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Special Allocation Fund and Poverty Rate in Indonesia

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Abstract

The Special Allocation Fund is distributed to specific areas to aid them in funding special regional activities that follow national interests. Giving regional government's broad autonomy is meant to hasten the realization of social welfare, as seen by reducing poverty. This study aims to examine the influence of the Special Allocation Fund for education, health, and infrastructure on the poverty rate in Indonesia, using the Poverty Gap Index (P_1) as a proxy for the poverty rate. The study employed annual data from 33 Indonesian provinces from 2015 to 2018 and panel data regression analysis utilizing the Fixed Effects Model (FEM). The study discovered that the Special Allocation Fund for Education and Health has a negative and significant impact on poverty, but the Special Allocation Fund for Infrastructure has a positive but not significant impact on poverty. The central and regional governments must work together to guarantee that the Special Allocation Fund is distributed effectively to sectors directly relevant to poverty reduction efforts.

Keywords: special allocation fund; education; health; infrastructure; poverty rate; poverty gap index

JEL classifications: C33; H51; H52; H54; I31

1. Introduction

Human development can be used as an indicator for the development of country. A country is categorized as a developed country based not only on the Gross Domestic Product (GDP) but also on such aspects as life expectancy and education level of its citizens. Human development is an effort to enhance people's opportunity to achieve a decent life, which can be done through upgrading basic capacity and increasing purchasing power (Widodo, Waridin & Kodoatie 2011). At the practical level, improving basic capacity is an effort to increase people's productivity through increasing knowledge and health status. Thus, three sectors that directly affect poverty, namely education, health, and infrastructure, require government's attention in connection with efforts to enhance people's opportunity to achieve a decent life (Rini & Tambunan 2021). It can be realized through the Special Allocation Fund for the education, health, and infrastructure sectors (Ministry of Finance 2004).

Based on the Indonesian Law No. 33 of 2004 regarding the Regional Government and Central Government Fiscal Balance (Ministry of Finance 2004), the Special Allocation Fund is the funds given from the State Budget, or *Anggaran Pendapatan dan Belanja Negara* (APBN), revenues allocated to assist in the funding of specific regional projects that conform to the national priorities. Several sectors that receive the Special Allocation Fund in a large portion are education, health, and infrastructure sectors. *First*, the Special Allocation Fund for the education sector is intended to support the delivery of quality and fair nine-year compulsory education program. *Second*, the Special Allocation Fund for the health sector aims to improve access and quality of healthcare, focusing on reducing maternal, infant, and child mortality, and strengthening nutri-

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tional problem prevention, disease prevention, and health promotion, in particular for residents with poor health, disadvantaged residents, residents in the remote, border, and island areas, and residents with health problems. *Lastly*, the Special Allocation Fund for the infrastructure sector is budgeted for the development and maintenance of road, irrigation, drinking water, and sanitation infrastructure.

The education, health, and infrastructure sectors are the most important components of economic growth and development (Sukmaadi & Marhaeni 2021). According to Todaro & Smith (2014), economic development is inextricably tied to education and health. On the one hand, a better state of health can boost the return on education. On the one hand, a better state of health can health asset can boost the return on schooling investment education. Health is a crucial component in a child's participation in school as a formal learning process. Longer life expectancy can boost the return on investment in education, while better health leads to lower depreciation of the educational asset. Increasing educational assets, on the other hand, will boost the return on investment in health because many health services rely on basic skills learned in school, such as personal hygiene and sanitation, as well as literacy and numeracy, and education is frequently required to promote personal hygiene and health practices. Adequate support for infrastructure is then a determining factor for economic growth (Stern 1991). Infrastructure is a major aspect in development and economic growth. Reungsri (2010) points out that infrastructure, as an embodiment of public investment, influences economic and social dimensions simultaneously.

In regional economic growth, regional elements involve provinces, districts, and municipalities. The target of economic growth in one region may be different from that of the others considering the different economic potential that exists in each region (Li 2021). Thus, the policies adopted must be in accordance with the potential possessed by each region. Because Indonesia has entered the era of regional autonomy, each region must make and implement policies that can maximize its economic potential to encourage economic growth in the region. The Gross Regional Domestic Product (GRDP) will improve the welfare of the residents of the region, and therefore, the poor population and poverty rate will decrease (Bala 2013).

This research aims to examine the influence of the Special Allocation Fund for education, health, and infrastructure on the Indonesian poverty rate from the 2015- to 2018 period. Sulistyowati (2013) believes that the education, health, and infrastructure sectors reduce the poverty rate significantly. Sukmaadi & Marhaeni (2021) discovered that government spending on the infrastructure, health, and education sectors could decrease narrow income inequality in quest with a purpose for poverty alleviation. To analyze the poverty rate in Indonesia, data released by *Badan Pusat Statistik* (BPS) or BPS-Statistics Indonesia, which include the number of poor people, poverty line, percentage of poor people, and the Poverty Gap Index (P_1) can be used (Kusumaningrum & Sambodo 2015; Nasrudin 2016). This research analyzes the education, health, infrastructure sectors and the Poverty Gap Index (P_1) at the national level. This is, to the best of the authors' knowledge, the first research to attempt to do so. The following hypotheses were tested in this study: (1) the Special Allocation Fund for Education has a negative effect on poverty rate; (2) the Special Allocation Fund for Health has a negative effect on poverty rate, and (3) the Special Allocation Fund for Infrastructure has a negative effect on the poverty rate.

The findings from this study has implications for different stakeholders: (1) for the government as decision makers and its relevant partners: to inform policies to alleviate poverty and improve social welfare, and (2) for academics and researchers: to contribute to knowledge basis about the Special Allocation Fund linked with the poverty rate in Indonesia to inform future studies.

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2. Literature Review

Previous empirical studies found different results with regard to the relationship between government spending and the poverty rate. Widodo, Waridin & Kodoatie (2011) analyzed the impact of the government's health and education expenditure on poverty reduction in 2007–2008 through the measure of increased human development in Central Java Province. The findings indicate that government expenditure on health and education sectors will impact poverty if the government directs these expenditures to increase the human development quality. Misdawita & Sari (2013) studied the influence of government expenditures on health, education, and subsidy on poverty in Indonesia. The results show that government expenditure on education helps alleviate poverty but not on subsidies and health. Makahanap, Naukoko & Wauran (2014) examined the effect of government expenses for health and education sectors on the poverty rate in the Sangihe Island District. The findings show that government expenses on education have a negative but not statistically significant influence on poverty, but government expenses on health have a negative and statistically significant impact on poverty.

Fithri & Kaluge (2019) conducted a study on the effect of government spending towards health and education on the poverty rate in East Java Province in 2010-2014. The results indicate that the effect of government expenditure on the education sector has a negative but not significant impact on poverty. On the other hand, the health sector's government expenses on poverty have a positive but not significant influence. Sukmaadi & Marhaeni (2021) studied the impact of government expenses on the infrastructure, health, and education sectors on income inequality and economic growth in Bali Province. The results show that government spending on three sectors can decrease income inequality and increase economic growth to alleviate poverty.

Elburz, Nijkamp & Pels (2017), Marinho et al. (2017), and Canare & Francisco (2019) agree that fiscal decentralization can significantly reduce the poverty rate. On the other hand, Asghar, Hussain & Rehman (2012) argue that public investment in the education, health, and infrastructure sectors can contribute more to increasing productivity and reducing poverty, so there is a need to distribute more funds to these sectors. Meanwhile, Amakom (2013) argues that public expenditures can help the government realize the ultimate goal of poverty alleviation as well as inequality reduction. Chemingui (2007) found in Yemen's case that public expenditure for the health sector can decrease the poverty level, while Hossain (2014) found that government expenditure can alleviate poverty in Bangladesh. Castro-Leal, Dayton & Demery (2000) also found that the health sector is an important basic service in any effort to reduce poverty and is often subsidized by government funds to meet that goal. Heltberg, Simler & Tarp (2003) state that increase in public expenditures on education and health can strongly combat poverty in Mozambique. Likewise, Gounder & Xing (2015) also found that in Fiji, public expenditure on the education sector affects poverty alleviation significantly. Fan, Huong & Long (2004) found that government investment in the agricultural sector has the highest effect on the poverty reduction in Vietnam, followed by infrastructure and education, while Fan, Zhang & Zhang (2000) found that government investment in the education sector has the highest impact on poverty alleviation in China, followed by agriculture and rural infrastructure.

3. Method

The following is the conceptual explanation of the variables studied. We define poverty as an individual's inability to fulfill the minimum necessities of life (BPS-Statistics Indonesia 2019). BPS-Statistics Indonesia released several indicators to calculate the poverty rate by using a measure of ability to meet basic needs (basic needs approach) to indicate whether a person or a household is poor. One of these indicators is the Poverty Gap Index (P_1),

which is a measure of the poors' average spending gap in comparison to the poverty line. A decline in the value of the Poverty Gap Index (P_1) indicates that the average expenditure of the poor tends to be close to the poverty line and the inequality of expenditure of the poor is also narrowing down. This study uses the Poverty Gap Index (P_1) indicator as a proxy for the poverty rate in Indonesia. To calculate this indicator, BPS-Statistics Indonesia uses the National Socio-Economic Survey, or *Survei Sosial Ekonomi Nasional* (SUSENAS), from the Module of Consumption and Core Panel with the formula:

$$\mathrm{P_1} = \frac{1}{\mathrm{N}} \sum_{\mathrm{i=1}}^{\mathrm{q}} \left[\frac{\mathrm{z} - \mathrm{y_i}}{\mathrm{z}} \right] \tag{1}$$

where:

$\mathrm{P_1}$: Poverty Gap Index;
z : Poverty Line;
$\mathrm{y_i}$: Average of monthly expenditure per capita of the population under the poverty line ($\mathrm{i} = 1, 2, 3, \ldots, \mathrm{q}$), $\mathrm{y_i} < \mathrm{z}$;
q : Number of population under the poverty line;
N : Number of total population.

The Special Allocation Fund is one type of the Balancing Funds (*Dana Perimbangan*) allocated from the State Budget for certain regions to fund particular projects, handled by the regional government and also within the national priorities, such as the needs for transmigration areas, the needs for several types of investment or infrastructure, road construction in remote areas, and primary irrigation channels. The bases for determining the allocation are the general criteria considering the regional financial capacity in the Local Government Budget, or *Anggaran Pendapatan dan Belanja Daerah* (APBD), and technical criteria set by the state ministry or technical department (Ministry of Finance 2004).

The variables to be evaluated in this study are (1) the Special Allocation Fund for education, health, and infrastructure as independent variables and (2) the Poverty Gap Index (P_1), which is a proxy for the poverty rate, as the dependent variable. Our data comes from the yearly statistics of 33 provinces in Indonesia from 2015 to 2018, constituting 132 observations. DKI Jakarta was omitted since it possessed a sizable Local Government Budget (BPS-Statistics Indonesia 2018). The Ministry of Finance provided information on the Special Allocation Fund for the education, health, and infrastructure sectors. BPS-Statistics Indonesia provided the Poverty Gap Index (P_1) data. This study employs two types of analyses: descriptive and inferential. The data processing used *EViews 10* and *Microsoft Excel 2013* software packages.

Descriptive analysis is a fundamental approach for summarizing and characterizing items based on readily available data and knowledge. We use tables, graphs, averages, medians, and standard deviations to show the findings of this research. This report provides an overview of the Special Allocation Fund and the poverty rate in Indonesia.

The inferential analysis in this study is used to find the influence of the Special Allocation Fund for the education, health, and infrastructure sectors on Indonesia's poverty rate. We use a set of time-series and cross-section data, hence making a panel data utilization for this research. This analysis has several advantages, including its ability (1) to control individual heterogeneity, (2) to provide more complete information, more variety, less collinearity between more degrees of freedom and variables, and (3) to observe the dynamics of adjustment (Baltagi 2005). The Poverty Gap Index (P_1) as the dependent variable was transformed into the logarithmic form to anticipate the non-linear relationships between the dependent and independent variables, and also variables without normal distribution (Benoit 2011). The regression model used is presented as follows:

$$\begin{aligned} \log(\mathrm{P1_{it}}) \quad = \quad & \alpha + \beta_1 \mathrm{Education_{it}} + \beta_2 \mathrm{Health_{it}} \\ & + \beta_3 \mathrm{Infrastructure_{it}} + \varepsilon_{\mathrm{it}} \end{aligned} \tag{2}$$

where:

$\mathrm{P_1}$: Poverty Gap Index;
$\mathrm{Education}$: Special Allocation Fund for the educa-

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tion sector (IDR in million);
Health : Special Allocation Fund for the health sector (IDR in million);
$\mathrm{Infrastructure}$: Special Allocation Fund for the infrastructure sector (IDR in million);
i : Provinces rank to-i^{th};
t : Research period (2015–2018);
α : Intercept;
β : Coefficient of each independent variable;
$\varepsilon_{\mathrm{it}}$: Error term.

The procedures of the process for panel data regression analysis, based on Baltagi (2005) are: (1) building the model based on previous research, determining the independent and dependent variables; (2) model-identification in panel data regression using three models, namely the Common Effects Model (CEM), the Fixed Effects Model (FEM), and the Random Effects Model (REM), we pick the best fitting model using Chow, Hausman, and BP-LM Tests; (3) confirming the assumptions of the best-fitting model (i.e., normality, homoscedasticity, non-autocorrelation, and non-multicollinearity); (4) model significance assessment using the adjusted R^2, t-test, and F-test; and (5) interpreting the model based on the ideas given and previous studies.

4. Results and Analysis

4.1. Descriptive Results

Sequentially, Figures 1–3 display the average of the Special Allocation Funds for the education, health, and infrastructure sectors between 2015 and 2018 by province. As can be seen in Figure 1, the two provinces that received the highest Special Allocation Fund for the education sector in the 2015–2018 period were West Java and East Java, with the allocation amounting to IDR766.14 billion and IDR638.76 billion, respectively. The two provinces with the lowest allocation were North Kalimantan at IDR34.21 billion and East Kalimantan at IDR49.64 billion.

Focusing on efforts to strengthen the capacity of local governments in providing quality education services for all is an obligation to improve the quality of the education sector. The priority of funds given for education, the quality of available inputs, and their distribution tend to be better for local governments with better quality governance, in this case the local governments in Java regions.

Figure 2 shows the two provinces that received the highest Special Allocation Fund for the health sector in 2015–2018 were Papua at IDR1.34 trillion and East Java at IDR911.44 billion. The two provinces that received the lowest allocation were North Kalimantan at IDR101.40 billion and DIY at IDR113.22 billion. This suggests that the focus on increasing health provision is well targeted based on cases of disease and population in an area, such as malaria in Papua.

As shown in Figure 3, the two provinces that received the highest Special Allocation Fund for the infrastructure sector in 2015–2018 were Papua at IDR1.98 trillion and East Java at IDR1.70 trillion. The provinces that obtained the lowest allocation were DIY at IDR171.30 billion and North Kalimantan at IDR236.43 billion. This shows the government focus on improving infrastructure, especially in the Eastern regions.

Papua was the province with the highest allocation of the Special Allocation Fund for both the health and infrastructure sectors. However, this had insignificant effect on reducing poverty in Papua. It can be seen that in Figure 4, the Poverty Gap Index (P_1) of Papua and West Papua reached 8.11 and 6.62, the largest two in 2015-2018. The province that had the lowest Poverty Gap Index (P_1) was Bangka Belitung at 0.63 and followed by South Kalimantan at 0.72.

The higher the index value, the further the average expenditure in that region from the poverty line. This indicates that the poor population in the Eastern regions, especially in Papua, require more efforts to escape from the shackles of poverty compared to the poor in the Western regions. The following are the outcomes of inferential analysis based on panel data regression analysis.

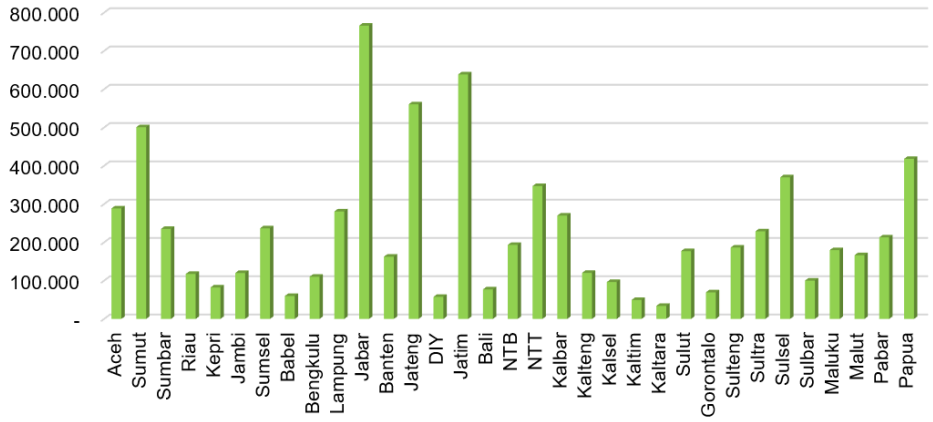

Figure 1. Average Special Allocation Fund for the Education Sector by Province, 2015–2018
Source: Ministry of Finance (processed)

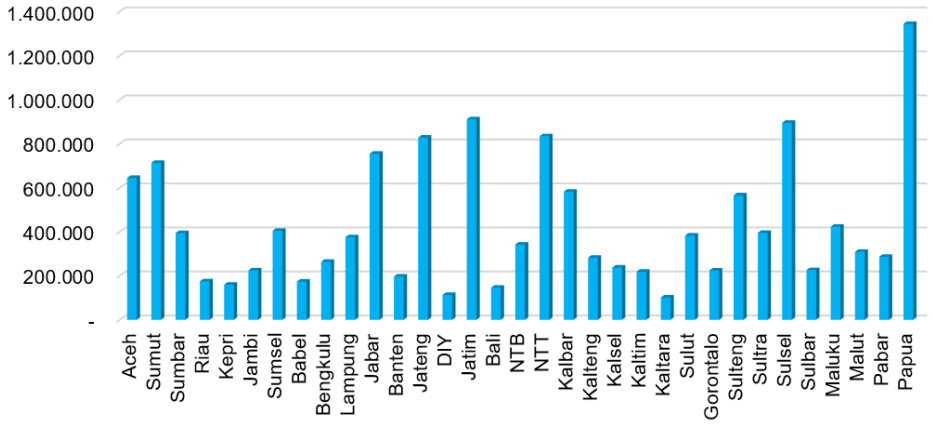

Figure 2. Average of Special Allocation Fund for the Health Sector by Province, 2015–2018
Source: Ministry of Finance (processed)

4.2. Model Summary

4.2.1. Model Specification

The panel data regression model is used to analyze the effect of the Special Allocation Fund for the health, education, and infrastructure sectors on Indonesia's poverty rate in 2015–2018. In general, there are three possible panel data regression estimation models might be used, namely Fixed Effects Model (FEM), Common Effects Model (CEM), and Random Effects Model (REM). From these models, the Hausman test, the Breusch-Pagan Lagrange Multiplier test, and the Chow test were then performed to determine the best fitting model.

4.2.2. Model Identification

The Chow test was used to compare the CEM and FEM models. Appendix 1 shows that based on the results of data processing the probability value is close to 0.0000, smaller than the alpha of 0.05. Therefore, the decision taken is to reject H0. So, it can be said that the FEM estimation model is more suitable than the CEM model for this study.

The Hausman test was used to compare the REM and FEM. The results of data processing in Appendix 2 show that the probability value is 0.0010 with an alpha value of 0.05. The decision taken is to reject H0 because the probability value is smaller than the alpha value. Thus, it can be said

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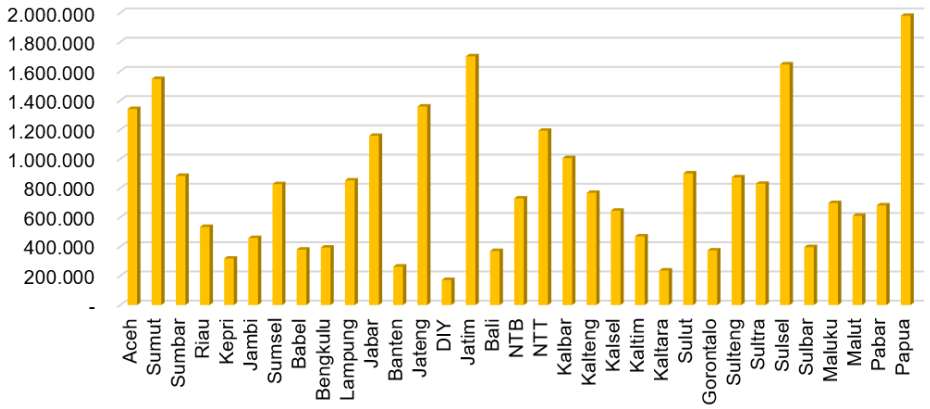

Figure 3. Average of Special Allocation Fund for the Infrastructure Sector by Province, 2015–2018
Source: Ministry of Finance (processed)

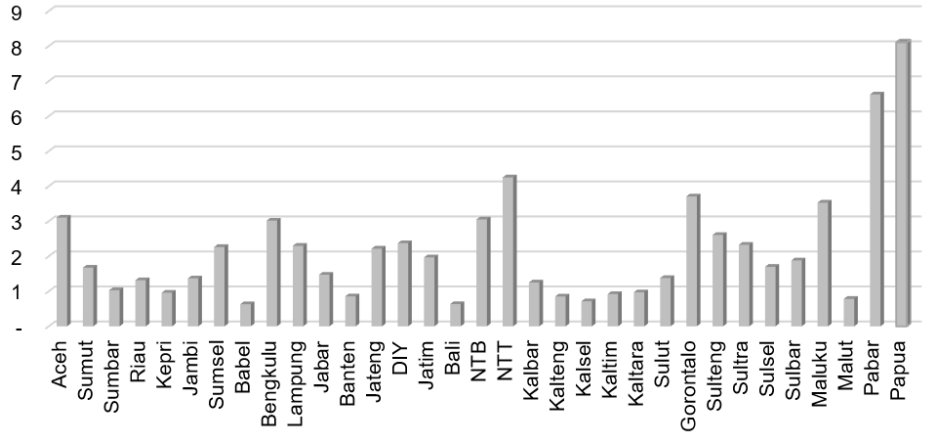

Figure 4. Average of Poverty Gap Index (P_1) by Province, 2015–2018
Source: BPS-Statistics Indonesia (processed)

that the FEM panel regression estimation model is more suitable than the REM model in the context of this study. Since the Chow and Hausman tests have shown that the FEM model is the most suitable panel data regression model, the Lagrange Breusch-Pagan multiplier test is not necessary.

4.2.3. Classical Assumption Test

After obtaining the FEM model as the most suitable model, the next step is to evaluate the classical assumptions. After obtaining the FEM model as the most suitable model, the next step is to evaluate the classical assumptions. The classical assumption will be fulfilled if the following four assumptions have been satisfied: (1) normality, (2) non-multicollinearity, (3) homoscedasticity, and (4) non-autocorrelation.

4.2.4. Normality Test

Comparing the probability of the Jarque-Bera value is one option to perform a normality test. As can be seen in Appendix 3, the probability value 0.202341 is bigger than alpha 0.05, indicating that the normality assumption has been met.

In Appendix 4, all of the correlation coefficients between treatment variables are less than 0.80. This indicates that there is no multicollinearity in

the data. It can also be said that there is no strong correlation between the treatment variables in the regression model.

Furthermore, each treatment variable and described variable also has a correlation coefficient of less than 0.80. So it can be said that the variables described and the treatment variables do not have a reciprocal relationship.

4.2.5. Heteroscedasticity Test

Heteroscedasticity assumption was checked using the Glejser test. If the probability value of each independent variable is larger than 0.05, no heteroscedasticity is detected. The results presented in Appendix 5 show that all the independent variables have a probability value greater than 0.05, hence no heteroscedasticity is detected.

4.2.6. Autocorrelation Test

Autocorrelation test can be done by inspecting the Durbin-Watson value. If the value of Durbin-Watson (d) is close to 2, the assumption of no autocorrelation is fulfilled. The value of Durbin-Watson in the Fixed Effects Model is 2.214026 (Table 6), hence no autocorrelation is detected.

4.2.7. Significance Model Test

As shown in Appendix 6, the adjusted R2 value is 0.977840. This means that the Special Allocation Fund for the education, health, and infrastructure sectors can explain 97.78 percent of the variation in the Indonesian poverty rate in 2015–2018. The remaining 2.22 percent is defined by other variables that are not covered in this model. The test results also show that the probability value of the F-test is close to 0.0000. Therefore, it can be concluded that the Special Allocation Fund for the education, health, and infrastructure sectors simultaneously has a significant influence on the poverty rate in Indonesia at the 95 percent confidence level.

Furthermore, the t-test results show that the two independent variables partially have a significant effect on Indonesia's poverty level partially at the 90 percent confidence level.; the Special Allocation Fund for the education sector (0.0579) and health sector (0.0020) with the probability values less than 0.10. This result implies that the model significance obtained is sufficient, so the analysis and interpretation steps can be done. The equation is:

$$\begin{aligned}\log(\mathrm{P1_{it}}) &= 0.642240 - 1.54\mathrm{E}-07\mathrm{Education_{it}} \\ &\quad -1.50\mathrm{E}-07\mathrm{Health_{it}} \\ &\quad +1.29\mathrm{E}-08\mathrm{Infrastructure_{it}} \qquad (3)\end{aligned}$$

4.3. Estimation Results

4.3.1. The Effect of the Special Allocation Fund for the Education Sector on Poverty Rate

The results of the analysis suggest that the Special Allocation Fund for the education sector has a negative and significant impact on the rate of poverty in Indonesia. This finding is in accordance with the hypotheses and theories that constructed it which state that an increase in the Special Allocation Fund for the education sector will significantly reduce poverty rate. This finding is also in line with that by Suwardi (2011) suggesting that local government spending on education had a significant negative effect on Indonesia's poverty in 2005–2008. These results are also in line with the cases of Central Java Province in 2007–2012 (Wibowo 2014) and DIY Province in 2007–2014 (Sari 2018).

An increase in the Special Allocation Fund for the education sector provides opportunity for the poor so that they have equal access to education. Therefore, the Special Allocation Fund for the education sector contributes to the poverty alleviation effort in Indonesia.

4.3.2. The Effect of the Special Allocation Fund for the Health Sector on Poverty Rate

The results of this study indicate that the Special Allocation Fund for the health sector has a significant negative correlation with the poverty rate in Indonesia. The result is consistent with the hypoth-

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esis and theory which state that an increase in the Special Allocation Fund for the health sector will significantly reduce poverty rate. This result is in line with Naue (2015) who stated that public spending on the health sector can significantly reduce the poverty rate of districts and cities in Gorontalo Province and Mardiana, Militina & Utary (2017) who stated the same thing in the case of East Kalimantan Province.

An increase in the Special Allocation Fund for the health sector gives better access to health facilities for the poor. With improved health, the poor are expected to be more productive so that they can earn a more decent income to meet their daily needs.

4.3.3. The Effect of the Special Allocation Fund for the Infrastructure Sector on Poverty Rate

In the context of the Special Allocation Fund for infrastructure, the findings of this study indicate that there is an insignificant positive impact on Indonesia's poverty rate. An increase in the Special Allocation Fund for the infrastructure sector has given a new spirit to regions in Indonesia with the construction of new infrastructure, such as toll roads, airports, and ports, to support the activities of the residents. However, it appeared that the poor do not benefit as much as the rich from the newly available facilities and infrastructure. In reality, larger public expenses on the infrastructure sector will leads to higher poverty rate and inequality between provinces (Lestari 2018). This outcome is not in line with the theory and hypothesis that an increase in the Special Allocation Fund for the infrastructure sector will significantly reduce poverty rate. It is also not in accordance with findings from Mardiana, Militina & Utary (2017) showing that the local government's infrastructure expenses can lower the East Kalimantan Province's poverty rate. However, the finding from this study further confirms that by Naue (2015) suggesting that public expenditure on the infrastructure sector has a positive yet not significant effect on districts and cities' poverty rate in Gorontalo Province.

5. Conclusion

The data show that in 2015–2018 West Java Province received the largest Special Allocation Fund for the education sector of all the other provinces, at IDR766.14 billion. Papua was the province with the highest Special Allocation Fund for the health and infrastructure sectors, at IDR1.34 trillion and IDR1.98 trillion, respectively. However, with the average Poverty Gap Index (P_1) which is still around 8.11, this has proven to have no effect on reducing the poverty rate in Papua. This suggests that the poor in the Eastern regions, especially in Papua, need more effort to be free from the shackles of poverty than the poor in the Western regions.

This study is designed to analyze the impact of the Special Allocation Fund for the health, education, and infrastructure sectors on Indonesian poverty rate. This goal is in accordance with the government policy to reduce poverty. The results of the inferential analysis using the Fixed Effect Model (FEM) panel data regression indicate two main findings. First, the Special Allocation Fund for the education and health sectors has a negative and significant impact on the poverty rate. Second, the Special Allocation Fund for the infrastructure sector has a positive but not significant impact on the poverty rate. This research finds that the latter outcome is not in line with the hypothesis and theory.

The findings from this research leads to several policy implications. First, the central and regional governments should establish synergy to allocate the Special Allocation Fund to sectors directly related to poverty alleviation efforts, especially in the Eastern regions. Second, the government should allocate the Special Allocation Fund to the education sector equally beyond the Java regions so that the poor can benefit from equitable access to quality education.

Third, the government should increase the Special Allocation Fund for the health sector, which has been found to significantly contribute to reducing the poverty rate in Indonesia. Fourth, the govern-

ment should carefully consider the allocation of the Special Allocation Fund for the infrastructure sector to ensure that the poor can benefit from the newly constructed infrastructure as much as, if not more than, the rich. Infrastructure impact on reducing poverty should be monitored in the long run rather than in the short run, since new infrastructure is expected to encourage economic activity, and tangible outcome from the activity often cannot be seen in the short term.

The Special Allocation Fund mechanism requires an active role of the local governments to propose project location and budget allocation to the central government. This means that the local governments should be more careful when making decision on the location and budget needed for infrastructure project funded by the Special Allocation Fund. The local governments should carefully plan infrastructure development that will benefit the local community and bring more tangible impact in the foreseeable future.

This study, however, is not without limitations. This current study only uses three independent variables for the 2015–2018 period. It is recommended that further studies include other economic measures that impact poverty levels and extend the study period to obtain more insight of the impact of the Special Allocation Fund.

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Appendix

Appendix 1. The Chow Test Results

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	150.541850	(32,96)	0.0000
Cross-section Chi-square	519.467636	32	0.0000

Source: Processing results of *EViews 10*

Appendix 2. The Hausman Test Results

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	16.350183	3	0.0010

Source: Processing results of *EViews 10*

Appendix 3. Normality Test Results

Series: Standardized Residuals
Sample 2015–2018
Observations 132

Name (1)	Value (2)
Skewness	0.326919
Kurtosis	2.608191
Jarque-Bera	3.195600
Probability	0.202341

Source: Processing results of *EViews 10*

Appendix 4. Multicollinearity Test Results

	$\log(P_1)$	Education	Health	Infra-structure
$\log(P_1)$	1.0000	0.2354	0.3928	0.3678
Education	0.2354	1.0000	0.4368	0.4842
Health	0.3928	0.4368	1.0000	0.7440
Infra-structure	0.3678	0.4842	0.7440	1.000

Source: Processing results of *EViews 10*

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Appendix 5. Heteroscedasticity Test Results

Dependent variable: RESABS
Method: Panel Least Squares

Variable	Coefficient	Std. Error	Prob.
C	0.080395	0.022135	0.0005
EDUCATION	-2.69E-08	3.61E-08	0.4581
HEALTH	2.00E-10	2.12E-08	0.9925
INFRASTRUCTURE	-1.58E-08	1.73E-08	0.3620

Source: Processing results of *EViews 10*

Appendix 6. Estimation Results of Fixed Effects Model

Dependent variable: $\log(\mathrm{P}_1)$
Method: Panel Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.642240	0.049156	13.06546	0.0000
EDUCATION	-1.54E-07	8.01E-08	-1.919162	0.0579
HEALTH	-1.50E-07	4.71E-08	-3.181271	0.0020
INFRASTRUCTURE	1.29E-08	3.83E-08	0.336743	0.7370
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.983760	Mean dependent var		0.553409
Adjusted R-squared	0.977840	S.D. dependent var		0.653971
S.E. of regression	0.097352	Akaike info criterion		-1.593962
Sum squared resid	0.909835	Schwarz criterion		-0.807743
Log likelihood	141.2015	Hannan-Quinn criter.		-1.274479
F-statistic	166.1566	Durbin-Watson stat		2.214026
Prob(F-statistic)	0.000000			

Source: Processing results of *EViews 10*