Covid-19 and Efficiency in Zakat Institutions: Evidence from Indonesia

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Abstract

This study aims to investigate the efficiency of Zakat institutions in Indonesia. To examine the efficiency of Zakat institutions, we employed the Data Envelopment Analysis method. The objects in this study are 17 Zakat institutions in Indonesia, classified into two: public Zakat institutions and private Zakat institutions. The data in this study comes from the annual reports of 17 Zakat institutions in Indonesia during the 2014-2020 period. The input variables in this study include salaries expense, operational expense, and total assets. The output variables in this study include Zakat collected and Zakat distributed. The results of this study indicate that during 2014-2020, the efficiency of Zakat institutions has a fluctuating trend. In 2014-2016, public Zakat institutions experienced a successive increase in efficiency before experiencing a decline in the 2017-2018 period. Efficiency of public Zakat institutions increased again from 2018 to 2019 but stagnated in the 2019-2020 period. In contrast, efficiency of private Zakat institutions decreased successively during the 2014-2016 period and experienced a slight increase in 2017 before declining again in 2018. However, private Zakat institutions experienced a significant increase in the 2018-2020 period. This study also reveals that private Zakat institutions are generally more efficient in managing inputs and maximizing desired outputs than public Zakat institutions. Moreover, to portray the efficiency level of Zakat institutions during Covid-19, we analyze the efficiency level of Zakat institutions in Indonesia in the 2019-2020 period as a whole. The results of this study found that overall, Zakat institutions in Indonesia experienced a significant trend of increasing efficiency value.

***Keywords**: Zakat, Covid-19, Efficiency, Data Envelopment Analysis (DEA)*

INTRODUCTION

Almost two years after the Covid-19 pandemic disrupting all sectors of life currently, all countries are busy designing preventive measures in the face of this ongoing outbreak. One of the preventive measures now developed and the main objective is economic resilience. The existence of the Covid-19 pandemic has created a negative impact on the economy. Looking at the international dimension, the IMF estimates that world economic growth in 2021 will be at 6.0% and is projected to decline in 2022 to 4.9% (IMF, 2021). This growth projection is undoubtedly influenced by supply and demand-side shocks. Razzu (2020) describes this supply and demand-side shock starting with the existence of social distancing rules in the context of preventing infection with the Covid-19 outbreak, which has a domino effect on the economic sector: workforce withdrawal and the shift in consumer interest, which is higher in health services compared to goods and services—involving close contact. Looking at the national dimension, the Indonesian economy is experiencing a trend of fluctuating GDP. In the first quarter of 2020, Indonesia's economic growth contracted to reach a GDP of 2.97%, which indicates a decline compared to the previous period.

On the other hand, Indonesia's economic growth reached its lowest point in the second quarter 2020 period by posting -5.32% year-on-year growth. But, the growth recovered in the next period. As a result, in quarter I 2021, the Indonesian economy achieved 0.71% year-on-year (BPS, 2021b) growth. The low GDP in the first quarter of 2021 is a consequence of the decline in household consumption, which results in increase in rate of poverty, job losses, and decreasing savings rates (Siregar et al., 2021). However, until the second quarter of 2021, Indonesia experienced a significant increase in economic growth at 7.07% year-on-year (BPS, 2021a), indicating recovery from this post-pandemic era.

Since the current global focus has shifted to recovery, several policies have been issued to adjust to the current conditions. In addition, Islamic social finance Zakat instruments are also considered to be used as a solution for economic recovery (Ascarya, 2021b; Umar et al., 2021). For

example, Zakat as an instrument of Islamic social finance can be an alternative solution for the economic crisis caused by the Covid-19 pandemic. The Covid-19 pandemic increased the number of poor people in Indonesia by 2.76 million as of September 2019 compared to the previous year. At the same time, Zakat can play a role in poverty alleviation (Abdullah et al., 2015; Choiriyah et al., 2020; Kuanova et al., 2021; Nadzri et al., 2012; Raimi et al., 2014; Sadeq, 1997).; Sari et al., 2019). Moreover, to take advantage of the potential of Islamic social finance in helping economic recovery, Ascarya (2021) proposed Zakat for the social safety net and entrepreneurship training program for micro-businesses.

Although it has great potential, the Covid-19 pandemic disruption is felt by Zakat institutions that manage Zakat funds. During Covid-19, Zakat experienced a different trend in each country. For example, Indonesia, Bangladesh, Ghana, India, Nigeria, South Africa, and the United Kingdom reveal a positive relationship (increase) between Zakat and Zakat collection. In contrast, there is a downward trend in Zakat collection in Uganda (Hudaefi et al., 2020). This shows the influence of the existence of Covid-19 on the intentions and behavior of muzzaki in paying. Concurrently, this trend indicates that the management of Zakat institutions has special treatment in dealing with the challenges of Covid-19. One of these challenges include how to maintain the efficiency of the resources for business continuity.

Business continuity is a potential approach to assessing organizational resilience during a pandemic (Schmid et al., 2021). If an organization has weak stability, it will lead to business failure. One of the causes of business failure is inefficient resource utilization (Amankwah-amoah et al., 2021). Therefore, this study investigates the efficiency of Zakat institutions in Indonesia, especially during the Covid-19 pandemic. This study uses the Data Envelopment Analysis (DEA) method. The data obtained in this study came from the annual reports of Zakat institutions in Indonesia. Zakat institutions in this study are classified into two groups: public and private. This study will contribute to empirical research related to Zakat. This paper is structured as follows: the next section will present the literature review of this study. Chapter 3 of this paper describes the research methodology undertaken. Chapter 4 discusses the results and findings obtained. Finally, chapter 5 concludes the article.

Literature Review

Almost all countries in the world are affected by the Covid-19 pandemic. A pandemic is defined as an epidemic that spreads simultaneously everywhere, covering the region's geographical area (National Amil Zakat Agency, 2020). The implementation of the PSBB by the government, especially in Indonesia, has caused economic and business activities in Indonesia to be distracted. This has caused a severe impact and caused a lot of unrest in the community. This is evidenced by BPS data (2021) showing that the percentage of Indonesia's poor population in semester 1 of 2019 was 9.41 percent, increasing to 10.19 percent in semester 2 of 2020.

Furthermore, one of the economic fields affected by the Covid-19 pandemic is Zakat institutions, especially in Zakat management. This is because the income of muzaki has decreased so that it has an impact on the amount of Zakat collection. In addition, the Covid-19 pandemic caused the number of mustahik who received Zakat to increase (Iskandar, Possumah, & Aqbar, 2020). Therefore, Zakat institutions can take several steps to overcome this situation, both in terms of the collection and distribution of Zakat. From the collection of Zakat, Zakat institutions can encourage muzakki to issue Zakat earlier so that the benefits of Zakat can be received as directly as during the Covid-19 pandemic. While on the distribution side, Zakat institutions can distribute Zakat, especially to mustahik who are in dire need during the pandemic, such as the poor in vulnerable communities. (Dermawan, 2020)

The Covid-19 pandemic can be a momentum for the rise of the Islamic economy in all sectors, both commercial finance, social, and business law, to transform towards a sustainable, digital-based sharia economy to meet community needs, a dynamic experience that can change during the Covid-19 pandemic (Misno, 2020). Around the world, various parties have joined in handling Covid-19. One of the parties that play a role in managing Covid-19 activities is social institutions such as the Zakat Institution. There are more than 400 institutions that are members of the Zakat Forum (Ministry of Home Affairs Work Team, 2020). However, only 74 Amil Zakat

Institutions received recommendations from the National Amil Zakat Agency. Amil Zakat institution (LAZ) consists of 25 National LAZ, 15 Provincial LAZ, and 34 LAZ Regencies. This institution does not include the National Amil Zakat Agency (BAZNAS), which is centered on two institutions, 34 provincial institutions, and many more scattered in BAZNAS districts/cities in all provinces in Indonesia. Furthermore, based on Law No. 38 of 1999, there are two types of Zakat organizations in Indonesia: a) Amil Zakat Agency (BAZ, owned by the government), b) Amil Zakat Institutions (LAZ, a private organization).

This study observed as many as 17 Zakat institutions categorized into two, namely public and private Zakat institutions. The Zakat institutions included in the public category are BAZNAS, Global Zakat, LAZ Al-Azhar, LAZ DD, LAZ Da'wah Council, LAZ IZI, LAZ Mizan Amanah, LAZ RZ, LAZIZ NU, Rumah Yatim, and Yatim Mandiri. Meanwhile, Zakat institutions included in the personal category consist of BAMUIS BNI, BMM, Laznas BSM, MTT, YBM BRI, and YBM PLN.

Efficiency of Zakat Institutions

The concept of efficiency is derived from microeconomic theory, namely the behavior of producers and consumers. Producers tend to maximize revenue and minimize costs to get more profit, while consumers maximize utility within budget constraints. (Ascarya, 2012). In production theory, the frontier describes the relationship between production inputs and outputs. The input-output relationship is an essential component for measuring efficiency. An efficient company is a company located on the frontier production line. Efficiency is one of the performance parameters that theoretically represent the overall performance of the decision-making unit (DMU).

The efficiency level can be measured through an input/cost-oriented approach or an output-oriented approach. The input-oriented process implies that a given number of inputs can be reduced proportionally to produce the same output level. This approach focuses on cost minimization. While an output-oriented system implies that a certain percentage of output can be increased proportionally using the same input level, this approach focuses on profit maximization (Coelli et al., 2005). Efficiency in collecting Zakat means that Zakat institutions can optimize their resources to collect Zakat funds as much as possible. Meanwhile, efficiency in distribution means that Zakat institutions can distribute Zakat funds with minimal costs.

So far, there have been several studies that have analyzed the efficiency of Zakat institutions using DEA analysis in several countries, including Indonesia. The studies regarding the analysis of the efficiency of Zakat institutions which are the references for this research, are as follows: Rusydiana, Maliha, & Al-Parisi (2016) measured the efficiency of the Dompet Dhuafa program as a Decision-Making Unit (DMU) in terms of efficiency using Data Envelopment Analysis (DEA). And also, the research will look at the potential improvement of the inefficient Dompet Dhuafa program, input-output contributions, and UPB reference contributions. Furthermore, Rusydiana & Al-Farisi (2016) measured the efficiency of 3 (three) Zakat Institutions using the Data Envelopment Analysis (DEA) and Banxia Frontier Analyst methods.

D. Sanrego & Rusydiana (2017) measure productivity and determine the effect of types and regulations on the efficiency of the five largest Zakat Management Organizations (OPZ) in Indonesia, namely Dompet Dhuafa (DD), National Amil Zakat Agency (BAZNAS), Post Justice Cares for the People (PKPU)), Baitul Mal-Bank Rakyat Indonesia Foundation (YBM-BRI) and Rumah Zakat (RZ). This study uses annual data from 2007 to 2014; DD (2010-2013), BAZNAS (2007-2013), RZ (2012-2014), PKPU (2007-2014), and YBM-BRI (2012-2014). This study consists of two input variables (operational costs (X1) and socialization costs (X2) and two output variables of Zakat Collection Fund (Y1) and Disbursement Fund (Y2). The method for the research using Data Envelopment Analysis (DEA), Productivity Index Malmquist (MPI), and Tobit Regression.

Djaghballou, Djaghballou, Larbani, & Mohamad (2018) tested the efficiency and productivity of Zakat funds managed by the Directorate of Religious Affairs and Endowments (DRAE) in Algeria using data envelopment analysis and measuring the Malmquist Productivity Index for DRAE input and output data from 2003 to 2013.

Rustyani & Rosyidi (2019) examined the efficiency and productivity levels of six Indonesian Amil Zakat institutions, namely the Al-Falah Social Fund Foundation (YDSF), Al-Azhar Peduli Ummat, Aksi Cepat Tanggap (ACT), Arrohman Indonesia Orphanage Foundation, Pos Kehumanan Peduli Ummat (PKPU), and the 2014 – 2016 Indonesian Zakat House annual data as the number of DMU (decision-making units). They are using Data Envelopment Analysis Method (DEA) and Malmquist Productivity Index (MPI). The input variables of this study are Collected Funds (X1), Total Costs (X2), and Amil Revenue (X3), while the output variables are disbursed funds (Y1) and Total Assets (Y2).

Malik & Senjiati (2020) assessed the Muhammadiyah Amil Zakat Institution (Lazismu), especially regarding service management performance for handling Covid-19. Maulana & Fanani (2020) analyzed the efficiency of Zakat institutions on the growth of the number of muzakki in Indonesia because the organizational performance of Zakat management institutions had not been optimally increasing the number of muzakki in Indonesia.

Ryandono, Qulub, Cahyono, Widiastuti, Aisyah, & Robani (2021) assessed the efficiency of Zakat organizations in Indonesia using non-parametric efficiency measurement methods during the period 2014 to 2018 for 14 Zakat Institutions. The input variables of this study consisted of salaries, operational costs, and socialization costs. At the same time, the research output variables are Zakat funds, Zakat distribution by taking into account the maqashid sharia aspects.

This study has differences from previous research. This study tries to analyze the efficiency of 17 Zakat institutions in Indonesia using DEA analysis by dividing them into two categories, namely public and private Zakat institutions during the 2014-2020 period. Furthermore, this study also tries to observe the efficiency of the two types of Zakat institutions during the Covid-19 pandemic, namely from 2019 and 2020. The input variables used are salary expenses, operating expenses, and total assets. At the same time, the output are the collection and distribution of Zakat

RESEARCH METHOD

This study uses secondary data as the basis of this study. The data is obtained from annual reports published by Zakat institutions in Indonesia. The object of this research is 17 Zakat institutions in Indonesia during the period 2014-2020. The data collection is based on the limited publication of reports issued by Zakat institutions. Table 1 shows the details of the institutions analyzed in this research.

Table 1. Research Objects of the Study

No	Indonesian Zakat Institutions (Public)	Indonesian Zakat Institutions (Private)
1.	Badan Amil Zakat Nasional (BAZNAS)	Yayasan BAMUIS BNI
2.	Global Zakat	Baitulmaal Muamalat
3.	LAZ Al-Azhar	Majelis Ta'lim Telkomsel
4.	LAZ Dompet Dhuafa	LAZNAS BSM
5.	LAZ Dewan Da'wah	Yayasan Baitul Maal BRI
6.	LAZ Inisiatif Zakat Indonesia	Yayasan Baitul Maal PLN
7.	LAZ Mizan Amanah	
8	LAZ Rumah Zakat	
9.	LAZIS NU	
10.	Rumah Yatim	
11.	Yatim Mandiri	

The methodology used in this research is the Data Envelopment Analysis (DEA) method with a production approach. Data Envelopment Analysis (DEA) is a research methodology that has been used to assess the level of efficiency of entities (e.g., programs, organizations, etc.) that are in charge of utilizing resources to produce desired outcomes (Bowlin, 1998). DEA has been regarded as an outstanding and straightforward technique for modeling operational processes for performance evaluations (Cooper et al., 2011). The DEA method is often used in the study of

Islamic economics and finance, especially in measuring the efficiency of Islamic banking and Zakat institutions. Since this study uses a production approach, Islamic financial institutions are seen as producers of output. This approach also describes input variables as employees and physical capital (Sufian & Majid, 2007). To investigate the Zakat institutions' ability to get the most output from a given set of inputs, this research focuses on the value of technical efficiency (TE). In this study, the input variables used include X1: Salaries Expense, X2: Operational Expense, and X3: Total Assets. The output variable used are Y1: Zakat Collected and Y2: Distributed Zakat. Table 2 presents the details of operationalization of variables.

Table 2. Variable operationalization

Input	**X1. Salaries Expense:** The total amount of salaries expense
	X2. Operational Expense: The total amount of operational expense
	X3. Total Asset: The total amount of salaries expense
Output	**Y1. Zakat collected:** The total amount of Zakat collected
	Y2. Zakat Distribution: The total amount of Zakat distributed

RESULT AND DISCUSSION

Table 3 provides an overview of the input and output variables used in this study. Table 2 shows descriptive statistics of input and output variables from Zakat management institutions in Indonesia from 2013-2020. Based on the input variables, total assets have the largest number compared to other variables. The average total assets of Zakat institutions in Indonesia is Rp 69,643,084,268, with the largest value of Rp 381,904,316,852, and the smallest value of Rp 402,238,835. Meanwhile, based on the output variable, the distribution of Zakat is greater than the collection of Zakat with an average value of Rp 60,730,489,730. The largest value of the distribution of Zakat is Rp 248,616,681,477, and the smallest value is Rp 2,338,004,030.

This study will show the efficiency level of 17 Zakat institutions in Indonesia during the 2014-2020 period using the DEA method. The results will be displayed through an efficiency score with a range of 1-100%. A score of 100% describes the bank's ability to manage its input and output variables optimally. Meanwhile, if the efficiency value is different than 100%, it indicates the potential for the Zakat institution to be inefficient or the possibility that it has not managed its input and output variables optimally. The efficiency score from the results of data processing can be seen in the Table 4.

Table 3. Descriptive Statistics

Variable	Average	Min	Max	St. Dev
Input :				
Sallaries Expense	8.683.536.922	11.604.300	51.895.788.070	10.032.720.630
Operational Expense	30.983.802.474	12.804.807	348.806.615.220	78.043.756.471
Total Asset	69.643.084.268	402.238.835	381.904.316.852	85.216.324.530
Output :				
Zakat Collected	2.594.266.277	2.594.266.277	236.834.381.158	66.689.362.021
Zakat Distribution	60.730.489.730	2.338.004.030	248.616.681.477	65.149.570.737

Table 4. Indonesia Zakat Institutions Efficiency Score

No	*DMU*	*CRS*							*Mean*
		2014	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	
1	BAIMUIS BNI	-	1,000	0,705	1,000	0,642	0,701	1,000	**0,721**
2	BAZNAS	0,364	0,269	0,148	0,126	0,146	0,152	0,149	**0,193**
3	BMM	-		0,068	0,063	0,122	1,000	1,000	**0,322**
4	GLOBAL ZAKAT	0,008	0,005	0,006	0,007	0,004	0,004	-	**0,005**
5	LAZ AL-AZHAR	-	0,138	0,146	0,119	0,115	0,115	-	**0,090**
6	LAZ DD	0,086	0,084	0,096	0,080	0,076	0,099	0,089	**0,087**

7	LAZ DEWAN DAKWAH	0,168	0,197	0,146	0,161	0,109	0,131	-	**0,130**
8	LAZ IZI	-	0,171	0,171	0,142	0,177	0,269	0,452	**0,197**
9	LAZ MIZAN AMANAH	0,070	0,090	0,063	0,045	0,048	0,060	-	**0,054**
10	LAZ RZ	0,240	0,375	0,397	0,470	0,411	0,267	0,334	**0,356**
11	LAZIZ NU	-		1,000	0,190	0,140	0,520	0,223	**0,296**
12	LAZNAS BSM	-	0,111	0,077	0,105	0,086	0,084	-	**0,066**
13	MTT	1,000	0,254	0,365	0,230	0,210	-	-	**0,294**
14	RUMAH YATIM	0,077	0,062	0,190	0,101	0,084	0,100	0,098	**0,102**
15	YATIM MANDIRI	0,019	0,018	0,017	0,015	0,013	0,017	0,024	**0,018**
16	YBM BRI	0,305	0,312	0,311	0,372	0,366	0,617	0,710	**0,428**
17	YBM PLN	-	-	0,383	0,378	0,330	0,353	0,282	**0,247**
Mean		**0,137**	**0,182**	**0,252**	**0,212**	**0,181**	**0,264**	**0,257**	

No	***DMU***	***VRS***							***Mean***
		2014	***2015***	***2016***	***2017***	***2018***	***2019***	***2020***	
1	BAIMUIS BNI	-	1,000	0,710	1,000	0,710	0,701	1,000	**0,732**
2	BAZNAS	0,550	0,520	0,223	0,186	0,181	0,354	1,000	**0,431**
3	BMM	-	-	0,150	0,192	0,307	1,000	1,000	**0,378**
4	GLOBAL ZAKAT	0,059	0,047	0,036	0,022	0,013	0,013	-	**0,027**
5	LAZ AL-AZHAR	0	0,140	0,147	0,121	0,121	0,121	-	**0,093**
6	LAZ DD	0,159	0,153	0,194	0,156	0,151	0,204	0,168	**0,169**
7	LAZ DEWAN DAKWAH	0,223	0,231	0,183	0,166	0,156	0,264	-	**0,175**
8	LAZ IZI	-	0,226	0,226	0,194	0,254	0,289	0,498	**0,241**
9	LAZ MIZAN AMANAH	0,078	0,112	0,063	0,055	0,054	0,065	-	**0,061**
10	LAZ RZ	0,306	0,439	0,575	0,608	0,542	0,281	0,375	**0,447**
11	LAZIZ NU	-	-	1,000	0,193	0,177	0,999	0,709	**0,440**
12	LAZNAS BSM	-	0,180	0,163	0,200	0,177	0,138	-	**0,123**
13	MTT	1,000	0,851	1,000	0,458	0,532	-	-	**0,549**
14	RUMAH YATIM	0,109	0,085	0,271	0,162	0,131	0,130	0,157	**0,149**
15	YATIM MANDIRI	0,020	0,019	0,017	0,015	0,014	0,029	0,053	**0,024**
16	YBM BRI	0,695	0,705	0,760	1,000	0,851	1,000	1,000	**0,859**
17	YBM PLN	-	-	1,000	1,000	1,000	1,000	0,739	**0,677**
Mean		**0,188**	**0,277**	**0,395**	**0,337**	**0,316**	**0,388**	**0,394**	

None of the Zakat institutions obtained efficiency with a maximum relative value during the seven-year observation period based on the CRS assumption. However, Baimuis BNI got the highest average efficiency score of 0.721, while Global Zakat obtained the lowest average efficiency score with a score of 0.005. Meanwhile, based on the VRS assumption, YBM BRI received the highest average score of 0.859, and the second place was secured by Baimusi BNI with an average score of 0.731, while the lowest score was obtained by Yatim Mandiri, with an average score of 0.024.

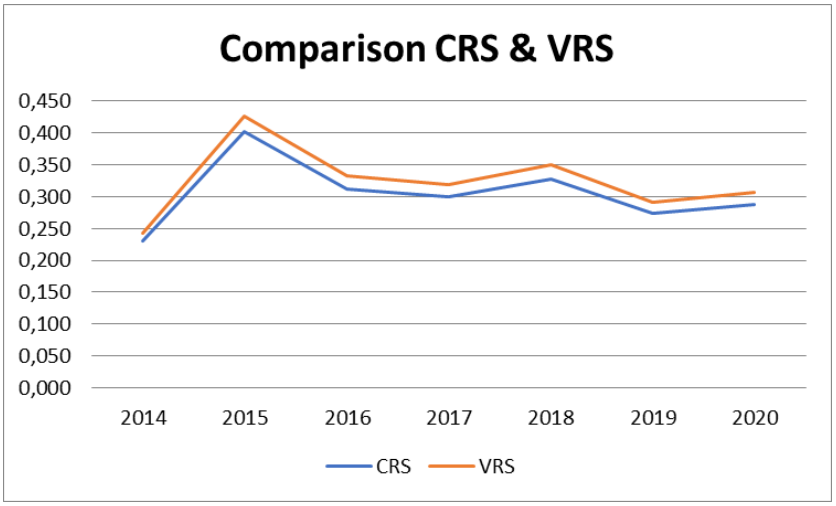

Figure 1. Comparison of CRS and VRS assumptions

Meanwhile, based on observations during the research period, the average efficiency value of Zakat institutions in Indonesia fluctuates every year. There is a similar pattern between the two based on the CRS and VRS assumptions. The efficiency value of Zakat institutions in Indonesia decreased from 2016 to 2017. Then there was an increase in 2018, then reduced again in 2019. Then in 2020, there was an increase. The spread of Covid-19 has affected the activities of Zakat management institutions. For example, in Indonesia, the overall performance of Zakat institutions decreased when Covid-19 began to spread, then increased the following year again.

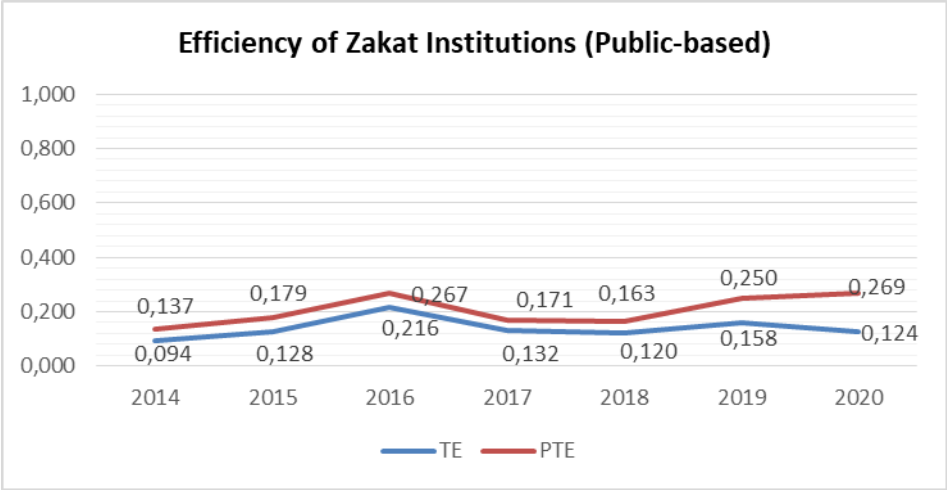

Figure 2. Efficiency of Zakat Institution Public-Based

Figure 2 shows the trend of efficiency of public Zakat institutions from 2014 to 2020. Technical Efficiency (TE), Pure Technical Efficiency (PTE), and Scale Efficiency (SE) show fluctuations from year to year. For TE, it increased from 2014 to 2016, then experienced a significant decrease from 2017 to 2018, and rose again for another year in 2019 and ended with a slight decline in 2020. Like TE, PTE in public Zakat institutions experienced an increase in the 2014-2016 period, then declined significantly in the 2017-2018 period, and increased again drastically in the 2019-2020 period.

Figure 3 shows the trend of efficiency of private Zakat institutions from 2014 to 2020. Similar to public Zakat institutions, private Zakat institutions also show fluctuations in efficiency from year to year. For example, based on the value of TE and PTE, private Zakat institutions experienced an increasing trend in a row in the 2014-2017 period. However, in 2018, the value of TE and PTE private Zakat institutions decreased before increasing again drastically at the end of

the 2019 period. In 2020, the value of TE private Zakat institutions was at its highest peak, while the value of PTE showed a slight downward trend.

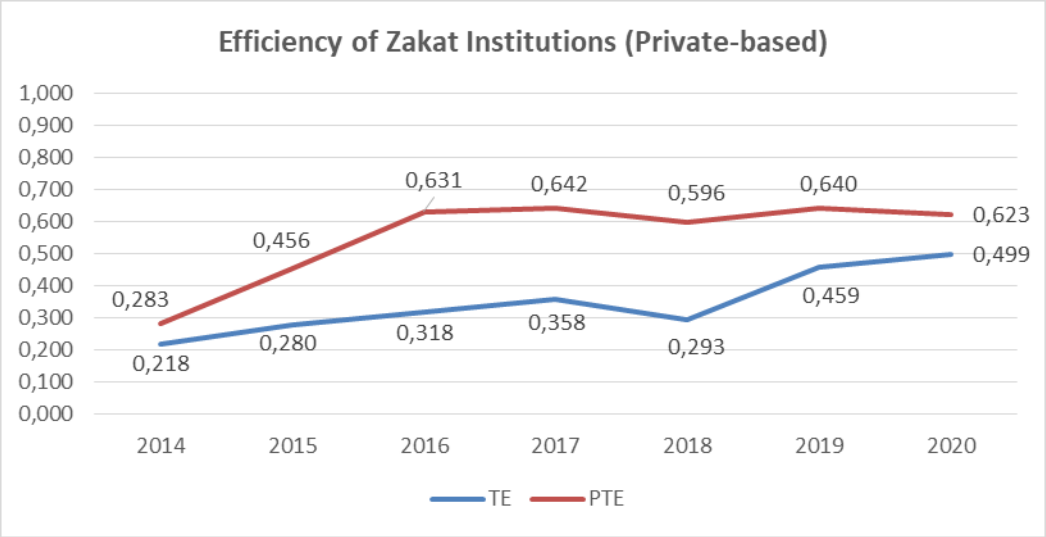

Figure 3. Efficiency of Zakat Institution Private-Based

Efficiency Comparison of Public and Private Zakat Institutions

Next, we compare the efficiency of Zakat institutions based on the classification: public and private Zakat institutions. The comparison is made by looking at the efficiency of the average TE value of public and private Zakat institutions every year over seven years.

Based on Figure 4 above, it is known that the efficiency value of private Zakat institutions is higher than that of public Zakat institutions. However, the efficiency of the two types of Zakat institutions fluctuates. The efficiency of private Zakat institutions has increased successively from 2014 to 2017, then there was a significant decline in 2018, and rose again drastically in the 2019-2020 period. Slightly similar to private Zakat institutions, public Zakat institutions' efficiency also increased from 2015 to 2016, then decreased in the 2017-2018 period. In 2019, public Zakat institutions experienced a slight increase and dropped again in 2020.

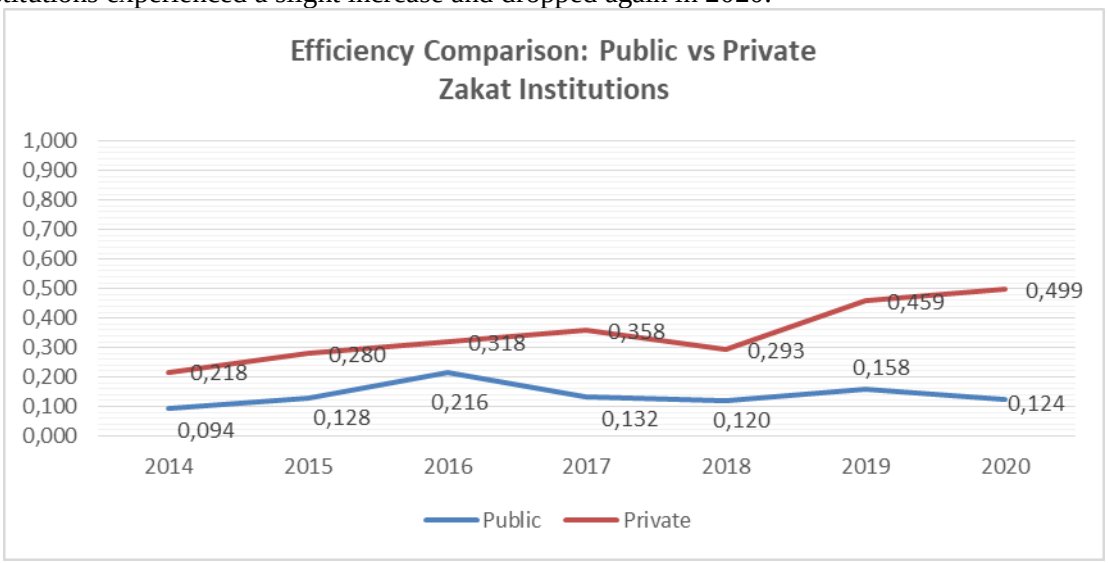

Figure 4. Comparison of the Efficiency of Public and Private Zakah Institution

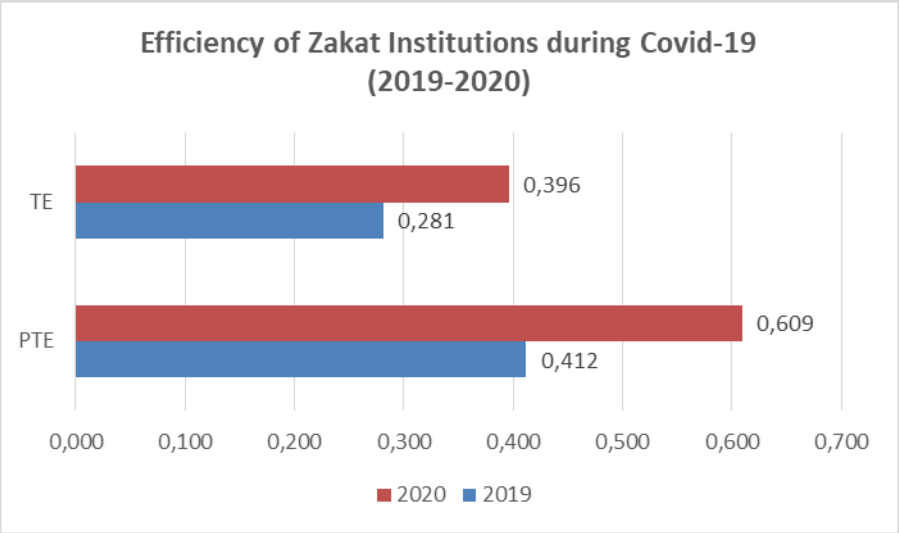

Figure 5. Efficiency of Zakat Institution During Pandemic

Based on Figure 5 above, all institutional Zakat, both public and private, experienced an increase in Technical Efficiency (TE), Pure Technical Efficiency (PTE), and Scale Efficiency during the pandemic period, from 2019 to 2020. For TE in 2019, there was an increase from 0.218 in 2019 to 0.396 in 2020. In addition, PTE also increased from 0.412 in 2019 to 0.609 in 2020.

Besides producing efficiency values, the DEA method can also generate potential improvements or levels of improvement needed to achieve optimal efficiency values. So, it can be known which variables need to be optimized. An analysis of possible progress is carried out using the last year of observation. It is carried out separately from previous years to describe the real value that must be achieved. The results of measuring the potential for improvement can be seen in the Figure 6.

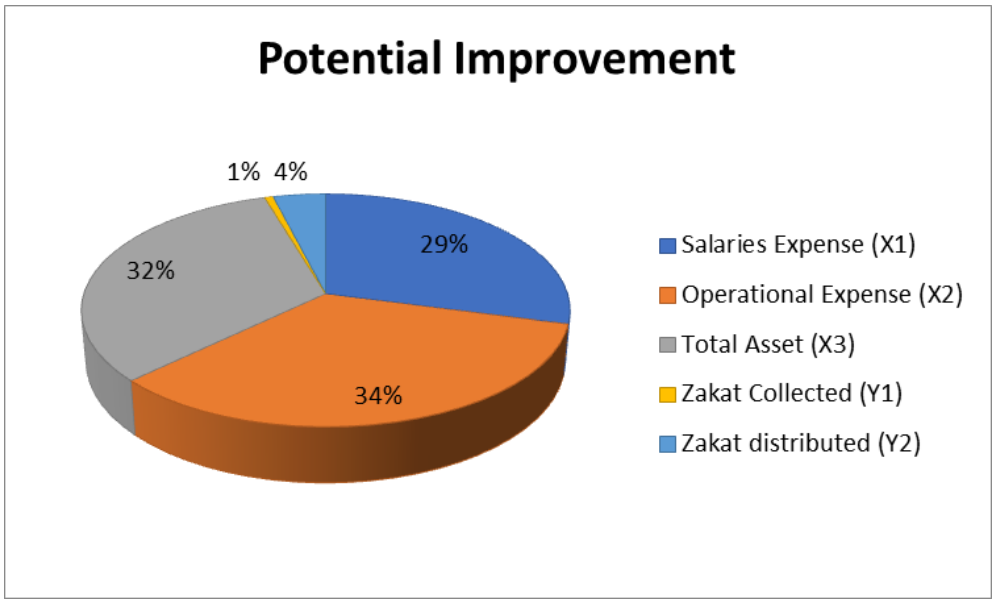

Figure 6. Potential Improvement

To find out the sources of the inefficiency of Zakat institutions, it can be seen through the increase in total potential in the information below to provide an overview related to weak Zakat institutions. The graph of the amount of potential growth shows that to be efficient, inefficient OPZ must reduce salary costs by 29% and operating costs by up to 34%, and total assets by 32%. Meanwhile, Zakat receipts need to be increased to 1%, and Zakat funds distribution by 4% to achieve optimal efficiency.

This section explains Zakat institutions as a reference to other Zakat management institutions that are still not efficient. First, the frontier analysis calculation shows that the most referenced Zakat management institution is MTT in 2014, referenced by 55 DMU. Then, the second order of referenced Zakat management institutions is MTT-2016, which is referenced by as many as 9 DMUs. And at third place is YBM PLN-2016, which is referenced by as many as 8 DMU.

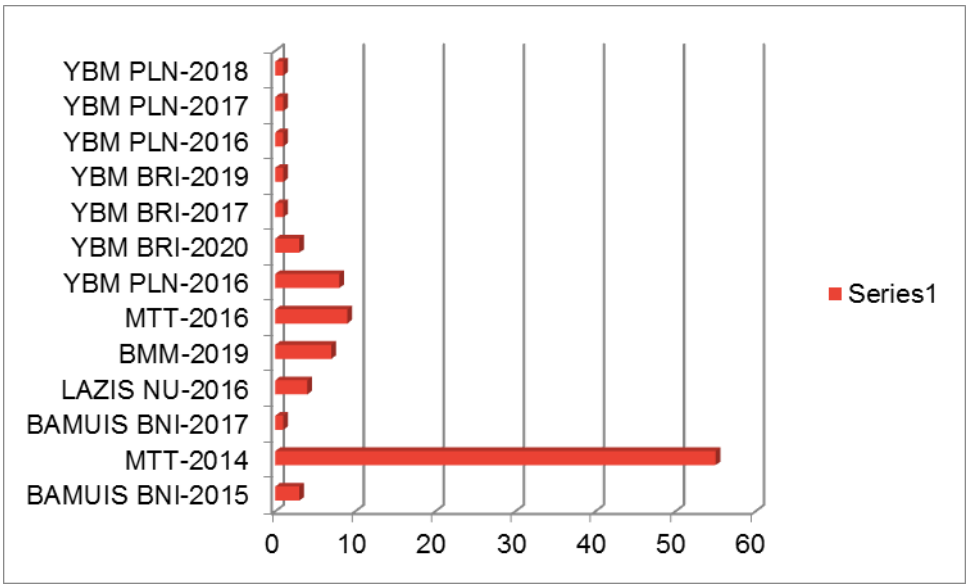

Figure 7. Benchmarking

Discussion

Based on the research results on the efficiency of Zakat institutions in the 2014 to 2020 research period, researchers can use several findings, especially for academic purposes and policymakers. The first finding in this study is shown by graphs of CRS and VRS scores (see Figure 1) which show the timeline for developing the average level of efficiency of Zakat management institutions from year to year.

Second, in Figure 2 and Figure 3, we find a fluctuating trend of efficiency experienced by Zakat institutions in Indonesia, both public and private, during the 2014-2020 research period. First, however, let us compare the efficiency level between the two types of Zakat institutions. The results show that private Zakat institutions in Indonesia have a higher efficiency performance than public Zakat institutions (see Figure 4). This result is in line with the previous study by Al-ayubi et al. (2018) and Nafik et al. (2021) which argue that Zakat institutions originating from the corporate environment tend to be higher in efficiency than public Zakat institutions. These results recommend several DMUs in private Zakat institutions such as MTT-2014, MTT-2016, and YBM PLN-2016 as benchmarks or references for other Zakat institutions in achieving efficiency.

Third, this study's results reveal an influence of the Covid-19 pandemic on the overall efficiency of Zakat institutions. If the two efficiency scores in 2019 and 2020 are compared, we find that public Zakat institutions will increase in 2020 (see Figure 5). This means that overall, it has a better efficiency value during the Covid-19 pandemic. Additionally, this result indicates an increase in the efficiency of Zakat institutions in managing their resources to produce maximum output. This result contrasts the effect of the pandemic, which has harmed business continuity on business in general. The rationalization of this phenomenon may be influenced by the orientation of Zakat institutions which are not profit-oriented companies. On the other hand, we notice that the trend of increasing Zakat collected in Indonesia during the Covid-19 pandemic (Hudaefi et al., 2020) indicates altruistic behavior or prosocial concerns. Another rationalization that can be a factor in this phenomenon is the increase in the variable Zakat collected, which can increase the responsibility of Zakat institutions in managing existing inputs and affecting efficiency.

Further findings from this study are related to the potential for increasing the efficiency of Zakat management institutions (see Figure 6). This study provides information about the potential

for expanding the input-output of Indonesian Zakat institutions through efficiency analysis. The graph of the potential increase illustrates the percentage increase that Zakat institutions can achieve in the 2020 dataset. The variables that most contribute to the decrease in the efficiency score of Zakat institutions are 1) operating expenses, 2) total assets, and 3) salary expenses. Therefore, to increase the efficiency level of Zakat institutions, operating expenses, total assets, and salary expenses need to be reduced by 29%, 34%, and 32%, respectively.

CONCLUSION

This study explored the efficiency of the Zakat institution in Indonesia during the 2014-2020 period and the Covid-19 pandemic. Through the DEA method, the results we find show a fluctuating trend in the efficiency of the Indonesian Zakat institution. In the 2014-2016 period, public Zakat institutions tended to experience a decrease in efficiency, in contrast to private Zakat institutions, which showed successive increases. In 2017, public Zakat institutions showed a significant decline, while private Zakat institutions slightly increased inefficiency. Finally, in the 2018-2020 period, public Zakat institutions again showed a slight decrease in efficiency and experienced stagnant conditions in the last two years. In contrast, private Zakat institutions indicate a drastic increase in efficiency in a row during the 2018-2020 period.

Additionally, this research also seeks to capture the efficiency trend of Zakat institutions in Indonesia during the Covid-19 pandemic. To find out this trend, we use the technical efficiency value of the Zakat institution as a whole in the 2019-2020 period. The use of this period is based on the assumption that Covid-19 has been confirmed since 2020 in Indonesia. These results reveal that Zakat institutions in Indonesia have the resilience to manage the effects of the Covid-19 pandemic. This is indicated by the efficiency value of Zakat institutions in Indonesia which as a whole has increased.

There are several limitations to this research. First, this study uses a dataset from 2014-2020. We found limited availability of data published by Zakat institutions in Indonesia. Since one of the objectives of this study is to investigate the impact of Covid-19 on efficiency, we only found 11 out of 17 institutions that released annual reports in 2020. Second, such a study could use a more extended data period to produce more robust results. Despite these limitations, the results of this study have important implications for Indonesian Zakat institutions. In addition, this research is an initial effort to measure institutional Zakat's efficiency level in Indonesia during the 2014-2020 period and during the Covid-19 pandemic. Since the Covid-19 pandemic is still becoming an unfolding issue, we recommend further research investigating the efficiency of Zakat institutions in Indonesia with the latest data. Future research can also use similar methods to assess the efficiency and productivity of Zakat institutions during the Covid-19 period, such as using the Stochastic Frontier Analysis (SFA) and the Malmquist Productivity Index (MPI). This research is expected to contribute to advancing knowledge in practice and pave way for further studies in Zakat literature.

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