



Do Education, Health, and Economic Expenditures Drive an Increase in Human Development Index in Districts/Cities in the Province of Bengkulu, Indonesia?

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ABSTRAK

This study aims to analyze the effect of the education, health, and economic expenditures in Human Development Index in districts/cities of the Province of Bengkulu, Indonesia. This research was conducted using panel data, consisting of 10 districts/cities for 2014-2021. The analytical method used is panel data regression analysis. After conducting the test, the right model to use in this study is the Fixed Effect Model. The research results show that health expenditure has a significant positive effect on the HDI. In contrast, education and economic expenditures have no effect on the HDI. The Regional Government in the Province of Bengkulu is expected to maintain consistency in increasing the expenditure, especially education and economic expenditures, which are still fluctuating. In addition, local governments should also implement a policy of at least 20% of the APBD (Regional Revenues and Expenditures Budget) to be allocated to the education expenditure.

Keywords: *Human Development Index, Education Expenditure, Health Expenditure, And Economic Expenditure*

1. INTRODUCTION

The United Nation Development Program (UNDP) defines human development as the process of enlarging people's choices. Human development places population as an end goal. UNDP (1990) introduced the concept of measuring human development called Human Development Index (HDI). There are three dimensions used to measure and describe the quality of human life, namely knowledge, a long and healthy life, and decent standards of living.

Each dimension of the Human Development Index (HDI) has a determining component. Initially, the knowledge dimension was measured using literacy rates. The long and healthy life dimension was measured using life expectancy at birth. Then the dimension of a decent standard of living was measured

using GDP per capita. Nevertheless, in 2010, there was a change in the size of the knowledge dimension – from literacy rates, which turned into average and expected years of schooling. Meanwhile, for the dimension of a decent standard of living, there has been a change – from GDP per capita to GNP per capita. In Indonesia, a new method for calculating the HDI began in 2014.

Based on Central Bureau of Statistics (BPS) data, in 2021, HDI in 34 provinces in Indonesia varied greatly, which was around 60.62-81.11. The lowest HDI in Indonesia was in the Province of Papua, while the highest HDI was in the Province of DKI Jakarta. On average, the HDI in Indonesia in 2021 had an index of 72.29. This data shows that the quality of human development in Indonesia is still uneven. In 2021, the Province of Bengkulu had an HDI of 71.64, which was still below the national HDI average. Meanwhile, in

Sumatra, the HDI for the Province of Bengkulu was not encouraging and was only ranked seventh out of 10 provinces. In addition, the Province of Bengkulu's HDI was still under the National HDI.

This indicates that the management of the APBD (Regional Revenues and Expenditures Budget) of the Province of Bengkulu is still not good. Allocation of the expenditure to improve the quality of life of people in Bengkulu is not optimal. Therefore, it is necessary to conduct research on the effect of education, health, and economic expenditures on the HDI in the Province of Bengkulu.

Edeme et al. (2017) said that the expenditure for the education, health, agriculture, village development, and water resource sectors have a positive effect on the human development index in Nigeria. Novitasari and Hapitri (2019) also revealed a positive influence of education and health expenditures on HDI in the districts/cities of West Java. Apart from that, Palayukan (2019) also stated that the health and education expenditures have a positive effect on the HDI in Southeast Sulawesi. Wardhana et al (2021) stated that the expenditure for the economic, infrastructure, and education sectors positively affects Indonesia's HDI.

Meanwhile, Mongan (2019) stated that central government expenditure for the education sector has no effect on the HDI. Furthermore, the regional expenditure for the health and education sectors positively affects the HDI.

This study aims to analyze the effect of education, health, and economic expenditures on the HDI in the districts/cities of the Province of Bengkulu, Indonesia.

2. LITERATURE REVIEW

2.1. Human Development Index (HDI)

The human development index is an index that measures the achievement of a country's socioeconomic development, which combines achievements in the fields of education, health, and adjusted real income per capita (Todaro and Smith (2011). Meanwhile, Palayukan (2019) emphasized that human development has a broader context (not only limited to development carried out by the government in certain fields) and must really pay attention to the humans themselves, not just paying attention to other points, such as the economy, health, and education.

Mankiw (2006) stated that human resource development can be done by improving the quality of human resources consisting of education and health.

The improvement in human resources, education, and health is expected to increase opportunities for people to live a more humane life. Human resources, related to improving education and health, are the fundamental development goal in an area.

In BPS (2021), UNDP stated that there are three indexes used to describe the quality of human life, namely: (a) a health index using life expectancy at birth. (b) an index of education as expressed by mean years of schooling and expected years of schooling. (c) Income per capita in dollars. Furthermore, if the three basic choices are not fulfilled, the community cannot access other options.

Meanwhile, Aydin (2017) described HDI as a tool that can be used to measure development in a country. Tilak (1992) revealed that to measure the success of a country in developing its people, it can be seen from the size of the country's GNP. HDI can be used to improve the measurement of a country's development, where it is considered the correct direction to measure three aspects of human development, namely, social, economic, and health.

2.2. Government Expenditure

Adam Smith (1776) stated that the government does not need to interfere in the economic system of a country. The economy will find a balance point by itself and will continue to increase without the need for government intervention.

Keynes (1936) stated that the government needs to balance the depressed economic conditions.

2.2.1. Education Expenditure

Arfiyansyah (2018) revealed that education is the most basic main goal of development, in addition to health. Apart from being one of the crucial tools in order to improve the development of a country, education is also a reference to see the quality of human capital in a place.

Fajar and Indrawati (2020) revealed that education is important in order to improve human quality. Therefore, the government must provide educational facilities and services.

Atmanti (2005) suggested that education expenditure can improve people's quality of life. This shows the government's commitment to invest in human capital, which is referred to as the formation of human capital.

Previous studies have revealed that education expenditure has a positive effect on the HDI (Haque and Khan, 2019; Maharda and Aulis, 2020).

2.2.2. Health Expenditure

Human capital can be increased by improving human health (Palayukan, 2019). This shows that there is a positive influence of human health on life expectancy. For this reason, Herdiansyah and Kurniati (2020) revealed that the government must make efforts to equalize health. In particular, equity in health can be carried out by emphasizing access to health for the poor.

Harjunadhi and Rahmawati (2020) revealed that health is one of society's main needs besides education. Kurniawan et al. (2020) revealed that health is the main factor of community welfare that the government wants to realize. Novitasari and Hapitri (2019) and Palayukan (2019), revealed a positive effect of education and health expenditures on the HDI. However, Maharda and Aulia (2020) found that health expenditure has no effect on the HDI.

2.2.3. Economic Expenditure

Kahang (2016) stated that the tool used by the government to realize its role in the economic sector is fiscal policy. Joseph and Turner (2019) revealed that the government can use fiscal policy to stabilize the economy and facilitate growth. Fiscal policies used to help stabilize the economy during a crisis lead to an increase in the value of the deficit.

Furthermore, the success of fiscal policy depends on economic income and spending (Sabir and Qamar, 2019). A country with a low tax rate can achieve the same goal as a country with a higher tax rate if it can properly distribute fiscal resources.

Based on those explanations, the research hypothesis is:

- Education expenditure affects the human development index.
- Health expenditure affects the human development index.
- Economic expenditure affects the human development index.

3. RESEARCH METHODS

This research is explanatory. This study will explain the effect of education, health, and economic expenditures on the human development index. This study used secondary data. The expenditure data was obtained from the Indonesian Ministry of Finance. Meanwhile, HDI data was obtained from BPS. The

data used was panel data consisting of 10 districts and cities in the Province of Bengkulu during 2014-2021.

The method of analysis in this study used panel data regression analysis. The regression model in this study is:

$$Y_{it} = b_0 + b_1 \text{Educ}_{it} + b_2 \text{Health}_{it} + b_3 \text{Economic}_{it} + \varepsilon_{it}$$

Whereas:

Y = HDI

Educ = Education Expenditure

Health = Health Expenditure

Economic = Economic Expenditure

4. RESULT AND DISCUSSION

Selection of the best model was done by Chow and Hausman tests. Table 1 describes the probability of the Chi-Square cross section in the <5% model. Therefore, the best model is the Fixed Effect Model.

Table 1. Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	106.942753	(9,67)	0.0000
Cross-section Chi-square	218.569690	9	0.0000

Subsequently, the Hausman test was performed (Table 2). The Hausman test results show that the random cross-section probability value is <5%. Thus, the best model is the fixed effect model.

Table 2. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	8.303221	3	0.0401

Furthermore, testing the hypothesis with the fixed effect model is shown in Table 3. F test results show that $\alpha < 5\%$. For this reason, it can be said that education, health, and economic expenditures significantly influence the Human Development Index in the Province of Bengkulu.

Tabel 3. Results of the FEM Equation Model

Variabel	Coeffisien of Regression	Probability
Constanta	64.57093	0.0000
Educ	0.001286	0.7301
Health	0.025586	0.0000
Economic	0.002965	0.4231
R ² = 0.969303		
Prob(F-statistic) = 0.000000		

Furthermore, it is known that the health expenditure is $\alpha < 5\%$. Thus, health expenditure has a significant positive effect.

Meanwhile, for education expenditure, a value of $\alpha > 5\%$ was obtained. The same goes for economic expenditure. This means that education and economic expenditures do not significantly affect the Human Development Index.

The value of R² is 0.969. This shows that the ability of education, health, and economic expenditures to explain the variation in the HDI is 96.9%. Meanwhile, the remain (3.1 percent) is explained by other variables outside the model.

From the above explanation, it is known that health expenditure has a significant positive effect on the Human Development Index. The results of this study support the research conducted by Novitasari and Hapitri (2019) and Palayukan (2019).

In the Province of Bengkulu, health infrastructure is still increasing slowly. Health expenditure is intended to construct hospitals, health centers, laboratories, medical equipment, the number of health workers, and medicines. At the time the research was conducted, Bengkulu City had nine hospitals (8 Government Hospitals, 4 Private Hospitals); Bengkulu Utara District had four hospitals (3 Government Hospitals, 1 Private Hospital); Bengkulu Selatan and Mukomuko Districts had 2 hospitals (government and private hospitals); Bengkulu Tengah, Kaur, Kepahiang, Lebong, and Seluma Districts each had 1 Government Hospital.

Health expenditure is also intended for honorariums for health workers (doctors, midwives, nurses, and administrative staff at home). Regarding human resources in the health sector, Bengkulu City has 642 doctor, or 45% of all doctors in the Province of Bengkulu. Meanwhile, Seluma District has 82 doctors, or 5,8% of the total number of doctors. With the increasing number of infrastructure and the number of health workers, the HDI is also getting higher in this province.

Meanwhile, education expenditure has no significant effect on HDI. The results of this study differ from the research conducted by Novitasari and Hapitri (2019) and Palayukan (2019).

In the Province of Bengkulu, the portion of education expenditure is 20% of the APBD (*Regional Revenues and Expenditures Budget*), where the budget includes funds to finance personnel expenditure, namely in the form of salaries and professional allowances for teaching staff. The personnel expenditure component is very large, reaching 74% compared to the expenditure of improving educational facilities and infrastructure.

Regarding the availability of facilities and infrastructure as well as allocations, education expenditure is still uneven and is still focused in Bengkulu City. Meanwhile, in terms of education expenditure, during the 2014-2021 period, Bengkulu City has an education expenditure of 2,69 trillion. Meanwhile, Bengkulu Utara District has lower education expenditure, amounting to 2,3 trillion; so as in other Districts; the number of schools and the allocation of education expenditure are still below Bengkulu City.

Districts that have a wider span of territory still do not get adequate expenditure allocations in the education sector. This obviously will affect the quality of human resources in the field of education (become uneven). Teachers are more interested in teaching in Bengkulu, which has complete facilities and infrastructure and is located in the city center. The number of teachers in secondary schools in Bengkulu is 2,887 teachers. Meanwhile, Bengkulu Utara District, which has the largest area in the Province of Bengkulu, has a smaller number of teachers, namely 2.180 teachers.

5. CONCLUSION

Health expenditure has a significantly positive effect on the Human Development Index in the Province of Bengkulu. Meanwhile, government expenditure on education and the economy has no effect on the Human Development Index.

6. IMPLICATION AND LIMITATION

The government should be able to use education, health, and economic expenditures appropriately so that the HDI in the Province of Bengkulu continues to increase. For this reason, the Regional Government in the Province of Bengkulu should consistently allocate the budget for the health sector.

Apart from that, it is also necessary to pay attention to the education and economic budgets since both of them are still fluctuating. District/City Governments may consider implementing a policy of setting a minimum of 20% of the APBD for the allocation of government expenditures in the education sector, excluding the personnel expenditure component.

This research has the following limitations:

1. This research does not use other expenditures, such as social protection expenditure, which has a vital role, especially during a pandemic.
2. This research is still limited to the scope of the Province of Bengkulu, so it cannot explain broadly to other provinces in the area of Southern Sumatra (Sumbagsel) or Provinces on Sumatra Island.

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