

The Effect of Special Allocation Funds, Special Autonomy Funds, and Regional Original Income on the Level of Education in Aceh Province

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ARTICLE INFO

Keywords: Education Level, Transfer Fund, Regional Autonomy

Received : 4, June

Revised : 19, June

Accepted: 21, July

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ABSTRACT

This study analyzes the impact of Special Allocation Funds (Dana Alokasi Khusus), Special Autonomy Funds (Dana Otonomi Khusus), and Locally Generated Revenue (Pendapatan Asli Daerah) on the level of education in Aceh Province. Data used are secondary data from the Central Statistics Agency (BPS) for 2013–2024. This indicates that while government funding supports infrastructure, it has not effectively improved learning quality. The Special Autonomy Fund also shows no significant effect, reflecting poor management despite Aceh being its sole recipient. With an average schooling duration of only 9.64 years in 2024, outcomes remain below the national level. In contrast, Locally Generated Revenue has a significant positive impact, as its steady growth from 2013 to 2024 has allowed more responsive and locally adapted education programs.

INTRODUCTION

The regional autonomy system is a system of governance adopted by the Republic of Indonesia. Regional autonomy covers various aspects, including financial management and development planning delegated from the center (Kharisma, 2013). The implementation of regional autonomy results in a separation of the authority of the central government and regional governments, including in the national monetary and fiscal aspects. In line with the separation of authority, financing for the implementation of power based on the principle of decentralization is provided through the Regional Revenue and Expenditure Budget (APBD). Meanwhile, financing for government activities related to the realization of the principle of deconcentration is borne by the State Revenue and Expenditure Budget (APBN). In addition, the implementation of government power and public services based on the principle of decentralization is given authority to regions to collect taxes accompanied by the distribution of revenue and financial transfers (grants), which are often referred to as balancing funds (Mega Christia & Ispriyarso, 2019).

In the 8-year period from 2017 to 2024, Aceh Province received special allocation funds in an uncertain amount. In 2022, the provision of Non-Physical DAK for Aceh Province decreased by 50% from the initial amount of around 1.4 billion Rupiah to around 769 million Rupiah. The original regional income of Aceh Province has increased from year to year from 2018 to 2022. In line with the opinion of Sumawan and Sukarthap (2016), a significant increase in the receipt of original regional income each year reflects the high financial resources owned by the region. If these financial resources are managed and utilized optimally, this will reflect the performance of the regional government. Although the original regional income has increased every year, Aceh Province still receives balancing funds which are greater than the total original regional income of Aceh Province each year.

The income given by the central government to Aceh Province has not met the national education standards. Although there has been a significant increase, Figure 1.2 shows that the average length of schooling in Aceh Province is still very small, namely 9.55 years or it can be said that they have only received education up to grade 9 of junior high school/equivalent. The government has launched a 12-year compulsory basic education program, but Aceh Province has not been able to achieve this goal. The role of the government in organizing basic compulsory education is very large, as evidenced by 90% of Elementary Schools (SD) being under the auspices of the government. However, efforts to improve basic education services still face significant challenges, including access gaps, low quality, relevance of education, and ineffective management of education implementation (Winarsih, 2013).

Aceh Province experienced an increase in both local revenue and average length of schooling. Thus, someone with a higher level of education should tend to get a better job and earn better income compared to those with lower education. If the income level reflects the level of productivity, then more individuals with higher education will be able to increase their productivity. This will have a positive impact on accelerating economic growth in the region

(Indrasari, 2009). If economic growth increases, tax and levy revenues will also increase, which means local revenue will also increase. Research conducted by Amelia, Arfan, and Abdullah (2019) shows that Special Allocation funds have a negative effect on regional spending in the education sector separately. On the other hand, local revenue has a positive and significant effect on regional spending in the same sector. Other research results regarding the effect of special autonomy funds on education levels, namely the operation of special community self-help funds aimed at improving education in Aceh has not met expectations. This deficiency can be attributed to ineffective management of budget allocations, which is caused by various activities that are not on target, coupled with weak coordination and collaboration across sectors.

Based on the background that has been explained, the central government has given responsibility and authority to the regional government. Therefore, the regional government is responsible for all financial activities it carries out including education financing. Therefore, from this explanation, the author is interested in continuing further research with the title "The Effect of Special Allocation Funds, Special Autonomy Funds, and Regional Original Income on the Level of Education in Aceh Province".

LITERATURE REVIEW

Fiscal Decentralization

Fiscal decentralization has the potential to stimulate economic growth and improve public welfare. This is due to the fact that local and central governments are often more effective in producing and providing public goods (Oates, 1993). In other words, every delegation of government authority will automatically have an impact on the budget requirements needed to carry out the authority. Fiscal decentralization is not just a matter of providing funds, but is aligned with the historical and cultural context, and takes into account the institutional situation, political dynamics, and prevailing economic conditions. Law Number 33 of 2004 does not explicitly mention the concept of fiscal decentralization. However, the balancing fund component is a very important source of regional revenue in the implementation of decentralization. In the context of fiscal policy, the balancing fund is a central element of the implementation of fiscal decentralization. This fund acts as the main source of income for local governments, especially when the Regional Original Income (PAD) has not been able to meet the financing needs in the Regional Revenue and Expenditure Budget (APBD).

Special Allocation Fund

According to the Stewardship theory by Donaldson and Davis (1991), which states a situation where management will focus more on fulfilling the interests of its organization as a primary goal, rather than individual interests. Thus, the Stewardship theory assumes that there is a close relationship between the level of satisfaction and the success of an organization. DAK is a source of income provided by the regional government to fund special needs, including the provision of public service facilities and infrastructure that have become regional affairs. Although special allocation funds are included in the sources of

revenue from the central government to regional governments, not all regions receive special allocation funds. The aim of this policy is to achieve equality and improvement of infrastructure conditions which are considered a national priority.

Special Autonomy Fund

After the 1998 political reform, Indonesia has several regions with Special Autonomy (Otsus) status, namely Aceh, Papua, and West Papua. Based on the provisions of Article 183 paragraph (2) of Law No. 11 of 2006 concerning the Government of Aceh, special autonomy funds are provided for 20 years, starting in 2008. The Special Autonomy Fund Formula and Use are as follows:

- a. The Special Autonomy Fund Formula for Papua and West Papua Provinces is equivalent to 2 percent of the national DAU ceiling for 20 years, the use of which is primarily intended for financing education and health.
- b. The Special Autonomy Fund Formula for Aceh Province stipulates that the allocation of this fund is 2 percent of the national General Allocation Fund (DAU) ceiling for the first 15 years. Then, in the 16th to 20th years, the percentage of funds will decrease to 1 percent of the national DAU ceiling. The funds are used to fund various development programs, especially in the development and maintenance of infrastructure, community economic empowerment, poverty alleviation efforts, and in the education, social, and health sectors.
- c. The amount of additional funds for infrastructure development in Papua and West Papua is determined by the Government and the DPR in accordance with the proposal from the province. These funds will be used specifically to finance infrastructure development in the region.

Local Original Income

According to Warsito (2001), Local Original Income (PAD) is income obtained and collected independently by the local government. Sources of PAD include local taxes, local levies, profits from Regionally-Owned Enterprises (BUMD), and other legitimate income. Law No. 28 of 2009 concerning Regional Taxes and Regional Levies regulates various matters related to the management of taxes and levies at the regional level in Indonesia. One of the main objectives of implementing regional autonomy is to accelerate the development process in autonomous regions, so that community welfare can increase (Juliansyah, 2018). With this autonomy, local governments are expected to be able to communicate directly with their citizens, which will accelerate and increase the efficiency of public services. Regional Original Income consists of several components. Regional Original Income includes regional tax results, regional levy results, results from regionally owned companies, and results from the management of other separated regional assets. In addition, regional income also includes legitimate funds originating from government grants, including donations from the government and other donations regulated in laws and regulations.

Education Level

The Human Capital Theory developed by Becker (1965) states that formal education is a significant investment for individuals and society as a whole. This investment opens up wider employment opportunities, especially for those who achieve higher levels of education. This theory explains that education plays a role in instilling knowledge, skills, and values in individuals. Thus, education can increase a person's learning capacity and productivity. Education requires a significant investment of time and money. However, the benefits of this investment are enormous for individuals and society. Those who pursue higher education typically have greater earning potential than those without such qualifications, and generally, the higher the level of education attained, the higher the income that can be expected. In addition, progress in education plays a significant role in reducing poverty levels and can also drive economic growth.

Average Length of Schooling

According to Todaro (2000), the labor market is greatly influenced by the level of formal education received by workers. Formal education itself refers to an education system that is implemented officially and in a structured manner, with a curriculum that has been determined by the government. In order to improve the quality of human resources in Indonesia, the government is trying to improve access and quality of education by launching various programs, such as the School Operational Assistance (BOS), which provides financial support to schools, as well as the 12-year compulsory education program which aims to ensure that every child in Indonesia can receive education up to secondary education level. This effort is made so that the quality of education and the skills of the workforce in Indonesia can continue to develop and be better prepared to face challenges in the global labor market. Although they start working later than those who immediately enter the workforce after completing secondary education, the income they receive will increase faster and higher in the long term, as explained by Todaro (2000). In other words, although higher education requires more money and time, the benefits obtained in the form of a larger and more stable income will provide much greater benefits compared to those who start their careers earlier.

METHODOLOGY

In this study, the type of data used is secondary data. . The analysis uses data obtained from the Central Statistics Agency (BPS) of Aceh Province which includes variables of s Special Allocation Funds (DAK), Special Autonomy Funds (DOKA), and Original Revenue Region (PAD). The data used in this study covers the period from 2013 to 2024, which can be accessed through the website and publication reports of the Central Statistics Agency. In addition, researchers also collected data from the official website of the Directorate General of Fiscal Balance of the Ministry of Finance of the Republic of Indonesia which is available online through the website <https://djpk.kemenkeu.go.id/> .

To test the effect of independent variables on poverty rate, multiple linear regression analysis is used. Before conducting the regression analysis, a classical assumption test will be carried out to verify the validity of the model. This test

includes checking normality, multicollinearity, heteroscedasticity, and autocorrelation. Data processing and analysis will be carried out using SPSS software. The multiple linear regression model used in this study is formulated as follows:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + e$$

Description:

Y = Education Level (years)

α = Constant

β_1X_1 = Special Allocation Fund (rupiah)

β_2X_2 = Special Autonomy Fund (rupiah)

β_3X_3 = Local Original Income (rupiah)

e = Interfering Variable (residual)

The objective is to identify the influence of independent variables, consisting of Special Allocation Fund (X1), Special Autonomy Fund (X2), and Local Original Income (X3), on the dependent variable, namely Education Level (Y) in Aceh Province. In the context of this study, the application of multiple linear regression allows researchers to simultaneously evaluate the contribution of each independent variable to changes that occur in the dependent variable, as well as determine the strength and direction of the relationship between these variables. Thus, this method is very useful for testing hypotheses that have been formulated and for explaining the phenomena studied more comprehensively, based on quantitative data available during the observation period.

RESEARCH RESULT

Normality Test

Table 1. Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		12
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	7.77326047
Most Extreme Differences	Absolute	.102
	Positive	.067
	Negative	-.102
Test Statistic		.102
Asymp. Sig. (2-tailed)		.200 ^{c,d}
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Based on the SPSS output in table 1, the Kolmogorov Smirnov Significance value is obtained from all residual data values. In this study, the Kolmogorov Smirnov test results show a value of 0.200, which is greater than the significance level of 0.05. This concludes that the research data is normally distributed.

Multicollinearity Test

Table 2. Multicollinearity Test

Model		Collinearity Statistics		
		B	Tolerance	VIF
1	(Constant)	755.143		
	DAK	4.221E-12	.383	2.611
	DOKA	5.186E-13	.512	1.955
	PAD	6.221E-11	.467	2.139

Based on the SPSS output in table 2, it is known that the VIF values of the DAK (X1), DOKA (X2), and PAD (X3) variables are 2.611, 1.955, and 2.139. The tolerance values of the DAK (X1), DOKA (X2), PAD (X3) variables are 0.383, 0.512, and 0.467. It can be concluded that the data does not experience multicollinearity.

Heteroscedasticity Test

Table 3. Heteroscedasticity Test

Model		t	Sig.
1	(Constant)	.430	.679
	DAK	1.734	.121
	DOKA	.243	.814
	PAD	-.601	.564

Based on the Glejser Test output from SPSS, it can be seen that in the regression model there are no symptoms of heteroscedasticity. This result indicates that there are no independent variables that statistically significantly affect the dependent variable ABRESID, because the significance value of each variable is above 0.05.

Autocorrelation Test

Table 4. Autocorrelation Test

Runs Test	
	Unstandardized Residual
Test Value ^a	-.30400
Cases < Test Value	6
Cases >= Test Value	6

Total Cases	12
Number of Runs	4
Z	-1.514
Asymp. Sig. (2-tailed)	.130
a. Median	

Based on the SPSS output in table 4, the Asymp. Sig. (2-tailed) value is known to be 0.196, which is higher than 0.05. Thus, it can be said that there is no autocorrelation in the regression model.

Hypothesis Test

F Test

Table 5. F Test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14420.007	3	4806.669	57.854	.000 ^b
	Residual	664.659	8	83.082		
	Total	15084.667	11			
a. Dependent Variable: Tingkat Pendidikan						
b. Predictors: (Constant), PAD, DOKA, DAK						

Based on the table above, the calculated F value is 57.854 with a significance level of 0.001. It is known that Ftable ($\alpha = 0.05$) with degrees of freedom (df1) of 3 (number of independent variables / K) and df2 of 8 (n-k-1) produces an Ftable value of 4.07. Because the calculated F of 57.854 is greater than Ftable 4.07 and the significance value of 0.001 is less than 0.05 ($0.001 < 0.05$), it can be concluded that simultaneously, the variables of Special Allocation Fund, Special Autonomy Fund, and Regional Original Income have an influence on the Level of Education in Aceh Province.

T Test

Table 6. T Test

	Model	t	Sig.	T tabel
1	(Constant)	31.442	.000	2,306
	DAK	.633	.545	
	DOKA	.261	.801	
	PAD	8.652	.000	

From the table above, it can be explained as follows:

- a. The calculated value of Special Allocation Fund (X1) on Education Level (Y) is 0.633, smaller than ttable 2.306, so it can be concluded that Special Allocation Fund is not significant on Education Level.
- b. The calculated value of Special Autonomy Fund (X2) on Education Level (Y) is 0.261, smaller than ttable 2.306, so it can be concluded that Special Autonomy Fund is not significant on Education Level.
- c. The calculated value of Regional Original Income (X3) on Education Level (Y) is 8.652, greater than ttable 2.306, so it can be concluded that Regional Original Income has a positive and significant effect on Education Level.

Coefficient of Determination (R²)

Table 7. Coefficient of Determination (R²)

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.978 ^a	.956	.939	9.11496
a. Predictors: (Constant), PAD, DOKA, DAK				
b. Dependent Variable: Tingkat Pendidikan				

Based on the output in table 7, it shows that the Adjusted R Square value in the research regression model is 0.939. This shows that the Special Allocation Fund (X1), Special Autonomy Fund (X2), and Regional Original Income (X3) variables are able to explain the Education Level (Y) variable by 93.9%, while the remaining 6.1% is explained by other factors outside this research model.

DISCUSSION

The Effect of Special Allocation Funds on Education Levels

The test results found that the independent variable Special Allocation Funds simultaneously has an effect on Education Levels, but individually or partially does not affect Education Levels. This is indicated by the results of the regression analysis of the unemployment rate variable which shows a significance value of 0.545, greater than 0.05.

The Effect of Special Autonomy Funds on Education Levels

The test results found that the independent variable Special Autonomy Funds did not have a significant effect on Education Levels in Aceh Province. These results are in line with research (Alqarni et al., 2022) which states that the management of Special Autonomy funds in the education sector in Aceh Province is still ineffective. Many activities carried out have not achieved the expected targets, coordination between sectors is still weak, long-term support is inadequate, and there is a lack of creative programs that can improve the quality of education.

The Effect of Regional Original Income on Education Levels

Based on the results of statistical tests, the Regional Original Income variable obtained a significant positive result on Education Levels. In this case, it shows that if the income of Regional Original Income is high, it will improve the education sector. This result proves that the Regional Original Income issued by Aceh Province is able to contribute to improving education. This is indicated by the results of the regression analysis of the unemployment rate variable which shows a significance value of 0.000, less than 0.05.

CONCLUSIONS AND RECOMMENDATIONS

The Aceh Provincial Government is expected to manage the Special Allocation Fund effectively, not only for infrastructure, but also to improve the quality of learning, such as teacher training, curriculum development, and provision of learning resources. Community involvement in planning and evaluation is also important so that funds are used optimally. A comprehensive evaluation is needed of the use of the Special Autonomy Fund, with a focus on programs that support improving the quality of education, such as school construction, teacher training, and local curriculum. Transparency, accountability, and public participation must also be improved. Regional governments are advised to increase PAD through managing local potential and allocating it sustainably to the education sector, especially for programs that have a direct impact such as teacher training, learning facilities, and targeted scholarships.

ADVANCED RESEARCH

This study aims to critically analyze the effectiveness of the Aceh Provincial Government's management of the Special Allocation Fund (DAK) and Special Autonomy Fund (Otsus) in enhancing the quality of education, with a specific focus on strategic interventions such as teacher professional development, curriculum contextualization, and provision of learning resources. Employing a mixed-methods approach, this research will assess not only the fiscal allocation patterns but also the alignment of these investments with measurable educational outcomes. Furthermore, it explores the role of community participation in planning and monitoring, evaluating how participatory governance influences transparency, accountability, and the impact of funded programs. By integrating financial analysis with stakeholder perspectives, the research seeks to formulate a sustainable framework for optimizing local revenue (PAD) allocations to education, emphasizing direct-impact programs such as targeted scholarships, inclusive infrastructure, and evidence-based teacher training initiatives that respond to regional socio-cultural contexts.

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