

Efficiency of Zakat Institutions In Malaysia: An Application of Data Envelopment Analysis¹

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The aim of this paper is to measure the efficiency of zakat institutions in Malaysia during the period of 2003 to 2007. Using a Data Envelopment Analysis (DEA) technique, the results show that zakat institutions have exhibited mean technical efficiency of 80.6%. The results also suggest that pure technical inefficiency dominates the scale inefficiency effects in determining technical efficiency of zakat institutions in Malaysia. Further analysis of Spearman and Pearson correlation coefficients suggests that while higher Muslim population states tend to positively correlated to zakat collection, its correlation with efficiency score does not indicate a strong relationship, implying that it does not promise efficiency of zakat organization.

1. Introduction

Zakat is one of the five basic pillars in Islam. The term zakat has three different connotations; linguistically, theologically and legally. Linguistically, zakat means cleansing or purification of something from dirt or filth. Theologically, it means spiritual purification resulting from giving of zakat. Legally, zakat means transfer of ownership of specific property to specific individuals under specific conditions. It is an obligation of Muslims to give a specific amount of their wealth (with certain conditions and requirements) to beneficiaries called *al-*

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mustahiqqin with the main objective of the achievement of socioeconomic justice (Muhammad, 1980). Zakat institutions are trusted bodies that manage zakat in Muslim countries.

In Malaysia, such zakat institutions are State Islamic Religious Councils (SIRCs). The institutions are expected to play a key role in promoting the socio-economic objectives of zakat in Malaysia. Thus, it is of prime importance that these institutions are being managed effectively and efficiently. Being a public service organization which is accountable to the stakeholders and Muslim public at large, these zakat institutions have been subjected to intense public scrutiny and criticism. cursory examination would see various parties questioning the efficiency and effectiveness of these institutions in managing zakat affairs of their respective states. Given this continuously arising public concern, it is irony and surprising to find that research attempting to explore the efficiency of these zakat institutions is almost non-existent. Hence, this paper can be considered as the first to explore the productivity growth of zakat institutions in Malaysia. The structure of this paper is as follows. The next section provides an overview of the Malaysian zakat industry and literature on zakat and efficiency. Section 3 discusses the methodology and input-output specification. Section 4 reports the findings and the last section concludes.

2. Literature Review

In Malaysia, all aspects pertaining to the administration of zakat are under the jurisdiction of the states through the SIRCs. There are a total of fourteen SIRCs, one for each of the thirteen states and one for the federal territory. Due to the demand of more efficient and effective collection and distribution of zakat funds in Malaysia, some of the Religious Councils have privatized an institution that responsible on the matter of collection (and distribution) part of zakat in those particular states. Eight Religious Councils have so far privatized, starting with Pusat Pungutan Zakat (PPZ), Wilayah Persekutuan in 1991, followed by Pusat Pungutan Zakat Selangor, Pahang and Pulau Pinang in 1995, and lastly Pusat Pungutan Zakat Negeri Sembilan and Melaka in 2000. (Ahmad et al., 2006). It was followed by Tabung Baitulmal Sarawak in 2001 and the latest was Pusat Zakat Sabah that has been privatized in 2007.

Most studies conducted on zakat in Malaysia concentrates on various areas including theoretical (Mujitahir, 2003; Tarimin, 1995), legal and compliance (Idris, 2003; Ahmad, 2004), accounting (Abdul Rahman, 2002; Ismail & Sanusi, 2004), management (Nik Mustapha, 1991) and Muslim awareness and payment behaviour (Nor & Nor, 2004; Ahmad et.al., 2005; Idris, 2002). However, there are very few studies that examined the performance of zakat institutions. Some studies focused on the performance of zakat collection and distribution (Noor et al., 2005) and some other studies measure the impact of privatisation on the performance of zakat institutions (Nor Ghani et.al., 2001; Ahmad et.al., 2005). It can be seen that there is no study which comprehensively examining the efficiency of Malaysian zakat institutions

In terms of efficiency, economic efficiency is defined in economic theory as a term describing how well a system is performing, in generating the maximum desired output for given inputs with available technology. Efficiency is improved if more output is generated without changing inputs. An economic system is more efficient if it can provide more goods and services for society without using more resources. For instance, Husain, Abdullah & Kuman (2000) and Ibrahim & Md. Salleh (2006) are among studies that explores the efficiency of public sector in Malaysia. Husain, Abdullah & Kuman (2000) that studied the efficiency of Road Transport Department (RTD) using Data Envelopment analysis (DEA) found out that out of 46 service units, only 11 service units score above 50% of efficiency scores. Ibrahim & Md. Salleh (2006) for instance, in their studies of local governments in providing local public goods and services, found that the overall result showed that most of the local governments in Malaysia are cost inefficient, and that municipality councils were more inefficient than the district councils.

Studies on efficiency of public sector have been conducted using different inputs and outputs. For instance, efficiency of urban and rural bus in Norway examined by Odeck & Alkadi (2004) used total number of seats, driving hours, total number of staff, fuel consumption and equipment as inputs, while outputs used are seats taken and passenger kilometres. Other studies like Mante & O'Brien (2002) examined efficiency of secondary schools in Victoria using staff pupil ratio and adjusted learning needs index as inputs while outputs used were proportion of students with tertiary entrance rank scores of 50 and above and Year 12 apparent retention rate. The above studies show that the

choice of inputs and outputs in assessing efficiency is based on the subject of the efficiency analysis undertaken.

In terms of methodology, the measurement of economic efficiency is mainly focused on two different approaches, namely the parametric and non-parametric methods. Data Envelopment Analysis (DEA) and Frontier Approaches (FA) are among the common approaches used respectively. The term DEA was introduced by Charnes, Cooper and Rhodes (1978) based on the research of Farrell (1957). DEA involves the use of linear programming methods to construct a non-parametric piece-wise surface (or frontier) over the data. Efficiency measures are then calculated relative to this surface. It estimates efficiency under the assumption of constant return to scale (CRS) and variable return to scale (VRS). It assumes that linear substitution is possible between observed input combinations on an isoquant. It examines how a particular decision making unit (DMU) operates relative to the other DMU in the sample.

As stated by Berger & Humphrey (1997), there are three main parametric frontier approaches (FA) ie. the stochastic frontier approach (SFA), the Distribution free approach (DFA) and the thick frontier approach (TFA). The stochastic frontier approach (SFA) specifies a functional form for cost, production or profit relationship among inputs, outputs and environmental factors and allow random error. Similarly, the DFA specifies a functional form for the frontier, but separates the inefficiencies from random error in a different way. Lastly, the TFA specifies a functional form and assumes that deviations from predicted performance values within the highest and lowest performance quartiles of observations (stratified by size class) represent random error.

Nevertheless, there is still ongoing debate as to which methodology is preferred in determining efficiency. However, most of the applications of DEA have occurred in the public sector. Besides, it has become popular in evaluating public sector because it easily handles multiple outputs, is non-parametric and does not require input prices. The studies that employ DEA in public sector include Ruggiero & Vitaliano (1999), Husain, Abdullah & Kuman (2000) and Mante & O'Brien (2002). Hence, in this present paper, we choose to employ DEA to evaluate efficiency of zakat institutions in Malaysia.

3. Research Methodology

The term Data Envelopment Analysis (DEA) was first introduced by Charnes *et al.* (1978), (hereafter CCR), to measure the efficiency of each Decision Making Units (DMUs), that is obtained as a maximum of a ratio of weighted outputs to weighted inputs. This denotes that the more the outputs produced from given inputs, the more efficient is the production. The weights for the ratio are determined by a restriction that the similar ratios for every DMU have to be less than or equal to unity. This definition of efficiency measure allows multiple outputs and inputs without requiring pre-assigned weights. Multiple inputs and outputs are reduced to single 'virtual' input and single 'virtual' output by optimal weights. The efficiency measure is then a function of multipliers of the 'virtual' input-output combination.

The CCR model presupposes that there is no significant relationship between the scale of operations and efficiency by assuming constant returns to scale (CRS) and it delivers the overall technical efficiency (OTE). The CRS assumption is only justifiable when all DMUs are operating at an optimal scale. However, firms or DMUs in practice might face either economies or diseconomies of scale. Thus, if one makes the CRS assumption when not all DMUs are operating at the optimal scale, the computed measures of technical efficiency will be contaminated with scale efficiencies.

Banker *et al.* (1984) extended the CCR model by relaxing the CRS assumption. The resulting "BCC" model was used to assess the efficiency of DMUs characterized by variable returns to scale (VRS). The VRS assumption provides the measurement of pure technical efficiency (PTE), which is the measurement of technical efficiency devoid of the scale efficiency (SE) effects. If there appears to be a difference between the TE and PTE scores of a particular DMU, then it indicates the existence of scale inefficiency.

The input oriented DEA model with VRS technologies can be represented by the following linear programming problem:

$$\begin{aligned} & \min \varphi, \lambda, \varphi \\ & \text{subject to } -\varphi y_i + Y\lambda, \geq 0 \\ & xi - X\lambda \geq 0 \end{aligned}$$

$$\begin{aligned} N1' \lambda &= 1 \\ \text{and } \lambda &\geq 0 \end{aligned} \tag{1}$$

where λ is an $N \times 1$ intensity vector of constants and φ is a scalar ($1 \geq \varphi \leq \infty$). $N1$ is an $N \times 1$ vector of ones. For N number of firms, y_i and x_i are the $M \times N$ and $K \times N$ output and input vectors, respectively. Y comprises the data for all the N firms. Given a fixed level of inputs for the i th firm, the proportional increase in outputs to be achieved the firm indicated by $\varphi - 1$. Note that without the convexity constraint $N1' \lambda = 1$, equation (1) becomes a DEA model with CRS technology. The convexity constraint implies that an inefficient firm is benchmarked against firms of a similar size and therefore the projected point of that firm on the DEA frontier will be a convex combination of observed firms. In other words, each firm would produce on or to the right of the convex production possibility frontier. If TE scores for a particular firm with or without the convexity constraint imposed are the same, then the firm is operating under CRS. If these scores are different, the firm operates under VRS technology. However, in such a case, it would be necessary to identify whether the firm or the DMU operates with IRS or DRS. To do this, assumption of non-increasing returns to scale (NIRS) is imposed in (1) and the convexity constraint $N1' \lambda = 1$ is substituted with $N1' \lambda \leq 1$. This is given as follows:

$$\begin{aligned} \min \varphi, \lambda, \varphi \\ \text{subject to } -y_i, -Y\lambda, &\geq 0, \\ \varphi x_i - X\lambda &\geq 0, \\ N1' \lambda &\leq 1 \\ \lambda &\geq 0 \end{aligned} \tag{2}$$

Solution of the equation (2) reveals the nature of scale efficiencies. IRS exists if TE score obtained with NIRS technology differs from the TE estimates with VRS technology. If both of these efficiency scores are equal, then the corresponding firm operates with DRS. Because the number of zakat institutions is small, the scope to undertake this study using standard econometric methods is somewhat limited. Amongst the strengths of the DEA is that, DEA is less data demanding as it works fine with small sample size (Canhoto & Dermine, 2003).

The small sample size is among other reasons, which leads us to DEA as the tool of choice for evaluating efficiency of zakat institutions in

Malaysia. Furthermore, DEA does not require a preconceived structure or specific functional form to be imposed on the data in identifying and determining the efficient frontier, error, and inefficiency structures of the DMUs (Bauer *et al.*, 1998).

DEA can be used to derive measures of scale efficiency by using the variable returns to scale (VRS), or the BCC model, alongside the constant returns to scale (CRS), or the CCR model. Coelli *et al.* (1998) noted that the BCC model have been most commonly used since the beginning of the 1990s. A DEA model can be constructed either to minimize inputs or to maximize outputs. An input orientation aims at reducing the input amounts as much as possible while keeping at least the present output levels, while an output orientation aims at maximizing output levels without increasing use of inputs (Cooper *et al.*, 2000).

The standard approach to measuring scale effects using DEA is to run models on both a CRS and VRS basis. Scale efficiency is then found by dividing the efficiency score from the CRS model by the efficiency score from the VRS model. Because the data points are enveloped more tightly under the VRS model, the VRS efficiency scores will be higher and the scale efficiency measures will therefore be in the range 0 to 1. A useful feature of VRS model as compared to the CRS model is that it reports whether a decision-making unit (DMUs) is operating at increasing, constant, or decreasing returns to scale. Constant returns to scale will apply when CRS and VRS efficiency frontiers are tangential with each other; in other words, when the slope of the efficiency frontier is equal to the ratio of inputs to outputs (Cooper *et al.*, 2000). Increasing returns to scale must apply below that level, as the slope of the efficient frontier, which reflects the marginal rate of transformation of inputs to outputs will be greater than the average rate of conversion. Likewise, decreasing returns to scale must apply above the zone in which constant returns to scale apply. DMUs not on the efficient frontier must first be projected onto the efficient frontier before their returns to scale status can be assessed.

4. Input-Output Specification

The choice of inputs and outputs in this study is essentially determined by data availability. Three outputs and two inputs are considered for this study to investigate efficiency of 14 SIRC in Malaysia for the period of

2003 to 2007. The outputs are total collection of zakat, total distribution of zakat and total number of zakat payers, while the inputs are number of staff and total expenditure. Data was collected from the multiple years of Annual report of PPZ Kuala Lumpur², particularly for the data of zakat collection, distribution and zakat payers. As for the data of number of staff and total expenditure, both data were collected from the office of the SIRC's and Zakat Center in Malaysia.

For the purpose of this study, a production approach³ is employed in this study in the definition and measurement of inputs and outputs whereby it assumes that zakat institutions are primarily producing zakat collection and zakat payers (in a way of *dakwah*, promotion *etc.*) and distribute the funds to the *asnaf* (beneficiaries). According to Berger and Humphrey (1997) the production approach might be more suitable for branch efficiency studies. Prior studies on efficiency have used different set of inputs and outputs based on the operation of the firms or DMU. However, in this study, the inputs were adopted from the model which has been developed by Camanho & Dyson (1999) which analyze the efficiency of bank branches, while the outputs were developed based on the objective that is to analyze the ability of zakat institutions in producing zakat collection and zakat payers (in a way of *dakwah*, promotion *etc.*) and distribute the funds to the *asnaf* (beneficiaries). Table 1 depicts the descriptive statistics of the inputs and outputs employed in this study.

² PPZ Kuala Lumpur has taken its own initiative in combining data of zakat of all zakat institutions in Malaysia.

³ There are two main approaches in the literature to the choice of inputs and outputs in DEA, namely the production approach and the intermediation approach. Under the production approach, an institution is defined as a producer. The intermediation approach on the other hand, assumes that a firm act as an intermediary.

Table 1: Descriptive Statistics of the Inputs and Outputs used in the DEA model

	Mean	Median	Maximum	Minimum	Std. Dev.
Input					
No. of staff	127	100	461	22	91
Total Expenditure	37,742,331	25,727,861	214,767,671	1,957,135	42,735,550
Output					
Total collection	42,079,560	27,771,981	202,193,541	5,102,537	42,224,646
Total distribution	32,111,273	20,392,516	174,520,057	3,036,304	34,232,324
No. of zakat payers	304,079	62,408	2,100,562	1,482	505,887

Table 1 reports descriptive statistics of outputs and inputs of 14 zakat institutions in Malaysia during the study period. On the average, there is a wide range between the minimum and the maximum amount of inputs used and outputs produced by zakat institutions in Malaysia. This situation happened due to the differences in the state's area in Malaysia. For instance, Perlis, the smallest state in Malaysia should be using less inputs rather than a wide area state like Pahang.

5. Results And Analysis

The efficiency of zakat institutions in Malaysia was examined by applying the DEA method for each year under investigation using a common frontier. Table 2 displays the mean technical, pure technical and scale efficiency score of zakat institutions in Malaysia for the years 2003 (Panel A), 2004 (Panel B), 2005 (Panel C), 2006 (Panel D) 2007 (Panel E) and all years (Panel F).

Table 2: Summary statistics of efficiency scores (TE, PTE and SE) by year

Years/Types of Efficiency	Mean	Min	Max	SD
<i>Panel A: 2003</i>				
TE	0.810	0.325	1.000	0.223
PTE	0.845	0.462	1.000	0.205
SE	0.950	0.704	1.000	0.084
<i>Panel B: 2004</i>				
TE	0.828	0.363	1.000	0.199
PTE	0.882	0.518	1.000	0.178
SE	0.933	0.680	1.000	0.089
<i>Panel C: 2005</i>				
TE	0.812	0.337	1.000	0.227
PTE	0.834	0.389	1.000	0.229
SE	0.959	0.752	1.000	0.075
<i>Panel D: 2006</i>				
TE	0.802	0.336	1.000	0.210
PTE	0.857	0.464	1.000	0.193
SE	0.928	0.724	1.000	0.079
<i>Panel E: 2007</i>				
TE	0.779	0.331	1.000	0.224
PTE	0.874	0.515	1.000	0.182
SE	0.880	0.643	1.000	0.127
<i>Panel F: All years</i>				
TE	0.806	0.325	1.000	0.211
PTE	0.861	0.389	1.000	0.192
SE	0.929	0.643	1.000	0.094

Based on table 2, the TE score of zakat institutions are found to be the highest in 2004 (0.828), while in 2007, TE score of zakat institutions is the lowest (0.779). Similarly the PTE score is also found to be the highest in 2004 (0.882), but 2005 is the lowest PTE year score (0.834). However, based on the results, the efficiency score of zakat institutions in Malaysia does not change much over years. Hence, the concern of the differences between efficiency score of different zakat institutions should be paid more attention as the results between the minimum and the maximum score of zakat institutions are even bigger than its differences between years. Another interesting results that should be of concern is the higher results of SE compared to PTE which suggest that efficiency of zakat institutions in Malaysia may be due to the scale or size of the institutions rather than its technical aspect. The results show that pure technical inefficiency dominates scale inefficiency of Malaysian zakat institutions. In other words, it shows that zakat institutions in Malaysia relied more on its size of operation in gaining efficiency.

We now turn our discussion on the developments of the returns to scale of zakat institutions in Malaysia. The following Table 3 displays the results of developments in returns to scale of zakat institution in Malaysia.

Table 3:Returns to scale in zakat institutions in Malaysia

	2003		2004		2005		2006		2007	
	No. of ZIs	% Share	No. of ZIs	% Share	No. of ZIs	% Share	No. of ZIs	% Share	No. of ZIs	% Share
CRS	6	42.9	5	35.7	8	57.1	5	35.7	5	35.7
DRS	6	42.9	8	57.1	2	14.3	9	64.3	9	64.3
IRS	2	14.2	1	7.2	4	28.6	0		0	
Total	14	100	14	100	14	100	14	100	14	100

Table 3 displays the results of zakat institutions returns to scale. As the table shows, over the five periods, the zakat institutions were experiencing an inverted U-shape trend of inefficient zakat institutions, from 57.1% in 2003 and 64.3% in 2004, to 42.9% in 2005 before it rose

up to 64.3% in 2006 and 2007. It is apparent from the table that, the number of zakat institutions experiencing economies of scale (IRS) has decreased substantially from 2 (14.3%) in year 2003 to none (0%) in 2006 and in 2007, after it rose up to 4 (28.6%) in 2005. In contrast, zakat institutions that are experiencing diseconomies of scale (DRS) dominate the inefficient zakat institutions in all years except in 2005. For instance, in year 2003, there were 6 (42.85%) zakat institutions experiencing diseconomies of scale and it rose up to 8 (57.1%) in 2004 and 9 (64.3%) in 2006 and 2007 before it declined to 2 (14.3%) in 2005. The share of scale efficient zakat institutions (operating at CRS) on the other hand, are quite stable, where the share of efficient zakat institutions has increased from 6 (42.85%) in year 2003 to 8 (57.1%) in year 2005 before it declined to 5 (35.7%) in year 2007. Hence, there are a lot of improvements should be undertaken by zakat institutions to improve overall efficiency if scale inefficiency resulted from the scale inefficient institutions could be undertaken.

In the spirit of Bauer et al. (1998), in order to complement the results of the efficiency measures, we have further correlated a few available size and population effect with the efficiency scores derived from the DEA model. We have used Total Collection (as a proxy of Size) and Total Muslim Population across states in Malaysia. Other factors (such as Household Income, Poverty rate etc.) could have also be included. However, since these data are only censused by the Economic Planning Unit (EPU) twice in three years time, therefore, only 2 years data available⁴ (as compared to this study period). Following among others, Isik & Hassan (2002), we have calculated both the rank-order Spearman and the parametric Pearson correlation coefficients to examine the possible relationship among the efficiency measures and the size and population data. However, only PTE of efficiency measures is employed⁵. The Spearman [*s*] and Pearson [*p*] correlation coefficients are presented in Table 4. The null hypothesis is that the correlation coefficient between two variables is zero.

⁴ Data on poverty rate and percapita income are available for 2004 and 2007 only (with regards to this study).

⁵ According to Coelli, Rao and Battese (2005), VRS model (PTE) allows variable return to scale which is suitable with the firm which is run in imperfect competition, government regulations and constraints on finance. Since zakat institutions are under the state government list, hence, it is more suitable to consider the VRS model (PTE) compared to the CRS one (TE).

Table 4: Spearman Rho Rank Order [*s*] and regular Pearson [*p*] Correlation Coefficients among Efficiency Scores and Selected Variables

Variables	TE	PTE	SE	MPop	ZC
TE [<i>s</i>] [<i>p</i>]	1.000 1.000				
PTE [<i>s</i>] [<i>p</i>]	0.7195*** 0.7458***	1.000 1.000			
SE [<i>s</i>] [<i>p</i>]	0.5156** 0.4255**	0.4700** 0.3270*	1.000 1.000		
MPop [<i>s</i>] [<i>p</i>]	0.0564 0.0405	0.1357* 0.1712*	-0.1017 -0.2342	1.000 1.000	
ZC [<i>s</i>] [<i>p</i>]	-0.0763 0.0203	0.1652 0.2761	-0.1623 -0.3474	0.4467*** 0.4352***	1.000 1.000

TE, PTE, SE: Technical, Pure technical and Scale efficiency, respectively; MPop: Total Muslim Population; ZC: Total zakat collection

No. Of observations: 70

*** indicates significant at the 0.01 % level

** indicates significant at the 0.05 % level

* indicates significant at the 0.10 % level

Table 4 shows the Spearman [*s*] and Pearson [*p*] correlation coefficients between the efficiency scores and total Muslim population (MuslimPop) and total zakat collection (ZC). Levels of significance are also shown. As the results indicate, the Spearman [*s*] and the Pearson [*p*] correlations are all statistically different from zero indicating that there is a strong association between the variables evaluated. The results from the Spearman correlation coefficients shows that technical efficiency is highly positively and statistically significantly associated with other X-efficiency measures namely, PTE and SE (ρ TE – PTE = 0.7195, ρ TE – SE = 0.5156). The results also suggest that SE is more related to TE than PTE, confirming the dominant effect of pure technical efficiency in determining the technical (in) efficiency of zakat institutions in Malaysia.

The results suggest that total Muslim population are positively related to the efficiency scores (except SE) although it is not significant. It is also

apparent that total zakat collection (ZC) as a proxy of size is positively associated with efficiency score (except SE), suggesting that higher collecting zakat institutions tend to be more efficient. Another interesting result is the relationship between total Muslim population and zakat collection which is statistically and significantly positively correlated. The results indicate that there is a strong correlation between total Muslim population and zakat collection in Malaysia which suggests that higher Muslim concentration states tend to improve zakat collection. Overall, the results suggest that while higher Muslim population states tend to positively correlated to zakat collection, its correlation with efficiency score does not indicate a strong relationship, implying that it does not promise efficiency of zakat organization. In sum, the statistically and significantly different from zero correlation coefficients suggest that the efficiency measures are also associated with other related variables, i.e. they are robust and are not 'meaningless' of the technique used⁶.

6. Conclusion

This paper investigates the efficiency of zakat institutions in Malaysia during the period of 2003-2007. The preferred non-parametric Data Envelopment Analysis (DEA) methodology has allowed us to distinguish between the three different types of efficiency, ie. technical, pure technical and scale efficiency. The results suggest that zakat institutions have exhibited mean technical efficiency of 80.6%. The results also suggest that pure technical inefficiency dominates the scale inefficiency effects in determining technical efficiency of zakat institutions in Malaysia. This implies that a more efficient use of inputs should be paid more attention in order to improve efficiency.

In terms of the returns to scale, the results suggest that most zakat institutions were operating at non-CRS. Hence, there are a lot of improvements could be undertaken by zakat institutions to improve overall efficiency if scale inefficiency resulted from the scale inefficient institutions could be undertaken. The results of the Spearman [*s*] and Pearson [*p*] correlation coefficients between efficiency scores and total Muslim population (MuslimPop) and total zakat collection (ZC) suggests that while higher Muslim population states tend to positively correlated to zakat collection, its correlation with efficiency score does

⁶ The results are only correlations, not causations which is one of the limitations of this study.

not indicate a strong relationship, implying that it does not promise efficiency of zakat organization. Hence, there could be other factors which affect the efficiency of zakat institutions in Malaysia which needs further investigation.

Owing to its limitation, this paper could be extended in a variety of ways. First, investigation of changes in productivity over time as a result of technical change or technological progress or regress could yet be an extension to this paper. Second, the scope of this study could be extended to investigate factors determining the efficiency of zakat institutions over time. Despite these limitations, the findings of this study are expected to contribute to the existing knowledge on the performance of zakat institutions in Malaysia. Nevertheless, the study have provided further insight to the policymakers with regard to attaining optimal utilization of capacities, improvement in managerial expertise, efficient allocation of scarce resources and most productive scale of operation of zakat institutions in Malaysia.

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