



UDC 332; DOI 10.18551/rjoas.2023-02.07

THE INFLUENCE OF DISTRICT-CITY GOVERNMENT EDUCATION AND HEALTH EXPENDITURES ON ECONOMIC GROWTH OF EAST JAVA PROVINCE DURING PERIOD OF 2011-2019 YEARS

Effendy Iskandar*, Ananda Candra Fajri, Maski Ghozali, Susilo

Faculty of Economics and Business, University of Brawijaya, Malang Indonesia

*E-mail: effendy.iskandar@gmail.com

ABSTRACT

This study aimed to determine the effect of Education and Health Expenditures on Economic Growth in East Java. This research was descriptive quantitative research. This research analysis method was conducted using multiple regression. Results showed that Education Expenditure has a significant positive effect, while Health Expenditure has a non-significant negative effect. Based on the statistical analysis results, it can be seen that education spending was a factor that can drive economic growth. Meanwhile, Health Expenditure did not influence driving economic growth. It can be caused, among others, by utilizing Health Expenditures that are not on target.

KEY WORDS

Education, health, growth.

The life of a nation in a country cannot be separated from various interests and needs, the availability of which cannot be carried out by the people themselves but the government can. Such is the availability of various kinds of facilities and infrastructure needs, including the justice system, police units and troops, soldiers maintaining security, social safety net programs, road and bridge networks, electricity, telecommunications, firefighting troops, education and health infrastructure, and various other facilities that are government service activities (Nasional, 2004).

Economic growth can generally be seen from the amount of a region's Gross Domestic Product or the population's income per capita in that region. Economic growth is an important thing that must exist in economic development, where the economic growth rate is expected to reach a larger magnitude when compared to the population growth rate. With a higher magnitude of economic growth compared to the rate of population growth, an increase in per capita income can be realized. Economic growth occurring naturally or due to government intervention must be enjoyed by the people equally (Nasution, Daulay, & Handani, 2021).

Economic growth is the main foundation of macroeconomic goals. This statement is based on several reasons, including 1) The population is increasing. This increase in population will be able to encourage a larger number of the labour force. Therefore economic growth is expected to be achieved so that jobs can still be available for the existing workforce. 2) High economic growth is expected to encourage the creation of business fields that can encourage economic equality through income levies (Nasution et al., 2021).

Economic growth indicates an increase in several fields, including the level of education and health, as well as other aspects of society. Education and health are assumed to have an important role in determining the quality of human resources. The higher the education and health level of the human being, the better the quality of human resources will be. The higher the quality of life of human resources in a country, the higher the level of economic growth in that country (Arifin, 2019).

Based on data provided in a publication by Statistics Indonesia (*Badan Pusat Statistik/BPS*) of East Java Province regarding Government Expenditure on Education and the Rate of Economic Growth in East Java Province from 2011 to 2019, the movement of the economic growth rate in East Java Province has a relatively stable magnitude of movement. Meanwhile, the magnitude of the movement in the growth of Education Expenditure in East Java Province in the same year span showed a significant movement. For example, in 2012,



when education spending in East Java was at 6.13 per cent, economic growth was at 6.64 per cent. In 2013, when the amount of Education Expenditures experienced a significant decline, namely 11.3 per cent, Economic Growth decreased by only 0.02 per cent. In 2014, when the amount of Education Expenditures experienced a significant increase, namely 16.75 per cent, Economic Growth decreased by only 0.22 per cent. From this explanation, it can be briefly stated that the growth in Education Spending in East Java Province has an insignificant influence on Economic Growth in East Java Province. The graph depicting the relationship between Education Expenditure, Health Expenditure, and Economic Growth in East Java Province and Economic Growth in East Java Province in 2011 - 2019 is illustrated in the following graph:

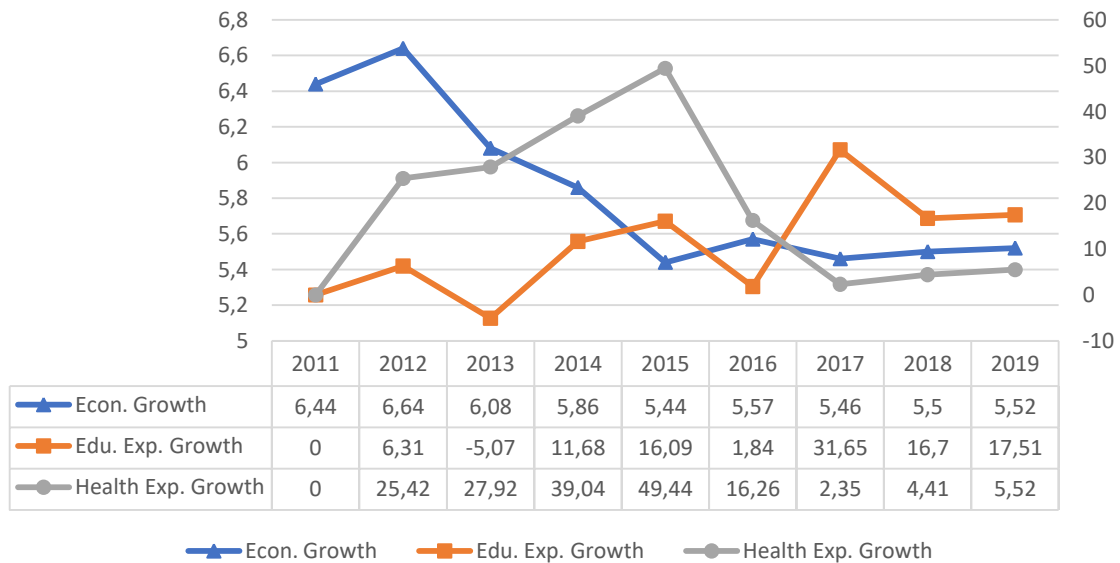


Figure 1 – East Java Health Expenditure Growth, Education Expenditure Growth, and Economic Growth 2011 – 2019 (%) (Source: BPS data for East Java Province 2011 – 2019)

Government spending is state spending that has been regulated by law. These state expenditures include Education and Health Expenditures (*Keuangan; Nasional, 2017*). Government spending is a variable forming Gross Domestic Product. Government spending is part of the fiscal policy, which manifests government intervention in the economy. Through this spending policy, the government can carry out spending activities to obtain goods and services to meet public needs that can drive economic growth (Azwar, 2016). The realization of high government spending is believed to be able to encourage faster economic growth.

As explained in the theory of endogenous growth, government spending contributes to economic growth with the assumption that government spending is an activity carried out for productive activities. For example, government spending on education and health facilities in direct contact with the public interest will drive economic growth in a positive direction (Abimanyu, 2015; Indonesia, 2011). The comparative narrative regarding the theory and phenomenon of the problems that occur based on the BPS statistical data above can be briefly described in the following table:

Table 1 – Table of Comparison of Theories and Phenomena Based on BPS Data 2011-2019

THEORY	DATA	INDICATION
Increased Education Spending will increase Economic Growth	From 2011 – 2019 District/City Education Spending in East Java showed an increasing trend, but Economic Growth in East Java in 2011 – 2019 was relatively stagnant and slightly decreased	District/City Education Spending in East Java in 2011-2019 did not have a significant positive effect on Economic Growth in East Java 2011-2019
Increased Health Spending will increase Economic Growth	From 2011 – 2019 District/City Health Spending in East Java fluctuated, but Economic Growth in East Java in 2011 – 2019 was relatively stagnant and slightly decreased	District/City Health Spending in East Java in 2011-2019 did not have a significant positive effect on Economic Growth in East Java 2011-2019



From the description of the table above, it can be seen that there is a phenomenon where when the amount of education and health spending in East Java increases, the increase is not matched by a significant increase in economic growth. The existing economic growth figures tend to be stagnant. Therefore it is deemed necessary to research the Effects of Education Expenditure and Health Expenditure on Economic Growth, as is done in this study.

LITERATURE REVIEW

Education spending includes schools, universities, and other public and private educational institutions. Expenses include additional teaching and services for students and families provided through educational institutions. Expenses are shown in monetary units per student and as a percentage of GDP (Data, 2020).

Health expenditure consists of spending on health and others related to the health sector. Health expenditure is defined based on the main objective or something primarily to improve health, regardless of the primary function or activity of the entity that provides or pays for health-related services. The health in question includes individuals and groups of individuals or populations. Health expenditure consists of all expenses for medical care, prevention, health promotion, rehabilitation, public health activities, administration and regulation of health, and capital formation with the primary objective of improving health. Expenditures related to the health sector, including expenses for health-related functions such as medical education and training, as well as research and development (Region, 2004).

Economic growth, in a narrow sense, can be interpreted as an increase in national per capita income and involves analysis, which in its process is primarily quantitative, focuses on the functional relationship between endogenous variables, which in a broader sense, it can be explained that Economic Growth is something that encompasses an increase in GDP, GNP, and NI. Therefore national wealth, which includes productive capacity, is expressed in absolute and relative terms, per capita, which also includes structural modifications of the economy. Therefore, it can be explained that economic growth is a process of increasing the size of the national economy, macroeconomic indications, especially in GDP per capita, in an increasing direction but not necessarily linear, with a positive effect on the socioeconomic sector, while development can explain how can growth impact society, by increasing living standards. From several perspectives, economic growth can be positive, zero, or even negative (Haller, 2012). Economic growth can be measured using the following formula:

$$G_t = \left(\frac{PDB_t - PDB_{t-1}}{PDB_{t-1}} \right) \times 100\%$$

Where: G_t = Economic growth rate; PDB_t = Gross Domestic Product (GDP) in period t ; PDB_{t-1} = Gross Domestic Product (GDP) in period $t-1$ (Todaro & Smith, 2012).

The theory of Human Capital promoted by Schultz (1961) explains that Education and Health are essential instruments that can produce people who have high productivity. Assuming that the higher a group of people's education and health level in a country, the higher the level of productivity will be, which will further encourage economic growth (Subroto, 2014).

Schultz (1961) and Becker (1964) view Human Capital as a series of knowledge, competencies, and abilities that are displayed in the form of individuals and that have been acquired by them over time through education, experience, and training process as medical care. Therefore it can be stated that Human Capital is divided into several main components, namely, Health and Education. Improvement in Human Capital can be obtained through the implementation of good education and the acquisition of good health status as well. Government Expenditures in the Health and Education sector are believed to impact the development of Human Capital. Thus Government Expenditure is expected to encourage economic growth (Shen, Dhiya, & Kathya, 2021).



The endogenous economic theory stated by Romer (1994) explains that economic growth cannot only be obtained through exogenous factors. For example, technological developments or savings rates. Economic growth can also be obtained from endogenous factors such as education and health, which can contribute to building human capital, which influences economic growth. As explained by Schultz (1961), better health can lead to an increase in the effective and sustainable use of knowledge and skills that each individual can obtain through education which can ultimately contribute to increased economic growth (Shen et al., 2021).

Several previous studies that support the explanation of the endogenous theory that education spending and health spending can make a positive contribution to increasing economic growth include research conducted by Bojanic (2013), Mallick et al. (2016), More & Aye (2017), and Mura (2014), which states that Education Spending has a positive and significant influence on Economic Growth. Meanwhile, the significant positive influence exerted by Health Spending on Economic Growth has been described in several previous studies conducted by Atilgan et al. (2017), Bedir (2016), and Ecerlik (2018).

METHODS OF RESEARCH

The research approach used in this study is a quantitative approach with descriptive statistical methods. The approach used to test the research hypothesis is to use multiple regression, a technique that can analyze the relationship between the independent variables and several dependent variables. (Hair, Black, & Babin, 2010).

The variables used in this study include:

- a. Economic growth is measured by using the Economic Growth Rate;
- b. Education expenditure is measured by the amount realized by the District/City Government in East Java Province, allocated for educational purposes, including spending on schools, universities, and other public and private educational institutions;
- c. Health Expenditure is measured using the amount realized by the Regency/City Government in East Java Province allocated for the benefit of health, including spending to improve health, regardless of the main function or activity of the entity providing or paying for related health services.

The Equation model in this study is as follows:

$$GROWTH = a_1 + b_1BP + b_2BK + \varepsilon$$

Where: Growth = Growth; BP = Education Shopping; BK = Health Shopping; E = Error; A = Constant.

RESULTS AND DISCUSSION

The estimated results of the Regression Model Test in this study are as follows:

Table 2 – Estimation Results of the Linear Regression Model I

Variable	Model I			Information
	B	t	P	
Education	0,2750	3,2484	0,0013	Positive, significant
Health	-0,2460	-1,6977	0,0906	Negatives, not significant
F	6,3472			
p F	0,0000			
R Square	0,4645			

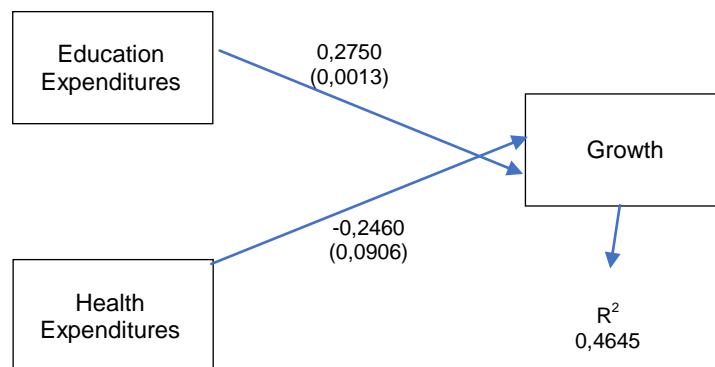
Based on the regression estimation results in the table above, the equations explanation in this study can be described as follows:

$$\text{Growth} = 0,2750 \text{ Education} - 0,2460 \text{ Health} + e$$



Based on the model formed, the following information can be explained:

- a. *Education*. The path coefficient for the Education variable is 0.2750. This coefficient indicates a positive relationship between Education Expenditure and Growth, which means that if the value of Education Expenditure issued is greater, the Growth value will also be greater. The path coefficient for the Education variable is 0.2750, meaning that the impact caused by the value of Education Expenditure will increase the Growth value by 0.2750.
- b. *Health*. The path coefficient for the Health variable is -0.2460. This coefficient shows a negative relationship between Health Expenditures and Growth, which means that if the value of Health Expenditures is greater, the Growth value will be smaller. The path coefficient for the Health Cost variable is -0.2460, meaning that the impact caused by the value of Health Expenditure will reduce the Growth value by 0.2460.



Testing the hypothesis in this study using a partial t-test. The results of the t-test as contained above to test the research hypothesis can be described as follows.

The F test and t linear regression model for the variable Education Expenditures and Health Expenditures on Economic Growth are as follows:

- a. The t-test of the linear regression model for the variable Cost of Education obtained a t-value of 3.2484 with a probability value of 0.0013. Based on these results, it is known that the t-value is $3.2484 > t$ table 1.967 and the probability t is $0.0013 < 0.05$, so it can be concluded that there is a positive influence between the Education Expenditure variable on growth in 38 districts/cities in East Java Province for the 2011-2019 period;
- b. The results of statistical testing regarding the effect of the variable Education Costs on Economic Growth above support the explanation of the theory of the relationship between government spending and economic growth as has been explained in general in endogenous economic theory, which explains that education spending is one of the things that can influence economic growth. In addition, the results of statistical testing of the effect of the variable Education Expenditure on Economic Growth are in line with the results of several previous studies, which state that Education expenditure has a significant positive effect on Economic Growth (Bojanic, 2013; Mallick, Das, & Pradhan, 2016; More & Aye, 2017; Mura, 2014);
- c. The t-test of the linear regression model I for the Health Cost variable obtained a t-value of -1.6977 with a probability value of 0.0906. Based on these results, it is known that the t-value is $-1.6977 > t$ -table -1.967 and the probability t is $0.0906 > 0.05$, so it can be concluded that there is a negative effect between the Health Expenditure variable on growth in 38 districts/cities in East Java Province in the period 2011-2019.

The results of statistical testing regarding the influence of the variable influence of Health Spending on Economic Growth above do not support the explanation of the theory of the relationship between government spending and economic growth, which is explained in general in endogenous economic theory, which explains that health spending is one of the things that can influence economic growth. The results of statistical tests regarding the effect



of the variable Health Expenditures on Economic Growth do not also support the exposure of the results of several previous studies, which state that Health Expenditure has a significant positive effect on Economic Growth (Atilgan, Kilic, & Ertugrul, 2017; Bedir & Business, 2016; Erçelik & Management, 2018).

However, the results of statistical testing of the effect of the variable Health Expenditures on Economic Growth support the results of previous studies that Health Expenditure has a negative but not significant effect on growth. The existence of a negative influence between government spending in the health sector on economic growth can be a signal that leads to a situation where government spending in the health sector may not be a supporting factor for economic growth, as stated in the presentation of the Keynesian hypothesis. Moreover, disbursing more funds for health spending (for example, building health facilities) does not mean that it will guarantee better health services. Factors such as the lack of implementation of optimal health services and the occurrence of corruption within the government are factors that cannot be ignored. In addition, the government is advised to use its budget in a better and not excessive manner. If the government spending budget is used excessively, then spending on development in the field in question will be unproductive (Hasnul, 2015; More & Aye, 2017).

CONCLUSION

From the discussion results, it can be concluded that Education Expenditure significantly affects economic growth. It is because education spending in Regencies/Cities in East Java sustainably continues to increase so that it succeeds in improving educational facilities and the quality of teaching staff. It will undoubtedly support economic growth efforts. Meanwhile, Health Expenditure, which has a negative but not-significant effect on economic growth, is most likely due to leakages in implementing District/City Health Expenditures. This statement is supported by BPS data for the 2011-2019 period, which shows that there are still a limited number of government hospitals and other health facilities in regencies/cities in East Java, thus not supporting economic growth. The presentation of BPS data for the Province of East Java for 2011-2019 is supported by explanations from other studies that have been conducted previously, namely Hasnul (2015) and More (2017), which explains that there is a non-significant negative effect of Education Expenditure on Economic Growth. It is suspected to be a signal that leads to a situation where government spending in the health sector may not support economic growth.

Moreover, disbursing more funds for health spending (for example, building health facilities) does not mean it will guarantee better health services. Factors such as the lack of implementation of optimal health services and the occurrence of corruption within the government are factors that cannot be ignored. In addition, the government is advised to use its budget in a better and not excessive manner. If the government spending budget is used excessively, then spending on development in the field in question will be unproductive (Hasnul, 2015; More & Aye, 2017).

REFERENCES

1. Abimanyu, Y. (2015). Pengeluaran Pemerintah dan Impaknya terhadap Pertumbuhan Ekonomi di Indonesia. Retrieved from <https://fiskal.kemenkeu.go.id/kajian/2016/03/31/144748648975735-pengeluaran-pemerintah-dan-impaknya-terhadap-pertumbuhan-ekonomi-indonesia>.
2. Arifin, A. J. T. J. P. D. P. (2019). Pengaruh Pendidikan terhadap Pertumbuhan Ekonomi di Provinsi Riau. *Jurnal Penelitian dan Pengabdian*, 7(2), 145-160.
3. Atilgan, E., Kilic, D., & Ertugrul, H. M. J. T. E. J. O. H. E. (2017). The dynamic relationship between health expenditure and economic growth: is the health-led growth hypothesis valid for Turkey? , *Eur J Health Econ*, 18(5), 567-574.



4. Azwar, A. J. K. E. D. K. (2016). Peran Alokatif Pemerintah melalui Pengadaan Barang/Jasa dan Pengaruhnya Terhadap Perekonomian Indonesia. *Seminar Forum Ilmiah Keuangan Negara*, 20(2), 149-167.
5. Bedir, S. J. A. I. E., & Business. (2016). Healthcare expenditure and economic growth in developing countries. *Advances in Economics and Business*, 4(2), 76-86.
6. Bojanic, A. N. (2013). The composition of government expenditures and economic growth in Bolivia. *Latin American Journal of Economics*, 50(1), 83-105.
7. Data, O. (2020). Education spending. *Education*. Retrieved from <https://data.oecd.org/eduresource/education-spending.htm>.
8. Erçelik, G. J. J. O. P. E., & Management. (2018). The relationship between health expenditure and economic growth in Turkey from 1980 to 2015. *Journal of Politics, Economy and Management*, 1(1), 1-8.
9. Hair, J. F., Black, W. C., & Babin, B. J. (2010). *RE Anderson Multivariate data analysis: A global perspective*. New Jersey: Pearson Prentice Hall.
10. Haller, A. P. (2012). Concepts of economic growth and development challenges of crisis and of knowledge. *Economy Transdisciplinarity Cognition*, 15(1), 66.
11. Hasnul, A. G. (2015). The effects of government expenditure on economic growth: the case of Malaysia. Retrieved from <https://mpa.ub.uni-muenchen.de/71254/>.
12. Indonesia, K. K. R. (2011). *Penyusunan Model Efisiensi Belanja Negara Terhadap Pertumbuhan Ekonomi, Tingkat Kemiskinan dan Pengangguran*. Retrieved from <https://fiskal.kemenkeu.go.id/kajian/2011/12/27/110010163208138-penyusunan-model-efisiensi-belanja-negara-terhadap-pertumbuhan-ekonomi-tingkat-kemiskinan-dan-pengangguran>.
13. Keuangan, D. J. P. *Mandatory Spending*. Retrieved from <https://djpk.kemenkeu.go.id/?ufaqa=apakah-yang-disebut-dengan-mandatory-spending>
14. Mallick, L., Das, P. K., & Pradhan, K. C. (2016). Impact of educational expenditure on economic growth in major Asian countries: Evidence from econometric analysis. *Theoretical & Applied Economics*, 23(2).
15. More, I., & Aye, G. C. (2017). Effect of social infrastructure investment on economic growth and inequality in South Africa: a SEM approach.
16. Mura, P. O. (2014). How growth-friendly are productive public expenditures? An empirical analysis for Eastern Europe. *Theoretical & Applied Economics*, 21(10).
17. Nasional, B. P. H. (2004). *Undang Undang Nomor 32 Tahun 2004 tentang Pemerintahan Daerah*. Jakarta: Kementrian Hukum dan HAM Republik Indonesia.
18. Nasional, B. P. H. (2017). *Undang Undang Republik Indonesia Nomor 15 Tahun 2017 tentang Anggaran Pendapatan dan Belanja Negara*. Jakarta: Kementrian Hukum dan HAM Republik Indonesia.
19. Nasution, D. P., Daulay, M. T., & Handani, E. J. J. A. I. (2021). Pengaruh Pengeluaran Pemerintah Sektor Kesehatan dan Pendidikan Terhadap Pertumbuhan Ekonomi Di Kota Medan. *Jurnal Ilmiah Abdi Ilmu*, 14(1), 33-49.
20. Region, F. A. H. B. T. G. O. H. S. A. (2004). *Definitions of Health Expenditure*. Retrieved from https://www.fhb.gov.hk/statistics/download/dha/en/c_definition_0405.pdf.
21. Shen, M., Dhiya, A., & Kathya, K. J. J. A. D. K. N. I. (2021). Endogenous Growth Theory: Pengaruh Belanja Kesehatan dan Pendidikan Terhadap Ekonomi. *Jurnal Anggaran dan Keuangan Negara Indonesia*, 3(1), 20-38.
22. Subroto, G. J. J. P. D. K. (2014). Hubungan Pendidikan dan Ekonomi: Perspektif Teori dan Empiris. *Jurnal Pendidikan dan Kebudayaan*, 20(3), 390-405.
23. Todaro, M. P., & Smith, S. C. (2012). *Economic Development (11th Ed)*. London: Pearson College Div.