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Efficiency of Indonesian Zakat Institutions in Times of Covid-19: A Two-Stage DEA Analysis

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ABSTRACT

This study evaluates the efficiency level of Selected Amil Zakat Institutions (OPZ) in Indonesia with a span of 2017–2021. Data Envelopment Analysis and Tobit Regression were employed to evaluate OPZ performances. The findings show that only two out of 14 OPZ in Indonesia have experienced perfect efficiency, i.e., LAGZIS Peduli in 2017 and LAZISNU in 2019-2021. The inefficiency that befalls OPZ in Indonesia mostly comes from the output variable, i.e., the collection and distribution of social funds. It is expected that OPZ in Indonesia can optimize the collection and distribution of social funds. Another unique finding is that the OPZ in Indonesia tends to stabilize its efficiency level during the COVID-19 pandemic, namely in 2020 and 2021. The Tobit regression shows that the factors of institution size and number of branch offices have a significant influence on the efficiency level of OPZ in Indonesia, inversely proportional to the factors of age and affiliation of Amil Zakat Institutions, which have no significant effect on the efficiency level of the institution

Keywords: *Amil Zakat Institution (OPZ), Efficiency, DEA, Tobit*

INTRODUCTION

As a developing country, poverty is one of the socioeconomic issues in Indonesia. The Central Bureau of Statistics (Figure 1) recorded the number of poor people reaching more than 20 million or around 10% of the total population throughout 2017–2021. This condition became worse during the Covid-19 in early 2020. The country's economy declined due to the pandemic preventive measures (Hanoatubun, 2020; Kurniawansyah et al, 2020). The prevention policies, e.g., lockdown, resulted in critical industries being prohibited from operating, leading to a disruption of the supply chain for the production of goods and services (Misno, 2020). The long-standing PSBB policy caused many people to lose their jobs due to business actors going out of business as well as workers being laid off (Eddyono et al., 2020).

Islam pays attention to economic equity and wealth distribution. The Quranic verses and As-Sunnah clearly instructed Muslims who have excess wealth to set aside some of their wealth for those who are in need. Hoarding of wealth is prohibited in Islam because it is the same as inhibiting the circulation of wealth among the community (Soemitro, 2019). Zakat is one way to overcome social inequality (Canggih et al., 2017). The command of zakat is inseparable from the concept of social responsibility in Islam. Socially, zakat acts as a poverty alleviation in society by helping those in need (Raies, 2020). Economically, zakat also helps prevent wealth from settling in a few parties (Bakar & Ghani, 2011; Wahid, 2014; Saad and Al Foori, 2020). This

suggests that zakat-based poverty alleviation programs can be a valuable model for policymakers to formulate effective poverty alleviation plans.

Zakat collection in Indonesia shows a positive trend. In 2017, such a collection of zakat funds reached 6 trillion rupiah and increased to 8.1 trillion in 2018 rupiah. The trend also happened in 2019 with 10.2 trillion rupiah collected. During the outbreak, such zakat collection was also increased, where 12.5 trillion rupiah was collected in 2020 and 14.1 trillion rupiah in 2021.

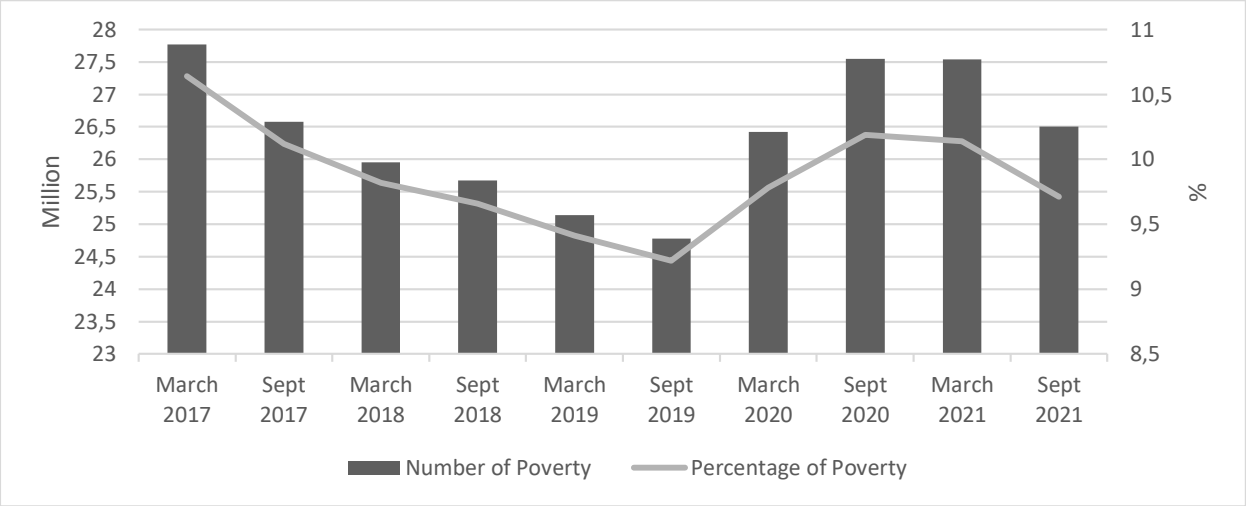

Figure 1. Number and percentage of poverty in Indonesia
Source: Central Bureau of Statistics

Zakat is considered one of the most effective alternative solutions for distributing wealth and improving people's welfare. Zakat-based poverty alleviation programs are considered better than government poverty alleviation program models and corporate social responsibility (Ariyani, 2016). Efficient zakat management is deemed practical to achieve such success of zakat in distributing wealth and improving people's welfare.

Although many factors affect the problem of poverty and inequality, efficient zakat management is expected to optimize the equitable distribution of zakat in society for poverty and inequality reduction in Indonesia. Efficiency in the management of zakat is required so that poverty alleviation and inequality reduction are achievable.

Through a review of existing literature, the efficiency level of the Amil Zakat Institution (OPZ) has been a timely topic among Indonesian researchers. For instance, Al-Ayubi et al. (2018); Hayati & Putri (2019); Atiya et al. (2020); Ryandono et al. (2023) and others, have contributed to analyzing the efficiency of OPZ in Indonesia. This study differs from those scholarly works by taking the observation period of OPZ efficiency in times of the COVID-19 pandemic. Further in-depth analysis is also performed with Tobit regression (as was also done by Firmansyah et al., 2020; Akbar et al., 2022) to identify and test the significant factors that affect OPZ efficiency.

This research fills in such existing knowledge gaps, in particular, providing

empirical evidence for the dynamics of efficient zakat management during the unpredicted period. This knowledge is practically important for OPZ stakeholders.

The rest of this paper is structured as follows. Section 2 is a literature review, explaining the findings of previous studies. Section 3 is the research method. The finding of this research is presented in section 4. Section 5 discusses the findings with a conclusion and recommendation elaborated in section 6.

LITERATURE REVIEW

Zakat is an obligation of Muslims to distribute some of their wealth to those entitled to receive zakat (mustahiq) to realize socio-economic justice (Wahab & Rahman, 2011). This obligation has been stated in Surah Al Baqarah (2): 43, "and perform the shalat, pay the zakat, and bow with those who bow". Zakat not only has a spiritual function but can also be channelled to empower other communities in meeting their needs (Andam & Osman, 2019); (Djaghballou et al., 2018).

In supporting the obligation to pay zakat for Muslims, institutions are formed that manage zakat funds from the community. The activities of the *organisasi Pengalola Zakat* or Amil Zakat Institutions (OPZ) include planning, collecting, distributing, and using the funds for zakat, infaq, and sadaqah (Ryandono et al., 2023). OPZ plays a role in collecting zakat from the community and can be a source of productive economy for mustahiq (Zauro et al., 2020). Efficiency measurement is practical to evaluate the performance of an OPZ (Charnes et al., 1978). The state of an organization can be said to be efficient when the organization achieves a goal by utilizing the minimum amount of resources (Altamirano-Corro & Peniche-Vera, 2014).

Several studies have discussed the efficiency of the Amil Zakat Institution (Wahab & Rahman, 2013); (Djaghballou et al., 2018); (Al-Ayubi et al., 2018); (Rustyani & Rosyidi, 2018); (Hayati & Putri, 2019); (Nurasyiah et al., 2019); (Jaapar & Kamarulzaman, 2020); (Firmansyah et al., 2020); (Atiya et al., 2020), 2019); (Jaapar & Kamarulzaman, 2020); (Firmansyah et al., 2020); (Atiya et al., 2020); (Maytesa & Ilhamiwati, 2021); (Wahyudi & Susetyohadi, 2021); (Hamdani et al., 2022); (Akbar et al., 2022); (Ryandono et al., 2023); (Bahri et al., 2023); (Fakhri et al., 2023). From 2010 to 2016, efficiency observation was done on 15 OPZ in Indonesia by using Data Envelopment Analysis (Al-Ayubi et al., 2018). The results of the study showed that in 2010-2013, on average, OPZ affiliated with certain communities had higher technical efficiency than OPZ without affiliation. However, the situation reversed in 2014. After experiencing a declining efficiency trend, OPZ affiliated with certain communities obtained stable efficiency in 2015-2016. Unaffiliated OPZ could maintain the stability of its efficiency score from 2013 to 2016.

Hayati & Putri (2019) examined the efficiency of four OPZs during 2015-2018. There were only seven Decision Making Units (DMU) that obtained a 100% efficiency score using the assumption of constant return to scale. Other identification results found that the source of inefficiency is the input, which includes personnel costs, socialization costs, and other operational costs. Wahyudi & Susetyohadi (2021) also researched the efficiency level of OPZ based on Islamic bank corporations in Indonesia. The performance of the sample received an efficiency score of 100% in 2016-2017.

Some studies using DEA also add other methods to deepen the empirical results. Ryandono et al. (2023) used three techniques in analyzing the efficiency of OPZ in Indonesia, i.e., data envelopment analysis (DEA), free disposal hull (FDH),

and super-efficiency DEA techniques. By using a combination of these three approaches, the efficiency score of OPZ from the government was the best in the observation period 2014-2018. The government-run OPZ has an average value of 0.87. The private-owned OPZ ranked second with an average value of 0.65 and the social OPZ ranked last with an average value of 0.4. The research supports the efficiency of OPZ based on affiliation in its management. Nurasyiah et al. (2019) compared the efficiency and productivity of OPZ in Indonesia and Malaysia with the observation period of 2012-2016. Overall, OPZ in Malaysia has a higher efficiency score than OPZ in Indonesia. However, OPZ in Indonesia achieved higher productivity than OPZ in Malaysia based on measurements using the Malaysian Productivity Index (MPI).

During the COVID-19 pandemic, there was a study that measured the efficiency level of BAZNAS as one of the OPZs in Indonesia (Maytesa & Ilhamiwati, 2021). The study showed that the average efficiency was 70% from March to October 2020. Permatasari & Hidayatullah (2021) proved that during the COVID-19 pandemic period, the three OPZs studied had efficient performance. Research on the efficiency level of OPZ during the pandemic illustrates that the function of OPZ is still well implemented and helps manage the community's social funds. If managed efficiently, zakat collected and distributed to people in need can generate benefits, such as capital for trade and reduce unemployment rates (Hariyanto et al., 2020).

Although several studies have observed the efficiency of Amil Zakat Institutions (OPZ) in Indonesia, the topic still has the potential to be further explored. This study offers a novelty by using the observation period, i.e., before and during the COVID-19 pandemic. The Tobit regression method is used to deepen the observation results. Firmansyah et al. (2020) used the Tobit method after finding 6 OPZs that reached 100% efficiency score from thirteen OPZs in West Java in 2012-2016. The Tobit regression model was used in the study to find the causal relationship between the efficiency score and other variables. The result showed that only the number of meetings and total asset value variables influenced the efficiency score of OPZ in West Java. Another study also agrees with the significant effect of total assets on the efficiency score of OPZ in Indonesia (Akbar et al., 2022). The study found a significant relationship between affiliation to the community and the efficiency level of OPZ. The studies that use the Tobit method after finding the results of OPZ efficiency level aim to find out the factors that can be optimized to make OPZ performance more efficient and increase its benefits for the community.

This research observes the efficiency of OPZ in Indonesia in responding to the COVID-19 pandemic. The purpose is to discover applicable insights for a better understanding of OPZ in optimizing its performance efficiently in unpredicted times, e.g., pandemic. In this study, the efficiency level is measured with Data Envelopment Analysis (DEA) and the Tobit regression method. These two approaches aim to examine the significant determinants from the list of OPZ-specific factors for its efficiency.

METHODOLOGY

The research object in this study is OPZ in Indonesia. Financial data for this research is obtained via OPZ Financial Statements from each of its official websites. The population of this study are all OPZ in Indonesia recognized and legalized by the government, Presidential Decree, or Ministry of Religion. The observation

period of this research is from 2017 to 2021. The research sample was taken using the purposive sampling method, purposefully considering the information that the criteria determined by the researcher (Sekaran, 2017).

The sample selected by the researcher must meet the following criteria. *First*, OPZs are authorized and/or managed directly by the government. *Second*, OPZs consistently publish financial reports from 2017 to 2021.

After selecting the population using the purposive sampling method, from a total of 37 national OPZs that have obtained licenses according to the information from the website of the Ministry of Religion Affairs Republic of Indonesia, this study considers 14 OPZs, as shown in the following table:

Table 1. List of Amil Zakat Institutions

No	Amil Zakat Institutions	Year Established
1	Daarul Qur'an Nusantara	2007
2	Dompet Dhuafa	1993
3	Griya Yatim Duafa	2009
4	Inisiatif Zakat Indonesia	2014
5	Al Azhar	2004
6	BSM Umat	2001
7	Lagzis Peduli	2017
8	LOPZSNU	2004
9	Mizan Amanah	1995
10	Muhammadiyah	2002
11	Rumah Yatim Ar Rohman	2007
12	Rumah Zakat Indonesia	1998
13	Ukhuwah Islamiyah	1995
14	Yayasan Bakrie Amanah	2010

This research uses quantitative research methods that emphasize nonparametric measurements with the Data Envelopment Analysis (DEA) method. DEA methodology is a technique used to assess the management effectiveness and relative efficiency of a production unit or decision-making unit (DMU) that uses the same number of inputs and outputs but with an unexplained correlation function between inputs and outputs. In DEA, efficiency scores can vary from 0 to 1, or 100%. A score of 100% indicates an effective DMU or highly efficient performance, while anything less than one or 100% indicates inefficiency. The efficiency of the company decreases as the score decreases (Ascarya & Yumanita, 2006). The DEA formula is shown using the following mathematical equation:

$$\text{DMU Efficiency} = \frac{\Sigma_{k=1}^{P} u_k y_{kj}}{\Sigma_{i=1}^{m} v_i x_{ij}}$$

Description:
DMU = decision making unit
n = number of DMUs studied
m = different inputs
p = different output
u_k = average output
v_i = average input
x_{ij} = number of input i consumed by DMUj
y_{kj} = number of input i consumed by DMUj

There are two models of the DEA method, i.e., the model with the assumption of constant returns to scale (CRS) and variable returns to scale (VRS). The CRS model assumes that the additional ratio between input and output is the same. That is, if there is an increase in input by x times, then the output will increase by x times. Another assumption applied in this model is that each company or DMU operates at an optimal scale. This assumption of the CRS

model stems from the Charner, Chooper, and Roodes (CCR) model introduced in 1984. Competition and other financial constraints are often the key factors in firm inefficiency. To anticipate this, Banker Charnes and Cooper (BCC) proposed a DEA model based on the assumption of variable returns to scale (VRS). In the DEA model with the VRS assumption, the addition of input and output is not the same. This shows that the addition of x times of input may not produce exactly x times of output, it could be smaller or larger. The VRS model also produces technical efficiency, which is sometimes also called pure technical efficiency (Ascarya & Yumanita, 2006).

By using the frontier based on CRS and VRS, we can convert the overall technical efficiency using the CRS approach (TECRS) into pure technical efficiency (TEVRS) and scale efficiency (SE) using mathematical equations (Coelli, 1996). The mathematical equation is as follows:

$$TECRS = TEVRS \times SE$$

The issue of output scale, also known as return to scale (RTS), should be carefully considered by every company. Three conditions of RTS—increasing return to scale (IRS), constant return to scale (CRS), and decreasing return to scale (DRS)—can all occur in company practice. The increasing return to scale condition describes an increase in input by x times that will produce more than y times the output. While the constant return to scale condition assumes a 1x increase in input will result in a 1y increase in output. The decreasing return to scale condition assumes that every increase in input will result in a decrease in output by one unit.

Variables in measuring efficiency level in this research include input variables and output variables with a production approach. In other words, OPZ is positioned as a producer with an orientation toward output maximization. The input variables in this research are the cost of amil resources and operational costs, while the collection and distribution of zakat and infaq funds become output variables. The following will provide more details related to input and output variables, along with data sources and references.

Table 2. DEA variables

Variables	Sources	References
Cost of amil resources (Input 1)	Financial statements	Subardi et al., 2020; Akbar, 2009; Rusydiana, 2018
Cost of operational (Input 2)	Financial statements	Ahmad & Ma'in, 2014; Berber et al, 2011; Ghufran et al, 2023; Akbar, 2009; Rusydiana, 2018
Funds collected (Output 1)	Financial statements	Subardi et al., 2020; Ahmad & Ma'in, 2014; Berber et al, 2011; Wahab & Rahman, 2013; Ghufran et al, 2023; Akbar, 2009; Rusydiana, 2018
Funds distributed (Output 2)	Financial statements	Subardi et al., 2020; Djaghballou, 2018; Ahmad & Ma'in, 2014; Berber et al, 2011; Wahab & Rahman, 2013; Ghufran et al,

	2023; Akbar, 2009; Rusydiana, 2018

Tobit regression was used in the second stage of this study. In many circumstances, the use of Tobit regression, which is an advanced step of DEA, is considered an adequate technique (Hoff, 2007). James Tobin developed this technique in 1958 to assess the limited relationship between dependent and independent variables (Gujarati and Porter, 2009). He first wanted to assess how much the average American household spends on a car. However, this poses a challenge for OLS estimation as some households may choose not to buy a car (zero expenditure). These estimates are usually insignificant and close to zero. The value will be biased and inconsistent if the value is large enough (Tobin, 1958).

The estimation of the Tobit regression model depends on the Maximum Likelihood (ML) results. When compared to OLS, the parameter estimation results are more accurate. According to Gujarati and Porter (2009), censored regression is another name for Tobit regression. Tobit is used in this study to examine the factors that influence the efficiency value (dependent variable), whose value ranges from 0 to 100. The Tobit model can be described statistically as follows:

$$\Upsilon t = \beta 1 + \beta 2 Xi + \mu i$$

Several variables, such as branches or number of offices, size or total assets, age of the institution, and type of organization, have been selected as independent variables. These variables have also been used by other studies (Wahab, 2013; Akbar, 2022). As a result, the Tobit model of this study is as follows:

$$\Upsilon t = \beta 1 + \beta 2 lnSize + \beta 3 Age + branch + \beta 5 type + \mu$$

Table 3. Tobit regression variables

Tobit Variables	**Definition**
Efficiency Score (Y)	Relative efficiency score obtained from DEA calculation
Size (X1)	Total assets
Age of Institution (X2)	Year of observation minus year of establishment
Branch (X3)	Number of offices
Type (X4)	Whether the zakat institution is affiliated with the community (1) or not (0)

According to Hager & Rooney (2001) and Yi (2010), who found in their research that the size variable has a favorable influence on efficiency, the choice of size as an independent variable is in contrast to Laela (2010), who showed that the size variable does not affect efficiency. Furthermore, he cites the research of Coad et al. (2013) and Iwiyisi & Chinwuba (2015), which show how age affects performance in terms of efficiency. In addition, the choice of branch variables is based on Wahab & Rahman (2013). Interestingly, Wahab & Rahman (2013) found no relationship between the number of branches and the effectiveness of Malaysian Zakat institutions.

In addition, considering Al-Ayubi et al. (2018), Reddick & Ponomariov (2012), and Sargeant & Woodli (2007), the type variable is selected as an independent variable. Zakat organizations with community affiliation and zakat organizations without community affiliation were divided into two groups by Al-Ayubi

et al. (2018). They found that the effectiveness of these two groups varied without examining their relationship in depth. Studies by Reddick & Ponomariov (2012) and Sargeant & Woodliffe (2007) found a good relationship between affiliation or type and money collected by non-profit organizations. The number of zakat institutions in Indonesia with various affiliations is a consideration in choosing this variable.

RESULT

Efficiency Score

The efficiency result of Amil Zakat Institutions (OPZ) in Indonesia is shown in Table 4. There are only two OPZs that have achieved perfect efficiency, namely LAGZIS (2017) and LOPZSNU (2019-2021). Overall, LOPZNU has the highest average efficiency score (0.798), followed by Dompet Dhuafa (0. 393). In addition, this result also identifies that most OPZs in Indonesia have not managed to operate at a fully efficient level.

Table 4: Efficiency score of OPZ

LAZ	2017	2018	2019	2020	2021	Average
Daarul Qur'an Nusantara	0.090	0.092	0.079	0.109	0.117	0.097
Dompet Dhuafa	0.301	0.350	0.460	0.429	0.424	0.393
Griya Yatim Duafa	0.133	0.114	0.109	0.099	0.091	0.109
Inisiatif Zakat Indonesia	0.130	0.137	0.169	0.156	0.148	0.148
LAZ Al Azhar	0.241	0.233	0.291	0.276	0.195	0.247
LAZ BSM Umat	0.394	0.460	0.266	0.217	0.116	0.291
LAZGIS	**1.000**	0.160	0.113	0.130	0.160	0.313
Lazis NU	0.621	0.368	**1.000**	**1.000**	**1.000**	0.798
Mizan Amanah	0.124	0.122	0.124	0.172	0.113	0.131
Muhammadiyah	0.158	0.109	0.149	0.213	0.381	0.202
Rumah Yatim Ar Rohman	0.139	0.133	0.153	0.185	0.190	0.160
Rumah Zakat Indonesia	0.284	0.292	0.341	0.328	0.345	0.318
Ukhuwah Islamiyah	0.081	0.092	0.108	0.154	0.190	0.125
Yayasan Bakrie Amanah	0.146	0.179	0.205	0.285	0.291	0.221

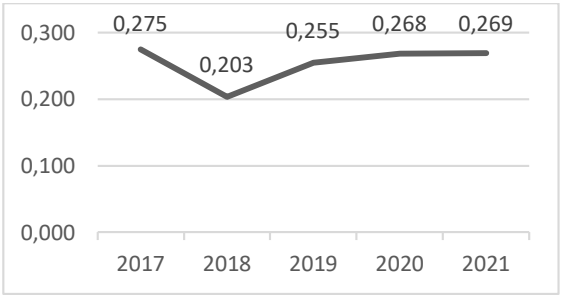

Figure 2. Average Efficiency Score of OPZ as a whole

Figure 2 shows the average efficiency score of all OPZs during the observation period. The trend shows a decreasing performance of OPZs in 2018, followed by a stable increase in the following years, including during the pandemic periods. The COVID-19 pandemic began in 2020, however, in that year the overall efficiency of OPZ in Indonesia increased. In 2021, the efficiency

score of OPZ in Indonesia tends to be stable compared to the previous year even still below the average scores before the pandemic (2017).

Figure 3 illustrates the contribution of each variable that causes inefficiency in the overall OPZ in Indonesia. The Disbursement Fund is the largest contributor with a value of 51.51%. This means that the Disbursement Fund has the largest portion of the total deviation of the real value with the value of projection as a result of DEA. In second place, the Collection Fund gets a portion to be optimized of 47.36% of the overall variable. The two output variables dominate the portion of potential improvement so it needs to get attention to be optimized from each OPZ which is the object of research to improve the efficiency of the institution. If it looks at the two input variables, each only provides a very small portion. Amil HR expenses have a deviation portion of 0.21% and Operating Expenses have a deviation portion of 0.93%.

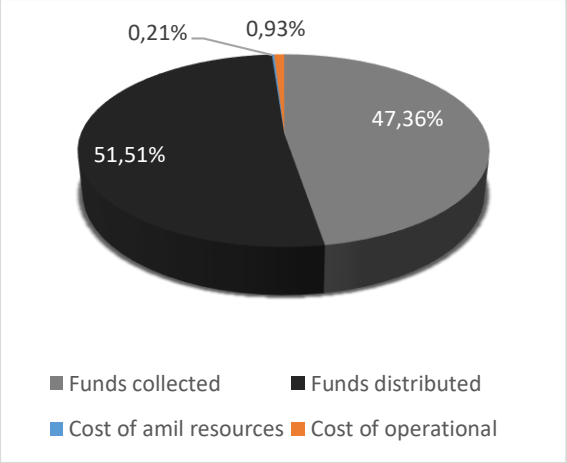

Figure 3. Potential improvement of OPZ efficiency

Determinant of OPZ Efficiency

The use of Tobit Regression Analysis aims to measure the influence of certain variables on the efficiency score of OPZ that has been obtained using the previous DEA method.

The result of the Tobit Regression Analysis can be seen in Table 5.

Table 4. Tobit regression analysis results

Variable	Coef.	Std. Error	z-Statistic	Prob.
C	0.167	0.043	3.916	0.000
Size	0.000	0.000	2.823	0.005
Age	-0.002	0.003	-0.880	0.379
Branch	0.001	0.000	6.904	0.000
Type	0.068	0.043	1.587	0.112

Of the four independent variables, only two variables were identified as having a significant influence on the efficiency score of OPZ. Significant variables are evidenced by the value of prob which is less than alpha5%. OPZ size which has a prob value of 0.0048 is confirmed to be one of the variables that significantly affect the efficiency score of OPZ. Based on the coefficient value, the greater the value of OPZ size, the more efficient OPZ will be. The number of Branches of OPZ is also a variable with significant influence because the value of prob is lower than the value of alpha (0.00 <0.05). The coefficient value of the Branch variable is also positive which indicates that when OPZ has more branches, it makes OPZ more efficient. Age and Type variables do not show a significant influence on the efficiency score of OPZ as evidenced by the value of prob each variable being greater than alpha5%.

DISCUSSION

This study provides several analytical results on 14 Amil Zakat Institutions (OPZ) operating in Indonesia in the observation period 2017-2021. The first analysis uses the Data Envelopment Analysis (DEA) method. The method

succeeded in finding the efficiency score of the collected DMUs, the overall annual average value, and the percentage of potential improvement of OPZ as a whole. The next method is Tobit Regression Analysis which is used to find the relationship of OPZ efficiency score with other OPZ factors.

The first finding from DEA shows that many of the OPZs analyzed are still not performing efficiently. There are only two OPZs identified as efficient, namely Lagzis Peduli and LOPZSNU. The perfect efficiency level of Lagzis Peduli only occurred in 2017. Meanwhile, LOPZSNU obtained perfect efficiency during 2019-2021. The research of Akbar et al. (2022), is in line with the findings of this study which found that LOPZSNU became the OPZ with the best efficiency compared to other OPZs that became the object of their research.

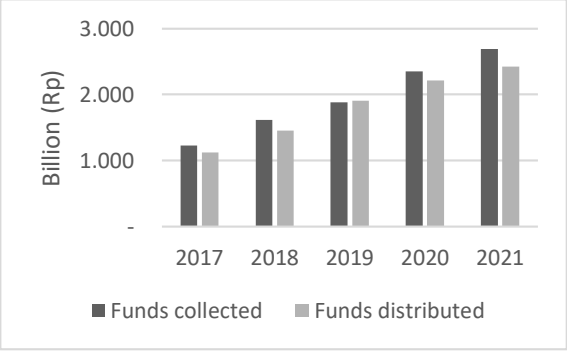

Figure 4. Funds managed by OPZs

From the DEA method, it is also found that the average efficiency score of all OPZs tends to be stable during the COVID-19 Pandemic. This means that OPZs in Indonesia have maintained the efficiency of their institutions in managing zakat when people's economic activities deteriorate due to the impact of the COVID-19 pandemic. Research by Bahri et al. (2023) and Permatasari & Hidayatullah (2021), revealed similar results that the performance of the OPZ studied could maintain its efficiency during the COVID-19 pandemic. One of the reasons that can be used to answer the good performance of OPZ in Indonesia facing the impact of the COVID-19 pandemic is that the amount of funds raised and the amount of funds channelled continues to increase, as shown in Figure 4. The argument is appropriate, considering that OPZ's operational activities also come from the funds raised. So that when the funds raised continue to grow, OPZ has the responsibility to manage these funds efficiently to optimize the distribution of funds. This is certainly a solution amid the COVID-19 pandemic crisis when OPZ can help social life.

This study also found that the source of inefficiency of the sampled OPZ is mostly due to the output variable. Thus, the potential improvement suggested for OPZ as a whole is to optimize the collection and distribution of social funds. This finding supports research that also recommends variable improvements (Hayati & Putri, 2019). Optimizing the collection and distribution of social funds is the main purpose of OPZ, which is to manage the community's zakat funds to be used for other people in need. Increasing these two variables can have a significant impact on improving efficiency and social impact.

The last result of this study successfully shows the factors that influence the efficiency of the studied OPZ. The significant positive effect of size on the efficiency score of OPZ in this study is consistent with the results of previous research (Akbar et al., 2022). However, it is inversely proportional to the research which states that size harms OPZ efficiency (Firmansyah et al., 2020). This study believes that the size of OPZ, which represents its total assets, gives

OPZ the power to perform more efficiently.

This study also found a significant effect of the number of branches on the efficiency score of OPZ. This result opposes the research that states there is no significant effect of the number of branches on the efficiency of OPZ (Wahab & Rahman, 2013). The extent of the branch network is proven in this study to provide benefits to streamline the management of zakat by OPZ. More branches have the potential to increase the operational costs required, but also be able to increase OPZ output (collection and distribution of social funds). This study does not see the other two variables having a significant impact on OPZ efficiency. The insignificant age variable in this study is a similar finding from other studies (Akbar et al., 2022). Type as an insignificant variable provides a refutation of research that views the superiority of affiliated OPZ over OPZ without affiliation (Al-Ayubi et al., 2018).

CONCLUSION

Zakat is one of the instruments to strengthen social economics. The issue of poverty in Indonesia realizes the importance of OPZ's performance in managing community zakat. This study aims to evaluate the efficiency of OPZ in Indonesia. Observations were made on 14 OPZs authorized by the government in the period 2017 to 2021. It is also expected that this research can assess the performance of OPZ during the COVID-19 Pandemic. When economic activities are restrained due to the pressure of the health crisis, of course, zakat can be a solution to maintain the economic resilience of the community. The DEA method is used to measure the efficiency of OPZ, and Tobit regression is used to analyze the determinants of OPZ efficiency.

Overall, there are still many Amil Zakat Institutions (OPZ) that experienced performance inefficiency during 2017-2021. There are only two OPZs that experienced maximum efficiency, namely Lagzis Peduli in 2017 and LOPZSNU in 2019, 2020, and 2021. The continued efficiency of LOPZSNU can be an example of zakat management for all other OPZs. The more efficient OPZ is, the more zakat funds will be collected and distributed. It should be noted that the inefficiency of OPZ's performance mostly comes from the output variable. This implies that OPZ is advised to optimize the collection and distribution of social funds. Another unique finding from the DEA method used is the tendency to stabilize the efficiency of OPZ during the COVID-19 Pandemic, namely in 2020 and 2021. The amil zakat institution in Indonesia managed to maintain the stability of performance efficiency in managing zakat when the community's economy was disrupted due to the COVID-19 pandemic because the social funds collected and distributed continued to increase. Tobit regression analysis produces a positive influence between the size factor and the number of branches on the efficiency level of OPZ in Indonesia. Based on these findings, a consolidation program to increase the size and expand the branch network of OPZ can be a recommendation to develop the performance of OPZ in Indonesia.

With the existing limitations, this research can be developed in various ways. First, the efficiency measurement method can be developed using a parametric approach, or DEA with the addition of other input and output variables. Second, further research can look at the effect of the efficiency of zakat funds on the social life of Indonesian

society in general and beneficiaries in particular. Third, other researchers can also compare the efficiency of OPZ in Indonesia with other countries, especially during the COVID-19 pandemic.

REFERENCES

Bakar, M. and Ghani, A. (2011), "Towards achieving the quality of life in the management of zakat distribution to the rightful recipients (the poor and needy)", International Journal of Business and Social Science.

Ahmad, I. HJ., & Ma'in, M. (2014). The Efficiency of Zakat Collection and Distribution: Evidence from Two Stage Analysis. Journal of Economic Cooperation and Development, 35(3), 133-170.

Akbar, N. (2009). Analisis Efisiensi Organisasi Pengelola Zakat Nasional Dengan Pendekatan Data Envelopment Analysis. Tazkia Islamic Finance and Business Review, 4(2). https://doi.org/10.30993/TIFBR.V4I2.35

Akbar, N., Ikhwan, I., & Nurpahla, N. (2022). Efficiency Determinants of Zakat Institutions in Indonesia. Share: Jurnal Ekonomi dan Keuangan Islam, 11(1), 78-104. http://dx.doi.org/10.22373/share.v11i1.10341

Al-Ayubi, S., Ascarya, & Possumah, B. T. (2018). Examining the Efficiency of Zakat Management: Indonesian Zakat Institutions. International Journal of Zakat, 3(1), 37-55. https://doi.org/10.37706/ijaz.v3i1.66

Altamirano-Corro, A., & Peniche-Vera, R. (2014). Measuring the Institutional Efficiency Using DEA and AHP: the Case of a Mexican University. Journal of Applied Research and Technology, 12, 63-71. https://doi.org/10.1016/S1665-6423(14)71606-2

Andam, A. C., & Osman, A. Z. (2019). Determinants of intention to give zakat on employment income: Experience from Marawi City, Philippines. Journal of Islamic Accounting and Business Research, 10(2), 528-545. http://dx.doi.org/10.1108/JIABR-08-2016-0097

Ariyani, N. (2016). Zakat as a sustainable and effective strategy for poverty alleviation: From the perspective of a multi-dimensional analysis. International Journal of Zakat, 1(1), 89–107. https://doi.org/10.37706/ijaz.v1i1.9

Ascarya, A., & Yumanita, D. (2006). Analisis Efisiensi Perbankan Syariah di Indonesia dengan Data Envelopment Analysis. Tazkia Islamic Finance and Business Review, 1(2).

Atiya, N., Widiastuti, T., Cahyono, E. F., Zulaikha, S., & Mawardi, I. (2020). A Techno-Efficiency Analysis of Zakat Institutions in Indonesia. International Journal of Zakat, 5(3), 30-43. https://doi.org/10.37706/ijaz.v5i3.249

Bahri, M. S., Herindar, E., & Rusydiana, A. S. (2023). COVID-19 and Efficiency in Zakat Institutions: Evidence from Indonesia. AKSES: Jurnal Ekonomi dan Bisnis, 18(1), 76-88.

http://dx.doi.org/10.31942/akses.v18i1.8757

Berber, P., Brockett, P. L., Cooper, W. W., Golden, L. L., & Parker, B. R. (2011). Efficiency in fundraising and distributions to cause-related social profit enterprises. Socio-Economic Planning Sciences, 45(1), 1-9. https://doi.org/10.1016/j.seps.2010.07.007

Canggih, C., Fikriyah, K., & Yasin, A. (2017). Inklusi pembayaran zakat Di Indonesia. Jurnal Ekonomi dan Bisnis Islam (Journal of Islamic Economics and Business), 3(1), 1. https://doi.org/10.20473/jebis.v3i1.3164

Charnes, A., Choper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. European Journal of Operational Research, 2, 429-444. https://doi.org/10.1016/0377-2217(78)90138-8

Coad, A., Segarra, A., & Teruel, M. (2013). Like milk or wine: Does firm performance improve with age?. Structural Change and Economic Dynamics, 24(1), 173–189. https://doi.org/10.1016/J.STRUECO.2012.07.002

Coelli, T. (1996). A Guide to DEAP Version 2.1: A Data Envelopment Analysis (Computer) Program. http://www.une.edu.au/econometrics/cepa.htm

Djaghballou, C.-E., Djaghballou, M., Larbani, M., & Mohamad, A. (2018). Efficiency and productivity performance of zakat funds in Algeria. International Journal of Islamic and Middle Eastern Finance and Management. http://dx.doi.org/10.1108/IMEFM-07-2017-0185

Eddyono, Suzanna, et. al, 2020, Pandemi dan Yang Tersingkir: Menakar Urgensi Kebijakan Inklusif Penanganan Covid-19. Fakultas Ilmu Sosial dan Ilmu Politik UGM: UGM Press.

Fakhri, M. Y., Bahri, E. S., & Wulan, M. (2023). Efficiency Of Zakat Institutions In Indonesia During 2017-2021: An Application Of Data Envelopment Analysis. Jurnal Akuntansi dan Keuangan Islam, 11(1), 101-135. https://doi.org/10.35836/jakis.v11i1.456

Firmansyah, Nurasyiah, A., & Rosida, R. (2020). Determinant Efficiency Analysis of The National Zakat Board (BAZNAS) Regency/City in West Java. Review of Islamic Economics and Finance, 3(1), 39-50. https://doi.org/10.18502/kss.v3i13.4252

Ghufran, T. M., Zaenal, M. H., & Endri, E. (2023). Efficiency of zakat institutions: Evidence from an emerging economy. Corporate Governance and Organizational Behavior Review, 7(2, special issue), 338-349. https://doi.org/10.22495/cgobrv7i2sip12

Gujarati, D. N., & Porter, D. C. (2009). Basic Econometrics (5th ed.). McGrawHill Irwin.

Hager, M. A., & Rooney, P. (2001). Variations in Overhead and

Fundraising Efficiency Measures: The Influence of Size, Age, and Subsector.

Hamdani, N. A., Sopianti, R. A. M., & Romdhon, M. (2022). Efficiency and Effectivity of The National Zakat Charity Organization (BAZNAS) with Data Envelopment Analysis Method and Allocation to Collection Ratio. Business Innovation and Entrepreneurship Journal, 4(3), 263-270. https://doi.org/10.35899/biej.v4i3.643

Hariyanto, E., Taufiq, M., Abidin, Z., Ulum, M., & Maimun. (2020). Effectiveness of the Economic System to Zakat and Waqf for Empowerment of the Ummah in Indonesia. International Journal of Advanced Science and Technology, 29(6), 1910-1916.

Hayati, S. R., & Putri, S. A. M. (2019). The Efficiency of Zakat Management Organizations in Indonesia: Data Envelopment Analysis Approach. Muqtasid: Jurnal Ekonomi dan Perbankan Syariah, 10(2), 95-106. http://dx.doi.org/10.18326/muqtasid.v10i2.95-106

Hoff, A. (2007). Second stage DEA: Comparison of approaches for modelling the DEA score. European Journal of Operational Research, 181(1), 425– 435. https://doi.org/10.1016/J.EJOR.2006.05.019

Hanoatubun, S., 2020, Dampak Covid-19 Terhadap Perekonomian Indonesia. Journal of Education, Psychology and Counseling, 2(1): 146-153.

Iwiyisi, O., & Chinwuba, O. (2015). Determinant of Performance Efficiency in Non-Profit Organizations: Evidence from Nigerian Federal Universities. Research Journal of Finance and Accounting, 6(17).

Jaapar, A. M., & Kamarulzaman, N. H. (2020). The Efficiency of Zakat Collection and Zakat Distribution of Islamic Religious Council Perak (MAIPk) Malaysia. The 4th International Conference of Zakat (ICONZ) Proceeding, 107-118. https://doi.org/10.37706/iconz.2020.236

Kurniawansyah, H., Salahuddin, A.M., Nurhidayati, S., 2O20, Konsep Kebijakan Strategis dalam Menangani Eksternalitas Ekonomi dari Covid-19 Pada Masyarakat Rentan di Indonesia, Indonesian Journal of Social Sciences and Humanities, 1(2): 130-139.

Laela, S. F. (Sugiyarti). (2010). Analisis Faktor-Faktor yang Mempengaruhi Kinerja Organisasi Pengelola Zakat. Tazkia Islamic Finance and Business Review, 5(2), 271268. https://doi.org/10.30993/TIFBR.V5I2.45

Maytesa, Y., & Ilhamiwati, M. (2021). The Optimalization of Zakat Distribution During COVID-19 Pandemic Using Data Envelopment Analysis (DEA) Method at Badan Amil Zakat Nasional (BAZNAS) Indonesia. Al-Falah: Journal of Islamic Economics, 6(2), 167-180. http://dx.doi.org/10.29240/alfalah.v6i2.3584

Misno, A.B.P., Junediyono., Nurhadi., et al,

2020, Covid-19, Pustaka Amma Alamiah, ISBN: 978-623-92323-5-1.

Nurasyiah, A., Adam, F., & Pertiwi, R. S. (2019). Efficiency and Productivity of Zakat Institution in Malaysia and Indonesia: The Comparative Study. The 3rd International Conference of Zakat (ICONZ) Proceeding, 243-257. https://doi.org/10.37706/iconz.2019.178

Permatasari, V. S., & Hidayatullah, M. H. (2021). Efisiensi Amil Zakat Institutions pada Masa Pandemi di Indonesia. Iqtishadia: Jurnal Ekonomi dan Perbankan Syariah, 8(2), 190-204. https://doi.org/10.19105/iqtishadia.v8i2.4749

Raies, A. (2020), "Islamic versus conventional fiscal policy: the effect of zakat on education and employment", Academic Journal of Interdisciplinary Studies, 9(1), 27-33. doi:10.36941/Ajis-2020-0003.

Reddick, C. G., & Ponomariov, B. (2012). The Effect of Individuals' Organization Affiliation on Their Internet Donations. Nonprofit and Voluntary Sector Quarterly, 42(6), 1197–1223. https://doi.org/10.1177/0899764012452670

Rustyani, S., & Rosyidi, S. (2018). Measurement of Efficiency and Productivity of Zakat Institutions in Indonesia using Data Envelopment Analysis and the Malmquist Productivity Index. International Journal of Zakat, 3(3), 69-82. https://doi.org/10.37706/ijaz.v3i3.98

Rusydiana, A. S. (2018). Perubahan Teknologi dan Efisiensi pada Organisasi Pengelola Zakat di Indonesia. Liquidity, 7(2), 124–136. https://doi.org/10.32546/LQ.V7I2.218

Ryandono, M. N. H., Widiastuti, T., Cahyono, E. F., Filianti, D., Qulub, A. S., & Mustofa, M. U. A. (2023). Efficiency of zakat institutions in Indonesia: data envelopment analysis (DEA) vs free disposal hull (FDH) vs super-efficiency DEA. Journal of Islamic Accounting and Business Research. https://doi.org/10.1108/JIABR-05-2021-0144

Saad, A.Y.Q. and Al Foori, A.M. (2020). Zakat and tax: a comparative study in Malaysia. International Journal of Innovation, Creativity and Change, 10(12), 140-151.

Sargeant, A., & Woodliffe, L. (2007). Building donor loyalty: The antecedents and role of commitment in the context of charity giving. Journal of Nonprofit & Public Sector Marketing, 18(2), 47-68.

Sekaran, U., & Bougie, R. (2017). Metode Penelitian untuk Bisnis: Pendekatan Pengembangan-Keahlian (6th ed.). Salemba Empat.

Soemitro, A. (2019). Hukum Ekonomi Syariah Dan Fiqih Muamalah Di Lembaga Keuangan Dan Bisnis Kontemporer. Prenada Media.

Subardi, H. M., Sukmadilaga, C., & Yuliafitri, I. (2020). Analisis tingkat efisiensi badan pengelola zakat Di tiga negara ASEAN (Indonesia, Malaysia Dan Singapura).

ISLAMICONOMIC: Jurnal Ekonomi Islam, 11(1). https://doi.org/10.32678/ijei.v11i1.139

Tobin, J. (1958). Estimation of Relationships for Limited Dependent Variables. Econometrica, 26(1), 24. https://doi.org/10.2307/1907382

Wahab, N. A., & Rahman, A. R. A. (2011). A framework to analyse the efficiency and governance of zakat institutions. Journal of Islamic Accounting and Business Research, 2(1), 43-62. https://doi.org/10.1108/17590811111129508

Wahab, N. A., & Rahman, A. R. A. (2013). Determinants of Efficiency of Zakat Institutions in Malaysia: A Nonparametric Approach. Asian Journal of Business and Accounting, 6(2), 33-64.

Wahid, H. (2014), Localization of Malaysian zakat distribution: perceptions of amils and zakat recipients. University of Malaya.

Wahyudi, R., & Susetyohadi, A. (2021). The Efficiency of Amil Zakat Institutions (OPZ) in Indonesian Islamic Banks: Data Envelopment Analysis Approach. MADANIA: Jurnal Kajian Keislaman, 25(2), 169-180. http://dx.doi.org/10.29300/madania.v25i2.4978

Yi, D. T. (2010). Determinants of fundraising efficiency of nonprofit organizations: Evidence from US public charitable organizations. Managerial and Decision Economics, 31(7), 465–475. https://doi.org/10.1002/MDE.1503

Zauro, N. A., Saad, R. A. J., & Sawandi, N. (2020). Enhancing socio-economic justice and financial inclusion in Nigeria: The role of zakat, Sadaqah and Qardhul Hassan. Journal of Islamic Accounting and Business Research, 11(3), 555-572. http://dx.doi.org/10.1108/JIABR-11-2016-0134

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