

Effect of Education Expenditure, Health Expenditure, Independence Ratio, Effectiveness Ratio, and Gross Regional Domestic Product per Capita on Human Development Index and Income Inequality in East Kalimantan Province

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ABSTRACT

The purpose of this research is to analyze effect of education expenditure, health expenditure, independence ratio, effectiveness ratio, and gross regional domestic product per capita on human development index and income inequality in East Kalimantan Province. This research uses a quantitative approach. Research data comes from East Kalimantan Province from 2015 to 2022. This study uses path analysis. The research results show that education expenditure has a positive and significant effect on human development index in East Kalimantan Province. Health expenditure has a positive and significant effect on human development index in East Kalimantan Province. Independence ratio has a positive and significant effect on human development index in East Kalimantan Province. Effectiveness ratio has a negative and significant effect on human development index in East Kalimantan Province. Gross regional domestic product per capita ratio has a negative and significant effect on human development index in East Kalimantan Province. Education expenditure has a positive and significant effect on income inequality in East Kalimantan Province.

Health expenditure has a positive and significant effect on income inequality in East Kalimantan Province. Independence ratio has a positive and significant effect on income inequality in East Kalimantan Province. Effectiveness ratio has a positive and significant effect on income inequality in East Kalimantan Province. Gross regional domestic product per capita has a positive and significant effect on income inequality in East Kalimantan Province. Human development index has a positive and significant effect on income inequality in East Kalimantan Province.

Keywords: Education, Health, Independence, Effectiveness, Gross Regional Domestic Product per Capita, Human Development Index, Income Inequality

INTRODUCTION

Development is a systematic and continuous effort to create conditions that can provide various alternatives for achieving the aspirations of every citizen. Todaro and Smith (2011) say that development is seen as a multidimensional process that includes various fundamental changes to social structures, community attitudes, and national institutions that pursue accelerated

economic growth, overcoming income inequality, and alleviating poverty. Along with the implementation of regional autonomy and changes in the development paradigm underlying society, regional development requires a participatory approach, involving all elements of society in the region.

Regional governments are given the freedom to plan and implement development according to local potential and resources. Development will run well if the development budgeting plan is carried out correctly and is supported by regional income sources that have been well managed.

Regional autonomy means that regions are given the authority to manage their regional potential in developing the potential resources they have. Development developments will continue and will always require new arrangements to be made that lead to perfection. Fiscal decentralization in regional autonomy policies is carried out based on the consideration that regions know better the needs and service standards for the people in their regions. Each region is given the authority and obligation to prepare regional revenue and expenditure budgets. Regions are given considerable authority to spend the funds they manage (Lestari, 2013).

Fund budgeting is the key to ensuring that a region is able to manage regional potential with adequate financial readiness. The central government only acts as a facilitator who does not interfere too much in regional affairs, so that the regions are able to handle and solve the problems they face more independently. Regional governments must organize their activities from the planning stage to implementation as well as in terms of funding. In this case, regions are required to be prepared to be more independent, which is still being discussed, one of which is related to budgeting. Limited budget funds require regions to determine appropriate strategies in managing and

allocating funds efficiently in order to improve optimal public services.

Through the objectives of the state contained in the fourth paragraph of the 1945 Constitution, the government has the duty to protect the entire Indonesian nation and all of Indonesia's blood, to promote general welfare, educate the life of the nation, and participate in implementing world order based on freedom, eternal peace and social justice. To achieve state goals, local governments implement programs and activities to serve the community in all areas of public services, such as health, infrastructure, education and so on. The government's commitment to building the quality or welfare of society can be seen through the allocation of government spending from three types of spending, namely education spending, health spending and infrastructure spending. Based on the indicators that are the basis for measuring the human development index, the education sector and the health sector have an important role in creating human resources and development. Thus, there are at least two areas that the government needs to pay attention to in relation to efforts to expand the population's opportunities to achieve a decent life, namely education and health. In this case, the government can realize an increase in the level of welfare of its people through the role of allocating government spending in the education and health sectors.

According to Mangkoesobroto (2016), government spending reflects government policy. The government that determines a certain policy has costs that must be incurred. These costs are funded from the government budget which is an expense for the government. The budget allocated to a sector shows the government's commitment to problems in that sector (Subandi, 2011). As a form of government fiscal policy, every year the central government enacts the State Revenue and Expenditure Budget Law as the government's right and commitment in implementing development. Meanwhile,

regional governments annually establish Regional Revenue and Expenditure Budget Regulations in accordance with the development policies of each region. This is in accordance with the spirit of regional autonomy which has come into effect since the publication of Law Number 22 of 1999 concerning Regional Government. The State Revenue and Expenditure Budget and Regional Revenue and Expenditure Budget are the government's main tools for improving community welfare.

The government's commitment to building the quality or welfare of society can be seen through the allocation of government spending from three types of spending, namely education spending, health spending and infrastructure spending. Based on the indicators that are the basis for measuring the human development index, the education sector and the health sector have an important role in creating human resources and development (Sukirno, 2006). Thus, there are at least two areas that the government needs to pay attention to in relation to efforts to expand the population's opportunities to achieve a decent life, namely education and health. In this case, the government can realize an increase in the level of welfare of its people through the role of allocating government spending in the education and health sectors.

The purpose of this research is to analyze effect of education expenditure, health expenditure, independence ratio, effectiveness ratio, and gross regional domestic product per capita on human development index and income inequality in East Kalimantan Province.

RESEARCH METHODS

The research design is the entirety of the research, covering everything the researcher does, starting from making hypotheses and their operational implications to the final analysis, data which is then concluded, and suggestions are given. A research design states both the structure of the research problem and the investigation plan used to

obtain empirical evidence regarding the relationships in the problem. This research uses a quantitative approach. In general, the quantitative approach focuses more on the aim of generalization by carrying out statistical tests and is sterile from the researcher's subjective influence (Sugiyono, 2015).

Research data is all information from someone who is a respondent or comes from documents, either in statistical form or in other forms for research purposes (Santoso, 2004). The data used in this research is qualitative and quantitative. Research data comes from East Kalimantan Province from 2015 to 2022.

This study uses path analysis. According to Ghozali (2006), path analysis is the use of regression analysis to estimate causal relationships between variables or casual modes that have been previously determined based on theory. The path analysis method is a method that examines the direct and indirect influence of variables that are hypothesized as a result of the influence of treatment on these variables (Algifari, 2008). Path analysis is used to analyze the pattern of relationships between variables with the aim of determining the direct or indirect influence of a set of independent or exogenous variables on the dependent or endogenous variable (Gujarati, 2003). To answer the problem formulation above, this research uses path analysis as a research method.

RESULT AND DISCUSSION

General Description

East Kalimantan Province is an Indonesian province on the eastern tip of Kalimantan Island which borders Malaysia, North Kalimantan, Central Kalimantan, South Kalimantan, West Kalimantan, and Sulawesi. The total area of East Kalimantan Province is 127,346.92 km² and the population is 3,793,152 people in 2020. East Kalimantan Province is the region with the fourth lowest population density in the

archipelago. The capital of East Kalimantan Province is Samarinda City.

Before it was expanded into North Kalimantan, East Kalimantan Province was the second largest province in Indonesia after Papua, with an area of 194,489 square km which is almost the same as Java Island or around 6.8% of the total area of Indonesia.

East Kalimantan Province has a wealth of flora and fauna. In East Kalimantan Province, approximately 1,000 to 189,000 types of plants grow, including black orchids, the price per flower of which can reach Rp100,000 to Rp500,000.

The natural resource problem here is mainly illegal logging which is destroying the rainforest, apart from that the Kutai National Park in East Kutai Regency is also having its forests encroached on. Less than half of the rainforest remains. Local governments are still trying to stop this destructive habit. Apart from that, it also has natural resources for tourism.

Income inequality is one aspect of poverty that needs to be looked at because it is basically a measure of relative poverty, namely calculating poverty based on the

proportion of regional income distribution. Income inequality reflects the equal distribution of development results in a region or country, whether received by each person or from ownership of production factors among the population. Income inequality is greater in countries that are just starting their development, whereas in developed or higher countries the level of income tends to be more evenly distributed or the level of inequality is low.

The gini ratio or often referred to as the gini coefficient or gini index is a statistical measure used to measure inequality in the distribution of income or wealth in an area. The higher the gini index, the higher the level of inequality, which can be of concern in the context of economic and social inequality. For the East Kalimantan Province region, as can be seen in the graph above, from 2015 to 2018 the gini ratio experienced a significant increase. Meanwhile, from 2019 to 2022, the gini ratio has decreased.

Regression Analysis Test with Model Equation I and II

Table 1. Model Equation I

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.500	2.271		1.541	.000		
	Health	.039	.070	.477	5.563	.004	.814	4.016
	Education	.440	.043	.487	6.119	.000	.594	5.010
	Independence	.750	1.008	.839	4.744	.008	.764	6.094
	Effectiveness	-.250	.927	.562	6.270	.000	.691	5.000
	GRDP/C	-.250	.625	.511	5.400	.001	.706	4.844
a. Dependent Variable: HDI								

Source: Primary Data (Processed, 2024)

Education expenditure has a positive and significant effect on human development index in East Kalimantan Province. The allocated regional spending influences the development of the education sector because it not only focuses on spending on student activities, teachers, and school needs but also on improving educational facilities and infrastructure to support learning activities which can encourage an increase in the number of students able to complete school

to a higher level. The higher the average level of knowledge and skills possessed by the community, the easier it is for the community to apply and obtain results from the knowledge gained to increase income to meet their needs. This can help increase human development index in East Kalimantan Province and other sectors because quality education is the key to economic and social development.

Health expenditure has a positive and significant effect on human development index in East Kalimantan Province. The government expenditure budget for the health sector is still far below the allocation of expenditure or other government spending each year. The government has not realized it well enough so it is not strong enough to boost the growth of the human development index in the districts or cities of East Kalimantan Province from 2015 to 2022. Then, the factor that occurs is that during the observation year, the realization issued by the regional government to the health service only follows the last year's running budget. So, there are still many problems that need to be explored. Even though the life expectancy rate for East Kalimantan Province is the highest on Kalimantan Island, this does not rule out the fact that the realization of the budget for human resource development in the health sector still requires supervision and accuracy by the regional government.

Independence ratio has a positive and significant effect on human development index in East Kalimantan Province. The new growth results emphasize the important role of government, especially in increasing human development index. One of the objectives of implementing autonomy is to provide opportunities for regional independence to manage their own finances through the delegation of authority in the form of fiscal decentralization. The higher the regional income contribution and the higher the regional ability to finance its own capabilities will show positive financial performance. In this case, positive financial performance can be interpreted as regional financial independence in financing regional development needs, both physical development and human quality development and can support the implementation of autonomy in the region.

Effectiveness ratio has a negative and significant effect on human development index in East Kalimantan Province. Regional effectiveness in maximizing budget management and managing the potential that exists in the region and also providing optimal community services will be able to develop the economy. Based on the theory of fiscal federalism, implementing fiscal decentralization in a region so that the region becomes better. Regional governments are required to be able to provide better public services and also be able to explore revenue potential independently. In building and developing the economy, regional governments have the right and obligation to regulate and manage their own government affairs to increase the effectiveness of government administration. If the regional government succeeds in achieving the planned targets in organizing and managing government administration, it will have an impact on economic growth in the region. The implication of this research is that if effectiveness in implementing all government activities increases, it will increase economic growth in the districts or cities of East Kalimantan Province.

Gross regional domestic product per capita ratio has a negative and significant effect on human development index in East Kalimantan Province. The better gross regional domestic product per capita, the better for human development index will be, and vice versa. According to the theory put forward by Kuznet, that is, in the long term the government cannot be able to maximize the budget allocation for gross regional domestic product per capita to each region. The cause of this problem is the problem of scope and social disparities in each different region.

Table 2. Model Equation II

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.114	3.031		.492	.001		
	Health	.531	.025	.487	4.040	.001	.123	5.094
	Education	.603	.098	.664	4.997	.000	.171	2.000
	Independence	1.501	.802	.327	4.111	.000	.164	6.094
	Effectiveness	2.780	.722	.444	3.115	.001	.191	1.000
	GRDP/C	1.129	.599	.548	3.683	.001	.206	4.844
	HDI	1.001	.623	.610	3.745	.001	.210	4.732
a. Dependent Variable: Income Inequality								

Source: Primary Data (Processed, 2024)

Education expenditure has a positive and significant effect on income inequality in East Kalimantan Province. The allocated regional spending influences the development of the education sector because it not only focuses on spending on student activities, teachers, and school needs but also on improving educational facilities and infrastructure to support learning activities which can encourage an increase in the number of students able to complete school to a higher level. The higher the average level of knowledge and skills possessed by the community, the easier it is for the community to apply and obtain results from the knowledge gained to increase income to meet their needs. This can help increase income inequality in East Kalimantan Province and other sectors because quality education is the key to economic and social development. Increasing government spending in education sector in providing educational facilities and allowances for both students and teachers will be able to increase income inequality.

Health expenditure has a positive and significant effect on income inequality in East Kalimantan Province. Government spending on health can improve the quality of health, whether through medicines, medical care, and other equipment that supports health. The more facilities and quality increase, the more influence it will have on a country's development and vice versa. It can be concluded that government spending in the health sector for human resource development can be realized well. So, the government must continue to maintain this realization stage so that next

year the facilities that support health continue to operate well, thereby increasing income inequality.

Independence ratio has a positive and significant effect on income inequality in East Kalimantan Province. The new growth results emphasize the important role of government, especially in increasing income inequality. One of the objectives of implementing autonomy is to provide opportunities for regional independence to manage their own finances through the delegation of authority in the form of fiscal decentralization. The higher the regional income contribution and the higher the regional ability to finance its own capabilities will show positive financial performance. In this case, positive financial performance can be interpreted as regional financial independence in financing regional development needs, both physical development and increasing income inequality and can support the implementation of autonomy in the region.

Effectiveness ratio has a positive and significant effect on income inequality in East Kalimantan Province. Regional effectiveness in maximizing budget management and managing the potential that exists in the region and also providing optimal community services will be able to develop the economy. Based on the theory of fiscal federalism, implementing fiscal decentralization in a region so that the region becomes better. Regional governments are required to be able to provide better public services and also be able to explore revenue potential independently. In building and developing

the economy, regional governments have the right and obligation to regulate and manage their own government affairs to increase the effectiveness of government administration.

Gross regional domestic product per capita has a positive and significant effect on income inequality in East Kalimantan Province. The better gross regional domestic product per capita, the better for income inequality will be, and vice versa. According to the theory put forward by Kuznet, that is, in the long term the government cannot be able to maximize the budget allocation for gross regional domestic product per capita to each region. The cause of this problem is the problem of scope and social disparities in each different region.

Human development index has a positive and significant effect on income inequality in East Kalimantan Province. In order to achieve a prosperous community condition, the East Kalimantan Provincial Government carries out various kinds of economic programs, government activities in carrying out development require quite large funds, government expenditure reflects the combination of products produced to provide public goods and services to the community which includes choices for the decisions made by the government. The government's role in budgeting investment in the fields of health, education, fiscal independence, effectiveness ratio, and gross regional domestic product per capita is absolutely necessary for economic development and can influence human productivity or improve the quality of human resources. So, the government must be able to build a good educational facility and system. Government spending in the development sector can be allocated to provide educational infrastructure and provide educational services to the entire population of Indonesia evenly.

CONCLUSION AND SUGGESTION

The research results show that education expenditure has a positive and significant effect on human development index in East Kalimantan Province. Health expenditure has a positive and significant effect on human development index in East Kalimantan Province. Independence ratio has a positive and significant effect on human development index in East Kalimantan Province. Effectiveness ratio has a negative and significant effect on human development index in East Kalimantan Province. Gross regional domestic product per capita ratio has a negative and significant effect on human development index in East Kalimantan Province. Education expenditure has a positive and significant effect on income inequality in East Kalimantan Province. Health expenditure has a positive and significant effect on income inequality in East Kalimantan Province. Independence ratio has a positive and significant effect on income inequality in East Kalimantan Province. Effectiveness ratio has a positive and significant effect on income inequality in East Kalimantan Province. Gross regional domestic product per capita has a positive and significant effect on income inequality in East Kalimantan Province. Human development index has a positive and significant effect on income inequality in East Kalimantan Province.

The suggestions for this writing are as follows:

1. East Kalimantan Province should improve coordination and synergy in regional development planning with district or city regional governments and improve coordination with the private sector as government partners. The aim of this is so that the realization of expenditure intended for regional governments in districts or cities can be properly absorbed, in order to further improve performance in managing regional expenditure budgets in particular and regional income and

expenditure budgets in general. With good performance, the effectiveness, productivity and efficiency of spending will also improve. Especially in improving budget performance so that the desired optimization can be implemented immediately according to the vision and mission of East Kalimantan Province. In terms of efficiency of expenditure, East Kalimantan Provincial Government is to maximize its optimal growth in a reasonable expenditure budget from the current year onwards.

2. For future academics and researchers, it is hoped that the results of this research can be used as reference material for teaching or research activities. This is because this research still has shortcomings such as limitations in obtaining data and the time period used was only 8 years. So it is hoped that future research will be able to research by adding other independent variables and research years so that it can provide even better research results.

Declaration by Authors

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REFERENCES

1. Algifari. (2008). *Analisis Regresi*. Yogyakarta: BPFE.
2. Ghozali, Imam. (2006). *Aplikasi Analisis Multivariate dengan Program*.
3. Gujarati, Damodar. (2003). *Ekonometri Dasar*. Jakarta: Erlangga.
4. Lestari T. (2013). *Analisis Efisiensi Belanja Daerah di Jawa Timur: Studi Kasus Bidang Pendidikan dan Kesehatan Tahun 2009-2011*. Skripsi. Fakultas Ekonomi dan Bisnis Universitas Brawijaya.
5. Mangkoesobroto, D. (2016). *Ekonomi Publik*. Yogyakarta: BPFE-Yogyakarta.
6. Santoso, Singgih. (2004). *Mengatasi Berbagai Masalah Statistik Multivariat*. Jakarta: Elex Media Komputindo.
7. Sugiyono. (2015). *Metode Penelitian Kuantitatif, Kualitatif, dan R & D*. Bandung: Alfabeta.
8. Sukirno, Sadono. (2006). *Makro Ekonomi: Teori Pengantar*. Jakarta: Penerbit PT. Raja Grafindo Persada.
9. Subandi. (2011). *Ekonomi Pembangunan*. Bandung: Alfabeta. Sukirno.
10. Todaro, M. P. & Smith, S. C. (2011). *Pembangunan Ekonomi*. Edisi Kesebelas. Erlangga.

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