The Effect of Capital Adequacy on Islamic Banks' Profitability in Malaysia

MOHAMUD SAID YUSUF
Islamic Business School, University Utara Malaysia
Sintok, Kedah, Malaysia
ABDIFATAH MOHAMED MUSSE
PhD Scholar, Islamic Business School, Universiti Utara Malaysia
Sintok, Kedah, Malaysia

Abstract

Since the emergence of Islamic financial institutions, researchers begin to evaluate their profitability and financial performances. One of the major mechanisms of their profitability is capital adequacy. Malaysia is one of the countries that have a significant market for Islamic banks and was hailed for its exemplary position in promoting Islamic banking industry. The objective of this study is to evaluate the influence of capital adequacy on Islamic banks' profitability in Malaysia. The study used ROA as a proxy for Islamic banks' profitability whereas capital adequacy, bank size, liquidity, GDP and CPI used as independent variables representing capital adequacy of the banks while these proxies also determine the profitability of Islamic banks. The data used in this study covers from the period of 2009 to 2018. The secondary data were extracted from financial statements of Islamic banks and Bank Negara Malaysia's statistical bulletin. The study used Fixed Effect Model and Random Effect Model. Based on the result of the Hausman test, the study used the fixed-effect model as a suitable model of this study. The research found that capital adequacy has a positive significant effect on Islamic banks' profitability. The findings of this research suggested that banks' managers and policymakers need to find suitable tools and guidelines to support the capital adequacy of Islamic banks for better profitability. This study contributes to the existing literature of single

country-based analysis of Islamic banks' capital adequacy and profitability particularly in the context of Malaysia.

Key words: Capital adequacy, Islamic banks profitability, ROA, FEM, Malaysia.

1. INTRODUCTION

The adequacy of capital for banks is vital for their business operations and signifies their financial solvency. Some researchers believe that capital adequacy ratio is regarded as safety valve to guarantee the safety of depositors' funds while promoting stability and effectiveness of banking system (Almazari, 2017). The notion of capital adequacy reflects the competence and efficiency of banks to deal with any financial shocks or risks that may face banks. Almost all regulatory banks set their own benchmarks and monitoring policies to require any commercial bank to have certain financial capacities to make sure that their business operations are risk free or at least the potential risks are being mitigated.

Generally, the central function of any financial institution is the extension of loans and the greater proportion of financial institutions' assets is created through loans (Fungacova et al. 2014). This purpose is well performed merely when banking institutions operate their business in more relevant and effective manner (Lotto, 2018). The financial crisis that has affected most of the global financial sector in 2007/2008 are a wake-up call for banks to maintain enough capital not only to run their business but to prevent any potential or unprecedented risks.

On the other hand, one of the major importance of capital adequacy for financial institutions is that it helps banking institutions to perform better and more efficiently. This is where the concept of profitability emerges. Profitability is therefore a key target for all banks and financial institutions in general as they need to keep sufficient liquidity amounts of money to run their business and generate profit. Christian et al. (2008) opines that profitability of banks is affected by higher capital necessity thereby attracting the concern on the nexus between profitability and minimum capital requirement of banks. Datta & Mahmud (2018) also agreed that the

capital requirement for the banks can encourage them to build more capital and in turn, it ignites higher profitability. Other researchers who believe that the requirement of capital adequacy ratio has positive impact on banks' profitability include Goddard et al. (2004) and Huizinga (2000), these studies commended the viability and the importance of capital adequacy when the banks' profitability is taken into account.

In line with the above discussions, it is important to highlight that Islamic banks has made great strides globally and in Muslim world in particular. In general, Islamic finance is regarded as one of the fastest growing segments in global financial system (Tabash & Dhankar, 2014). Despite the industry's emergence in early 1963 when the Egypt's Mit-Ghamr Islamic bank was established, Islamic financial industry is yet to compete its conventional counter part due to the industry's infancy stage. However, the importance of Islamic banking system came to light globally only after the 2008 financial crises (Tabash & Dhankar, 2014). Islamic banking system upholds one key principle, the profit and loss sharing concept. Within the frameworks of Islamic banking system, the funds are not allowed to be used for any illegal activity such as usury (riba), gambling (maisir), speculative trading (gharar) and any other activity that is deemed as non-halal.

Malaysia has played an exemplary position in promoting Islamic financial system becoming one of the countries that are regarded as Islamic financial hub. Despite growing, the development and efficient of Islamic banks in Malaysia are determined to their performance and profitability as well as their capabilities and productivity. In Malaysia, the adequacy of capital and the industry's financial performance is greatly promoted by the government and other stakeholders. Therefore, in Malaysian Islamic banking industry, the capital adequacy is important for their financial soundness and financial stability for the long-term operations. The sufficient capital of Islamic banks protects unexpected losses or risk that might arise from its business operations. Consequently, Islamic banks deal with business activities rather than lending and borrowing money which might lead to risks, by having enough capital in hand on such abnormal losses will protect them from major risks. In this case, the capital adequacy plays an important role with similar function of Takaful or Islamic insurance. Thus, by having enough capital

increases confidence of depositors, regulators, governments and other sectors that will feel their money is in a safe hand and Islamic banks will continuously operate their business efficiently.

In Malaysia, the framework of capital adequacy has been formulated in line with internationally-agreed principles on capital adequacy promoted by the Islamic Financial Service Board (IFSB) as well as Basel committee on Banking Supervision (BCBS). The framework of capital adequacy of Islamic Banks in Malaysia formed to calculate ratio for regulatory capital adequacy and to know that Islamic banks and conventional banks are in line with the required capital ratio to operate. According to Bank Negara Malaysia, Islamic financial institutions should always have and maintain, at all time, the following lowest capital adequacy ratio: Tier 1 Capital Ratio 6.0%, CET1 Capital Ratio 4.5%, and aggregate Capital Ratio must be 8.0% (Bank Negara Malaysia, 2018). Islamic banks have restricted business activities to generate income whereas conventional banks have unrestricted activities to make income. This is the fact that Islamic banks need to conform to the Shariah principles. It is on this basis that Islamic banks need to have enough capital adequacy to generate more profitable incomes.

The purpose to set up business is to get profit; therefore, profitability is a basic and essential goal of any business entity. Profitability is defined as any activities that might raise financial gain or profit by taking of potential risk. Firms that have insufficient profitability do not manage to sustain in the long run. Hence, to ensure firms' financial soundness, it is obligatory to evaluate the current and past profitability and subsequently predict future profitability (Alareeni and Branson, 2013; Husain et al, 2015). Thus, Malaysian Islamic banks' profitability and capital adequacy is needed to be given a full attention where the banks' capital adequacy can reflect their financial performance.

Considering Malaysia's forefront position in Islamic banking industry and the notions related to the growth of the country's Islamic banking performance, the time has come to evaluate the impact of capital adequacy on Malaysia's Islamic banks profitability. To the best of the authors' knowledge, there has been limited studies focusing on the capital adequacy and Islamic banks' profitability while the existing studies on the other contexts shown inconclusive. Therefore,

this paper attempts to investigate the effect of capital adequacy on Islamic banks' profitability in Malaysia.

2. LITERATURE REVIEW

Profit is one of essential elements that indicates both the profitability and the performances of Islamic financial institutions in Malaysia. Wasiuzzaman & Tarmizi (2010) conducted a research in Malaysia where the focus was the influence of bank features and external elements towards profitability of Islamic banks from 2005 to 2008. They used linear least squares to analyses data for sixteen (16) Malaysian Islamic banks. Their model consists of banks' specific elements like the capital, operations, asset quality liquidity, as well as size of the banks while external variables were GDP and inflation rate which was utilized to determine their effect towards the performance of Islamic banking institutions. However, the focus of this study was general and mostly dealt with general features affecting profitability but not merely focusing on the notion of capital adequacy and Islamic banks' profitability.

They research indicated that the GDP, inflation rate, operational efficiency and liquidity has a positive influence towards profitability where asset quality and capital has negatively influenced the profitability of Islamic banks. Researchers frequently used capital ratio to evaluate capital adequacy which would capture the bank's soundness and general safety. It is commonly regarded that highly capitalized banks will have less expected costs of financial problems and such benefits will generate more profitable outcomes.

Al-Damir (2014) investigated the factors influencing Islamic banking institutions' profitability in the GCC region. The research covers a time span of 2006 to 2012. The research shown that capital adequacy has a significant nexus with Islamic banking institutions in the GCC region. On the same perspective, Chi, Hang & Trang (2018) investigated the internal factors that affect the banking institutions' profitability in a sample of nine Vietnamese banks covering a period between 2008 and 2016. The research results found that capital has a positive impact on banks' profitability.

In addition, Saeed (2014) investigated the effect of industry and bank-related variables on banks' institutions. The study utilized ROE, capital, liquidity, loan deposits ROA and GDP to test their

effects on UK's Banking profitability performances from 2006 to 2012. The research indicated that among the variables employed, capital ratio was one of the factors that influence banks' profitability. Similarly, Vong & Chan (2006) conducted a study in Macao where the focus was the determinants that have an impact on the profitability of banking institutions in which the study covered a period between 1993 and 2007. The study concluded that capital adequacy positively effects the banks' profitability. The study pointed out that well capitalized banks will be less risk and these benefits leads to more profits to the banks.

In contrary, a research carried out by Wasiuzzaman & Tarmizi (2010) have investigated the determinant of Islamic banks' profitability in Malaysia. The study concluded that capital adequacy negatively affects the profitability of Islamic banks in Malaysia. The study also postulated that the decreasing capital will reduce the cost of bankruptcy and financial distress. Alharthi (2017) studied the determinants of financial performance and stability of Islamic banking institutions in the GCC region. The study covers the period of 2005 to 2014 while selecting 18 Islamic banking institutions as a sample. In their results, the research concluded that capital ratio has a significantly negative impact on financial performance and stability of Islamic banking institutions in the GCC countries. Noman, Chowdhury, Chowdhury & Pervin (2015) studied impact of macroeconomic and bank-specific determents on banking institutions' profitability in Bangladesh covering the period of 2003 until 2013. Surprisingly, the research concluded that the adequacy of capital does not guarantee more profitability in Bangladesh's banking institutions, meaning, the results shown that capital adequacy has negatively affects the Bangladesh's banking institutions.

Following the review of the current literature, the current study has formulated the following hypothesis:
H_1: *There is a significant positive relationship between capital adequacy and Islamic bank profitability.*

3. METHODOLOGY

3.1. Data collection
To reflect the objective this research, we employed a penal data analysis with a time spanning from 2009 to 2018. As for the sample,

the current study also utilized 10 Islamic banks in Malaysia to investigate the effects of capital adequacy on Islamic banks' profitability. The panel data used in this research was based on annual and collected through Islamic banks' financial statements and Bank Negera Malaysia's financial bulletin. To analyse the effect of capital adequacy on Islamic banks' profitability, this study exerted panel data regression to analyse the time series data collected. Several tests were performed using econometrics Gretl software to establish the regression results.

Table 1: List of Islamic banks in Malaysia used in the study

Name of Islamic Banks	Year of Establishment
1. Affin Islamic Bank Berhad	2006
2. Alliance Islamic Bank Berhad	2007
3. Bank Islam Malaysia Berhad	1983
4. OCBC Al-Amin Bank Berhad	2008
5. Hong Leong Islamic Bank Berhad	2005
6. HSBC Amanah Malaysia Berhad	2007
7. Maybank Islamic Berhad	2007
8. Bank Muamalat Malaysia Berhad	1999
9. Public Islamic Bank Berhad	2008
10. Standard Chartered Saadiq Berhad	2008

Source: Bank Negara Malaysia, 2019

3.2. Model specification

Based on the previous literature, a panel regression was used to investigate the influence of capital adequacy on the profitability of Islamic banking institutions, the following regression equation is adopted.

$$ROA_{it} = \alpha + \beta_1 (LOGTA_{it}) + \beta_2 (LQ_{it}) + \beta_3 (CA_{it}) + \beta_4 (CPI_{it}) + \beta_5 (GDP_{it}) + \dot{\varepsilon}$$

Where;

Dependent variable:

Return on assets (ROA) as proxy of profitability

Independent variable:

CA   = Capital adequacy

Controlled variables:

LOGTA = Bank size

LQ   = Liquidity

CPI   = Consumer Price Index

GDP   = Gross Domestic Products

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

4. DEPENDENT VARIABLE

For this paper, the return on asset (ROA) is utilized as a proxy for Islamic banking institutions' profitability and can be calculated by dividing net profit after tax and *Zakat* over total assets. As opined by Flamini, Mcdonald & Schumacher (2009), to evaluate the banks' profitability, ROA is the best measurement to represent profitability compared to return on equity (ROE). In addition, Wasiuzzaman & Tarmizi (2010) and Aziz (2017) that ROE has neglected financial debts and therefore not weak to represent banks' profitability. However, ROE and ROA are essential mechanisms in banking system for evaluating banks' financial performances. ROE helps shareholders to understand how their invested capitals are generating income whereas ROA helps shareholders gauge how the corporate's management is exerting its resources or assets to generate significant income. Therefore, the higher ratio shows better management and performance of Islamic banks. Nevertheless, researcher stated that ROA points out how banks management effectively and efficiently used the resources in order to create profits. Hence, ROA is the best indicator of profitability as believed by several regulators.

5. INDEPENDENT VARIABLES

According to Kosmidou (2008), the adequacy of capital and its size measures total equity over total assets. The capital adequacy is key role of influencing banks profitability. The study conducted by Bourke (1989), Molyneux and Thorton (1992), Al-Damir (2014), Chi et al., (2018) and Saeed (2014) , found that there is a positive and significant association among the adequacy of capital and profitability. As explained by Athanasoglou, Brissimis & Delis (2005) and Berger (1995b), capital is best indicator to represent internal variable that effects bank profitability, the large capital will lead to a higher profits as well as large bank capital size would decrease their costs of funding and less risks of going bankrupt.

6. CONTROL VARIABLE

Several control variables were employed in this research. Bank size (LOGTA) represents the natural logarithm of banks' total assets. In

considering this control variable, this research paper is in line with the previous researches done by Bashir (1999), Milbourn, Boot & Thakor (1999), Altunbas, Carbo, Gardener & Molyneux (2007) who all utilized the variable and more recently El Moussawi & Obeid (2011) Aziz (2017) also used total assets to gouge the banks' size. Similarly, we employed Liquidity (LQ) as for another control variable. It can be calculated through the total financing over total assets to evaluate the Islamic banks' liquidity level and its influence on Islamic banks' profitability. Previous study like Lukorito, Nyangan & Nyamasege (2014) and Yahya, Akhtar & Tabash (2017) investigated the impact of liquidity on banks' profitability while exerting Liquidity (LQ) as variable and both studies found a significant impact on the topic under study.

The external macro-level variables employed in this study are GDP and Inflation. Both of these factors are also elements that effects soundness, stability and Malaysia's Islamic banking performance. Several earlier researches used those variables as external variables that effects profitability of Islamic banks such as Jamal, Hamidi & Karim (2012), Ali, Akhtar & Ahmed (2011) and Yahya et al. (2017).

7. FINDINGS

Table 2: Descriptive Analysis

Variables	Observation	Mean	Minimum	Maximum	S. D
ROA	100	0.79	0.05	1.72	0.32
Total assets	100	30,492,540	3,171,853	225,215,061	40,596,543
Total Equity	100	2,023	0.00	10,477	2055
Total financing	100	21,368,916	1,936,315	176,818,009	32,406,483
GDP	100	4.73	-1.5	7.40	2.25
Consumer Price Index	100	2.13	0.58	3.70	0.95

The above table shows the descriptive analysis of the study. It can be seen that, ROA has maximum value of 1.72 to minimum of 0.05 with the mean and standard deviation 0.79 and 0.32 respectively. Which indicates the very low standard deviation points out that the profitability between Islamic banks are almost similar. The highest total assets of Islamic banks were RM 225,215,061 and lowest total assets was RM 3,171,853 with the standard deviation of RM 40,596,543. The maximum total equity of Islamic banks was RM

10,477 to minimum of RM 0.00 with the mean and standard deviation RM 2,023 and RM 2055 respectively.

The average total financing of Islamic banks was RM 21,368,916, lowest total financing was RM 1,936,315 whereas the highest total financing of Islamic bank was RM 176,818,009 with standard deviation of RM 32,406,483. In addition, the study used to macroeconomic variables which are GDP and CPI. GDP has maximum value of 7.40 to minimum of – 1.50 with the mean and standard deviation of 4.73 and 2.25 accordingly. The highest value of CPI was 3.70 whereas the lowest value of CPI was 0.58. The average value and standard deviation of CPI were 2.13 and 0.95 respectively.

7.1. Regression results

We employed multicollinearity test to detect high relationship among independent variables. We then performed the Correlation tests and Variance Inflation Factor (VIF) to know the existence of multicollinearity issues. The study also utilized Breusch-Pagan Lagrange Multiplier (LM) to test whether the POLS or REM model is suitable for this study. Lastly, we employed Hausman test to evaluate whether Fixed Effect Model (FEM) or Random Effect Model (REM) is appropriate for this research. To identify the autocorrelation and heteroscedasticity, we used robust standard error test (Robust SE). The results of the analysis illustrated in table 5.

As discussed earlier, to know the statistical relationship among explanatory variables, this study used correlation tests. Table 3 shows the results of correlation.

Table 3: Correlation Tests

	LOGTA	LQ	CA	CPI	GDP
LOGTA	1.0000				
LQ	0.3673	1.0000			
CA	-0.1769	-0.0888	1.0000		
CPI	0.1463	0.1847	0.1348	1.0000	
GDP	0.1500	0.1818	0.1128	0.5573	1.0000

The table above shows correlation tests among independent variables in the study. This indicated that the model does not have high correlation among explanatory variables. Except for the CPI and GDP which have the highest correlation of this study (0.5573).

Table 4: Variance Inflation Factor (VIF)

Variable	VIF	1/VIF
CPI	1.49	0.672851
GDP	1.48	0.677853
LOGTA	1.20	0.830004
LQ	1.19	0.840541
CA	1.07	0.935574
Mean VIF	1.28	

The above table evaluates whether there is multicollinearity problem among independent variables. To test multicollinearity problem, this research employed Variance Inflation Factor (VIF). A study done by Ethington (2005) stated that if the VIF is less than 10% there is no Multicollinearity problem in the model. Therefore, the analysis of VIF shows that there is no multicollinearity problem between independent variables.

Table 5: The Summary of Breusch-Pagan Lagrangian Multiplier Test

Chi–chi-squared	Prob > chi2
25.71	0.0000

To determine whether POLS model or REM model is suitable for this study, the Breusch- Pagan Lagrange Multiplier (LM) employed. The results of the analysis rejected the null hypothesis because the P-value is less than 0.005. Thus, as presented in the above table, the appropriate model for this study is panel REM.

Table 6: Summary of Hausman Test

Chi-Sq Statistic	Prob > chi2
18.18	0.0011

Hausman test was conducted to identify whether Fixed or Rand Effect models are appropriate in the study. The finding indicated that Fixed Effect Model was the suitable in the panel data estimator. The above Table 6 showed that the probability is lower than 0.005. Which means that this model rejects the null hypothesis and therefore significant at interval level of 0.0011.

Table 7: Results of Fixed Effect Model

ROA	Coefficient	P-Value
Capital Adequacy (CA)	1374.064	0.001***
Bank Size (LOGTA)	-0.1835121	0.265
Liquidity (LQ)	0.4125158	0.150
Consumer Price Index (CPI)	-0.0532424	0.072*
Gross Domestic Product (GDP)	0.0328652	0.092*
R-Square Overall		0.13
F-value		F (5,9) 50.70 Prob > F 0.0000

Notes: *** significant at 1% level, ** 5% level, * 10% level

The nexus between the adequacy of capital and profitability of Islamic banking institutions in Malaysia are presented in Table 6 above. The results showed in the above table depicts that two variables namely capital adequacy and GDP are positive and significant at value of (p-value; 0.001 and 0.072) respectively. Whereas, consumer price index has negative and not have a significant value (p-value; 0.092). From this analysis, we can also conclude that bank size and liquidity variables have no influence towards profitability of Islamic banks in Malaysia.

8. DISCUSSION OF THE FINDINGS

The coefficient estimates of Capital Adequacy (CA) is negative and statistically significant, indicating that the higher bank's capital, the higher ROA. The possible explanation of this association, the increase of capital adequacy ratio will lead to increase in profitability of Islamic banking institutions in Malaysia. This means the well capitalized banks will depend on their own capital to fund their asset growth. This decreases dependency on expensive outside capital fund, and hence leads to greater profitability for the Islamic banks. Also, it means if the bank has large capital scale, it will have opportunity to expand its business activities and this would in turn, generate higher profits as Islamic banks are mainly based on trading activities and not lending money. This finding supports the findings of previous researches conducted by Vong & Chan (2006), Chi et al., (2018), Al-Damir (2014) and Saeed (2014).

The results showed that consumer price index (CPI) has negative and significantly influences profitability of Islamic banks in Malaysia.

This means inverse relationship among CPI and profitability, when inflation goes up the banks will generate lower profits. Also, this study implies that Islamic banks failed to adjust accurate rate of consumer price index (CPI). This study however contradicts with the studies conducted by Jamal et al. (2012) and Yahya et al. (2017) who found otherwise. Furthermore, the coefficient and p-value of GDP presented in the above Table showed that there is positive significant relationship between GDP and Islamic banking institutions' profitability. It indicates that Malaysian's Islamic banks may substantially support GDP growth rate and help to diversify Malaysian economic growth while these Islamic banks are will generate profits. This outcome is consistent with the results found by Jamal et al (2012), Ali et al (2011) and Yahya et al (2017).

9. CONCLUSION

This study used panel data method to examine the influence of capital adequacy towards Islamic bank profitability. The result showed that increase in capital of Islamic banks will lead to higher profits. It is because, Islamic banks will have opportunity to expand its business activities to generate more profits compare to low capitalized Islamic banks. The result of this study provides several recommendations to practitioners and researchers. For practitioners, Islamic banks managers need to put effort to increase the capital of the banks in order to increase their performances. It would assist the banks managers and policy makers to find the suitable tools and guidelines to have high capital adequacy. This will also help them to realize that increasing and having higher capital adequacy will lead to these banks to generate substantial profitability.

On the other hand, this study recommends for future researchers to analyse the regulatory capital adequacy ratio and its impact on performance of Islamic banks in Malaysia. This study is limited to 10 Islamic banks in Malaysia and therefore, future researcher may consider a higher sample of Islamic banks in Malaysia to serve more generalizable outcomes.

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