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Analysis of Factors Affecting Human Development Index in Special Regional of Yogyakarta

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Abstract: This study analyzes the factors affecting the Human Development Index in the Special Regional of Yogyakarta. This study uses secondary data from the Central Bureau of Statistics (BPS) and the Regional Asset Financial Management Agency (BPKAD) in the Special Regional of Yogyakarta, namely Yogyakarta City, Sleman Regency, Bantul Regency, Kulon Progo Regency, and Gunung Kidul Regency in 2013- 2018. Meanwhile, the analysis tools used in the study used the Panel Data Method with the Fixed Effect Model approach. This study indicates that the Gross Regional Domestic Product (PDRB) and government spending in the health sector positively and significantly affect the Human Development Index. Government spending in the education sector has a negative and insignificant effect on the Human Development Index (HDI).

Keywords: Human Development Index (HDI); GRDP; Government Expenditures in the Education Sector; Government Expenditures in the Health Sector

JEL Classification: O15, R11

Introduction

Development is a means of community welfare. The development of a country effort is carried out consciously and institutionally. Then the development will be loaded with values, namely with the desire to create a better condition. (Rusli, 2014). Humans have a significant role in developing a country or region and are always associated with economic growth. If a country has quality human resources, it will contribute to economic growth.

Indonesia's national development aims to realize people's welfare. At present, development is more human-oriented. Human development where a person has the freedom to have a long and healthy life, know, and have a decent living standard. Humans have political freedom and have guarantees in human rights and their dignity (UNDP, 1990). To determine the success of a human-oriented development process, UNDP has developed the Human Development Index (HDI), which was first published in 1990.

In 2013 the Special Regional of Yogyakarta Human Development Index ranked well in Indonesia. However, this year there are quite a lot of problems in the education sector. For example, there are fees for books, uniforms, tutoring buildings, and other levies.

The school is still holding back the diploma, Even though this has violated the DIY Regulation Number 10 of 2013 concerning Guidelines for Education Funding. The problem of deducting the award money for students who won a competition and students with special needs was made it difficult to take the National Examination.

According to BPS, in 2018, the first ranking for the Human Development Index in Indonesia, namely DKI Jakarta, was 80.47, which was higher than the HDI level in Indonesia. Meanwhile, for the second rank, the Special Regional of Yogyakarta was 79.53.

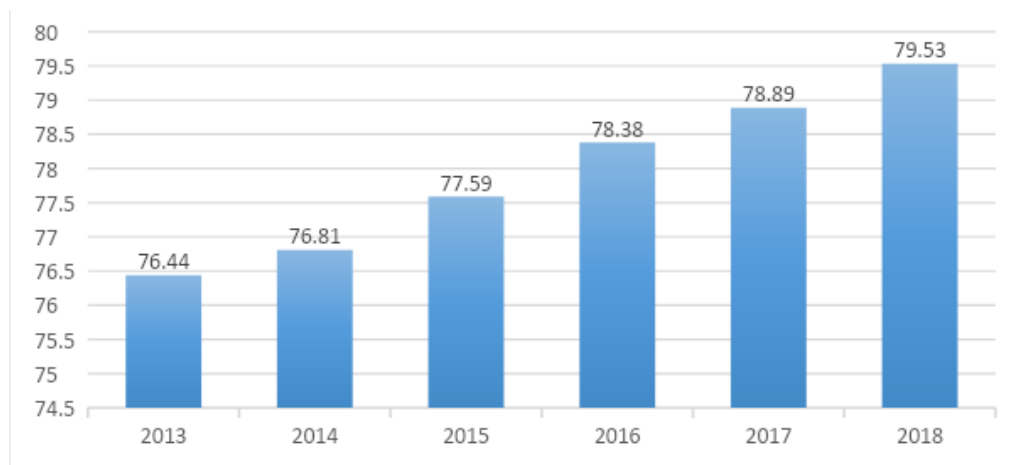


Figure 1 Development of the Human Development Index in Special Regional of Yogyakarta 2013-2018
Source: (BPS, 2018)

Based on Figure 1, the Human Development Index in the Special Regional of Yogyakarta varies and increases yearly. In 2013 the Development Index was 76.44. Then in the following year, it increased to 76.81. Lastly, in 2018 it was 79.53.

There are many discussions related to the human development index, but research on this index in the special region of Yogyakarta is still very minimal. So this research was conducted to fill the gaps in the literature. Based on the description above, the researcher is interested in researching the title "Analysis of Factors Affecting the Human Development Index in the Special Regional of Yogyakarta."

Previous research is conducted by previous researchers on the Human Development Index in national journals and international journals. With the existence of previous research so that the authors make the rationale for compiling the thesis. The following is previous research:

Basuki and Saptutyingsih (2016) researched "Analysis of Factors Affecting the Human Development Index 2008-2014 (Case Study of the District / City of DI Yogyakarta)". The variables used were per capita income, government spending in the health sector, government spending on public facilities, Gini ratio, number of poor people, and HDI. The method used is the Random Effect Model. This study's results show that the per

capita income variable does not significantly affect HDI. Then, government spending in the health sector has a significant effect on HDI. Next is government spending in public facilities has a positive relationship with HDI. The Gini ratio has a significant negative relationship with HDI, and lastly, the amount of the poor has a negative influence on HDI.

Dewi (2017) researched "The Effect of Poverty and Economic Growth on the Human Development Index in Riau Province," the variables used were: Poverty, Economic Growth, and HDI. The research method used is using multiple linear regression models, while the type of data used is cross-section data using SPSS. From these studies, it is found that poverty has a significant influence on the Human Development Index. As for economic growth, there was no effect found between economic growth on HDI for Riau Province.

Zainuddin (2015) conducted a study on "Analysis of the Impact of Inflation, GRDP and Minimum Regional Wages on the Community Human Development Index in Aceh Province," the variables used were: Inflation, GRDP, Regional Minimum Wage and HDI. This study used a longitudinal study and a quantitative cross-sectional study. The method used is a multiple linear regression model with the ordinary least square (OLS) method. This study shows that both the inflation, GRDP, and UMR variables affect the HDI in Aceh Province.

Putra (2018) researched "Analysis of the Effect of Poverty, Economic Growth and Unemployment on the Human Development Index (HDI) in Jambi Province in 2011-2015", the variables used are: poverty, economic growth, unemployment, and HDI. The data used is secondary data. The type of data used is panel data using the fixed-effect model method. The results of this study show that poverty influences the Human Development Index. Simultaneously, economic growth has no or negative influence on the Human Development Index, and unemployment positively affects the Human Development Index.

Muliza, Zulham, and Seftarita (2017) conducted a study on "Analysis of the Effect of Education Spending, Health Spending, Poverty Levels and GRDP on HDI in Aceh Province," the variables used were: HDI, Education Expenditures, Health Spending, Kemiskina, and GRDP. The data used is panel data which is a combination of time series data and cross-section data. While the methods used are common effects, fixed-effects models, and random-effects models. This study's results are that government expenditure in the education and health sector does not have a significant effect on HDI in the District / City of Aceh Province. The poverty level has a negative and significant effect on HDI in the District / City of Aceh Province. GRDP has a positive and significant effect on HDI in the District / City of Aceh Province.

Astuti (2018) researched "Analysis of Factors Affecting the Human Development Index in the Special Regional of Yogyakarta 2010-2016". The variables used are Human Development Index, Economic Growth, Poverty, Education, and Gini Index. The data used is panel data using the fixed effect models method. This study's results were that

the variables of economic growth and education had a significant effect on HDI. In contrast, the Gini variable had a significant and negative effect on the Human Development Index, and poverty did not significantly influence the Human Development Index.

Widodo, Irawan, Oktavianti, and Anisa (2019) (2019) researched "Government Spending On Education, Health And Minimum Wages As Predictors Of Human Development Index: Study Of Selected Provinces Of Indonesia," the variables used are Government Expenditure, Expenditure, Education, Health, Minimum Wages and Human Development Index. This study uses Panel Data and uses a random effect model. This study indicates that the minimum wage is the most important variable because it influences the Human Development Index. Simultaneously, expenditures such as education and health have a positive but insignificant effect on the Human Development Index.

Al-Nasser and Al-Hallaq (2019) researched "Impact Of Human Poverty On The Human Development Index In Jordan Within The Period 2003-2016". The variables used are Human Development Index and Human Poverty Index. The method used for this research is the Measurement Error Model (MEM). The study results indicate that human poverty harms the human development index, which means that decision-makers in Jordan must further improve policies and strategies to increase people's life expectancy, educational attainment, and income.

Asmita and Ruslan (2017) researched "Analysis Of Factors Affecting The Human Development Index of North Sumatra Province," the variables used are Poor Population, Government Health Expenditures, Education, Inequality in Income Distribution, GRDP, and Human Development Index. The data used in this study are panel data. Moreover, quantitative data, while the method used is the fixed effect model. This study's results indicate that the GDRP has a positive and significant effect on the Human Development Index in North Sumatra Province. The poor have a negative and significant effect on the Human Development Index in North Sumatra Province. While for government education expenditures, health and inequality of income distribution do not affect the Human Development Index in North Sumatra Province.

Wijayanto, Khusaini, and Syafitri (2015) researched "Analysis of the Influence of Health and Education Expenditure and Per Capita GRDP on Human Development Index (Study of Districts / Cities in East Java)," the variables used were: Government Expenditure on Health, Education, GRDP and Human Development Index. The data used is panel data with a quantitative approach, with the Fixed Effect Model method. This analysis shows that the government expenditure variables for health, education, and per capita GRDP significantly affect the Human Development Index in districts/cities in East Java.

Shah (2016) researched "Determinants Of Human Development Index: A Cross-Country Empirical Analysis," the variables used were: HDI, GDP, life expectancy index, literacy rate index, Gini index, fertility or fertility rates, inflation, CO2 emissions. The data used in this study are secondary, and the method used is multiple linear regression. The study

results show that GDP per capita, literacy rate, life expectancy at birth, Gini index, fertility rate, and CO₂ emissions significantly affect HDI. Whereas in a region-wise analysis, we can observe that Europe & Central Asia and Latin America & the Caribbean have higher human development indexes. In comparison, South Asia and Sub-Saharan Africa have lower human development indexes.

Diba, Fathorrazi, and Somaji (2018) research the title The Effect of Poverty, GRDP, and PAD on the Human Development Index in East Java with poverty variables GRDP, PAD, and human development index. From these studies, the variables of poverty, GRDP, and PAD have a significant effect on the human development index in 37 districts/cities in East Java.

Winarti (2014) by title Analysis of the Effect of Government Expenditure on Education, Poverty, and GDP on Indonesia's Human Development Index for the Period 1992-2012. The variables used are the human development index, government spending on education, poverty, and GDP. The results obtained from this study are that government spending in the education sector has a negative and insignificant effect on the human development index. In contrast, the GDP variable has a positive and significant effect on the human development index. The poverty variable has a negative and significant effect on the human development index in Indonesia.

Heka, Lapian, and Lajuck (2017) titled The Effect of Health and Education Government Expenditures on Human Development Index in North Sulawesi Province. The variables used are the human development index, government spending on education, and government spending in the health sector. From these studies, it can be concluded that government spending on education and health significantly affects the human development index in North Sulawesi Province.

Larasati (2018), with the title Analysis of the Effect of ZIS Fund Distribution, GRDP Per Capita, and Poverty on the Human Development Index (HDI) in Indonesia 2013-2016 with the human development index variables, ZIS, per capita GRDP, and poverty. From these studies, ZIS and GRDP have a positive and significant effect on the human development index, while poverty harms the human development index.

Research Method

Object of Research

The object used for this research is the Human Development Index in all districts or cities in the Special Regional of Yogyakarta, which consists of:

1. Kulon Progo Regency
2. Bantul Regency
3. Gunung Kidul Regency
4. Sleman Regency
5. Yogyakarta City

Types and Sources of Data

The type of data used in this study is secondary data. The timeframe used was from 2013 to 2018 with a cross-section of districts and cities in the Special Regional of Yogyakarta.

Meanwhile, the data sources used in the study came from the Central Bureau of Statistics (BPS), the Regional Planning and Development Agency (BAPPEDA) in the Special Regional of Yogyakarta, the Regional Financial and Asset Management Agency (BPKAD), and several other books and journals related to this research.

Operational Definition of Research Variables

The following is an operational definition of each variable in the study, namely:

1. Human Development Index

The Human Development Index (HDI) is used to achieve human development based on several essential quality of life components. The Human Development Index (HDI) has three basic dimensional approaches: long and healthy life, knowledge, and decent life. Moreover, several HDI components: life expectancy, literacy rate, the average length of schooling, and adjusted real per capita expenditures.

2. Gross Regional Domestic Product

Gross Regional Domestic Product (PDRB) is the amount of added value obtained from all business units in a particular region or region. GRDP is the total value of the final goods and services produced by all economic activities in an area or region during a specific period.

3. Government Expenditure

Government spending is part of fiscal policy, which is the government's attempt to regulate the course of a country's economy by determining how much government revenue and expenditure each year. Government revenues and expenditures are recorded in the National State Budget (APBN) document and the Regional Budget (APBD).

Hypothesis Testing and Data Analysis

The analysis used in this research is an econometric approach with the Panel Data method, which is time series data and cross-section data—assisted by an application to analyze, namely Eviews 7.0. The panel data regression model has many sequences, including three approaches or models, namely, the Pooled Least Square Model (Common Effects Model). The second is the Fixed Effects Model, and the third is the Random Effects Model. Then determine the appropriate model for use in processing

panel data, including the F Statistical Test (Chow Test) and the Hausman Test. In the last stage, the Classical Assumption Test uses the Multicollinearity Test, Heteroscedasticity Test, and Statistical Test, namely the t-Statistical Test, F-statistic test determination coefficient test (R2) (Basuki, 2017). (Basuki, 2017) Panel data regression model:

$$Y = \alpha + b_1X_{1it} + b_2X_{2it} + b_3X_{3i} + e$$

Information:

- Y = Human Development Index
- α = Constant
- X1 = GRDP
- X2 = Government spending on education
- X3 = Government spending in the health sector
- b (1 ... 3) = The regression coefficient for each independent variable
- e = *Error term*
- t = Time
- i = Special Regional of Yogyakarta

Result and Discussion

Data Quality Test

Multicollinearity Test

The multicollinearity test results from the multiple regression model's independent variables finding a correlation (correlation) between one another. If the smaller the relationship between the independent variables, the better the regression model will be (Basuki & Saptutyningasih, 2016).

Table 1 Multicollinearity Test Results

	LOG (PDRB)	LOG (PPP)	LOG (PPK)
LOG (PDRB)	1,000000	-0.201922	0.077645
LOG (PPP)	-0.201922	1,000000	0.476731
LOG (PPK)	0.077645	0.476731	1,000000

Sources of Data Processed Eviews 10

From Table 1, it can be seen that the results of the Multicollinearity Test show that the data used is free from multicollinearity problems. If the independent variable's value is smaller than 0.85, then the data is free from multicollinearity problems.

Heteroscedasticity Test

Heteroscedasticity is the unconformity of variants of the residuals for all observations in the regression model and is used to know any deviations from the regression model's

classic assumption requirements. The regression model must meet the absence of heteroscedasticity (Basuki & Yuliadi, 2017).

Table 2 Heteroscedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.008055	0.274894	-0.029302	0.9769
LOG (PDRB)	-0.001337	0.011840	-0.112931	0.9111
LOG (PPP)	0.011150	0.008912	1.251067	0.2241
LOG (PPK)	-0.008889	0.010227	-0.869210	0.3941

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From Table 2, it can be seen that the results of the Heteroscedasticity Test are that the data used are not affected by heteroscedasticity problems because the data above shows a probability value that is more than 0.05.

Best Model Analysis

The analysis on the panel data model using three types of approaches, namely the small square approach (Ordinary / Pooled Least Square), the fixed effects approach (Fixed Effect), and the random effects approach (Random Effect).

Table 3 Panel Data Regression Results

Dependent Variable	Model		
	Common Effect	Fixed Effect	Random Effect
Human Development Index			
Constant	2.759112	3.547262	3.710423
Standard Error	0.374235	0.138206	0.132329
Probability	0.0000	0.0000	0.0000
LOG (PDRB)	-0.021843	0.019568	0.000577
Standard Error	0.002403	0.005953	0.004425
Probability	0.0000	0.0034	0.8973
LOG (PPP)	0.001527	-0.005085	-0.006910
Standard Error	0.007644	0.004481	0.004353
Probability	0.8432	0.2687	0.1245
LOG (PPK)	0.076520	0.020013	0.030745
Standard Error	0.016674	0.005142	0.004625
Probability	0.0001	0.0008	0.0000
R2	0.790645	0.991825	0.528182
Statistics	3,750687	5.036026	1.182147
Probability	0.000000	0.000000	0.000045
Durbin-Watson stat	0.553255	1,664,526	1,105,972

Data Sources Processed Eviews 10

For each model, the independent variable of Gross Regional Domestic Product (GRDP), Government Expenditure on Education (PPP), and Government Expenditure on Health (PPK) produce probabilities that are most significant or less than 0, 05. However, after two tests were carried out, namely the Chow test and the Hausman test, to determine the estimation model, the best model to be used was the Fixed Effect model. Moreover,

after testing the classical assumptions using the Fixed Effect model, the data used has passed or been free from multicollinearity and heteroscedasticity problems.

Selection of Panel Data Testing Methods

Chow Test

Chow test is a test used to determine which Common Effect or Fixed Effect model is best for estimating panel data.

Table 4 Chow Test Results

Redundant Fixed Effects Tests			
Equation: Untitled			
Fixed effects cross-section test			
Effects Test	Statistics	df	Prob.
Cross-section F	160.951159	(4.22)	0.0000
Chi-square cross-section	102.298615	4	0.0000

Data Sources Processed Eviews 10

Table 4 shows that the probability value of the Chi-Square cross-section is 0.0000, which means less than 0.05 so that H_0 is rejected and H_1 is accepted. Moreover, the Chow test produces the chosen model, namely the Fixed Effect model.

Hausman Test

The Hausman test is a test used in determining whether the Fixed Effect or Random Effect models are useful for estimating panel data.

Table 5 Hausman Test Results

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Cross-section random effects test			
Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Random cross-section	26.473269	3	0.0000

Data Sources Processed Eviews 10

Based on Table 5, the Hausman results test the probability value of *Random cross-section*, which is equal to 0.0000 and indicates that the probability value is less than 0.05 so that H_0 is rejected and H_1 is accepted. So the model used is the Fixed Effect model.

Estimation Result of Panel Data Regression Fixed Effect Model

After doing two tests to choose the best model by comparing the best values used in the regression model, namely the Fixed Effect Model. Below are the results of data estimation with the number of studies of 5 districts/cities in the period 2013-2018 (6 years):

Table 6 Fixed Effect Model Estimation Results

Dependent Variable Human Development Index	Fixed Effect Model
Constant	3.547262
Standard Error	0.138206
Probability	0.0000
LOG (PDRB)	0.019568
Standard Error	0.005953
Probability	0.0034
LOG (PPP)	-0.005085
Standard Error	0.004481
Probability	0.2687
LOG (PPK)	0.020013
Standard Error	0.005142
Probability	0.0008
R2	0.991825
Statistics	5.036026
Probability	0.000000
Durbin-Watson stat	1,664,526

Data Sources Processed Eviews 10

Table 6 shows the panel data analysis model on the factors that affect the Human Development Index (HDI) in each district/city in the Special Regional of Yogyakarta.

Statistic Test

The statistical test serves to find out what is significant or insignificant. In this study, the statistical tests used were the F-statistical test, the T-statistic test, and the determination coefficient (R-Square).

F-statistic Test

The F test in this research is a test used to see how much influence the gross regional domestic product, government spending on education, and government spending in the health sector have on the human development index in 2013-2018 together or stimulant.

Table 7 F-Statistical Test Results

Cross-section fixed (dummy variables)			
R-squared	0.993798	Mean dependent var	4.338671
Adjusted R-squared	0.991825	SD dependent var	0.085057
SE of regression	0.007691	Akaike info criterion	-6.674427
Sum squared resid	0.001301	Schwarz criterion	-6.300774
Log-likelihood	108.1164	Hannan-Quinn criter.	-6.554892
F-statistic	503.6026	Durbin-Watson stat	1.664526
Prob (F-statistic)	0.000000		

Data Sources Processed Eviews 10

Based on the results of data processing above the F-statistical probability value, namely 0.000000 and significant at the 5% (0.05) significant level where the variable Gross regional domestic product, government spending on education, and government spending on health together affect the human development index in districts/cities of the Special Regional of Yogyakarta in 2013-2018.

T-statistic Test

The T-test is a test that can show the influence of each independent variable on the dependent variable. If the T-Statistical test's probability value is less than 0.05, then each independent variable affects the dependent variable. Likewise, if the T-statistic test's probability value is more than 0.05, each independent variable does not influence the dependent variable.

Table 8 T-Statistical Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG (PDRB)	0.019568	0.005953	3,287 300	0.0034
LOG (PPP)	-0.005085	0.004481	-1.134783	0.2687
LOG (PPK)	0.020013	0.005142	3.892309	0.0008
C	3.547262	0.138206	25.66645	0.0000

Data Sources Processed Eviews 10

Based on Table 8, it can be seen that each independent variable has a different effect on the dependent variable.

Variable Gross Regional Domestic Product (GRDP)

In the gross regional domestic product variable, it can be seen the results of the t-statistic of 3.287300 and has a probability value of 0.0034 where the probability value is smaller than the α (0.05). It means that the gross regional domestic product variable significantly affects the human development index variable in the Special Regional of Yogyakarta. While the coefficient value of the gross regional domestic product variable is 0.019568 and positive, the gross regional domestic product variable has a positive and significant effect on the human development index in the Special Regional of Yogyakarta, and the hypothesis is accepted.

Variable of Government Expenditure in Education Sector

In the variable government expenditure in the education sector, the T-Statistics result is obtained at -1.134783. It has a probability value of 0.2687 where the probability value is more than α (0.05). The variable government spending in the education sector does not significantly affect the development index people in the Special Regional of Yogyakarta. Meanwhile, the coefficient value for the variable government spending in the education sector has a negative sign. It is -0.005085, which means that the variable government spending in the education sector has a negative and insignificant effect on the human development index in the Special Regional of Yogyakarta, so the hypothesis is rejected.

Health Sector Government Expenditure Variable

In the government expenditure variable in the health sector, the result of the t-statistic is 3.892309. It has a probability value of 0.0008, where the probability value is smaller than the value of α (0.05). The health sector's government expenditure variable has a significant effect on the human development index variable in the Special Regional of Yogyakarta. Meanwhile, the coefficient value of the government expenditure variable in the health sector is 0.020013. It is positive, which means that the government spending variable in the health sector positively and significantly affects the Special Regional of Yogyakarta's human development index. The hypothesis is accepted.

Coefficient of Determination (R-Square)

The coefficient of determination test (Adj R²) shows how much influence all the independent variables have on the dependent variable. In the test of the coefficient of determination (R²) used in the regression equation, Adjusted R-Square. The value of determination has a value between zero and one. At the coefficient of determination (R²), the relationship between the dependent and independent variables is getting more robust if it approaches number one. However, if the coefficient value is small, the independent variable's ability to explain the dependent variable is limited.

Table 9 Result of the coefficient of determination

Cross-section fixed (dummy variables)			
R-squared	0.993798	Mean dependent var	4.338671
Adjusted R-squared	0.991825	SD dependent var	0.085057
SE of regression	0.007691	Akaike info criterion	-6.674427
Sum squared resid	0.001301	Schwarz criterion	-6.300774
Log-likelihood	108.1164	Hannan-Quinn criter.	-6.554892
F-statistic	503.6026	Durbin-Watson stat	1.664526
Prob (F-statistic)	0.000000		

Sources Processed Eviews 10

Based on the regression above results for the variable gross regional domestic product, government spending in education, and government spending on health in the districts/cities of the Special Regional of Yogyakarta in 2013-2018, the Adjusted R-Square value is 0.991825. It means 99.1% of the human development index is influenced by gross regional domestic product, government spending on education, and government spending on health. Meanwhile, 0.9% is influenced by other variables besides the gross regional domestic product variable, government spending on education, and government spending on health.

Discussion

The results of data processing the probability value of F-statistics, namely 0.002603 and significant at the 5% (0.05) significant level where the variable Gross regional domestic product, government spending on education, and government spending on health

together affect the human development index in districts/cities of the Special Regional of Yogyakarta in 2013-2018.

The regression results show that the Adjusted R-Square value for the variable gross regional domestic product, government spending in education, and government spending in the health sector in the districts/cities of the Special Regional of Yogyakarta 2013-2018 obtained an Adjusted R-Square value of 0.991825. It means 99, 1% of the human development index is influenced by gross regional domestic product, government spending on education, and government spending on health. Meanwhile, 0.9% is influenced by other variables besides the gross regional domestic product variable, government spending on education, and government spending on health.

The following is a discussion of each variable according to the results of the partial test, namely:

Effect of Gross Regional Domestic Product (GRDP) on Human Development Index (HDI) in Special Regional of Yogyakarta

From the results of the above research, it can be seen that the coefficient value of the gross regional domestic product variable is 0.019568 and is positive. At the same time, the probability value is 0.0034. The gross regional domestic product variable has a positive and significant effect on the Special Regional of Yogyakarta's human development index in 2013. -2018. From the coefficient results, it can be interpreted that if the gross regional domestic product is increased by 1 percent, the human development index in the Special Regional of Yogyakarta will increase by 0.019 percent, assuming that other independent variables remain. Moreover, it can be concluded that the gross regional domestic product variable influences the human development index in the Special Regional of Yogyakarta. Moreover, this is under the hypothesis, then the hypothesis is accepted.

The high gross regional domestic product will later affect the public's consumption patterns and purchasing power. The high level of purchasing power in the community will impact the human development index because people's purchasing power is one of the combined indicators in the human development index. Thus, GRDP plays a significant role in the growth of the human development index.

The Effect of Government Expenditures in the Education Sector on the Human Development Index (HDI) in Special Regional of Yogyakarta

From the results of the above research, it can be seen that the variable Government Expenditure in the Education Sector has a coefficient value of -0.005085, which is negative, and a probability value of 0.2687. It can be interpreted that the variable government spending in education has a negative and insignificant effect on the human development index. In the Special Regional of Yogyakarta in 2013-2018. From the regression coefficient results, it can be interpreted that if government spending in the education sector is increased by 1 percent, it will reduce the human development index

by 0.005 percent, assuming the other independent variables are fixed. Moreover, it can be concluded that the variable government spending in the education sector has a negative and insignificant effect on the human development index in the education sector in the Special Regional of Yogyakarta. Moreover, this is not under the hypothesis. Then the hypothesis is rejected.

Government spending on education has an essential role in increasing the human development index. If the community level is low, it will affect the low productivity and average wages of work not to complete their daily needs. The budget for education from the government is at least 20% in the APBN. However, based on the above results, government spending on education negatively affects the Special Regional of Yogyakarta's human development index. It can be seen in Table 10 regarding the average length of schooling in districts/cities in the Special Regional of Yogyakarta, as follows

Table 10 Average Length of Schooling in the Special Regional of Yogyakarta

Regency / City	Year					
	2013	2014	2015	2016	2017	2018
Yogyakarta City	15.89	15.97	11.41	11.42	11.43	11.44
Sleman Regency	10.03	10.28	10.3	10.64	10.65	10.66
Bantul Regency	8.72	8.74	9.08	9.09	9.2	9.35
Kulon Progo Regency	8.02	8.2	8.4	8.5	8.64	8.65
Gunung Kidul Regency	6.22	6.45	6.46	6.62	6.99	7
Special Regional of Yogyakarta	8.72	8.84	9	9.12	9.19	9.32

Source of the Central Statistics Agency

Based on Table 10, it can be seen that the average length of schooling in the Special Regional of Yogyakarta Province has increased, but the increase that occurs each year is not too large. In 2018 the Special Regional of Yogyakarta with an average length of schooling was 9.32 years. It means that, on average, people in the Special Regional of Yogyakarta who are 25 years of age and over has studied for 9.32 years or grade 3 JHS. The average length of schooling in the Special Regional of Yogyakarta is that there are still areas where the population with the level of education taken is still relatively low and still not under the 12-year compulsory education program. The low average number of years of schooling in the Special Regional of Yogyakarta is due to the public's lack of interest to continue their education to a higher level. Apart from that, there are economic factors that people in remote areas usually experience. So that government spending can be distributed evenly to ensure 12 years of compulsory education in each region. If the government budget for education can be distributed evenly, it will impact reducing inequality from education in the Special Regional of Yogyakarta.

The Special Regional of Yogyakarta is very well known as the "City of Students." However, the average length of schooling is still low and not under the government's 12-year compulsory education program. The education budget in the Special Regional of Yogyakarta has increased every year. It is better if the education budget is used for

physical development and used to increase human resources quality. Teachers are given training to improve teacher quality, given foreign language training such as English for teachers and students. Currently, English is significant. Books are added in the school library. They are provided with supporting teaching aids and computers in every school because computers are essential in the 4.0 era.

The Effect of Government Expenditures in the Health Sector on the Human Development Index (HDI) in Special Regional of Yogyakarta

From the results of the research above, it can be seen that the coefficient value of the variable government expenditure in the health sector is 0.02 and is positive. While the probability value is 0.0008, so it can be interpreted that the variable government spending in the health sector has a positive and significant effect on the human development index in the Special Regional of Yogyakarta. 2013-2018. From the results of this coefficient, it can be interpreted that if government spending in the health sector is increased by 1 percent, the human development index in the Special Regional of Yogyakarta will increase by 0.02 percent, assuming that other independent variables remain. Moreover, it can be concluded that the variable government spending in the health sector influences the human development index in the Special Regional of Yogyakarta. Furthermore, this is under the hypothesis, then the hypothesis is accepted. Government spending on health is expected to increase life expectancy, which is used to determine human development. Health also plays an essential role in improving people's welfare if the high level of health will impact high labor productivity.

Conclusion

Based on the research results that have been conducted by researching five districts/cities in the Special Regional of Yogyakarta, the independent variable used is Gross Regional Domestic Product (GRDP). Government Expenditure on Education and Government Expenditure on Health. The regression model used on the date panel is the fixed effect, so the results of the research in the previous chapter can be summarized as follows; Variable Gross Regional Domestic Product (GRDP) has a positive and significant effect on the Human Development Index (HDI) in the Special Regional of Yogyakarta. The Government Expenditure Variable in the Education Sector negatively affects the Human Development Index in the Special Regional of Yogyakarta. Government spending on health has a positive and significant effect on the Human Development Index in Special Regional of Yogyakarta.

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