RESEARCH ARTICLE

Analysis Of Government Expenditure On Gross Regional Domestic Product In Eastern Kalimantan

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Abstract

Government spending plays a crucial role in a region's economy, especially in Eastern Kalimantan, which has a wealth of natural resources becoming one of the main drivers of the Indonesian economy. The study aims to analyze the influence of government spending on Gross Regional Domestic Product (GRDP) in Eastern Kalimantan from 2010-2023. The dependent variable of the study is regional gross domestic product while the independent variable is health spending, education expenditure, public service spending and housing and public facilities spending. The research method used is a double linear regression analysis with time series data. The results of the study show that government spending on education, public services and housing, and public facilities has a significant influence on the increase in GRDP in Eastern Kalimantan. It highlights the importance of strategically allocating government spending to boost the regional economy..

Keyword: GRDP, Education, Health, Public Services and Housing, and Public Facilities

Introduction

Gross regional domestic product is the amount of value added of goods and services produced by various units of production in the territory of a country over a certain period of time. (BPS, 2024). The GRDP is an indicator for measuring the economic growth of a region. It serves as a measure of the economic performance of a region and is often used to assess the overall health of the economy. One factor that can influence economic growth is government spending. Government spending is the spending activity carried out by the government in connection with infrastructure or salaries of employees with the aim of slowing the pace of economic growth in a given region. The local government's financial management system has become the most highlighted because it has to be clearly useful.

Government spending is an indicator that drives the economy of a region in their research (Abdieva et al., 2017; Hafidh, 2011; Rifa'i & Moddilani, 2021; Widiaty & Nugroho, 2020) they found that government spending influences economic growth. According to Wagner's law, proposed by Adolph Wagner at the end of the 19th century, economic growth tends to be accompanied by a proportional increase in government spending. Wagner argues that as the economy grows, public demand for public goods and services increases, which in turn encourages the government to expand its role and output. (Mpainei et al., 2023). On the other hand, the Keynes Hypothesis, developed by John Maynard Keys in the middle of the 20th century, emphasized the role of government spending as an instrument to regulate aggregate demand and, therefore, the rate of economic activity. According to Keynes, in a situation where the private sector is unable to generate sufficient aggregate demand to full employment, governments should step down through expansive fiscal policies to stimulate the economy. (Solikin, 2018).

East Kalimantan Province is one of the regions in Indonesia that has an important role in the national economy. East Kalimantan, which is currently facing infrastructure development, including the construction of Nusantara Capital (IKN), has a positive impact on economic growth. Government and private investment in infrastructure development demonstrates a strong commitment to improving the quality of life and the region's economy.
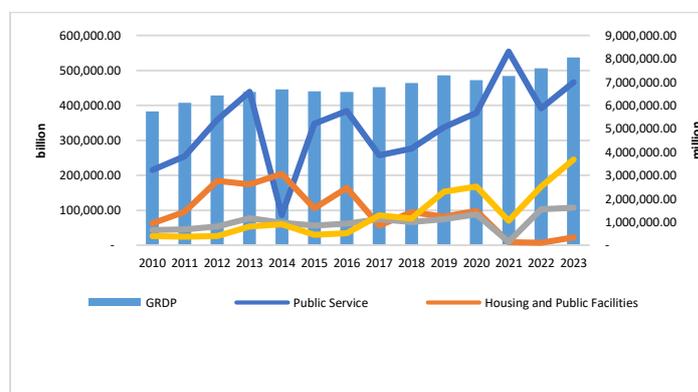
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Fig 1. Development of PDRB and Expenditure based on its functions in Eastern Kalimantan

Diagram 1 shows the significant development of the PDRB from 2010-2023 in 2023 recorded the RDRB of Rp 537.630 billion increased by 5.05 from 2022. On the other hand, government spending on functions is fluctuating. In the period from 2010 to 2023, East Kalimantan has shown strong commitment to improving public services, education, health, as well as housing and public facilities. These figures reflect the priority given to vital aspects such as infrastructure and basic services, which are the foundations for improving the quality of life and well-being of people.

By 2023, spending on education reached a peak with an allocation of Rp. 3,678,551,894 million. This marks a massive investment in human capital, which will have a long-term impact on regional development. Meanwhile, health spending also recorded the highest figure in the same year, at Rp 1.613.027,06 million, reaffirming the importance of health as one of the important pillars of social development. In 2014, spending on housing and public facilities peaked with a budget of Rp 3.062.316,05 million. This shows that in that period, there was a significant focus on building infrastructure that supports the daily life of the people.

Previous researchers have classified government spending into several types and examined its impact on economic growth. Their findings are still varied and further research is needed. Research carried out by (Mulugeta Emeru, 2023) with case studies in the ethopia country shows that education spending has an impact on economic growth in the country. Similar findings were found in research (Hafidh, 2011; Kaharudin et al., 2019; Kimani & Maingi, 2021; Purwanti & Rahmawati, 2021; Safira et al., 2019) while a study conducted by(Althofia & Agustina, 2015; Wahyudi, 2020) concluded that health spending had no impact on economic growth.

From the background above, researchers are interested in studying the impact of government spending on education, health, public services, and housing and public facilities on the regional gross domestic product in Eastern Kalimantan. The research is expected to contribute to academic literature on public economics and fiscal management, as well as to serve as a reference for other regional governments in Indonesia in designing and implementing effective budgetary policies.

Method

The study will use a quantitative approach to analyze the impact of spending on education, health, public services, and housing and public facilities on regional gross domestic product. (PDRB). The data used is secondary data from government reports and relevant statistical agencies. The data time series used is annual data from 2010 to 2023. The variable dependent is the regional gross domestic product. The independent variable is expenditure on education, health, public services, and housing as well as public facilities. The data will be analyzed using a dual linear regression model to determine the relative impact and statistical significance of expenditure on the sectors studied against the PDRB. The analysis will be done using SPSS 24.

The regression equations for the research are:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X3 + \beta_4 X_4 + e$$

Where :
Y= PDRB
X_1 = Health Expenditure
X_2 = Education Expenditure
X3= Public Service Expenditure
X_4= Housing and Public Facilities Expenditure
e = Error Term.

Results and Discussion

Normality Test

The normality test is a test used to determine whether the data is distributed normally or not. (K-S). Nominal distributed data if the sig value is less than 0.05

Table 1. ResultsNormality Test

		Unstandardized Residual
N		14
Normal Parameters[a,b]	Mean	.0982143
	Std. Deviation	16016794030000.000
Most Extreme Differences	Absolute	.140
	Positive	.116
	Negative	-.140
Test Statistic		.140
Asymp. Sig. (2-tailed)		.020
a. Test distribution is Normal.		
b. Calculated from data.		

In table 1, we get that the sig value is less than 0.05, which means that the data in this study is distributed normally so that the research can be derived using this data.

Multicolinearity test

The multicolinearity test is used to find a high correlation between two or more independent variables in a regression model. The Variance Inflation Factor (VIF) and Tolerance methods are two commonly used approaches to detect multicolinearity. VIF measures how much variability of an independent variable can be explained by other independent variables in the model. A high VIF value indicates a strong multicolinearity. Instead, Tolerance is the opposite of VIF and measures just how well an independent Variable is not explained with other independent variables. A low Tolerancy value indicate a strong multi-linearity value. Generally, VIF values below 10 or Tolerance values above 0.10 indicate no multicolinearity

Table 2. Multicolinearity test results

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Health	0.295	3.387
	Education	0.206	4.849
	Public Service	0.743	1.346
	Housing and Public Facilities	0.505	1.979
a. Dependent Variable: GRDP			

In table 2, it can be seen that for the independent variables of health, education, public service, and housing and public facilities, the symptoms of multicolinearity can be observed at tolerance values greater than 0.10 and VIF values smaller than 10.

Heterokedastisity test

The Heterocedastisity test aims to determine whether there is a particular pattern in the data variability that can affect the reliability of the regression model. If the variance of the error is not constant, then the model experiences heterocadastheness, which can lead to the estimation of the parameter becoming biased and less efficient. One of the methods used is with the Glejser method to detect heteroskedastisity by regressing the absolute value of the residual to the independent variable or the transformation of the independent variable. If the coefficient of the independent variable in this regression is significant or greater than 0.05, then this indicates the presence of heterocadastisity

Table 3. Heterokedastisity test results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3665472883 9271.200	1354432124 1264.100		2.706	0.024
	Healt	3.904	12.643	0.159	0.3	0.7

Model	B	t	Beta	t	Sig.
h				09	64
Education	0.357	5.481	0.040	0.0 65	0.9 50
Public Service	2.899	1.717	0.547	1.6 88	0.1 26
Housing and Public Facilities	3.399	3.762	0.355	0.9 04	0.3 90
a. Dependent Variable: ABS_RES1					

In table 3, it can be seen that for all independent variables in the survey namely health, education, public service, and housing and public facilities expenditures have significant values greater than 0.05, which means that in this study there are no symptoms of heterocedastisity.

Results of Linear Regression Analysis

Table 4. **Results of Linear Regression Analysis**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3918738807 24592.000	279634144 65192.000		14.014	0.000
	Health	14.630	26.103	0.138	0.560	0.589
	Education	36.166	11.316	0.944	3.196	0.011
	Public Service	5.290	3.544	0.232	1.492	0.017
	Housing and Public Facilities	3.261	7.766	0.079	0.420	0.043
R Square		0.838				
F		11.636				
F-sig		.001[b]				
a. Dependent Variable: GRDP						

Based on table 4, it can be seen that for the determination coefficient (R2) test of 0.838 or equal to 83.8 percent which means the independent variable in this study can influence the dependent variable of 83.8% while the remaining 16.2 percent is influenced by other variables that do not exist in the study. For the simultaneous test (F test) can be seen from the F-sig value of 0.001 that is smaller than 0.05 which means simultaneely independent variables in this study are able to influence dependent variables. In addition, a partial test (T test) showed that health expenditure has no influence on the PDRB in East Kalimantan while it is significant and influential education expenditures against the RDRB with a coefficient value of 14,630 which means that when the educational spending of 1 rupees then RRB will increase by 14,630. Furthermore, public service spending is influential and significant towards the RRRB of East Calimantan with the value of the cofficient of 5,290 which means when there is an increase in public service expenditure of 1 rupiah then R RRb will rise by 5 290 rupiah as well as for housing and public facilities spending has a significant impact on RRP of East kalimantan, with an effect of 3,261 that means when the spending on houses and public amenities increases by 1 rupee then RDB of Eastern Kalimant will increase with 3, 261 rupiah.

This influential government expenditure is in line with previous research (Aluthge et al., 2021; Garry & Valdivia, 2017; **Rambe & Febriani, 2020; Rifa'i & Moddilani, 2021; Safitri, 2021;** Siswantoro, 2022; Subroto, 2014). Education purchases, public services, as well as housing and public facilities play an important role in determining the Gross Regional Domestic Product (GDP) in Eastern Kalimantan. Education spending, as one of the main components of the APBD, has a direct and indirect impact on the PDRB. Directly, this spending improves the quality of human resources which is an important asset in economic development. First, investing in education improves the quality of human resources that are one of the major productive factors. Second, spending on education also drives demand for goods and services in other sectors, such as the construction of schools and other educational facilities, as well as the need for books and school supplies, which has a multiplier effect on the local economy. Improved quality of education produces a more skilled and productive workforce, capable of increasing efficiency and innovation in various sectors of the economy. This in turn can boost economic output and PDRB.

Basically, public service spending covers various types of local government spending aimed at meeting the needs of the general public, such as education, health, infrastructure, and other social services. This investment in public services not only improves the quality of life of people, but also drives economic activity through job creation and increased productivity. Research carried out in the period 2010-2023 showed that direct spending, including public service expenditure, has a significant influence on district/city GDP in East Kalimantan province. It affirms that proper budget allocation for public services can be a catalyst for regional economic growth.Local government spending on public services also reflects the priorities of the region's development. In Eastern Kalimantan, focusing on improving the quality of infrastructure and basic services has become an important factor in driving economic growth. With better infrastructure, accessibility and interregional connectivity are increasing, which in turn facilitates trade and investment.

From 2010 to 2023, East Kalimantan has undergone a number of significant changes in terms of economic and social development. One of the factors contributing to the region's economic growth is increased spending on housing and public facilities. Investment in this sector not only improves the quality of life of the people, but also has a significant positive impact on the regional gross domestic product. (PDRB).Procurement of housing and public facilities covers a wide range of aspects, from the construction of habitable houses to the provision of public infrastructure such as roads, bridges, and health facilities. Increases in this sector drive economic growth in several ways. First, infrastructure development increases economic efficiency and productivity by facilitating transportation of goods and services. Second, improved quality of housing contributes to improved public well-being, which in turn increases purchasing power and consumption.Research has shown that regional spending, including for housing and public facilities, has a significant influence on development inequalities in East Kalimantan Province. It shows that proper budget allocation can help reduce inequalities and drive more even economic growth.

Conclusions and Recommendations

Research conducted in East Kalimantan shows that spending on education, public services and spending on housing and public facilities has a positive and significant effect on GRDP in Kalimantan. Education spending also plays an important role in creating a skilled and innovative workforce, which is able to drive economic growth. Meanwhile, public services spending ensures efficient infrastructure and basic services, which are prerequisites for economic activity. Spending on housing and public facilities is also no less important, because it provides a suitable and supportive environment for economic growth.

Suggestions for further research are to focus on comparative analysis between regions to determine the effectiveness of spending allocation in each sector. This research can be

expanded by considering other variables such as demographics, education level, and geographic conditions that might influence the relationship between public sector spending and GRDP. In addition, it is important to evaluate the long-term impact of spending in these sectors, not only on GRDP, but also on overall social welfare. Thus, policies can be designed to optimize the positive influence of public spending on economic growth and societal welfare.

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