options that are considered most important, namely: long and healthy, educated, and decent standard of living. Other options that are considered to support these three options are political freedom, human rights, and respect for private rights. Human development is more than economic growth, more than income generation and more than just commodity production and capital accumulation. The reasons why human development needs attention is: first, many developing countries - including Indonesia - have achieved high economic growth but failed to reduce the socio-economic and poverty gap. Second, many developed countries with high income levels do not succeed in reducing social problems, such as drug abuse, AIDS, alcohol, homelessness and domestic violence. Third, some low-income countries can achieve high levels of human development because they are able to wisely use all resources to develop basic human capabilities. To measure these three options, UNDP composes a composite index based on three indicators, namely: life expectancy at birth, adult literacy rate and average years of school schooling) and purchasing power parity. The life expectancy indicator measures health, adult literacy rate indicator and the average length of school measuring

education and lastly the indicator of purchasing power measures the standard of living. (UNDP, 1990). Futhermore, Mankiw, Romer and Weil (1992) examined the implications of the Solow model for convergence in standards of living which contribution to economic growth.

Education and Economic Growth

Researchers in the field of economics and management recommend that development on aspects of human resources viewed from the aspect of education to provide a positive contribution to economic growth. Dessus (2016) observed 83 countries during the period 1960-1990, found that the quality of education was measured by student-teacher ratio, government spending on education and access to educational facilities significantly correlated with economic growth. Maksymenko and Rabani (2011) using contingency analysis also found that education significantly affects economic growth in India and South Korea. Hanushek and Kimbo (2000) using an education quality index in 38 countries based on academic performance in mathematics and science in the 1965-1999 period, states that there is a correlation between the quality of education and GDP per capita. Viewed from the aspect of government spending on education, the research findings of Churchill, Yew and Ugur (2015) with meta-analysis method found that there is a positive influence of government spending on education on economic growth. Sumarsono (2003) states that the average higher education level of population will havee faster economic growth. Moreover, Barro and Sala-i-Martin (1991; 1995), found that given the level of initial per capita GDP, the growth rate is substantially positively related to the starting amount of human capital.

Health and Economic Growth

One's health plays an important role to do the work continuously. Knowles and Owen (1995) found that health variables with life expectancy indicators were more strongly influenced by per capita growth than in educational variables.

Li and Huang (2009) used a panel in 28 provinces in China from 1978 to 2005, found that investment in education and health has had a positive and significant impact on economic growth in China. They found also that health contributes more than education to economic growth in China. Subsequent research by Li and Huang in 2010 conducted on 11 East Asian countries in the period 1961 - 2007 states that education and health have a positive and significant impact on economic growth, but health factors are more powerful than education to economic growth. Research findings Eggoh, Houeninvo and Sossou (2015) explains that high levels of government spending on education and health contribute to economic growth, while countries with low government spending on education and health have an impact on low economic growth in African Sahara countries. The study of Murat Cetin and Dogan (2015) in Romania, using data from 1980 - 2011, concludes that long-term economic growth is influenced by health, consumption, energy and education variables. From various studies indicate that human development in the health sector can increase economic growth so that the level of public welfare is getting better.

From the results of research above shows that health has a positive and significant impact on economic growth. This gives an indication that every State is paying attention to the public health sector so that budget structuring in APBN provides a large portion for the health sector which has an impact on the increasing index of human development in the State of Indonesia. So many health indicators that can be given attention starting from health level of pregnant mother, fertility problem, child nutrition, home health level like ventilation, clean water problem, bathing, washing and toilet (commonly said as MCK). These issues need to be taken into consideration in the effort to manage government expenditure in the health sector and of course arranged proportionally and urgently with a substantial budget in the State budget of income and expenditure.

Based on the support of existing theories and findings, the research hypothesis is formulated as follows: 1) there is a direct influence between education budget and economic growth in North Sulawesi Province. 2) There is a direct influence between the health budget and economic growth in North Sulawesi Province. 3) There is an influence between the education budget and poverty through economic growth in the province of North Sulawesi. 4) There is an influence between the health budget and poverty through economic growth in the province of North Sulawesi.

METHODOLOGY

First, the researcher performs the operationalization of the variables studied by formulating Educational variables measured through government budget in education, health variables measured through government budget in the health sector, economic growth variables measured through Gross Regional Domestic Product (GRDP) and poverty variables are measured through poverty levels. The research method used quantitative descriptive by using documenter data. Secondly, the researcher collected data on the research variables in Central Bureau of Statistics of North Sulawesi Province and related institutions namely National Education Office and Health Service of North Sulawesi Province. Third, the data that have been analyzed by using path analysis and the result of statistical analysis is discussed in a forum called FGD by involving experts and finally get the conclusion and recommendation.

Research Instrument

The instrument used in this study are interviews to leader and heads of data department in forms of education budget, health budget, Gross Regional Domestic Product, and poverty level (number of poor people) in North Sulawesi Province (raw data presented in Appendix 1). After the raw data is obtained, raw data are transferred to the ln data so that conform the data linearity requirements for regression analysis (Appendix 2). Further data is analyzed by path analysis, with path diagram as follows:
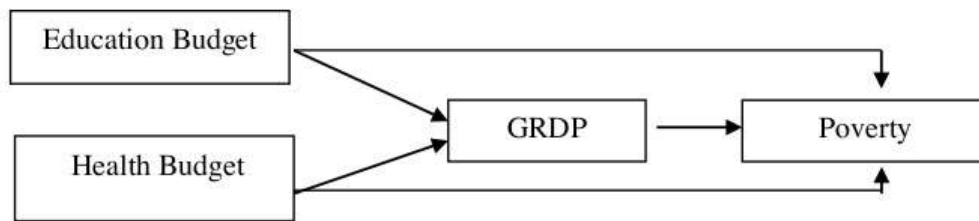
Figure 1: Path analysis diagram

Sampling Procedure

Based on the documentation data, the researcher performs cluster procedure based on the data complementary institution, that is for all variable data collected from Central Bureau of Statistics of North Sulawesi Province, but for complete and validity of variable data also collected from Health Office and Education Office North Sulawesi Province. The study used time series data ranging from 2010 to 2016.

RESULT AND DISCUSSION

Based on calculation the coefficients of the paths of regression model I (see Appendix 3), can describe as follows:

Tabel 1: Results of regression analysis (Model 1)

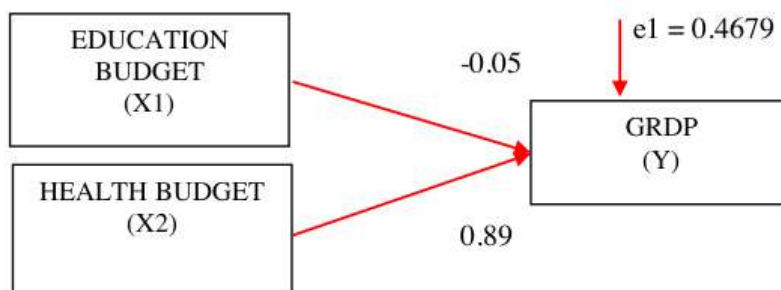| Item	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	Beta	Std. Error	Beta		
(Constant)	17.62	8.93		1.97	.120
Education Budg (X1)	-0.10	0.50	-.05	-.20	**.851**
Health (X2)	0.39	0.10	0.89	3.73	**.020**

Note: Dependent Variable: GRDP

Figure 2: Output of path analysis model one

Table 1 represents the results of the regression model 1. Out of these two variables health shows a positive relation with the dependent variable, GRDP. This

is significant at 2% level (p-value is .020). The other variable is not significant of which the t value is -.20. These results indicate that the health influences GRDP while educational budget does not. The r-squared value indicates that the model fit was good and both of the independent variables explain the dependent variable in the model by 78.1%. The R-squared value also indicates that 21.9% of the dependent variables that are not included in this model contribute to GRDP. The influence of these two independent variables X1 and X2 together to Y is of 78.1% while the remaining 21.9% was contributed by other variables not included in the study. Meanwhile, for the value e1 = $\sqrt{(1 - 0.781)} = 0.4679$.

Furthermore, based on calculation the coefficients of the paths of regression model II (see Appendix 3), can describe as follows:

Tabel 2: Results of regression analysis (Model 2)

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
	B	Std. Error	Beta		
(Constant)	14.97	4.49		3.343	.044
Education Budg.	-.50	.18	**-.79**	-2.803	**.068**
Healt Budg.	-.049	.08	**-.29**	-.491	**.657**
GRDP	.00	.18	**.03**	.042	**.969**

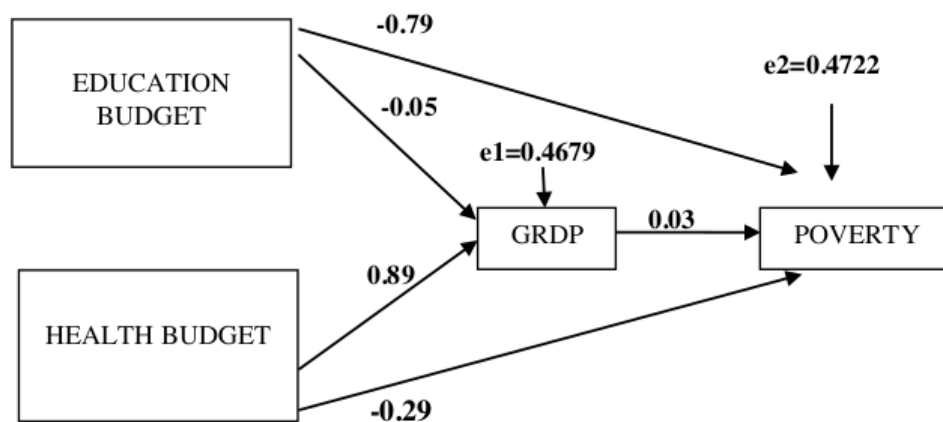Note: Dependent Variable is "Poverty"

Figure 3: Output of path analysis model two

Based on the regression output of regression Model II on the table 2 : it is known that the significance value of the three variables X1 = 0.068, X2 = 0.657 and Y = 0.969, are all greater than 0.05. These results give the conclusion that the regression of model II ie the variables X1, X2 and Y is not significant to Z. the value of R2 or R Square that is in the Summary Model table is 0.777 this shows that the contribution of X1, X2 and Y to Z is equal to 76.9% while the remaining

23.1% is the contribution of other variables not included in the research. Meanwhile, for the value e2 = √ (1 - 0.777) = 0.4722.

FINDINGS AND DISCUSSION

Analysis of the influence of X1 to Y from the above analysis obtained value of significance X1 of 0.851> 0.05. So, it is tested that directly there is no significant influence X1 to Y. Analysis of the influence of X2 to Y from the above analysis obtained value of significance X2 of 0.020 <0.05. So, it is tested that directly there is a significant influence X1 to Y.

Analysis of the influence of X1 through Y on Z; known direct influence given X1 to Y equal to -0.785. While the indirect influence X1 through Y on Z is the multiplication between beta value X1 to Y and beta value Y to Z is -0,048 x (0,025) = -0,00012. Then the total influence given X1 to Z is the direct influence coupled with the indirect influence that is: -0.785 + -0.00012 = -0.78512. Based on the above calculation results note that the value of direct influence of -0.785 and indirect influence of -0.00012 which means the value of indirect influence is smaller than the value of direct influence, this result indicates that indirectly X1 through Y has no significant influence to Z.

Analysis of the influence of X2 through Y on Z; known direct influence given X2 to Y equal to -0.290. While the indirect influence of X2 through Y to Z is multiplication between beta value X2 to Y and beta value Y to Z is 0,893 x 0,025 = 0,02232. Then the total influence given X2 to Z is the direct influence coupled with the indirect influence that is: -0.290 + 0.02232 = -0.26768. Based on the above calculation results note that the value of direct influence of -0.290 and indirect influence of 0.02232 which means the value of indirect influence is greater than the value of direct influence, this result indicates that indirectly X2 through Y has a significant influence to Z.

Seeing the unemployment rate in the province of North Sulawesi from 2013 to 2016 has increased from 67,748 (2013), 79,996 (2014) people, and increased sharply by 2015 by 99,200 and 92,600 in 2016. This needs a discussion compared with the results of the above quantitative analysis. Therefore, researchers conduct FGD (focus group discussion) by involving experts in the field of economics, management, and education including other stakeholders namely GAPR, TEMS, JM, RW, BH, BM, FT, HK, (as an economist and management expert), HR, AM and JW (as education experts). The FGD results conclude that in North Sulawesi Province, it is necessary to prudently tackle an increasing rate of unemployment by significantly increasing budgets in the field of education as well as taking into account other factors contributing to poverty reduction such as job opening in order to deal with the presence of high unemployment rate, create more new entrepreneurs, increase labor productivity, improve the quality of school and college graduates, health quality, populist economic movement and MSMEs (micro, small and medium enterprises). One of the most effective ways to cope with this problem is to embrace and cultivate more sharing economy platform as it has been proved to significantly improve Indonesian economy by creating more employment and increasing the income of MSMEs (Hamenda, 2018). The

commitment of the local government in this case (North Sulawesi government) is also required to raise the substantial education budget annually.

CONCLUSION AND RECOMMENDATION

[1] The education budget did not significantly influence to economic growth but health budget had significant influence to economic growth in North Sulawesi Province. The budget for education had not influence to poverty through economic growth, but health budget had significant influence to poverty through economic growth in North Sulawesi Province.

Finally, that the unemployment rate is at risk of bringing poverty to the school by involving all stakeholders of government, employers, schools and universities, as well as health workers to make better quality of life by creating jobs, the create of new entrepreneurs, the increasing quality of graduates of schools and universities high, increasing quality of health, and the movement of people's economy and MSMEs (Micro, Small and Medium Enterprises).

The first, there needs to be a commitment of the local government and the Regional House of Representatives in North Sulawesi province to increase the education budget significantly from year to year in order to decrease poverty level.

Finally, Government, business entities, schools and universities, health workers and the public need to pay attention to other factors such as embracing sharing economy platform that influence poverty reduction and not only on improving education budget and health budget through economic growth. Other factors include the creation of new entrepreneurs, labor productivity, the quality of school and college graduates, health quality, populist economic movement and micro, small and medium enterprises (MSMEs).

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Appendix 1

Raw Data

No	Year	Education Budget (00) IDR*	Health Budget (000) IDR		GRDP (000) IDR	Poverty (000) Person
1	2010	81.021.125,239	21.218.000,00		51.721.334.140	217,00
2	2011	90.960.305,00	44.307.604,00		57.343.600.820	194,70
3	2012	103.372.284,25	38.906.000,00		63.875.306.630	177,40
4	2013	77.178.931,14	53.541.854,00		71.097.460.700	201,10
5	2014	91.556.778,25	73.880.331,00		80.667.626.300	197,56
6	2015	89.650.943,241	69.352.427,84		91.280.198.200	193,20
7	2016	91.221.909,061	74.500.000,00		100.537.360.800	191,30

Source:
- Budget implementation document of regional apparatus unit (dpaskpd) of health office of fiscal year 2013.
- Document the execution of regional budget work unit (dpaskpd) of education office budget year 2014, 2015.
- Provincial government's financial statistics for 2009 - 2012 and 2011 - 2014, Central Bureau of Statistics (www.bps.go.id).
- North Sulawesi in the year 2010 to 2016 BPS Sulut (www.bps.go.id).
- Book of health profile Sulut 2010 until 2016, health service of North Sulawesi province.

*IDR =Indonesian Rupiah

Appendix 2

No	Year	Education Budget	Health Budget	GRDP	Poverty
1	2010	18.21022048	16.87036044	22.36655109	5.37987354
2	2011	18.32593376	17.60666687	22.469742	5.27145991
3	2012	18.45384744	17.47665904	22.57761359	5.17840707
4	2013	18.16163706	17.79597422	22.68473237	5.30380229
5	2014	18.33246987	18.11795719	22.81101808	5.28604233
6	2015	18.31143428	18.05471171	22.93461462	5.26372592
7	2016	18.32880566	18.12630968	22.72862506	5.25384287
Total		128.12434855	124.04863915	158.57289681	36.93715395
Average/Year		18.30347843	17.72123414	22.653271	5.27673628

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