Jurnal Ekonomi dan Studi Pembangunan, 10(2), 2018
ISSN 2086-1575 E-ISSN 2502-7115

A Panel Approach: How Does Government Expenditure Influence Human Development Index?

Anisa Fadilah, Candra Fajri Ananda, David Kaluge
Faculty of Economic and Business, Brawijaya University, Indonesia
E-mail: nisa_edoy79@yahoo.co.id

Received: January 24, 2018; Accepted: May 5, 2018; Published: November 2, 2018
Permalink/DOI: http://dx.doi.org/10.17977/um002v10i22018p130

Abstract

This study investigates the influence of government spending on education index, health index, income index of regional, under-develop and develop governments in East Java, Indonesia. In addition, this paper estimates the influence of government spending on the development of cities and districts in East Java. This study applied a quantitative approach by using the Fixed Effect Model and Random Effect Model as the panel data analysis method. There were 38 cities and districts used as the analysis units during 2010-2015. The findings showed that government spending on education, health, and economic has a positive significant influence on every component of human development index. In addition, government spending on infrastructure has a significant influence on the education index and income index yet it does not significantly influence the health index. Furthermore, this study provided the different results of government spending on under-developed and developed regions.

Keywords: Government Spending, Human Development Index, Education Index
JEL Classification: H72; I31

INTRODUCTION

Human development is an indicator reflecting the welfare of countries as humans are the main factor and the target of a nation's development (UNDP, 1990). Human development approach focuses on the human as the development agents (Fukuda-Parr, 2003) since human resources play a central role which determines the national welfare (Manuelli, 2015). Development that focuses on human development is different from economic development within a narrow context that only targets economic development. Instead, human development emphasizes more on the improvement of life quality and freedom for the people (Sen, 1999).

Since 2014, Indonesia has started to apply new method in measuring the human development index. Previously, arithmetic formulas were used to measure the index, yet currently, geometric averages were frequently used. This fact has brought a change in which a dimension can no longer substitute another dimension (BPS, 2015). The information about the comparison between national and east java human development index during 2010 to 2015 is provided in Figure 1. In general, the figure provides illustrates an upward trend in both national and East Java.

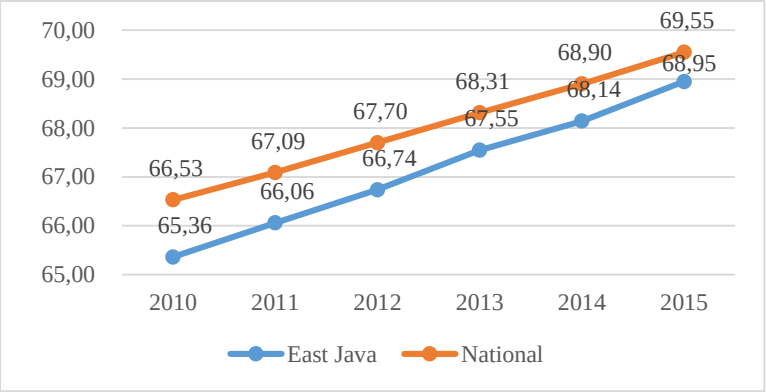

Figure 1. The Comparison Between National Human Development Index and East Java Province, 2010-2015
Source: BPS (2016)

In more specifically, Human Development Index (HDI) had improved dramatically during 2010-2015. However, the value was relatively stable under the national average score. Even though the income index of East Java was higher than the national average, yet low indexes of education and health sectors had decreased the whole HDI score in aggregate. This phenomenon indicates the importance of every dimension that determines the improvement of HDI.

East Java also has been known as the second largest province in Indonesia in the term of economic condition that can be seen from the Gross Regional Domestic Product (GRDP) in the second rank after Jakarta. However, the human development index within the national scale in 2015 obtained a relatively low rank at 16. This fact shows that high GRDP does not guarantee the quality of life or the welfare of the people in a certain area. A number of efforts were done by the government to improve the HDI through a fiscal policy by allocating a certain amount of fund to fulfill goods which cannot be fulfilled by the market such as education, health, economic and infrastructure facilities. Empirical data shows that the government of East Java increased the spending on various sectors yet the increase failed to reach the average HDI or higher than the national HDI average.

Several theoretical analysis has been conducted related to government spending which resulted in two different views about the influence of government spending on HDI. The first view states that there is a positive influence between government spending and HDI as stated by Craigwell, Bynoe, & Lowe (2012); Razmi, Abbasian, & Mohammadi (2012); Safitri (2016) in which it is stated that a higher budget for health care has a positive and significant influence on the improvement of HDI. Meanwhile, Astri et al. (2013); Wijayanto, Khusaini, & Syafitri (2015) and Sanggelorang, Rumate & Siwu (2015) found that higher budget for education sector has a significant influence on HDI. Similarly, Fattah & Muji (2012) and Edeme (2014) stated that government spending on education, health care, and infrastructure significantly influences the HDI. The second belief sees no significant influence of government spending on the HDI, such as a study conducted by Prasetyo & Zuhdi (2013) on the efficiency of government spending for health, education, transfer and subsidiary in which it is found that government spending does not always efficiently improve the human development. Moreover, Badrudin & Khasanah (2011) revealed that education, health care, and infrastructure sectors do not significantly influence the human development in

Yogyakarta province, instead the sense of education was likely to have stronger influence on the success of human development.

The determinant of HDI varies. It can be inferred that the available theories and concepts do not always applicable in any setting. Unfortunately, the Presidential Decree Number 131 of 2015 about the list of under-developed regions 2015-2019 put 4 districts in East Java on the list including Bondowoso, Situbondo, Bangkalan, and Sampang. Regarding the importance of each dimension contributing the HDI, researchers were intrigued to investigate the influence of government spending for education, health, economy and infrastructure sectors on the composite index of the elements of HDI in East Java. This study also aimed at measuring if the government budget allocation applied by regional government has been appropriate to improve the human development program.

METHOD

This study applied a quantitative approach by analyzing secondary data related to government spending and functions of education, health service, economic activities and the function of infrastructure facilities in districts and cities obtained from the Directorate General of Fiscal Balance at the Ministry of Finance and Regional Assets Management Board of East Java. This study also obtained the data on the education index, health index, and income index of districts and cities in East Java from the Central Bureau of Statistics (BPS). Furthermore, panel data was employed to analyze the data by combining the time series data of 2010-2015 and cross-section data of 38 cities and districts in East Java using Eviews 9 software.

Model Analysis

Regarding the importance of each dimension of the composite index of human development, the analysis model was designed into three equations in order to give an easier interpretation of regression measurement result that precisely reflects the influence of each dimension. Dummy variables were used in the model to reflect different conditions in cities and districts in East Java.

The equations used in this study were formulated as follow:

$$IP_{it} = \alpha_0 + \alpha_1 L_nEDU_{it} + a_1 D_1 L_nEDU_{it} + a_2 D_2 L_nEDU_{it} + \alpha_2 L_nINF_{it} + a_3 D_1 L_nINF_{it} + a_4 D_2 L_nINF_{it} + e_{1it}$$

$$IP_{it} = \alpha_0 + (\alpha_1 + a_1 D_1 + a_2 D_2) L_nEDU_{it} + (\alpha_2 + a_3 D_1 + a_4 D_2) L_nINF_{it} + e_{1it} \quad (1)$$

$$IK_{it} = \beta_0 + \beta_1 L_nHEA_{it} + b_1 D_1 L_nHEA_{it} + b_2 D_2 L_nHEA_{it} + \beta_2 L_nINF_{it} + b_3 D_1 L_nINF_{it} + b_4 D_2 L_nINF_{it} + e_{2it}$$

$$IK_{it} = \beta_0 + (\beta_1 + b_1 D_1 + b_2 D_2) L_nHEA_{it} + (\beta_2 + b_3 D_1 + b_4 D_2) L_nINF_{it} + e_{2it} \quad (2$$

$$IE_{it} = \partial_0 + \partial_1 L_nECO_{it} + d_1 D_1 L_nECO_{it} + d_2 D_2 L_nECO_{it} + \partial_2 L_nINF_{it} + d_3 D_1 L_nINF_{it} + d_4 D_2 L_nINF_{it} + e_{3it}$$

$$IE_{it} = \partial_0 + (\partial_1 + d_1 D_1 + d_2 D_2) L_nECO_{it} + (\partial_2 + d_3 D_1 + d_4 D_2) L_nINF_{it} + e_{3it} \quad (3)$$

IPit = Education index in year t (in number).
IKit = Health index in year t (in number).
IE it = Expenditure index in year t (in number).
EDUit = Government spending on education function in year t (in Rupiah).
HEAit = Government spending on health function in year t (in Rupiah).
ECOit = Government spending on economic function in year t (in Rupiah).

INFit = Government spending on housing and public facility function in year (in Rupiah).
D1 = Dummy of the developed/under-developed districts (D_1=1 for under-developed districts, and D_1=0 non under-developed districts).
D2 = Dummy of districts or cities (D_2=1 for cities, and D_2=0 for districts)
i = Cross section data of 9 cities and 29 districts in East Java.
t = research year from 2010 to 2015

RESULTS AND DISCUSSION

This study aims to find out the influence of government spending on education, health, economic, infrastructure on education index, health index, and economic index in East Java. In order to receive a better interpretation of each dimension, the analysis model was used three dependent variables. The panel data were analyzed by estimating the regression model using the Chow test, Hausman test, and Lagrange Multiplier test to obtain the best model. The results show the fixed effect model as the most appropriate panel model to analyze the education and income indexes. Meanwhile, random effect was the most appropriate model to measure the health index. The results of the estimation from each dimension are presented in Table 1.

Table 1. Panel Data Results of Education Index Using Fixed Effect Model

$$IP_{it} = \alpha_0 + (\alpha_1 + a_1 D_1 + a_2 D_2) L_n EDU_{it} + (\alpha_2 + a_3 D_1 + a_4 D_2) L_n INF_{it} + e_{1it}$$

	Coefficient	Probability
α_0	-0.591261	0.0000***
α_1	0.006007	0.0588*
α_2	0.030740	0.0000***
a_1	0.025032	0.0966*
a_2	0.048815	0.0000***
a_3	-0.007469	0.3833
a_4	-0.023188	0.0000***

R^2	0.984044
F-statistic	263.9064
Prob (F-statistic)	0.000000

Source: Authors (2018)
Note: ***), **), *) significant at α = 1%, 5%, 10%
D1=Dummy of developed/under-developed regions (D1=1 for under-developed regions, D2=0 for developed regions)
D2=Dummy of districts or cities (D2=1 for cities, D2=0 for districts)

In general, government spending has a significant influence on the education index, health index, and economic index. This can be seen from the result of the F test (prob < α = 5%) and in terms of goodness of fit (R^2) in each model respectively at 0.98, 0.36, and 0.98 which mean that this model has been appropriate enough to apply and independent variables have been able to explain the dependent variables at those percentages.

Table 2. Panel Data Results of Health Index Using Random Effect Model

$$IK_{it} = \beta_0 + (\beta_1 + b_1D_1 + b_2D_2)\, L_nHEA_{it} + (\beta_2 + b_3D_1 + b_4D_2)\, \beta_2 L_nINF_{it} + e_{2it}$$

	Coefficient	Probability
β_0	0.639430	0.0000***
β_1	0.005487	0.0000***
β_2	0.000002	0.9983
b_1	-0.006736	0.0027***
b_2	-0.000417	0.7915
b_3	0.004806	0.0258**
b_4	0.001176	0.4416
R^2		0.359974
F-statistic		20.71641
Prob (F-statistic)		0.000000

Source: Authors (2018)
Note: ***), **), *) significant at α = 1%, 5%, 10%
D1=Dummy of developed/under-developed regions (D1=1 for under-developed regions, D2=0 for developed regions)
D2=Dummy of districts or cities (D2=1 for cities, D2=0 for districts)

Table 3. Panel Data Results of Economic Index Using Fixed Effect Model

$$IE_{it} = \partial_0 + (\partial_1 + d_1\, D_1 + d_2\, D_2)\, L_nECO_{it} + (\partial_2 + d_3\, D_1 + d_4\, D_2)\, L_nINF_{it} + e_{3it}$$

	Coefficient	Probability
∂_0	-0.053184	0.2635
∂_1	0.008648	0.0091***
∂_2	0.019070	0.0000***
d_1	0.030263	0.0693*
d_2	0.006987	0.2805
d_3	-0.014176	0.1275
d_4	-0.007988	0.0994*
R^2		0.981615
F-statistic		228.4641
Prob (F-statistic)		0.000000

Source: Authors (2018)
Note: ***), **), *) significant at α = 1%, 5%, 10%
D1=Dummy of developed/under-developed regions (D1=1 for under-developed regions, D2=0 for developed regions)
D2=Dummy of districts or cities (D2=1 for cities, D2=0 for districts)

The result of the estimation shows that government expenditure for education sector gives positive contribution to the improvement of human development index through the education index. In line with the findings of study conducted by Fattah & Muji (2012), education has been known to have a key role in producing better human resources. Through equity and higher opportunities as well as ease of access for the society to get education service, the success of national development can be achieved. This view is also supported by Edeme (2014) who found a functional positive correlation between education and human development and there is also an indication of expenditure on education sector supporting human development. The success of education development is indicated by the increase in the mean years of schooling from 6.73 years in 2010 to 7.05 in 2015 and expected years of schooling 11.49 in 2010 to 12.66 in 2015.

Those two indicators are the combination of education index indicators which is one HDI elements. Thus, the higher the education index, the higher the HDI. In line with the result of this study, in under-developed regions, government expenditure for education sector has a significant influence, which can be inferred that expenditure for education sector has different results in under-developed regions and in developed regions.

Under-developed regions in East Java have relatively low mean years of schooling and expected years of schooling scores, in which most of the society were from Madurese ethnic. The low score might be influenced by the culture of the regions in which young age marriage rate is relatively high. Based on the data released by BPS, it is known that in Bondowoso, Situbondo, Sampang, and Bangkalan districts have high percentage of women getting married at young age. This explanation supports the research finding of Berlian (2011) in which it is stated that one of the factors causing the low education target achievement in junior high level is socio-cultural bond. Diah & Pradna (2012) also explained that various issues in education in Indonesia are mainly caused by the presence of some children who have not yet received appropriate education service, school dropout children, university graduates whose quality and competence cannot yet fulfill the requirement of the national development and uneven distribution of teachers. In line with the statement, Saraswati (2012) stated that the complexity of education in Indonesia is caused by uneven distribution of population, socio-cultural structure, and the characteristics of the people seen from both cultural and geographic point of views. Hence, the high amount of fund allocated for education sector could not yet improve the dimension of education in various regions in Indonesia.

It is found in this study that government spending on the education sector in cities and districts is significant which means that spending for the education sector in cities has stronger influence compared to the one in districts since the facilities in cities are relatively better, allowing better accessibility for the people to access various educational services. This finding supports Vierstraete (2012) who found that the same amount of fund for education sector might result in different achievements in different nations. This phenomenon might be caused by the different management system and expenditure efficiency for education sector applied by regional government.

Health is also a basic necessity for human development. Social welfare should be started by making an investment on the human development which can be initiated by improving the public health services. The government has increased the fund allocation for the health sector which is expected to support the improvement of the society's health. Improvement in the health sector is indicated by the increase in life expectancy at birth from 69.89 in 2010 to 70.89 in 2015.

The result of the estimation also shows that government spending on the health sector positively and significantly influences the health index. This finding goes in line with Razmi et al. (2012) who stated that the allocated fund to improve the public health, society awareness, health service and non-government organization on health successfully give a positive influence on the HDI. This view is also supported by Craigwell et al. (2012) and Kim & Lane (2013) who mentioned that government spending on health sector has been proven to decrease infant mortality rate which eventually improves the life expectancy rate.

Unfortunately, infant mortality rates in some regions in East Java, especially in under-developed regions were relatively high compared to the average rate. This fact is supported by the result of the estimation in which it is found that government spending for the health sector in under-developed and developed regions was significant. It can be implied that the government spending on the health sector in under-developed regions shows different influence from the one in well-developed regions. It is known that the government spending on the health sector in under-developed regions shows weaker influence due to lack of accessibility for health services. In line with Mittal (2016) who spotted uneven distribution of resources and health services, mentioned that the poor system gives negative impact to the society from outskirt regions in which the amount tends to show regressive pattern, while in cities it is rather progressive. Therefore, the fund allocated for human development is not yet adequate to achieve the effective public expenditure without good management system. The fine management system will be able to enhance the development programs in under-developed regions (Bhanumurty, Prasad, & Jain, 2016).

The result of this study shows that the role of government in under-developed regions is still necessary for the form of health insurance for poor society as well as improvement on the quality and quantity of health services. Besides, preventive actions in the form of socialization about healthy lifestyle should be conducted to improve the health state of people living in rural regions. The result of the estimation shows no significant difference in the influence of government spending on the health sector between cities and districts. However, Rajkumar & Swaroop (2008) emphasized that the key to public expenditure success is determined by the management system applied by the regional government.

Government spending is expected to enhance the economic activities in the society by providing employment and developing public facilities to create the multiplier effect on the improvement of social welfare. The result of the estimation shows that government spending for economic sector positively and significantly influences the expenditure index. A study by Wahyudin et al. (2015) revealed that economic expenditure has an effective contribution in improving national economic growth. Fund allocated by the government for the economic sector is able to improve the productivity and economic activities within a society which eventually improves the public purchasing power.

The use of dummy variables for under-developed and developed regions show that government spending on the economic sector has different results. Adisasmita (2011) remarked that a huge amount of government spending does not simply guarantee a positive contribution to economic activities. Therefore, efficiency on government spending should be administered. This factor explains the different result of development in developed regions and in under-developed regions. Basically, there is no different regulation on the government spending for the economic sector in cities and in districts, yet different government performance makes different results.

Infrastructure is a facility that supports social, economic and cultural activities within a society, Thus, appropriate infrastructure is the determinant of the success of a development process. The result of this study shows that government spending for infrastructure sector has a positive and significant

influence on education index and income index, yet it has not significant influence on the health index. This finding is similar to the finding of Kusharjanto & Kim (2011) and Mohanty, Nayak & Chatterjee (2016) who found that public road which belongs to economic infrastructure sector significantly influences the education index, and income index but it has no significant influence on the health index.

Another study which states that government spending for infrastructure significantly influences the HDI was conducted by Edeme (2014) who found that variables of infrastructure including the housing, energy, sanitary and rural development programs significantly influence the human development in Nigeria. However, Aviyati (2013); Badrudin & Khasanah (2011) remarked a different result in which they found that government spending on infrastructure sector does not have any significant influence on the human development index. The finding indicates that government spending on infrastructure sector influences the human development index through education and economy dimensions. Delavallade (2006) also added up that efficiency on government spending for infrastructure sector is expected to improve the accessibility toward economic activities which later improves the real consumption per-capita.

In East Java, infrastructure in the forms of road and bridges to access health services have been available, yet the distribution of health workers is still lacking. The ratio of general practitioners should be 1:100.00 people in districts/cities, yet the gap in East Java was still high in which most regions have lower ratio than the average ratio in East Java, 2016). It shows that most of the districts in East Java need more health workers because most doctors prefer working in cities. This result indicates that the health index is rather influenced by government spending on the health sector than infrastructure expenditure. Government spending on infrastructure sector tends to give similar results in developed regions and under-developed regions. When it is compared between districts and cities, the result is different. This issue might be caused by the fact that most regions in East Java are districts with large regions which are quite different from the cities, allowing the cities to have better development for the society have higher mobility.

CONCLUSION

Government spending on education, health and economy sectors has a positive and significant influence on the education index, health index, and income index. Government spending on infrastructure sector has a positive influence on the education index and income index but it has no significance in the health index. In addition, government spending for under-developed regions and developed regions on education, health, and economy sector shows different result toward the education index, health index, and income index. Meanwhile, government spending on infrastructure sector has different influences on the health index, yet it has no difference on the health index and income index. Government spending on the education sector in cities and district has different influences on the education index, but it has no difference on the health and economy sectors. The government spending on infrastructure sector has indifferent influence on the health index but shows different influences on the education index and income index.

REFERENCES

Adisasmita, R. (2011). *Manajemen Pemerintahan Daerah.* Yogyakarta: Graha Ilmu.

Astri, M., Nikensari, S.I., & W., D.H.K. (2013). Pengaruh Pengeluaran Pemerintah Daerah pada Sektor Pendidikan dan Kesehatan terhadap Indeks Pembangunan Manusia di Indonesia. *Jurnal Pendidikan Ekonomi dan Bisnis*, *1*(1), 77–102.

Aviyati, S. (2013). Analisis Pengaruh Pengeluaran Pemerintah Terhadap Indeks Pembangunan Manusia (IPM) di Jawa Timur. *Iqtishoduna: Jurnal Ekonomi dan Bisnis Islam*, 120–128.

BPS. (2015). *Indeks Pembangunan Manusia 2014 Metode Baru*. Jakarta.

BPS. (2016). *Indeks Pembangunan Manusia 2015*. Jakarta: Badan Pusat Statistik.

Badrudin, R., & Khasanah, M. (2011). Pengaruh Pendapatan dan BelanjaDaerah terhadap Pembangunan Manusia di Provinsi Daerah Istimewa Yogyakarta. *Buletin Ekonomi, Jurnal Manajemen Akuntansi dan Ekonomi Pembangunan*, *9*, 23–30.

Berlian, N. (2011). Faktor-faktor yang Terkait dengan Rendahnya Pencapaian Wajib Belajar Pendidikan Dasar 9 Tahun. *Jurnal Pendidikan dan Kebudayaan*, *17*, 43–55.

Bhanumurty, N., Prasad, M., & Jain, R. (2016). *Public Expenditure, Governance and Human Development : A Case of Madya Pradesh*. New Delhi.

Craigwell, R., Bynoe, D., & Lowe, S. (2012). The effectiveness of government expenditure on education and health care in the Caribbean. *International Journal of Development Issues*, *11*(1), 4–18. https://doi.org/10.1108/14468951211213831

Delavallade, C. (2006). Corruption and distribution of public spending in developing countries. *Journal of Economics and Finance*, *30*(2), 222–239. https://doi.org/10.1007/BF02761488

Diah A.K.R., & Pradna, P. P. (2012). Resiliensi Guru di Sekolah Terpencil. *Jurnal Psikologi Pendidikan Dan Perkembangan*, *1*(2), 1–6.

Edeme, R. K. (2014). Analyzing the Effects of Sectoral Public Spending On Human Development in Nigeria : Evidence from Panel Data. *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, *19*(9), 1–13.

Fattah, S., & Muji, A. (2012). Local Government Expenditure Allocation toward Human Development Index at Jeneponto Regency, South Sulawesi, Indonesia. *IOSR Journal of Humanities and Social Science*, *5*(6), 40–50.

Fukuda-Parr, S. (2003). The Human Development Paradigm: Operationalizing Sen's Ideas on Capabilities. *Feminist Economics*, *9*(2–3), 301–317.

Kim, T. K., & Lane, S. R. (2013). Government Health Expenditure and Public Health Outcomes : A Comparative Study among 17 Countries and Implications for US Health Care Reform. *American International Journal of Contemporary Research*, *3*(9), 8–13.

Kusharjanto, H., & Kim, D. (2011). Infrastructure and human development: the case of Java, Indonesia. *Journal of the Asia Pacific Economy*, *16*(1), 111–124.

Manuelli, R. E. (2015). Human Capital and Development. Federal Reserve Bank of St. Lous Review. Third Quarter.

Mittal, P. (2016). Social Sector Expenditure and Human Development of Indian States. *MPRA Paper*, (8225).

Mohanty, A. K., Nayak, N. C., & Chatterjee, B. (2016). Does Infrastructure Affect Human Development? Evidences from Odisha, India. *Journal of Infrastructure Development*, *8*(1), 1–26.

Prasetyo, A. D., & Zuhdi, U. (2013). The Government Expenditure Efficiency towards the Human Development. *Procedia Economics and Finance*, *5*(2012), 615–622. https://doi.org/10.1016/S2212-5671(13)00072-5.

Rajkumar, A. S., & Swaroop, V. (2008). Public spending and outcomes: Does governance matter? *Journal of Development Economics*, *86*(1), 96–111.

Razmi, M. J., Abbasian, E., & Mohammadi, S. (2012). Investigating the Effect of Government Health Expenditure on HDI in Iran. *Journal of Knowledge Management, Economics and Information Technology*, *II*(5).

Safitri, I. (2016). Pengaruh Pengeluaran Pemerintah Sektor Kesehatan, Pendidikan dan Infrastruktur terhadap Indeks Pembangunan Manusia di Provinsi Aceh. *Jurnal Ilmiah Mahasiswa Ekonomi Pembangunan Fakultas Ekonomi Dan Bisnis Unsyiah*, *1*(1), 66–76.

Sanggelorang, S. M., Rumate, V. A., & Siwu, H. F. D. (2015). Pengaruh Pengeluaran Pemerintah Di Sektor Pendidikan Dan Kesehatan Terhadap Indeks Pembangunan Manusia Di Sulawesi Utara. *Jurnal Berkala Ilmiah Efesiensi*, *15*(2), 1–11.

Saraswati, E. (2012). Public Spending Education and Inequality: A Case Study in Indonesia. *International Journal of Social Science and Humanity*, *2*(5), 427–431. https://doi.org/10.7763/IJSSH.2012.V2.139

Sen, A. (1999). *Development as Freedom* (First). New York: Random House, Inc.

UNDP. (1990). *Human Development Report 1990*. https://doi.org/0-19-506481-X

Vierstraete, V. (2012). Efficiency in Human Development: A Data Envelopment Analysis. *The European Journal of Comparative Economics*, *9*(3), 425–443.

Wahyudin, A., Agussalim., & Suhab, S. (2015). Pengeluaran Publik dan Pembangunan Manusia di Sulawesi Selatan. *E-Journal Program Pascasarjana Universitas Hasanuddin*, 1–13.

Wijayanto, A., Khusaini, M., & Syafitri, W. (2015). Analisis Pengaruh Pengeluaran Kesehatan dan Pendidikan serta PDRB terhadap IPM (Studi Terhadap Kabupaten/Kota di Jawa Timur). *International Journal of Social and Local Economic Governance (IJLEG)*, *1*(2), 85–95.