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Does Foreign Banks Entry Fosters Bank Efficiency? Empirical Evidence from Malaysia

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The impact of foreign banks entry on the banking sector has been well documented in the literature. However, these studies have been confined to the conventional banking sector. On the other hand, virtually nothing has been published in respect to the impact of foreign banks entry on the Islamic banking sector.
The purpose of the present paper is to provide new empirical evidence on the impact of foreign banks entry on the efficiency of the incumbent domestic and foreign Islamic banks. Although there exist several other studies which have examined the performance of the Malaysian Islamic banking sector (e.g. Samad, 1999; Samad and Hassan, 2000; Sufian, 2007; Mokhtar et al. 2008, Majid et al. 2009, and others), the focus of these studies have not been the impact of foreign banks entry.
The present study therefore attempts to fill in the gap and add insights to the present literature in several respects as follows: First, by employing the Data Envelopment Analysis (DEA) method, we examine whether the De Novo foreign Islamic banks are relatively more efficient than the incumbent domestic and foreign Islamic banks. To date, empirical evidence form the contemporary banking industry has mainly suggested that foreign banks in developing countries outperform their domestic bank counterparts. It is therefore interesting to examine whether the same is applicable to the Islamic banking sector.
Second, we compute a battery of DEA-based parametric and non-parametric tests to examine the difference in the efficiency of the Malaysian Islamic banking sector between the pre and post-entry periods. During both periods, the efficiency scores of the De Novo and the incumbent banks will be compared. By doing so, we would be able to shed some light on the sources of inefficiency in the Malaysian Islamic banking sector in general, differentiate between the De Novo and the incumbent banks' efficiency scores, and assess the impact of foreign banks entry on the efficiency of the incumbent banks.
In undertaking the study, we have gathered information from the yearly financial statements of the two full-fledged domestic Islamic banks, three full-fledged foreign Islamic banks, 11 domestic IBS (Islamic banking scheme) banks, and four foreign IBS banks for the period 2001 to 2008.
The empirical findings from this study suggest that the domestic banks have been relatively more efficient than their foreign and De Novo bank counterparts, while the De Novo banks have been the least efficient banking groups. The results indicate that the Malaysian Islamic banking sector has exhibited a lower level of efficiency during the post-entry of the De Novo banks period.
The findings from the study should interest not only the managers of the banks, but numerous stakeholders such as the central banks, bankers associations, governments, and other financial authorities.

Keywords: *De Novo Foreign Banks, Islamic Banks, Efficiency, Data Envelopment Analysis, Malaysia.*

Introduction

Many developing countries are hesitant to let foreign banks to enter their banking market. When deciding on the liberalization of the banking sector, policy makers often weigh on the costs and benefits of foreign banks entry on the domestic banking sector. On the one hand, the government is concerned that the foreign banks may engage in 'cherry picking', leaving behind the low quality borrowers. Despite that, earlier studies have also shown that the local banking market may benefit from better technologies that the foreign banks use through learning and spillover effects. Furthermore, the domestic banks may benefit from lower interest rates on their borrowings.

Over the last decade, a number of significant changes have occurred in the Malaysian banking sector evolving from the deregulation of the national markets and the internationalization of competition. The main objective is to create competition, tap new growth opportunities, and raise the efficiency of the Malaysian banking sector as a whole. Furthermore, in its effort to develop Malaysia as a regional Islamic financial hub, the central bank of Malaysia, Bank Negara Malaysia (BNM) issued new licences to foreign Islamic banks.

The entry of the new foreign banks raises important questions about its potential impacts. On the one hand, entry of the new foreign Islamic banks is positive in terms of product innovations and developments and may encourage the adoption of best practices among the incumbent banks. On the other hand, competition in the Islamic banking sector is expected to intensify, necessitating the smaller Islamic banks to establish their positions. The intensification of competition is therefore expected to induce the interest in the efficiency of the Malaysian Islamic banking sector and will now become

one of the main priorities of the regulators. If the banking sector is efficient, then it could allocate more funds for the purpose of scientific and market research, training of employees, attracts highly qualified specialists and managers, etc. (Zukauskas and Neverauskas, 2008).

The purpose of the present paper is to provide empirical evidence on the impact of foreign banks entry on the performance of the incumbent domestic and foreign Islamic banks. Although studies examining the impact of foreign banks entry on the domestic banking sector are voluminous, to the best of our knowledge, virtually nothing has been published to examine this issue within the context of the Islamic banking sector. Although there exist several other studies which have examined the performance of the Malaysian Islamic banking sector (e.g. Samad, 1999; Samad and Hassan, 2000; Sufian, 2007; Mokhtar *et al*. 2008, Majid *et al*. 2009, and others), the focus of these studies have not been the impact of foreign banks entry. The present study therefore attempts to fill in the gap and add insights to the present literature in several respects discussed below.

First, by employing the Data Envelopment Analysis (DEA) method the present study examines whether the De Novo foreign Islamic banks are relatively more efficient than the incumbent domestic and foreign Islamic banks. To date, empirical evidence form the contemporary banking industry has mainly suggested that foreign banks in developing countries outperform their domestic bank counterparts (e.g. Bhattacharyya *et al.* 1997; Sathye, 2001; Hasan and Marton, 2003; Isik and Hassan, 2003; Ataullah *et al.* 2004, among others). It is therefore interesting to examine whether the same is applicable to the Islamic banking sector.

Second, we compute a battery of DEA-based parametric and non-parametric tests to examine the difference in the efficiency of the Malaysian Islamic banking sector between the pre and post-entry periods. During both periods, the efficiency scores of the De Novo and the incumbent banks will be compared. By doing so, we would be able to shed some light on the sources of inefficiency in the Malaysian Islamic banking sector in general, differentiate between the De Novo and the incumbent banks' efficiency scores, and assess the impact of foreign banks entry on the efficiency of the incumbent banks.

The present study should interest not only the managers of the banks, but numerous stakeholders such as the central banks, bankers associations, governments, and other financial authorities. Until they can operate efficiently, De Novo banks will neither earn a satisfactory rate of return, nor be a strong rival to the established incumbent banks. The empirical findings from this study may provide the De Novo bank managers with a tool for long-term planning, which could aid them in developing internal control mechanisms to minimize initial operational inefficiencies and costs and eventually increase the likelihood of survival in an increasingly competitive environment. Since the De Novo foreign banks is relatively small compared to their incumbent bank peers, they tend to engage in small and new business lending (De Young *et al*. 1999). Thus, their survival has important ramifications on the level of entrepreneurship in an economy (Black and Strahan, 2002).

Moreover, bank regulators in Malaysia and other developing countries alike may also benefit from the findings of this study, while making decisions on whether to restrict or relax the conditions for entry of foreign banks into the domestic banking sector. If the entry of the foreign banks improves the efficiency of the domestic banking sector, then, the entry of foreign banks into the domestic banking sector should be encouraged.

Undertaking the study, we have gathered information from the yearly financial statements of the two full-fledged domestic Islamic banks, three full-fledged foreign Islamic banks, 11 domestic IBS (Islamic banking scheme) banks, and four foreign IBS banks for the period 2001 to 2008. We first examine the efficiency of the Malaysian Islamic banking sector by employing the DEA method. We then proceed to examine the testable hypothesis of the relative efficiency of the De Novo and the incumbent banks and the impact of De Novo foreign banks entry on the incumbent domestic and foreign banks.

The paper is divided into five sections. The following section presents the literature review. Section 3 describes the data employed in the study and methods for empirical estimation. Empirical results are presented in section 4 and finally, section 5 concludes.

Review of the Literature

The impact of foreign banks entry on the domestic banks' performance has been well documented in the literature. However, the empirical findings have been inconclusive and ambiguous at best. On the one hand, studies by Cho (1990), Levine (1996), Buch (1997), Berger and Hannan (1998), Focarelli and Pozzolo (2000), Barth *et al*. (2001), Clarke *et al*. (2001), Goldberg (2003), Cardenas *et al* (2003), Kim and Lee (2003), Lensink and Hermes (2004) among others, suggests that foreign banks entry benefits the domestic banking sector. These studies find that foreign banks presence induce cost cutting interest, improves the efficiency, and increase the diversity of products and services among the domestic banking institutions. On the other hand, studies by Stiglitz (1993), Peek and Rosengren (1997, 2000), Hellmann *et al*. (2000), Claessens *et al*. (2001), Claessens and Laeven (2003), Demirgüc-Kunt *et al*. (2003), Lensink and Hermes (2004) among others, argued that foreign banks presence has adverse effects on the domestic banks due to the intensity of competition.

On the other hand, empirical evidence on the impact of foreign banks entry on the performance of the domestic banks is relatively limited. By using a large sample of 80 countries, Claessens *et al*. (2001) found that foreign banks presence results in the decline in profitability, non-interest income, and overall expenses of the domestic banks. Lensink and Hermes (2004) examine the effect of foreign banks entry on a sample of 48 countries. They suggest that the effect of foreign banks entry depends on the level of economic development in the host country. At the lower level of economic development, they suggest that foreign banks entry is associated with higher costs and higher net-interest margins. On the other hand, at the higher level of economic development, the findings suggest that foreign banks entry is negatively associated with costs, profits, and net-interest margins of the domestic banks.

While the above studies investigates the impact of foreign banks entry on a cross-country setting, there are also several other studies which examines the issue on a country specific basis. Among others, Cho (1990) examines the impact of foreign banks entry into the Indonesian banking sector and suggest that the presence of foreign banks enhanced the level of competition. Feldstein (2000) observed that foreign banks in Korea 'cherry pick' the best credit and leaves the worst for the domestic banks. He also suggests that the foreign banks tend to increase lending during the good times, but reduces it in bad times. In a study on the Thailand banking sector, Chantapong (2005) suggest that the profitability of the foreign banks is much higher than their domestic bank peers. The results show that although the entry of foreign banks intensifies competition in the banking sector, the domestic banks seem to benefit from improved technological and managerial adjustments.

Although a large body of literature has examined the performance and competitive conditions of the banking sectors (e.g. Aktan and Masood, 2010; Ausrine and Breiteryte, 2009; Feldin *et al*. 2009; Sufian and Habibullah, 2009; etc.), empirical evidence on the operational efficiency of De Novo banks are relatively scant. De Young and Hassan (1998) examines the U.S. chartered De Novo banks profit efficiency as they mature. Their results indicate that during the first three years of operations, De Novo banks improve their profit efficiency rapidly, but on average takes approximately nine years to catch up with the establish banks. More recently, Isik (2008) examines the efficiency and productivity of De Novo banks in the Turkish banking sector. He suggests that the De Novo banks outperform their established bank peers under all efficiency measures.

The above literature reveals the following research gaps. First, the findings from these studies remain inconclusive. Second, the majority of these studies concentrate on the banking sectors of the developed countries, such as the U.S. and Europe. Third, empirical evidence on the developing and emerging countries are relatively scarce. Finally, empirical evidence on the impact of foreign banks entry exists on the conventional banking sector, while nothing has been published in respect to the impact on the Islamic banking sector. Therefore, the present paper attempts to deal with this issue in depth.

Methodology and Data

Data Envelopment Analysis

The Data Envelopment Analysis (DEA) method is based on a mathematical model developed by Charnes *et al*. (1978). Since its introduction, the DEA method has been widely applied to examine the efficiency of financial institutions (e.g. Pramodh *et al*. 2008), manufacturing (Lee and Kang, 2007), telecommunication (Mahdavi *et al*. 2008), education (Worthington and Lee, 2008), and supply chain (Dharmapala, 2008), advertising (Hadad *et al*. 2005) sectors' worldwide. The method seeks to establish how the *n* decision making units (DMUs) determine the envelopment surface (the best practice efficiency frontier).

In order to make a detailed analysis of inefficient units and take corrective actions to improve their performance, this paper considers both the constant returns to scale (CRS), first developed by Charnes *et al*. (1978) and the variable returns to scale (VRS), first proposed by Banker *et al*. (1984), assumptions in estimating the efficiency indices. First, let us assume the banking sector exhibits CRS. We can formulate the model as follows:

$$\min\ l_0 - \varepsilon\left[\sum_{i=1}^{m} S_i^- + \sum_{r=1}^{s} S_r^+\right] \qquad (1)$$

$$\text{subject to:}\quad \sum_{f=1}^{N} \lambda_f x_{if} = l_o x_{if_o} - S_i^-$$

$$\text{where}\quad i = 1 \ldots m$$

$$\sum_{f=1}^{N} \lambda_f y_{rf} = S_r^+ + y_{rf_o}$$

$$\text{where}\quad r = 1 \ldots s$$

$$\lambda_f \geq 0, f = 1 \ldots N,\quad S_i^-,\ S_r^+ \geq 0 \quad \forall\ i \text{ and } r$$

where x_{if} and y_{rf} are levels of the i^{th} input and r^{th} output, respectively for DMU f. N is the number of DMUs. ε is a very small positive number (non-Archimedean) used as a lower bound to inputs and outputs. λ_f denotes the contribution of DMU f in deriving the efficiency of the rated DMU f_o (a point at the envelopment surface). S_i^- and S_r^+ are slack variables to proxy extra savings in input *i* and extra gains in output *r*. l_o is the radial efficiency factor that shows the possible reduction of inputs for DMU f_o. If l_o^* (optimal solution) is equal to one and the slack values are both equal to zero, then DMU f_o is said to be efficient. When S_i^- or S_r^+ take positive values at the optimal solution, one can conclude that the corresponding input or output of DMU f_o can improve further once input levels have been contracted to the proportion l_o^*.

If a convexity constraint is incorporated in model (1), the following VRS assumption of the DEA method can be written as follows:

$$\min\ l_o - \varepsilon\left[\sum_{i=1}^{m} S_i^- + \sum_{r=1}^{s} S_r^+\right] \qquad (2)$$

$$\text{subject to:}\quad \sum_{f=1}^{N} \lambda_f x_{if} = l_o x_{if_o} - S_i^-$$

$$\text{where}\quad i = 1 \ldots m$$

$$\sum_{f=1}^{N} \lambda_f y_{rf} = S_r^+ + y_{rf_o}$$

$$\text{where}\quad r = 1 \ldots s$$

$$\sum_{f=1}^{N} \lambda_f = 1$$

$$\lambda_f \geq 0, f = 1...N, S_i^-, S_r^+ \geq 0 \quad \forall \ i \text{ and } r$$

This model differs from model (1) in that it includes the so-called convexity constraint, $\sum_{f=1}^{N} \lambda_f = 1$ which prevents any interpolation point constructed from the observed DMUs from being scaled up or down to form a reference point which is not permissible under the VRS assumption. In this model, the set of λ values minimize l_o to l_o^* and identify a point within the VRS assumption of which the input levels reflect the lowest proportion of l_o^*. At l_o^*, the input levels of DMU f_o can be uniformly contracted without having detrimental impact on the DMUs output levels. Therefore, DMU f_o has efficiency equal to l_o^*. The solution to model (2) is summarized in the following fashion: DMU f_o is pareto-efficient if l_o^*=1 and $S_r^{+*} = 0,\ r = 1...s,\ \ S_i^{-*} = 0,\ \ i = 1...m$. Technical efficiency assessed under the VRS assumption is referred to as pure technical efficiency (PTE) as they are net of any scale efficiency (SE) effects.

It can be observed that if the convexity constraint in the model (2) is dropped, one obtains the model (1), which generates technical efficiency (TE) under the CRS assumption. This implies that PTE of a DMU is always greater or equal to its TE. Under both CRS and VRS assumptions, the resulting SE can be measured since in most cases, the scale of operation of the firm may not be optimal. The firm involved may be too small in its scale of operation, which may fall within the increasing returns to scale (IRS) part of the production function. Similarly, a firm may be too large and operate within the decreasing returns to scale (DRS) part of the production function. In both cases, efficiency of the firms may be improved by changing their scale of operation. If the underlying production technology follows CRS technology, then the firm is automatically scale efficient. Under CRS and VRS assumptions, the TE scores for each method can be compared. The resulting ratio illustrates SE which is the impact of scale size on the efficiency of a DMU. Formally, the scale efficiency of DMU f_o is given as TE/PTE. Where, TE and PTE are TE and PTE of DMU f_o, respectively.

Since PTE is always greater or equal to TE, it means that SE (TE/PTE) is less than or equal to unity. If TE and PTE of a DMU are equal, then SE is equal to one. This means that irrespective of scale, size has no impact on efficiency. If CRS is less than VRS, then SE will be below unity, meaning that the scale of operation does impact the efficiency of the DMU.

Hypothesis Tests

The inefficiency l_o^* is a consistent estimator (Banker, 1993; Banker and Natarajan, 2004; Banker and Natarajan, 2008). Thus, as suggested by Banker and Natarajan (2004) we proceed to test the null hypothesis (De Novo banks is relatively more efficient than the incumbent banks) against the alternative hypothesis (De Novo banks is relatively inefficient compared to their incumbent bank peers). We also test the null hypothesis (De Novo banks entry has positive effect on the efficiency of the incumbent banks) against the alternative hypothesis (De Novo banks entry has a negative effect on the efficiency of the incumbent banks).

Following Banker (1993) and Banker and Natarajan (2004) among others, we employ the following DEA based statistics:

(i) If the true inefficiency l_o^* is distributed as exponential over [0, ∞] for the two sub-periods, then under the null hypothesis that there is no difference between the two sub-periods, the test statistics is calculated as

$$T_{\exp} = [\sum_{j \in N1}(l_o^* - 1)/N1] \,/\, [\sum_{j \in N2}(l_o^* - 1\}/N2] \qquad (3)$$

which is evaluated by the *F*-distribution with (2*N*1/2*N*2) degrees of freedom, where *N*1 and *N*2 are the number of sample Islamic banks during the pre-and post-entry periods, respectively.

(ii) If no such assumptions are maintained about the probability distribution of inefficiency, a non-parametric Kolmogorov-Smirnov's test statistics given by the maximum vertical distance between $F^{P1}(l_o^*)$ and $F^{P2}(l_o^*)$, the empirical distributions of l_o^* for the sub-periods P_1 and P_2 respectively, is used. This statistic, by construction, takes values between 0 and 1 and a high value for this statistics is indicative of significant difference in inefficiency between the two periods.

(iii) In addition, following Hsiao *et al*. (2010) among others, we also employ the Mann-Whitney [Wilcoxon] test, to test for the difference between the De Novo and the incumbent banks' efficiency and the effect of De Novo banks entry on the efficiency of the incumbent domestic and foreign banks.

Specification of Bank Inputs and Outputs

The definition and measurement of inputs and outputs in the banking function remains a contentious issue among researchers. In the banking theory literature, there are two main approaches competing with each other in this regard: the production and intermediation approaches (Sealey and Lindley, 1977). Under the production approach, pioneered by Benston (1965), a financial institution is defined as a producer of services for account holders, that is, they perform transactions on deposit accounts and process documents such as loans. The intermediation approach on the other hand assumes that financial firms act as an intermediary between savers and borrowers and posits total loans and securities as outputs, whereas deposits along with labour and physical capital are defined as inputs.

For the purpose of this study, a variation of the intermediation approach originally developed by Sealey and Lindley (1977) will be adopted in the definition of

inputs and outputs used. According to Berger and Humphrey (1997), the production approach is more suitable for branch efficiency studies as at most times bank branches process customer documents and bank funding, while investment decisions are mostly not under the control of branches.

Accordingly, we model Malaysian Islamic banks as multi-product firms, producing two outputs by employing two inputs. Accordingly, *Total Deposits* (*x1*), which include deposits from customers and other banks and *Labour* (*x2*) are used as input vectors to produce *Financing* (*y1*), which include loans to customers and other banks and *Investments* (*y2*), which include investment securities held for trading, investment securities available for sale (AFS), and investment securities held to maturity. Table 1 presents the summary of statistics of the inputs and outputs employed in the study.

Table 1

Summary Statistics of the Variables Employed in the DEA Model (in RM)

	Domestic		Foreign		De Novo	
	Mean	**S.D.**	**Mean**	**S.D.**	**Mean**	**S.D.**
Outputs						
Total Loans (*y1*)	876,309.06	999,981.01	4,445,599.25	4,269,102.06	1,914,731.75	2,141,529.20
Investments (*y2*)	68,588.56	84,350.43	341,547.10	307,929.74	156,675.63	187,158.87
Inputs						
Total Deposits (*x1*)	1,573,108.91	1,479,225.91	6,571,689.33	5,378,942.72	2,974,426.50	2,409,266.68
Labour (*x2*)	3,241.97	6,459.33	33,951.53	58,564.04	42,144.13	32,758.04

Source: Banks Annual Reports

Empirical Findings

In this section, we will discuss the technical efficiency change (TE) of the Malaysian Islamic banking sector, measured by the Data Envelopment Analysis (DEA) method and its mutually exhaustive components of pure technical efficiency (PTE) and scale efficiency (SE). The efficiency of the Malaysian Islamic banking sector is first examined by employing the DEA method for each year under investigation. Constructing a separate frontier for each of the years under study is a critical issue in a dynamic business environment because a bank may be the most efficient in one year, but may not be in the following year(s). Within the context of the Malaysian Islamic banking sector, it becomes more crucial, since there is an ongoing liberalization in the banking sector over the estimation period. A dynamic panel analysis may also highlight any significant changes taking place in the Malaysian Islamic banking sector during the period under study induced by the central bank of Malaysia, Bank Negara Malaysia, supervisory policies.

Efficiency of the Malaysian Islamic Banking Sector

Table 3 presents the mean efficiency scores of the Malaysian Islamic banking sector for All Islamic Banks (Panel A), Domestic Islamic Banks (Panel B), Foreign Islamic Banks (Panel C), and De Novo Islamic Banks (Panel D). The results seems to suggest that the Malaysian Islamic banking sector's mean technical efficiency has been on an increasing trend during the earlier part of the study, before declining during the latter years. The decomposition of technical efficiency into its mutually exhaustive pure technical and scale efficiency components indicates that scale inefficiency outweighs pure technical inefficiency of the Malaysian Islamic banking sector during the earlier years. On the other hand, it is observed from Table 2 that pure technical inefficiency seems to outweigh scale inefficiency in determining technical inefficiency of the Malaysian Islamic banking sector beginning from the year 2006. In essence, the empirical findings seem to suggest that Malaysian Islamic banks have been inefficient in exploiting the economies of scale given their scale of operations prior to the De Novo foreign banks entry, but has been managerially inefficient in controlling their operating costs during the post-entry period.

During the period under study, the empirical findings seem to suggest that the domestic Malaysian Islamic banks (Panel B) have exhibited a mean technical efficiency of 76.2%, suggesting mean input waste of 23.8%. In other words, the domestic Islamic banks could have produced the same amount of outputs by using only 76.2% of the amount of inputs it uses. It can be observed from Table 3 (Panel B) that pure technical inefficiency outweighs scale inefficiency of the domestic Malaysian Islamic banks. On the other hand, the results presented in Panel C of Table 3 indicate that the foreign Islamic banks have exhibited a lower mean technical efficiency compared to their domestic bank counterparts. Unlike their domestic bank peers, the empirical findings suggest that the foreign banks' inefficiency were mainly attributed to scale rather than pure technical. Overall the results seem to suggest that the foreign Islamic banks were relatively managerially efficient in controlling their operating costs, but have been operating at the non-optimal scale of operations compared to their domestic Islamic bank peers. Panel D of Table 3 presents the results for the De Novo Islamic banks. The empirical findings suggest that the De Novo Islamic banks have exhibited a lower mean technical efficiency compared to the incumbent domestic and foreign Islamic banks. Similar to their foreign Islamic bank counterparts, the empirical findings seem to suggest that pure technical inefficiency outweighs scale inefficiency in determining the total technical inefficiency of the De Novo Islamic banks.

Table 2

Summary Statistics of Efficiency Scores

The table presents the mean and standard deviation of the Malaysian Islamic banking sector's technical efficiency (TE) scores along with its mutually exhaustive pure technical efficiency (PTE) and scale efficiency (SE) components. Panels A, B, C, and D shows the mean and standard deviation of TE, PTE, and SE derived from the DEA method for all banks (ALL_BANKS), domestic banks (DOM_BANKS), foreign banks (FOR_BANKS), and De Novo Islamic banks (DENOVO_BANKS) mean and standard deviation of TE, PTE, and SE scores, respectively. The TE, PTE, and SE scores are bounded between 0 and 1.

Banks	#	Indices		
		Technical Efficiency (TE)	Pure Technical Efficiency (PTE)	Scale Efficiency (SE)
Panel A: ALL_BANKS				
2001	15	0.741	0.877	0.841
2002	15	0.742	0.905	0.810
2003	15	0.741	0.885	0.826
2004	15	0.788	0.980	0.806
2005	16	0.794	0.952	0.838
2006	17	0.722	0.802	0.906
2007	18	0.707	0.808	0.887
2008	18	0.660	0.772	0.866
Mean		**0.737**	**0.873**	**0.848**
Std. Dev.		**0.043**	**0.074**	**0.036**
Panel B: DOM_BANKS				
2001	11	0.757	0.896	0.840
2002	11	0.734	0.884	0.821
2003	11	0.759	0.867	0.861
2004	11	0.862	0.973	0.887
2005	11	0.819	0.951	0.865
2006	11	0.745	0.783	0.947
2007	11	0.727	0.779	0.933
2008	11	0.692	0.758	0.920
Mean		**0.762**	**0.861**	**0.884**
Std. Dev.		**0.054**	**0.081**	**0.045**
Panel C: FOR_BANKS				
2001	4	0.698	0.823	0.844
2002	4	0.765	0.961	0.779
2003	4	0.693	0.936	0.731
2004	4	0.585	1.000	0.585
2005	4	0.719	0.955	0.759
2006	4	0.809	0.893	0.903
2007	4	0.734	0.862	0.860
2008	4	0.646	0.883	0.755
Mean		**0.706**	**0.914**	**0.777**
Std. Dev.		**0.069**	**0.059**	**0.098**
Panel D: DE NOVO_BANKS				
2001				
2002				
2003				
2004				
2005				
2006	2	0.417	0.722	0.685
2007	3	0.596	0.840	0.754
2008	3	0.563	0.675	0.818
Mean		**0.525**	**0.746**	**0.752**
Std. Dev.		**0.095**	**0.085**	**0.067**

Detailed results are available from the authors upon request.

The Efficiency of the De Novo Banks Relative to the Incumbent Banks

To examine the difference in the efficiency of the De Novo Islamic banks compared to the incumbent banks, we perform a series of parametric (*t*-test) and non-parametric (Mann-Whitney [Wilcoxon] and Kolmogorov-Smirnov) tests. The results are presented in Table 3. The results seem to suggest that the incumbent Islamic banks have been relatively more technically efficient (0.748 > 0.539) and is statistically significant at the 1% level (*p*-value = 0.010), mainly attributed to a higher pure technical efficiency (0.876 > 0.748) and is statistically significant at the 5% level (*p*-value = 0.039). It is also observed from Table 3 that the incumbent banks have been relatively more scale efficient compared to the De Novo Islamic banks (0.856 < 0.791), but is not statistically significant at any conventional levels. The *t*-test results are further confirmed by the results derived from the non-parametric Mann-Whitney [Wilcoxon] test. We therefore conclude that the incumbent banks have been relatively more technically efficient compared to the De Novo banks mainly attributed to pure technical efficiency.

Table 3

Summary of Parametric and Non-Parametric Tests

	Test Groups				
	Parametric Test		***Non-Parametric Test***		
Individual Tests	*t*-test		Mann-Whitney [Wilcoxon Rank-Sum] test		Kolmogorov-Smirnov [K-S] test
Test Statistics	*t* (Prb > *t*)		*z* (Prb > *z*)		$Distribution_I = Distribution_{DN}$
	Mean	*t*	Mean Rank	*z*	K-S (Prb > K-S)
Technical Efficiency (TE)					
Incumbent Banks					
De Novo Banks	0.748	2.624***	67.02	-2.406**	1.239*
	0.539		34.38		
Pure Technical Efficiency (PTE)					
Incumbent Banks					
De Novo Banks	0.876	2.086**	66.52	-1.929**	1.081
	0.748		41.94		
Scale Efficiency (SE)					
Incumbent Banks					
De Novo Banks	0.856	1.335	65.90	-1.075	0.838
	0.761		51.31		

Note: Test methodology follows among others, Aly et al. (1990), Elyasiani and Mehdian (1992), and Isik and Hassan (2002). Parametric (t-test) and non-parametric (Mann-Whitney and Kolmogorov-Smirnov) tests test the null hypothesis of equal mean between the two models.

****, **, * indicates significant at the 1%, 5%, and 10% levels respectively.*

Impact of Foreign Banks Entry on the Efficiency of the Incumbent Banks

We now turn to the assessment on the impact of foreign banks entry on the efficiency of the Malaysian Islamic banking sector. To examine the difference in the efficiency of the incumbent banks between the two periods i.e. before and after the entry, we again perform a series of parametric (*t*-test) and non-parametric (Mann-Whitney [Wilcoxon] and Kolmogorov-Smirnov) tests. The results are presented in Table 4. The results from the parametric *t*-test suggest that the Malaysian Islamic banking sector has exhibited a lower mean TE post-entry (0.696 < 0.762), but is only statistically significant at the 10% level (*p*-value = 0.098). The decomposition of the TE changes into its mutually exhaustive PTE and SE components suggest that the decline in the Malaysian banking sector's TE during the post-entry period was mainly due to a lower PTE (0.794 < 0.920) and is statistically significant at the 1% level (*p*-value = 0.000). On the other hand, it is observed from Table 4 that the Malaysian Islamic banking sector has exhibited a higher SE during the post-entry period (0.886 > 0.825) and is statistically significant at the 10% level (*p*-value = 0.079). The results from the parametric *t*-test are further confirmed by the non-parametric Mann-Whitney [Wilcoxon] and Kolmogorov-Smirnov tests. Thus, we conclude that the Malaysian Islamic banking sector has exhibited a lower TE during the post-entry period, due to the deterioration in PTE.

Table 4

Summary of Parametric and Non-Parametric Tests

	Test Groups				
	Parametric Test		*Non-Parametric Test*		
Individual Tests	*t*-test		Mann-Whitney [Wilcoxon Rank-Sum] test		Kolmogorov-Smirnov [K-S] test
Test Statistics	*t* (Prb > *t*)		*z* (Prb > *z*)		$Distribution_I = Distribution_{DN}$
	Mean	*t*	Mean Rank	*z*	K-S (Prb > K-S)
Technical Efficiency (TE)					
Pre-Entry Period	0.762	1.666*	70.46	-1.998**	1.514**
Post-Entry Period	0.696		57.17		
Pure Technical Efficiency (PTE)					
Pre-Entry Period	0.920	4.461***	75.36	-4.037***	1.894***
Post-Entry Period	0.794		50.14		
Scale Efficiency (SE)					
Pre-Entry Period	0.825	-1.769*	62.36	-0.968	1.446**
Post-Entry Period	0.886		68.79		

Note: Test methodology follows among others, Aly et al. (1990), Elyasiani and Mehdian (1992), and Isik and Hassan (2002). Parametric (t-test) and non-parametric (Mann-Whitney and Kolmogorov-Smirnov) tests test the null hypothesis of equal mean between the two models.

****, **, * indicates significant at the 1%, 5%, and 10% levels respectively.*

Discussions and Directions for Future Research

Islamic banks today exist in all parts of the world and are looked upon as a viable alternative system, which has many things to offer (Sufian and Noor, 2009). Although it was initially developed to fulfill the needs of Muslims, Islamic banking has now gained universal acceptance. Sufian and Noor (2009) further points out that Islamic

banking has been recognized as one of the fastest growing areas in banking and finance. Since the opening of the first Islamic bank in Egypt in 1963, Islamic banking has grown rapidly all over the world. Today, Islamic financial institutions exist in more than 75 countries and are also making its headway into the U.S., U.K., and other European countries. The Islamic banking industry's total assets worldwide are estimated to have exceeded $250 billion and are growing at an estimated pace of 15 percent per year. Zaher and Hassan (2001) suggest that Islamic banks are set to control some 40-50 percent of Muslim savings by 2009/10.

The growing importance of Islamic banking and finance worldwide has drawn interest from many countries. However, policymakers and regulators are concerned about the potential impacts of allowing foreign Islamic banks entry. On the one hand, the entry of new foreign Islamic banks is positive in terms of product innovations and developments and may encourage the adoption of best practices among the incumbent banks. On the other hand, competition in the banking sector is expected to intensify, necessitating the smaller banks to establish their positions. For the reasons mentioned above, regulators and policymakers in Malaysia and other European and Baltic countries may benefit from the findings of this study, while making decisions on whether to restrict or relax the conditions for entry of foreign banks into the domestic banking sector.

In this paper, we examine the impact of De Novo foreign banks entry on the efficiency of the Malaysian Islamic banking sector. We also compare and contrast the efficiency of the De Novo foreign Islamic banks with the incumbent domestic and foreign banks. The efficiency estimates of individual banks are evaluated by using the Data Envelopment Analysis (DEA) method. The present study also uncover scale issues of the De Novo foreign Islamic banks to determine whether there are significant economies of scale opportunities for new banks from increasing production levels.

The empirical findings suggest that during the period of study, scale inefficiency dominates pure technical inefficiency in the Malaysian Islamic banking sector implying that the Malaysian Islamic banks have been inefficient in exploiting the economies of scale given their scale of operations. The results suggest that the foreign banks have exhibited a lower level of technical efficiency compared to their domestic bank peers, mainly due to a lower level of scale efficiency. Overall, during the period under study, the empirical findings indicate that the foreign banks were relatively more managerially efficient in controlling their operating costs, but have been operating at a non-optimal scale of operations.

The findings from this study present considerable lessons for regulators and policymakers not only in Malaysia, but also in other European and Baltic countries, which are interested to permit the entry foreign Islamic banks. Firstly, the empirical findings from this study may aggravate concerns among regulators and policymakers regarding De Novo Islamic banks performance and survival. During the period under study, the empirical findings seem to suggest that the De Novo banks have exhibited a lower level of technical efficiency compared to the incumbent domestic and foreign banks. Secondly, the results reveals that although the De Novo banks' scale efficiency have improved gradually over the years, the decline in pure technical efficiency seems to outweigh the increase in scale efficiency resulting in the overall decline of technical efficiency levels.

In essence, the empirical findings from this study concur with the earlier study by DeYoung and Hasan (1998) on the performance of De Novo banks operating in the U.S. banking sector. To recap, DeYoung and Hasan (1998) suggest that the De Novo banks demonstrates considerable profit efficiency gains during the first three years of operations, but in general requires nine years to catch-up with the established banks in terms of efficiency. The findings which suggest that the De Novo foreign banks to be the least efficient banking group compared to their domestic and other foreign owned bank peers, lend support to the limited form of the 'global advantage' hypothesis. To recap, Berger *et al.* (2000) suggest that "under the limited form of global advantage hypothesis, only the efficient institutions in one or a limited number of nations with specific favourable market or regulatory conditions in their home countries can operate more efficiently than domestic banks in other nations."

Due to its limitations, the paper could be extended in a variety of ways. Firstly, the scope of this study could be further extended to investigate changes in cost and allocative efficiencies over time. Secondly, future research into the efficiency of Malaysian Islamic banking sector could consider the production function along with the intermediation function. This should testify to the robustness of the results against alternative estimation methods. Thirdly, future research could also consider the influence of the asset-liability management (ALM) of the De Novo and incumbent banks. In this vein, Lileikienė (2008) suggests that bank performance are critically depends on its asset and liability management strategy. Finally, in terms of methodology, a statistical cost accounting and frontier techniques such as the non-parametric Malmquist Productivity Index (MPI) method could also be used to examine the impact of De Novo banks entry on the Malaysian Islamic banking sector's total factor productivity.

References

Aktan, B., & Masood, O. (2010), The State of Competition of the Turkish Banking Industry: An Application of the Panzar-Rosse Model, *Journal of Business Economics & Management*, *11*(1), 131-145.

Aly, H. Y., Grabowski, R., Pasurka, C., & Rangan, N. (1990). Technical, Scale and Allocative Efficiencies in U.S. Banking: An Empirical Investigation. *Review of Economics and Statistics*, *72*(2), 211-218.

Ataullah, A., Cockerill, T., & Le, H. (2004). Financial Liberalization and Bank Efficiency: A Comparative Analysis of India and Pakistan. *Applied Economics*, *36*(17), 1915-1924.

Ausrine, L. A., & Breiteryte, D. R. (2009). Stress Testing of Credit Risk Lithuania Banks under Simulated Economical Crisis Environment Conditions. *Inzinerine Ekonomika-Engineering Economics*(5), 15-25.

Banker, R. D., Charnes, A., & Cooper, W. W. (1984). Some Models for Estimating Technical and Scale Inefficiencies in Data Envelopment Analysis. *Management Science*, *30*(9), 1078-1092.

Banker, R. D. (1993). Maximum Likelihood, Consistency and Data Envelopment Analysis: A Statistical Foundation. *Management Science*, *39*(10), 1265-1273.

Banker, R. D., & Natarajan, R. (2004). Statistical Tests Based on DEA Efficiency Scores, in Handbook on Data Envelopment Analysis, (eds.) W.W. Cooper, L. M. Seiford, & J. Zhu, New York: Kluwer Academic Publishers, Inc. Chapter 11, 265-298.

Banker, R. D., & Natarajan, R. (2008). Evaluating Contextual Variables Affecting Productivity Using Data Envelopment Analysis. *Operations Research*, *56*(1), 48-58.

Barth, J. R., Caprio, G., & Levine, R. (2004). Bank Regulation and Supervision: What Works Best? *Journal of Financial Intermediation*, *13*(2), 205-248.

Benston, G. J. (1965). Branch Banking and Economies of Scale. *Journal of Finance*, *20*(2), 312-331.

Berger, A. N., & Hannan, T. H. (1998). The Efficiency Cost of Market Power in the Banking Industry: A Test of the "Quiet Life" and Related Hypotheses. *Review of Economics and Statistics*, *80*(3), 454-465.

Berger, A. N., & Humphrey, D. B. (1997). Efficiency of Financial Institutions: International Survey and Directions for Future Research. *European Journal of Operational Research*, *98*(2), 175-212.

Berger, A. N., DeYoung, R., Genay, H., & Udell, G. F. (2000). Globalization, of Financial Institutions: Evidence From Cross Border Banking Performance. *Brookings-Wharton Papers on Financial Services*, 3, 23-158.

Bhattacharya, A., Lovell, C. A. K., & Sahay, P. (1997). The Impact of Liberalization on the Productive Efficiency of Indian Commercial Banks. *European Journal of Operational Research*, *98* (2), 332-345.

Black, S. E. & Strahan, P. E. (2002). Entrepreneurship and Bank Credit Availability. *Journal of Finance*, 57(6), 2807-2833.

Buch, C. M. (1997). Opening up for Foreign Banks: How Central and Eastern Europe Can Benefit. *Economics of Transition*, *5*(2), 339-366.

Cardenas, F., Graf, J. P., & O'Dougherty, P. (2003). Foreign Bank Entry in Emerging Market Economies: A Host Country Perspective. Working Paper, Bank of Mexico.

Chang, H. Choy, H. L., Cooper, W. W., Parker, B. R., & Ruefli, T. W. (2009). Using Malmquist Indexes to Measure Changes in the Productivity and Efficiency of US Accounting Firms Before and After the Sarbanes–Oxley Act. *Omega*, *37*(5), 951-960.

Chantapong, S. (2005). Comparative Study of Domestic and Foreign Bank Performance in Thailand: The Regression Analysis. *Economic Change and Restructuring*, *38*(1), 63-83.

Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the Efficiency of Decision Making Units. *European Journal of Operational Research*, *2*(6), 429-444.

Cho, K. R. (1990). Foreign Banking Presence and Banking Market Concentration: The Case of Indonesia. *The Journal of Development Studies*, *27*(1), 98-110.

Claessens, S., & Laeven, L. (2004). What Drives Bank Competition? Some International Evidence. *Journal of Money, Credit and Banking*, *36*(3), 563-583.

Claessens, S., Demirgüç-Kunt, A., & Huizinga, H. (2001). How Does Foreign Entry Affect Domestic Banking Markets. *Journal of Banking and Finance*, 25(2), 891-911.

Clarke, G. R., Cull, R., & Peria, M. S. M. (2001). Does Foreign Bank Penetration Reduce Access to Credit in Developing Countries? Evidence from Asking Borrowers. Working Paper, World Bank.

DeYoung, R., & Hasan, I. (1998). The Performance of De Novo Commercial Banks: A Profit Efficiency Approach. *Journal of Banking and Finance*, 22(5), 565-587.

DeYoung, R., Goldberg, L. G., & White, L. J. (1999). Youth Adolescence and Maturity of Banks: Credit Availability to Small Business in an Era of Banking Consolidation. *Journal of Banking and Finance*, *23*(2-4), 463-492.

Demirgüc-Kunt, A., Laeven, L., & Levine, R. (2004). Regulations, Market Structure, Institutions, and the Cost of Financial Intermediation. *Journal of Money, Credit and Banking*, *36*(3), 593-622.

Dharmapala, P. S. (2008). Adding Value in Supply Chains by Improving Operational Efficiency Using Data Envelopment Analysis: A Case from Published Data. *International Journal of Applied Management Science*, *1*(2), 160-175.

El-Gamal, M. A., & Inanoglu, H. (2005). Efficiency and Unobserved Heterogeneity in Turkish Banking. *Journal of Applied Econometrics 20*(5), 641-664.

Elyasiani, E., & Mehdian, S. M. (1992). Productive Efficiency Performance of Minority and Non-Minority Owned Banks: A Non-Parametric Approach. *Journal of Banking and Finance*, *16*(5), 933-948.

Feldin, A., Kosak, M., Prasnikar, J., Rasković, M., & Zabkar, V. (2009). The Hierarchy of Bank Strategies in Transition Economies: A Case Study of the Slovenian Banking Sector, *Transformations in Business & Economics*, *8*(3), 36-56.

Feldstein, M. (ed.) (2000). Discussion Summary Version of May 17, 2001, Financial Policies, Economic and Financial Crises in Emerging Markets Economies, NBER Conference, Woodstock, Vermont, October 19-21, 2000.

Focarelli, D., & Pozzolo, A. (2000). The Determinants of Cross-Border Shareholding: An Analysis with Bank-Level Data from OECD Countries, paper presented at the Federal Reserve Bank of Chicago Bank Structure Conference.

Goldberg, L. (2003). Financial FDI and Host Countries: New and Old Lessons. Working Paper, NBER.

Gregoriou, G. N., & Zhu, J. (2005). *Evaluating Hedge Funds and CTA Performance: Data Envelopment Analysis Approach*. John Wiley: New York.

Hadad, Y., Friedman, L., & Israeli, A. A. (2005). Evaluating Hotel Advertisements Efficiency Using Data Envelopment Analysis, *Journal of Business Economics & Management*, *6*(3), 145-153.

Hasan, I., & Marton, K. (2003). Development and Efficiency of the Banking Sector in a Transitional Economy: A Hungarian Experience. *Journal of Banking and Finance*, *27*(12), 2249-2271.

Hellmann, T., Murdock, K., & Stiglitz, J. (2000). Liberalization, Moral Hazard in Banking and Prudential Regulation: Are Capital Requirements Enough? *American Economic Review*, *90*(1), 147-165.

Hsiao, H. C., Chang, H., Cianci, A. M., & Huang, L. H. (2010). First Financial Restructuring and Operating Efficiency: Evidence from Taiwanese Commercial Banks. *Forthcoming in Journal of Banking and Finance*.

Isik, I. (2008). Productivity, Technology and Efficiency of De Novo Banks: A Counter Evidence from Turkey. *Journal of Multinational Financial Management*, *18*(5), 427-442.

Isik, I., & Hassan, M. K. (2002). Technical, Scale and Allocative Efficiencies of Turkish Banking Industry. *Journal of Banking and Finance*, *26*(4), 719-766.

Isik, I., & Hassan, M. K. (2003). Efficiency, Ownership and Market Structure, Corporate Control and Governance in the Turkish Banking Industry. *Journal of Business Finance and Accounting*, 30(9-10), 1363-1421.

Kim, H. E., & Lee, B. Y. (2003). The Effects of Foreign Bank Entry on the Performance of Private Domestic Banks in Korea. Working Paper, Bank of Korea.

Lee, K., & Kang, S. M. (2007). Innovation Types and Productivity Growth: Evidence from Korean Manufacturing Industry. *Global Economic Review*, *36*(4), 343-359.

Lensink, R., & Hermes, N. (2004). The Short-term Effects of Foreign Bank Entry on Domestic Bank Behaviour: Does Economic Development Matter? *Journal of Banking and Finance*, *28*(3), 553-568.

Levine, R. (1996). Foreign Banks, Financial Developments, and Economic Growth, in Claude E Barfield (ed.), *International Financial Markets: Harmonization versus Competition*, AEI Press, Washington D.C.

Lileikiene, A. (2008). Analysis of Chosen Strategies of Asset and Liability Management in Commercial Banks, *Engineering Economics*(2), 32-39.

Mahdavi, I., Fazlollahtabar, H., Mozaffari, E., Heidari, M., & Mahdavi, A. N. (2008). Data Envelopment Analysis Based Comparison of Two Hybrid Multi Criteria Decision Making Approaches for Mobile Phone Selection: A Case Study in Iranian Telecommunication Environment. *International Journal of Information and Decision Sciences*, *1*(2), 194-220.

Majid, M. A., Saal, D. S., & Battisti, G. (2009). The Impact of Islamic Banking on the Cost Efficiency and Productivity Change of Malaysian Commercial Banks. forthcoming in *Applied Economics*.

Mokhtar, H. S. A., Abdullah, N., & Alhabshi, S.M. (2008). Efficiency and Competition of Islamic Banking in Malaysia. *Humanomics: The International Journal of Systems and Ethics*, *24*(1), 28-48.

Peek, J., & Rosengren, E. (1997). The International Transmission of Financial Shocks: The Case of Japan. *The American Economic Review*, *87*(4), 495-505.

Peek, J., & Rosengren, E. (2000). Collateral Damage: Effects of the Japanese Bank Crisis on Real Activity in the United States. *The American Economic Review*, 90(1), 30-44.

Pramodh, C., Ravi, V., & Nagabhushanam, T. (2008). Indian Banks' Productivity Ranking via Data Envelopment Analysis and Fuzzy Multi Attribute Decision Making Hybrid. *International Journal of Information and Decision Sciences*, *1*(1), 44-65.

Samad, A. (1999). Comparative Efficiency of the Islamic Bank vis-à-vis Conventional Banks in Malaysia. *IIUM Journal of Economics and Management*, *7*(1), 1-25.

Samad, A., & Hassan, M. K. (2000). The Performance of Malaysian Islamic Bank During 1984-1997: An Exploratory Study. *Thoughts on Economics*, *10*(1-2), 7-26.

Sathye, M. (2001). X-Efficiency in Australian Banking: An Empirical Investigation. *Journal of Banking and Finance*, *25*(3), 613-630.

Sealey, C., & Lindley, J. T. (1977). Inputs, Outputs and a Theory of Production and Cost at Depository Financial Institutions. *Journal of Finance*, *32*(4), 1251-1266.

Stiglitz, J. E. (1993). The Role of the State in Financial Markets, *Proceedings of the World Bank Annual Conference on Development Economics*, 19-52.

Sufian, F. (2007). The Efficiency of Islamic Banking Industry in Malaysia: Foreign vs. Domestic Banks, *Humanomics: The International Journal of Systems and Ethics*, *23*(3), 174-192.

Sufian, F., & Habibullah, M. S. (2009). Determinants of Bank Profitability in a Developing Economy: Empirical Evidence from Bangladesh, *Journal of Business Economics & Management*, *10*(3), 207-21.

Sufian, F., & Noor, M. A. N. M. (2009). The Determinants of Efficiency Changes in the Islamic Banking Sector: Empirical Evidence from the MENA and Asian Banking Sectors. *International Journal of Islamic and Middle Eastern Finance and Management*, *2*(2), 120-138.

Worthington, A. C., & Lee, B. L. (2008). Efficiency, Technology and Productivity Change in Australian Universities, 1998-2003. *Economics of Education Review*, *27*(3), 285-298.

Zaher, T. S. & Hassan, M. K. (2001). A Comparative Literature Survey of Islamic Finance and Banking. *Financial Markets, Institutions & Instruments*, *10*(4), 155-199.

Zukauskas, E., & Neverauskas, B. (2008). Conceptional Model of Commercial Bank Management. *Inzinerine Ekonomika-Engineering Economics*(5), 41-47.

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Ar užsienio bankų dalyvavimas skatina bankų našumą? Empirinis tyrimas Malaizijoje

Santrauka

Užsienio bankų dalyvavimo bankų sektoriuje įtaka literatūroje yra išsamiai aptarta. Tačiau empiriniai tyrimai buvo neišsamūs ir neapibrėžti. Viena vertus, Cho (1990), Levine (1996), Buch (1997), Berger ir Hannan (1998), Focarelli ir Pozzolo (2000), Clarke ir kiti (2001), Goldberg (2003), Cardenas ir kiti (2003), Kim ir Lee (2003), Barth ir kiti (2004), Lensink ir Hermes (2004) nurodo, kad užsienio bankų dalyvavimas yra naudingas vidaus bankų sektoriuje. Šie tyrimai rodo, jog užsienio bankų buvimas veikia sąnaudų mažėjimą, gerina našumą ir produktų įvairovę bei paslaugas tarp vidaus bankų institucijų. Kita vertus, kitų mokslininkų tyrimai parodė, kad užsienio bankų dalyvavimas turi priešingą poveikį vidaus bankams dėl konkurencijos.

Šiuo metu atlikta mažai tyrimų, kurie tiesiogiai arba netiesiogiai susiję su De Novo bankų našumu. De Young and Hasan (1998) atkreipia ypatingą dėmesį į naudą, kurią teikia JAV ir DE Novo bankų bendradarbiavimas. Rezultatai rodo, kad per pirmuosius trejus bendradarbiavimo metus De Novo bankai smarkiai padidino savo pelną, tačiau vidutiniškai reikia devynerių metų, kad šie bankai susilygintų su stambiais bankais. Pastaruoju metu Isik (2008) tiria De Novo bankų našumą Turkijos bankų sektoriuje. Jis siūlo, kad De Novo bankai pralenktų savo žinomus bankų partnerius pagal visus rodiklius.

Nors pastaraisiais metais literatūroje yra daug pavyzdžių apie bankų sektoriaus našumo tyrimus, darbų, susijusių su islamiškuoju bankų sektoriumi beveik nėra. Islamiškojo banklų sektoriaus tyrėjai sutelkė dėmesį į teorinius aspektus. Jų empiriniai darbai daugiausia buvo skirti aprašomosios statistikos duomenims nei statistiniams apskaičiavimams (El-Gamal and Inanoglu, 2005). Be to, empiriniai duomenys apie Malaizijos bankų sistemą yra negausūs, nepaisant aktyvaus darbo per pastaruosius dešimtmečius. Atlikta daugybė tyrimų mikroekonomikos srityje. Jie skirti Malaizijos islamiškųjų bankų sričių pasiekimams ir trūkumams. Tačiau šių tyrimų svarbiausios kryptys susijusios su užsienio bankų dalyvavimu šalies vidaus bankų veikloje. Šiuo straipsniu siekiama užpildyti tam tikrą spragą tyrimuose ir pateikti naujus empirinius duomenis apie užsienio bankų įtaką vidaus bankų vystymuisi. Šiuo straipsniu papildoma jau turima specialioji literatūra kai kuriais naujais aspektais. Pirma, taikant duomenų analizės metodus, šis tyrimas parodo, ar De Novo užsienio islamiškieji bankai yra efektyvesni negu vietos ir užsienio islamiškieji bankai. Empiriniai tyrimai parodė, kad užsienio bankai besivystančiose šalyse yra panašesni už savo tos šalies partnerius. Idomu ir tai, ar tie patys teiginiai tinka ir islamiškajam bankų sektoriui. Antra, tyrime taikomi specialūs parametriniai testai tiriant skirtumus Malaizijos islamiškojo banko sektoriaus efektyvumo srityje, lyginant padėtį prieš dalyvavimą bendroje veikloje ir po jo. Palyginus periodus, galima išsiaiškinti neefektyvios veiklos atvejus ir veiksnius bei įvertinti užsienio bankų poveikį vietinių bankų veikloje. Šios veiklos vertinimas parodė kai kurių analizės metodų pranašumą, lyginant juos su ankstesniais metodais. Pavyzdžiui, regresinė analizė remiasi esmine tendencija, t. y. ji bankų veiklą lygina su vidutine veikla. Kita vertus, analizė remiasi atskirų bankų stebėjimu ir optimizuoja kiekvieno banko veiklos matą. Be to, šis tyrimas remiasi našumo duomenimis iš dinamiško bankų veiklos proceso. Isik ir Hassan (2002) nurodo, jog nepakanka remtis kasmetiniais banko pasiekimais dinamiško verslo aplinkoje, nes banko veikla gali būti ypač efektyvi vienais metais, o kitais jau ne. Malaizijoje bankų sektoriaus kontekste liberaliosios priemonės tampa vis populiaresnės. Pasikeitimai bankų sektoriuje esant aktyviai centrinio Malaizijos banko kontroliuojančiai politikai gali būti geriau nurodyti atliekant išsamią tiriamųjų metų analizę.

Antra, regresijos modeliais paremta analizė negali nustatyti kiekvieno banko neefektyvios veiklos šaltinių. Be to, rėmimasis vienu veiksniu neduoda neūdros banko veiklos mato. Regresijos analizės rezultatai neleidžia banko vadovams įžvelgti būdų, kaip galima būtų pagerinti darbo lygį. Taikytas analizės metodas padeda nustatyti, kaip bankai turėtų sumažinti išlaidas ir padidinti įplaukas.

Tyrimo periodas parodė, kad vietiniai bankai buvo santykinai efektyvesni negu užsienio ir De Novo bankų partneriai, o De Novo bankai pasirodė esą neefektyviausia grupė. Rezultatai rodo, kad Malaizijos islamiškasis bankų sektorius pasiekė žemesnį našumo lygį per pastarąjį laikotarpį.

Empiriniai tyrimai turėtų sudominti ne tik bankų vadovus, bet ir daugelį akcininkų, t. y. centrinius bankus, bankų asociacijas, vyriausybės ir kitus finansinės srities atstovus. Jeigu veikla nebus efektyvi, De Novo bankai negalės tapti tinkamais konkurentais su jau žinomais bankais. Empiriniai tyrimai gali suteikti De Novo banko vadybininkams žinių apie bankų ilgalaikės veiklos planavimą, padėsiantį jiems plėtoti vidaus kontrolės mechanizmus, kurie sumažintų operatyvinius trukdžius ir sąnaudas, be to, padėtų išlikti nuolat didėjančios konkurencijos aplinkoje. Kadangi De Novo užsienio bankai yra maži, palyginti su jų partneriais, jie bando įsitvirtinti mažesnėse naujose verslo sferose. Taigi jų išlikimas priklauso nuo aktyvaus tyrimų rezultatų taikymo.

Bankų reguliavimas Malaizijoje ir kitose besivystančiose šalyse gali rasti apibendrinimų ir teiginių, kurie padėtų jiems gerinti jų veiklą, priimti reikiamus sprendimus bendradarbiaujant su užsienio bankais. Jeigu šis bendradarbiavimas pagerės, bankų veiklos efektyvumas didės ir bankai drąsiau imsis priemonių, kurios skatins bendrą darbą su užsienio partneriais.

Raktažodžiai: *De Novo užsienio bankai, islamiškieji bankai, efektyvumas, duomenų analizės metodas, Malaizija.*

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