

## The Effect of Local Government Spending For Education and Health on Grdp and Human Development Index in North Labuhanbatu District

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**ABSTRACT:** This study aims to analyze and determine the effect of government spending on education and health on GRDP and the human development index in North Labuhanbatu District. The data used in this research is secondary data in 2017-2021. The analysis tool used is path analysis. The software used to carry out the analysis is IBM SPSS Version 20. The results of the analysis show that an increase in government spending on education has a positive and insignificant effect on GRDP in North Labuhanbatu Regency. These results are in accordance with the hypothesis but not significant in terms of triggering an increase in GRDP. This could be due to the fact that educated graduates are still not optimal in absorbing labor in accordance with the demand for available jobs. The increase in government spending on health has a positive and significant effect on GRDP in North Labuhanbatu District. It can be concluded that there is a significant impact from the increase in the health sector budget spending on increasing GRDP in North Labuhanbatu Regency. Because GRDP will increase if everyone enjoys maximum health facilities.

**ABSTRAK:** Penelitian ini bertujuan untuk menganalisis dan mengetahui pengaruh pengeluaran pemerintah untuk pendidikan dan kesehatan terhadap PDRB dan indeks pembangunan manusia di Kabupaten Labuhanbatu Utara. Data yang digunakan dalam penelitian ini adalah data sekunder tahun 2017-2021. Alat analisis yang digunakan adalah analisis jalur. Perangkat lunak yang digunakan untuk melakukan analisis adalah IBM SPSS Versi 20. Hasil analisis menunjukkan bahwa peningkatan pengeluaran pemerintah untuk pendidikan berpengaruh positif dan tidak signifikan terhadap PDRB Kabupaten Labuhanbatu Utara. Hasil tersebut sesuai dengan hipotesis namun tidak signifikan dalam hal memicu peningkatan PDRB. Hal ini dapat terjadi karena lulusan terdidik masih belum optimal dalam menyerap tenaga kerja sesuai dengan permintaan lapangan kerja yang tersedia. Peningkatan pengeluaran pemerintah untuk kesehatan berpengaruh positif dan signifikan terhadap PDRB di Kabupaten Labuhanbatu Utara. Dapat disimpulkan bahwa terdapat pengaruh yang signifikan dari peningkatan belanja anggaran bidang kesehatan terhadap peningkatan PDRB di Kabupaten Labuhanbatu Utara. Karena PDRB akan meningkat jika semua masyarakat menikmati fasilitas kesehatan secara maksimal



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### INTRODUCTION

Human position has always been a central theme in any development achievement program. On an international scale, the Millennium Development Goals (MDG's) are known, which were agreed upon by world leaders at the 2000 Summit. The MDGs are the

commitment of the international community, especially developing countries, to the vision of development. This vision firmly places social and economic development in a sustainable manner. Nationally in recent years many programs or policies have been taken by the government to improve social and economic conditions. This policy is in accordance with the recommendations of the United Nations Development Program (UNDP) in the book "The Economics of Democracy: Financing Human Development in Indonesia" by emphasizing the need for more adequate aspects of financing for the poor to improve their quality of life (Maryani, 2010). Having superior quality in human resources is a moral responsibility that must be answered by the Indonesian nation (Astri et al, 2013). The Human Development Index (IPM) is one way to measure the success or performance of a country or region in the field of human development. HDI is a composite index covering three areas of human development which are considered very basic in terms of the physical and non-physical qualities of the population. Creating quality human resources requires various facilities and infrastructure. Therefore investment is needed to be able to create the formation of quality human resources, such as investment in the education and health sectors. Education and health aspects are fundamental development goals in a region. To support education and health aspects, a budget is needed. Therefore, government support is urgently needed in implementing aspects of education and health through government spending. Government spending can be used as a reflection of the policies taken by the government in a region. Government spending is used to finance the Important public sectors include the education sector and the health sector. Apart from the budgetary side, other factors that are considered important in increasing the HDI are the poverty rate and economic growth in the area. Poverty is another aspect that describes the quality of human life, namely a decent standard of living while high

economic growth is one of the development priorities of a country, which is one of the indicators of success in development

## **METHODS**

This research is used using descriptive and quantitative methods, namely research that describes a phenomenon that occurs carefully based on the characteristics and facts that occur. This type of quantitative descriptive research was chosen because the design in this study was to calculate and interpret the relationship and influence between the independent variables and the dependent variable. The data used in this study is quantitative data consisting of data on Government Expenditure in the Education and Health Sector, as well as GRDP at Current Prices (with oil and gas) and the human development index for North Labuhan Batu Regency in 2017 - 2021. Data collection was carried out using the study method literature, namely techniques for obtaining information through notes, literature, documentation, and others that are still relevant to this research. The data analysis method used is path analysis. Path analysis method is used to analyze the relationship pattern between variables. The purpose of path analysis is to determine the direct or indirect effect of a set of independent variables on the dependent variable. The influence on the path is shown by the path coefficient on each path diagram from the causal relationship between the independent variables on the dependent variable (Riduwan, 2013). Based on the conceptual framework, there are 2 (two) forms of equations that can be arranged, namely:

$$Y1 = rY1X1 + rY1X2 + \epsilon1$$

$$Y2 = rY2X1 + rY2X2 + rY2Y1 + \epsilon2$$

where:

X1 = Government Expenditures in the Sector of Education

X2 = Government Expenditures in the Health Sector

Y1 = Gross Regional Domestic Product

Y2 = Human Development Index

rr= regression coefficient  
 $\epsilon$  = Error

rationally defined in the previous chapter.  
 These data are as follows:

The data to be used in this study are in the form of variables that have been ope-

**Table 1.** Data Analysis of Government Expenditure in Education, Health Expenditures, GRDP and HDI in North LabuhanBatu 2017–2022

Year	Expenditure Education Sector (million )	Expenditure Health Sector (Million)	GRDP	HDI (%)
2017	135.26	91.84	21161.68	70.79
2018	145.53	106.76	22749.93	71.08
2019	160.53	113.56	24749.34	71.43
2020	165.72	114.9	23191.24	71.61
2021	169.64	114.92	27400.50	71.87

**RESULTS AND DISCUSSION**

**Test of Classical Assumptions Test of Classical Assumptions Education Sector Expenditure and Health Sector Budget Expenditures on GRDP**

**Multicollinearity Test**

Multicollinearity testing gives results as shown in the following table:

**Table 2:** Multicollinearity Test results

	Unstandardize d Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	std. Error	Betas	Q	Sig.	tolerance	VIF
1(Constant)	3377985		10234754		.330	.773	
Spending (X1)	172,297		185,881	1,057	.927	.452	.117 4,516
Spending (X2)	-58,041		273,166	-.242	-.212	.851	.117 4,516

Using the amount of *Tolerance*  $e (\alpha)$  and *variance factor* (VIF). If using alpha I *tolerance* = 5% or 0.5 then VIF = 5. From the large VIF output count <VIF = 5 and all tolerances of independent variables do not occur multicollinearity.

One measure in determining whether there is an autocorrelation problem with the Durbin-Watson Test (DW) is presented in the table below:

**Correlation Auto Test**

**Table 3.** Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	std. Error of the Estimate	Durbin-Watson
1	.833 <sup>a</sup>	.695	.389	1844.57144	2,739

a. Dependent Variable: GRDP

From the results process the above data got DW value test resulting from the regression model < 2 it can be concluded that the data

above does not occur positive autocorrection of the dependent variable.

**Test By Simultaneous**

**Table 4.** Test Results In Simultaneous

Model	Sum of Squares	df	MeanSquare	F	Sig.
1 Regression	15481156.834	2	7740578417	27,275	.000 <sup>b</sup>
residual	6804887570	2	3402443.785		
Total	22286044403	4			

a. Dependent Variable: GRDP

Based on the PDRB Annova table, the results of the analysis of the influence of budget expenditures in the education sector, budget expenditures in the health sector affect GRDP in North LabuhanBatu Regency simultaneously with a significance

$F_{count} > F_{table}$  or a significant value <0.05, then the hypothesis is accepted (rejecting  $H_0$  and received  $H_1$ ). Based on the results of the analysis, obtained  $F_{count}$  of 27,275 <0.05. Then the model deserves acceptance.

**Testing the Classical Assumptions of Education Sector Budget Expenditures, Health Sector Budget Expenditures and GRDP on the Human Development Index.**

**Multicollinearity Test**

**Table 5.** Multicollinearity Test

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	std. Error	Beta	t	Sig.	tolerance	VIF
(Constant)	66,911	.472		141,903	.000		
EDUCATIONAL EXPENDITURES	.035	.009	1,185	4,085	.055	.117	8,516
HEALTH EXPENSES	-.009	.013	-.210	-.726	.544	.117	8,516

a. Dependent Variable: HDI

Using the amount of Tolerance  $\alpha$  and

variance factor (VIF). If using alpha I tolerance = 5% or 0.5 then VIF = 5. From the large VIF output count <VIF = 5 and all tolerances of

independent variables do not occur multicollinearity.

**Autocorrelation Test**

**Table 6.** Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	std. Error of the Estimate	Durbin-Watson
1	.990 <sup>a</sup>	.980	.960	.08498	2,245

a. Dependent Variable: HDI  
From the results process the data above got the resulting DW test value from regression

model < 2 can concluded that the above data so no occur autocorrection positive from variable dependent

**Test By Simultaneous**

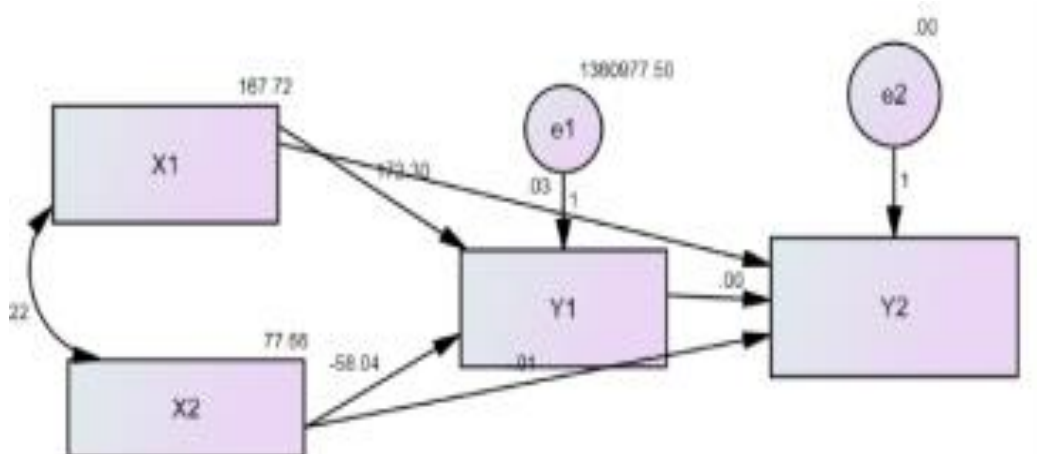
**Table 7.** Test Results In Simultaneous

Model	Sum of Squares	df	MeanSquare	F	Sig.
1 Regression	.716	2	.358	49,591	.000 <sup>b</sup>
residual	014	2	007		
Total	.731	4			

a. Dependent Variable: HDI

Based on the PDRB Annova Table, the results of the analysis of the influence of budget expenditures in the education sector, budget expenditures in the health sector affect GRDP in North LabuhanBatu Regency simultan-ously with a significance Fcount > Ftable or a significant value <0.05, then the hypothesis is accepted (rejecting H0 and accepting H1 ). Based on the results of the analysis, obtained Fcount of 49,591 <0.05. Then the model deserves acceptance.

From the results of the research that has been analyzed by starting from formulating the problem, making a model hypothesis to calculating the suitability of the structural model or testing the classical assumptions and calculating the causal effect between variables proportionally by calculating the direct and indirect effects of exogenous variables on endogenous variables, a diagram is obtained. The complete structural equation path in the research results is below:



The direct effect, indirect effect and total effect of the three independent variables carried out on variable Y can be shown. In the analysis of the Effect of Education Sector Budget Expenditure and Health Sector Budget Expenditures on GRDP (Y1), the coefficient of determination ( $R^2$ ) is 0.695.

## **Discussion**

### **The Direct Effect of Expenditure in the Education Sector (X1) on GRDP (Y1) in North Labuhanbatu Regency**

The effect of the variable of government spending on education on the GRDP index is positive. This is in accordance with theoretical expectations which can be seen from the value of the coefficient of determination ( $R^2$ ) of 0.695 so that it means that the model used is quite good, because the value of the coefficient of determination shows the large percentage contribution of the independent variable namely Education Expenditure (X1) to GRDP (Y1). Testing with the F test by looking at the effect simultaneously or together with the independent variable and the dependent variable can be seen by the  $F_{\text{calculated}}$  value that is greater than the  $F_{\text{table}}$  of 27,275 with a coefficient value of 0.00. It can be interpreted simultaneously or together that the education expenditure variable has a significant effect on GRDP in North Labuhanbatu Regency. The results of the analysis of the direct effect of Education Expenditures (X1) on GRDP (Y1) in North Labuhanbatu show the path coefficient between Education Expenditures on GRDP of 167.72, which means that the path has a positive and significant effect.

### **The Direct Effect of Expenditure in the Health Sector (X2) on GRDP (Y1) in North Labuhanbatu Regency**

The independent variable, namely Expenditure in the Health Sector on GRDP (Y1) in North Labuhanbatu Regency, can be seen from the value of the coefficient of determination ( $R^2$ ), which is equal to 0.960, which means that the model used is quite

good, because the value of the coefficient of determination shows the large percentage contribution of the independent variable, namely Expenditure Health Sector (X2) Against GRDP (Y1). Testing the F test is by looking at the effect simultaneously or together of the independent variables on the dependent variable, it can be seen that the  $F_{\text{calculated}}$  value is greater than the  $F_{\text{table}}$ . If seen from the ANOVA calculation, the  $F_{\text{count}}$  is 27,275 with a coefficient value of 0.00. It can be interpreted simultaneously or together that the variable of expenditure in the health sector (X2) to GRDP (Y1) in North Labuhanbatu shows that the path coefficient between expenditure in the education sector to GRDP is 77.66, which means that this pathway has a positive and significant effect.

### **The Direct Effect of Education Sector Expenditures (X1) on HDI (Y2) in North Labuhanbatu Regency**

The effect of the variable of government spending on education on the GRDP index is positive. This is in accordance with theoretical expectations which can be seen from the value of the coefficient of determination ( $R^2$ ) of 0.960, so it means that the model used is quite good, because the coefficient of determination shows the large percentage contribution of the independent variable, namely Education Expenditure (X1) to HDI (Y2).

Testing with the F test by looking at the effect simultaneously or together with the independent variable and the dependent variable can be seen by the  $F_{\text{calculated}}$  value that is greater than the  $F_{\text{table}}$  of 49,591 with a coefficient value of 0.00. It can be interpreted simultaneously or together that the education expenditure variable has a significant effect on GRDP in North Labuhanbatu Regency. The results of the analysis of the direct effect of Education Expenditures (X1) on HDI (Y2) in North Labuhanbatu show the path coefficient between Education Expenditures on GRDP of

172.30, which means that the pathway has a positive and significant effect

### **The Direct Influence of Expenditure in the Health Sector (X2) on HDI (Y2) in North Labuhanbatu Regency**

The effect of the variable government spending on health (X2) on the HDI index (Y2) is positive. This is in accordance with theoretical expectations which can be seen from the value of the coefficient of determination ( $R^2$ ) of 0.960, so it means that the model used is quite good, because the value of the coefficient of determination shows the large percentage contribution of the independent variable, namely Expenditures in the Health Sector (X2) to HDI (Y2).

Testing with the F test by looking at the effect simultaneously or together with the independent variable and the dependent variable can be seen by the  $F_{\text{calculated}}$  value that is greater than the  $F_{\text{table}}$  of 49,591 with a coefficient value of 0.00. It can be interpreted simultaneously or together that the education expenditure variable has a significant effect on GRDP in North Labuhanbau Regency. The results of the analysis of the direct effect of Health Sector Expenditure (X2) on HDI (Y2) in North Labuhanbatu shows the path coefficient between Education Expenditure to GRDP of -58.04, which means that the path has a positive and significant effect.

### **The Direct Effect of GRDP (Y1) on the HDI Level (Y2) in North LabuhanBatu Regency**

To find out the independent variable, namely GRDP to HDI (Y2) in North Labuhan batu district, it can be seen from the value of the coefficient of determination ( $R^2$ ) of 0.960 so that it can be interpreted that the model used is quite good, because the value of the coefficient of determination shows the large percentage contribution of the independent variable, namely GRDP (Y1) on variation (rise and fall) of the dependent variable, namely HDI (Y2).

The results of the analysis of spending on the Education Sector Budget, Health Sector Expenditures and GRDP on HDI in Labuhan Batu Utara Regency are carried out simultaneously with a significant  $F_{\text{Count}} > F_{\text{Table}}$  or a significant value  $< 0.05$ , accepted with significance then the hypothesis is accepted (reject  $H_0$  and accept  $H_1$ ). Based on the results of the analysis, it was obtained that the  $F_{\text{Count}}$  was 49,591 with a significance of 0.00. The results of the analysis of the direct effect of GRDP (Y1) on HDI show that the path coefficient between GRDP is 0.07, which means that the pathway has a positive and insignificant effect.

### **Indirect Effect of Expenditures on Education (X1) on HDI (Y2) Through GRDP (Y1) in North Labuhanbatu**

From the results of the indirect effect test, it was found that the effect of education expenditure (X1) on HDI (Y2) through GRDP (Y1) was 0.19. Expenditures in the education sector have a positive but not significant effect on HDI through GRDP. So the education sector spending on HDI through GRDP in North Labuhanbatu shows a positive and insignificant relationship. This shows that the existence of expenditure in the education sector has not made a real contribution or it can be said that the impact of budget expenditures has a significant impact on the development of HDI in North Labuhanbatu Regency.

### **Indirect Effect of Expenditure in the Health Sector (X2) on HDI (Y2) Through GRDP (Y1) in North Labuhan batu**

From the results of the indirect effect test, it was found that the effect of expenditure on the health sector (X2) on HDI (Y2) through GRDP (Y1) was 0.01. Expenditures in the Health Sector (X2) have a positive but not significant effect on HDI through GRDP. So spending on the Health Sector (X2) on HDI through GRDP in North Labuhanbatu shows

an insignificant relationship. This shows that the existence of Health Sector Expenditures (X2) has not made a real contribution or it can be said that the impact of budget expenditures has no significant impact on the development of HDI in North Labuhanbatu Regency.

## **CONCLUSION**

The increase in government spending on education has a positive and insignificant effect on GRDP in North Labuhanbatu Regency. These results are in accordance with the hypothesis but not significant in terms of triggering an increase in GRDP. This could be due to the fact that educated graduates are still not optimal in absorbing labor in accordance with the demand for available jobs. The increase in government spending on health has a positive and significant effect on GRDP in North Labuhanbatu Regency. It can be concluded that there is a significant impact from the increase in health sector budget spending on increasing GRDP in North Labuhanbatu Regency. Because GRDP will increase if all people enjoy maximum health facilities. The increase in government spending on education has a positive and insignificant effect on HDI in North Labuhanbatu Regency. It can be concluded that there is an impact from increasing budget spending in the education sector but it is still low in triggering an increase in HDI in North Labuhanbatu Regency. These results are in accordance with the hypothesis but not significant in terms of triggering an increase in the Human Development Index. Indeed, theoretically education is a way to increase HDI, but if government spending on education has not been able to significantly increase HDI. So it can be assumed that spending in the education sector is still insufficient to build a good HDI or is still not on target for the management of government spending in the education sector. The increase in government spending on health has a negative and insignificant effect on the HDI in North

Labuhanbatu Regency. It can be assumed that there is no significant impact from the increase in health spending on the increase in HDI in North Labuhanbatu Regency. The increase in GRDP has a positive and significant effect on HDI in North Labuhanbatu Regency. increase the HDI of North Labuhanbatu Regency. significantly. Because in the HDI there is a life expectancy index, an education index, and a liveability index, so the HDI is an indicator of why a city can do a good GRDP. An increase in Education Sector Budget Expenditure has no significant positive effect on an increase in HDI through a decrease in population growth in Labuhanbatu Regency North. however, the impact in terms of increasing HDI through reducing open unemployment, however, high budget spending to reduce HDI has proven to be influential but not significant when viewed through GRDP. The increase in Health Sector Budget Expenditures has a positive and significant effect on increasing HDI through increasing GRDP in North Labuhanbatu Regency. This means that there has been an impact in terms of increasing the HDI poverty rate through increasing population growth. This is because government spending in the health sector can already be felt by the community in order to increase the HDI in North Labuhanbatu Regency.

## **SUGGESTION**

Researchers provide some suggestions as following: Government spending on the education sector has no positive effect significant but has a close relationship between GRDP and HDI in North Labuhanbatu Regency, things can be interpreted budget expenditure in the education sector in North Labuhanbatu Regency has an impact on GRDP, but other expenditure budgets as well impact on GRDP and HDI in North Labuhanbatu Regency. so that the need for related agencies to oversee the use of these funds so that more on target. Government spending on the health sector also has a significant effect on the productivity of the people in North Labuhanbatu Regency,



according to theory relationship between government spending on health in moderate countries developing as Indonesia is experiencing a stage of development medium, where the government should provide more facilities public services such as health to increase economic productivity. Health facilities and health insurance must be designed in such a way by the government through government spending. The role of the government and the private sector must support each other in terms of increasing human capital which is an investment in human resources (HR) to trigger the acceleration of economic development in North Labuhanbatu District

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