

Efficiency and Productivity of Zakat Institution in Malaysia and Indonesia: The Comparative Study

Aas Nurasyiah, Faqih Adam

Lecturer Department of Islamic Economics and Finance, Indonesia University of Education,

Risa Sari Pertiwi

Departement of Magister Science Islamic Economics, Airlangga University

Paper to be presented at International Conference of Zakat 2019
3-4 October, Universitas Padjadjaran, Bandung, Indonesia

ABSTRACT

The efficiency and productivity of Zakat institution have widely discussed, it is an organization based on social which looks after economic disparities. Most recently, Indonesia made a standardization policy and system of zakat institution, so that the zakat institution in Indonesia can reach the same quality or higher rather than other countries. It called Zakat Core Principles. Therefore, this research will focus on the zakat institution in Indonesia and Malaysia. The purpose of this study is to measure and compare the efficiency and productivity using Data Envelopment Analysis (DEA) and Malmquist Productivity Index (MPI), which is a non-parametric and deterministic methodology for determining the relative efficiency and productivity. The result of this research shows, the first quadrant is the best efficient and productive institutions gained by zakat institution in Indonesia namely Sinergi Foundation and 3 zakat institutions in Malaysia namely Kedah, Melayu Perak, and Selangor. The second quadrant is highly productive but low efficient achieved by zakat institutions in Indonesia namely Baznas, RZ, Dompot Dhuafa and 1 zakat institution in Malaysia namely Jawhar. The third quadrant is high efficient but low productive didn't achieve by any zakat institution in Indonesia or Malaysia. The fourth quadrant is low efficient and low productive reached by 1 zakat institution in Indonesia namely PKPU and 3 zakat institution in Malaysia namely Kelantan, PPZ and Pahang. The implication in this study is describing the position of zakat institution in Indonesia and Malaysia so that it is known which zakat institution could be a role model or benchmarking for other zakat institution.

Keywords: Zakat Institution, Efficiency productivity quadrant, DEA, MPI

INTRODUCTION

Zakat institutions are one of the social and economic institutions that can build the national economy significantly (Qardhawi, 2011). The program of zakat institutions was also able to reduce the poverty level and give effect to the empowerment community that has yet to prosper. Zakat management institutions in Indonesia are divided into

two, Government institution called as Badan Amil Zakat Nasional (BAZNAS) and private zakat institution such as Rumah Zakat (RZ), Dompot Dhuafa, Sinergi Foundation, DT Peduli, PKPU, and other zakat institution. The implementation of zakat management in Indonesia is contained in the Act. No. 23 the Year 2011 is set up of planning, collecting, distribution, and utilization of zakat.

On the other hand, the management of zakat institutions in Malaysia is under the Majlis Agama Islam Negeri (MAIN) which is divided into 14 States. MAIN is under the Sultan/King or Yang Dipertuan Agong, who is responsible for the zakat management in Malaysia. The beginning of the zakat institution formation is to spool managed corporate and professional has opened a new

era in the management of zakat in Malaysia namely the Zakat Collection Centre (PPZ) in the Federal territory in 1991, then followed by some other region such as zakat institutions Selangor (MAIS), Pusat Urus Zakat (PUZ) in Pulau Pinang, Pusat Kutipan Zakat (PKZ) in Pahang, Pusat Zakat Negeri Sembilan (PZNS) and Pusat Zakat Melaka (PZM) Shahir (2010) in Ali et al. (2016).

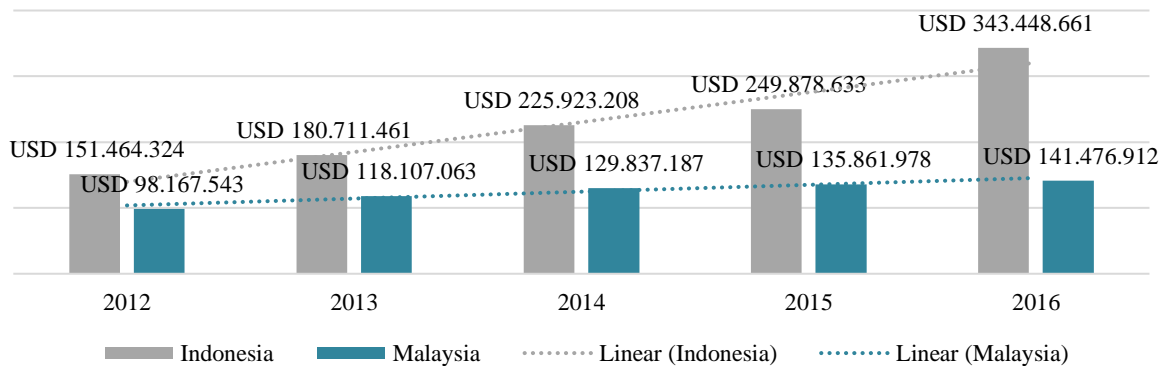


Figure 1. Zakat Collection in Indonesia and Malaysia in 2012 - 2016 (USD)

Source: BAZNAS (2018) and PPZ MAIWP (2016)

Based on Figure. 1, the growth of zakat collection in Indonesia and Malaysia in 2012 to 2016 has increased every year and respectively reached an average of 23.1 percent and 9.75 percent. On the other hand, there is still a gap between the potential with the realization of zakat collection because of the inefficiency of the zakat institution. In Indonesia, it occurs due to several things, such as the regulation of zakat which has not been required in legislation, low public confidence towards the zakat institutions, and many other things. According to the survey conducted by PIRAC showed that the confidence level of the community on the zakat institution in 2004 only 15% (Abidin, 2008). Besides, according to Zamil (2006), not only in Indonesia but in Malaysia which became a driving factor of the high level of zakat participation consists of facilities,

transparency, and efficiency of institutions in channeling and collecting zakat fund.

Based on the inefficiency problem, some importance indication has found i.e. evaluation of the zakat institution performance with a focus of discussion at the level of efficiency and productivity. One way to evaluate the performance of an institution is by using efficiency with the Data Envelopment Analysis (DEA) method. According to Farrell, efficiency in a company related to how to generate maximum output level with several specific inputs (Firdaus & Hosen, 2013). Efficiency generally is the ability of a business unit to achieve the target by using the minimal possible resources available (Martic, Novakovic, & Baggia, 2009). Efficiency can also be defined as the ability to obtain fixed output by using a minimal amount of resources (Srivastava, 1999). As for the

Malmquist Productivity Index (MPI) is used to measure the rate of change of productivity from the use of technology and increased efficiency (Fare, Lindgren, b., & Ross, 1989).

Research related to the efficiency in the zakat institutions was done by Wahab (2012) and (2013), Noor (2012) and (2012), and by Ahmad (2014), but all the research carried out in Malaysia. As for the research of the efficiency using the Data Envelopment Analysis (DEA) method on the zakat institution in Indonesia is still quite a bit. As for the previous research in measuring the level of efficiency and productivity on the zakat institutions in Indonesia was conducted by Al-Farisi (2017). This research is not the first time in the world and it refers to the research results of Wahab & Rahman (2012) about the efficiency and productivity of Zakat Institutions in Malaysia.

The results of the previous research are about the efficiency of the zakat institution using Data Envelopment Analysis (DEA) many applied. According to research conducted by Akbar (2009) concerning the analysis of the efficiency of the zakat institution with Data Envelopment Analysis approach (DEA) measures the ratio between output and input are compared between 9 zakat institutions. The result of the research conducted by Akbar (2009) shows that the efficiency of the zakat institutions in previous years better than a year thereafter, be it technically, scale, and overalls. Then research result by Wahab and Rahman (2012), regarding the efficiency of the zakat institution in Malaysia with an approach to Data Envelopment Analysis (DEA) shows that pure technical inefficiency and scale inefficiency have resulted from inefficiencies of Zakat Institutions in Malaysia. Research on the efficiency in the zakat institution has been done both inside and outside the country. But research on

efficiency and productivity on the zakat institution still needs to be done. Based on the background of the problem, then this study is intended to measure the efficiency and productivity of the zakat institution in Indonesia and Malaysia. So that it is known which zakat institution could be a role model for benchmarking for other zakat institution.

LITERATURE REVIEW

Theory of Efficiency and Productivity

Efficiency is a very important for-profit or nonprofit institutions. The concept of efficiency is defined as doing something correctly (doing the thing right). It is usually associated with how the company in achieving its goals. Therefore, the concept of efficiency is often seen from the costs as inputs and outputs as profits. Simply put, according to Nopirin (1997), efficiency means the absence of waste. Rinald (1981) in Komaryatin (2006) States that efficiency is the comparison of output and input related to the achievement of maximum output with a certain amount of a particular input.

Based on the economic theory there are two concept efficiency i.e. technical efficiency and economic efficiency. Ascarya and Yumanita (2006) explain that economic efficiency has a macroeconomic point of view, while technical efficiency has a microeconomic point of view. The measurement of technical efficiency tends to be limited to a technical and operational relationship in the process of converting inputs into outputs. Whereas in economic efficiency, the price cannot be considered already determined (given), because the price can be affected by the macro policy. In addition, according to Farrell (1957), the efficiency concept of the company consists of two components, namely, technical efficiency and allocative efficiency. Technical efficiency reflects the ability of

the company in generating output with a number of available input. While allocative efficiency reflects the company's capabilities in optimizing the use of the input, with the pricing structure and the technology of its production.

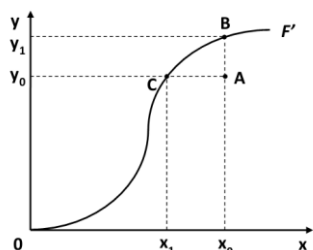


Figure 2. The Line of Frontier Production

Source: Coelli et al (2005)

Based on Figure 2, it describes how the maximum output can be obtained from any input levels, where (x) is the input and the (y) is output. Companies within an industry can be said to be technically efficient when operating above the frontier line. While the companies in the industry that operates under the production frontier line are said to be technically inefficient. Point A shows the condition of the inefficiency, where points B and C indicate the condition of the efficiency earned by the company. Companies that operate at point A has described inefficiency, because technically the company could increase output up to the point of intersecting with point B, without requiring the addition of more input. In addition, the company also can produce output that remains by using fewer inputs, as indicated by point C (Coelli & et al, 2005). So that, manufacturers can produce efficiency with two options, either reduce the input or maximize an existing input to produce more output.

Productivity theory introduced by Saari (2006) that say "it describes various measures of the efficiency of production. A

productivity measure is expressed as the ratio of outputs to inputs used in a production process, i.e. output per unit of input". The author defines that productivity is a measurement of the process of change in the production process (input and output). Measuring the productivity of production factors is focusing on output or income of an industry that involves profit or cost factor (Caves, Diewert & Christensen, 1982). As for the opinion of the author regarding the measurement of productivity is the complement of the measurement of efficiency. This is because it will happen a lot of possibilities in an industry that is on the conditions of efficient but not productive and neither the opposite.

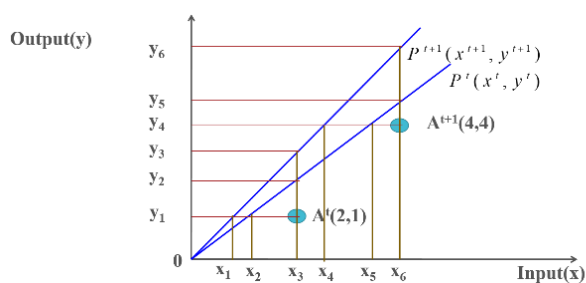


Figure 3. The Productivity Curve Calculation

Source: Rusydiana A. S. (2018)

Productivity can be described based on the measurement of the in Figure 3. Malmquist Productivity Index (MPI) is the rate of change of the line $A^t(2,1)$ that is rising on the line $A^{t+1}(4,4)$. As for when the decline of productivity are certainly the condition is also referred to as productivity (line $A^{t+1}(4,4)$ declined on the line $A^t(2,1)$).

Efficiency theory of an Islamic perspective describes by Karim (2015:144) that production efficiency in Islam can be done through two approaches. The first approach, namely production efficiency based on the minimal cost. Minimization of costs being performed producer by tapping the total cost or cost of production, both the

fixed costs as well as costs from with the goal of minimizing the average costs of production. As for the second approach, the efficiency of production is carried out with optimal production. Maximization of existing output is done by leveraging the producers make the most of the factors of production, so manufacturers can maximize the number of output, it generates by and as effective as efficient as possible in the activities of its production.

The meaning of efficiency simply meant as can do something with a good and proper way and no extravagance or mubadzir. The economy in the Islamic perspective looked at the concept of efficiency in line with one of the Maqashid Shariah goals. Allah almighty really liked the frugal and efficient attitude. Allah does not like the nature of extravagance as shown on the QS. Al A'raaf verse 31. The concept of efficiency in the Islamic perspective on current described by Chapra (2000) as a comparison between the useful output with the input. Not a comparison between the input and output only. Chapra (2000) said if efficiency and productivity continue to be suppressed without balanced with devotion and morality it will lead to the practice of dishonesty in order to achieve maximum input efficiency level.

Based on that explanation, the efficiency concept in the zakat institution can be described as how zakat management can be efficient. That is, the concept of efficiency and productivity always hand in hand with the utilization of existing resources (inputs) to get useful results (output) without wastage (Chapra, 2000). According to Ali and Ascarya (2009), the efficiency goals are to achieve optimal benefit. Realization of optimal advantage in Islam produced through hard work or effort that is optimal for producing something optimally while maintaining balance and Islamic Ethics. The resulting profits should

be balanced with hard work and the burden of being issued.

Theory of Efficiency and Productivity on Zakat Institution Approach

The zakat institution is an organization that acts as the *amil* zakat by conducting planning, collecting, channeling, and utilization of funding religious obligatory, *infaq*, and *sadaqah*. In carrying out its work, the zakat institution needs no small operational funds, ranging from the salary of *amilin*, cost of socialization, and other operational costs. Therefore, Islam gave rights to the *amilin* to receive a portion of the property as a form of charity in return for their work. Regarding the rate of zakat being given, there are two views of a different cleric. According to the history of Imam Syafi'i mentioned, be given part of *amilin* is 12.5%, because it is based on his opinion that equates part all the *mustahiq* charity. If wages were bigger than that section, they must be taken from outside the treasure of zakat (Qardhawi, 2011).

According to Akbar (2009), zakat institutions in carrying out its duties require no small operational funds, ranging from *amilin* salary, cost of socialization, and other operational costs, so that the levels of zakat should be accepted by the zakat institution, not too small and not too overwhelming. There is no provision specifying a restrictive level of 12.5% of the total zakat but adapted to the needs and levels of interest. However, we should take the opinion of Imam Syafi'i in determining the maximum section to be given to the officers in charge of both zakat, in collecting and distributing it. Imam Syafi'i has been bestowed with a size of no more than one-eighth of *mustahiq* zakat (Qardhawi, 2005). On the basis of this, it takes an effort to efficiency the cost of operational zakat institution in accordance with needs and their importance. So the costs incurred in accordance with the needs

and interests of the zakat institution. Thus treasure zakat can be maximized in order to achieve the purpose of zakat, which is improving the welfare of society and reducing poverty.

According to Irfan Syauqi Beik in his journal titled *Zakat Core Principles* (2016), a process of effective supervision of zakat can be done without the sincere cooperation between the supervisory authority and all related charity. There should be an adequate system to develop, monitor and implement tools and surveillance policy regarding an effective supervision system of zakat. Trustees zakat must place external controls and robust risk management to respond to several elements or prerequisites that have a direct impact on the effectiveness of the supervision of zakat in practice.

RESEARCH METHODOLOGY

This research uses quantitative methods using Data Envelopment Analysis (DEA) and the Malmquist Productivity Index (MPI). Quantitative research on this study will compare the level of efficiency and productivity of the Zakat institution in Indonesia and Malaysia at 12 zakat institution. Types of data used in this research are the secondary data, i.e. data which are taken directly from the financial statements of each zakat institution in Indonesia and Malaysia from 2012 to 2016.

Table 1. Institution Zakat in Indonesia and Malaysia

No	Indonesia	Malaysia
1	BAZNAS	PPZ
2	Rumah Zakat	Selangor
3	PKPU	Jawhar
4	Dompot Dhuafa	Pahang
5	Sinergi Foundation	Kelantan

No	Indonesia	Malaysia
6		Kedah
7		Melayu Perak
Total	12 Institution Zakat	

Data Envelopment Analysis (DEA)

Data Envelopment Analysis (DEA) is a linear program development based on relative performance measurement techniques from a bunch of input and output units. DEA is a procedure designed specifically to measure the relative efficiency of a company that uses a lot of input and output, where much of the merger of the inputs and outputs is not possible. The relative efficiency of a company is the efficiency of a company compared to other companies that use the types of the input and output are the same.

It was first developed by the DEA Farrell (1957) that measures the efficiency of the technique of one input and one output to multiple input and multiple output, using the framework of values relative efficiency as a ratio of the input (single virtual input) and output (single virtual output) (Sutawijaya & ETTY, 2009). The DEA count for all of the technical efficiency of the unit. Efficiency score for each unit is relative, depending on the level of efficiency of other units in the sample. Each unit in the sample is considered to have a level of efficiency that is not negative, and the value is between 0 through 1, where one indicates a perfect efficiency. Later units that have a value of one is used in making the envelope for the efficiency frontier. Other units that exist within the envelope indicates the level of inefficiency (Hadad, Santoso, Ilyas, & Mardanugraha, 2003).

There are two models of DEA method namely models assuming Constant Returns to Scale (CRS) and Variable Returns to Scale (VRS). CRS Model

assumes that the addition of the ratio between the input and output are the same. That is, if there is an additional input of x times, then the output will be increased by x times as well. Other assumptions used in this model is that each company or DMU

operating at optimum scale. There are 2 approaches in model Charner, Chooper and Roodes (CCR) (1978), i.e. the input-oriented and output-oriented, which can be shown from the following formula;

Table 2. The Notation Data Envelopment Analysis Approach off CCR

<i>Output-Oriented</i>	
<i>Envelopment model (dual)</i>	<i>Multiplier model (plimary)</i>
$\text{Max } \varphi + \varepsilon (\sum_{i=1}^m S_{i-} + \sum_{r=1}^s S_{r+})$ <p><i>Subject to</i></p> $\sum_{j=1}^n x_{ij} \lambda_j + S_{i-} = \theta x_{io}$ $\sum_{j=1}^n y_{rj} \lambda_j + S_{r-} = \varphi y_{ro}$ $\lambda_j \geq 0$	$\text{Min } q = \sum_{i=1}^m x_{io} v_i$ <p><i>Subject to</i></p> $\sum_{i=1}^m x_{ij} v_i - \sum_{r=1}^s y_{rj} \mu_r \geq 0$ $\sum_{i=1}^m y_{ro} \mu_r = 1$ $\mu_{ri} v_i \geq \varepsilon > 0$

Source: Chooper et al (2011)

On the model assumptions VRS ratio between the addition of the input and output are not the same. It means the addition of input of x times; it can be more or bigger than x times. There are 2 approaches in a

model Banker Charnes and Cooper (1978), i.e. the input oriented and output oriented, which can be shown from the following formula;

Table 3. The Notation Data Envelopment Analysis Approach to BCC

<i>Output-Oriented</i>	
<i>Envelopment model (dual)</i>	<i>Multiplier model (plimary)</i>
$\text{Max } q_o = \varphi + \varepsilon (\sum_{i=1}^m S_{i-} + \sum_{r=1}^s S_{r+})$ <p><i>Subject to</i></p> $\sum_{j=1}^n x_{ij} \lambda_j + S_{i-} = \theta x_{io}$ $\sum_{j=1}^n y_{rj} \lambda_j - S_{r+} = \varphi y_{ro}$ $\sum_{j=1}^n \lambda_j = 1$ $\lambda_j, S_{r+}, S_{i-} \geq 0$	$\text{Min } f_o(v, v_o) = \sum_{i=1}^m v_o x_{io} + v_o$ <p><i>Subject to</i></p> $-\sum_{r=1}^s \mu_r y_{rj} + \sum_{i=1}^m v_i x_{ij} + v_o \geq 0$ $\sum_{i=1}^s \mu_r y_{ro} = 1$ $\mu_{ri}, v_i \geq \varepsilon v_o \text{ free}$

Source: Luptacik (2010)

Descriptions:

$\theta, w_o, g_o, \varphi$ = efficiency values for the observed DMU

$J = \text{DMU}, j = 1, \dots, n$

λ = lamda weights

k = DMU is being researched

S_{i^-} = input slack

S_{r^-} = output slack

ε = non-Archimedean elements smaller than a positive real number

S = number of output measurement

m = number of input measurement

i = input, $i = 1, \dots, m$

r = output, $r = 1, \dots, s$

$v_{i,}$ = the input weights

$\mu_{r,}$ = the output weights

The following is the formula of the *Scale of Efficiency* (SE):

$$SE = \frac{TE_{CRS}}{TE_{VRS}}$$

Descriptions:

SE = *Scale efficiency* ≤ 1

TE_{CRS} = The value of the efficiency of the CRS model

TE_{VRS} = The value of the efficiency of the VRS model

Malmquist Productivity Index (MPI)

The concept of productivity is defined as the ratio of output against the input. The input costs to cover the whole cost. For example, the cost of production and equipment, while its output can consist of sales, revenue, and market share. Productivity is a combination of effectiveness and efficiency. Effectiveness relates to the expected output is suit target, while the efficiency of resource uses seminal as possible with maximum results, so productivity can be formulated (Gaspersz, 1998) in (Sahupala, 2012).

$$\text{Productivity} = \frac{\text{the resulting output}}{\text{the input was used}} = \frac{\text{Effectiveness}}{\text{Efficiency}}$$

Malmquist Productivity Index (MPI) can also be used to measure the level of development of technology (technical change) and the rate of change of efficiency (efficiency change) productivity at the zakat institution (Wahab & Rahman, 2012). As for the method of MPI developed by Coelli (1996) using the DEAP application version 2.1. This development naturally refers to the inventor of a method of MPI Fare et al. (1989) formula methodology MPI is rendered as follows:

$$M_0(x^t, y^t, x^{t+1}, y^{t+1}) = \frac{D_0^{t+1}(x^{t+1}, y^{t+1})}{D_0^t(x^t, y^t)} \times \left[\left(\frac{D_0^t(x^{t+1}, y^{t+1})}{D_0^{t+1}(x^{t+1}, y^{t+1})} \right) \left(\frac{D_0^t(x^t, y^t)}{D_0^{t+1}(x^t, y^t)} \right) \right]^{1/2}$$

Where M is the formula of the Malmquist Productivity Index, with the formula (x^{t+1}, y^{t+1}) is the latest production and function (x^t, y^t) function is a function

of the previous production. As for the functions of a $D_0^t(x^{t+1}, y^{t+1})$ observation distance (span) use of technology. While use of the Malmquist Productivity Index time

series data must have minimum of 2 years or more, this is indicated with the formula t and $t + 1$ and x^{t+1}, y^{t+1} .

As for the software that is used to support the research this is the Max software version 6.1, the DEA also in measuring the productivity of zakat institution is using Malmquist Productivity Index method with DEAP software version 2.1.

RESULTS AND DISCUSSION

In General, the efficiency level of zakat institutions in Indonesia is slightly superior compared to the efficiency level of the zakat

institutions in Malaysia. With Indonesia's comparative value of 32% * obtained from 7 DMUs efficiently divided by Total DMUs of zakat institutions in Indonesia and Malaysia amounting to 31.43% * obtained from 11 DMUs efficiently divided by total DMUs of the zakat institutions in Malaysia.

As of three zakat institutions in Indonesia namely Baznas (2012), PKPU (2013) and Sinergi Foundation (SF) (2012-2016) with full efficiency value (constant 1.000). As for the zakat institution in Malaysia had achieved efficiency namely Kelantan (2015, 2016), Selangor (2012-2014, 2016), Melayu Perak (2014), and PPZ (2012-2014, 2016).

Table 4. Efficiency of the Zakat Instituion in Indonesia and Malaysia in 2012-2016

NO	DMU	2012	2013	2014	2015	2016	Mean	
1	I-Baznas	1,000	0,960	0,813	0,070	0,489	0,666	Zakat Institution Indonesia
2	I-DD	0,691	0,729	0,725	0,068	0,627	0,568	
3	I-PKPU	0,776	1,000	0,873	0,082	0,894	0,725	
4	I-RZ	0,855	0,921	0,661	0,082	0,661	0,636	
5	I-SF	1,000	1,000	1,000	1,000	1,000	1,000	
6	M-Kedah	0,964	0,839	0,718	0,085	0,750	0,671	Zakat Institution Malaysia Tabel 4. Efficiency of the Zakat Instituion 2012-2016 (VRS/BCC Output)
7	M-Kelantan	0,280	0,668	0,853	1,000	1,000	0,760	
8	M-LZ Jawhar	0,783	0,744	0,756	0,319	0,717	0,664	
9	M-LZ Selangor	1,000	1,000	1,000	0,355	1,000	0,871	
10	M-Melayu Perak	0,892	0,998	1,000	0,106	0,741	0,747	
11	M-Pahang	0,809	0,935	0,957	0,082	0,855	0,728	
12	M-PPZ	1,000	1,000	1,000	0,824	1,000	0,965	
	Mean	0,838	0,900	0,863	0,339	0,811		

Source: Research Results (2019)

As for Sinergi Foundation, Selangor and PPZ can provide the highest level of efficiency by constant from year to year from 2012 to 2016. The zakat institution in Indonesia who have low efficiency namely Dompot Dhuafa and Rumah Zakat. It was examined also by Al-Farisi (2017). As for the average efficiency rate lowest in

Malaysia's zakat institution acquired by Jawhar with a value of 0.664.

The calculation of the efficiency level of the above method using Variable Return To Scale (VRS) and the BCC Output approach. Where the BCC output approach used when wanting to know the level of efficiency that focuses upon the value of the

output with the difference of the number of outputs. The deficiency of the zakat institution in Indonesia and Malaysia will be viewed from the change of slack movement and Proportionate Movement which amount is not equal to 0 which means the input or

output variable is experiencing inefficient. From the rest of the object examined there is slack movement and proportionate movement $\neq 0$ occurs at the variable output i.e. distribution.

Table 5. Factors That Cause Inefficiency

Variable		Slack or (/) Proportionate Movement	Description
Input	Funds	3/0 of 60 DMU	Total of input score \leq output score. This means that the input variable is not causing inefficiency
Output	Collection	0/43 of 60 DMU	Total of output score \geq input score. This means that the output variable is causing inefficiency

Source: Research Results (2019)

Based on Table 5. The proportionate and slack movement collecting is visible that the 5% have a value of = 3 which means gathering together (X1) is not the cause of the inefficient of the zakat institution which is in Indonesia and Malaysia. 71,67% of zakat institution having inefficient due to distribution. With the value of the proportionate movement and slack movement $\neq 0$ with the acquisition of value 43 DMU from 60 DMU. This means that almost all of the results from the distribution occurs less in Indonesia and Malaysia.

It can be concluded that the causes of inefficiency are output factors, while input factors do not significantly contribute to the causes of inefficiency. The inefficiencies in output factors occur due to the collection of zakat which is still low. This is a new finding, where many studies explain that the cause of the inefficiency of zakat management organizations is due to the low distribution.

Productivity Performance of The Zakat Institution

Table 12. summarizes the performance of the Malmquist productivity index of the zakat institution in Malaysia between 2012 and 2016. On the average, zakat institution in Indonesia has a level of productivity (TFPch) higher than zakat institution in Malaysia with an average value comparison of 0.983 than 0.875. This productivity advantage because the average value of the influential efficiency changes greater than technological changes.

Besides changes in the average value of efficiency during the period of 2012-2016 research indicates the zakat institution in Indonesia who are able to paint pure efficiency changes value i.e. BAZNAS, as for the value of scale efficiency changes provide the most significant impacts against the high value of the efficiency of the changes in the value of the scale of changes inefficiency. The value of the scale of changes that were successfully increased

efficiency, there are only 2 zakat institutions in Indonesia namely BAZNAS and Sinergi

Foundation, where the value of the modifier > 1.000.

Table 6. Productivity Performance Index (TFPCH)

Zakat Institution	No.	Zakat Institution	EFFCH	PECH	SECH	TFPCH
Indonesia 1-5 TFP	1	I. Baznas	1.380	1.361	1.014	1.088
Average 0.983	2	I. DD	1.170	1.197	0.977	0.922
Zakat Institution	3	I. PKPU	1.111	1.128	0.985	0.876
Malaysia 5-12 TFP	4	I. RZ	1.220	1.244	0.981	0.962
Average 0.875	5	I. SF	1.351	1.000	1.351	1.065
	6	M. Jawhar	1.234	1.263	0.977	0.972
Productivity	7	M. Kedah	1.213	1.241	0.977	0.956
Perforance Index	8	M. Kelantan	0.828	0.859	0.964	0.653
	9	M. Melayu Perak	1.193	1.220	0.977	0.940
	10	M. Pahang	1.124	1.150	0.977	0.886
	11	M. PPZ	0.957	1.000	0.957	0.754
	12	M. Selangor	1.222	1.263	0.968	0.963
		Mean	1.167	1.161	1.009	0.920

Source: Research Results (2019)

EFFCH is a change in the efficiency average value of each year. It was found that the value of efficiency changes in this study experienced a continuous productive trend or no decrease in the value of efficiency every year. It's just two zakat institutions in Malaysia namely PPZ and Kelantan experienced a decrease in their average efficiency change.

In the ease of interpretation of the efficiency level (Data Envelopment Analysis) and the level of productivity (Malmquist Productivity Index) in the create outline of the Importance Performance Analysis (IPA) where this formulation gives an illustration of a picture the zakat institution to the level of efficiency and productivity through 4 Quadrant. The first

quadrant is the best efficient and productive institutions gained by zakat institution in Indonesia namely Sinergi Foundation and 3 zakat institutions in Malaysia namely Kedah, Melayu Perak, and Selangor. The second quadrant is highly productive but low efficient achieved by zakat institutions in Indonesia namely Baznas, RZ, Dompot Dhuafa and 1 zakat institution in Malaysia namely Jawhar. The third quadrant is high efficient but low productive didn't achieve by any zakat institution in Indonesia or Malaysia. The fourth quadrant is low efficient and low productive reached by 1 zakat institution in Indonesia namely PKPU and 3 zakat institution in Malaysia namely Kelantan, PPZ and Pahang.

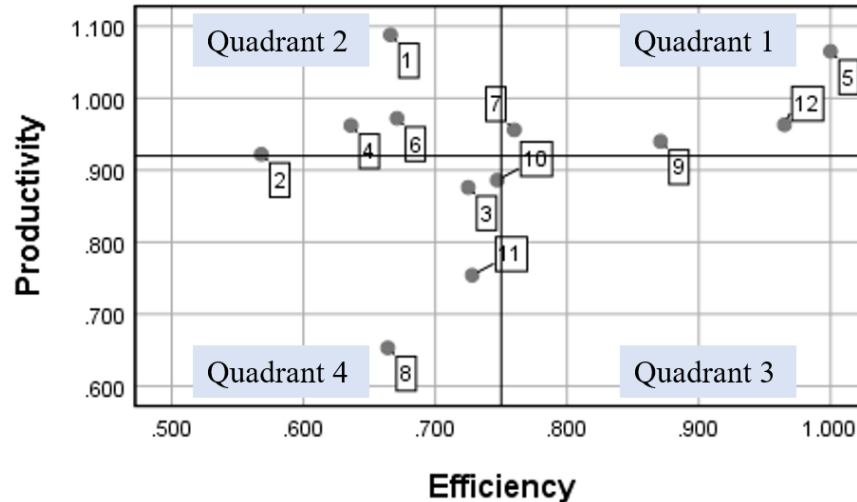


Figure 4. Quadrant Efficiency and Productivity of Institution Zakat in Malaysia and Indonesia

Source: Research Results (2019).

In general, zakat institution in Malaysia achieve a low level of productivity factor changes but high in achieving efficiency, It means the zakat institution in Malaysia is capable of gathering together to enlarge the mandate of running distribution. As for the zakat institutions in Indonesia lacks efficiency score and it is lower than in Malaysia but it's better than on Malaysia productivity. This means that the zakat institution in Indonesia is not focused on how to distribute zakat but how are collected can enlarge gathering together the next. This means that the zakat institution in Indonesia is concerned that these institutions could provide a greater impact and wide for overcoming poverty.

CONCLUSION

The result of this paper has important implication for the Indonesian and Malaysian zakat institution, as a whole as, full efficiency gained by level 4 Malaysian charity institutions i.e., PPZ, Selangor, Melayu Perak, Kelantan, and three zakat institutions in Indonesia namely Baznas, PKPU, and Sinergi Foundation. In addition,

there are 32% zakat institution in Indonesia in years passed that have not yet to disappear efficiency, and then 31,43% zakat institution in Malaysia.

It makes it easy to understand the bigger picture against efficiency and productivity zakat institution resulting quadrant i.e. The first quadrant is the best of the best efficient and productive institutions gained by Zakat institution Indonesia namely SF and 3 zakat institutions Malaysia namely Kedah, Melayu Perak, and Selangor. The second quadrant is highly productive but low efficient achieved by zakat Indonesia namely Baznas, RZ, Dompot Dhuafa and 1 zakat institution in Malaysia namely Jawhar. The third quadrant is high efficient but low productive didn't achieve by any zakat institutions in Indonesia or Malaysia. The fourth quadrant is low efficient and low productive each 1 zakat institution in Indonesia namely PKPU and 3 Malaysia namely Kelantan, PPZ and Pahang.

Research is relative when the object plus results from efficiency and productivity-will also be changed. However, the data collected is currently the best secondary data are able to come

together. Because of the difficulty level data searchable so that only capable of analyzing 12 zakat institution in Indonesia and Malaysia span research from 2012 to 2016.

Acknowledgements

1. Financial statement data were useful for researchers/ academics to be used as a source of research data. The ultimate goal is important to develop a zakat institution in Indonesia Malaysia. If data is very limited might be hard for a researcher to analyze how far zakat institution has increased and developed. So that, the zakat institution in Malaysia must attach financial data like not only fund and distribution but also expenses and other revenue.
2. Zakat institution requires the analysis of the efficiency and productivity regularly since this analysis is needed when the institution would perform expansion (open representative offices) of the existing collecting or withhold the amount of labor or spent distributing.
3. The limitations of the data in the study's numbers are scrutinized very limitedly, but this limitation is still tolerated because of the number of observations 2 times or 3 times greater than the number of input and output variables. Then the future research, the author can add the number of observations from all zakat institutions in Indonesia and Malaysia, even can also in countries of the Organization of Islamic Cooperation.

REFERENCES

Abidin, Hamid. (2008). *Potensi dan Ironi Zakat*. Jakarta:PIRAC

Ahmad, I., & Ma;in, M. (2014). The Efficiency of Zakat Collection and Distribution: Evidance from Two Stage Analysis . *Journal of Economic*

Cooperation and Development, 35, 3 (2014) , 133-170.

Akbar, N. (2009). Analisis Efisiensi Organisasi Pengelola Zakat Nasional dengan Pendekatan Data Envelopment Analysis . *Tazkia Islamic Finance and Business Review*. Vol. 4 No. 2, 2009.

Al-Farisi, S. (2017). Tingkat Efisiensi dan Produktivitas Lembaga Zakat di Indonesia . *Jurnal Bisnis dan Manajemen* Vol. 7 (1) April 2017, 63-72.

Ali, Zulkarnain, M., Samiun, Hanifah, A., Ahmad, S., Zain, M. N. M. (2016). The Role of Government in Management of Zakat in Indonesia and Malaysia. *Jurnal Hadhari* 8 (2) (2016) 229-244.

Ascarya , & Yumanta, D. (2006). Analisis Efisiensi Perbankan Syariah di Indonesia dengan Data Envelopment Analysis". *TAZKIA Islamic Finance and Business Review*, Vol.1, No.2, pp. 1-32.

Ascarya, Diana, Y., & Guruh, S. (2008). Analisis Efisiensi Perbankan Konvensional dan Perbankan Syariah di Indonesia dengan Data Envelopment Analysis (DEA) . *Paper dalam Buku Current Issues Lembaga Keuangan Syariah Tahun 2009, TIM IAEI, Jakarta: Kencana*.

Ascarya dan Ali, Muhammad Mahbubi (2009). Analisis Efisiensi Baitul Maal Wat Tamwil Dengan Pendekatan Two Stage Data Envelopment Analysis (Studi Kasus Kantor Cabang BMT MMU Dan BMT UGT Sidogiri): Jakarta.

Beik, I. S. (2016). Consultative Document Core Principles for Effective Zakat Supervision. *PUSKAS BAZNAS* .

Caves, D., Christensen , L., & Diewert, W. (1982). The economic theory of index numbers and the measurement of input, output and productivity.

- Conometrica*, Vol. 50, No. 60 November, 1393-1414.
- Chapra, M. O. (2000). *Islam dan Tantangan Ekonomi*. Jakarta: Gema Insani Press.
- Charnes, A., Cooper, W., & Rhodes, R. (1978). Measuring The Efficiency of Decision Making Unit. *European Journal of Operating Research* 2, 429-444.
- Choooper et al. (2011). *Handbook on Data ENvelopment Analysis Second Edition*. Newyork, Dordrecht, heidelberg, London: Springer.
- Coelli, T. (1996). A Guide to DEAP Version 2.1: a Data Envelopment Analysis (computer) Program. *CEPA Working Paper 96/8, Departement of Econometrics, University of New England, Armidale*.
- Coelli, T. J., & et al. (2005). Introduction to Efficiency and Productivity Analysis. *Second Edition, Kluwer Academic Publishers, Boston*.
- Fare, R., Lindgren, S., B., & And Ross, P. (1989). Productivity Development in Swedish Hospital: a Malmquist Output Index Approach. in *Charnes, A., Cooper, W.W., Lewin, A. and Seiford, L. (Eds), Data Envelopment Analysis: Theory, Methodology and Applications*, Kluwer Academic Publishers, Boston, MA.
- Farrell, M. (1957). The Measurement of Productive Efficiency. *Journal of The Royal Statistical Society*, 120, p.253-281.
- Firdaus, M., & Hosen, M. (2013). Efisiensi Bank Umum Syariah Menggunakan Pendekatan Two-Stage Data Envelopment Analysis. *Buletin*.
- Hadad, M., Santoso, W., Ilyas , D., & Mardanugraha, E. (2003). Analisis Efisiensi Industri Perbankan Indonesia: Penggunaan Metode Nonparametrik Data Envelopment Analysis (DEA). *Jakarta : Direktorat Penelitian dan Pengaturan Perbankan. Bank Indonesia*.
- Karim, A. (2015). *Ekonomi Mikro Islami Edisi Kelima*. Jakarta: PT RajaGrafindo Persada.
- Komaryatin, N. (2006). Analisis Efisiensi Teknis Industri BPR di Eks Karesidenan Pati. Semarang. *Pasca Sarjana Universitas Diponegoro*.
- Luptacik, M. (2010). *Mathematical Otimazation and Economic Analysis*. New York: Springer.
- Martić, M., Novaković, M., & & Baggia, A. (2009). Data envelopment analysis - basic models and their utilization. *Organizacija, Research Papers*, 42,, 37-43.
- Noor, A. H., & al., e. (2012). Efficiency of Islamic Intitution: Empirical Evidance of Zakat Organization Performance in Malaysia. *Journal of Economics, Business and Management, Vol 3 No. 2*.
- Noor, A., & et al. (2012). Assecing Performan of Nonprofit Organization: A Framework for Zakat Intitution. *British Journal of Economics, Finance and Management Science, Vol. 5 (1)*.
- Nopirin. (1997). *Pengantar Ilmu Ekonomi Makro dan Mikro*. Yogyakarta: BPFE.
- Qardhawi, Yusuf. (2005). *Spektrum Zakat dalam Membangun Ekonomi Kerakyatan*. Jakarta : Zikrul Hakim
- Qardhawi, Y. (2011). *Hukum Zakat*. Zakarta: Litera Antarnusa.
- Rusydiaana, A. S. (2018). Efficiency and Productivity Measurement Materi Workshop Methodology PPT.
- Sahupala, V. (2012). Pengaruh Foreign Direct Investment (FDI) terhadap pertumbuhan total productivity (TFP) pada Industri Perbankan di Indonesia Periode 2006-2010. *Skripsi, Program Studi Ilmu Administrasi Niaga, FISIP UI Depok (tidak Publikasi)*.

- Saari, S. (2006). Productivity Theory and Measurement in Business. *European Productivity Conference 2006 Finland*, 1-10.
- Shahir bin Makhtar & Abidah bt Abdul Wahab. 2010. *Pengurusan zakat di Negeri Selangor: Isu dan cabaran*. Lembaga Zakat Selangor. Prosiding Konvensyen Kebangsaan Perancangan & Pengurusan Harta Dalam Islam 2010 di Bangunan Canselor, UKM.
- Srivastava, P. (1999). Size, Efficiency and Financial Reforms In Indian Banking. . *Working Paper No. 49. Indian Council For Research on International Economic Relation*.
- Sutawijaya, A., & ETTY, P. (2009). Efisiensi teknik Perbankan Indonesia pascakrisis ekonomi : Sebuah studi empiris penerapan model DEA. *Jurnal Ekonomi Pembangunan, Vol. 10, No. 1, Juni, pp. 49-67*.
- Syakir, A. (2004). Mengukur Efisiensi Intermediasi Sebelas Bank Terbesar Indonesia Dengan Pendekatan Data Envelopment Analysis (DEA). *Jurnal Bisnis Strategi. Vol.13. Hal. 126-139, Semarang*.
- Wahab, N., & Rahman, A. (2012). Efficiency of Zakat Institutions in Malaysia: An Application of Data Envelopment Analysis. *Journal of Economic Cooperation and Development, Vol. 33, No. 1, 2012, 95-112*.
- Wahab, N., & Rahman, A. (2012). Productivity Growth of Zakat institutions in Malaysia, an Application of Data Envelopment Analysis. *Emerald Grup Publishing Limited, Studies in Economics and Finance Vol. 29 No. 3, 2012, 197-210*.
- Yang, H., & Pollitt, M. (2007). Incorporating Undersirable Outputs Into Malmquist TFP Index: Environmental Performance Growth of Chinese Coal-Fire Power Plant. *Workig Paper No. CWPE 0740 and EPRG0716 Cambridge Electricity Policy Research Grup, University of Cambridge*.
- Zamil, Nor Aiza Mohd., Abdul Rahim Abdul Rahman. (2006). *Efficiency of Islamic and Conventional Commercial Banks in Malaysia: A Data Envelopment Analysis (DEA) Study*. Malaysia : IIUM.

Aas Nurasyiah
Department of Islamic Economics and Finance
Indonesia University of Education
asnur.fna@upi.edu;

Risa Sari Pertiwi
Departement of Magister Science Islamic Economics
Airlangga University
risa.sari.pertiwi@student.upi.edu

Faqih Adam
Department of Islamic Economics and Finance
Indonesia University of Education
faqih_adam@student.upi.edu