Evaluating Efficiency of Zakah Institutions: An Intermediation Approach Using Data Envelopment Analysis (DEA)

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Abstract

This paper analyzes the efficiency of Badan Aml Zakat Nasional (BAZNAS) and Dompet Dhuafa from 2002 to 2018. Based on selected input and output, the intermediary approach assumes that BAZNAS and Dompet Dhuafa act as a link between muzakki (giver) and beneficiaries. Furthermore, BAZNAS and Dompet Dhuafa were selected as decision-making units (DMU) from 2002 to 2018, and their efficiency was measured using Data Envelopment Analysis (DEA) method under output-orientation with Constant Return to Sclae (CRS) and Variable Return to Scale (VRS) assumptions. The results showed both BAZNAS and Dompet Dhuafa raise the optimum efficiency in the years before 2007. Meanwhile, their inefficiency was mostly due to lack of input such as higher personalia (amil/volunteers) expenses. Therefore, these findings suggests that both technical and scale efficiency should be improved by adjusting the input. This is to achieve the most efficient and productive level of performance in order to fulfill the institutions' objectives as an intermediary between muzakki and the beneficiaries. This paper is among the pioneers that analyzed the efficiency of zakat institutions from their initial establishment to present. Also, existing papers examined data spanning 5 years or less. Hence, long duration of data analysis provides a comprehensive evaluation of fluctuations in the zakat institutions efficiency and their supporting or inhibiting factors..

1. Introduction

BAZNAS study found that zakat has a positive effect on Indonesia's macro economy, although it is currently recognized that its contribution is still minimal in reducing poverty and inequality (PUSKAS BAZNAS, 2020). Meanwhile, zakat is part of the assets that Allah obliged to be given with certain conditions (Hafidhuddin, 2005). In a broader view, the concepts of zakat, infaq and alms are believed to have a tremendous impact. In Western regions such as the United States, a concept has emerged where the economy needs to be based on a spirit of sharing and giving (Beik, 2009).

The issuance of Law No.38 of 1999 concerning Zakat management is an important matter in Indonesia. Initially, it was only done by one individual to another. The issuance of this law encourages muzakki to channel their zakat through its institutions. Also, the collection of zakat from year to year continues to increase, although it is still far from the initial potential. Therefore, to reduce regulatory problems in the field, Law No.23 of 2011 on Zakat Management was enacted. However, for some people, this law is considered to be too focused on institutions, hence, its substantial aspects are still not regulated (FOZ, 2012).

In the last few years, the Zakat Management Organization has experienced rapid development, and it's growth is a positive signal in Indonesia (Zahra, Harto, & Bisyri, 2016). In Law No.23 of 2011, there are two types of Organizations, namely the National Amil Zakat Agency (BAZNAS) and the Amil Zakat Institution (LAZ). According to the latest data published by the National Zakat Agency, it was recorded that there are 557 Management Organizations which have received official permits in accordance with the regulations of the Ministry of Religion (BAZNAS, 2018).

Indonesia is a country with the largest Muslim population in the world, hence making it a large potential for zakat. The BAZNAS report states that there are 233,8 trillion rupiah of potential zakat in Indonesia in 2019, but this has not been optimally explored (PUSKAS BAZNAS, 2020). Although the potential is quite large, the realization of zakat collection is not more than 5% of the existing potential. Also, collection in 2018 only reached 8.1 trillion rupiah with an increase of 1.9 trillion from 2017 (PUSKAS BAZNAS, 2020).

There is a gap between the number of zakat institutions, the potential, and the amount received. This gap is a challenge to improve their performance. Another problem is how to continually increase collection and the effectiveness of it's distribution to the community. Therefore, the efficiency of collecting and distributing zakat funds needs to be improved in order to optimize performance (Nurhasanah & Lubis, 2019). Therefore, the goal of increasing efficiency is a mandate of zakat management Act.

Currently, BAZNAS has developed 6 research pillars for strengthening national Zakat, namely Regulation & Institutions, Distribution & Utilization, Collection, Operations & Finance, National Database & Coordination, as well as Strengthening Publication. In the operation and finance pillars, financial ratios are also developed, one of which is the proficiency ratios related to the costs of collection, operations and human resources (PUSKAS BAZNAS, 2020).

The development of financial ratios and operations is still benchmarking against conventional ones in commercial institutions. This ratio is an overhead type which may not be directly related to input optimization in non-profit institutions. Sometimes even though the overhead costs are high, it however does not reduce the level of their proficiency. For example, the cost of purchasing software can increase effectiveness because it can boost output, such as significantly increasing fundraising. Although the costs incurred are large, it does not reduce the effectiveness of non-profit institutions. Therefore, an alternative

measurement of efficiency is needed for non-profit institutions such as zakat. One of the measurement is the introduction of the Data Envelopment Analysis (DEA) method (Coupet & Berrett, 2019).

Also, zakat institutions can be considered sound, credible, effective, and proficient when they meet several performance indicators. This performance refers to the objectives and activities in accordance with the needs of the community (Fathurrahman & Hajar, 2019).

Research on the efficiency of zakat institutions is important in Islamic economics. This is because the institutions are responsible for the management and utilization of public funds, therefore efficiency becomes a controlling tool for performance (Alam, 2018). Also, to measure efficiency, Data Envelopment Analysis (DEA) is applied. The DEA obtains more accurate results than ordinary financial ratios such as operational efficiency ratios used for commercial organizations (Sari & Saraswati, 2017).

Also, other studies such as Akbar (2009), Lestari (2015), Parisi (2017) and Widyaningrum has been carried out using the DEA on different objects. The results vary and the efficiency depends on the zakat institution, whether the collection or distribution of funds to mustahik is not optimal.

This study is significant due to the longer span, and is more focused on central BAZNAS and Dompet Dhuafa. Previous studies examined several zakat institutions for a few years only and with a long observation period. Therefore, this study addresses the years BAZNAS and Dompet Dhuafa achieved the highest level of efficiency during their establishment.

The reasons for selecting these objects are based on two factors, namely having financial statements since the founding year, and having the same input and output variables. BAZNAS was chosen because of its relatively low level of proficiency based on previous studies. Therefore, it is necessary to re-examine in order to ascertain efficiency development. Also BAZNAS is managed by the government and has the authority to manage and coordinate all zakat institutions in Indonesia. However, previous studies found that BAZNAS experienced low level of effectivenes, namely 58.74% (2010) and 55.07% (2011). According to the annual financial reports, the collection of zakat and other charity funds by Central BAZNAS for the last 5 years only reached 289 billion rupiah in 2019. This number grew to 177 billion from 93 billion in 2015 (BAZNAS, 2016, 2020). This amount is smaller when compared to other national institutions, such as Dompet Dhuafa, which raised 379 billion rupiah in 2019.

Dompet Dhuafa was chosen because it has good performance and has an increased efficiency score in 2016 based on the ACR ratio, and is managed by the private sector. The BAZNAS 2017 awarded Dompet Dhuafa as the National Amil Zakat Institution with the best operations. However, based on the calculation of the ACR ratio, Dompet Dhuafa experienced a decrease in the level of efficiency in 2017. Meanwhile, previous study found that Dompet Dhuafa obtained the lowest score of 9.36% in 2010. Therefore, selection of the two zakat institutions is to ascertain organizational performance, which is under the government and private sector by assessing the efficiency level since the institution was founded.

The results of this study are expected enlighten management and related stakeholders to properly allocate input and output factors in achieving optimal efficiency. Also, it is expected to identify the key factors that challenge and improve efficiency during the zakat institution operation since the establishment.

This paper is organized as follows: Section 2 highlights data and methods, followed by the presentation of efficiency mmeasurement and their discussions in Section 3. Finally, Section 4 provides conclusions and suggestions.

2.   Methods

This is a quantitative study with a non-parametric Data Envelopment Analysis (DEA) approach. Secondary data collected from BAZNAS were used, and Dompet Dhuafa's financial reports from the year of establishment until 2018.

This study was analyzed using DEA, which is the CCR (1978) and BCC model (1984). DEA was introduced by Charnes, Cooper and Rhodes in 1978, and was created as an analytical tool to evaluate the performance of an activity in an entity or organization unit. Basically its principle is to compare the input and output data of different data organization (Decision Making Unit). This comparison is made to obtain an effective value, and the analysis can be used for health, education, transportation, manufacturing, and banking studies (Nugraha, 2013).

To measure efficiency with the DEA method, input and output variables needs to be defined in advance based on the approach used. Therefore, this study used an intermediation approach with output orientation. The input and output variables used are as follows:

Table 1. Input and Output Variables with Intermediation Approach

Output Variable	Definition	Source of Data
Output 1 (Y)	Fund Disbursed	Statement of Fund
Input Variables	**Definition**	**Source of Data**
Input 1 (X1)	Fund Collected	Statement of Fund
Input 2 (X2)	Personalia Expense	Statement of Fund

The measurement of efficiency ratio was carried out by comparing the output factor with the input. This assessment is efficient when the value obtained reaches 1 or 100%, and inefficient when it approaches 0. This benchmark is to measure the level of technical efficiency which processing will show 3 (three) conditions, namely constant to scale (CRS), increasing to scale (IRS) and decreasing to scale (DRS).

The increasing condition allows the zakat institution to continue improving its output capacity by maintaining existing inputs. Meanwhile, the addition of input is not effective because the resources used are not optimal. Also, the condition of decreasing demands is that zakat institutions reduce the use of inputs because the amount is not ideal for use.

The conditions of the two institutions was compared to assess the level of efficiency in each year of observation.

3.   Result and Discussion

Findings of Efficiency Measurement of Zakat Institution

BAZNAS and Dompet Dhuafa efficiency was measured by Data Envelopment Analysis. In the DEA, every DMU is a subject that has a quantitative variable to calculate the efficiency level.

DEA measures efficiency by comparing the input and output used. Furthermore, the efficiency of zakat institutions was measured using the MaxDEA software based on the output orientation. This was used to find out how efficient the institution is in distributing funds with a certain number of inputs. Also, the efficiency assessment was based on whether the value obtained reached 1 or 100% and vice versa, and it is inefficient when it reaches 0. In the DEA, it is possible for an institution to have one of the Return to Scale (RTS) conditions, namely IRS, CRS and DRS.

Table 2. BAZNAS Efficiency Trends in 2002-2018

Year	CRS	VRS	Scale	RTS
2002	53%	69%	76%	Increasing
2003	52%	55%	95%	Increasing
2004	80%	83%	96%	Increasing
2005	100%	100%	100%	Constant
2006	92%	93%	100%	Increasing
2007	100%	100%	100%	Constant
2008	55%	55%	99%	Decreasing
2009	70%	70%	100%	Decreasing
2010	95%	99%	96%	Decreasing
2011	94%	98%	96%	Decreasing
2012	100%	100%	100%	Decreasing
2013	76%	81%	94%	Decreasing
2014	77%	80%	97%	Decreasing
2015	82%	85%	97%	Decreasing
2016	62%	68%	91%	Decreasing
2017	72%	79%	91%	Decreasing
2018	94%	100%	94%	Decreasing

Source: author's work

Table 2 explains that BAZNAS achieved an efficient score (Constant 100) in 2005 and 2007. Meanwhile, in 2003 to 2004, there was an increase in technical efficiency with the CRS assumption that was seen to be significant, from 52% to 80%, and also an increase in the efficiency score of 28%. This showed a positive increase when compared to the previous years which showed a low efficiency value. Also, in the assumption of VRS, the increase in efficiency occurred in 2003-2004 by 25%. The two assumptions continued to increase till 2005 as indicated by the optimal efficiency value of 100%, and constant RTS.

Furthermore, from Table 2, it is shown that there was a significant decline in 2007-2008. In 2007, BAZNAS obtained the optimal efficient score of 100%, then dropped to 55% in 2008. Based on the CRS and VRS assumptions, there was a significant decrease in efficiency by 45% in that year.

In the intermediation approach, there were IRS and DRS conditions in BAZNAS. Furthermore, IRS occurred in early 2002-2004 and 2006 while, DRS occurred from 2008-2018. The IRS allows BAZNAS to continue to increase its output capacity by maintaining the existing input. Also, adding inputs is not effective because the resources used are still not optimal. Therefore, the DRS requires BAZNAS to reduce the use of inputs, because the amount is not ideal for use.

Table 3. Dompet Dhuafa Efficiency Trends in 2002-2018

Year	CRS	VRS	Scale	RTS
2002	100%	100%	100%	Constant
2003	92%	92%	100%	Increasing
2004	91%	94%	96%	Decreasing
2005	96%	96%	100%	Decreasing
2006	100%	100%	100%	Constant
2007	87%	89%	98%	Decreasing
2008	100%	100%	100%	Decreasing

Year	CRS	VRS	Scale	RTS
2009	92%	93%	99%	Decreasing
2010	69%	100%	69%	Decreasing
2011	99%	100%	99%	Decreasing
2012	78%	82%	96%	Decreasing
2013	79%	84%	94%	Decreasing
2014	90%	98%	91%	Decreasing
2015	94%	100%	94%	Decreasing
2016	94%	100%	94%	Decreasing
2017	84%	95%	88%	Decreasing
2018	79%	97%	81%	Decreasing

Source: author's work

Table 3 shows Dompet Dhuafa had an optimal efficiency score of 100% in 2002 and 2006. In 2002 to 2005, assuming CRS and VRS, Dompet Dhuafa's efficiency score decreased slightly. In 2003, RTS showed IRS, and DRS in 2004-2005. However, in 2006, the efficiency score increased again and showed an optimal value of 100%.

During the observation period, the score fluctuations were low. However, in 2010, based on the CRS assumption, the proficiency score obtained was quite low when compared to the previous or following year, which was 69% making it the lowest efficiency score obtained. In 2010, a high amount of Rp. 20 billion was spent in building the Rumah Sehat Terpadu.

Based on the processed data, DRS conditions often occured while IRS occurred once in 2003 which was because the basis for setting salaries changed from the Gregorian calendar to the Hijriyah calendar. Also, the Appraisal Performance Tools was completed that same year. This tool is used to determine employee performance, and it has implications for career advancement and the percentage of salary increase. In addition, personnel costs are one of the variables used in this study, where there are matters related to amil's salary, allowances and more.

Discussion
Badan Amil Zakat Nasional (BAZNAS)
The collection of zakat, infaq and alms (ZIS) funds has increased by 5310.15% in a period of 13 years. In 2005 and 2007, there was an increase in ZIS fundraising of almost 100%, which was predicted due to a national disaster in Indonesia (PUSKAS BAZNAS, 2016). Based on data processing on the level of efficiency, BAZNAS achieved a scale of 100% with a constant RTS in 2005 and also obtained a constant efficiency score of 100% in 2007. This means optimal performance was carried out by obtaining constant efficiency. Apart from the optimal input and output used, the efficient condition in 2005 and 2007 was also influenced by the increase in public awareness to pay zakat through its institutions and also by an increased trust in BAZNAS (PUSKAS BAZNAS, 2016).

Moreover, the increased collection of funds through BAZNAS was influenced by the existence of regulations related to zakat management in Government Regulation (PP) No. 14/2014 and Presidential Instruction No. 3/2014. The former regulates BAZNAS to have the highest member appointed by the president while the latter requires all ministries, state-owned companies (BUMN), and all government agencies to pay and collect zakat through BAZNAS (PUSKAS BAZNAS, 2016).

In 2003, BAZNAS experienced the lowest efficiency during its establishment with a

score of 52% with IRS condition. Under this condition, the use of inputs needs to be optimized and personnel costs should be reduced. Also, the high costs incurred to support amil's activities affected the target of fund distribution in 2003. Besides, another factor responsible for this inefficiency are the challenges in fixing the performance of BAZNAS and other zakat institutions which includes the weak quality and quantity of human resources (PUSKAS BAZNAS, 2016).

In accordance with Law 23/2011, the establishment of Amil Education and Training Center, as well as Zakat Certification is to maximize the functions of BAZNAS. This is because one of the important elements in zakat management is the role of Amil, which will increase the confidence of the muzaki. Therefore, to improve amil's competence, a standard work's capability is needed. In addition, Amil is a unique job sector, hence it should have its own work competency standard (PUSKAS BAZNAS, 2017).

Studies on the efficiency of zakat institutions showed mixed results and that of BAZNAS which have the same findings occurred in 2012 and 2013 for conditions of DRS with Zahra et al. research (2016). Different results from Akbar's (2009) found increasing conditions, while this study found constant conditions. Also, a difference occurred in 2008, 2009, 2011, and 2012 in Rusydiana, Maliha, & Alfarisi (2016), which found constant conditions, while this study showed decreasing conditions.

Dompet Dhuafa

Based on the intermediation approach, Dompet Dhuafa's efficiency level which reached a constant point of 100% or equivalent to 1 occurred in 2002 and 2006, while other years have not reached optimal efficiency. This means Dompet Dhuafa effectively carried out the intermediary function of ZIS.

Furthermore, the optimal efficiency level in 2006 was supported by synergy of the program between Dompet Dhuafa and BAZNAS, and also by the large distribution of funds to help victims of natural disasters (Dompet Dhuafa, 2006). Therefore, Amil's good performance in managing costs and raising funds created optimal efficiency.

Also, Dompet Dhuafa experienced inefficient conditions in other years until 2018. This condition was influenced by the improper use of input and output variables. The large amount of costs incurred for Amil zakat caused the output to be non-optimal. In 2017, the theme "Spanning Goodness/Membentang Kebaikan" was taken. Furthermore, the spirit of spreading kindness was greeted by the increasing interest of the community to become volunteers, therefore leading to a total of 8,481 Dompet Dhuafa Volunteers (DDV) in the last 4 years (Dompet Dhuafa, 2017). This large number caused more personnel costs to be spent to finance their activities.

The results of Dompet Duafa's efficiency is the same for the decreasing conditions in 2015 and 2016 in Fathurrahman & Hajar (2019) study. The difference in results occurred in 2012-2014, and different conditions also occurred in Parisi (2017) findings between 2010-2013 with IRS, while this study showed decreasing conditions.

After conducting comparison matrices on the efficiency findings of BAZNAS and Dompet Dhuafa in several studies, it was discovered that the conditions were very diverse. This is possible due to the differences in input and output factors, and also in the efficiency measurement approach used. This study used an intermediation approach, while others used a production, input-output approach and more.

4. Conclusion

This study evaluated the efficiency of BAZNAS and Dompet Dhuafa from the time of their establishment to 2018. Furthermore, it was shown that the efficiency of both zakat institutions mostly occurred in the years before 2007.

The level of efficiency was far from the optimum and showed DRS. Also, BAZNAS and Dompet Dhuafa were more in DRS conditions.

This study explained that there is a difference in the level of efficiency between the years before 2008 and after, which might be due to the Amil profession in zakat institutions (Adnan, 2017). This led to an increase in personnel costs in either quantity or quality. Also, it was further explained that the increase has not been comparable to the output of ZIS fund collection obtained from 2008 to date. Furthermore, the increase in funds distribution by the two zakat institutions has not been satisfactory because the input factors used can increase distribution more than it currently does. This implies that more attention should be given to the input variable by adjusting the personalia expense in order to improve efficiency.

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