Efficiency level of zakat funds for the social sector and poverty alleviation in Indonesia

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Abstract: This study aims to measure the efficiency of BAZNAS, LAZNAS and APBN funds. It uses input variables of total assets and operational costs and the output variables of funds received and disbursed using the data from 2002 to 2017 on data envelopment analysis (DEA) method. The average technical efficiency score of revenue and funds distributed by BAZNAS, LAZNAS is 80.30%. This means that there is a 19.7% chance that it can be optimised to achieve a perfect technical efficiency score. Meanwhile, the APBN received an efficiency score of 94.3%. Historically, the technical efficiency scores of BAZNAS and LAZNAS funds have fluctuated with a positive trend. Based on the results of multiple linear regressions, the effect of the efficiencies of BAZNAS, LAZNAS and APBN funds shows that their funds have a significantly negative effect on the poverty level.

Keywords: National Amil Zakat Agency; BAZNAS; LAZNAS; APBN fund; data envelopment analysis; DEA; technical efficiency score; economy; Indonesia.

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1 Introduction

Indonesian Government is making efforts to reduce poverty in Indonesia with the main goal of prospering the lives of the people. Ministry of Finance is continuing to strengthen budget allocations for poverty reduction and inequality reduction in low-income communities taking various measures, e.g., Family Hope Program (PKH), Smart Indonesia Program, National Health Insurance (JKN), food assistance, BidikMisi and village funds.

Iskana (2009) examining the effects of spending and income on economic growth, poverty and unemployment in the district and city governments of East Java province showed that regional expenditures had no significant effect on economic growth. However, regional income and expenditures have positive and significant effect on reducing poverty and unemployment (ibid). Iskana (2009) further show that regional income does not have a significant effect on the economic growth.

Zakat is one of the pillars of Islam. In essence, zakat is a certain part of the property of a Muslim that must be paid at the command of Allah SWT for the benefit of others at a predetermined rate. Zakat is paid with the aim of cleaning up the property of the owner and as a gratitude for the blessings that have been given to a Muslim. The institutions that handle and oversee, as well as manage zakat funds nationally and thoroughly in Indonesia are called National Amil Zakat Agency (BAZNAS) and National Zakat Amil Institution (LAZNAS).

Ramadhan (2018) analyses the relationship between government poverty reduction funds, Waqf (ZISWAF) and poverty levels in Indonesia. He reports that ZISWAF funds and the percentage of poor people show a correlation coefficient of 0.322. Sugiyono (2014) observes that when there is an increase in ZISWAF funds, there will be a decrease in the percentage of poor people.

In order to realise the welfare and prosperity of the community, efforts are needed to realise the welfare and prosperity through community participation over and above government poverty alleviation programs (Fontoura and Coelho, 2020; Goel, 2021; Tabassum, 2019). Seeing that the majority of Indonesian people are Muslim, community participation can be realised in zakat institutions, some of which are the BAZNAS, LAZ

Rumah Zakat (RZ), LAZ Dompet Dhuafa (DD), LAZ Al-Falah Social Fund Foundation (YDSF), and LAZ Pos for Justice Cares for the People (PKPU).

Based on various explanations above, there has been no research that discusses the efficiency level of BAZNAS, LAZNAS and APBN funds in the social fund sector and their effect on poverty in Indonesia. Therefore, it is necessary to examine how the efficiency of zakat funds from BAZNAS, LAZNAS, APBN funds and other social funds effect poverty reduction.

2 Theory basis and hypotheses development

2.1 Poverty

Commonly, poverty can be interpreted as a condition of complete deprivation. According to Kuncoro (2006), poverty is a person's inability to meet the minimum standard of living. Jusmaliani and Soekarni (2005) state that there are two types of poverty, namely absolute poverty and relative poverty.

2.2 Poverty reduction program by the government

Poverty reduction programs are activities conducted by the government, local governments, the business world, and the community to improve the welfare of the poor through social assistance, community empowerment, empowerment of micro and small economic enterprises, and other programs (Azam and Raza, 2018; Fontoura and Coelho, 2020; Tabassum, 2019). There are four basic strategies, namely: reducing the burden of spending on the poor, increasing the ability and income of the poor, developing, and ensuring the sustainability of micro and small enterprises (UMK), and synergising poverty reduction policies and programs. To support the four strategies, the government has established three instruments that are divided into several working groups, namely social assistance, health insurance, and increasing economic capacity and income. The priority goal of poverty reduction policies is to reduce the level of poverty in Indonesia.

2.3 BAZNAS and LAZNAS

Zakat management institutions in Indonesia consist of institutions established by the government, namely BAZNAS and institutions established by the community, namely Lembaga Amil Zakat (LAZ). BAZNAS is the official and the only body established by the government based on the Decree of the President of the Republic of Indonesia No. 8 of 2001. This has the task and function of collecting and distributing zakat, infaq, and alms (ZIS) at the national level. The central BAZNAS is located in the capital and is a non-structural government agency that is independent and responsible to the president through the minister. The enactment of the new law regarding the institutional status of BAZNAS has become clearer as a non-structural government institution.

BAZNAS is given the authority by the government to carry out its position as the highest zakat amil body in Indonesia in such a way that the zakat institutions established by the community, i.e., LAZ's position is to assist BAZNAS in collecting and distributing zakat funds. The programs owned by LAZ, especially LAZNAS which is the largest zakat institution in Indonesia, have many programs in order to prosper and carry

out the mandate of Allah SWT, apart from being an institution that is obliged to distribute zakat proceeds to eight *asnaf*.

2.4 Efficiency theory

The theory of efficiency by Silkman (1986) defines efficiency as the ability to complete the work correctly. In a mathematical view, it is defined as the calculation of the ratio of output to input or the amount of output produced from an input used. Therefore, efficiency is always related to the input and output variables. There are three main factors that cause efficiency (Kaffash et al., 2020):

1 if the same input can produce a larger output

2 with a smaller input can produce the same large output

3 with a larger input can produce an output with a larger percentage.

Efficiency is an object of analysis which generally consists of two main components, namely:

1 technical efficiency

2 allocative efficiency.

Technical efficiency reflects the company's ability to achieve the maximum level with certain input level constraints, while allocative efficiency reflects the company's ability to choose the maximum combination of inputs at a certain price level and production technology (Belyaeva, 2021; Goel, 2021; Gudadhe and Bharti, 2021).

2.5 Data envelopment analysis

Data envelopment analysis (DEA) is a non-parametric method that uses a linear programming model to calculate the ratio of input to output for all units being compared. DEA method was first introduced by Charnes, Cooper and Rhodes (CCR) in 1978 (Widiarto and Emrouznejad, 2015).

Most recently, Kaffash et al. (2020) finds that in insurance industry the DEA technique has been applied extensively and the results of efficiency changes with the changes in government policies. Shah et al. (2021) observe that in Islamic banks efficiency scores change with respect to areas, variables, ownership type, policies and even the area of operations. Li et al. (2022) uses non-parametric efficiency scores for failure analysis of banks and finds that declining efficiency scores also predict failures of banks. Camioto and Pulita (2022) observe efficiency in the attainment of sustainable development in developing countries and finds that such countries are significantly ahead of the G7 countries.

2.6 BAZNAS and LAZNAS zakat funds on poverty

Zakat is a worship that is as obligatory as prayer. Zakat is one of the economic instruments, which is able to narrow the gap between rich and poor people. Al-Qardhawi (1999) emphasises that zakat is very important as a social security guarantee for poverty alleviation. With the distribution of zakat, there can be a transfer of wealth from the rich

to the poor. According to Handoko (2020) and Sarea (2012), well-managed zakat system will have a multiplier effect in the economy for poverty alleviation programs. Zakat funds are given to the eight asnaf groups that have been mentioned in the Qur'an (Asfarina et al., 2019). This include, the poor, riqab, gharim, ibn sabil, fisabilillah, converts, and amil of zakat. Based on existing procedures zakat has been able to provide a fairly good and significant impact on the economy.

H_1 There is an effect of efficiency of BAZNAS and LAZNAS funds on the poverty rate.

2.7 APBN expenditure funds and poverty alleviation

According to Utama and Kustiani (2012), an increase in the social protection budget of one million per capita will reduce the poverty rate by 4.8% in districts/cities in Java and Bali. Thus, the APBN funds for the social protection budget can be used as outputs in the poverty reduction process. Tyasari (2015) examines the effect of the social protection fund budget on poverty rates. His results suggest that the research budget has a significantly negative effect on poverty rates in the special area of Yogyakarta. It can be concluded that the protection of APBN funds from several studies states that there is a significant influence between APBN funds on poverty rates.

H_2 There is an effect of the efficiency of APBN funds in the social funds sector on the poverty level.

3 Research method

3.1 Data and sample

This study uses a quantitative approach. The type of data used is secondary data, covering the variables of APBN funds (input variables are total assets and total operating costs, and output variables include funds received by APBN funds and expenditures from APBN funds for the social fund sector). Variables also include BAZNAS and LAZNAS (output variables are received funds and zakat funds distributed, and input variables are total assets and operational costs). The data has been obtained from the financial statements of BAZNAS, LAZNAS LAZ RZ, LAZ DD, LAZ YDSF, and LAZ PKPU, as well as from APBN funds obtained from the Central Government Financial reports for the period 2002 to 2017. The data for the year up to 2017 has been taken because the existence of COVID-19 by the end of year 2018 affected the normality of data.

This study uses DEA analysis tool that was processed with Banxia Frontier Analyst 4 software for mathematical calculations to find efficiency scores with a production approach. This was because DEA can accommodate units and variables of input and output that were different from each other and were able to directly compare each variable, which was a unit whose efficiency was measured. It then forms the efficiency results to look for the influence between BAZNAS zakat distribution funds and APBN funds for the social funds sector, and look for differences in the efficiency of BAZNAS zakat funds and the efficiency of APBN funds for the social funds sector. Technical analysis used in this research is multiple linear regression analysis using panel data (pooled data).

3.2 Variables and variable operational definitions

This study consists of the dependent variable (poverty level) and the independent variables (efficiency of BAZNAS, LAZNAS and APBN funds). The following are the operational definition for the variables used (Table 1).

Table 1 Operational definitions of the variables

Variable	*Operational definitions*
Receipt of APBN funds	The total sum of tax revenue accounts, non-tax revenues, the government's share of SOE profits and natural resource revenues
Funds disbursed by APBN	Total expenditure disbursed for social funds
Receipt of zakat funds	Total receipts from zakat fund accounts, infaq funds, amil funds, APBN funds and non-sharia funds
Funds distributed by BAZNAS and LAZNAS	Funds distributed from the distribution account to 8 Asnaf, namely the poor, poor, riqab, gharim, converts, fisabilillah, ibn sabil, amil zakat

3.3 Model

$$Y = a + b_1 EFF_1 + b_2 EFF_2$$

Information:

Y poverty level variable

a constant, value Y if $X = 0$

EFF_1 efficiency of BAZNAS and LAZNAS zakat funds

EFF_2 efficiency of APBN funds for the social funds sector

b_1, b_2 multiple linear regression coefficient.

4 Results and discussion

4.1 Descriptive

Table 2 shows the minimum value that shows the lowest value and the maximum value that shows the highest value. The mean shows the average of each of the variables sampled in the 2002–2017 period, and the standard deviation is where a variable has a greater value compared to other variables. This means that the variable is more volatile than other variables. It can be seen that the maximum value for the APBN fund variable is 100% and the minimum value is 79.10%, with an average of 94.3%. BAZNAS and LAZNAS funds have a minimum value of 40.30% and a maximum value of 100% with an average of 80.30%. The results of the technical efficiency in DEA calculation have been classified in Table 3.

The grouping of technical efficiency values have been calculated by dividing them into four categories using the quartile percentile ± standard deviation:

1 The value of technical efficiency < 60.55 for BAZNAS, LAZNAS, and APBN funds means they are in the inefficient category.

2 The value of technical efficiency between 60.55–68.95 for BAZNAS, LAZNAS, and APBN funds means they are in the less efficient category.

3 The value of technical efficiency between 68.95–87.60 for BAZNAS, LAZNAS, and APBN funds means they are in a fairly efficient category.

4 The value of technical efficiency above 87.60 for BAZNAS, LAZNAS, and APBN funds means they are in the efficient category.

Table 2 Descriptive statistics DEA efficiency value

Group		*EFFI*	*POVERTY*
APBN	N	16	16
	Minimum	79.10	10.12
	Maximum	100.00	18.20
	Mean	94.3625	13.9575
	Std. deviation	7.28559	2.82166
BAZNAS	N	52	52
	Minimum	40.30	9.82
	Maximum	100.00	18.20
	Mean	80.3192	12.8444
	Std. deviation	17.47502	2.50592
Total	N	68	68
	Minimum	40.30	9.82
	Maximum	100.00	18.20
	Mean	83.6235	13.1063
	Std. deviation	16.74362	2.60553

Source: Processed data

Table 3 Distribution of technical efficiency value

Efficiency value	*Frequency*	*Percentage*	*Category*
NTE < 60.55	8	11.5	Inefficient
60.55 ≤ NTE < 68.95	9	13.04	Less efficient
68.95 ≤ NTE < 87.60	17	24.63	Fairly efficient
87.60 NTE ≥ 100	35	50.72	Efficient
Total	*69*	*100*	

Source: Microsoft Excel, data processed

4.2 Data analysis

Table 4 shows that the efficiency of BAZNAS and LAZNAS funds has a negative and significant effect on the poverty rate in Indonesia in the period 2002–2017. The coefficient of the analysis of BAZNAS and LAZNAS funds are –0.079, which means that

if the BAZNAS and LAZNAS funds increases by one unit, the poverty rate will decrease by –0.079 or 7.9%. The variable efficiency of APBN funds has significantly negative effect on the level of poverty in Indonesia in the period 2002–2017. The coefficient of regression analysis is –0.211, which means that if APBN funds increases by one unit, the poverty rate will decrease by –0.211 or by 21%.

Table 4 Regression test results

Independent variable	*Model*			*Independent variable*	*Model*		
	Coefficient	*t*	*Sig.*		*Coefficient*	*t*	*Sig.*
(Constant)	19.215	13.843	0.000*	(Constant)	33.903	4.131	0.001*
BAZNASLAZNAS	–0.079*	–4.695	0.000*	APBN	–0.211	–2.437	0.029**
R square	0.0306			R square	0.0298		
F statistic	22.043			F statistic	5.939		
F sig.	0.00c			F sig.	0.029c		

Note: *Significant at 1%, **significant at 5% and ***significant at the 10%.

Source: Processed data

4.3 Hypothesis testing and discussion

The results of this study indicate that the efficiency of BAZNAS and LAZNAS funds have significantly negative impact on the poverty rate in Indonesia in the period 2002–2017. These results are consistent with the results in Sarea (2012) that describe the effect of zakat funds on reducing poverty levels in such a way that zakat can be used as an instrument of economic growth. Zakat distributed to those who are entitled to receive it (mustahiq) plays a role as a supporter of economic improvement if it is in for productive activities. The utilisation of productive zakat actually has a concept of careful planning and implementation such as examining the causes of poverty, lack of working capital, and lack of employment opportunities. With these problems, it is necessary to have a plan that can develop productive impact of zakat.

According to Pratama (2015), zakat will have a greater impact if it is distributed evenly in productive activities. This means:

1 zakat is distributed to the poor, namely people who are no longer able to find wealth because they are not of productive age and/or disabled in order to fulfil their needs

2 zakat is distributed to productive activities, namely to groups who are entitled to receive it but are still in their productive age.

If the distribution of zakat is carried out in this way, then BAZNAS and/or LAZNAS can greatly assist government programs in reducing poverty.

The variable efficiency of APBN funds has a negative and significant effect on the level of poverty in Indonesia in the period 2002–2017. This is in line with Heni and Siregar (2012) who also shows that local budgets for cooperatives and SMEs have an effect on reducing the number of poor people in rural and urban areas. In aggregate at the national level, Mehmood and Sadiq (2010) show that government spending has a negative effect on poverty in Pakistan. The allocation of government spending in question is mainly related to development programs such as social facilities,

infrastructure, health and education. They conclude that the composition of fiscal expenditures is the most important subject in poverty reduction.

Fan et al. (2000) point out that the Indian government should increase public spending on rural infrastructure (roads), agricultural sector research, and education to reduce poverty. This is in accordance with the Keynesian approach where government spending can increase aggregate demand, which in turn increases income and employment opportunities. The critical challenge is that, what kind of budget allocation can produce a conducive condition for increasing the conditions of the poor, either directly or indirectly. The hope is that if the poor are more and more involved in the growth process, absolute poverty can also be reduced.

Government spending can be used to help the poor and the vulnerable by creating a modern social protection system that can enhance their own ability to cope with economic uncertainty. One of the studies related to the effect of government spending on poor expenditure for poverty alleviation was carried out by Wahyudi (2011) in districts/cities in Central Java Province. In his study, the type of expenditure used as an independent variable was expenditure on the education, health and public works sectors. The results of the study stated that three types of spending had a significant effect on poverty alleviation. Fiscal decentralisation can affect poverty through its effect on the composition of the budget or public spending. Public resources can be transferred to communities through income redistribution programs and directly or indirectly increase their disposable income.

Wahyudi (2011) provides three definitions of pro-poor budgets. First, a budget that addresses the importance of pro-poor development policies. Secondly, the practice of formulating and implementing policies in the budget sector is intentionally (by design) aimed at making policies, programs and projects that favour the interests of the poor. Thirdly, budget policies that can improve welfare and/or fulfil the basic rights and needs of the poor. Yao (2007) indicates that pro poor social expenditure is a group of expenditures that are considered to provide benefits the poor for overcoming their problems.

5 Conclusions and suggestions

The technical efficiency score of BAZNAS and LAZNAS funds have fluctuated with a negative trend towards a positive trend. It means although there are low technical efficiency score of BAZNAS funds and LAZNAS, but from 2010 to 2017 BAZNAS and LAZNAS, which include LAZ RZ, LAZ DD, LAZ YDSF, and LAZ PKPU showed a positive trend and got a perfect technical efficiency score with a score of 100. The average technical efficiency score of revenue funds and funds disbursed during the period 2002–2017 in state budget is 94.3%. This means that there is a 5.7% chance that it can be optimised. Historically, the technical efficiency score of APBN funds has fluctuated between a negative trend and a positive trend. Every variable of APBN funds studied in the 2002–2017 period has a perfect efficiency score with a score of 100. The effect of the efficiency of BAZNAS, LAZNAS and APBN funds show a significantly negative effect on the level of poverty.

The limitation of this study is the use of data on zakat funds from BAZNAS, LAZNAS, and APBN funds for a limited period of time. Therefore, it is expected that

further research can be conducted using data with a longer period span in other parts of Indonesia and around the world.

This research can be used as input for the need of controls and strategies of BAZNAS, LAZNAS and the regulators. Especially those related to socialisation of the role of BAZNAS and LAZNAS to the community so that there is strengthening of the aspect of fundraising. It will have more influence on the poverty level, and it will also increase distributions of funds to the poor community for.

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