

Comparative Analysis of Profitability Determinants of Domestic and Foreign Islamic Banks in Malaysia

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ABSTRACT: This paper is conducted to compare the determinants of profitability of the domestic and foreign Islamic banks operating in Malaysia. The Generalized Least Square (GLS) is employed with unbalanced panel data on seventeen Islamic banks, using quarterly data for the period of 2007 to 2010. In order to find out the differences in the profitability determinants, the sample of banks is divided into two sub-samples (domestic and foreign). The results reveal that domestic Islamic banks are more profitable than foreign Islamic banks. The results also show that the profitability determinants of domestic banks are different from those of foreign banks. The overhead expenses, loans, efficiency, gross domestic product growth rate and bank size have a significant effect in determining banks' profitability, in which case applicable to the domestic banks only. In turn, the gross domestic product per capita has a significant effect in determining banks' profitability of only the foreign banks. The study finds that, deposits, capital and reserves, inflation and banks' age have a significant effect in determining banks' profitability of both domestic and foreign banks. Meanwhile, liquidity and concentration are not able to explain the variability of domestic and foreign Islamic banks' profitability. The findings indicate that the profitability of domestic banks is affected by the global financial crisis while, the profitability of foreign banks is not affected.

Keywords: Domestic and Foreign Islamic Banks; Bank profitability; Malaysia; Financial crisis

JEL Classifications: C23; G21

1. Introduction

Malaysia has emerged as the first country to implement a dual banking system where Islamic banking system operates side-by-side with the conventional banking system. The dual financial system has proved to be viable as more competitive and sophisticated Islamic financial products have been introduced into the Islamic banking industry and gained popularity and even preference amongst the customers (Muda and Jalil, 2007). This factor along with the liberalization of the Islamic banking industry which became more intensive since the mid 1990s, have led to the entry of foreign Islamic banks into the Malaysian banking. The foreign banks did not only bring in more capital to the economy but they also bring along the expertise and culture that add up to the competitiveness in the industry. Thus, Malaysian Islamic banks have operated in a very competitive industry. In 2010, there were a total of seventeen Islamic banking institutions, of which eleven were domestic Islamic banks and six foreign Islamic banks. These Islamic banks constitute part of the Malaysian Islamic financial system which has grown very rapidly and further makes Malaysia more attractive as a centre for Islamic banking.

Studies of Islamic banks' profitability are an important tool towards improving performance, evaluating bank operations and determining management plan to help in increasing the chance for the

banks to survive in competitive markets. Furthermore, studies of Islamic banks' profitability are important as guidance towards enhancing the economy since banks do contribute to economic growth and stability. Hence, an analysis of profitability determinants particularly the differences between domestic and foreign banking institutions is essential in order to further understand the impact on the competitiveness.

Previous studies of banks in Malaysia have revealed that there are differences in the profitability between domestic and foreign banks. For example, Tahir et al., (2010) based on the Malaysian sample during the period 2000-2006, suggest that domestic commercial banks were relatively more efficient than foreign banks; meanwhile they suggest that profit ratios are slightly higher for foreign banks relative to domestic banks. Similarly, Elyor (2009) studied Malaysian banks profitability for the period (2004–2008) suggests that domestic banks in Malaysia were more profitable than foreign banks. It will be interesting if comparison can be made as to what factors contribute to the differences in the profitability of these banks. Therefore, the objective of this study is to investigate and identify the differences in the determinants of profitability between domestic Islamic banks and foreign Islamic banks in Malaysia. The work on identifying banks profitability determinants has received much attention from academic researchers, but there has been little study about differences in the determinants of profitability. In contrast to the previous studies which are conducted to find out the determinants of profitability and to identify which banks are more profitable – either domestic or foreign banks, this study however, is an attempt to identify the differences in the determinants of profitability between domestic and foreign Islamic banks in Malaysia.

This paper is organized as follows: the following section discusses the existing literature on bank profitability. This will be followed by a section that presents the data and methodology, the empirical results and finally the discussions and conclusion.

2. Literature Review

Research interest in the banks' performance was initially focused on the banks structure and competition. The research areas then extended to focus on banks' profitability from the standpoint of the effect of efficiency. Currently, research in this areas include comparisons between countries and as well as between banking systems. Short (1979) and Bourke (1989) were among the earlier authors who examined the determinants of banks profitability. As profit is an important factor for the survival of a bank and one of the crucial indicators of its performance, the literature on banks profitability attempts to explain profitability based on internal and external variables. Internal variables or bank specific factors are those under the control of bank's management, whereas external variables are extraneous and embedded in the macroeconomic environment.

Previous empirical studies related to the present study can be classified into two categories namely, studies that investigate the general determinants of banks' profitability and, the studies that analyse and compare domestic and foreign banks. Many studies in the latter category have been done to examine the profitability determinants of domestic and foreign banks together, but very few to examine and compare differences in profitability determinants of domestic and foreign banks.

A lot of studies have been done to examine the profitability determinants in general, for examples, Guru et al., (1999), Bashir (2003), Hassan and Bashir (2003), Haron (2004), Vong and Chan (2006), Aburime (2008), Dietrich and Wanzenrie (2010), Davydenko (2011) and Zeitun (2012). Most of these studies have found that bank specific factors, financial structure and macroeconomic variables are able to explain the changes in bank profitability and hence seemed to be the determinants of profitability. Ali et al., (2011), for example, examine the profitability indicators of public and private commercial banks of Pakistan during the 2006-2009. Their findings suggest that the profitability seems to have been positively affected by bank size, operating efficiency and asset management. They also found that, bank's profitability is negatively associated by capital and credit risk. They used ROA as measure of profitability. On the other hand, the macroeconomic variable, GDP is found to have positive effect on both measures, ROA as well as ROE. However, they found that inflation rate has a negative effect on only ROA.

Another study by Wasiuzzaman and Tarmizi (2010) has examined the impact of bank specific characteristics and the macroeconomic determinants on the profitability of sixteen Islamic banks in Malaysia during the period of 2005 - 2008. The study finds that capital and asset quality have an inverse relationship with bank profitability, while liquidity and operational efficiency have a positive

influence. The macroeconomic variables, the GDP and inflation rate also have positive relationship with bank profitability.

El Biesi (2010) investigates the impact of selected macroeconomic, financial market and bank specific determinants on foreign banks profitability in nine Middle East and North Africa economies from 2002 to 2007. Using a panel dataset of 71 foreign banks, the study shows that at banks level the most significant factors affecting foreign banks' profitability are capital, total assets and liquidity ratios whereas at the banking industry level stock market capitalization, level of income per capita growth are significantly related. Meanwhile, factors such as concentration ratio and stock market trading volumes appear to be insignificant.

Sufian (2006) investigates the efficiency of 15 Malaysian banks offering Islamic banking products and services during the period of 2001-2004. The findings suggest that the domestic Islamic banks have exhibited higher technical efficiency compared to that of their foreign peers, but, the results seem to suggest that the foreign Islamic banks have been relatively more efficient in controlling their operating costs.

Previous studies have also examined the differences in profitability determinants of domestic and foreign banks. For example, Elyor (2009) analyses and compares the performance of domestic and foreign commercial banks operating in Malaysia. Based on the data for the period of 2004 to 2008, the study establishes a finding that foreign banks have strong capital but the domestic banks are more profitable. Elyor (2009) however, did not examine the differences in profitability determinants of domestic and foreign banks. In another study, Azam and Siddiqui (2012) analyse and compare the profitability of domestic and foreign banks based on a quarterly data sample of 36 commercial banks in Pakistan during the period 2004 and 2010. The sample was split into three categories, namely domestic banks under Government control, domestic banks under private control, and foreign banks. They find that foreign banks are more profitable than both types of domestic banks together. Their results also show that domestic and foreign banks have different profitability determinants. In other words, factors which are important in determining the profitability of domestic banks are not necessarily important for the foreign banks.

Fotios and Kyriaki (2007) examine how bank's specific and macroeconomic conditions and financial structure could affect the profitability of 584 commercial domestic and foreign banks in the 15 EU countries during the period 1995–2001. The results indicate that the liquidity is significant and positively related to the profitability of domestic banks, but it is significantly negatively related in the case of foreign banks. They also found that the impact of concentration on profitability is different between foreign and domestic banks. In addition, the study also found that the GDP growth and inflation rates are significant and positively related to the profitability of domestic banks, but it is a negative significance in the case of foreign banks.

Awdeh (2005) analyses the differences in profitability determinants of domestic and foreign banks operating in the Lebanon between 1993 and 2003. The study finds that foreign banks are more profitable than all domestic banks despite they were operating in the same market. In addition, the domestic banks and foreign banks' profitability determinants have been observed to be different. The study also reveals that foreign banks are less affected by the macroeconomic factors of the host country than domestic banks.

3. Data and Methodology

The data of bank-specific variables are collected from quarterly balance sheet and income statements obtained from Malaysian Islamic banks. Regarding the macroeconomics variables, the data is collected from the Department of Statistics, Malaysia. This study uses an unbalanced panel for the period from the first quarter of 2007 to the fourth quarter of 2010.

The econometrics program E-Views 7.1 software for analysing the data and producing the regression results is used. The Generalized Least Square (GLS) method with unbalanced panel data multiple regression has been applied to analyse the cross-section and time series data to find out the relationship between dependent variable and independent variables.

The sample is divided into two categories, domestic Islamic banks and foreign Islamic banks, due to the fact that this study focuses on the differences in profitability determinants between domestic and foreign Islamic banks in Malaysia.

3.1 Estimation Model

In the study, estimations for two models are made and the study adopts a step-wise regression model to build these models and to avoid multicollinearity problems. The decision is made following Sufian et al., (2012) suggestion that a step-wise regression model can be used to build stable models and avoid severe multicollinearity problem. The regression models can be written as follows:

Model (1)

$$ROE = \alpha_0 + \beta_1 OHTA + \beta_2 LOTA + \beta_3 DTA + \beta_4 GDPGR + \beta_5 GDPPC + \beta_6 CONC + \varepsilon$$

Where:

ROE = Return on Equity as the dependent variable. And the Independent variables are:

OHTA = Overhead Expenditure over Total Assets

LOTA = Loans (financing) over Total Assets

DTA = Deposits over Total Assets

GDPGR = Gross Domestic Product Growth Rate

GDPPC = Gross Domestic Product Per Capita

CONC = Concentration Ratio

α is intercept, β is regression coefficient and, ε is an error term.

Model (2)

$$ROE = \alpha_0 + \beta_1 CRTA + \beta_2 LATA + \beta_3 TE + \beta_4 INF + \beta_5 LOGTA + \beta_6 LOGAGE + \beta_7 GFC + \varepsilon$$

Where:

ROE = Return on Equity as the dependent variable. And the Independent variables are:

CRTA = Capital and Reserves over Total Assets

LATA = Liquid over Total Assets

TE = Technical Efficiency

INF = Annual Inflation Rate

LOGTA = Bank Size

LOGAGE = Bank Age

GFC = Global Financial Crisis

α is intercept, β is regression coefficient and, ε is an error term.

3.2 Profitability Measure

The literature on bank profitability uses several ratios, such as return on assets, return on equity, return on deposits, net interest margin and profit margin. The two most often used profitability ratios are the return on assets and the return on equity (Iqbal and Molyneux, 2005). In line with many of the studies that have addressed the determinants of bank profitability, for examples Sanusi and Ismail (2005), Ramadan et al., (2011), and Ahmad and Noor (2011), this study uses the return on equity (ROE) as the proxy measure of Islamic banks profitability. ROE is not only determines the profitability but also reflects the extent of effectiveness of the management use of shareholders' investments. ROE is calculated as net income after tax divided by the total shareholders' equity (NIAT/SHE).

3.3 Internal Determinants of bank profitability

The literature on banks' profitability explains profitability determinants through internal and external factors. The internal or bank specific factors are under the control of bank management and can be manipulated to the benefit of the bank. External factors on the other hand are the exogenous determinants governed by the macroeconomic and industry environment.

Capital and reserves (CRTA) is one of the important sources of funds for the bank. Capital and reserves to total assets is included in this study because it identifies bank capitalisation and the ability of a bank to handle losses with shareholders' funds.

The overhead expenses ratio (OHTA) refers to an ongoing expense of operating a business. The overhead expense is usually used to group expenses that are necessary to the continued functioning of the business. The OHTA is obtained by dividing personnel and overhead expenses by total assets. The literature on banks profitability argues that reduced expenses improve the performance and hence, raise the profitability of banks, implying a negative relationship between OHTA and profitability (for example Bourke, 1989).

Loans (or financing) ratio (LOAT) is used to estimate the component of the income that is attributable to management quality. It is computed by total loans over total assets. Loans of bank are

expected to generate profit and to be the main source of income, hence are expected to have a positive impact on bank profitability.

Deposits ratio (DTA) is total deposits from customers and deposits from banks and other financial institutions (all deposits including Non-Mudharabah Fund and Mudharabah Fund) as a percentage of total assets. Deposits of the banks are considered the main source of bank funding and hence, it has an impact on the profitability of the banks.

Liquidity Ratio (LATA) is defined as the extent to which the bank has funds available to meet the withdrawal demand of depositors. Cash, short term funds and deposits and placements with banks and financial institutions divided by total assets is used to measure the liquidity ratios. Banks need amounts of liquidity depending on their growth rate, variability in financing, deposit activities and the regulations of the Central Bank. These instruments carry low incomes; hence a high liquidity ratio indicates excess liquidity and is potentially indicative of low profits.

Technical Efficiency (TE) refers to the ability of a bank to minimize input (or maximize output) use given a target output (or specific inputs). The efficiency ratio gives a measure of how effectively a bank is operating. Previous studies have confirmed that efficiency is one of the most important factors in explaining differences in profitability across the banks. Technical efficiency is measured using the Data Envelopment Analysis (DEA) method (Sufian et al., 2012).

3.4 Macroeconomic Determinants

Inflation rate (INF) is defined as a sustained general rise in prices in an economy whereby a high inflation rates is associated with higher costs as well as higher income. In the case of Islamic banks, Bashir (2003) reports that inflation may impact performance positively if a larger portion of Islamic banks' profits accrues from direct investment, shareholding and/or other trade activities (Murabahah). Inflation may have a negative effect on bank profitability if wages and other costs are growing faster than the rate of inflation.

Gross domestic product growth rate (GDPGR) measures the national output of an economy. Real GDP measures the actual increase in goods and services and excludes the impact of rising prices. The GDPGR reflects the conditions of the economy in the way that a growing economy will provide growing demand for banking services and lower risk as opposed to shrinking economy. GDP is among the most commonly used macroeconomic indicator to measure total economic activity within an economy. GDPGR is expected to be in a positive relation with profitability.

Gross domestic product per capita (GDPPC) measures the total output of a country that takes the GDP and divides it by population. In other words, GDPPC takes into account the average GDP per person in the economy and seem to reflect the propensity to spend. The bigger the expenditure will lead to economic growth. Thus, GDP per capita is used to check the impact of the level of profitability of bank.

3.5 Structural Determinants

Bank size (LOGTA) is considered an important determinant of its performance. Industrial economic theory postulates that if an industry is subject to economies of scale, large institutions will be more efficient, and thus are able to produce services at a lower cost. Larger size is expected to have a positive effect on bank profitability. The natural logarithm of the bank's total assets is used as a measure of bank size.

Bank age (LOGAGE) is the number of working years for each bank. Newly established banks are not particularly profitable in their first year of operation, as they place greater emphasis on increasing their market share, rather than on improving profitability (Athanasoglou et al., 2008). Despite this, a study by Dietrich and Wanzenrie (2010) observed that newer banks seem to be marginally more profitable than older banks. This indicates that newer banks are able to pursue successfully new profit opportunities. In this study, we include the age variable in order to see the effect because there is a significant difference in the age of Malaysian Islamic banks.

Concentration ratio (CONC) is measured by the proportion of total assets held by the largest bank in the banking sector. Studies related to determinants of bank profitability are based on the structure-conduct-performance theory (SCP), which proposes that market concentration lowers the cost of collusion between firms and thus, resulting in higher profits. The idea that profits of firms are

determined by the concentration level of the market is proposed by Bain (1951). Following the seminal paper, a lot of studies have modelled the SCP theory to explain the profitability of banks.

The global financial crisis (GFC) is a dummy variable and it is included to examine the effect of the event on the profitability of domestic Islamic banks and foreign Islamic banks in Malaysia. It is indicated by “1” for the period of the crisis (that is, q4 2008, q1 2009, q2 2009 and q3 2009) and “0” for the other periods.

4. Empirical Results

Table 1 below reports the descriptive statistics of the variables used in the regression analysis.

Table 1. Descriptive statistics of variables

Variables	Mean		Median		Std. Dev.		Skewness		Kurtosis	
	DIB	FIB	DIB	FIB	DIB	FIB	DIB	FIB	DIB	FIB
ROE	0.032	0.005	0.028	0.008	0.017	0.021	0.425	-0.118	2.29	3.17
CRTA	0.073	0.121	0.075	0.131	0.018	0.042	-0.071	-0.448	2.48	2.07
OHTA	0.003	0.004	0.003	0.005	0.001	0.001	0.620	-0.868	4.15	3.49
LOTA	0.554	0.509	0.572	0.548	0.158	0.174	-0.263	-0.858	2.07	2.86
DTA	0.877	0.822	0.886	0.834	0.039	0.046	-0.726	-0.323	3.09	2.11
LATA	0.296	0.329	0.283	0.275	0.134	0.163	0.718	0.974	3.16	2.97
TE	0.846	0.733	0.874	0.807	0.149	0.180	-0.732	-0.759	2.52	2.58
INF	0.023	0.023	0.018	0.018	0.026	0.026	0.673	0.673	3.37	3.37
GDPGR	0.038	0.038	0.053	0.053	0.046	0.046	-0.824	-0.824	2.58	2.58
GDPPC	0.025	0.025	0.040	0.040	0.046	0.046	-0.830	-0.830	2.58	2.58
LOGTA	9.37	8.310	9.34	8.473	0.64	0.678	0.096	-1.014	2.27	4.00
CONC	0.188	0.049	0.179	0.050	0.024	0.007	0.168	0.279	4.18	3.01
LOGAGE	1.32	0.84	1.21	0.916	0.876	0.591	0.601	-0.710	3.32	2.85

Note: DIF (Domestic Islamic Banks), FIB (Foreign Islamic Banks)

On average, the mean value of the return on equity (ROE) for domestic Islamic banks is higher, compared to the ROE for foreign Islamic banks. It can be concluded that domestic Islamic banks were more profitable than foreign Islamic banks during the period from q₁2007 to q₄2010.

With respect to independent variables, on average, the mean value of the capital and reserves and liquid assets of foreign banks are higher than those of the domestic banks. It indicates that the foreign bank is highly capitalised and are on the low risk side. On the other hand, the mean value of the OHTA of the foreign banks is slightly higher than for domestic banks. Perhaps because they are new as shown by lower mean value on LOGAGE, they could be building up the capacity for bigger competition.

On the other hand, the mean value of the LOTA and DTA are higher for domestic banks than their foreign counterparts. This might indicate that the domestic banks are more active in their business efforts. In addition, the data also show that the mean value of technical efficiency (TE) as measured by the DEA method is higher for domestic banks than their competitors. This indicates that domestic banks have been more efficient than foreign banks. As to the test for normal distribution, the values of skewness and kurtosis for the variables included in the table indicate that the data are of normal distribution or are closer to a significantly normal distribution.

The panel unit-root test is applied to check whether the variables in the model are stationary or non stationary. If the variables do not co-integrate, then we have the problems of spurious regression and econometric work becoming almost meaningless, therefore, any economic model using non-stationary data co-integration can become an over-riding requirement (Asteriou and Hall, 2007). Im, Pesaran & Shin test has been chosen to perform the panel data unit-root test due to the fact that the majority of the unit root tests assume that you have a balanced panel data, but this test allows for unbalanced panels (Im, Pesaran and Shin, 2003). The test is implemented on level differences (with intercept and intercept & trend).

Table 2 shows that all panel variables are integrated at 1% level of significance. Therefore, all the variables are efficient and appropriate in measuring Islamic banks' profitability in Malaysia over the study period and the results will be reliable.

Table 2. Panel unit-root test

Variables	Intercept	Intercept & trend
ROE	-10.6*	-6.2*
CRTA	-9.4*	-11.0*
OHTA	-9.1*	-5.6*
LOTA	-13.5*	-10.0*
DTA	-14.5*	-12.4*
LATA	-12.3*	-8.9*
TE	-11.9*	-9.2*
INF	-17.0*	-11.3*
GDPGR	-34.3*	-26.8*
GDPPC	-5.5*	-3.9*
LOGTA	-10.0*	-22.4*
CONC	-12.8*	-44.5*
LOGAGE	-9.8*	-40.9*

* All panel variables are integrated at 1% level of significance.

The regression results are shown in Table 3 by using the GLS method for unbalanced panel data regressions. The value of Durbin-Watson (DW) test statistics in Table 3 indicates that there is no evidence of the present autocorrelation problem. Results of the White’s test in Table 3 find evidence of heteroscedasticity with estimation of domestic banks’ determinants. The problem of heteroscedasticity is corrected using the white cross section procedure. Meanwhile, no heteroscedasticity evidence is found with the estimation of foreign banks determinants. The F-tests in table below show that the estimated parameters of the independent variables are stable in influencing the dependent variable. Table 3 shows clearly that different factors influence domestic banks and foreign banks’ ROE, and some factors that are significant for domestic banks become insignificant for foreign banks, and vice versa.

Table 3. Regression estimates; panel GLS, Model (1)

Independent Variables	Domestic Islamic Banks		Foreign Islamic Banks	
	Coefficient	Prob.	Coefficient	Prob.
C	-0.058934**	0.0101	-0.072597*	0.0648
OHTA	-1.244043**	0.0151	-1.111583	0.3180
LOTA	0.034514***	0.0000	0.008855	0.3587
DTA	0.081683***	0.0000	0.133802***	0.0048
GDPGR	0.038208***	0.0031	0.021074	0.4727
GDPPC	0.000046	0.9896	-0.000123*	0.0806
CONC	0.022378	0.2622	0.197642	0.1686
R ²	0.254695	-	0.313116	-
F	8.941990***	0.0000	4.938379***	0.0003
DW	1.905262	-	1.851692	-
N	164	-	72	-
F-statistic of White test	2.484815	0.0003	1.524891	0.1046

*, ** and *** indicate significance levels of 10, 5, 1 percent, respectively

Regression estimates in table 3 indicates that the variable overhead to total assets (OHTA) have a negative and statistically significant impact on the ROE of domestic banks and negative insignificant impact on the ROE of foreign banks. The result of domestic banks indicates that the profitability of a bank will increase if the bank is better able to manage costs. On the other hand, the foreign banks are not able to control their expenses to realize lower profits. Therefore, it can be concluded that the OHTA variable has a significant effect in determining banks’ profitability of domestic banks, whereas it is not significant in determining banks’ profitability of foreign banks. This latter finding is supported by Ramadan et al., (2011).

Loans ratio (LOTA) has a positive and statistically significant impact on the ROE of domestic banks and positive, yet insignificant impact on ROE of foreign banks. It analyses that domestic banks play the intermediary role between the lenders and borrowers, which emphasizes that the more

deposits are transformed into loans. In addition, the loan of foreign banks does not play significant role as the source of revenue. Awdeh (2005) find that bank loans have an insignificant impact on the banks' return on equity.

Deposits ratio (DTA) has a high positive effect for both domestic and foreign banks and it shows that receiving more deposits improves domestic and foreign banks' ROE. As shown in table 1, the banks rely heavily on deposits in their investment where the deposits of domestic and foreign banks have accounted for 87%, 82% respectively on average from total Liabilities. Thus, the DTA variable has a significant effect in determining the profitability of domestic and foreign banks.

The results of macroeconomic variables' impact reveal that the gross domestic product growth rate (GDPGR) as expected has a positive and statistically significant impact on the ROE of domestic banks and positive insignificant impact on the ROE of foreign banks. This might indicate that domestic banks only have benefited from economic growth. Therefore, the GDPGR variable has a significant effect in determining banks' profitability of domestic banks only.

The macroeconomic variable, gross domestic product per capita (GDPPC) is not affected on the ROE of domestic banks but it has negatively affected the ROE of foreign banks. This implies that big GDPPC tends to be associated with less profitability in foreign banks. Therefore, high GDPPC is associated with low ROE of Foreign banks. The result of the GDPPC variable indicates that the GDPPC variable is not significant in determining the banks' profitability of domestic banks.

The structural variables' result indicates that the concentration ratio (CONC) has insignificant impact on the ROE for both domestic and foreign banks, which is not in line with the structure-conduct-performance theory. This result implies that the CONC variable is not significant in determining the profitability of domestic and foreign banks. This is supported by Choong et al., (2012) which found that concentration has a positive and insignificant impact on ROE of Malaysian Islamic banks.

The regression results are shown in Table 4 by using the GLS method. The value of Durbin-Watson (DW) test statistics in table 4 indicates that there is no evidence of the present autocorrelation problem. Results of the White's test in table 4 find evidence of heteroscedasticity with the estimation of domestic banks' determinants. The problem of heteroscedasticity is corrected using the white cross section procedure automatically to solve this problem, whereas no heteroscedasticity evidence is found with the estimation of foreign banks' determinants. The F-tests in Table 4 show that the estimated parameters of the independent variables are stable in influencing the dependent variable.

Table 4. Regression estimates; panel GLS, Model (2)

Independent Variables	Domestic Islamic Banks		Foreign Islamic Banks	
	Coefficient	Prob.	Coefficient	Prob.
C	-0.035456**	0.0242	-0.048222	0.4902
CRTA	-0.217888***	0.0000	-0.158178***	0.0040
LATA	0.002433	0.6579	0.039475	0.3184
TE	0.021603***	0.0000	0.059742	0.1200
INF	-0.021872**	0.0394	-0.272374**	0.0398
LOGTA	0.007877***	0.0000	0.003899	0.5619
LOGAGE	-0.005528***	0.0000	-0.008634**	0.0164
GFC	-0.004222***	0.0000	-0.005630	0.3153
R ²	0.577783	-	0.458992	-
F	30.49685***	0.0000	7.756809***	0.0000
DW	2.033659	-	2.123708	-
N	164	-	72	-
F-statistic of White test	3.551973	0.0000	0.756118	0.7935

*, ** and *** indicate significance levels of 10, 5, 1 percent respectively

Regression estimates in Table 4 indicate that the variable capital and reserves to total assets (CRTA) have a negative and statistically significant impact on the ROE of both domestic and foreign banks. This result is supported by other previous studies, among them: Pratomo and Ismail (2006), and Wasiuzzaman and Tarmizi (2010). The latter study reported that an increase in capital of Islamic Banks in Malaysia is not recommended, due to the negative and significant of CRTA with return on equity is found and it reflects that the higher of capital of bank, the lower of its performance.

The liquidity ratio (LATA) has insignificant impact on the return on equity for both domestic and foreign banks, which is not in accordance with what is expected. This indicates that liquidity is not a significant factor that contributes towards the profitability of Islamic banks in Malaysia. This may be due to the conditions of uncertainty with financial crisis, that the banks resorted to increase the rate of liquidity, while profits were growing, but with a lower rate of operational efficiency. This result is supported by Choong et al., (2012) who have found that, the effect of liquidity is insignificant on the ROE of the Islamic commercial banks in Malaysia.

Technical Efficiency (TE) has a positive and statistically significant impact on the ROE of domestic banks and positive insignificant impact on the ROE of Foreign banks. The result suggests that high profits of domestic banks are consistent with higher efficiency. Therefore the efficiency variable has a significant effect in determining the profitability of only the domestic banks. Meanwhile, the efficiency of foreign banks does not improve their profitability. The latter result is found also by Zamil (2007).

The macroeconomic variable inflation rate (INF) has a negative and statistically significant impact on the ROE for both domestic and foreign banks. Therefore, high INF is associated with low ROE of banks. As Bashir (2003) has pointed out that, this may be due to the fact that in the case of Islamic banks, the inflation may have a negative effect on bank profitability if wages and other costs grow faster than the rate of inflation. Thus, this may suggest that during the period of study, Islamic banks could not accurately predict the levels of inflation and the costs of banks had experienced a more rapid increase than the banks' revenues. This result is consistent with similar other studies; see for example, Khrawish et al., (2011), and Zeitun (2012).

Bank size (LOGTA) has a positive and statistically significant impact on the ROE of domestic banks and positive insignificant impact on the ROE of foreign banks. This result indicates that large size is associated with high profitability and the bank size is an important factor in explaining the variation of profitability for domestic banks, and that the domestic banks benefit from the economies of scale. Meanwhile, bank size is not significant variable in determining the profitability of foreign banks.

Bank age (LOGAGE) has a negative and statistically significant impact on the ROE of both domestic and foreign banks. This result means that old banks are less profitable than the new banks. This may be due to the fact that new banks use the new technologies. This result is supported by Mirzaei et al., (2011) who have found that the effect of bank age is negative and significant on the ROE of the banks in advanced economies.

The global financial crisis (GFC) has a negative and statistically significant impact on the ROE of domestic banks and leaves an insignificant impact on the ROE of foreign banks. This result means that domestic Islamic banks in Malaysia are negatively affected by the global financial crisis, in terms of profitability. Meanwhile, the profitability of foreign Islamic banks is not affected by the global financial crisis.

5. Conclusions

This paper aims to identify the differences in the determinants of profitability between domestic and foreign Islamic banks in Malaysia, using an unbalanced panel for the period from the first quarter of 2007 to the fourth quarter of 2010 for all Islamic banks in Malaysia. In order to find out the differences in the profitability determinants, the sample of banks is divided into two sub-samples (domestic and foreign). This study examines how the banks' specific, financial structure and macroeconomic variables affect the profitability of domestic and foreign Islamic banks in Malaysia.

Based on the empirical results, the banks' specific factors, financial structure and macroeconomic determinants are able to explain significant parts of Islamic bank profitability in Malaysia. The study concludes that the domestic Islamic banks are more profitable than foreign Islamic banks. In addition, the results further show clearly that the profitability determinants of domestic banks are different from those of foreign banks, that the factors are significant for domestic banks may not be regarded as significant for foreign banks. The overhead expenses ratio, loans ratio, technical efficiency, gross domestic product growth rate and bank size have significant effect in determining the banks' profitability of domestic banks, whereas these factors have no significant effect in determining the profitability of foreign banks. On the other hand, the gross domestic product per

capita has no significant effect in determining the profitability of domestic banks, whereas it has a significant effect in the profitability of foreign banks.

The study also found other findings which suggest that some factors are important for both domestic and foreign banks. In this case, deposits ratio, capital and reserves, inflation rate and banks' age have significant effect in determining the profitability of both the domestic and foreign banks. Meanwhile, the liquidity ratio and concentration ratio are not able to explain the variability of both types of banks' profitability.

The findings of this study further indicate that the profitability of domestic Islamic banks in Malaysia is adversely affected by the global financial crisis but the profitability of foreign Islamic banks is not affected by the global financial crisis. This indicates that the foreign banks are more resilient than the domestic banks in facing the financial crisis. The results of study suggest that the domestic banks need to strengthen their risk management aspects. Further, the policy makers could formulate policies that can strengthen and develop the Islamic banking industry to enable the Islamic banking system to absorb financial shocks.

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