The Influence of Regional Expenditure Realization on Human Development Index in Indonesia

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Abstract

This study aims to determine the relationship between government spending on the human development index (HDI), human development index, that consists of health, education, and purchasing power. Government expenditure related to human quality development is the responsibility of each government in the area, which is regulated in law number 23 of 2004. This research was conducted in 34 provinces in Indonesia and used secondary data collected from the official website that is National Central Agency (BPS). The data used in this research relates to the allocation of spending funds based on their function using data obtained from 2017, then using HDI data from 2018-2020 and in this study using multiple linear regression and classical assumption techniques in SPSS. The result of this analysis is that government spending on the economic function has no impact on the human development index, government spending on the health and education function has a significant effect on the human development index. Through the conclusions of this study, the government can determine where the budget should be spent to be more effective in improving the quality of the HDI, to avoid over budget expenditure but not having results in increasing the HDI and for HDI indicators whose growth is not affected by budget expenditure, the government needs to find a solution other than increasing budget expenditure because it is unlikely to affect the growth of the HDI.

Keywords: *Human Development Index, Government Expenditure in Economic, Government Expenditure in Health, Government Expenditure in Education.*

INTRODUCTION

Background

From the past until now, every country, including Indonesia, continues to strive to become a better country with improvements made through economic development in order to advance the welfare of its people. With good economic development growth, one of which can be observed from the increase in gross domestic product. The indicator used to determine a country's economic growth is the level of Gross Domestic Product (Imamul Arifin & Gina Hadi W, 2009). Gross domestic product is often used as a reference to measure the success rate of a country's development, because an increased level of gross domestic product will indicate an increase in production which means an increase in people's purchasing power. Gross Domestic Product (GDP) can be included as the value of goods and services produced in a country in a certain year (Sukirno, 2013). Increasing people's

purchasing power is often used as a guideline for determining people's welfare. It is hoped that this gross domestic product can provide knowledge regarding certain areas that need attention.

Based on the International Monetary Fund (IMF), since 2001 Indonesia's gross domestic product has always increased from year to year until now, and in 2022 Indonesia ranks 6th among countries with the largest gross domestic product in the world with a figure of USD 4.3 trillion. However, an increase in gross domestic product will not eliminate Indonesia's problems related to poverty which is still a complex and long-term problem in Indonesia. Poverty is a problem and challenge that must be faced by the Indonesian government. Based on data from the Central Statistics Agency (BPS) for September 2022, the poverty rate in Indonesia increased to 9.57%, this is not in line with Indonesia's continued increase.

This shows that the economic development of a country cannot be measured only by an increase in gross domestic product, because economic development is also influenced by human resources. Human resources are assets and indicators that are very important for a country, and are capital for every country in carrying out development. Human resources are important and really need to get attention from the government of that country, not only in order to support the development and economic growth of a country, but also in solving problems that exist in that country, for example the problem of poverty in Indonesia. In human development it really needs attention, because at high economic growth, it is not always able to solve welfare problems such as poverty and the standard of living of the community at large, so that the success of development today is often seen from the achievement of the quality of Human Resources (Todaro & Smith, 2013).

Every country seeks to own and invest in human resources, because quality human beings are needed in a country, both developing and developed countries. The human development index (IPM) will be a reference for measuring the success of a country in relation to the development of the quality of human life in that country. Human development, which is observed through the level of quality of human life in each country, is the basis of the paradigm in development that is currently being developed (Mizra, 2011). Basically, based on the human development index consists of 3 basic dimensions, namely: health, knowledge and purchasing power. Life expectancy is a component that represents an indicator of health, knowledge will be measured through the expected duration of schooling, the average length of schooling, and purchasing power are components for measuring people's living standards.

Government expenditures related to health, education, and living conditions are factors that influence the growth of the quality of human resources. Expenditure in this field is part of government investment related to expenditure in each region, because this has been regulated in law number 23 of 2004. In Law number 32 of 2004, local governments make efforts to improve the quality of human resources in the area carried out in terms of physical, intellectual, economic welfare and morality. Then each region, whether provincial or regency, will have a nominal expenditure related to each function, which consists of the functions of education, health, economy, order and security functions, environmental functions, life services, social protection. However, the functions of government spending that are closely related to the development of the quality of the human development index are the functions of education, health, and the economy. So, through this research we intend to examine whether government spending based on function has an impact on the human development index.

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Objective

This study aims to determine the effect of the realization of local government expenditure funds allocated from the education, health, and economic sectors in 2017 on the human development index in the following year, namely in 2018. In addition, this study also wanted to find out whether the allocation of funds spent affects development HDI in the following year and has a long-term impact. On the other hand, this research also wants to examine the funds allocated to each expenditure function that consistently affect HDI.

Novelty

In previous research there are only two indicators namely education and health, which are in the human development index. There are three important indicators (Chairati Fadliyah, 2019; Merang Kahang, 2016; Mongan, 2019; Septiana M. M. Sanggelorang, 2015; Heka, Lapian, & Lajuck, 2017). So, in this research, the researchers added economic indicators as a novelty because based on previous studies they only used health and education indicators. So, in this study, economic indicators are used to analyze the influence of economic conditions, especially government spending in 34 provinces in Indonesia on the human development index. In addition, previous researchers only examined one province in Indonesia, which actually could not represent all provinces in Indonesia. The previous researchers also used a time period that was too close, that is, in that year it was also examined when the budget was issued, in fact, budget spending cannot instantly affect the human development index. Therefore, in this research, the researcher uses a budget expenditure which is quite far from the level of the human development index.

Contribution

The contribution to this research is to understand to what extent government spending in each province in Indonesia contributes to increasing the human development index. In this study, the expenditures used are only expenditures related to the three indicators in the human development index, these expenditures include government expenditures in the economic sector, government expenditures in the health sector, and government expenditures in the education sector.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The human development index is basically formed from three things, namely health, knowledge, and healthy living standards. Health has an important role in building the economy, because a low level of health will reflect unqualified resources. According to BPS data, Indonesia's demographic bonus will start in 2020-2035, becoming one of the factors to increase the human development index in the health sector. So that each region in Indonesia will determine the amount of budget spent to improve public health, for example in restoring the community and treatment. Real evidence from the state to improve health, namely the existence of BPJS can increase the level of health, which will greatly help underprivileged people in Indonesia. In addition, Indonesia's life expectancy in 2021 ranks 122nd out of 195 countries in the world, which is only 72.32. The first position with the highest life expectancy in 2021 is occupied by Hong Kong. Life expectancy is the average age that a person achieves. For the health itself, it can be measured with the life expectancy. Based on previous research concluded that government expenditure in the health sector affects the

level of community welfare (Chairati Fadliyah, 2019; Mochammad Yuli Arifin, 2019; Heka, Lapian, & Lajuck, 2017). Meanwhile, based on previous research concluded that government spending on health does not affect the growth rate of the human development index (Merang Khang, 2016; Mongan, 2016; Septiana M. M. Sanggelorang, 2015).

H1: The Government Expenditure per Health Function significantly affects the Human Development Index.

Besides health, there is also a factor that is no less important, namely the knowledge factor, because knowledge is one of the investments for a country because every developed country will have quality human resources, and be able to help the country to manage its resources. Investment in education is necessary, so the government must be able to build a good educational facility and system (Wahid, 2012). The government has provided concrete manifestations in supporting the improvement of the quality of education in Indonesia by providing a budget of 20% of the state revenue and expenditure budget. Based on article 31 paragraph (4) of the 1945 Constitution, the allocation of the education budget is 20% of the regional expenditure budget. It is hoped that with this budget for education, it can increase the number of literacy rates, the number of students who complete their education, and improve skills and knowledge. So that by improving the quality in the field of education this can make it easier for every individual to get a job, and improve economic standards. For the education itself, it can be measured with the average duration of school and duration of school expectation. Based on previous research concluded that government spending in education does not affect the level of community welfare (Chairati Fadliyah, 2019; Heka, Lapian, & Lajuck, 2017). Whereas in previous research concluded that government spending on education affects the human growth index (Merang Kahang, 2016; Mongan, 2019; Septiana M. M. Sanggelorang, 2015).

H2: The Government Expenditure per Education Function significantly affect the Human Development Index

The feasibility of people's lives is related to the level of poverty, because the level of poverty will indicate the inability of individuals to meet their needs, especially for primary needs. In Indonesia, the issue of poverty is still a problem that must be handled by the government. In 2022 Indonesia ranked 91st as the poorest country in the world. The government has also made efforts to reduce the level of poverty in Indonesia with social assistance for prosperous rice (Rasta) and non-cash food assistance (BPTN). For the capital expenditure itself, it can be measured with the purchasing power. The previous article concluded that per capita expenditure will affect the human development index (Dewi & Sutrisna, 2014; Nazamuddin, 2013). Based on previous research concluded that government spending in the function of economic growth affects the human growth index (Ariza, 2016).

H3: The Government Expenditure per Economic Expenditure significantly affect the Human Development Index

RESEARCH METHOD

This research conducted in 34 provinces in Indonesia, this study will use data regarding the allocation of funds by each province related to the education, health, and economic sectors in 2017. The HDI will be used starting in 2018 because the allocation of funds will have an impact in next year, besides that we also use the HDI in 2018-2020 so that we can analyze the factors that are affected consistently. The data we use is secondary data that we obtain from the Directorate General of Taxes (DJP) and the Central Statistics Agency (BPS). In this study using a quantitative approach, with the aim of testing the hypothesis to determine the effect between the independent and dependent variables. In this research analysis using linear regression analysis technique in SPSS. This study used the analysis tool by multiple linear regression models. The Human Development Index is a fundamental three-dimensional index that measures the quality of human existence in terms of economic (per capita expenditure), health (a long and healthy life), and education.

This is the formula to measure the HDI as follows:

$$\text{HDI} = \frac{1}{3} (\text{Index X1} + \text{Index X2} + \text{Index X3}) \ldots\ldots\ldots (1)$$

Information:

X_1 = Economic level index

X_2 = Health index

X_3 = Education Index

The first index in the Human Development Index is the feasibility of life that can be measured through people's purchasing power, purchasing power is related to the primary needs that must be met in carrying out daily life. Because there will be a number of basic needs needed, and average per capita spending is an income approach that can show a decent life for a society. This is the formula to measure the economic dimensions:

$$\text{I} = \frac{PP - PPmin}{PPmax - PPmin} \ldots\ldots\ldots (2)$$

I   = Per Capita Expenditure index

PP   = Purchasing Power

PP_{min} = Purchasing Power minimal

PP_{max} = Purchasing Power maximal

Second, the quality of public health can be measured through life expectancy which reflects the maximum age that a person can expect to survive, as well as another important factor, namely the mortality rate. Then a good and high level of population health will be seen from a healthy population with a low mortality rate and a high life expectancy. Health is a factor that directly affects the level of productivity and performance of the population in a country or region. The health of the

population largely determines the ability to absorb and manage sources of economic growth both in terms of technology and institutions that are important for economic growth (Wibisono, 2001)

This is the formula to measure the health dimensions:

$$I = \frac{LE - LEmin}{LEmax - LEmin} \ \dots\dots\dots \ (3)$$

I   = Life expectancy index

LE   = Life expectancy

LE_{min} = Life expectancy minimal

LE_{max} = Life expectancy maximal

The quality of education can be measured through the length of schooling of the average community compared to the expected number of years of schooling in a particular country or region. Those in Indonesia have four levels of education namely elementary school, junior high school, high school and also strata. Because basically education is very important to help shape self-knowledge, personality, and intelligence. UNESCO (United Nations Educational, Scientific and Cultural Organization) or the United Nations Educational, Scientific and Cultural Organization emphasizes that education has a function as a key to opening the way to build and improve the country (Nandika, 2007).

This is the formula to measure the education dimensions:

$$I = \frac{DSE - ADS}{2} \ \dots\dots\dots \ (4)$$

I   = Education index

DSE   = Duration of school expectation

ADS   = Average duration of school

Research Model

This study used the analysis tool by multiple linear regression models that has estimator variables namely X_1, X_2, and X_3, Then the dependent variables influenced by independent variables are expressed in variables

$$\mathbf{Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3} \ \dots\dots\dots \ (5)$$

Y   = Human Development Index

α   = Constanta

β_{1-3} = Regression Coefficient

X₁   = Government Expenditure per Economic Function

X₂   = Government Expenditure per Health Function

X₃   = Government Expenditure per Education Function

RESULTS AND DISCUSSION

Multiple linear analysis

    a.   Multiple linear analysis in 2018

Based on the table above, the constant value (alpha value) is 70.133 and for X1 (beta 1 value) is -6,403 while X2 (beta 2 value) is 2,649 and X3 (beta 3 value) is 7,143. So that the multiple linear regression equation formula can be obtained as follows

Table 1: Multiple Linear Analysis 2018

Coefficientsᵃ							
Model	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Tolerance	Statistics VIF
1 (Constant)	70.133	.972		72.184	<.001		
Economic	-6.403E-12	.000	-1.010	-1.919	.064	.086	11.574
Health	2.649E-12	.000	.936	2.350	.026	.151	6.631
Education	7.143E-13	.000	.502	1.221	.231	.141	7.074

.   Dependent Variable: HDI

Source: SPSS

$$Y = 70{,}133 + -6.403X1 + 2.649X2 + 7.143X3$$

Which mean, the constant value of the Human Development Index (Y) is 70.133 which states that if the variable government spending on the health function, government spending on the education function, and government spending on the economic function is equal to 0 or does not experience an increase or decrease, then the Human Development Index is 70.133.

The beta coefficient (X1) is -6,403 meaning that whenever there is an increase or increase in the X1 variable (government spending on the economic function) of 1%, the Human Development Index (Y) will decrease by 6,403 percent or vice versa, every time there is a decrease in the X1 variable by 1%, the Human Development Index will increase by 6,403 percent. The beta coefficient (X2) has a value of

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2,649 meaning that whenever there is an increase or increase in the X2 variable (government spending on the health function) by 1%, the Human Development Index (Y) will increase by 2,649 percent or vice versa, every time there is a decrease in the X2 variable by 1%. Then the Human Development Index will decrease by 2,649 percent. The beta coefficient (X3) has a value of 7,143 meaning that whenever there is an increase or addition to the X3 variable (government spending on the education function) by 1%, the Human Development Index (Y) will increase by 7,143 percent or vice versa, every time there is a decrease in the X2 variable by 1%. Then the Human Development Index will decrease by 7,143 percent.

b. Multiple linear analysis in 2019

Table 2: Multiple Linear Analysis 2019

Coefficients[a]							
Model	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Tolerance	Statistics VIF
1 (Constant)	70.766	.959		73.786	<.001		
Economic	-6.034E-12	.000	-.971	-1.832	.077	.086	11.574
Health	2.519E-12	.000	.908	2.264	.031	.151	6.631
Education	6.791E-13	.000	.487	1.176	.249	.141	7.074

. Dependent Variable: HDI
Source: SPSS

Based on the table above, the constant value (alpha value) is 70,766 and for X1 (beta 1 value) is -6,034 while X2 (beta 2 value) is 2,519 and X3 (beta 3 value) is 6,791. So that the multiple linear regression equation formula can be obtained as follows

$$Y = 70,766 + -6.034X1 + 2.519X2 + 6.791X3$$

Which means, the constant value of the Human Development Index (Y) is 70,766 which states that if the variables of government expenditure on the health function, government expenditure on the education function, and government expenditure on the economic function are equal to 0 or do not increase or decrease, then the Human Development Index is 70,766. The beta coefficient (X1) of -6,034 means that every time there is an increase or addition of the variable X1 (government expenditure on economic functions) by 1%, then the Human Development Index (Y) will decrease by 6,034 percent or vice versa, every time there is a decrease in variable X1 by 1%, then the Human Development Index will increase by 6,034 percent. The beta coefficient (X2) is 2,519, meaning that every time the X2 variable (government spending on the health function) increases or increases by

1%, the Human Development Index (Y) will increase by 2,519 percent or vice versa, every time the X2 variable decreases by 1% , then the Human Development Index will decrease by 2,519 percent. The beta coefficient (X3) has a value of 6,791 meaning that whenever there is an increase or addition to the X3 variable (government spending on the education function) by 1%, the Human Development Index (Y) will increase by 6,791 percent or vice versa, every time there is a decrease in the X2 variable by 1%. Then the Human Development Index will decrease by 6,791 percent.

c. Multiple linear analysis in 2020

Table 3: Multiple Linear Analysis 2020

Coefficients[a]								
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Tolerance	Statistics VIF
1	(Constant)	70.772	.958		73.892	<.001		
	Economic	-5.870E-12	.000	-.947	-1.785	.084	.086	11.574
	Health	2.467E-12	.000	.892	2.221	.034	.151	6.631
	Education	6.708E-13	.000	.483	1.164	.254	.141	7.074

. Dependent Variable: HDI

Source: SPSS

Based on the table above, the constant value (alpha value) is 70,772 and for X1 (beta1 value) is -5,870 while X2 (beta2 value) is 2,467 and X3 (beta3 value) is 6,708. So that the multiple linear regression equation formula can be obtained as follows

$$Y = 70,772 + -5.870X1 + 2.467X2 + 6.708X3$$

Which means the constant value of the Human Development Index (Y) is 70.772 which states that if the variables of government expenditure on the health function, government expenditure on the education function, and government expenditure on the economic function are equal to 0 or do not increase or decrease, then the Human Development Index is 70.772.The beta coefficient (X1) of -5,870 means that every time there is an increase or addition of variable X1 (government spending on economic functions) of 1%, then the Human Development Index (Y) will decrease by 5,870 percent or vice versa, every time there is a decrease in variable X1 by 1%, then the Human Development Index will increase by 5,870 percent. The beta coefficient (X2) of 2,467 means that every time there is an increase or addition of variable X2 (government spending on health functions) by 1%, then the Human Development Index (Y) will increase by 2,467 percent or vice versa, every time there is a decrease in

variable X2 by 1%, then the Human Development Index will decrease by 2,467 percent. The beta coefficient (X3) of 6,708 means that every time there is an increase or addition of variable X3 (government expenditure on the education function) of 1%, then the Human Development Index (Y) will increase by 6,708 percent or vice versa, every time there is a decrease in variable X2 by 1%, then the Human Development Index will decrease by 6,708 percent.

Validity and reliability test

a. Validity and Reliability Test in 2018

Table 4: Validity and Reliability 2018

Correlations		HDI	Economic	Health	Education
HDI	Pearson Correlation	1	.317	.441**	.378*
	Sig. (2-tailed)		.068	.009	.027
	N	34	34	34	34
Economic	Pearson Correlation	.317	1	.921**	.926**
	Sig. (2-tailed)	.068		<.001	<.001
	N	34	34	34	34
Health	Pearson Correlation	.441**	.921**	1	.867**
	Sig. (2-tailed)	.009	<.001		<.001
	N	34	34	34	34
Education	Pearson Correlation	.378*	.926**	.867**	1
	Sig. (2-tailed)	.027	<.001	<.001	
	N	34	34	34	34

Source: SPSS

From the output above, we get X1.1 = 0.317 while X1.2 = 0.441 and X1.3 = 0.378. Because the value of all indicators is > 0.05, it means that the indicator is declared valid.

b. Validity and Reliability Test in 2019

Table 5: Validity and Reliability 2019

Correlations		HDI	Economic	Health	Education
HDI	Pearson Correlation	1	.316	.436**	.375*
	Sig. (2-tailed)		.068	.010	.029
	N	34	34	34	34
Economic	Pearson Correlation	.316	1	.921**	.926**
	Sig. (2-tailed)	.068		<.001	<.001
	N	34	34	34	34
Health	Pearson Correlation	.436**	.921**	1	.867**
	Sig. (2-tailed)	.010	<.001		<.001
	N	34	34	34	34
Education	Pearson Correlation	.375*	.926**	.867**	1
	Sig. (2-tailed)	.029	<.001	<.001	
	N	34	34	34	34

Source: SPSS

From the output above, we get X1.1 = 0.316 while X1.2 = 0.436 and X1.3 = 0.375. Because the value of all indicators is > 0.05, it means that the indicator is declared valid.

c. Validity and Reliability Test in 2020

Table 6: Validity and Reliability 2020

Correlations

		HDI	Economic	Health	Education
HDI	Pearson Correlation	1	.321	.438**	.379*
	Sig. (2-tailed)		.064	.009	.027
	N	34	34	34	34
Economic	Pearson Correlation	.321	1	.921**	.926**
	Sig. (2-tailed)	.064		<.001	<.001
	N	34	34	34	34
Health	Pearson Correlation	.438**	.921**	1	.867**
	Sig. (2-tailed)	.009	<.001		<.001
	N	34	34	34	34
Education	Pearson Correlation	.379*	.926**	.867**	1
	Sig. (2-tailed)	.027	<.001	<.001	
	N	34	34	34	34

Source: SPSS

From the output above, we get X1.1 = 0.321 while X1.2 = 0.438 and X1.3 = 0.379. Because the value of all indicators is > 0.05, it means that the indicator is declared valid.

Classic assumption test

1. Autocorrelation Test Result
    a. Autocorrelation Test Result in 2018

Table 7: Autocorrelation Test 2018

Model Summary[b]					
Model	R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson

1	.532 a	.283	.211	3.54750	1.477

.   Predictors: (constant), Education, Health, Economic
.   Dependent variable: HDI
Source: SPSS

Based on the autocorrelation test above, using Durbin Watson values and Durbin Watson tables (dL and dU). If (4-d) > dU then there is no negative autocorrelation. From the results of the table it can be concluded that the autocorrelation value between (4-1.477) > 1.6519 does not have a negative autocorrelation.

    b.   Autocorrelation Test Result in 2019

Table 8: Autocorrelation Test 2019

Model Summary b					
Model	R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.522 *	.272	.199	3.50178	1.492

.   Predictors: (constant), Education, Health, Economic
.   Dependent variable: HDI
Source: SPSS

Based on the autocorrelation test above, using Durbin Watson values and Durbin Watson tables (dL and dU). If (4-d) > dU then there is no negative autocorrelation. It can be concluded that the autocorrelation value between (4-1.492) > 1.6519 does not have a negative autocorrelation.

    c.   Autocorrelation Test Result in 2020

Table 9: Autocorrelation Test 2020

Model Summary b					
Model	R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.519*	.270	.197	3.49705	1.489

.   Predictors: (constant), Education, Health, Economic
.   Dependent variable: HDI
Source: SPSS

Based on the autocorrelation test above, using Durbin Watson values and Durbin Watson tables (dL and dU). If (4-d) > dU then there is no negative autocorrelation. It can be concluded that the autocorrelation value between (4-1.489) > 1.6519 does not have a negative autocorrelation.

Multicollinearity Test Results

a. Multicollinearity test result in 2018

Table 10: Multicollinearity Test 2018

Coefficients[a]							
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Tolerance	Statistics VIF
1	(Constant)	70.133	.972		72.184	<.001		
	Economic	-6.403E-12	.000	-1.010	-1.919	.064	.086	11.574
	Health	2.649E-12	.000	.936	2.350	.026	.151	6.631
	Education	7.143E-13	.000	.502	1.221	.231	.141	7.074

. Dependent Variable: HDI

Source: SPSS

From these results, only economic variables have multicollinearity because the table shows a tolerance value of 0.086 which is less than 0.10 and a VIF value of 11.574 which is greater than 10,000 while in the health and education variables there is no multicollinearity.

b. Multicollinearity test result in 2019

Table 11: Multicollinearity Test 2019

Coefficients[a]							
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Tolerance	Statistics VIF
1	(Constant)	70.766	.959		73.786	<.001		
	Economic	-6.034E-12	.000	-.971	-1.832	.077	.086	11.574
	Health	2.519E-12	.000	.908	2.264	.031	.151	6.631

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	Educatio n	6.791E-13	.000	.487	1.176	.249	.141	7.074

. Dependent Variable: HDI

Source: SPSS

From these results, only economic variables have multicollinearity because the table shows a tolerance value of 0.086 which is less than 0.10 and a VIF value of 11.574 which is greater than 10,000 while in the health and education variables there is no multicollinearity.

c. Multicollinearity test result in 2020

Table 12: Multicollinearity Test 2020

Coefficients^a								
Model		Unstandardize d B	Coefficient s Std. Error	Standardize d Coefficients Beta	t	Sig.	Collinearit y Tolerance	Statistic s VIF
1	(Constant)	70.772	.958		73.89 2	<.00 1		
	Economic	-5.870E-12	.000	-.947	-1.785	.084	.086	11.574
	Health	2.467E-12	.000	.892	2.221	.034	.151	6.631
	Educatio n	6.708E-13	.000	.483	1.164	.254	.141	7.074

a. Dependent Variable: HDI

Source: SPSS

From these results, only economic variables have multicollinearity because the table shows a tolerance value of 0.086 which is less than 0.10 and a VIF value of 11.574 which is greater than 10,000 while in the health and education variables there is no multicollinearity.

Heteroscedasticity Test Results

a. Heteroscedasticity test results 2018

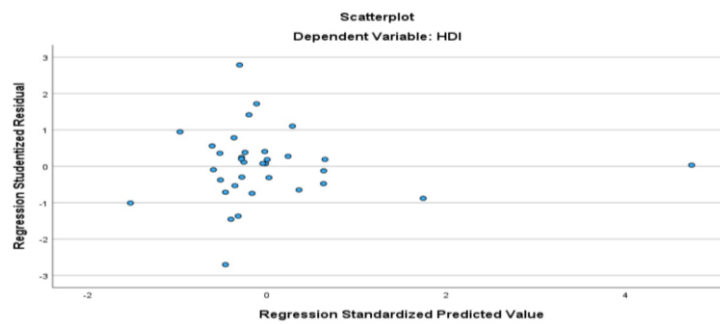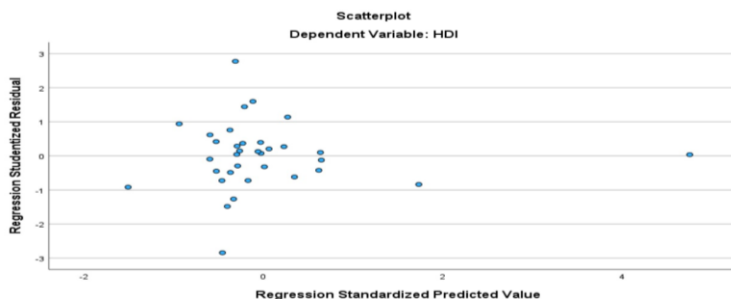Table 13: Heteroscedasticity Test 2018
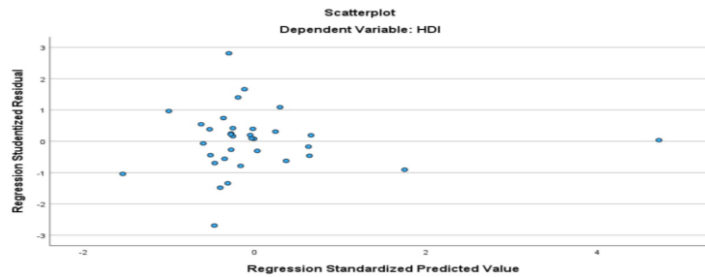
Source: SPSS

From the table results it can be concluded that there is no heteroscedasticity because the points spread unevenly so that they do not form a clear pattern.

b. Heteroscedasticity test results 2019

Table 14: Heteroscedasticity Test 2019

Source: SPSS

From the table results it can be concluded that there is no heteroscedasticity because the points spread unevenly so that they do not form a clear pattern.

c. Heteroscedasticity test results 2020

Table 15: Heteroscedasticity Test 2020

Source: SPSS

From the table results it can be concluded that there is no heteroscedasticity because the points spread unevenly so that they do not form a clear pattern.

Hypothesis Test

Test Result t (partial)

Based on the multiple linear analysis table, it shows that in 2018, the economic and education variables show no influence between the dependent and independent variables, because the sig. at t > 0.05 which means H0 is accepted. Whereas on the health variable, it shows that 0.026 <0.05, which means that H0 is rejected so that there is an influence between the dependent and independent variables. In 2019, the multiple linear analysis table shows that the economic and education variables show no influence between the dependent and independent variables, because the sig. at t > 0.05 which means H0 is accepted. Whereas on the health variable, it shows that 0.031 <0.05, which means that H0 is rejected so that there is an influence between the dependent and independent variables. In 2020, the multiple linear analysis table shows that the economic and education variables show no influence between the dependent and independent variables, because the sig. at t > 0.05 which means H0 is accepted. Whereas on the health variable, it shows that 0.034 <0.05, which means that H0 is rejected so that there is an influence between the dependent and independent variables.

Test Result f (simultaneous)

Simultaneous test in 2018

Table 16: Simultaneous Test 2018

ANOVAᵃ						
Model		Sum of Squares	df	Mean Square	f	Sig.
1	Regression	148.914	3	49.538	3.944	.017ᵇ
	Residual	377.543	30	12.585		
	Total	526.457	33			

.   Dependent Variable: HDI
.   Predictors: (Constant), Education, Health, Economic
Source: SPSS

The F (Simultaneous) test is done to assess the simultaneous impact of independent variables on dependent variables. In 2019, the ANOVA table shows an F value <0.05, which means H0 is rejected so that there is a linear relationship between the independent variable and the dependent variable. Based on the F test results table above, the F value is 0.017, indicating that the F test result is less than 0.05.

Simultaneous test in 2019

Table 17: Simultaneous Test 2019

ANOVAᵃ

Model		Sum of Squares	df	Mean Square	f	Sig.
1	Regression	137.460	3	45.820	3.737	.022[b]
	Residual	367.875	30	12.262		
	Total	505.334	33			

.   Dependent Variable: HDI
.   Predictors: (Constant), Education, Health, Economic
Source: SPSS

In 2019, the ANOVA table shows a value of F < 0.05, which means that H0 is rejected so that there is a linear relationship between the independent variables and the dependent variable. Based on the F test results table above, the F value is 0.022, indicating that the F test result is less than 0.05.

Simultaneous test in 2020

Table 18: Simultaneous Test 2020

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	f	Sig.
1	Regression	135.534	3	45.178	3.694	.022[b]
	Residual	366.880	30	12.229		
	Total	502.414	33			

.   Predictors: (Constant), Education, Health, Economic
.   Dependent Variable: HDI
Source: SPSS

In 2020, the ANOVA table shows a value of F < 0.05, which means that H0 is rejected so that there is a linear relationship between the independent variables and the dependent variable. Based on the F test results table above, the F value is 3,694, indicating that the F test result is less than 0.05.

Correlation coefficient test results

Coefficient test results 2018

Table 19: Coefficient Test 2018

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.532ᵃ	.283	.211	3.54750	1.477

. Predictors: (Constant), Education, Health, Economic
. Dependent Variable: HDI
Source: SPSS

The test results above, namely in 2018, show that there is a strong relationship between the dependent variable and the independent variable. Which can be observed through the magnitude of the coefficient between the relationship of the dependent variable and the independent variable, which is equal to 53.2%.

Coefficient test results 2019

Table 20: Coefficient Test 2019

Model Summaryᵇ					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.522ᵃ	.272	.199	3.50178	1.492

. Predictors: (Constant), Education, Health, Economic
. Dependent Variable: HDI
Source: SPSS

The test results above, namely in 2019, show that there is a fairly strong relationship between the dependent variable and the independent variable. Which can be observed through the magnitude of the coefficient between the relationship of the dependent variable and the independent variable, which is equal to 52.2%.

Coefficient test results 2020

Table 21: Coefficient Test 2020

Model Summaryᵇ					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.519ᵃ	.270	.197	3.49705	1.489

. Predictors: (Constant), Education, Health, Economic
. Dependent Variable: HDI
Source: SPSS

The test results above, namely in 2020, show that there is a fairly strong relationship between the dependent variable and the independent variable. Which can be observed through the magnitude of the coefficient between the relationship of the dependent variable and the independent variable, which is equal to 51.9%.

Coefficient Test Results (R2)

The R square (R2) value in the tests carried out in 2018 was 28.3%, which means the effect of the allocation of government funds provided on the growth of the human development index. While the other 71.7% is influenced by other variables not examined in this study.

Whereas in 2019, the R square (R2) value in the tests carried out was 27.2%, which means the effect of the allocation of government funds provided on the growth of the human development index. While the other 72.8% is influenced by other variables not examined in this study. Whereas in 2020, the R square (R2) value in the tests carried out is 27%, which means the influence of the allocation of government funds provided on the growth of the human development index. While the other 73% is influenced by other variables not examined in this study.

Discussion

From the results of the tests that have been carried out, there are several important things that need to be discussed. Based on the test results above, it shows that the value of the regression coefficient is positive for the variable government expenditure per health and education function, while the value of the coefficient is negative on government expenditure per economy.

Government Expenditure per Economic Function on Human Development Index

In 2018, 2019 and 2020, through multiple linear analysis, the value of the beta coefficient is negative, so if there is an increase in the allocation of government funds to the economy, it will decrease in the human development index. As in 2018, if there is a 1% increase in the allocation of funds, it will lead to a decrease in the human development index by 6.4%. If there is a decrease in the allocation of government funds, the human development index will increase. Significant values in economic functions in 2018, 2019 and 2020 showed that they had a value > 0.05. in 2018 with a value of 0.064 > 0.05, in 2019 with a value of 0.077 > 0.05, in 2020 with a value of 0.086 > 0.05. This shows that the variables of economic factors have not been able to affect the human development index.

Then it can be concluded that on this test H1 is rejected.

Government spending in the economic field has no influence on the human development index.

Government Expenditure per Health Function on Human Development Index

In 2018, 2019 and 2020, through multiple linear analysis, the value of the beta coefficient is positive, so if there is an increase in the allocation of government funds to the economy, it will experience an increase in the human development index. As in 2018 if there is a 1% increase in the allocation of funds, it will lead to an increase in the human development index by 2.6%, If there is a decrease in the

allocation of government funds, the human development index will decrease. Significant values in health functions in 2018, 2019 and 2020 showed that they had a value < 0.05. in 2018 with a value of 0.026 < 0.05, in 2019 with a value of 0.031 < 0.05, in 2020 with a value of 0.034 > 0.05. This suggests that variable health factors influence human development.

Then it can be concluded that on this test H2 is accepted.

Government spending on health has an influence on the human development index.

According to the results of the tests that have been done, it shows that the variable of government expenditure per health function has a positive impact on the Human Development Index on 34 provinces in Indonesia. This is in line with research conducted by (Chairati Fadliyah, 2019; Mochammad Yuli Arifin, 2019; Heka, Lapian, & Lajuck, 2017).

Government Expenditure per Education Function on Human Development Index

In 2018, 2019 and 2020, through multiple linear analysis, the value of the beta coefficient is positive, so if there is an increase in the allocation of government funds to the economy, it will experience an increase in the human development index. As in 2018 if there is a 1% increase in the allocation of funds will lead to an increase in the human development index by 7.1%, If there is a decrease in the allocation of government funds, the human development index will decrease.

Then it can be concluded on this test that H3 is accepted.

Government spending on education has an influence on the human development index.

According to the results of the tests that have been done, it shows that the variable of government expenditure per education function has a positive impact on the Human Development Index on 34 provinces in Indonesia. This is in line with research conducted by (Merang Kahang, 2016; Mongan, 2019; Septiana M. M. Sanggelorang, 2015).

Conclusion

Based on the tests and discussions that have been carried out, it can be concluded that:
1. This research using the allocation of expenditure funds to economic functions in 2017, on the growth of the human development index in 2018 - 2020 to 34 provinces in Indonesia, shows that government spending according to economic functions has no influence on the growth of the Human Development Index.
2. This research using the allocation of expenditure funds to economic functions in 2017, on the growth of the human development index in 2018 - 2020 to 34 provinces in Indonesia, shows that government spending according to health functions has an influence on the growth of the Human Development Index.
3. Based on research using the allocation of expenditure funds to economic functions in 2017, on the growth of the human development index in 2018 - 2020 to 34 provinces in Indonesia, it shows that government spending according to the education function has an influence on the growth of the Human Development Index.

Implication

Based on the results of research conducted of government expenditure, implication can be found, namely:

- To improve the level of health in Indonesia, the government can pay attention to the budget issued, because based on research conducted it has been concluded that government spending has an influence on health. In addition, the government can also help such as immunization assistance to pregnant women and children, assist in medical services, provide adequate facilities. One of the efforts that has been made by the government is to provide health insurance, but the quality of service is still inadequate, so it needs to be improved from the quality of the service itself.
- In addition, this study also concluded that education is also influenced by government spending, meaning the quality of education in Indonesia. Education in Indonesia can be improved by increasing the number of qualified educators by conducting training, as well as providing welfare for education staff. Besides that, the government can also build schools in places that are still not reached so that areas that are not yet reached or advanced can still get a good education. Then the government also needs to pay attention to the education system in Indonesia, so the government does not only focus on financing the construction of schools but also the development of the existing education system in Indonesia because the education system in Indonesia is still very ineffective when compared to other developed countries.

Limitation

All data used in the research is data collected from official websites, namely the Directorate General of Taxes (DJP), and the Central Statistics Agency (BPS). The limitation in this study is the data related to the allocation of funds spent by each province in Indonesia in the education, health and economic sectors. Because based on data from the Central Statistics Agency (BPS), spending allocations for each province are not spelled out based on specific functions such as allocations to the education, health, and economic sectors. Whereas in the Directorate General of Taxes (DJP), the most recent data is in 2018 which also has deficiencies, namely there are provinces that are not covered in it. Meanwhile, in the annual reports issued by each province, most of these reports do not describe the allocation of funds issued based on their functions.

Recommendation

Based on the results of this study, there are several things that the researchers can suggest:
1. As an advice for the government to choose the right method or strategy in allocating expenditure budgets according to functions to be effective and on target.
2. In allocating expenditures, the government is expected to be able to increase the economic sector in the coming year, because the increase in government spending on the economic sector will make a positive albeit small contribution to the Human Development Index.
3. The government is also expected to be able to manage finances and provide budget increases in the education and health sectors optimally to be allocated to human development, especially in the fields of education and health so that the Human Development Index is increasing every year.
4. It is hoped that researchers can add other variables that can influence the allocation of government funds to the growth of the human development index.

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