Determinants of Bank Performance: Conventional versus Islamic

(Penentu Prestasi Bank: Konvensional berbanding Islam)

Nabilah Rozzani
Rashidah Abdul Rahman
(Accounting Research Institute, Universiti Teknologi MARA)

ABSTRACT

Using CAMELS rating to measure bank performance, the present study compares the performance estimates for Islamic banks with conventional banks operating in Malaysia from 2008 to 2011. The present study further identifies the determinants affecting the performance of conventional and Islamic banks in Malaysia. Using a sample of 19 conventional banks and 16 Islamic banks, the results indicate that the levels of composite performance achieved by both conventional and Islamic banks in Malaysia are very similar. Furthermore, it is observed that the performance of conventional banks will improve following the reduction of operational costs, while the performance of Islamic banks will improve following the reduction of bank size and an increment of credit risk.

Keywords: CAMELS; bank performance; Islamic banks; conventional bank; composite performance

ABSTRAK

Dengan menggunakan pentaksiran CAMELS bagi mengukur prestasi bank, kajian ini membandingkan anggaran prestasi bagi bank-bank Islam dengan bank-bank konvensional yang beroperasi di Malaysia dari 2008 hingga 2011. Kajian ini seterusnya mengenal pasti penentu yang mempengaruhi prestasi bank-bank konvensional dan Islam di Malaysia. Dengan 19 bank konvensional dan 16 bank Islam digunakan sebagai sampel, hasil kajian menunjukkan bahawa tahap prestasi komposit yang dicapai oleh kedua-dua jenis bank konvensional dan Islam adalah hampir serupa. Selain itu, dapat dilihat dari hasil kajian bahawa prestasi bank akan menjadi lebih baik bagi bank-bank konvensional dengan penurunan kos operasi, manakala bagi bank-bank Islam, prestasi adalah lebih baik dengan penurunan saiz dan peningkatan risiko kredit.

Kata kunci: CAMELS; prestasi bank; bank Islam; bank konvensional; prestasi komposit

INTRODUCTION

In surviving today's contemporary globalized business environment, organisations should place priority on maintaining their competitive edge. A competitive edge is possible to maintain when the performance objectives of an organisation are aligned with its business objectives (Barnes 2008). The need to maintain a competitive edge also exists among financial institutions, especially banks. However, due to new innovations and developments within international markets, no guarantee exists for the survival for any bank during a crisis (Ahmad & Hassan 2007). The conventional banking system in Malaysia was established long before the Islamic banking system. Hence, conventional banks have more experience and hold a more dominant position in the Malaysian financial sector. As such, conventional banks have been able to enjoy larger amounts of capital; spread very widely; and acquire more advanced technologies (Bader et al. 2008). The survival of conventional banks is affected by net interest revenue, as conventional banks make profits from the spread between the interest rates being received from borrowers and the interest rates being paid to depositors (Pappas 2010; Izzeldin & Pappas 2011). This is added to the on-going needs of banks to restructure their operations

in response to an uncertain macroeconomic environment, such as changes in gross domestic product (GDP) (Eiya 2010; Pappas 2010). The restructuring process is important for banks to remain relevant in the future, especially with the current incursion of technology and globalisation of the global market.

Islamic banks are as severely affected by the competition between organisations in the same manner as their conventional counterparts. However, according to Tarsidin and Warjiyo (2006), the Islamic banking system has unique properties that are regarded as being highly important to the survival of Islamic banks during times of economic downfall caused by recessions. First, the cost of funds of Islamic banks is always lower than its operational revenue, which leads to a relatively low level of non-performing loans. Combined with the absence of a negative spread in the operational activities, Islamic banks are able to channel a relatively lower cost of funds to entrepreneurs. The second characteristic is the existence of risk-sharing adoption between banks and their depositors during their financing activities. It is acknowledged that, in general, the activities of Islamic banks are expanding in financial markets, particularly in regards to the provision of loans. This growth is indicated by the relatively high loan to deposit ratio in Indonesia,

which was between 99.75 and 112.37 per cent between 2002 and 2007 (Central Bank of Indonesia 2008). Consequently, an Islamic banking system is regarded to be a compliment to the existing conventional banking system, especially within the context of the dual banking system that exists in Malaysia (Bacha 2004). This is in addition to the ability of Islamic banks to deliver economic benefits while, at the same time, ensuring compliance with Islamic principles. The contemporary development of the Islamic banking industry has caught the attention of economists and policy makers. The need for Islamic banks is high in Islamic countries, as Muslims around the globe await the implementation of banking systems endowed with Islamic elements that are consistent with the tenets of *Shariah* law. Since more non-Muslims are also starting to do business with Islamic banks, Islamic banks should be further assessed, particularly concerning their financial health and performance (Bacha 2004). The assessment of the financial health and performance of organisations is becoming an important aspect of business evaluation as more and more bank failures are being observed, especially in regards to banking institutions in the United States (Barr, Seiford & Siems 1994). Following assessments of the financial health and performance of banking institutions, customers can rest assured that the bank with which they are conducting business is not facing any financial difficulties.

An increasing number of studies attempt to measure bank performance. However, many of these studies are purely descriptive, as is the case with the studies performed by Barr et al. (2002), Nimalathasan (2008) and Uyen (2011). Such studies only perform comparative analyses based upon observations of the nature of the bank structure and the estimated level of performance. Studies that examine factors affecting performance, such as Hassan (2005), do not provide in-depth clarification concerning how the variables are used and if any editing or limitations existed in relation to the variables used during the studies. Hence, the lack of literature on performance factors provides the need for a study to be conducted that can relate performance measurements with various banking determinants. A need also exists for the examination of how both performance measurement and banking determinants interact in a similar economic environment. Accordingly, the present study aims to explore the differences in bank performance between conventional and Islamic banks, as well as the determinants affecting both the conventional and Islamic banking systems in Malaysia.

The remainder of the present paper is organized as follows. Section 2 develops the theory and testable hypotheses. The research method is defined in Section 3 and the results are reported in Section 4. The discussion of the findings and the conclusions drawn are provided in Section 5.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

While performing an important role as a financial intermediary and primary source of financing for the domestic industry, the Malaysian banking industry strives to be dynamic with a fast-changing environment where new and improved developments emerge everyday (Central Bank of Malaysia 2010; Institute of Bankers Malaysia 2010). The Malaysian banking industry underwent a paradigm shift following the establishment of the Central Bank of Malaysia in 1959, whose agenda emphasised institution building to promote the growth of Malaysian incorporated banks by establishing a nationwide network of domestic banks capable of catering to the needs of local clients (Central Bank of Malaysia 1989). The first bank with total local ownership was established in 1960, while a fully supported government bank was established in 1965. Positive outcomes have demonstrated the success of central bank strategies to promote the growth of domestic banks in a regulated environment and the financial services sector has been one of the fastest growing sectors over the past decade (Khoo 2012). This is evident by the share of GDP for the financial services sector, which grew from an average of 9.9 per cent between 2000 and 2005 to an average of 10.9 per cent over the period from 2006 to 2009 (Prime Minister Office of Malaysia 2010).

The Islamic finance industry has also undergone rapid development across the globe. In the present study, Malaysia is selected as a benchmark to compare the development of Islamic banking in various countries because Malaysia is considered to be a fairly competitive player in this industry following intensive efforts to remain competitive with banking industries in the Middle East (Wouters 2007). The amount of deposits with Islamic Banks increased significantly between 2008 and 2011. The amount of deposits in Islamic banks in 2008 totalled RM154.86 million (Bahari 2010), While the total assets for the Malaysian Islamic banking industry had reached RM334.9 billion with a market share of 22.4 per cent by December 2011; and recorded an average annual growth rate of 16.07 per cent for the period between 2002 and 2011 (Malaysian Investment Development Authority 2012). This growth is expected to continue through 2012, hence the explanation of time period for the current study.

Year-end financial data were gathered from annual reports between 2008 and 2011 for all banks included in the sample of the present study. Data was then extracted from the balance sheets and financial statements of the annual reports. The four-year period of 2008 to 2011 was selected due to the fact that most Islamic banks were already established in the Malaysian financial market by 2008. Therefore, a total of 35 banks, comprising 19 conventional banks and 16 Islamic banks in Malaysia, are chosen as the final sample. Further, after taking into consideration the four years of observation, a total of 140 data observations were derived.

According to Bashir (2001), the evaluation of performance and its determinants is essential due to the effects of globalisation on contemporary economic structures. Globalisation has resulted in stiff competition between Islamic banks and conventional banks in well-developed financial markets. The competition between conventional and Islamic financial institutions, together with the fact that some countries have completely transformed their banking systems utilising Islamic models, results in a need to determine which of the various potential determinants of performance are the most important.

The present study hypothesises that the principal determinants that affect the performance of banks are bank size; operational cost; and credit risk. While bank size has a positive relationship with bank performance, operational cost and credit risk have a negative relationship with bank performance.

BANK SIZE

Based upon economies of scale theory, it is argued that size promotes performance by inducing economies of scale, reflected by the fact that large banks appear to take advantage of economies of scale in reducing the costs of gathering and processing information (Bashir 1999; QFinance 2010; Said 2012). By having more resources, large banks are able to promote enhancement in performance by mobilizing more funds to generate higher returns for their depositors and equity holders. The pooling of funds allows banks to act within economies of scales and permit diversification, hence enabling large banks to acquire technology and integrate the technology into their operations. The use of technology then triggers the provision of real time information concerning macroeconomic and monetary data; and data concerning the quality and activities of market participants (Scholtens & van Wensveen 2003). Hence, the cost of gathering and processing information is subsequently reduced by the communication revolution. Transaction costs still exist, but the cost efficiency of technology implementation and efficiencies of scales contribute significantly to the reduction of costs. Further, as large banks are able to finance large numbers of profitable investment opportunities and acquire better access to investment activities, the factors that affect their performance have an impact on the overall economy.

Extant literature generally demonstrates a positive relationship between bank size and performance. Such literature includes the studies by Berger, Hunter and Timme (1993), Miller and Noulas (1996), Girardone, Molyneux and Gardener (2004), da Silva e Souza and Tabak (2002), Yudistira (2004), Hassan (2005), Rossi, Schwaiger and Winkler (2005), Delis and Papanikolaou (2009), Srairi (2010) and Siddiqui and Shoaib (2011). As a general rule, larger firms tend to perform better. However, a limitation exists regarding the relationship between bank size and performance since different types of bank are affected differently (Delis & Papanikolaou 2009). Nigmonov (2010) concludes that the better performance of medium sized banks probably results from the better management of available resources. Berger et al. (1993) and Miller and Noulas (1996) contend that a wider penetration of the market and an increase in profit at less cost by large banks results in better performance. Meanwhile, the study of Rossi et al. (2005) adds that larger banks have better performance and better control on the cost side and are more capable of exploiting economies of scale. Conversely, according to Nigmonov (2010), the effect of size can be negative for banks that are extremely large because of bureaucracy. As a result, some studies find a negative relationship between bank size and performance (Fuentes & Vergara 2003; El Moussawi & Obeid 2011).

Based upon economies of scale theory and the findings of extant research, larger banks should generally have a better performance level since they have more sources to allocate for better services to their customers. Thus, the first set of hypotheses is formulated as follows:

H_1 A significant positive relationship exists between the size of a bank and bank performance.

H_{1a} A significant positive relationship exists between the size of a conventional bank and its performance.

H_{1b} A significant positive relationship exists between the size of an Islamic bank and its performance.

OPERATIONAL COST

According to economies of scale theory, banks may obtain cost reductions as a result of the economies of scale, which emphasizes the reduction in per unit costs that result from the increment of size or scale of a bank's operations (Gjirja 2003). Hence, banks expand through horizontal acquisition and increments of efficiency, since the improvement of efficiency enables the bank to compete and achieve better performance (Yudistira 2004).

According to Srairi (2010), operation cost is negatively related to performance. This is supported by Cebenoyan and Strahan (2001), who argue that the ability to manage productive operations will be greater for banks that engage in a greater amount of lending. Having a greater amount of lending leads to lower production costs, and, consequently, enables the banks to operate more effectively while providing for higher performance. Chen (2009) argues that higher income, from sources such as fees and commissions, can lead to higher operational costs in order for the banks to provide such services. Therefore, banks that incur more operational costs will have poorer performance due to the high risk acquired as a result of cost increments. Thus, the second set of hypotheses is as follows:

H_2 A significant negative relationship exists between operational cost and performance of banks.

H_{2a} A significant negative relationship exists between operational cost and performance of conventional banks.

H$_{2b}$ A significant negative relationship exists between operational cost and performance of Islamic banks.

CREDIT RISK

According to economies of scale theory, the relative cost of managing credit risks will be reduced when the risk is better diversified (Hughes & Mester 2011). Hence, the opportunity to increase credit risk should be exploited by banks as credit derivatives could be used to develop the activities of hedging and trading and obtain higher income with potential economies of scale (González et al. 2012).

Chen (2009) mentions that credit risk, which is also occasionally referred to as loan ratio or service quality, is another determinant that may considerably affect the performance of a bank when it is operating at a similar risk level and business area as other banks. According to Ariff and Can (2008), banks that provide more loans are expected to have better performance and be more efficient in profit because they take more risks. El Moussawi and Obeid (2011) conclude that a negative relationship exists between risk and performance among Islamic banks due to the decline in economic activity, which is often followed by an increase in the probability of bankruptcy. Such situations affect bank profits by increasing the number of non-performing loans. In contrast, the studies by Fuentes and Vergara (2003), Hassan (2005) and Srairi (2010) conclude that significantly positive relationship exists between credit risk and bank performance, indicating that the output mix has a favourable influence on performance. Therefore, banks that have a higher number of non-performing loans are taking more risks, and, subsequently, display better performance. Thus, the third set of hypotheses is formulated as follows:

H$_3$ A significant negative relationship exists between credit risk and performance of banks.

H$_{3a}$ A significant negative relationship exists between credit risk and performance of conventional banks.

H$_{3b}$ A significant negative relationship exists between credit risk and performance of Islamic banks.

CONCEPTUAL FRAMEWORK

As shown in Figure 1, the dependent variable for the purpose of this study is performance. The independent variables being examined are bank size, operational cost and credit risk, which are investigated as determinants of performance. The present study also incorporates a dummy variable as a control variable, which is type of ownership. Economies of scale theory is utilised as the general foundation for the present study.

By definition, economies of scale theory applies in situations where firms perform better as they become larger (Boyes & Melvin 2008). This condition occurs when economies are formed when the average cost to provide a unit of bank service is reduced, while the units of the service provided increase (Thomas 2006). In accordance with this theory, it is often argued that the achievement of higher profit with lower average cost is the main goal of expansion (Griffiths & Wall 2007). According to Arnold (2008), two principal reasons lead to the emergence of economies of scale. The first reason is that the opportunities are higher in larger firms for employees to be specialists and be highly skilled for specific tasks, hence producing output at lower costs, and, subsequently, increasing the firm's overall performance. The second reason is that larger firms have the advantage of being able to utilise highly efficient mass production systems and equipment that usually require large costs for setup; and are only economical if they are utilized over a large number of outputs.

Finally, the factor of ownership is introduced as a control variable in the present study due to the differences found in the data collected regarding domestic and foreign-owned banks in the sample of the present study. The research framework employed in the present study is depicted in Figure 1.
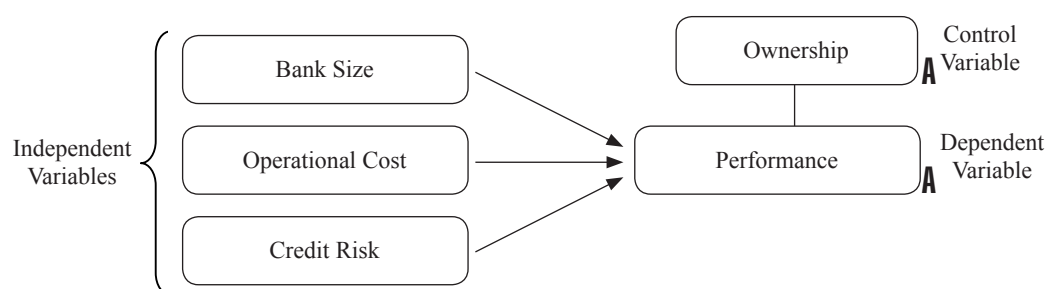

FIGURE 1. Conceptual framework

METHODOLOGY

A sample consisting of a population of banks in Malaysia is selected for the present study. The population is further divided into conventional and Islamic banks to meet the objective of the present study, which is to explore the level of performance among conventional and Islamic banks in Malaysia. According to the Central Bank of Malaysia's List of Licensed Banking Institutions in Malaysia, 27 conventional banks (Central Bank of Malaysia 2012a)

and 16 Islamic banks (Central Bank of Malaysia 2012b) were established in Malaysia as of 31st December 2011. However, the present study excludes 8 conventional banks because their annual reports are not published for some of the years selected for analysis. The banks excluded from the present study include three banks established in 2012: India International Bank (Malaysia) Berhad; Mizuho Corporate Bank (Malaysia) Berhad; and National Bank of Abu Dhabi Malaysia Berhad. The final sample of Malaysian banks is comprised of 19 conventional banks and 16 Islamic banks. Financial data is obtained from the annual reports of all banks examined in the present study between 2008 and 2011. Panel data is used over the range of four years to enable the changes in performance level to be demonstrating using a time varying decay approach, as suggested by Nuryartono, Anggraenie and Firdaus (2012). The data collected for the four year period is deemed to be sufficient in order to prevent the sample size from being smaller due to incomplete data. Finally, a total of 140 items of data are derived for the four-year observation period.

INDEPENDENT VARIABLES

The first independent variable, SIZE, represents the size of the bank being examined. The present study measures the size of banks by using the natural logarithm of total assets as a proxy. This is similar to the studies of Bashir (1999), Milbourn, Boot and Thakor (1999), Gjirja (2003),

Hassan (2005), Rossi et al. (2005), Altunbas et al. (2007) and El Moussawi and Obeid (2011).

The second independent variable, OPRC, represents the operation cost incurred by the banks. The indicator for operation cost is measured as a ratio of cost by income. This is consistent with the studies of Hughes and Mester (2009), Chen (2009), Fiordelisi, Marques-Ibanez and Molyneux (2010) and Srairi (2010).

The third independent variable, CRED, represents credit risk. In most studies, credit risk is defined by using the natural logarithm of non-performing loans as a proxy. This is similar to the studies of Kwan and Eisenbeis (1997), Barajas, Steiner and Salazar (1999), Fuentes and Vergara (2003) and Das and Ghosh (2004).

DEPENDENT VARIABLES – THE CAMELS RATING

The current study adopts the CAMELS rating system to measure bank performance, where the acronym stand for its six indicating components (i.e., C = Capital Adequacy; A = Asset Quality; M = Management Quality; E = Earnings Quality; L = Liquidity; S = *Shariah* Compliance). The quantitative aspects of CAMELS rating use various financial ratios that reflect the indicating components of Capital Adequacy, Asset Quality, Management Quality, Earnings Quality, Liquidity and *Shariah* Compliance. The ratios being used for the purpose of the present study, following the studies of Srairi (2010) and Masngut and Abdul Rahman (2012), are defined in Table 1, below.

TABLE 1. Summary of ratios

Methodology	Component	Financial Measurement
CAMELS Rating	Capital Adequacy	Equity Capital/Total Assets
	Asset Quality	Non-Performing Loans/Total Loans
	Management Quality	Personnel Expenses/Average Assets
	Earnings Quality	Return on Assets
		Return on Equity
	Liquidity	Net Loans/Deposit and Short Tern Funding
		Liquid Assets/Deposit and Short Term Funding
	Shariah Compliance	*Shariah* Compliance Score Sheet

Note: as cited in Srairi (2010); Masngut and Abdul Rahman (2012)

After the ratios for all six indicator components have been calculated, they are put on average weightage and the banks are compared by the ranking of 1 to 5. Consequently, the rankings given to the individual components are combined to obtain an overall rank to determine the overall performance of the banks being investigated, where banks rated 1 and 2 are generally considered to be strong banks; and those banks rated 3, 4 or 5 are considered weak (Kambhamettu 2012). In practice, the numerical ranks are converted to an alphabetical rating of AAA, AA, A; BBB, BB, B; C; D; and not rated (Sarker 2006). The composite ranking is explained and simplified in Table 2, in accordance with the studies by Wirnkar and Tanko (2008) and Sarker (2006).

The dependent variable used in the present study is the performance measure obtained from the CAMELS composite rating. The application of the CAMELS composite rating as a dependent variable is similar to the studies of Mazzillo (1993), Hirtle and Lopez (1999) and Reynaud (2010).

CONTROL VARIABLES

The present study also acknowledges the effect of ownership (OWNR) by incorporating it as a control variable in the regression model to predict performance. This control variable is equal to 1 for local banks and 0 for foreign banks. The use of this control variable is consistent

TABLE 2. Interpretation of CAMELS composite rating

Rating	Rating Range	Rating Analysis	Interpretation
1	1.0-1.4	Strong	Bank is basically good in every aspect.
2	1.6-2.4	Satisfactory	Bank is primarily good but has several identified weaknesses.
3	2.5-3.4	Fair, with some categories to be watched	Bank has financial, operational, or compliance weaknesses that provide reason for supervisory concern.
4	3.5-4.4	Marginal, with some risk of failure	Bank has serious financial weaknesses that can damage its future capability to ensure normal growth and development.
5	4.5-5.0	Unsatisfactory with a high degree of failure	Bank has critical financial weaknesses that indicate the probability of failure to be extremely high in the near future.

Note: As cited in Wirnkar and Tanko (2008); Sarker (2006)

with several studies, including Lu et al. (2007), Cadet (2008) and Thangavelu and Findlay (2010).

DATA ANALYSIS AND RESULTS

The data in this study are analysed using panel data analysis to examine the relationship of the selected determinants with bank performance. From Table 3 demonstrates that very small differences exist between the composite CAMELS ratings of conventional (2.78) and Islamic (2.86) banks, where the results of the two sample t-test indicate that no significant difference exists between the two groups. Hence, the results show that the levels of composite performance achieved by both conventional and Islamic banks in Malaysia are very similar. The same observation is depicted in the analysis of the component of Asset Quality and the ratio of Net Loans over Deposits and Short Term Funding for the component of Liquidity. The results suggest that these components are not those that cause differences in the overall ratings of conventional and Islamic banks.

Following further examination of the six components, it is evident that Islamic banks are efficient in maintaining their Liquidity rating (2.88), in the form of Liquid Assets over Deposits and Long Term Funding ratio, compared to conventional banks (4.20). This result supports the findings of Haron and Abdul Rahman (2012), who find that Islamic banks are better in maintaining Capital Adequacy and Asset Quality, but are contrary to the study of Jaffar and Manarvi (2011). The high rating of Liquid Assets over Deposits and Long Term Funding ratio for conventional banking shows that even though Islamic banking practices high confidence and beliefs without prejudice to discreet principles in evaluating the feasibility of customers who need financing, the management has high confidence that the bank's own equity is sufficient to cover the bank deposit withdrawals made by customers (Hasbi & Haruman 2011). Consequently, Islamic banks are shown to have better liquidity positions and to be better in managing their liquidity positions effectively and cautiously. According to Haron & Abdul Rahman (2012), liquidity management is one of the most critical tasks in the operations of financial institutions.

TABLE 3. Descriptive analysis for conventional and Islamic banks' CAMELS rating (2008-2011)

	Conventional		Islamic		Sig.
	Mean	Standard Deviation	Mean	Standard Deviation	
Composite	2.78	0.479	2.86	0.500	0.318
Capital Adequacy	1.92	0.829	2.31	0.924	0.009***
Asset Quality	1.93	1.258	1.88	1.134	0.772
Management Quality	1.00	0.000	1.00	0.000	N/A*
Earnings Quality (Return on Assets)	1.92	0.829	4.13	1.327	0.000***
Earnings Quality (Return on Equity)	3.25	1.190	3.81	1.180	0.006***
Liquidity (Net Loans/Deposits and Short Term Funding)	4.36	1.467	4.39	1.364	0.884
Liquidity (Liquid Assets/Deposits and Long Term Funding)	4.20	1.233	2.88	1.704	0.000***
Shariah Compliance	N/A**	N/A**	2.05	0.744	N/A**

Note:
* T-value cannot be computed because the standard deviations for both groups are 0
** T-value cannot be computed because at least one of the groups is empty
*** Value is significant to 1% value

In comparison to Islamic banks, conventional banks are significantly more efficient in regards to Capital Adequacy (1.92) and Earnings Quality (1.92 and 3.25). The results suggest that, in terms of Capital Adequacy, conventional banks are stronger in responding to balance sheet shocks, such as liabilities payments; operational and credit risks; or any other losses. Meanwhile, with respect to Earnings Quality, conventional banks make better investment decisions and attracting more profit for these banks and shareholders. The finding also implies a lack of management ability in regards to Islamic banks, which are more focused on growth and expansion strategies rather than profit-oriented strategies (Jaffar & Manarvi 2011).

RESULTS OF PANEL DATA ANALYSIS

The relationship between the determinants and level of performance measured by CAMELS rating is analysed using panel data analysis because an analysis of balanced panel data is conducted on data obtained for the period of 2008 to 2011. Two models are developed: one for conventional banks and one for Islamic banks. Based upon the findings obtained from Hausman test, as depicted in Table 4, a random effect model is deemed to be appropriate for the purposes of the present study. The p-value for both conventional (p = 0.0782) and Islamic (p = 0.0948) models are both insignificant, indicating that it is safe to use random effects (Princeton University 2007).

TABLE 4. Hausman Test

Model	Fixed versus Random Model		
	χ^2	P-value	H_0: Random
Conventional	6.81	0.0782	Not Rejected
Islamic	6.37	0.0948	Not Rejected

By applying random effects to the model, it is assumed that the entity's error term is not correlated with the factors being tested, which allows time-invariant variables to take place of explanatory variable (Torres-Reyna 2011). Hence, the panel regression model employed in the present study is as follows:

$$RATE_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 OPRC_{it} + \beta_3 CRED_{it} + \beta_4 OWNR_{it} + u_{it} + \varepsilon_{it}$$

where,

RATE	=	CAMELS composite rating,
SIZE	=	bank size,
OPRC	=	operation cost,
CRED	=	credit risk,
OWNR	=	ownership,
β_0	=	constant coefficient for the regression model,
β_1	=	coefficient for bank size,
β_2	=	coefficient for operation cost,
β_3	=	coefficient for credit risk,
β_4	=	coefficient for ownership,
u	=	between-entity error,
ε	=	within-entity error,
i	=	financial institution (conventional and Islamic banks), and
t	=	year.

DETERMINANTS OF PERFORMANCE

With reference to Table 5, the statistical results for both the conventional and Islamic models show a contradiction in results. While no significant relationship exists between bank size and conventional bank performance, bank size is found to have a negative relationship with Islamic bank performance. This result supports the findings of Pratomo and Ismail (2006) and El Moussawi and Obeid (2011), but contrast with the findings of Berger et al. (1993), Miller and Noulas (1996), Girardone, Molyneux and Gardener (2004), da Silva e Souza and Tabak (2002), Yudistira (2004), Hassan (2005), Rossi et al. (2005), Delis and Papanikolaou (2009), Srairi (2010) and Siddiqui and Shoaib (2011). The insignificant relationship between conventional bank size and performance results from the fact that large corporations tend to be unlevered (Pratomo & Ismail 2006). In the case of Islamic banks, El Moussawi and Obeid (2011) opine that the size of banks is a source of additional costs and tends to reduce the performance of large banks. Accordingly, hypotheses H_{1a} and H_{1b} are rejected. Hence, hypothesis H_1 is rejected.

TABLE 5. Panel data analysis with random effects: determinants of performance of conventional and Islamic banks

Model	Conventional			Islamic		
	Coefficient	z-value	p-value	Coefficient	z-value	p-value
CONSTANT	2.255	2.220	0.026**	3.8717	4.030	0.000*
BANK SIZE	0.008	0.110	0.913	-0.1260	-1.700	0.089***
OPERATIONAL COST	-0.002	-1.820	0.069***	-0.0001	-0.150	0.884
CREDIT RISK	0.036	0.950	0.340	0.0916	2.150	0.032**
OWNERSHIP	-0.084	-0.440	0.659	-0.0594	-0.370	0.708
R^2		0.0595			0.1043	
Wald χ^2		5.28			4.89	
N		76			84	

Note:
*   Value is significant at the 1% level
**   Value is significant at the 5% level
***   Value is significant at the 10% level

While no significant relationship is found to exist between operational cost and the performance of Islamic banks, a significant negative relationship is found to exist between operational cost and the performance of conventional banks. The negative relationship is similar to the studies of Srairi (2010) and Cebenoyan and Strahan (2001), but is in contrast to the studies of Rosly (2005) and Cadet (2008). The negative relationship between the operation costs and performance among conventional banks is found because firms with superior management or production technologies incur lower costs and thus have increased performance (Berger 1995). The argument by Berger (1995) is further strengthened by Berger and Mester (2003). The set up of additional mechanism of service quality, such as integrating information technology into the operation system, is rather costly. However, it is argued by Berger and Mester (2003) that revenues generated from the improvement of service quality will subsequently be higher than the costs incurred from setting up the new mechanism of improvement. Hence, the ability to offer financial services that are compatible with the advancement of technology is important when competing with other financial institutions in the market, as a need exists for financial institutions to be more proactive in attracting publicity and building reputation while providing the best financial products to existing clients (Cadet 2008). Hence, hypothesis H_{2a} is rejected, while H_{2b} is accepted. Subsequently, hypothesis H_2 is only marginally accepted.

Further, the analysis of both models also shows a significantly positive relationship between credit risk and performance of Islamic banks and a non-significant relationship between credit risk and performance of conventional banks. The positive relationship is similar to the study of Fuentes and Vergara (2003), Hassan (2005) and Srairi (2010), while being in contrast with the study of Chen (2009). The positive relationship is consistent with traditional financial theory, which argues that the presence of higher credit risk leads to higher performance and, subsequently, brings more profits to financial institutions (Zantioti 2009). The positive relationship between credit risk and performance of an Islamic bank occurs when lucrative returns induce a bank to provide loans to risky borrowers under the belief that the bank is capable of absorbing losses with the expansion of its capital (Ahmad & Ariff 2007). Both hypotheses H_{3a} and H_{3b}, as well as H_3, are rejected.

Additionally, Table 5 demonstrates that the relationship of ownership and performance is found not to be significant in the case of either conventional or Islamic banks, which indicates that the status of a bank as being local or foreign does not affect the performance of banks in Malaysia.

The results indicate that conventional and Islamic banks are different in regards to the factors that affect their performance. Specifically, operational cost does not affect Islamic bank performance, while bank size and credit risk do not affect the performance of conventional banks.

SUMMARY AND CONCLUSION

The present study explores the area of bank performance. Both conventional and Islamic banks are considered, since both classifications of banks play an important part in ensuring the survival and success of the unique dual banking system in Malaysia. Hence, the main objective of the present study is to identify determinants affecting bank performance by means of a comparison between conventional and Islamic banks.

From the analysis of the CAMELS rating, the levels of composite performance achieved by both conventional and Islamic banks in Malaysia are found to be very similar due to the small difference found between the ratings of conventional and Islamic banks. The results of the two-sample t-test indicate that no significant difference exists between the two groups. Following further examination, conventional banks are found to be significantly more efficient than Islamic banks for the components of Capital Adequacy and Earnings Quality. Meanwhile, Islamic banks are found to be more efficient in maintaining their Liquidity rating, based upon their Liquid Assets over Deposits and Long Term Funding ratio.

With respect to the determinants examined, the conventional bank model of analysis is not found to suggest any evidence of a significant relationship between bank size and performance, while the Islamic bank model indicates a significantly negative relationship between the two. On the other hand, the analysis of the second independent variable shows no significant relationship between operational cost and performance of Islamic banks, while indicating a significantly negative relationship with performance of conventional banks. Furthermore, the analysis of both models also shows a significantly positive relationship between credit risk and performance of Islamic banks and no significant relationship between credit risk and performance of conventional banks. The findings imply that performance is better for conventional banks following the reduction of operational cost, while the performance of Islamic banks improves with the reduction in bank size and increment of credit risk. The increment of performance of Islamic bank following the decline of bank size is caused by the fact that large size corporations tend to be unlevered (Pratomo & Ismail 2006). Additionally, the size of Islamic banks is also a source of additional costs that tend to reduce the performance of large banks (El Moussawi & Obeid 2011). Meanwhile, the increment of Islamic bank performance with the increment of credit risk is because Islamic banks are exposed to less credit risk, hence their credit performance is typically better than their conventional counterparts (Samad 2004). Due to the fact that Islamic banks have only recently been established in Malaysia, Islamic banks need to establish and maintain a good reputation in the market. Hence, the management of Islamic banks are aware that they cannot afford to have bad credit and are more cautious about advancing credit. Finally, the increment of conventional bank performance

with the reduction of operational costs is caused by the competition among financial institutions to attract clients of the modern society. Such competition can arise through the introduction of technology advancements as banking solutions to assist with the operations of institutions, where firms with superior management or production technologies incur lower costs, which increases performance (Berger 1995).

Since the present study depends heavily upon financial data from annual reports, instances of data unavailability are an obvious hurdle. Data confidentiality, which presented an obstacle in obtaining certain types of material, is also a setback in the present study. Although many other ratios could be used to enhance the findings of CAMELS rating, the other ratios could not be calculated with complete precision, as some of the data required to calculate the ratios were unavailable due to reasons of confidentiality. Hence, the present study could only rely on ratios that make use of data that are publicly available on the bank websites.

Unlike extant research, the present study places emphasis upon Malaysian conventional and Islamic banks with the aim of making a comparison between the two types of banks since Islamic banks have only recently been established in Malaysia. Using financial data from 2008 until 2011, the present study examines more recent performance estimates using the CAMELS rating system that can be reviewed by both regulators and management. Future research may use Stochastic Frontier Analysis in measuring the efficiency of banks.

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Nabilah Rozzani (corresponding author)
Accounting Research Institute
Universiti Teknologi MARA
40450 Shah Alam, Selangor
E-Mail: nabilah.rozzani@gmail.com

Rashidah Abdul Rahman
Accounting Research Institute
Universiti Teknologi MARA
40450 Shah Alam, Selangor
E-Mail: shidah@salam.uitm.edu.my