



The efficiency of 20 years of Indonesian zakat institution: Data Envelopment Analysis (DEA) approach

Aftuqa Sholikatur Rohmania¹, Erlinda Sholihah²

¹Management Department, Faculty of Academic Studies,
Universitas Sains dan Teknologi Komputer, Semarang, Indonesia

²Management Department, Sekolah Tinggi Ilmu Ekonomi Studi Ekonomi Modern, Sukoharjo, Indonesia

Article Info

Article History

Received : 2023-02-25

Revised : 2023-03-21

Accepted : 2023-04-06

Published : 2023-09-05

Keywords:

Efficiency, BAZNAS, zakat institution, data envelopment analysis.

DOI:

<https://doi.org/10.20885/RISFE.vol2.iss2.art4>

JEL Classification:

L31, L38, Z13, Z18

Corresponding author:

Erlinda Sholihah
erlindaholihah@stekom.ac.id

Author's email:

aftuqa@stekom.ac.id

Paper type:

Research paper



Center for Islamic Economics Studies
and Development, Faculty of Business
and Economics, Universitas Islam
Indonesia

Abstract

Purpose – This study aims to analyze the efficiency of BAZNAS performance for 20 years, during 2002-2021.

Methodology – This research uses a quantitative approach with the Data Envelopment Analysis (DEA) method. The secondary data source is an annual report from the official National Amil Zakat Agency (Badan Amil Zakat Nasional, BAZNAS) website from 2002-2021. The analysis technique is assisted by maxDEA software.

Findings – The results showed BAZNAS gained an average efficiency of over the period 2002 - 2021 worth 90.86%, meaning that over the 20 years, BAZNAS operated showed a level of inefficiency. Further analysis, during 2018-2021, BAZNAS has shown its productivity in improving performance efficiency by achieving an optimal efficiency level worth 100%. That implies BAZNAS needs to improve its management performance by considering the suitability of inputs and outputs.

Implications – This research contributes to improving knowledge about BAZNAS performance efficiency. This research also provides insights for policymakers as an evaluation and decision-making in improving the performance of zakat institutions, especially BAZNAS.

Originality – This research saw the efficiency of BAZNAS' performance for 20 years or from its operation until now. It can show the level of public trust in BAZNAS in the management of zakat, infaq, and sadaqah (ZIS) in Indonesia.

Cite this article:

Rohmania, A. S., & Sholihah, E. (2023). The Efficiency of 20 Years of Indonesian Zakat Institution: Data Envelopment Analysis Approach. *International Journal of Islamic Social Finance*, 2(2), 146-156. <https://doi.org/10.20885/RISFE.vol2.iss2.art4>

Introduction

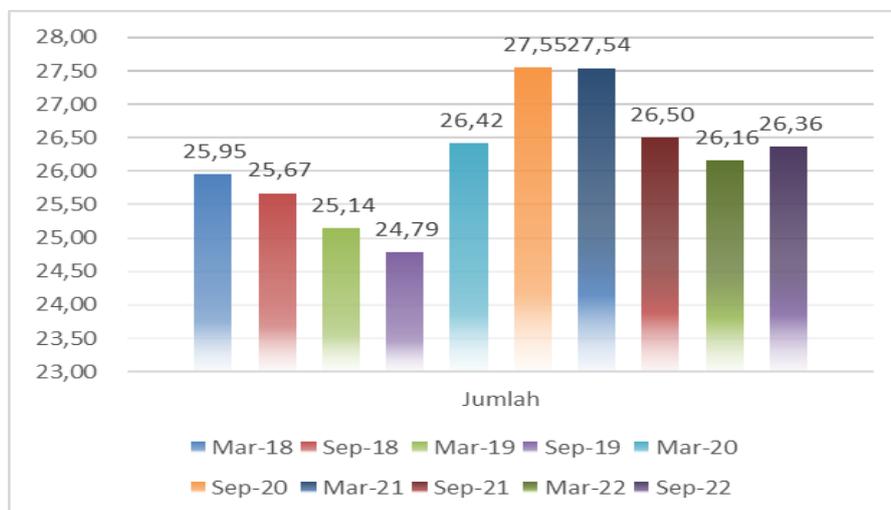
The problem of poverty is a serious problem that Indonesia faces every year. The causes of poverty can be seen from aspects of life such as unemployment, poor health, lack of education, and social exclusion (Shaikh, 2015). According to the Central Statistics Agency (BPS), Indonesia's poverty rate in 2018-2019 decreased from 25.95 million to 24.79 million. However, during the Covid-19 pandemic in 2020-2021, Indonesia's poverty rate increased to 27.54 million. The poverty rate decreased again in 2022 to 26.36 million (Illustration seen in Figure. 1) (Biro Pusat Statistik, 2022). This fact shows that the poverty rate in Indonesia is still quite high. So, efforts are needed to alleviate poverty to not cause social, economic, and political problems.

The government can alleviate poverty by mobilizing zakat management institutions or the National Amil Zakat Agency (BAZNAS), responsible for improving people's living standards.

E ISSN 2963-847X

Copyright © 2023 Authors. This is an open-access article distributed under the terms of the Creative Commons Attribution-ShareAlike 4.0 International License (<http://creativecommons.org/licenses/by-sa/4.0/>)

Zakat, infaq, and sadaqah (ZIS) as one way to reduce poverty (Sumai et al., 2019) and the country's sustainability development (Shaikh & Ismail, 2017). Social perspective, ZIS able to help reduce social inequality (Ayuniyyah et al., 2018), providing social protection to the community (Machado et al., 2018), and ensuring prosperity (Saibu, 2017). Therefore, ZIS can become a solution to alleviate poverty and equalize economic growth in Indonesia.



Source: (BPS - Statistic Indonesia, 2022)

Figure 1. Poverty Data in Indonesia 2018-2022

In addition to the great benefit of zakat in alleviating poverty and sustainable development, the fact is that Indonesia's zakat collection has not been able to reach Indonesia's zakat potential figures. Even though Indonesia's zakat potential in 2021 should reach 239 trillion, the realization has only reached 14.1 trillion. So the amount of potential with actuality is still quite far away. Meanwhile, the distribution of zakat, infaq, and sadaqah can improve the welfare of *mustahiq*. However, this is still found to overlap, resulting in less effective and efficient distribution (Fiqih Afriadi & Sanrego, 2016). In line with that, Atiya et al. (2020) stated that the cause of the inefficiency of zakat institutions is due to the lack of optimal collection and distribution. Therefore, zakat institutions, especially BAZNAS as a social institution established by the government, must provide more comprehensive benefits for *mustahiq*.

The effective management of zakat institutions must support the enormous benefit of zakat. In addition, one of the dimensions of good zakat governance is creating efficient management (Adiwijaya & Suprianto, 2020). Efficiency can also determine or evaluate a decision (Ryandono et al., 2021). According to Nurasyiah et al. (2019), the level of efficiency and productivity can support the institution's performance. Good efficiency contributes knowledge to the institution in improving its operational performance (Djaghballou et al., 2018). Rusydiana and Al Farisi (2016) explained that the efficiency of zakat institutions could be achieved by maximizing output using minimal inputs. Performance efficiency is one of the benchmarks to determine BAZNAS performance. Until now, no research has been produced related to BAZNAS' efficiency performance since the beginning of its operations. Thus, further analysis of BAZNAS' efficiency is needed to increase public trust.

Parametric and non-parametric methods can measure efficiency. Parametric approaches include Distribution Free Approach (DFA), Thick Frontier Approach (TFA), and Stochastic Frontier Approach (SFA), while the non-parametric approach is in the form of Data Envelopment Analysis (DEA) (Rusydiana & Al Farisi, 2016). Based on the above problems, zakat institutions can measure the efficiency of their performance by applying non-parametric methods in the form of DEA approach (Atiya et al., 2020; Djaghballou et al., 2018; Mohammad & Noordin, 2016; Ningsih & Yuliana, 2022; Nurasyiah et al., 2019; Rustyani & Rosyidi, 2018; Ryandono et al., 2021; Wahyuni, 2016). The DEA method measures efficiency values up to 100% or 1. In addition, with the VRS model, DEA proved the role of BAZNAS as an intermediation institution. In line with

that, the intermediation approach at BAZNAS still needs to be researched. Thus, the study analyzes BAZNAS' productivity and performance on the extent of the institution's efficiency over 20 years. It is hoped that this research will be an evaluation and decision-making of zakat institutions, especially BAZNAS, in improving their performance.

Literature Review

Zakat Management Institution

One of Islam's pillars, zakat, obliges every Muslim to pay zakat. The obligation to pay zakat has been explained in the Quran Surat At-Taubah; 11 and 103, Al Baqarah; 43 and Ar-Rum; 39. Since the era of the Prophet Muhammad and his companions, there has been a place to store the wealth of Muslims called *baitul mal*. The zakat management institution or *baitul mal* is a place for collecting and distributing zakat, infaq, and sadaqah (ZIS) (Hasim, 2017). That requires amil zakat of the Muslim religion, who understands the procedures and calculations of zakat and the management of ZIS. Thus, along with the development of zakat that is increasingly widespread, it is necessary to manage the institutional governance system systematically.

In Indonesia, the National Amil Zakat Agency (BAZNAS) manages the management of ZIS nationally. Based on the National Zakat Statistics report (2019), BAZNAS consists of 1 BAZNAS RI, 34 Provincial BAZNAS, and 456 District/City BAZNAS (Badan Amil Zakat Nasional, 2019). BAZNAS, as an official institution established by the government, is responsible to the President through the Minister of Religious Affairs, who must plan, collect, distribute, and utilize ZIS. The government pays great attention to the management of this zakat by issuing Law Number 38 of 1999, Law Number 23 of 2011, Government Regulation Number 14 of 2014, and Presidential Instruction Number 3 of 2014. The goal is to reduce poverty and prosper the Indonesian people.

The government established BAZNAS to facilitate coordination in collecting and distributing zakat in Indonesia. Ali et al. (2018) state that zakat, infaq, and sadaqah funds need to be integrated efficiently into the Sharia-compliant financial system. Therefore, the role of the Indonesian government must ensure financial and managerial accountability for the collection and distribution of ZIS.

Efficiency Concept and Data Envelopment Analysis (DEA) Approach

Farrell (1957) explains efficiency as performance outcomes in producing outputs and inputs available in their implementation. It is efficiency as a performance measure to compare the observed and optimal values between the output and the input obtained from its maximum ratio (Wahab & Rahman, 2012). Therefore, institutions need to pay attention to efficiency to survive and compete. Islam also commands every Muslim to be financially efficient (in surah At Takasur), time efficient (in Surah Al-Ashr), and speech efficient by speaking well (Muttafaq'alah: Al-Bukhari, no. 6018; Muslim, no. 47). Achieving this efficiency is consistent with achieving the benefit of the people while maintaining balance and Islamic ethics.

The concept of efficiency is important for both for-profit and non-profit institutions in achieving their goals. Law No. 23 of 2011 concerning Zakat Management outlines BAZNAS as a non-profit organization. Therefore, BAZNAS, as an institution for collecting and distributing people's funds, needs to operate management efficiently. This efficiency can be achieved if BAZNAS can distribute more ZIS without using more ZIS funds.

Efficiency measurement consists of two components, namely technical efficiency and allocative efficiency (Farrell, 1957). Allocative efficiency is how much the company can determine the optimal input to provide the intended output. In contrast, technical efficiency is the company's success in utilizing its inputs to maximize output as technical efficiency was chosen to be applied in this study. In addition, in the public sector, most efficiency measurements use the application of Data Envelopment Analysis (DEA). Previous research has proposed the application of the DEA method as a measurement of zakat management efficiency (Atiya et al., 2020; Djaghballou et al., 2018; Mohammad & Noordin, 2016; Ningsih & Yuliana, 2022; Nurasyiah et al., 2019; Rustyani & Rosyidi, 2018; Ryandono et al., 2021; Wahyuni, 2016). DEA has two models: Constant Return to Scale (CRS) and Variable Return to Scale (VRS). Constant Return to Scale (CRS) assumes that an

increase in the number of inputs results in a comparable increase in output. While Variable Return to Scale (VRS) is an increase in input resulting in a less consistent increase in output, it can be larger or smaller (Farrell, 1957). Therefore, the application of VRS assumptions is urgent to apply in this BAZNAS efficiency assessment.

Wahyuni (2016) explained that zakat management institutions could efficiently show their performance using efficiency measurements in an intermediation approach. That intermediation approach aligns with BAZNAS' role as an institution that mediates between *muzakki* and *mustahiq* (Djaghballou et al., 2018; Rustyani & Rosyidi, 2018), as well as according to the DEA measurements of the VRS model. In addition, research related to BAZNAS by applying an intermediation approach is still little studied. Therefore, in measuring the efficiency of BAZNAS in this study, it applies an intermediation approach by recognizing several input and output variables in its activities. As the inputs and outputs analyzed in this study include inputs in the form of (a) collected funds, (b) total costs, (c) *amil* costs, and outputs in the form of (a) distributed funds and (b) total assets.

Research Methods

The approach in measuring the efficiency level of the National Amil Zakat Agency (BAZNAS) institution applied to this study is quantitative with the Data Envelopment Analysis (DEA) method. The data presented is secondary data in the form of an annual report obtained from the official website of BAZNAS or www.baznas.go.id in the 2002-2021 period. Thus, 20 (twenty) DMU (Decision-Making Units) were obtained to be further identified in assessing the efficiency level of BAZNAS performance since it existed and contributed to Indonesia.

The analysis method applied is non-parametric statistics, namely Data Envelopment Analysis (DEA), involving several input and output variables. The analysis technique is assisted by maxDEA software. The application of the DEA method in this study is considered urgent because this method allows researchers to select inputs and outputs that interest managers, regardless of different units of measurement, without the need for standardization (Avkiran, 1999; Wahab & Rahman, 2015). The model chosen is Variable Return to Scale (VRS); every additional input will not increase the output value once; it can be smaller or even larger. It means that an increase in input leads to an inconsistent increase in output.

The BAZNAS institution is a non-profit institution; therefore, the chosen approach in establishing input and output variables in the efficiency measurement process is an intermediation approach to bridge *muzakki* and *mustahiq*. The input variables include collected funds, total cost, and Amil cost, while the output scope includes distributed funds and total assets. As explained in this study, it is stated in Table 1.

Table 1. Operational Variable Summary

Type of Variable	Name	Variable Definition	Source of Data
Input	Collected funds	Total funds raised, either from <i>muzakki</i> or profit sharing in one year	(Al-Ayubi et al., 2018; Atiya et al., 2020)
	Total cost	Total use of Amil funds for operations, except personnel costs or Amil in one year	
	<i>Amil</i> cost	Total costs for Amil's salary and benefits in one year	
Output	Distributed funds	Total funds distributed to the <i>mustahiq</i> or beneficiaries in one year	(Atiya et al., 2020; Rustyani & Rosyidi, 2018)
	Total assets	Total assets of the institution in one year	

Results and Discussion

Results

BAZNAS efficiency measurement begins by including inputs and outputs in maxDEA software as the basis for processing efficiency values. The following Table 2 describes BAZNAS financial statement data throughout the analysis period as input and output variables:

Table 2. Data Variabel Input dan Output

Periode	Inputs			Outputs	
	Collected Funds	Total cost	Amil cost	Distributed Funds	Total Assets
2002	768.438.113	150.644.968	196.208.968	315.277.246	33.969.791
2003	2.892.279.481	693.045.103	900.681.250	998.153.787	275.167.985
2004	3.516.480.924	778.372.199	1.210.815.159	1.945.979.910	371.620.760
2005	32.129.998.079	1.913.518.973	2.828.615.247	15.440.587.242	606.666.560
2006	20.026.660.485	2.577.664.473	3.662.614.203	16.417.775.598	964.331.560
2007	14.592.016.646	3.240.216.921	3.183.854.921	15.109.257.271	1.059.466.010
2008	19.571.494.914	3.290.947.325	3.364.447.347	9.619.629.777	2.105.548.226
2009	26.377.107.112	3.577.701.519	3.854.414.976	17.620.227.720	2.198.215.916
2010	33.125.920.075	8.112.723.739	8.488.743.909	30.037.872.410	2.337.251.366
2011	44.168.593.929	9.878.774.979	10.031.988.922	39.769.991.334	1.191.196.329
2012	59.904.014.645	6.018.185.449	6.172.360.231	48.370.383.247	1.677.439.129
2013	70.188.122.558	7.049.070.724	10.406.220.618	53.669.948.917	1.483.247.860
2014	82.264.818.091	8.285.012.091	7.075.455.021	69.649.837.874	1.908.275.722
2015	113.355.006.183	12.801.296.324	6.114.012.359	74.587.383.638	1.756.191.730
2016	141.813.260.992	16.247.798.183	13.581.688.027	80.252.586.455	3.201.569.687
2017	192.270.158.831	18.903.834.564	18.589.090.727	136.142.910.916	6.006.181.301
2018	242.665.956.532	17.018.308.950	28.265.204.234	241.096.134.243	15.373.817.214
2019	350.617.680.670	24.067.882.524	35.728.664.066	270.716.950.765	33.660.815.554
2020	451.529.730.410	27.108.923.243	41.199.604.272	353.146.434.765	35.835.019.035
2021	604.560.945.752	62.370.337.029	38.555.210.333	478.827.605.043	33.959.222.103

As stated in Table 2, it is known that the average input and output variables throughout 2002-2021 have increased. The very substantial increase in inputs and outputs from the previous year occurred in 2005, namely inputs amounting to Rp 36,872 billion and output amounting to Rp 16,047 billion. Meanwhile, in the following years, the number of increases in inputs and outputs returned to normal significantly.

Tabel 3. Efficiency Score of BAZNAS

No	DMU (Periode)	Score	Scale	Information
1	2002	100%	Constant	Efficient
2	2003	95.73%	DRS	Inefficient
3	2004	100%	Constant	Efficient
4	2005	67.51%	DRS	Inefficient
5	2006	82.47%	DRS	Inefficient
6	2007	100%	Constant	Efficient
7	2008	100%	Constant	Efficient
8	2009	87.33%	DRS	Inefficient
9	2010	94.30%	DRS	Inefficient
10	2011	89.38%	DRS	Inefficient
11	2012	86.95%	DRS	Inefficient
12	2013	76.38%	DRS	Inefficient
13	2014	97.47%	DRS	Inefficient
14	2015	100%	Constant	Efficient
15	2016	62.37%	DRS	Inefficient
16	2017	77.40%	DRS	Inefficient
17	2018	100%	Constant	Efficient
18	2019	100%	Constant	Efficient
19	2020	100%	Constant	Efficient
20	2021	100%	Constant	Efficient
Average 2002-2021			90.86%	

This study's efficiency calculation is based on technical efficiency and processed by applying maxDEA software. The score ranges from 0 to 1, while the standard efficiency level is 100% or 1. A DMU can be declared efficient with an efficiency score of 100%. Inefficiency occurred when the score achieved is less than 100%. From the results of data processing on input and output variables, a 20-year BAZNAS efficiency assessment score was obtained, as shown in Table 3.

As a complement to the information from Table 3 mentioned above, the graph in Figure 2 below can explain the conditions related to the efficiency or inefficiency of each DMU or the observation period of BAZNAS efficiency performance:

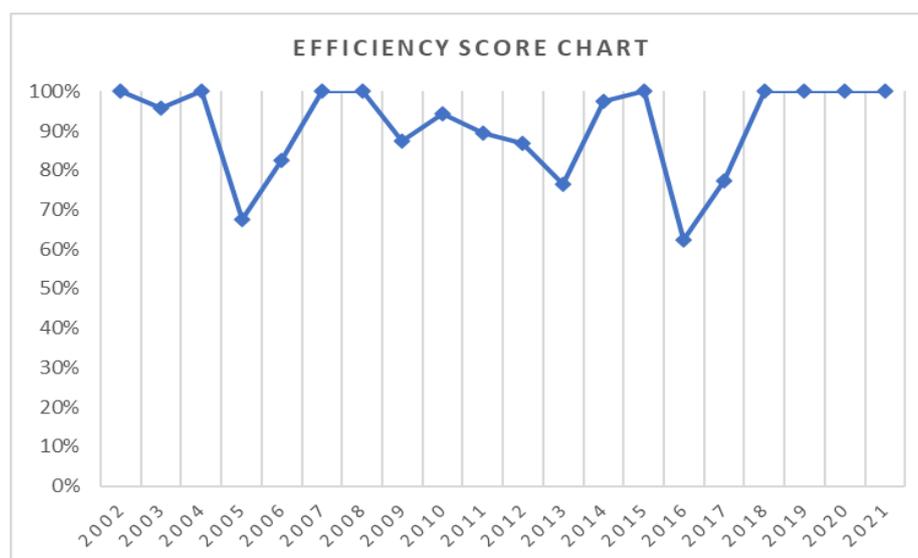


Figure 2. Growth in Efficiency Score of BAZNAS

Table 3 and Figure 2 show that for 20 (twenty) years BAZNAS has been operating, it has shown efficiency performance results that tend to fluctuate. At the beginning of the operating period, namely 2002, it showed a satisfactory efficiency value of 100%, while in 2003, it decreased to 95.73%. Then, in 2004 it was able to increase its efficiency level again to 100%, although, in the next two years, it decreased again at scores of 67.51% and 82.47%. Furthermore, the next two years managed to achieve a 100% efficiency level in 2007 and 2008. That did not last long until a long level of inefficiency occurred during 2009-2014.

Meanwhile, in 2015 again showed a satisfactory level of efficiency, but it did not last long because, in 2016-2017, there was a significant level of inefficiency. Until the last four periods, namely in 2018-2021, BAZNAS has shown its best efficiency performance as a reliable non-profit. Thus, it can be seen that the average efficiency of BAZNAS during the period 2002-2021 is worth 90.86%, where the Figure is included in the category of inefficient but with a fairly good standard.

The results of the efficiency analysis in Table 3 above show that using the Variable Return to Scale (VRS) model of the 20 (twenty) DMUs studied, 9 (nine) DMUs were declared efficient with an efficiency score of 100%. The nine (9) DMUs referred to are BAZNAS efficiency in 2002, 2004, 2007, 2008, 2015, 2018, 2019, 2020, and 2021. Meanwhile, the other 11 (eleven) DMUs were declared inefficient because they had an efficiency score below 100%. The highest inefficiency of BAZNAS occurred in 2016, worth 62.37%. Thus, there are only 9 (nine) DMU or periods set to be efficient during the operational period of BAZNAS in Indonesia.

Based on the VRS model, the level of inefficiency is divided into two assessments, namely Increasing Returns to Scale (IRS) and Decreasing Returns to Scale (DRS). IRS means that an increase in input leads to a greater increase in output, while DRS means that an increase in input leads to a smaller increase in output. Following Table 3 above, it can be seen that BAZNAS, in some periods, showed a level of inefficiency with the DRS condition, which is a condition that

requires a reduction or decrease in input due to an unbalanced comparison of the total inputs and outputs produced.

Furthermore, to identify the inefficiency factor of BAZNAS during the analysis period, the researcher presents a table of the number of potential improvements or expected achievement targets in each input and output variable. That is an effort to show information in outline related to BAZNAS' declared inefficient operational years, as shown in Table 4.

Table 4. Efficiency Target of BAZNAS

Periode	Info	Inputs			Outputs	
		Collected Funds	Total cost	Amil cost	Distributed Funds	Total Assets
2003	Actual	2.892.279.481	693.045.103	900.681.250	998.153.787	275.167.985
	Target	2.768.827.063	585.392.253	862.237.986	1.466.694.154	275.167.985
2005	Actual	32.129.998.079	1.913.518.973	2.828.615.247	15.440.587.242	606.666.560
	Target	16.314.372.632	1.291.965.381	1.909.818.805	15.440.587.242	1.007.380.256
2006	Actual	20.026.660.485	2.577.664.473	3.662.614.203	16.417.775.598	964.331.560
	Target	16.516.880.358	2.125.915.550	2.594.533.157	16.417.775.598	1.094.084.314
2009	Actual	26.377.107.112	3.577.701.519	3.854.414.976	17.620.227.720	2.198.215.916
	Target	23.037.433.874	2.297.462.398	3.258.236.531	17.620.227.720	2.198.215.916
2010	Actual	33.125.920.075	8.112.723.739	8.488.743.909	30.037.872.410	2.337.251.366
	Target	31.238.526.635	4.256.534.738	4.925.249.449	30.037.872.410	2.337.251.366
2011	Actual	44.168.593.929	9.878.774.979	10.031.988.922	39.769.991.334	1.191.196.329
	Target	39.480.501.974	4.743.746.171	5.920.848.892	39.769.991.334	2.621.514.235
2012	Actual	59.904.014.645	6.018.185.449	6.172.360.231	48.370.383.247	1.677.439.129
	Target	52.090.319.684	4.226.942.788	5.367.256.258	48.370.383.247	3.180.584.955
2013	Actual	70.188.122.558	7.049.070.724	10.406.220.618	53.669.948.917	1.483.247.860
	Target	53.613.454.558	5.384.459.574	7.336.364.060	53.669.948.917	3.493.602.786
2014	Actual	82.264.818.091	8.285.012.091	7.075.455.021	69.649.837.874	1.908.275.722
	Target	80.186.651.820	7.284.344.601	6.896.715.427	69.649.837.874	4.724.060.893
2016	Actual	141.813.260.992	16.247.798.183	13.581.688.027	80.252.586.455	3.201.569.687
	Target	88.449.630.430	6.470.005.558	8.470.966.802	80.252.586.455	5.332.772.523
2017	Actual	192.270.158.831	18.903.834.564	18.589.090.727	136.142.910.916	6.006.181.301
	Target	148.822.228.166	12.370.172.702	14.388.452.939	136.142.910.916	9.011.519.685

Based on Table 4, it appears that in 2003 BAZNAS should be able to reduce total and *amil* costs, while distributed funds should be increased to Rp 1,466 billion. In 2005 the total cost and *amil* cost should also be reduced, along with the total assets that should be increased to Rp 1,007 billion. In 2006 the total cost and *amil* cost should be reduced, but the total assets should be able to increase up to Rp 1,094 billion. Meanwhile, in the period 2009-2010, it appears that the value of the output variable in the form of distributed funds and total assets has reached the target value that should be. However, the value of the input variable must still be minimized. Furthermore, 2011, 2012, 2013, 2014, 2016, and 2017 have demonstrated the expected suitability of total distributed funds, but other variables need to be reduced and improved to achieve optimal levels of efficiency.

Discussion

BAZNAS has been trusted as a manager and regulator in collecting and distributing zakat, infaq, and sadaqah (ZIS) in Indonesia. The trust of *muzakki* towards BAZNAS is very high. It is hoped that the ZIS can be well distributed and managed under good management to achieve the expected *mustahiq* empowerment. So, BAZNAS's role as a trusted institution in ZIS affairs can be declared transparent and by the expectations of *muzakki*. Therefore, the results of BAZNAS efficiency performance are urgent to know together.

The measurement of the efficiency of BAZNAS as the largest ZIS managing country institution that has been operating for 20 years shows a level of inefficiency but with a reasonably

good standard, which is an average of 90.86%. The results of the BAZNAS efficiency analysis with the Data Envelopment Analysis (DEA) approach have revealed several efficiency factors after analyzing potential improvements or achievement targets. Considering that one characteristic of inputs is collected funds so difficult to change, the analysis of potential improvements or achievement targets in each operational period of BAZNAS focuses on improvement or increases in several other variables, such as total cost, *amil* cost, and total assets. Meanwhile, BAZNAS, with an efficiency value of 100%, no change is needed to the achievement target because it is included in the category of efficient DMU. Thus, these findings are consistent with the results of research conducted by Wahyuni (2016), which states that BAZNAS shows an inefficiency of 84% due to the difference between the actual and the projection figure, namely the less optimal utilization of available inputs and the distribution of the output produced. In addition, Syaifuddin (2019) also validated his findings that in 2016 BAZNAS showed inefficiency caused by the waste of costs and imbalances in using inputs with their outputs.

For several periods, such as in 2002, 2004, 2007, 2008, 2015, 2018, 2019, 2020, and 2021 BAZNAS has achieved an optimal level of efficiency worth 100%. It means that BAZNAS, in that period, has succeeded in maximizing the input resources produced to realize optimal output per the expected goals. Vice versa, the trigger for BAZNAS inefficiency can be due to the incompatibility of the use of input resources with their outputs.

Fiqh Al-Qaradhawy (1997) stated that since a long time ago, zakat institutions had problems in their implementation or management related to people's ignorance of the mechanism of zakat and the weakness of the people in managing it. In line with that, Fitriani and Priantina (2016) stated that BAZNAS has internal problems, such as a lack of human resources in managing institutions, and does not yet have a measuring tool for program success. It shows that in 2003, 2005, 2006, 2009, 2010, 2011, 2012, 2013, and 2014, BAZNAS has not achieved successful performance, so inefficiencies occurred. Meanwhile, BAZNAS management began to succeed in 2018-2021, where BAZNAS showed efficiency for four consecutive years. It means that BAZNAS has shown its management performance on the suitability of inputs and outputs.

Conclusion

This study analyzed BAZNAS' productivity and performance on the extent of the institution's efficiency over 20 years. The results showed BAZNAS gained an average efficiency from 2002 to 2021, worth 90.86%. The average shows that BAZNAS, in its operation for 20 years, shows a degree of inefficiency. Further results show that infestation occurred in 2003, 2005, 2006, 2009, 2010, 2011, 2012, 2013, and 2014. In that year, BAZNAS has not achieved successful performance, and resource productivity has not been managed optimally. However, the research results during 2018-2021, or four years in a row, show BAZNAS has shown its productivity in improving performance efficiency by successfully achieving an optimal efficiency level.

The inefficiency of BAZNAS in this study was seen in the unbalanced use of inputs and outputs. The inputs issued should be minimized, especially on total and *amil* costs. Therefore, BAZNAS needs to consider the suitability of inputs and outputs to optimize performance efficiency. From these limitations, this research needs to be expanded and followed up. First, it is necessary to group analysis per year according to the era because it is suspected that technological advances or setbacks in Indonesia resulted in average efficiency during the 2002-2021 period showing inefficiency. Second, subsequent research can analyze different approaches, especially in selecting variables. It is hoped that the results of this study will contribute to increasing knowledge about the efficiency of BAZNAS performance. Thus, this research also provides insights for policymakers as an evaluation and decision-making in improving the performance of zakat institutions, especially BAZNAS.

Author Contributions

Conceptualization: Aftuqa Sholikatur Rohmania, Erlinda Sholihah

Data curation: Aftuqa Sholikatur Rohmania, Erlinda Sholihah

Formal analysis: Erlinda Sholihah

Investigation: Aftuqa Sholikatur Rohmania

Methodology: Erlinda Sholihah

Project administration: Aftuqa Sholikatur Rohmania, Erlinda Sholihah

Supervision: Aftuqa Sholikatur Rohmania, Erlinda Sholihah

Validation: Aftuqa Sholikatur Rohmania, Erlinda Sholihah

Visualization: Aftuqa Sholikatur Rohmania

Writing – original draft: Aftuqa Sholikatur Rohmania, Erlinda Sholihah

Writing – review & editing: Aftuqa Sholikatur Rohmania, Erlinda Sholihah

References

- Adiwijaya, Z. A., & Suprianto, E. (2020). Good governance of zakat institutions: A literature review. *Journal of Southwest Jiaotong University*, 55(2), 1–7. <https://doi.org/10.35741/issn.0258-2724.55.2.38>
- Al-Ayubi, S., A., & Possumah, B. T. (2018). Examining the efficiency of zakat management: Indonesian zakat institutions experiences. *International Journal of Zakat*, 3(1), 37–55. <https://doi.org/10.37706/ijaz.v3i1.66>
- Al-Qaradhawy, Y. (1997). *Fiqih zakat*. https://www.academia.edu/25332707/Fiqih_Zakat_Yusuf_Qardhawi
- Ali, E. M. T. E., Rahman, S. M. A. S. A., Baba, Z. S., & Muda, H. (2018). The employees' awareness on the monthly zakat deduction scheme in Terengganu. *International Journal of Academic Research in Business and Social Sciences*, 8(7), 999–1010. <https://doi.org/10.6007/ijarbss/v8-i7/4526>
- 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>
- Avkiran, N. K. (1999). An application reference for data envelopment analysis in branch banking: helping the novice researcher. *International Journal of Bank Marketing*, 17(5), 206–220. <https://doi.org/https://doi.org/10.1108/02652329910292675>
- Ayuniyah, Q., Pramanik, A. H., Saad, N. M., & Ariffin, M. I. (2018). Zakat for poverty alleviation and income inequality reduction. *Journal of Islamic Monetary Economics and Finance*, 4(1), 85–100. <https://doi.org/10.21098/jimf.v4i1.767>
- Badan Amil Zakat Nasional. (2019). *National Zakat Outlook 2019*. <https://pid.baznas.go.id/wp-content/uploads/2020/09/Statistik-Zakat-Nasional-2019.pdf>
- Biro Pusat Statistik. (2022). *Poverty Profile in Indonesia, Official News Statistics*. <https://www.bps.go.id/pressrelease/2023/01/16/2015/persentase-penduduk-miskin-september-2022-naik-menjadi-9-57-persen.html>
- 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*, 11(3), 474–494. <https://doi.org/10.1108/IMEFM-07-2017-0185>
- Farrell, M. J. (1957). The measurement of productive efficiency. *Journal of the Royal Statistical Society*, 120(3), 253. <https://doi.org/10.2307/j.ctv5rdxd5.7>
- Fiqih Afriadi, & Sanrego, Y. D. (2016). Mengurai permasalahan distribusi zakat kepada fakir miskin: Pengalaman organisasi pengelola zakat Baznas, Dompot Dhuafa, dan Lazizmu. *Jurnal Madania*, 20(1), 23–36. <https://doi.org/http://dx.doi.org/10.29300/madania.v20i1.83>
- Fitriani, W. F., & Priantina, A. (2016). Analisis penguraian masalah pada program zakat produktif

- decomposition. *Al-Muzara'ah*, 4(2), 142–150. <https://media.neliti.com/media/publications/261298-analisis-penguraian-masalah-pada-program-f32f325a.pdf>
- Hasim. (2017). The implementation of Baitul Maal management in Early Islam as the alternative to increasing people's economy: Case study on the management of mosque in Yogyakarta. *Proceeding of 2nd International Conference of Arts Language And Culture*, 375–383. <https://www.semanticscholar.org/paper/The-implementation-of-baitul-maal-management-in-as-Hasim/1066137169b8303ff0429c84d1498de4f880c65d>
- Machado, A. C., Bilo, C., & Helmy, I. (2018). The role of zakat in the provision of social protection: a comparison between Jordan, Palestine and Sudan. *International Policy Centre for Inclusive Growth*, 168. https://www.researchgate.net/publication/327201516_The_role_of_zakat_in_the_provision_of_social_protection_-_a_comparison_between_Jordan_Palestine_and_Sudan
- Mohammad, N., & Noordin, N. (2016). Data envelopment analysis model for measuring efficiency of zakat. *e-Academia Journal UiTMT*, 5(2), 210–218. <http://journale-academiauitmt.edu.my>
- Ningsih, S. W. , & Yuliana, I. (2022). Analysis of financial performance efficiency at the National Amil Zakat Agency (BAZNAS) East Java Province 2018-2020 period using data envelopment analysis and the national zakat index. *Al-Kharaj : Jurnal Ekonomi, Keuangan & Bisnis Syariah*, 5(1), 142–152. <https://doi.org/10.47467/alkharaj.v5i1.1143>
- Nurasyiah, A., Pertiwi, R. S., & Adam, F. (2019). An Efficiency and Productivity of Zakat Institution in Malaysia and Indonesia: The Comparative Study. *International Conference of Zakat*, 23, 243–257. <https://doi.org/10.37706/iconz.2019.178>
- 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>
- Rusydia, A. S., & Al Farisi, S. (2016). The efficiency of zakah institutions using data envelopment analysis. *Al-Iqtisad: Journal of Islamic Economics*, 8(2), 213–226. <https://doi.org/10.15408/aiq.v8i2.2876>
- Ryandono, M. N. H., Qulub, A. S., Cahyono, E. F., Widiastuti, T., Hanesti, E. M., & Ardiani, N. (2021). Analysis of efficiency for zakat management organization in Indonesia: A comparison study of super efficiency and free disposal hull Muhamad. *Indonesian Journal of Multidisciplinary Islamic Studies*, 4(2), 171–188. <https://doi.org/https://doi.org/10.21009/005.02.01>
- Saibu, A. (2017). Poverty and poverty alleviation. *International Conference on Masjid, Zakat and Waqf Management*, 203–222. <https://doi.org/10.4135/9781452218557.n429>
- Shaikh, S. A. (2015). Welfare potential of zakat: An attempt to estimate economy wide zakat collection in Pakistan. *Pakistan Development Review*, 54(4), 1011–1027. <https://doi.org/10.30541/v54i4i-ipp.1011-1027>
- Shaikh, S. A., & Ismail, A. G. (2017). Role of zakat in sustainable development goals. *International Journal of Zakat Vol.2 (2) 2017 page 1-9*, 2(February), 1–9. <https://doi.org/https://doi.org/10.37706/ijaz.v2i2.21>
- Sumai, S., Mutmainnah, A. N., Nurhamdah, & Arsyad, M. (2019). Role of zakat in poverty reduction and food security. *IOP Conference Series: Earth and Environmental Science*, 343(1). <https://doi.org/10.1088/1755-1315/343/1/012254>
- Syaifuddin, T. (2019). Implementation of data envelopment analysis (DEA) in measuring the efficiency zakat fund management. *Indonesian Journal of Islamic Economics Research*, 1(1), 50–57. <https://doi.org/10.18326/ijier.v1i1.2872>

- Wahab, N. A., & Rahman, A. R. A. (2012). Productivity growth of zakat institutions in Malaysia: An application of data envelopment analysis. *Studies in Economics and Finance*, 29(3), 197–210. <https://doi.org/10.1108/10867371211246876>
- Wahab, N. A., & Rahman, A. R. A. (2015). Efficiency of zakat institutions and its determinants. *Access to Finance and Human Development—Essays on Zakah, Awqaf and Microfinance*, 33. https://ibir-api.hbku.edu.qa/sites/default/files/2021-02/Chapter 4 Norazlina et al_2.pdf
- Wahyuni, I. N. (2016). The efficiency of national zakat organizations management using data envelopment analysis. *Journal of Islamic Economics Lariba*, 2(1), 1–10. <https://doi.org/10.20885/jielariba.vol2.iss1.art1>