Internal and External Factors and the Performance of Malaysian Islamic Banks

Parviz Ahangi

University of Lethbridge

Faculty of Management

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# Abstract

This study analyzes the effect of internal and external factors on the performance of Islamic banks in Malaysia. Additionally, this study analyzes the robustness of this effect by adding factors that represent the economic crisis of 2008 and the banks’ maturity to the analysis. This study uses the data for 16 Malaysian Islamic banks for the period of 2005-2011. The stepwise multiple regression analysis and the moderated multiple regression (MMR) analysis will be used to analyze the data.

*Keywords:* Islamic banking, internal banking ratios, external ratios, economic recession, conventional banking.

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# 1.0. Introduction

## 1.1. Background and Motivation

The concept of Islamic banking was developed in the late 1940s, based on the norms and standards of Sharia law (norms and principles retrieved from Koran). The first Islamic bank, Mit Ghamr Savings Bank, was established in 1963 in Egypt (Chachi, 2005) and since 1970 its principles have been implemented in other countries (Skinner, 2007). Currently, there are more than 300 Islamic financial institutions operating in more than 80 countries (Cevik & Charap, 2011). In 2013, the total assets of Islamic banks are expected to reach the level of US$1.8 trillion (The Peninsula, 2012).

The new financial system was developed to create an environment where Muslims could engage in financial and banking activities without violating their religious norms. There are four fundamental bans that must be followed by Islamic banks in their operations (Hussain & Mehboob, 2008): *riba* (receipt and payment of any amount in the form of a fixed interest rate), *gharar* (uncertainty), *haram* (specific forbidden activities), and *maysir* (gambling/speculations).[[1]](#footnote-1) These bans required Islamic banks to engage in banking activities different from those of conventional banks, and work as investment intermediaries by deploying profit-and-loss sharing (PLS) arrangements (Errico & Farahbaksh, 1998). Under these PLS arrangements, banks engage in investment activities with customers (depending on the contract type). Based on the PLS agreement and the contract type, risks and profits of the investment are shared between customers and the bank. In addition, in order to increase their profits, Islamic banks impose some fixed administrative fees on deposits, depending on the deposit type.

The top 20 Islamic banks in the world, which hold nearly 57% of the whole Islamic banking assets, are concentrated in seven countries, namely Saudi Arabia, Kuwait, United Arab Emirates (UAE), Bahrain, Qatar, Malaysia, and Turkey (The Peninsula, 2012). These countries are considered to use the best practices based on the Islamic banking implementation experience. Among those countries, Malaysian Islamic banks hold second place with regard to the amount of banking assets. However, the performance of Malaysian Islamic banks was analyzed in only a few studies (e.g., Idris et al., 2011; Kok, Tan, Yong, & Tan, 2012; Wasiuzzaman & Tarmizi, 2010). These studies had certain limitations with regard to sample data, statistical analysis, and the methodology. Considering those limitations, and the success of Malaysia in implementation of Islamic banking concepts, in the current study we focus on the performance of Malaysian Islamic banks and the factors that affect their performance. As the measure of performance the ratio of ROA (return on assets) will be used.

## 1.2. Objectives and Implications

The objective of this study is to analyze the impact of the internal and external factors on the performance of Islamic banks. Furthermore, we will conduct an analysis for examining the robustness of this impact.

In this study we will use recent data collected from the 16 Islamic banks currently operating in Malaysia for the time frame of 2005-2011. Considering that 14 out of 16 of those banks (except Bank Islam Malaysia Berhad and Bank Muamalat Malaysia Berhad) have been operating within this time frame, this data could be regarded as very comprehensive.

Variables that will be analyzed are: internal factors (capital ratio, liquidity ratio, efficiency ratio, bank ownership, and bank size), external factors (GDP, inflation rate, money supply, and taxation indicator), moderator variables (bank maturity and financial crisis variable) and the profitability ratio (return on assets ratio). Those factors have been widely used in profitability studies conducted on conventional banks. Simultaneously, those factors are applicable to the Islamic banks considering the similarity between the accounting practices of conventional and Islamic banks. Further information about those ratios will be provided in the methodology section of the paper.

The research questions that will be addressed in the analysis are:

Q.1: What is the impact of the internal and external factors on the performance of Malaysian Islamic banks?

Q.2: Does the effect of internal and external factors on the performance of Malaysian Islamic banks change based on bank maturity and the financial crisis variables?

The stepwise regression analysis and the moderated multiple regression (MMR) analysis will be used to address the research questions stated above. Initially, the stepwise regression analysis will be used to determine the set of factors that account for most of the variance in the performance of Islamic banks. Later, the MMR analysis will be performed for analyzing changes in the effect of factors observed during the previous analysis by considering the maturity of Islamic banks and the economic recession of 2008. Visually, the theoretical model is presented in Figure 1:

*Figure 1.*Illustration of the theoretical model.

**Internal Factors:**

* **Capital Ratio (EQTA)**
* **Liquidity Ratio (LTA)**
* **Efficiency Ratio (EXTA)**
* **Bank Ownership (OWN)**
* **Bank Size (LNSIZE)**

**External Factors:**

* **Inflation Adjusted Annual Gross Domestic Product (GDP)**
* **Inflation Rate (INF)**
* **Money Supply (MS)**
* **Taxation Indicator Variable (TAX)**

**Performance Indicator:**

**Return on**

**Performance Indicator:**

**Return on Assets (ROA)**

* **Bank Maturity (AGE)**
* **Financial Crisis (Crisis 2008)**

There is a gap is Islamic banking related literature with regard to the profitability studies: few profitability studies were conducted on Islamic banks compared with conventional banks. The findings obtained from profitability studies conducted on conventional banks could not be applied to Islamic banks due to the operational differences between Islamic and conventional bank. The theoretical implications of this study may fill the abovementioned gap in Islamic banking related literature by analyzing the effect of internal and external factors on the performance of Malaysian Islamic banks and by examining the robustness of this effect by using an updated data set. From a practical point of view, the findings of this study could be used to increase the profitability of Islamic banks not only in Malaysia, but also in other regions. Managers of Islamic banks, by knowing the factors and how they affect the performance of their banks, would be able to change internal factors for increased profits. Furthermore, they would be able to make changes to banking operations to decrease the effect of external factors. Simultaneously, the analysis of the effect of the financial recession on the performance of Malaysian Islamic banks would help us understand how resistant these banks were during the financial crisis of 2008, and whether the Malaysian model of Islamic banking could be further implemented in other countries.

## 1.3. Structure

The rest of the study is organized as follows. Chapter 2 initially discusses the studies where the effect of internal and external factors on the performance of conventional and Islamic banks was analyzed. Further, in the same chapter, studies conducted on evaluating the effect of the financial crisis of 2008 on the performance of Islamic banks were presented. Chapter 3 describes the collected data set, the variables that will be included in the study, and the statistical analysis used for examining the data. Later, the budget and the future progress time line of the study are presented.

# 2.0. Literature Review

## 2.1. Studies Conducted on Conventional Banks

One of the earliest profitability studies was performed by Short (1979), where he analyzed the impact of the concentration variable on the banks’ performance. The author used data sets collected from 60 conventional banks in Canada, Western Europe, and Japan for the period 1971-1975. Considering the wide scope of the study and differences in the banking as well as accounting practices of the selected banks, the author included explanatory variables for eliminating the fundamental differences between practices. As a result Short concluded that higher concentrations of banks lead to higher profitability.

Similarly, Bourke (1989) conducted the same analysis as Short (1979), but with a wider data set, collected from 90 banks selected among 12 European and North American countries for the period of 1972-1981. Bourke, for the first time, divided the banking ratios into two categories: internal and external ratios. In the end, Bourke confirmed the findings obtained by Short with regard to the concentration variable.

There are many other profitability studies conducted on conventional banks (e.g., Naceur, 2003; Portela & Thanassoulis, 2005; Spathis, Kosmidou, & Doumpos, 2002). However, considering the scope of our study we will focus only on Islamic banks.

## 2.2. Studies Conducted on Islamic Banks

Compared with conventional banks, few profitability studies have been conducted on Islamic banks. The common feature of those studies is that they generally cover Islamic banks of the Middle East and North Africa (MENA) region.

Haron (1996) conducted the first known profitability study of Islamic banks where he analyzed the impact of the external set of variables (i.e. inflation rate, market dummy variable, growth in money supply, market share, the discount rate) on the performance of Islamic banks. After using the data set collected from 14 Islamic banks from 10 countries for the period from 1982 to 1994, the author concluded that Islamic banks in competitive markets perform better than in monopolistic markets. Furthermore, according to the study results obtained by Haron, the PLS loans, the widely used financial instrument by Islamic banks, are beneficial for all parties who engage in them.

Unlike the previous study, Bashir (2003) included a wide set of internal variables (i.e., capital ratio, liquidity ratio, ratio of overhead expenses over total assets, funds source management ratio, ratio of total liabilities over total assets, foreign ownership variable, ratio of non-interest earning assets over total assets), and used the external set of ratios (i.e., macroeconomic environment, taxation indicators, and financial structure variables) as the control variables. As a measure of performance Bashir used the ratios of return on assets (ROA), return on equity (ROE), and before tax profits over total assets (BTP/TA). Data analyzed in the study covered 14 banks from eight countries, for the period from 1993 until 1998. As a result, Bashir concluded that from internal banking ratios, high capital-to-asset and loan-to-asset ratios affect profitability positively, and external ratios, taxes affect the performance of banks negatively. Furthermore, according to the results, foreign-owned banks have higher profits. To the best of my knowledge, this is the first profitability study of Islamic banks where both internal and external banking ratios were used.

Hassan and Bashir (2003) used the same approach as Bashir (2003) by implementing a more representative data set: It was collected from 39 Islamic banks selected from 21 countries for the period from 1994 to 2001. Compared to the previous study, authors in this study made some changes to the external and internal set of variables.[[2]](#footnote-2) As a result, the authors came to the same conclusion as the previous study (Bashir, 2003) regarding internal ratios (i.e., high capital and liquidity leads to high profits). Additionally, the authors found that while tax rates affect profitability negatively, favorable macroeconomic conditions impact performance of Islamic banks positively.

The same approach used by Hassan and Bashir (2003) (i.e., evaluation of the effect of internal and external factors on the performance of Islamic banks) was used in other profitability studies with different data sets (e.g., Smaoui & Salah, 2012).

Alkassim (2005) went beyond the Islamic banking concepts, and after evaluating the impact of internal banking ratios (i.e., capital ratio, total assets (bank’s size variable), liquidity ratio, expense management ratio, fund source management ratio, and the ratio of non-interest expenses over total expenses) on the performance of Islamic and conventional banks, he compared the two. For that purpose, the author used two data sets collected from 16 Islamic and 18 conventional banks from the Gulf Cooperation Council (GCC) region for the period from 1997 to 2004. After utilizing separate regression analysis for each of the data sets, the author came to the conclusion that total banking assets (the bank’s size variable) have a negative effect on conventional banks’ performance and a positive effect on Islamic banks’ performance. Furthermore, according to Alkassim, high capital adequacy ratio and total loans had a positive impact on both of the banks’ performance. The Islamic banking results of this study are consistent with those obtained in previous studies (Bashir, 2003; Hassan & Bashir, 2003).

Zeitun (2012) advanced the approach implemented by Alkassim (2005), by using external ratios along with internal ratios. Zeitun, unlike Alkassim, used a more updated and wider data set (data were collected from 38 conventional and 13 Islamic banks for the period from 2002 to 2009) from the same GCC region. In this study, compared with previous studies (Bashir, 2003; Hassan & Bashir, 2003), the author revealed that bank equity does not have a significant effect on the performance of Islamic banks. Furthermore, the author found that the cost-to-income ratio and the inflation rate negatively affect the Islamic banks’ performance. According to the results, a bank’s size positively affects the profitability of Islamic banks, which proves the economies-of-scale concept with regard to Islamic banks. Additionally, the author found that the ownership variable does not have an effect on the performance of Islamic banks.

Hidayat and Abduh (2012) conducted the first profitability study that analyzed the effect of the financial crisis of 2008, along with internal and external ratios, on the performance of Islamic banks. By adding the economic recession variable to the analysis, the authors brought the profitability studies conducted on Islamic banks to a new level. This was a country-specific analysis, and the authors used the Bahraini banks for this analysis. The authors analyzed a sample of 14 conventional and eight Islamic banks for the time frame 2005- 2010. According to the results, the authors revealed that during the financial crisis the performance of Islamic banks in Bahrain was not affected, however after the crisis their performance was negatively affected.

## 2.3. Studies Conducted on Malaysian Islamic Banks

Although in some of the profitability studies several Malaysian Islamic banks were included in the sample data, to the best of my knowledge, there are three country-specific profitability studies conducted on Malaysian Islamic banks.

The first known profitability analysis of Malaysian Islamic banks was performed by Wasiuzzaman and Tarmizi (2010), where the authors wanted to find the effect of internal and external ratios on the banks’ performance. The sample data used in the study were obtained from four fully fledged Islamic banks and 12 Islamic “windows” for the period from 2005 to 2008 (S.Wasiuzzaman, personal communication, December 12, 2012). In the study the authors revealed that capital and asset quality ratios had a negative effect on bank profitability, while liquidity and operational efficiency ratios had a positive impact. These results contradict previous findings, and could not be generalized to the Islamic banks of Malaysia because the data used in the study covers Islamic windows. An Islamic window is a branch of a bank, or a division within a bank, that offers Islamic banking services and products to customers. Conventional banks usually have such divisions and they support operations of those divisions. Regardless of their services and operations, Islamic windows could not be regarded as fully compliant Islamic banks.

Another study on the profitability of Malaysian Islamic banks was conducted by Idris et al. (2011), who mainly focused on the effect of the internal ratios on the performance of Malaysian Islamic banks. The data set analyzed in this study was collected from nine Islamic banks for the period 2007-2009. The authors divided the internal ratios or internal factors into five categories, namely: capital adequacy ratio, credit risk ratio, liquidity ratio, bank size, and management expenses ratio. As a result, the authors found that a bank’s size had a positive and statistically significant effect on the performance of the selected banks. The limitation of this study is associated with the data analyzed: It covers only a limited period when the 2008 financial crisis was at its worst. The authors did not address the possible effect of the financial crisis on the Islamic banks’ performance.

In another dissertation work on Islamic banking profitability conducted by Kok et al. (2012), the authors analyzed the effect of both internal as well as external factors on the performance of Malaysian Islamic banks. Data used in this study were obtained from all Islamic banks of Malaysia for the time frame of 2006-2010. As a result of a regression analysis, the authors revealed that while bank size and money supply have a positive and statistically significantly effect on bank performance, asset quality and expense management have a negative effect on banks performance. This study is more advanced than the profitability studies previously conducted on Malaysian Islamic banks. However, as it is stated in the limitations and recommendations sections of the study, the authors did not address all the statistical tests that might affect the generalizability of the study results.

In the present study, we will address the findings and limitations of the previously stated profitability studies conducted on Malaysian Islamic banks (i.e., Idris et al., 2011; Kok et al., 2012; Wasiuzzaman & Tarmizi, 2010) in the following ways:

* Overcoming findings and limitations regarding data set: In the current study, compared to the one conducted by Wasiuzzaman and Tarmizi (2010), we will use data obtained only from Islamic banks. This would increase the generalizability of the study.
* Overcoming findings and limitations regarding methodology: In the current study, compared to the one conducted by Idris et al. (2011), we will consider the effect of the financial crisis on the performance of Islamic banks.
* Overcoming findings and limitations regarding statistical analysis: In the current study, unlike the one conducted by Kok et al. (2012), we would use tests of autocorrelation, multicollienearity and the heteroskedasticity.

## 2.4. Financial Crisis of 2008 and Islamic Banks

The most recent major financial crisis, which had its strongest effect from 2008 to 2009, damaged the global economy. The economic recession not only questioned the stability of the conventional banking system, but at the same time turned attention to Islamic banking as a more stable banking system, and as such an alternative to conventional banking practices (Beck, Demirgüç-Kunt, & Merrouche, 2010).

Opinions regarding the damage to Islamic financial institutions during this financial crisis differ from one other. For instance, Chapra (2008) and Miniaoui and Gohou (2011) stated that the Islamic banks had not been affected by the financial crisis of 2008. Parashar and Venkatesh (2010) argued that Islamic banks had been affected by the financial recession in terms of capital ratio, leverage, and return on average assets. Other studies (e.g., Beck et al., 2010) found no significant differences existed between the performance of Islamic and conventional banks during the 2008 financial crisis, except that Islamic banks increased their liquidity holdings. Above that, Lahem considered the financial crisis of 2008 as a great opportunity for Islamic banks to show their stability and superiority over conventional banks (as cited in Wasiuzzaman & Tarmizi, 2010). Reasons for considering Islamic banks as more resistant to the economic recessions and downturns are associated with their lack of engagement in risky trading activities (Beck et al., 2010; Chazi & Syed, 2010; Kassim & Majid, 2010).

By analyzing data obtained from conventional and Islamic banks in Bahrain, Hidayat and Abduh (2012) came to the conclusion that Islamic banks in that country were not significantly affected during the economic recession; however, they have been negatively affected during the post-crisis period.

Miniaoui and Gohou (2011) used the performance differences between Islamic and conventional banks from the UAE to evaluate the impact of the economic recession. The authors concluded that conventional banks performed better than Islamic banks prior to the economic recession of 2008, however differences gradually decreased after the recession. Those results could be interpreted in a way that the financial crisis either positively affected the performance of Islamic banks by bringing them closer to the conventional banks, or negatively affected the performance of conventional banks by bringing them closer to the Islamic banks.

Few studies were performed on the effect of the financial crisis of 2008 on the performance of Malaysian Islamic banks, and opinions differ regarding the resiliency of Malaysian Islamic banks to the economic recession of 2008. For instance, Wasiuzzaman and Tarmizi (2010) presented Malaysia as a country that had been less affected by the economic recession, and this stability was explained as a result of the presence of the Islamic banking system in the country.

Hasan and Dridi (2010) compared the change in profitability based on the data obtained from conventional and Islamic banks of Malaysia, and concluded that during the economic recession Malaysian conventional banks performed better than Islamic banks.

Kassim and Majid (2010) evaluated the effect of not only the financial crisis of 2008, but also the Asian financial crisis of 1997 on the performance of Islamic and conventional banks of Malaysia. The authors split the monthly data obtained from Malaysian Islamic and conventional banks from 1997 to 2009 into three; namely the 1997 crisis period, the non-crisis period, and the 2008 crisis period. During each of those periods the performance of the banks was compared, and as a result, the authors concluded that both banking systems are vulnerable to economic shocks and recessions.

In the present study, by using data obtained from all Islamic banks of Malaysia for the period from 2005 to 2011, we will be able to analyze the effect of the financial crisis of 2008 not only on the performance of those banks, but also on relationship between internal and external ratios and performance.

In the light of the findings obtained from abovementioned studies, the following hypothesis will be tested in the study:

H1: The capital ratio (EQTA), the liquidity ratio (LTA), the bank ownership variable (OWN), bank size (SIZE), the annual GDP of the country (GDP), the annual inflation rate of the country (INF), and the annual money supply in the country (MS) will have a positive effect on the performance (ROA) of Islamic banks.

H2: The efficiency ratio (EXTA) and the taxation indicator variable (TAX) will have a negative effect on the performance (ROA) of Islamic banks.

These hypotheses will be tested using the stepwise multiple regression analysis. Further, for evaluating the robustness of results obtained from the previous regression analysis, the bank maturity (AGE) and the crisis variable (Crisis 2008) will be used as the moderator variables in the MMR analysis. The description of the variables and the explanation of the statistical analysis are presented in the methodology section of the study.

# 3.0. Methodology

## 3.1. Data and Procedures

Data used in this study are comprised of panel data collected from all 16 currently operating Islamic banks of Malaysia for the time frame of 2005-2011. Data on internal factors will be collected from the financial statements and annual reports of each bank, obtained from their official websites. Completeness of data on internal factors depends on the following:

* Some of the banks included in the analysis are new (or started Islamic banking operations very recently) and have financial reports for only a few years, and
* Some of the banks have not posted financial statements and annual reports for all years of operation.

Data on external factors will be obtained from the International Monetary Fund (IMF) and the World Bank (WB).

A list of the licensed Islamic banks was obtained from the official website of the Central Bank of Malaysia (Central Bank of Malaysia, 2012). The names of the banks, together with available data in years, are presented in Table 1, below:

|  |  |  |  |
| --- | --- | --- | --- |
| Table 1 | | | |
| *List of the Malaysian Islamic Banks Included in the Data Sample* | | | |
| # | Name | Available data (in years) | Year of establishment |
| 1 | [Affin Islamic Bank Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_affinislamic&ac=80&cat=islamic&type=IB&lang=en) | 6 | 2006 |
| 2 | [Al Rajhi Banking & Investment Corporation (Malaysia) Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_rajhi&ac=82&cat=islamic&type=IB&lang=en) | 5 | 2006 |
| 3 | [Alliance Islamic Bank Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_allianceislam&ac=90&cat=islamic&type=IB&lang=en) | 3 | 2008 |
| 4 | [AmIslamic Bank Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_amislamic&ac=81&cat=islamic&type=IB&lang=en) | 6 | 2006 |
| 5 | [Asian Finance Bank Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_asianfinance&ac=83&cat=islamic&type=IB&lang=en) | 5 | 2005 |
| 6 | [Bank Islam Malaysia Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_islam&ac=26&cat=islamic&type=IB&lang=en) | 7 | 1983 |
| 7 | [Bank Muamalat Malaysia Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_muamalat&ac=27&cat=islamic&type=IB&lang=en) | 7 | 1999 |
| 8 | [CIMB Islamic Bank Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_cimbislamic&ac=76&cat=islamic&type=IB&lang=en) | 7 | 2005 |
| 9 | [HSBC Amanah Malaysia Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_hsbcam&ac=92&cat=islamic&type=IB&lang=en) | 4 | 2008 |
| 10 | [Hong Leong Islamic Bank Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_hl&ac=77&cat=islamic&type=IB&lang=en) | 7 | 2005 |
| 11 | [Kuwait Finance House (Malaysia) Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_kfh&ac=78&cat=islamic&type=IB&lang=en) | 7 | 2005 |
| 12 | [Maybank Islamic Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_maybankislamic&ac=88&cat=islamic&type=IB&lang=en) | 4 | 2007 |
| 13 | [OCBC Al-Amin Bank Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_ocbcalamin&ac=95&cat=islamic&type=IB&lang=en) | 4 | 2008 |
| 14 | [Public Islamic Bank Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_publicislamic&ac=94&cat=islamic&type=IB&lang=en) | 4 | 2008 |
| 15 | [RHB Islamic Bank Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_rhbislamic&ac=75&cat=islamic&type=IB&lang=en) | 7 | 2005 |
| 16 | [Standard Chartered Saadiq Berhad](http://www.bnm.gov.my/index.php?ch=li_islamic&pg=li_banking_stanchartsaadiq&ac=93&cat=islamic&type=IB&lang=en) | 4 | 2008 |

## 3.2. Measures

3.2.1. Dependent variable. We will use the profitability ratio of ROA (return on assets) as the performance measure, which is considered to be one of the best performance indicators (Zeitun, 2012). The ROA (net income/total assets) represents the profit gained for each asset dollar and shows how efficiently the financial resources of bank are being utilized (Bashir, 2003). This ratio has been widely used in other profitability studies about Islamic banks (e.g. Bashir, 2003; Bintawim, 2011; Hassan & Bahsir, 2003; Kok et al., 2012; Zeitun, 2012).

3.2.2. Independent variables. Two set of independent variables, namely internal factors (capital ratio, liquidity ratio, efficiency ratio, bank ownership, and bank size) and external factors (GDP, inflation rate, money supply, taxation indicator variable), will be used in this analysis.

Internal factors, or bank-specific factors, comprise the set of variables that are under the control of bank management (Bourke, 1989). Internal factors that will be included in the study are presented below:

**Capital ratios** have been widely implemented in profitability studies conducted on Islamic banks (Akhtar, Ali, & Sadaqat, 2011; Alkassim, 2005; Bashir, 2003; Hassan & Bashir, 2003; Idris et al., 2011; Kok et al., 2012; Smaoui & Salah, 2012). They have indicated the impact of capital efficiency on the profitability of Islamic banks. As a capital ratio, we will use the ratio of total shareholder equities to total assets (total equity/total assets) to evaluate the capital adequacy of banks. Previously conducted studies have shown a positive effect of this ratio on Islamic banks’ performance (Alkassim, 2005; Bashir, 2003; Hassan & Bashir, 2003). This positive impact is a result of the availability of cheap funds to Islamic banks, and with the opportunities those funds gave to Islamic banks. However, Wasiuzzaman and Tarmizi (2010) found a negative effect of capital ratio on Malaysian Islamic bank performance which was explained with the lower possibility of highly capitalized banks to engage in riskier operations. This variable will be included in this study because it shows the capitalization level of banks that directly affects the profitability. It is expected to affect the profitability positively, since it expands the production capability of the bank and stimulates cash flow.

**Liquidity ratios** have also found wideuse in profitability studies of Islamic banks due to the riskiness of their operations. In this study, as a proxy of the liquidity ratio, we will include the ratio of total loans to total assets. This ratio is significant in the profitability of Islamic banks due to their engagement in PLS and other loans.

As previously mentioned, Islamic banks have only a limited number of financial products that they are allowed to use, and the PLS loans comprise the main part of it. A high number of loans guarantee high profits. However, the success of those loans greatly depends on the macroeconomic condition of the country, which increases the riskiness of this policy (Bashir, 2003).[[3]](#footnote-3) In several studies (Idris et al., 2011; Smaoui & Salah, 2012) this ratio showed a negative effect on Islamic banks’ performance. However, Bashir (2003), Hassan and Bashir (2003), Wasiuzzaman and Tarmizi (2010), and Alkassim (2005) found it had a positive effect on the performance of Islamic banks.

Considering that the main share of Islamic banks’ profits comes from the PLS loans, we expect this ratio to positively affect the performance of Islamic banks. This ratio will be added to the analysis as an independent variable, because Islamic banks rely highly on PLS loans, and as q profit-sharing instrument, the success of those loans affects the performance of Islamic banks.

**Efficiency ratios** measure the efficiency of banking operations by analyzing bank expenses. In this study, as the proxy for operational efficiency, we will use the ratio of operating expenses to total assets (total operating expenses/total assets). This ratio represents the level of expenses associated with banking operations and the share of those expenses in total banking assets. It is expected that the high expense ratio would lower performance, because the larger part of the performance indicator, income, would be spent as expenses. Simultaneously, as suggested by Kok et al. (2012), high expenses (e.g., payroll expenses) could lead to higher operational productivity. At the same time, high salary expenses could decrease profits if they do not increase the performance within the bank (Al-Tamimi, 2010). Hidayat and Abduh (2012) found a negative effect of funds use management ratio on the performance of Bahraini Islamic banks. The same impact is expected in the present study. This ratio will be included in the analysis because, as an internal banking factor, it expresses the efficiency in expense management with regard to the total assets of the bank.

**Bank ownership** is the variable that represents whether the major part of the banking assets belong to foreign or local investors. Previous studies of Islamic banks show both positive (e.g., Bashir, 2003) and negative (e.g., Zeitun, 2012) effects of this variable on bank performance. Generally, foreign-owned banks benefit from tax reductions from the government (Bashir, 2003), which motivates foreign investors to invest in the country. In the current analysis it is expected to have a positive impact on the performance of Islamic banks. It will be included in the current study as an independent variable because six out of 16 Islamic banks in Malaysia are foreign owned, and the analysis of differences in ownership would indicate how ownership over banking assets in Malaysian Islamic banks affects performance.

**Bank size** (a logarithmic value of total banking assets) is also one of the widely used internal factors in profitability studies conducted on Islamic banks (Akhtar et al., 2011; Alkassim, 2005; Bintawim, 2011; Idris et al., 2011; Kok et al., 2012; Wasiuzzaman & Tarmizi, 2010; Zeitun, 2012). This ratio represents the total assets of each bank, and how they change on a yearly basis. The effect of banks size on performance could be explained with the economies-of-scale concept: larger bank size results in fewer expenses which in turn could bring higher net profits (Kok et al., 2012). Bank size has been included as an independent variable because total assets of a bank directly affect its future operations and performance.

Empirical studies conducted on Islamic banks showed both positive (Alkassim, 2005; Idris et al., 2011) and negative (Bashir, 2003; Bintawim, 2011) impacts of bank size on bank performance. Considering the economies-of-scale concept, we expect a positive impact of bank size on the performance of Malaysian Islamic banks.

External factors comprise the set of variables that represent the macroeconomic condition within the country, and they could not be controlled by the bank management. External factors that will be included in the study are presented below:

**Annual gross domestic product** (GDP) (inflation adjusted) is the measurement that represents the economic activity and capability of an economy (Kok et al., 2012). Empirical results show that GDP has a positive and significant effect on the performance of Islamic banks (Bashir, 2003; Smaoui & Salah, 2012; Wasiuzzaman & Tarmizi, 2010), because favorable macroeconomic conditions within the country create a good environment for the banking sector. In the present study, GDP is expected to have a positive effect on the performance of Islamic banks, because if GDP decreases it would badly affect the banking industry by decreasing the credit quality which in the end could reduce the profits of Islamic banks (Wasiuzzaman & Tarmizi, 2010). This variable will be included as an independent external variable to the current study as any changes in GDP could cause changes in the macroeconomic environment that could affect Islamic banks that engage in highly risky operations such as PLS loans.

The **inflation rate** is widely used as an external variable in the profitability studies conducted on Islamic banks (Asutay & Izhar, 2007; Bashir, 2003; Haron, 1996; Karim, Mohamed Sami & Hichem,2010; Kok et al., 2012; Smaoui & Salah, 2012; Srairi, 2009; Wasiuzzaman & Tarmizi, 2010; Zeitun, 2012). Inflation may have a negative impact on the performance of Islamic banks if overhead costs increase faster than the inflation rate. For instance, Kok et al. (2012) found the inflation rate negatively affected the performance of Malaysian Islamic banks.

The effect of inflation depends highly on whether it has been predicted or not (Srairi, 2009). When inflation has been predicted, then banks can adjust returns of their PLS loans, and by doing so could increase profits. However, if it is not predicted, then banking costs could increase, which could eventually decrease the net profits. Empirical results show a positive impact of the inflation rate on Islamic bank performance, which shows that in most cases Islamic banks were able to predict the inflation rate (Bashir, 2003; Smaoui & Salah, 2012; Wasiuzzaman & Tarmizi, 2010). The inflation rate will be included in this study as an external variable because it could affect the profitability of Islamic banks if not predicted.

**Money supply** represents the amount of money in the country, and how it affects the performance of Islamic banks. It could be used as a proxy for macroeconomic conditions in the Malaysian economy (Kok et al., 2012). Kok et al. (2012) and Srairi (2009) found a positive and statistically significant effect of this variable on the performance of Islamic banks. The same positive effect of the money supply is expected here, and will therefore be included in this study as an external variable because money supply reflects the macroeconomic conditions within a country, which influences the performance of Islamic banks by affecting the financial situation of customers.

The **taxation indicator variable** (the ratio of total taxes over before-tax profits for each bank) represents the effect of tax rates imposed on Islamic banks of Malaysia. Each bank in the country, based on regulation, must pay taxes. However, high tax rates could discourage local banks and foreign investors from entering the local Islamic banking market. Furthermore, Islamic banks pay an additional religious tax called *Zakat*, which affects their profits. Bashir (2003) used this variable as an external control variable.

In this study, we will use the taxation indicator variable as an external variable to measure the effect of tax regulations in Malaysia on the performance of Islamic banks. Bashir (2003) found this ratio to have a negative effect on the performance of Islamic banks. We expect the taxation variable to have a negative effect on the performance of Malaysian Islamic banks.

3.2.3. Moderator variables. Two moderator variables, namely bank maturity and the financial crisis variable, will be included in the study.

**Bank maturity** represents the number of years that Islamic banks have been operating. Zeitun (2012) used this variable as an internal factor, and came to the conclusion that the bank-age variable does not have a significant effect on the performance of Islamic banks. However, in the current study it is expected that the bank age variable would affect the performance in a positive way, because mature banks have more experience and expertise within the sector of operation.

This variable will be included in the statistical analysis as a moderator variable. It will assist in examining the robustness of the results obtained from the analysis of the effect of internal and external factors on the performance of Islamic banks.

**The financial crisis variable (Crisis 2008)** is a binary variable that will show the effect of the financial crisis of 2008. As stated earlier, there are few studies that have evaluated the effect of the financial crisis of 2008 on the performance of Islamic banks. Hidayat and Abduh (2012) used special dummy variables to examine this effect. In the present study the same approach will be followed, since one of the primary objectives of this study is to determine if the financial crisis of 2008 affected Islamic banks of Malaysia.

This variable will be included as the moderator variable to examine the robustness of the results obtained from the analysis of internal and external factors on the performance of Islamic banks.

The complete set of variables and their formulas are stated in Table 2, below:

|  |  |  |
| --- | --- | --- |
| Table 2 | | |
| *The Set of Variables Used in the Study* | | |
| Name of variable | Formula and/or explanation | |
| Independent variables | | |
| Internal factors | | |
| Capital ratio (EQTA) | | Total shareholders’ equity/total assets |
| Liquidity ratio (LTA) | | Total loans/total assets |
| Efficiency ratio (EXTA) | | Total operating expenses/total assets |
| Bank ownership (OWN) | | The binary variable used for representing the ownership of banking assets |
| Bank size (SIZE) | | The logarithmic value of total assets |
| External factors | | |
| GDP | Inflation-adjusted annual gross domestic product | |
| Inflation rate (INF) | Annual inflation rate | |
| Money supply (MS) | The total amount of money available in the country for each year | |
| Taxation indicator  variable (TAX) | Total taxes/before tax profits for each bank | |
| Moderator variables | | |
| Bank maturity (AGE) | The maturity of banks in years | |
| Crisis 2008 | The binary variable used for representing the financial crisis of 2008 | |
| Dependent variable | | |
| ROA | Net income/total assets | |
| *Note*. ROA = return on assets. | | |

## 3.3. Statistical Analysis

The present study will use two statistical techniques, the stepwise multiple regression analysis and the moderated multiple regression analysis (MMR). The stepwise regression analysis will be used to find the set of independent variables that account for most of the variance in the dependent variable. On the other hand, the MMR analysis will be used to evaluate the robustness of results obtained from the stepwise multiple regression analysis. In MMR analysis bank maturity (AGE) and the financial crisis

(Crisis 2008) variables will be used as the moderators.

# Budget

The budget would comprise expenses for editorial services (approximately $700).

# Timeline

|  |  |  |  |
| --- | --- | --- | --- |
| No | Stage | Description | Date (expected) |
| 1 | Proposal defense | Literature review, problem statement, and statistical method description part of the thesis proposal is ready. Currently, formatting of the final version is in progress. | February 1 |
| 2 | Finalizing the statistical analysis | Data set will cover 16 Malaysian Islamic banks for the period from 2005 to 2011. This new data set is larger than the initial proposed dataset (i.e., five Malaysian banks for the period from 2005 to 2010). | February 15 |
| 3 | Finalizing the first draft of the thesis | Information needed for preparing the first draft is also ready – articles to be included in the thesis have been selected and reviewed. Discussion should be held with supervisors regarding additions. | March 10 |
| 4 | Submission of the final thesis and defense | After completion of the first draft of the thesis, and after receiving approval, it will be sent to the editor. | March 25 |

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1. The number of bans considered in Islamic banking practices is a controversial issue: according to some scholars (e.g., El-Gamal, 2000; Ilias, 2008) there are two bans, for others (e.g., Hussain & Mehboob, 2008; Mohamad-Zaid et al., 2011) there are four bans, and for some other authors (e.g., Smaoui & Salah, 2012) there are three bans. In the current study, we will consider the four bans suggested by Hussain and Mehboob (2008). [↑](#footnote-ref-1)
2. The variables representing the number of banks and the real interest rate were added to the external set of ratios, and the NIM (net interest margin) variable was added to the performance measures. Furthermore, the ownership variable and the ratio of liabilities over total assets were excluded from the internal set of ratios, and the variables representing the annual growth of GDP, inflation rate, ratio of total taxes paid divided by before tax profit, stock market capitalization, and the ratio of stock-market capitalization divided by deposits of banks were excluded from the external set of ratios. [↑](#footnote-ref-2)
3. In PLS loans, the risks and the profits associated with loans are being divided between parties based on agreements that make them very fragile during economic recession periods. [↑](#footnote-ref-3)