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A Study of Islamic and Conventional Banks in Malaysia

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Abstract: Many scholars have researched comparison of conventional and Islamic banking systems, with regards to their performance from time to time. This study compares their respective profitability in terms of volume and volatility of their deposits and loans in Malaysia in a six years period (2006-2011) that other writers have not discussed in detail. The results in this study indicate that there are positive and significant relationships between volume of loans and volume of customers' deposits and profitability of banks. However, volatility of loans and deposits does not have a significant impact on banks' profit-efficiency in Malaysia. The results of this research also reveal that Malaysian conventional banks were more profitable than Islamic banks during the period of study. The ROA and ROE are significantly different and mean of ROA and ROE in conventional banks are higher than those in Islamic banks. The main contribution of banks' profits comes from the spread between the interest earned on loans and the return payable on customer deposits. Both of these are internal factors. Volume of loans and volume of deposits are found to have significant influence on banks' profitability. Therefore, managers and banks' administrators should either focus their attention on these two determinants or adopt some kind of policies that will lead banks to increase their volume of loans and deposits to boost banks profitability level.

Keywords: Islamic banks, conventional banks, volume of deposits, loans, volatility of loans, volatility of deposits, profit efficiency.

1. Introduction

Based on the traditional definition, banks act as intermediaries in the allocation of financial resources, and gathering deposits from savers and offering loans to consumers, businesses and governments. In the modern definition of banking, banks are seen as factories engaged in information processing, looking into all aspects of deal e.g., investment, corporate finance, insurance, trust and retirement services (Sinkey, 1983).

Conventional banks take deposits from savers and investors, paying interest on some of these accounts as their investments yield returns. On the other hand, they lend these collected funds to borrowers, to receive interest on them. In this way, banks make a profit from the spread between the rate that they pay to depositors and the rate that they receive from borrowers. This ability of banks to pool deposits from many sources that can be lent to many different borrowers creates the flow of funds characteristic of the banking system. By managing this flow of funds, i.e., acting as intermediaries between providers and users of funds, banks generate value for the society.

Islamic Banking

Conventional banking system was the only available option before the emergence of Islamic banking system in early 1970s. Now Islamic banks are managing all financial and banking processes around the world for several years. Muslim investors around the globe also communicated and dealt with conventional banks. They employed conventional instruments even though these were not completely compatible with Islamic financial principles. Yahya and Hadi (2012) refer to the description of an Islamic bank by the Organization of Islamic Conference (OIC) in the following way:

"[...] a financial institution whose statutes, rules and procedures expressly state its commitment to the principles of Islamic Sharī'ah (Islamic law) and to the banning of the receipt and payment of interest on any of its operations".

Islamic banking system was based on Islamic principles as taught in the Qur'ān and Sharī'ah. It avoids participation in prohibited (*harām*) activities such as gambling (*maysir*), interest-based investment (*ribā*), *gharar* and investment in the trade of forbidden goods such as alcohol. Moreover, it improves equity, fairness and transparency of all transactions (Diaw and Mbow, 2011). It also takes into account the Muslim belief in the Hereafter, which affects their attitude towards investment in contrast to the purely materialistic approach towards banking taken by secular capitalists (Usman and Khan, 2012).

In the four decades of its practice, Islamic banking has been growing rapidly, in volume as well as geographically. Islamic banking is no more

limited to Islamic countries. Now it has a global reach. Today more than 70 countries around the world offer Islamic banking. Some countries like Iran and Sudan offer only Islamic banking while others like Bangladesh, Egypt, Indonesia, Jordan, Pakistan, Malaysia and Bahrain offer both Islamic as well as conventional banking (Yusoff and Wilson, 2005). Leading conventional banks such as Citibank, ABN Amro, Bank of America, HSBC, Standard Chartered and the Union Bank of Switzerland have established Islamic banking windows and subsidiaries within their organizations or provide Islamic banking services to their Muslim and non-Muslim customers under a dual-banking business model. It can be said that Islamic banking and finance (IBF) has become a major feature of global finance (Khan, 2010). It has become a viable and main competitive alternative to the conventional financial system. It has a significant market share in the Middle East, Africa and Southeast Asia (Yahva et al., 2012). In the four decades of Islamic banking, Islamic banks not only have handled their role as financial institution to facilitate the processes of resource mobilization, domestic and international trading, resource allocation and utilization but also were employed in government monetary policies fulfillment (Haron and Ahmad, 2000).

Islamic Banking in Malaysia

Based on the Malaysian Islamic Banking Act 1983, Islamic banking is a comprehensive and value-based system that aims to respect and enhance the moral and material wellbeing of individuals and society in general (Yahya et al., 2012). Bank Islam Malaysia Berhad (BIMB) was the first Islamic bank in Malaysia, having been set up on 1 July, 1983. The Islamic inter-bank Money Market on 3 January, 1994 and Bank Muamalat Malaysia Berhad (BMMB) on 1 October, 1999 also incorporated this system in their business under the supervision and direction of the Malaysian Central Bank, Bank Negara Malaysia (BNM). In addition, Tabung Haji Malaysia provides services to those interested in going on a pilgrimage to Makkah. To fulfill their need, it collects and invests their savings under Islamic laws (Sharī'ah) to be used for their airfare and accommodation (Yusoff and Wilson, 2005). Thus, Tabung Haji is a unique Islamic financial institution. Malaysian Islamic banks or conventional banks providing Islamic counters offer demand and saving deposits under the guaranteed custody concept (wadī'ah) and investment deposit accounts as profit sharing (mudarabah). In addition, Islamic

banks are not authorized to conduct business in long- and short-term bonds that are related to interest, debt and preference shares.

According to BNM, the total assets of Malaysian Islamic banks are about USD 65.6 billion with an average growth rate of 18 to 20 percent annually (Yahya et al., 2012). In BNM's view, Islamic banking in Malaysia sets a higher standard for investments and creates better accountability and risk reduction. Based on their current potential, Malaysian Islamic banks are in line to be the leaders of world Islamic banking in the near future.

Because of its importance and sensitivity, the performance of the banking sector is of interest to beneficiaries including depositors, investors, bank management, government and regulators, researchers and economists who want to assess fiscal conditions and economic health. Estimated results of bank profitability and performance can be a signal for investors and depositors to make their decisions to invest or to withdraw their funds from banks. It also works as a feedback for bank managers in deciding to continue or alter current operations, correct weaknesses or follow opportunities. Indeed, banks might encounter irreparable damage if bank managers do not have sufficient knowledge of factors significant to banking and the magnitude of their effect on the banks' performance. Imminent demands and deferred loans due to unstable investments and less creditworthy borrowers can take a toll on a banks' allocation of resources and financing.

The main purpose of this study is to present an in-depth comparison of the profitability of two kinds of banking system in a country in which both systems are operating side by side with intense competition with one another. The research studies the volume and volatility of loans and deposits as two determinant factors of profitability. The study also attempts to examine the existence of a relationship between volatility of loans, volume of loans, volatility of deposits and volume of deposits and the profitability of Islamic banks and conventional banks. In addition, the study investigates how these important variables impact on the profitability of these two kinds of banking system, whether positively or negatively. The study focuses on a period of time when the world was caught up with economic and political problems due to excessive debt creation. It is hoped that results of this comparative study of the

performance of Islamic and conventional banks will help bank managers, regulators and researchers to make right decisions for the future.

2. Literature Review

The comparison of the conventional and Islamic banking systems, with regards to their performance, profitability, efficiency, and stability has been an interesting topic for researchers since the beginning of Islamic banking. There are many ideas about which of the banking systems is more successful. Maximizing profits, based on the classical theory of the firm, is the main aim for firms, and, therefore, profitability, liquidity and safety are three important factors that conventional banks must consider. Because of their similarity of operations, Islamic banks should also consider these three principles (Haron, 1996). Much of previous research reveals that Islamic banks have obtained a better rank in profitability than conventional banks (Kaouther et al., 2011). According to studies relating to the GCC (Gulf Cooperation Councils), Islamic banks are more profitable and accordingly, their shareholders' investments get better returns in comparison with the shareholders of conventional banks (Olson and Zoubi, 2008). Also in Malaysia Samad and Hassan (2000) find that Islamic banks operate better than conventional banks. Islamic banks are more profitable than conventional banks, with identical balance sheet figures (Kaouther et al., 2011). Awan (2009), who compared the profitability of Islamic and conventional banks in Pakistan concluded that Islamic banks had performed much better than selected conventional banks in terms of assets management, deposits, financing, investment, efficiency and quality of services and recovery of loans, and were, therefore, more profitable. Igbal and Molyneux (2005) compared across country sample of Islamic and conventional banks for the period 1990-2002. They found that in terms of key performance ratios measuring soundness, effective use of resources, prudence, cost efficiency and profitability Islamic banks meet, and in several cases surpass, international standards. They also showed that in the benchmarking exercise that they conducted for many performance-measuring variables, Islamic banks outperformed their conventional peers. The results of Samad and Hassan's study (2000) comparing the performance of BIMB (Bank Islam Malaysia Berhad) with conventional banks revealed that Islamic banks made statistically significant progress on return on assets (ROA) and return on equity (ROE) from 1984 to 1997. In addition, the

ROA and ROE did not indicate any significant difference in profitability (Samad and Hassan, 2000). With an efficient Islamic system, it is possible to allocate fewer capital resources to the more profitable operations and contribute towards value creation (Yahya et al., 2012). On the other hand, profit efficiency indicates how well a bank is anticipated to perform in terms of profit related to other banks in the same period of time for producing a similar set of outputs. Hassoune (2002) investigated Islamic banks' profitability in an interest cycle and compared ROA and ROE volatility for both Islamic and conventional banks in Kuwait, Saudi Arabia and Qatar. He discovered that managers of Islamic banks that operated on the basis of profit and loss sharing, must consider providing proper returns to depositors because they are not interested to invest with them just yet (Hassoune, 2002).

To examine the above-mentioned ideas on whether in Malaysia Islamic banks are actually more successful than conventional banks, this study compares the profitability of Islamic banks against that of conventional banks in terms of volume and volatility of deposits and loans over a six-year period (2006 to 2011). This paper will first consider some of the literature on the deposits of Islamic and conventional banks and then look at the literature on loans.

In view of the fact that interest rate is another important factor for bank depositors and that it is forbidden by Islam, Islamic banks provide some new kind of deposit accounts compatible with Sharī'ah precepts. Four main fund sources in Islamic banking are demand deposits $(wad\bar{\iota}'ah)$, saving deposits $(wad\bar{\iota}'ah)$, investment deposits $(mud\bar{a}rabah)$ and shareholders' funds (Yahya et al., 2012). On his part, Haron (1996) states that Islamic banks, like conventional banks, offer three facilities to their depositors; current, savings and investment accounts. Depositors who hold current accounts are allowed to withdraw their funds without notice, but they do not receive any profit on these accounts. Nevertheless, these accounts are guaranteed by Islamic banks. Haron continues with a description of saving accounts as administered by Islamic banks. Rewards are based on Sharī'ah principles. Investment accounts are another facility offered by Islamic banks where the pre-determined interest rate is similar to that of fixed deposit or time deposit accounts offered by conventional banks.

Because of the different system of return payment, some researchers claim that Islamic banks are more profitable and suitable for depositors while others disagree. Islamic banks in Malaysia show a higher level for return on asset and profit margin as opposed to conventional banks (Rosly and Bakar, 2003). Metwally (1997) claims that Islamic banks and conventional banks are not different in terms of the ratios of gross income to assets and the return on deposits. Also, both offer depositors the same returns. Olson and Zoubi (2008) declare that the profit from Islamic saving deposit accounts depends on future profit but, in fact, the expected amounts are not different and have the same maturity conditions as offered by conventional banks. They also apply different ratios based on five indicators, namely, profitability, efficiency, assets quality, liquidity and risk as seen in Islamic and conventional banks in the GCC region. Olson and Zoubi (2008) argue that although there are many similar ratios between Islamic and conventional banks, Islamic banks are more profitable than conventional banks in terms of profitability ratios, return on assets (ROA), return on equity (ROE), profit margin (PM), return on deposits (ROD) and return on shareholders' capital (ROSC), which are used in this study. Chong and Liu (2009) and Olson and Zoubi (2008) confirm that liquidity surplus has negative effects on bank profitability and Islamic banks hold more cash relative to assets and their deposits (Kaouther et al., 2011). There is a significant relationship between the rate of deposit return of Islamic banks and the interest rate of conventional banks, meaning that Islamic banks have to follow suit and adapt their rate when the interest rates of conventional banks rise (Usman and Khan, 2012). Haron and Ahmed (2000) argue that there is a significant relationship between the interest rate of conventional banks' deposits and the rate of profit on Islamic banks' deposits, a relationship they investigated using an adaptive expectation model based on Malaysian banks. They found that Malaysian Muslim customers have a different view of conventional banks' interest rates, seeing the rate of return of Islamic banks as interest-free (Haron and Ahmad, 2000). They also argue that interest rate has a positive impact on savings in banks, meaning that customer-saving behavior is influenced by the profit maximization theory. In general, the volume of banks' deposit growth is affected by changes in real Gross Domestic Product (GDP), conventional banks' deposits interest rate and the profit-share rate of saving and investments in Islamic banks (Yusoff and Wilson, 2005). They also claim that based on Hassan's (1996) study into the behavior of demand for money in 15 Islamic countries, interest-free money demand deposits are seen to be more stable than interest-based deposits.

Awan (2009), based on results of a study done by Bashir and Hassan (2004) related to the investigation and impact analysis of factors that affect efficient performance and profitability of Islamic banks in eight Middle East countries from 1993 to 1998, considered performance indicators such as Non-Interest Margin (NIM), Profit Before Tax (PBT), Return On Assets (ROA) and Return On Equity (ROE) and believes that Islamic banks' profitability is affected by equity and loans positively. This means that profitability will be high if loans and equity are high. From his analysis; he concluded that Islamic banks were more profitable than the conventional banks. However, he warned that internal and external variables and the effects of favorable macroeconomic conditions in that area should not be ignored. He also refers to Bashir and Hassan's (2004) study on the profitability of Islamic banks in 21 countries between 1994 and 2001, which confirmed that capital has a positive while loans' volume has a negative relationship with the profitability of Islamic banks. Furthermore, total assets have a negative relationship with profitability, as smaller banks seem more profitable in an economic boom and, therefore, loan losses and inflation are low.

The profitability of Islamic banks can be supported by higher capital ratios; however, total loans have a positive relationship with profitability in conventional and Islamic banking, and indicate that lending increases banks' profitability. On the other hand, deposits have different effects on the profitability of Islamic and conventional banks. Whereas deposits volume have positive effects on conventional banks' profitability, it has negative effects on Islamic banks' profitability (Alkassim, 2005). The profitability of financial institutions enhances the effect of cost efficiency and improves their competitiveness capability in the market (Iqbal and Molyneux, 2005). In agreement with this argument, Fadzlan and Noor (2008) find a positive correlation between bank efficiency and loan intensity, size, capitalization and profitability.

Usman and Khan (2012) state that Islamic bank financing will be more expensive compared with that of conventional banks when interest rate has a downward trend. They also argue that since Islamic banks work on interest-free basis, they are restricted when faced with interest

rate fluctuation. Therefore, short-term investment can create high credit growth and affect profitability of Islamic banks (Usman and Khan, 2012).

To conclude, in spite of the fact that many researchers have attempted to analyze banking and its concepts, because of its special and vital role in the economy and also for a variety of issues and opportunities facing this growing industry, more research is needed to find new approaches to convert weaknesses to strengths of this sector.

3. Research Methodology and Sample Selection

The relevant data needed for this study were taken from the Bankscope database and annual reports of selected banks for six years (from December 2006 to December 2011). Based on available information from Bankscope and the central bank of Malaysia, (BNM), we report that there are currently 138 active financial institutions and banks in Malaysia, 16 of which are operating either intrinsically and independently as Islamic banks or they are Islamic sections of a conventional bank such as is the case with Citibank and Standard Chartered Bank. Sixteen conventional banks were also chosen from the list of 47 commercial banks in Malaysia to be compared with the same number of Islamic banks.

Islamic banking is a new financial system and, therefore, in some cases, complete data are not available. This is a limitation in this study. In addition, several Islamic banks have existed for fewer than five years, but this research investigates banks' profitability over a six-year period between 2006 and 2011in Malaysia. Table 1 and 2 show respectively the Islamic and conventional banks chosen for this study:

Table 1: *Sample of Islamic Bank (2011)*

	Islamic Banks	Country ranked by assets.	World ranked by assets.	Total Assets USD (millions)
1	Maybank Islamic Berhad	8	761	21,826.85
2	CIMB Islamic Bank Berhad	16	1,076	13,565.55
3	Bank Islam Malaysia Berhad	19	1,313	10,131.10
4	Public Islamic Bank Berhad	20	1,389	9,260.31
5	RHB Islamic Bank Berhad	21	1,603	7,126.66
6	AmIslamic Bank Berhad	22	1,681	6,672.46
7	Bank Muʿāmalāt Malaysia Berhad	23	1,776	6,049.67
8	Hong Leong Islamic Bank Berhad	24	2,238	4,031.98
9	Affin Islamic Bank Berhad	28	2,457	3,314.79
10	HSBC amānah Malaysia Berhad	29	2,489	3,209.76
11	Kuwait Finance House (Malaysia) Berhad	31	2,500	3,191.28
12	Alliance Islamic Bank Berhad	36	3,174	2,056.61
13	Al Rajhi Banking and Investment Corporation Berhad	38	3,312	2,050.00
14	OCBC Al-Amin Bank Berhad	40	3,415	1,797.32
15	Standard Chartered Saadiq Berhad	44	4,005	1,869.00
16	Asian Finance Bank Berhad	55	5,467	748.00

Source: Authors' Selection.

Hypotheses

Based on previous literature and studies, this section introduces hypotheses associated with this study's objectives and criteria for acceptance or rejection of these hypotheses for making reliable conclusions

Hypothesis 1. Conventional banks' volatility of deposits is significantly different from Islamic banks' volatility of deposits.

Hypothesis 2. Conventional banks' volume of deposits is significantly different from Islamic banks' volume of deposits.

Hypothesis 3. Conventional banks' volatility of loans is significantly different from Islamic banks' volatility of loans.

Hypothesis 4. Conventional banks' volume of loans is significantly different from Islamic banks' volume of loans.

Table 2: Sample of conventional banks (2011)

	Conventional Banks	Country rank by assets.	World rank by assets	Total Assets USD (millions)
1	Malayan Banking Berhad - Maybank	1	172	136,387.59
2	Public Bank Berhad	2	261	78,505.19
3	CIMB Bank Berhad	3	281	73,783.44
4	Hong Leong Bank Berhad	4	396	48,145.90
5	RHB Bank Berhad	5	452	45,006.17
6	AmBank (M) Berhad	6	659	26,895.67
7	HSBC Bank Malaysia Berhad	7	690	25,094.40
8	United Overseas Bank (Malaysia) Bhd.	10	771	21,648.44
9	OCBC Bank (Malaysia) Berhad	11	812	20,270.95
10	Standard Chartered Bank Malaysia Berhad	14	972	15,530.85
11	Affin Bank	15	973	15,501.48
12	Alliance Bank Malaysia Berhad	18	1,175	11,910.60
13	Maybank International (L) Ltd	27	2,413	3,439.20
14	Citibank Malaysia (L) Ltd	34	2,843	3,213.00
15	Bank of Nova Scotia Berhad	42	3,665	1,559.95
16	Bangkok Bank Berhad	54	5,173	1,016.00

Source: Authors' Selection

In Malaysia, the instruments and facilities of Islamic banks and conventional banks operate side by side, and Malaysian Islamic banks aim to be the pivot of Islamic financing in the world. Therefore, it is important to identify their probable differences and to examine which one can produce more efficient (profitable) performance. In line with this objective the next hypothesis can be stated as:

Hypothesis 5. In Malaysia, conventional banks' profit efficiency (profitability) is significantly different from Islamic banks' profit efficiency.

4. Methodology

According to this framework, the linear model (regression equation) is used to drive the cross-sectional time series data to define and portray how variables are related to each other and to compare the profitability level of Malaysian banks (conventional as well as Islamic).

The basic regression equation is as follows:

$$Y = f(X_1, X_2, X_3, X_4, X_5)$$
 (1)

Model 1- ROA

$$ROA_{bt} = \alpha_1 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$
 (2)

Model 2- ROE

$$ROE_{bt} = \alpha_2 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$
 (3)

Where:

Y represents the profitability of banks, which is measured by ROA and ROE ratios.

 X_1 is representative of volatility of bank deposits that is measured by calculating the standard deviation of the volume of deposits during 2006-2011.

 X_2 is the volume of bank deposits that is measured by proportion of total bank deposits divided by total assets of banks for each financial year.

 X_3 represents the volatility of bank loans that is measured by calculating the standard deviation of the volume of loans during 2006-2011.

 X_4 is the volume of bank loans as asset composition that is measured by proportion of total loans divided by the banks' total assets for each financial year.

 X_5 is a dummy variable that is utilized as an auxiliary variable in this method, and it is identified for Islamic banking system by 0 and non-Islamic banking system by 1.

In addition, α_1 and α_2 are intercepts (constants items); β_1 , β_2 , β_3 , β_4 and β_5 are coefficients of variables, and ξ is the error term. The results are presented in the next section.

5. Findings

Descriptive Statistics

As explained, sampled data are from the BankScope database and financial statements of 16 Islamic and 16 conventional banks in Malaysia.

Tables 3 and 4 provide descriptive statistics of variables for the two samples, conventional and Islamic banks, respectively, in terms of mean, median, maximum, minimum, standard deviation, skewness, and kurtosis. The total number of observations for each variable in this study is 96, which are formed in a panel of 16 cross sections (banks number) and a time series of six years from 2006 to 2011. The Islamic banks sample contains some missing data in the panel because some of the banks are not independent banks or particular department of a conventional bank that deal with Islamic principles. In addition, data are based on yearly financial accounting results.

The definition of ratios, variables and method was discussed in section three. Therefore, this section briefly explains descriptive characteristics of the variables. Tables 3 and 4, show some commonly used descriptive statistics for both conventional and Islamic banks. For profit-efficiency comparison, it is pertinent to note that the maximum for the figures of ROE and ROA for conventional banks in Malaysia is 37.13 and 1.99 and for Islamic banks, 29.53 and 1.72, while the minimum is -14.29 and -0.85 for conventional banks and - 4.87 and -1.24 for Islamic banks.

Table 3: Descriptive statistics for the conventional banks

	Volume of loans (Billions)	Volume of deposits (Billions)	Volatility of loans %	Volatility of deposits	ROE %	ROA %
Mean	58.72	70.00	5.07	5.15	14.39	1.01
Median	59.65	74.68	4.65	4.07	14.92	1.12
Maximum	75.74	90.20	11.37	9.80	37.13	1.99
Minimum	31.69	10.55	1.78	1.41	-14.29	-0.85
Std. Dev.	9.36	14.05	2.91	2.57	8.40	0.48
Skewness	-0.61	-2.33	0.89	0.29	-0.53	-1.43
Kurtosis	3.15	8.66	2.62	1.68	5.13	6.69
Number of observations	96	96	96	96	96	96

Source: Authors' Calculations.

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	Volume of loans (Billions)	Volume of deposits (Billions)	Volatility of loans %	Volatility of deposits	ROE %	ROA %
Mean	51.77	66.576	10.502	14.07	9.04	0.63
Median	55.92	71.713	7.542	10.98	8.23	0.58
Maximum	77.73	92.085	28.267	29.44	29.53	1.71
Minimum	16.35	26.234	1.291	3.25	-4.87	-1.24
Std. Dev.	17.93	20.667	7.848	9.96	6.67	0.54
Skewness	-0.79	-1.358	1.089	0.40	0.51	-0.57
Kurtosis	3.30	4.772	3.185	1.46	3.33	4.42
Number of observations	79	79	79	79	79	79

Table 4: *Descriptive statistics of the Islamic banks*

Source: Authors' Calculations.

The standard deviation shows the dispersion or variations from the mean of the variables. A low standard deviation means that the data points are close to the meanwhile a high standard deviation means that data points are dispersed over a large range of the average. In this study, the variables' standard deviations for both types of banks are not high, meaning that the data are dispersed relatively close to the mean and their dispersion is normal.

In addition, the skewness and kurtosis indicate the normality of data distribution for running the model. Skewness results are interpreted to identify the symmetry of data distribution. A positive skewness value reflects the degree to which the scores are clustered to the left at a low value, while a negative skewness value indicates that the scores are clustered at the high end. Skewness value in a range between -3 and +3 is an accepted value; hence, based on the information given in the tables above, skewness values for all variables in both types of banks can be seen to be within the acceptable range. The skewness for volume of loans in conventional and Islamic banks is, respectively, -0.61 and -0.79, while volume of deposits is -2.33 and -1.36; volatility of loans 0.89 and 1.08; volatility of deposits 0.29 and 0.39; ROE -0.54 and 0.51; and ROA -1.43 and -0.57; all are inside the acceptable range.

Another descriptive statistic indicator is kurtosis, which represents the peakedness of the probability distribution of a real-valued random variable and is related to the concentration of the scores in the center. A

normal distribution will have a kurtosis value of zero. So a range of normality is in positive and negative range around zero. In particular, a positive kurtosis value shows that the distribution is peaked where the scores have a long tail and are clustered in the center. However, a kurtosis value is negative when the distribution of scores is flat, and the data set contains many extreme cases. Normally, a kurtosis value ranging from -7 to +7 is considered acceptable. Accordingly, almost all the data sets applied in this study lie within the normal range.

Panel Linear Regression Analysis

This section applies regression analysis in order to firstly, analyze Islamic and conventional banks' data separately to examine the impact of volume and volatility of loans and deposits on ROE and ROA of both banks. Furthermore, the model applied in this study uses an additional dummy variable to analyze the profitability of both conventional and Islamic banks together. As mentioned in the previous section, the data used in this study are in panel form, using a cross section of 16 Islamic and 16 conventional banks in a six-year period from 2006 to 2011 in the Malaysian context. The results related to each dependent variable, ROE and ROA are displayed in Tables 5 and 6, for conventional and Islamic banks respectively.

Based on Table 5, column 2, which displays the relationship between independent variables and ROE for the sample of conventional banks, F-statistic 3.54 reflects an acceptable level of significance in defining the correlation among the variables. The p-value denoted as the probability (F-statistic) is close to zero and represents a high significance level. The R-squared (R²) statistics used to measure and explain the success of the estimated value of dependent variables in the sample is more than 13 percent. Moreover, the volatility of deposits in conventional banks has a negative and significant relation with profitability. Other independent variables are not significantly related with ROE.

In terms of ROA, another representative of profit efficiency, Table 5, column 3, illustrates that the F-statistic is not high; the probability statistic is not significant and just 5 percent of ROA's changes are explained by the independent variables. Eventually, volatility of deposits is negatively related with ROA in conventional banks only.

Table 5: Regression Results for ROA and ROE with Volume and Volatility of Loans and Deposits

	Conventional	Conventional Bank		c banks
Variables	ROE	ROA	ROE	ROA
Constant	4.3865	0.8145	-2.996	-0.640
(t- stat)	(0.441)	(1.369)	(-0.867)	(-2.474)
(p-value)	(0.659)	(0.174)	(0.388)	(0.015)
Vol. L	0.0479	0.00736	0.0581	0.0121
(t- stat)	(0.520)	(1.334)	(1.414)	(3.958)
(p-value)	(0.603)	(0.185)	(0.161)	***(0.000)
Vol. D	0.1393	-0.0006	0.1268	0.0093
(t- stat)	(1.789)	(-0.130)	(3.407)	(3.339)
(p-value)	*(0.077)	(0.896)	**(0.001)	**(0.001)
Volat. L	0.4936	0.0037	-0.0902	-0.0034
(t- stat)	(1.368)	(0.172)	(-0.896)	(-0.452)
(p-value)	(0.1745)	(0.863)	(0.372)	(0.652)
Volat. D	-0.9826	-0.0404	0.1134	0.0048
(t- stat)	(-2.815)	(-1.936)	(1.346)	(0.768)
(p-value)	**(0.006)	(0.055)	(0.182)	(0.444)
R-square	0.135	0.056	0.211	0.340
F stat	3.54	1.351	4.975	9.530
r stat	**(0.010)	(0.256)	**(0.001)	***(0.000)
	Included observa	Included observations: 96		servations: 79

Source: Authors' Calculations.

Table 5, column 4, shows the relationship between the independent variables and ROE in Islamic banks; it reveals that the volume of deposits has a positive and significant relationship with ROE among the Islamic banks, while the F-statistic is 4.97, which is significant. The probability of F-statistics is close to zero, and the independent variables explain 21 percent of the dependent variable's changes.

Table 5, column 5, shows the relationship between ROA and volume and volatility of loans and deposits in Islamic banks. The F-statistics and the probability of F-statistics are both significant, and the R-squared is 0.34, meaning that in this model 34 percent of ROA's changes are explained by the independent variables' changes, whereas volume of loans and deposits have a positive significant relation with ROA.

Finally, the combination data of Islamic and conventional banks, besides using a dummy variable, is analyzed to investigate the relationship between the profitability level of banks and their volume and volatility of loans and deposits. The results are illustrated in Tables 6.

The information in Table 6, column 2, shows that the F-statistic is 8.20. This means that the model is significant at 0.000 level. The R2 value is 0.1952 which means that 20 percent of the changes in the dependent variable are defined by the changes in the independent variables

The dependent variable, ROE, as a representative of profitability of both Islamic and conventional banks, is significantly related to volume of customer deposits and the dummy variable has a positive trend and with coefficients 0.13 and 4.61 respectively. This means that an increase in volume of deposits will push the profitability of Malaysian banks upward. In addition, the probability value of the dummy variable is less than 0.05, which implies that Islamic and non-Islamic banks show a significant difference in impact of the related independent variable, that is, volume of customers' deposits in banks, on ROE.

Other independent variables are related to ROE but insignificantly; the volume of loans and volatility of deposits are affected positively while volatility of loans is affected negatively. The negative relationship between ROE and volatility of loans means that increasing volatility of bank loans diminishes the magnitude of ROE, that is, the profitability of banks and vice versa.

Table 6, column 3 displays the results of regression analysis related to the ROA. The F-statistic is 12.13; meaning that the data set has a significant fit in this model. Probability of F-statistic is zero and confirms a high significant level of the F-test. The R² value is 0.26; that is, 26 percent of dependent variable changes are affected by changes to the independent variables.

Table 6: Regression Result for Both Conventional and Islamic banks with Dummy variable (1= conventional, 0= Islamic).

Variables	ROE	ROA
Constant	-2.705	-0.408
(t- stat)	(-0.711)	(-1.674)
(p-value)	(0.477)	*(0.096)
Vol. L	0.057	0.012
(t- stat)	(1.391)	(4.598)
(p-value)	(0.166)	**(0.000)
Vol. D	0.129	0.006
(t- stat)	(3.627)	(2.814)
(p-value)	**(0.001)	***(0.006)
Volat. L	-0.011	-0.001
(t- stat)	(-0.096)	(0.113)
(p-value)	(0.923)	(0.910)
Volat. D	0.0219	-0.0004
(t- stat)	(0.234)	(-0.071)
(p-value)	(0.815)	(0.942)
Dummy	4.608	0.2578
(t- stat)	(3.265)	(2.845)
(p-value)	**(0.001)	**(0.005)
R-square	0.1952	0.2641
F stat	8.198 ***(0.000)	12.13 ***(0.000)
	\ /	servations: 175

Source: Authors' Calculations.

As seen in the regression analysis provided in Table 6, volume of loans, volume of deposits and the dummy variable are significantly and positively related to the ROA. On the other hand, both volatility of loans and volatility of deposits are negatively related and are insignificant. Again, it reveals that impacts of determinants of independent variables on ROA (bank profitability) are significantly different between Islamic and conventional banks in Malaysia.

Test of compare Mean (t- test Statistics)

This section utilizes independent t-test statistic analysis under the related null hypotheses with the aim of testing hypotheses 1 to 4 to examine the significant differences between means of variables corresponding to conventional and Islamic banks. The results are portrayed in two parts, first in Tables 7 and 8, which present results for independent variables, including volume of deposits, volume of loans, volatility of deposits, volatility of loans, and secondly, in Tables 9 that show the results of analyzing data for dependent variables ROA and ROE.

Table 7: Descriptive statistics of Volume and Volatility of Deposits, Loans, ROA and ROE

Group		N	Mean	Std. Deviation	Std. Error
Volume of demosite	Islamic	79	66.57	20.667	2.282
Volume of deposits	Conventional	96	70.00	14.048	1.433
Volume of loan	Islamic	79	51.77	17.937	1.980
Volume of foan	Conventional	96	58.72	9.360	0.955
Valatility of damagita	Islamic	79	14.06	9.958	1.043
Volatility of deposits	Conventional	96	5.15	2.574	0.262
Volatility of loan	Islamic	79	10.50	7.849	0.822
Volatility of loan	Conventional	96	5.07	2.917	0.297
ROA	Islamic	79	0.63	0.546	0.061
KUA	Conventional	96	1.01	0.482	0.049
ROE	Islamic	79	9.04	6.678	0.751
KUE	Conventional	96	14.39	8.404	0.857

Source: Authors' Calculations.

Table 7 shows that the means of volume and volatility of deposits and loans for Islamic and conventional banks are different. The means for volume of deposits are 6.58 and 70, volume of loans, 51.78 and 58.72, volatility of deposits, 14.07 and 5.16 and volatility of loans, 10.50 and 5.07 for Islamic and conventional banks, respectively.

Table 8 shows the independent t-test for means. The significant levels for all variables are zero except for volume of deposits, implying that the means are different. Sig.(2-tailed) or p-value for t-test distribution related to volume of loans, volatility of deposits and loans is less than 0.05; which means that conventional banks' volume of loans, volatility of deposits and loans are statistically and significantly different from those of Islamic banks, but volume of deposit is not different in conventional and Islamic banks.

Table 8: Independent Samples t-Test for Volume and Volatility of Loans and Deposits

		Equali Variai		t-test for Equality of Means		
		F	Sig.	t	Sig.	Std. Error Difference
Volume of deposits	Equal variances not assumed	12.29	0.001	-1.27	0.21	2.70
Volume of loans	Equal variances not assumed	38.57	0.00	-3.16	0.00	2.20
Volatility of deposits	Equal variances not assumed	232.49	0.00	8.28	0.00	1.08
Volatility of loans	Equal variances not assumed	64.40	0.00	6.20	0.00	0.88

Source: Authors' Calculations.

Table 9 shows the independent t-test for ROA and ROE of Islamic and conventional banks. The results show that the Sig. (2-tailed) are zero and significant; hence, there is a significant difference between the ROA and ROE ratios as profitability indicators among conventional and Islamic banks. The related hypothesis is effectively supported by this statistic analysis.

Existing differences between ROE and ROA in conventional and Islamic banks are indicated in Table 7 and 9. The means of conventional banks are 1.01 and 14.40, and the means for Islamic banks are 0.64 and 9.04 for ROA and ROE, respectively.

 Table 9: Independent Samples t-Test for ROA and ROE

		Equality of Variances		t-test fe	ity of Means	
		F	Sig.	t Sig. Std. Err Differer		
ROA	Equal variances assumed	1.42	0.23	4.83	0.00	0.08
ROE	Equal variances assumed	0.92	0.34	4.59	0.00	1.17

Source: Authors' Calculation.

This shows that the ROA and ROE for conventional banks are higher than those for Islamic banks. This implies that while ROA and ROE, which in this study are noted as profitability benchmarks, distinguish between these two types of banks. In other words, conventional banks in Malaysia were more profitable than Islamic banks during 2006-2011.

The above results suggested that the volume of deposits and volume of loans have a significant correlation with ROA. Volume of loans and deposits are positive determinant factors that affect banks' profitability while other variables like volatility of deposits and loans do not have a significant impact on banks' profitability in Malaysia.

6. Conclusions

This study looked into the impact of important internal factors on the banking industry's profit efficiency in Malaysia with the aim of finding an answer to the question: which banking system was more profitable during 2006-2011; Islamic or conventional? In this study, volume of loans, volatility of loans, volume of deposits and volatility of deposits as independent variables have been investigated to discover how and how much they correlate with dependent variables ROA and ROE, which represent the profitability of banks. The study utilized secondary data collected from the Bank Scope database and financial statement information recorded on the websites of individual banks. This study used a sample of 16 Islamic and 16 conventional Malaysian banks. Five hypotheses were identified and considered to examine the relationships between variables and profitability of banks and also the differences between the variables of Islamic and conventional banks. The study used regression analysis to measure the relationship between independent and dependent variables.

The results obtained from this study confirm a statistically significant model including and measuring the data (as identified by F-statistic and Prob, F-statistic). In addition, it was found that the R² of the regression model for both ROA and ROE has a relatively strong explanatory power. These results also show that a couple of independent variables are positively correlated with the dependent variables, meaning that there is a positive and significant relationship between volume of loans and volume of customers' deposits, with profitability of banks. Other independent

variables are insignificantly correlated with the dependent variables, ROA and ROE. In other words, volatility of loans and volatility of deposits do not have a significant impact on banks' profit efficiency in Malaysia; however, they are important indicator factors in the banking system.

In addition, the t-test analysis is employed with the aim of comparing both type of banks' variables and their profitability levels. The results of this analysis reveal that Malaysian conventional banks were more profitable than Islamic banks during 2006-2011, whereas ROA and ROE were significantly different and the mean of ROA and ROE in conventional banks were higher than those in Islamic banks. On the other hand, the t-test results indicate that conventional and Islamic banks are also different in terms of the effects of independent variables such as volume of loans, volatility of deposits and loans but they are the same in terms of volume of deposits. This is contrary to the findings of previous research that claims that Islamic banks are more profitable or equally profitable as conventional banks. Samad and Hassan (2000), for instance, examined different performance measurements and compared the performance of BIMB (Bank Islam Malaysia Berhad) with that of a group of conventional banks, and they argue that ROA and ROE did not show any significant difference in the performance of Islamic and conventional banks during 1984-1997.

This study stresses only on profit-efficiency and assesses only two types of profitability ratios (ROA and ROE) related to some limited internal factors such as volume of loans, volume of deposits, volatility of loans and volatility of deposits. Three groups may benefit from the results of this study: banks managers, investors and government regulators who may utilize the results of this study to enhance their performance and improve their decision-making.

Since the main part of banks' profits comes from the spread between the interest earned on loans and the return payable to customer deposits, both internal factors, volume of loans and volume of deposits, are significantly influenced by banks' profitability. This is confirmed by the results of this study. Therefore, managers and bank administrators, whether Islamic or conventional, should focus their attention on these two determinants and adopt policies that lead banks to enhancing their volume of loans and deposits to boost bank profitability.

On the other hand, Islamic bank managers should identify weaknesses in their system that led to lower profits than conventional banks, and improve on them. Islamic bank managers also need to improve their knowledge of Islamic financing and their understanding of various aspects of Sharī'ah principles in order to increase their skills in using Islamic instruments because Islamic instruments essentially have the potential to cover all customer needs and preferences and can also help them coping with conventional instruments as a reliable substitute. As a result, they can attract more Islamic investors with huge resources who prefer to invest in Islamic financial institutions that are Sharī'ah-compliant. Because they are not aware of the instruments and features of Islamic banking and its benefits, it becomes the duty of Islamic banks to inform and attract them.

If the Malaysian government and financial regulators of the country care to transform Malaysia into an Islamic financial center, they should develop and improve the Islamic banking system and also educate people in order to not only view Islamic banking as a religious concept but also as a complete financial system that has different, unique and practicable capabilities.

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دراسة البنوك الإسلامية والتقليدية في ماليزيا

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المستخلص. دأب كثير من العلماء على إجراء البحوث من حين لأخر للمقارنة بين انظمة البنوك الإسلامية والتقليدية فيما يتعلق بأدائها. هذه الدراسة تقارن بين ربحية كل منهما حسب حجم وتقلب إيداعاتها وقروضها في ماليزيا خلال فترة ست سنوات (٢٠٠٦-٢٠١١م) وهي جوانب لم يتطرق إليها الكتاب الآخرون بشكل مفصل. وتشير نتائج هذه الدراسة إلى وجود علاقات إيجابية ومعنوية بين حجم القروض وحجم ايداعات العملاء وربحية البنوك. ومع ذلك فإن التقلبات في القروض والايداعات ليس لها تأثير معنوي على الكفاءة الريحية للبنوك الماليزية. كما تشير نتائج هذا البحث إلى أن البنوك التقليدية بماليزيا كانت أكثر ربحية من البنوك الإسلامية خلال فترة الدراسة. كما أن العائد على الأصول والعائد على حقوق المساهمين مختلفان معنويًا، كما أن متوسط العائد على الأصول ومتوسط العائد على حقوق المساهمين في البنوك التقليدية أعلى من مثيلتها في البنوك الإسلامية. وتأتى المساهمة الرئيسية لأرباح البنوك من الفرق بين الفائدة المكتسبة على القروض والعائد المدفوع على إيداعات العملاء. وكلا العاملين يعتبران من العوامل الداخلية. ولقد تبين أن حجم القروض وحجم الايداعات لهما تاثير معنوى على ربحية البنوك. لذا يجب على المدراء والإداريين العاملين في البنوك أما تركيز اهتمامهم على المحددين المذكورين أو تبنى بعض أنواع من السياسات التي ستساعد البنوك على زبادة حجم قروضيها وايداعاتها لرفع مستوى ربحيتها. Cheng Fan Fah holds a Ph.D. in Finance and is an associate professor at the Economics Faculty of the University Putra Malaysia (UPM). He has published four books titled Bond Markets in Malaysia and Singapore; Corporate Governance and Corporate Finance; Issues in Banking and Finance; and Asian Bond Markets. He has published scholarly articles in journals such as Advances in Accounting; International Business Research; Islamic Economics, Global Business and Finance Review. He has contributed chapters in books published on capital market behavior. His areas of research are: corporate finance; banking; and fixed income. He has taught at the UPM, several other universities (Monash, Lancaster, Victoria, Taylor and Sunway). He has 20 years of top senior management experience at the board level prior to his academic appointment in UPM.

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