

The Effect of Government Expenditure on Education, Health and Road Infrastructure Sector on Human Development Index in Kabupaten Sidoarjo



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ABSTRACT: Human development in East Java continues to grow, one of which is Kabupaten Sidoarjo. The Kabupaten Sidoarjo Human Development Index (HDI) in 2021 is ranked 4th in East Java. The Human Development Index in Kabupaten Sidoarjo has experienced a good increase every year. With this increase, a study was conducted that aims to determine and analyze the effect of government spending in the education, health and infrastructure sectors on the human development index in Kabupaten Sidoarjo. This research was conducted in Kabupaten Sidoarjo by collecting and processing periodic human development index data from 2011-2022 (12 years). The approach is done using descriptive quantitative. For data analysis methods using classical assumption tests, regression analysis and hypothesis testing. From the results obtained that government spending in the education and health sectors has a significant effect and a positive relationship while the infrastructure sector has no significant and positive effect on the value of HDI in Kabupaten Sidoarjo in 2011-2022.

KEYWORDS: Human Development Index, Government Spending, Education Sector, Health Sector, Infrastructure Sector

I. INTRODUCTION

Development is a means used in order to achieve the nation's goals, while economic growth is a measure that can be used in seeing how successful a country's development is. To measure the success of development using the Human Development Index (HDI). The HDI is a measurement tool utilized in evaluating the quality of human development, both in the context of its impact on physical aspects of humans such as welfare and health, as well as non-physical aspects such as cognitive. Every year, the Human Development Index (HDI) value in Sidoarjo district has increased. This increase is due to per capita expenditure, health and education.

Education is part of the human development process that is crucial in promoting human progress. Through education, people are able to learn knowledge, increase their creativity and learn to develop their own abilities. In the context of the discussion on government spending in the education sector in Kabupaten Sidoarjo, the main objective is to evaluate achievements in the education sector and also to assess the government's performance in efforts to improve the welfare of its people. In an effort to improve the Human Development Index (HDI), the Kabupaten Sidoarjo government provides a scholarship program that will help underprivileged people in the district.

An equally important aspect of human development is health. Good health, if possessed by the entire community, will lead to a good growth rate and create a superior section of society. In relation to development efforts in the health sector, the Sidoarjo district government has implemented various programs with the aim of improving the quality of public health. This includes providing easier access to health services through puskesmas and hospitals. Government spending on health increased compared to the previous year, indicating that Kabupaten Sidoarjo health development is showing positive signals to always improve the welfare of its citizens.

Quality human growth is inseparable from the important role of Human Resource (HR) mobility. The availability of good road infrastructure, including highways and expressways, greatly aids the development of communities in the region, especially in terms of enhancing local trade or business activities, which will thrive better thanks to the smooth mobility of goods and services. (Al et al., 2022). Government spending on road infrastructure tends to fluctuate in Kabupaten Sidoarjo.

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The Human Development Index in Kabupaten Sidoarjo has experienced a good increase every year, and is also classified as high. However, government spending on the infrastructure sector tends to fluctuate. Therefore, the purpose of this study was conducted to determine and analyze the effect of government spending in the education, health and road infrastructure sectors on the Human Development Index in Sidoarjo. What is the impact of government spending on the Human Development Index in Kabupaten Sidoarjo

II. LITERATURE REVIEW

A. Human Development Index (HDI)

One sign of a country's success in achieving progress is human development. In addition to gross domestic income, a country's progress can be measured through variables such as average life expectancy, health levels, and education levels. In his opinion, human development is an effort to give people more opportunities to live a decent life, which can usually be realized by increasing purchasing power and basic capabilities (Tjodi et al., 2019).

Based on information from the Central Bureau of Statistics (BPS), HDI has a number of benefits, including:

1. The HDI serves as an important indicator to assess success in improving the quality of human life (both society and population).
2. HDI is able to provide an overview of the level or ranking of development of a country or region, so that it can be compared and assessed.
3. HDI also has strategic value in Indonesia because of its function as a tool to assess government performance and as a component that influences the distribution of the General Allocation Fund (DAU).

B. Government Expenditure

Government spending is referred to as public spending because it aims to support government programs to provide public services. Referring to the rules on the Implementation of Law Number 25 of 2009 concerning Public Services (2012) as contained in Government Regulation (PP) Number 96 of 2012, it is briefly explained that public services are activities or a series of activities aimed at meeting the service needs of every resident and citizen as the rule of law. This includes services, goods, and/or administrative services that public service providers provide. According to government regulations, there are three types of services provided by the Indonesian government to the general public, namely: administrative, public services, and public goods (Candra et al., 2022).

C. Education Sector Government Expenditure

The government's spending quota on education can be used to partially build schools, equip educational facilities such as technology, increase teacher services and provide scholarships to underprivileged and underachieving communities. This situation can have an impact on human development. When more people go to college, the literacy rate of the society increases, which affects the Human Development Index. The more people who the more education support from government, the more knowledge and skills people have. As a result, they have a greater chance of obtaining jobs that generate higher salaries. This can increase per capita income and have a positive impact on the Human Development Index (Wahyuni & B, 2023).

D. Government Health Sector Expenditure

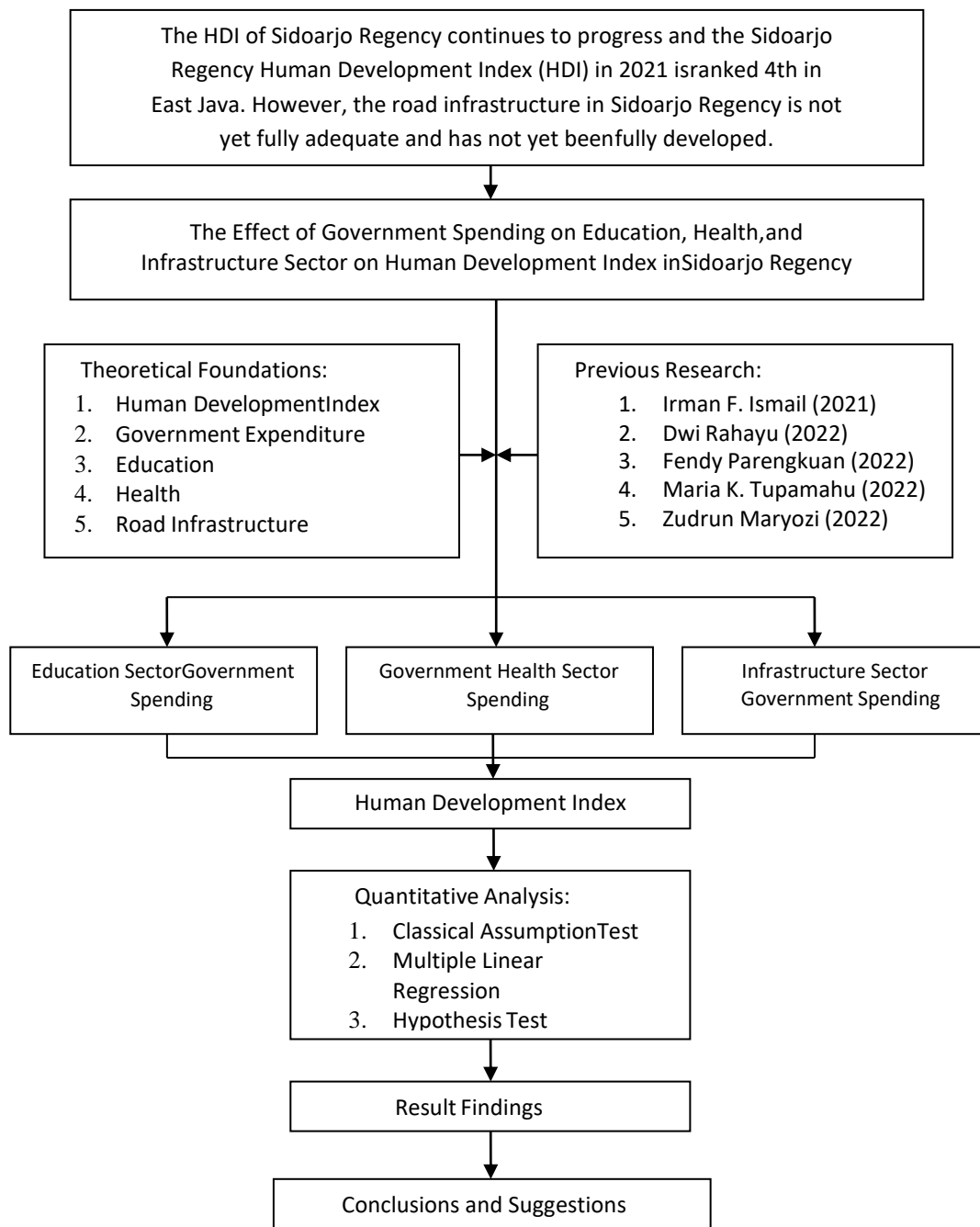
The human development index figure is also influenced by the government budget sector towards health allocations. The government's health budget can be used to build hospitals/community health centers, health facilities and improve health services for the community. So that people can easily get access to treatment. Public health and life expectancy can increase, thus affecting the human development index (Wahyuni & B, 2023).

E. Government Spending on Road Infrastructure Sector

Infrastructure is a collection of facilities created or required by government agencies to assist administrative operations in providing services such as water, electricity, waste management, transportation, and more. This is done to support economic and social goals. As an essential component of the production process, infrastructure has effects that can impact the economy, either directly or indirectly. This is not limited to production activities that generate output and employment, but also affects the smoothness and efficiency of economic activities in other areas as explained by Kodoatie in (Mahulauw et al., 2022).

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Frame of Mind



III. RESEARCH METHODOLOGY

A. Subjects and Objects Research

The subject of this research is Sidoarjo Regency government expenditure contained in the Sidoarjo Regency Statistics Agency in 2011-2022. In addition, the object of this research is government spending in the education sector, government spending in the health sector, and government spending on road infrastructure on the Human Development Index.

B. Data Collection Technique

The research method used is quantitative, using time series data, namely 2011-2022. This research data is taken using documentation, which is collecting relevant reports, documents, or records provided by related institutions. This study uses data from the Sidoarjo Regency Central Bureau of Statistics report by looking at the realization of Sidoarjo Regency expenditure.

C. Data Analysis Technique

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The data was analyzed using multiple linear regression. Multiple linear regression analysis is used to see the relationship between the dependent variable (dependent variable) and the independent variable (independent variable) whether there is an interrelationship between variables or not. In general, the multiple linear regression equation is as follows:

- HDI** = $\beta_1 + \beta_2 \text{ PPSP} + \beta_3 \text{ PPSK} + \beta_4 \text{ PPSI}$
- HDI = Human Development Index
- PPSP = Education Sector Government Expenditure
- PPSK = Health Sector Government Expenditure
- PPSI = Infrastructure Sector Government Expenditure
- β_1 = Constant Value
- β_2 = Regression coefficient
- Ui = Standard Error

IV. RESULTS AND DISCUSSIONS

A. Classical Assumption Test Results

The analysis is used to evaluate the presence of such problems in the regression model *Ordinary Least Square (OLS)* Here are the test results:

1. Multicollinearity Test Results

Table 1. Multicollinearity Test Results

Variables	Centered VIF
PPSP	1.586647
PPSK	1.494698
PPSI	1.088335

Source: Eviews 10 processed

Based on the table above shows the Variance Inflation Factor (VIF) with a value of <10, the results of the PPSP variable are 1.58, PPSK 1.49, PPSI 1.083. It can be said that there is no multicollinearity in this study.

2. Autocorrelation Test Results

Table 2. Autocorrelation Test Results

	-Watson
1	1.769822

Source: Eviews 10 processed

From the table above, it shows that the DW value is in the middle, namely $D_u < DW < 4 - D_u$ or $1.8640 < 1.804 < 2.136$, meaning that the regression model is free from autocorrelation.

3. Heteroscedasticity Test Results

Table 3. Heteroscedasticity Test Results

	Chi Square (9)
White test	0.2368

Source: Eviews 10 processed

The test uses the White Test model with the provisions > 0.05 . The test results show $0.2368 > 0.05$, so this study does not occur heteroscedasticity.

4. Normality Test Results

Table 4. Normality Test Results

	-Bera (JB)
Jarque-Bera	0.530642

Source: Eviews 10 processed

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Based on the table above, it shows the JB value > 0.05 , namely $0.530 > 0.05$. This means that the data in the study is normally distributed.

B. Hypothesis Proving

The hypothesis used is the t test (partial):

1. Test t (Partial)

Table 5. Results of the t-test

Variables	t-table(0.05)	t-count	Probability
X1 (PPSP)	2.27E-10	1.83311	0.0102
X2 (PPSK)	4.29E-10	1.83311	0.0405
X3 (PPSI)	5.23E-12	1.83311	0.4718

Source: Eviews 10 processed

The value of the independent or independent variable must be smaller than 0.05 (< 0.05). The following explanation of the table above shows that:

- In variable X1 on Y, it is known that $t\text{-table} > t\text{-count}$, namely $2.27E-10 > 1.83311$ with a significant value of $0.01 < 0.05$, then variable X1 government expenditure in the education sector has an effect on the Human Development Index.
- In the X2 variable on Y, it is known that the $t\text{-table} > t\text{-count}$ is $4.29E-10 > 1.83311$ with a significant value of $0.04 < 0.05$, so the X2 variable of government expenditure in the health sector has an effect on the Human Development Index.
- In the X3 variable on Y, it is known that the $t\text{-table} < t\text{-count}$, namely $5.23E-12 < 1.83311$ with a significant value of $0.047 > 0.05$, so the X3 variable of government expenditure in the road infrastructure sector has no effect on the Human Development Index.

2. F test (simultaneous test)

F prob value $0.001262 < 0.05$ then H_0 is rejected and H_1 is accepted. This shows that the variables of government spending in the education sector, government spending in the health sector, and government spending in the road infrastructure sector simultaneously have a significant effect on HDI in Sidoarjo Regency.

Test Results of the Coefficient of Determination (R^2)

Table 6. Test Results of the Coefficient of Determination (R^2)

Model	nt
R-squared	024
Adjusted R-squared	658

Source: Eviews 10 processed

The test in the table above is used to measure the contribution of the independent variable to the dependent variable with multiple linear regression. Then the result is 0.78 so that it can be interpreted that 78% of HDI is influenced by government spending on education, health, and road infrastructure in Sidoarjo Regency in 2011-2022. While the rest ($100\% - 78\% = 22\%$) is caused by other variables that have not been listed in the study.

DISCUSSION

Government expenditure in the education sector in Sidoarjo Regency in 2011-2022 was as follows, in 2011 there was an expenditure of Rp102,702,164. In 2012 government expenditure in the education sector amounted to Rp. 121,546,922. However, in 2013 there was a decrease of Rp. 13,984,276.00. In 2014 it increased by Rp. 155,764,574.00. The increase always goes up until the highest increase occurs in 2022 amounting to Rp. 252,593,711.00. From these developments, government spending in the education sector experienced a fairly positive trend even though it had experienced a decline in the previous year.

Government expenditure in the health sector in 2011 amounted to Rp. 28,379,381.00. In 2012 it decreased by Rp. 3,158,643.00. In 2013 there was an increase of Rp. 35,742,631.00 and in 2014 there was an increase of Rp. 40,553,743.00. However, in 2015 there was a decrease of Rp. 4,551,878.00. In 2016 there was a not so big increase of Rp 4,923,182.00. From 2016 to 2022 there has been a significant increase. In 2022 it amounted to Rp. 76,314,004.00. From the table above, it shows that

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government spending in the health sector has increased significantly and in 2020 it amounted to IDR 67,976,392.00. Which in that year occurred the covid 19 virus so that health sector government spending in Sidoarjo Regency continued to rise.

Government spending in the road infrastructure sector tends to fluctuate. This is indicated by government spending in 2019 amounting to Rp. 1,773,284,839.00. In 2020 it decreased by Rp. 1,712,136,227.00. In 2021 it decreased by Rp. 1,607,090,003.00. In 2022 it increased by Rp. 1,759,062,634.00. These results show that government spending in the road infrastructure sector is still relatively fluctuating. This is because the government still prioritizes other sectors, both the education and health sectors.

V. CONCLUSIONS

Regarding the analysis carried out, it is concluded that Government Expenditure in the Education sector and the health sector has a positive and significant influence on the Human Development Index. With this increase, it will have a positive impact on increasing the Human Development Index figure. Meanwhile, government spending in the road infrastructure sector does not have a positive and significant influence on the Human Development Index. The impact of low levels of government spending in this sector does not make a significant contribution to the human development index.

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