Factors Influencing Health Expenditure Allocation in Indonesian Local Governments

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ABSTRACT

Health expenditure in the local government budget is used to improve public health services. The key to sustainable and optimal health development lies in the amount of health budget focused on strengthening public facilities. This study aims to examine the effects of other lawful local-owned revenue, general allocation grant, unspent funds at the end ofthe fiscal year, and life expectancy on health expenditures in Indonesia from 2017 to 2018. The population which used in this study are all Indonesian local governmentsat the districts/citieslevel. The methodology used is purposive sampling using the criteria of districts/cities that provide complete financial information. The final sample is 1004 observations within two consecutiveyears. All dataare obtained from two reliable documents issued by the Indonesian government: RealizedLocal Government Budget and Life Expectancy Datain 2017 and 2018. This study shows that all variables (other lawful local-owned revenue, general allocation grant, unspent funds at the end of fiscal year, and life expectancy) significantly influencehealth expenditures.

Keywords: other lawful local-owned revenue, general allocation grant, unspent funds at the end ofthe fiscal year, life expectancy, health expenditures, local governments

1. INTRODUCTION

Investing in the health sector is beneficial for a country's economy. All countries need to appropriately allocate funds for their citizens' health (Rahman et al, 2018). The health sector expenditure can vary across countries due to economic conditions, environmental problems, and other contextual factors (Haseeb et al, 2019). Unfortunately, health spending in some developing countries is still underrepresented in government budgets. This condition also occurs in Indonesia.

According to Indonesian Act Number 36 of 2009 article 171, the government health budget allocation is at least 5% from the state budget minus the salaries. Meanwhile, the percentage in the province, district/city is a minimum of 10% from local government budgetexcludesthe wages. IndonesianFinance Minister, Sri Mulyani, stated that the health budget increased by an average of 21.9% per year between 2009-2017, and in 2018the health budget fulfilled 5% of the budget.However, the allocation for health expenditures in Indonesiais still presumedtoo low. This condition should induce reconsiderationconcerning the allocation of funds aimed atthe health sector,considering that

health is anessential factor to support economic growth.

Budget funds are not only distributed tothe central government but also local governments. This fund shows that health is a decentralized affair, so it becomes the responsibility of local governments. Health reform through health decentralization in Indonesia startedin 2001 by bringing better and closer services to the community (Utomo et al, 2011).

Shah (2014) stated that the local government's role is emphasized on its ability to provide services for the public interest to improve its citizens' quality of life. Luthfia&Siregar (2013) revealed that a region's success in terms of expenditure policies for each region could be reflected in the expenditure allocation for each function and type of expenditure. Local government spending represents the amount made and approved from local budgets, budgets from public institutions, and institutional budgets that are fully or partially funded from regional budgets. Local budget expenditures reflect the financial efforts made by local public authorities for social, cultural, and economic needs, public development services, and others.

Heywood et al (2009) state that public funds for health at the district level come from three sources: the district government, provincial government, and central government. A critical issue in decentralization is how districts have discretion over the use of public funds for health spending. In particular, the allocation of national resources from the center to the regions based on needs is also a significant problem in most health systems (Ensor et al, 2012)

Tsofa et al (2017) mentioned a need for harmony between planning and budgeting in the health sector due to the government's separation of processes. This alignment involves the decision-making process on managing public affairs from the central government level to the regional level by the parties concerned. One of the factors supporting the implementation of a harmonious government is the possession of financial resources that can be used to run the wheels of government, both nationally and locally.

Local government sources consist of local own-source revenue,unspent funds at the end ofthe fiscal year, development revenue, revenue sharing fund

from tax and non-tax, also other lawful local-owned revenue. IndonesianActNumber33 of 2004 regulatedthe increased local government revenue from transferring the fiscal balance from the central government to local governments. Thisfiscal balance consists of general allocation fund, a special allocation fund, and a regional portion of the central tax revenue sharing.

Other lawful local-owned revenue (OLR) is a different kind of income that is not included in local retribution, official income, and other type of local taxes. This revenue has an opening character for local governments to carry out activities in the form of material in several productive activities to support regional policies in specific fields. Regulation of the Minister of Home Affairs Number 13 of 2006 arranged other lawful local-owned revenueis provided with the objective of regional budgeting revenues that are not included in the types of results of separated regional wealth management, regional taxes, and regionalretribution.Thisother lawful local-owned revenuecan influence government spending, mainlyincrease the likelihood of the expenditure on the health sector.

According to Government Regulation Number 55 of 2005, a general allocation fund isallocated to equitable distribution of financial capacity among regions in implementing decentralization. This fund is a transfer fund from the government and a component of local governments' spending as development funds.This fund's allocationis based on a formula consisting of a basic allocation and a fiscal gap.The higher general allocation fund can increase the amount of health expenditure.

Regulation of the Minister of Home AffairsNumber 13of 2006, the unspent funds at the end ofthe fiscal yearare the excess difference in the realization of budget revenues and expenditures in one budget period. The remaining budget calculation represents the implementation of further activities on direct expenditure expenses and other financing obligations that have not been completed by the end of the fiscal year. Specifically, in the local government budget, the realization ofincome and expenditure in the previous period will result in the remaining funds. The larger the unspent funds indicate the less accurate budgeting or the weak implementation of a budget. However, the local government can use this unspent fund to improve

sectors that remain left behind, such as the health sector.

Life expectancy rate is the average of the estimated number of years that a person can take during his life. It can also be interpreted as the possible age that a person born in a particular year can reach. Obrizan Maksym and Wehby G.L (2018) mentioned that life expectancy is an essential marker of public health commonly used in estimating health function in countries. Life expectancy is also one of the leadingeconomic growth indicators with literacy rates and GDP per capita. It can be assumed that life expectancy also affects an increase in government spending in a region in the health sector in that area. This directly affects population productivity and per capita income which can spur economic growth in that area.

In Indonesia, researches that focused on the determinant of health spending is quite rare. With these limitations, this researcher wants to add insight to readers by conducting empirical research on several factors that affect health spending in Indonesia's districts and cities in the 2017-2018 fiscal year.

2. Research Method

This research is quantitative research to answer research problems related to data in statistical programs and numbers (Wahidmurni, 2017). The descriptive approach is used to determine an independent variable's existence, either only one or more variables, and to find its relationship with other variables (Sugiyono, 2017).

2.1 Population and sample

This study's population is all cities/districts in Indonesia for the fiscal years 2017 and 2018. The sampling technique used in this study was to use the purposive sampling technique with the criteria of having complete data or information in the local (district/city) government budget realization report and life expectancy rate statistical data in 2017 and 2018.

2.2 Data collection method

This study uses documentation/secondary data sources. The data used in this study are gathered from local government budget realizationreports of the cities/districts in Indonesia fiscal year 2017 and

2018 published by the Directorate-General of Regional Fiscal Balance (within the Ministry of Finance)and the life expectancy statistics data published by the Central Bureau of Statistics.

2.3 Variables

This study's dependent variable is expenditure in the health sector, which is the value of health function expenditures in local government budget realization reports in each city/district. This study's independent variables areother lawful local-owned revenue, general allocation grant, unspent funds at the end of fiscal year, and life expectancy.

Other lawful local-owned revenue (OLR) is all regional revenue other than transfer income and regional revenue, including emergency funds, grant funds, and other income following the provisions of laws and regulations. OLR can be formulated as follows:

$$OLR = RI - BT - LO$$

Whereas,

RI: Regional Income

BT: Fiscal balance transfers from the central government to regions

LO: Local own-source revenue

The general allocation fund (GAF) uses a fiscal gap approach, namely the difference between fiscal needs reduced by regional fiscal capacity and basic allocation in the form of salaries for regional civil servants. GAF can be formulated as follows:

$$GAF = BA - FG$$

Whereas,

BA: Basic allocation (salary of local civil servants)

FG: Fiscal gap(Fiscal need - fiscal capacity)

Unspent funds at end of fiscal year (UNF) is the excess of realized budget revenues and expenditures during one budget period. UNF can be formulated as follows:

$$UNF = SD + NV - FN$$

Whereas,

SD: Surplus/deficit in the previous year

NV: The net value of the previous year

FN: Financing

Life expectancy (LEX) estimates the average additional age a person can expect to live. Life

expectancy can be defined as the average number of years people live after they reach their x-birthday. Therefore, life expectancy is the average number of years that a person will live since the person was born. LEX can be formulated as follows:

$$LEX = NA : NP$$

Whereas,

NA: The number of ages when people died

NP: The number of people who

2.4 Analysis method

The data analysis used in this research is a quantitative analysis which is expressed by numbers and the calculations are made using statistical methods assisted by the Eviews program. In this study, tests are normality test, hypothesis test with multiple linear regression, T-test and F test.

Hypothesis testing in this study was carried out by multiple linear regression analysis. According to Ghozali (2011), multiple linear regression analysis is an analysis used to test the magnitude of the influence of more than one independent variable on the dependent variable, assuming a constant variable. The following is a multiple linear regression equation model in this study:

$$HEX = \alpha + \beta_1 OLR + \beta_2 GAF + \beta_3 UNF + \beta_4 LEX + e$$

Whereas,

HEX: Health expenditure

OLR: Other lawful local-owned revenue

GAF: General allocation grant

UNF: Unspent funds at the end of fiscal year

LEX: Life expectancy

3. RESULTS AND DISCUSSION

This study obtained data from 508 local government budget realizationreportsin cities/districts all over Indonesia for two consecutive years (2017 and 2018). However, 12 reports did not meet the requirements to be sampled because the data was incomplete. This study finally used 1004 observations.The following table 1 is a descriptive statistical analysis of each research variable, including the amount of data obtained (N), minimum value, maximum value,

mean or average, and standard deviation that have been processed using Eviews.

Table 1. Descriptive statistics

	N	Min	Max	Mean	Std. Dev
HEX*	1004	991	1.260.000	219.000	155.000
OLR*	1004	21.700	1.690.000	282.000	213.000
GAF*	1004	79.300	2.060.000	677.000	287.000
UNF*	1004	96.400	1.200.000	115.000	144.000
LEX	1004	54,60	77,54	68,95	3,57

Source: Processed data using Eviews, 2020.

The analysis used in this research is multiple linear regression. It is used to analyze how much influence the independent variable has on the dependent variable. The results of multiple regression testing can be seen in table 2.

Table 2. Multiple linear regression result

Variable	Coef.	Std. Error	t-Stat	Prob.	N
OLR	0.245818	0.020411	1.204.352	0.0000	1004
GAF	0.155449	0.014615	1.063.659	0.0000	1004
UNF	0.325683	0.021997	1.480.563	0.0000	1004
LEX	5.78E+09	7.96E+08	7.260.777	0.0000	1004

Source: Processed data using Eviews, 2020

From table 2 above, the model of the regression equation for the influence of other lawful local-owned revenue, general allocation grant, unspent funds at the end of fiscal year, and life expectancy on health expenditure is as follows

$$HEX = \alpha + 0.246\ OLR + 0.155\ GAF + 0.326\ UNF + 5.78\ LEX + e$$

3.1 T test

Table 2 shows that variable OLR and has prob value 0.000 lower thanα 0.05. It means there isa significant effectof other lawful local-owned revenueon health expenditure. Variable GAF also has prob value 0.000 lower than α 0.05, which

denotes that general allocation fund has a significant effect on health expenditure.Same goes to variable UNF and LEX which both have prob value 0.000 <α 0.05. It indicates that unspent funds at end of fiscal yearand life expectancysignificantly affect health expenditure.

3.2 R^2 and F test

The coefficient of determination (R^2 test) is used to measure how much the independent variable's contribution can explain the dependent variable.

Table 3. R^2 test result

Model	R Square	Adjusted R Square
1	0.709599	0.708437

Source: Processed data using Eviews, 2020

It can be seen from table 3 above, the result for the coefficient of determination with adjusted R^2 is 0.708437. It indicates that 71% of health expenditures are explained by all independent variables, while other factors outside this model explain the remaining 29%.

Table 4. Ftest result

Model	F-statistic	Prob (F-statistic)
1	610.269	0.000000

Source: Processed data using Eviews, 2020

Based on table 4, it can be concluded that there is a probability value of F-count of 0.00 <0.05. This means that H_0 is rejected and H_1 is accepted, or this study's hypothesis is accepted. It also means that simultaneously all independent variables (other lawful local-owned revenue, general allocation grant, unspent funds at the end of fiscal year, and life expectancy)significantly affecthealth expenditures.

3.3 Discussion

The data analysis results above indicate that other lawful local-owned revenue has been statistically proven to have a significantproven effect on health expenditures. Itdemonstrates that the increase in other lawful local-owned revenue can have an impact on increasing health expenditures. This result is in line with research from Yuriko (2013) which stated that other lawful local-owned revenue positively impacts regional spending. In this case,

other lawful local-owned revenueis used as financing for capitation funds.

The general allocation fund has also been shown to have a statistically significant effect on health expenditures. These results prove that the increase in the general allocation fund can impact increasing health expenditures. However, this result is not in line with research from Nabilah, Soelistyo, and Kusuma (2016) whose found that general allocation fund has no significant effect on regional spending. This difference may be because this study does not use regional spending but is specifically related to health costs.

The regression result shows that the unspent funds at the end of the fiscal year significantly affecthealth expenditures. This proves that the increase in the unspent funds at the end of the fiscal year can impact the increasing spending for health functions. This result is in line with Ahmad (2016), who found that the unspent funds at the end of fiscal year significantly affect and have a positive relationship with regional spending. In this case, the excess balance of the budget calculation used is the remaining capitation funds from the previous year as financing for capitation funds in the following year.

Life expectancy is also proven to have a statistically significant effect on spending on health functions. Itdemonstrates that the increase in life expectancy can have an impact on increasing health expenditures. This can happen because life expectancy is associated with the health status of a country's population.

4. CONCLUSIONS

Health expenditure is a type of regional expenditure used as funding for implementing government affairs that have become the authority of cities/districts. With the implementation of regional autonomy in 2000,all reagents/mayors in Indonesia have to allocate at least 15 percent of the Local government budgetfor health costs.

This study used a sample of 1004 observations, namely all cities/regencies in Indonesia fiscal year 2017 and 2018 that met the data completeness criteria. This study used multiple linear regression testing and found that all independent variables, namelyother lawful local-owned revenue, general allocation grant, unspent funds at the end ofthe fiscal year, and life expectancy,significantly affect

a city/district's health expenditure in Indonesia. Therefore, local governments can increase health spending by focusing on increases in those variables.

This study also has limitations, such as limited literature related to the determinants of health expenditure. Future research can be done by other variables that may be related to health expenditure. Further research can also be carried out using a different scope, for example, at the provincial government.

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