

Risk Management Practices and Financial Performance of Islamic Banks: Malaysian Evidence

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This study aims to analyse the relationship between risk management practices and financial performance in the Islamic banks in Malaysia. In achieving this objective, the study assesses the current risk management practices of the Islamic banks and links them with the banks' financial performance. The study uses both the primary (survey questionnaires) and secondary data (annual reports). The results of the study shed some lights on the current risk management practices of the Islamic banks in Malaysia. By assessing their current risk management practices and linking them with financial performance, the study hopes to contribute in terms of recommending strategies to strengthen the risk management practices of the Islamic banks so as to increase the overall competitiveness in the Islamic banking industry.

Keywords: risk management; Islamic banks; financial performance; competitiveness

1. Introduction

The Islamic banking industry is growing rapidly and gaining importance in the global financial scenario. Zaher and Hassan (2001) predicted that Islamic banks are set to control some 40-50 percent of Muslim savings by 2009/2010. Assets of the Islamic banking institutions worldwide is currently estimated at US\$750 billion, registering an unprecedented growth of 20-30 percent per annum in the last ten years (Asian Bankers, 2008). With the growing interests to search for the alternative to the conventional banking system in the post-2007/2008 global crisis, coupled with large potential customers' base of over one billion Muslim population worldwide, the demand for the industry is expected to strengthen and grow even more rapidly.

The growing market demand and attention given to the Islamic banking and finance industry has escalated the research interest in this area as well. Due to the relatively recent nature of the Islamic banking industry compared to its conventional counterpart, many aspects of the industry are not well investigated. At the moment, topics of research interests are mainly on product development and performance of the industry. In this regard, an area of concern which is highly relevant in ensuring healthy growth of the industry is the risk management aspects of the Islamic banking institutions.

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Being involved in the intermediation process, risk management is as important to the Islamic banks as it is to the conventional banks. Banking is a risky business and several risk factors such as credit, liquidity, operational and market risks have been identified as critical to ensure that the banks position remain intact amid the intense competition in the industry. The survival and success of a financial organization depends critically on the efficiency of managing these risks (Khan and Ahmed, 2001). More importantly, good risk management is highly relevant in providing better returns to the shareholders (Akkizidis and Khandelwal, 2007; Al-Tamimi and Al-Mazrooei, 2007). In addition, prudent risk management by financial institutions is the hallmark to avoid financial distress that could lead to a full blown financial crisis. In view of this, the issue of risk management in the financial institutions is a topic of interest not only to the industry players, but also the policy makers.

A growing literature suggests that risk management is even more challenging for the Islamic banks compared to the conventional counterpart. This is largely attributed to the fact that the Islamic banks are faced with additional risks due to the specific features of the financing contracts, liquidity infrastructure, legal requirements and governance underlying the Islamic banks' operations (Cihak and Hesse, 2008). The Islamic banks have to also ensure that the risk management techniques which include risk identification and management being adopted should not be conflicting with the *Shari'ah* principles (Khan and Ahmed, 2001). Moreover, in view of the increasing pressure of globalization, effective and efficient risk management in the Islamic financial institutions is particularly important as they endeavor to cope with the challenges of cross border financial flows. Some argued that the Islamic banks performance and profitability are significantly affected due to need to allocate more resources to mitigate these risks. In particular, the greater risk mitigation requirements call for adequate capital and reserves, appropriate pricing and control of risks, strong rules and practices for governance, disclosure, accounting, and auditing rules, and suitable infrastructure that could facilitate liquidity management (Sundararajan and Errico, 2002).

In relating risk management practices and performance, several studies have documented negative effects of increased capital requirements on bank performance. This includes that of Brinkmann and Horvitz (1995) which documents a significant decline in bank loan supply by the US banks due to need to comply with the Basle I requirements. Similarly, Furlong (1992) shows significant decline in the US bank lending due to the imposition of capital regulations. However, Peek and Rosengren (1995) and Berger and Gregory (1994) find contradictory findings. Despite the well-established literature on the conventional banks, studies on the relationship between risk management practices and the Islamic banks performance, to our knowledge, is lacking at the moment.

This study aims to fill the gap in the literature by focusing on the risk management practices of the Islamic banks and linking the practices with the financial performance of the Islamic banks. The study focuses on the Malaysian experience since the Islamic banking industry in this country is well-established, thus allowing complete data collection and reliable analysis. The study hopes to contribute in terms of recommending strategies to strengthen the risk management practices of the Islamic banks so as to increase the overall competitiveness in the Islamic banking industry.

This study is organized as follows. The following section reviews the literature on the relationship between risk management and the bank's performance. Subsequently, the next section discusses the methodology undertaken by this study and nature of data collection and data sources. This is followed by the analysis of the results, and lastly, conclusions and policy implications.

2. Literature Review on the Relationship between Risk Management and Bank Performance

Studies on the relationship between risk management and financial performance of banks mostly have been conceptual in nature, often drawing the theoretical link between good risk management practices and improved bank performance. Schroeck (2002) and Nocco and Stulz (2006) stress the importance of good risks management practices to maximize firms' value. In particular, Nocco and Stulz (2006) suggests that effective enterprise risk management (ERM) have a long-run competitive advantage to the firm (or banks) compared to those that manage and monitor risks individually. It is, therefore suggested that companies to manage risks strategically by viewing all the risks together within a coordinated manner. In relation to this, Stulz (1996) associates good risk management practices with the elimination of costly lower-tail outcomes by proposing "full-cover" risk management as compared to "selective" risk management. The study suggests that prudent risks management is important in reducing the bankruptcy costs. Additionally, in the case of the US, there are potential benefits that risk management could also reduce taxes.

Several other studies draw the link between good risk management practices with improved financial performances (see, for example, Smith, 1995; Schroeck, 2002). In particular, these studies propose that prudent risk management practices reduce the volatility in banks' financial performance, namely operating income, earnings, firm's market value, share return and return on equity. Schroeck (2002) proposes that ensuring best practices through prudent risk management result in increased earnings.

Despite the voluminous studies on the link between risk management practices and companies performance, studies providing empirical evidence on the link between risk management practices and bank financial performance, to our knowledge, has been somewhat limited. Among these studies, Drzik (2005) shows that bank investment in risk management during 1990s helped to reduce earnings and loss volatility during the 2001 recession. In the same vein, the study by Pagach and Warr (2007) examines factors that influence the firm level of ERM and finds that the more leveraged the firms are, the more volatile are their earnings. Using the hazard model to examine factors that influence firms' adoptions of the ERM, the study documents firms that are more levered, more volatile earnings, and poorer stock performances, are more likely to adopt ERM. In addition, greater CEO's option and increasing stock portfolio volatility also increase the likelihood for the adoption of ERM. The study suggests that the ERM is being adopted beyond the basic risk management purpose, with offsetting CEO risk taking incentives and seeking to improve operating performance as other main reasons to adopt ERM.

A different dimension of analyzing the relationship between risk management and financial performance is offered by Angbazo (1997). By testing the influence of risk factors in

determining banks' profitability, the study finds that default risk is a determinant of banks' net interest margin (NIM) and the NIM of super-regional banks and regional banks are sensitive to interest rate risk as well as default risk. The study by Saunders and Schumacher (2000) provides further support to the importance of controlling risks to financial performance. By investigating the determinants of NIM for 614 banks of 6 European countries and US from 1988 to 1995, the study finds that interest rate volatility has a positive significant impact on the banks profitability.

Hakim and Neamie (2001) examine the relationship between credit risk and bank's performance of Egypt and Lebanon bank in 1990s. Using data for banks from the two countries over the period 1993-1999, the study estimates a fixed effects model of bank return with varying intercepts and coefficients. The findings show that credit variable is positively related to profitability, while liquidity variable is insignificant across all banks and have no impact on profitability. The study also finds a strong link between capital adequacy and commercial bank return, with high capitalization being the hindrance to return. The study concludes that the capital is a sunk cost with large banks realizing high profits in absolute but not in percentage terms. As a policy implication, the study provides important input for the policymakers in the MENA region to set better performance targets, and enable bank managers to allocate capital more efficiently across their business units. The study also contributes in terms of how commercial banks can better employ their current capital and evaluate their future performance.

3. Methodology and Data

3.1 Methods of Analysis

In order to achieve the first objective of examining the link between risk management practices and financial performances of Islamic banks in Malaysia, a two-step analysis is undertaken. First, survey questionnaires were designed and distributed to gauge the current level of risk management practices in the Islamic banks. For the purpose of this study, each Islamic bank is given a score for its risk management practices, which is then compared with the mean score for each category of the practice. These practices are being categorized into three types: as risk reporting, risk measurement and risk mitigation techniques.

The second objective of examining the strength of relationships between risk management practices and financial performance is met by analysing the correlation between the mean scores of each risk management practices with the financial performance of Islamic banks. Correlation analysis is a technique used to assess the strength of the relationship (Ostle and Malone, 1988). The sample correlation coefficient gives a standardized measure of the linear relationship between two variables. It provides both the direction and the strength of a relationship (Newbold et al., 2007). The correlation analysis is computed for all the variables.

Thus, in the second step of the analysis, the levels of financial performances of the Islamic banks are measured based on descriptive statistics and frequency distributions. The data for these variables are extracted from the banks' annual reports gathered from the *BankScope Database*. By referring to Ariff and Can (2007), the descriptive statistics are derived from the key financial measures by having period-averages of the measures in percentage. Hence, for this study, all the

profitability/earnings variables (i.e. Return on Asset and Return of Equity) are computed in the period-averages of measures in ratio or percentage.

3.2 Measurement Issues

In establishing the relationship between good risk management practices and bank performance/profitability, there is a need to have a deeper understanding on the measurement of risk management practices. The use of questionnaire survey is highly suitable as banks normally disclose minimal details on their risk management strategies in their annual reports (Tufano, 1996). Hence, questionnaires surveys are used to measure the risk management practices of Islamic banks by giving a score to their practices. The questionnaire is adapted from Khan and Ahmed (2001) and Mohd Ariffin et al. (2009).

To measure the risk management practices, five important components in reference to Basel Committee on Banking Supervision (1999 and 2001b) and Bank Negara Malaysia (2001) are used. The five components are Risk Management Environment, Policies and Procedures, Risk Measurement, Risk Mitigation, Risk Monitoring and Internal Control. All these five components are then link with the mean of ROA and ROE.

3.3 Data

The study uses both the primary and secondary data. The primary data obtained through a questionnaire survey were aimed at getting the respondents' perceptions towards the risk management practices of the Islamic bank. In the context of this study, the survey approach using the questionnaire is thought to be the most appropriate technique in collecting the primary data (Tutano, 1996). It also allows quantitative analysis to be conducted in the testing of inferences and to generalize the findings (Neuman, 2003). The questionnaire consists of three sections. The first section was designed to gather the bankers' perception towards the risk management practices in their institutions. The second section was designed to gather information about the practices of risk reporting, measurement and mitigation techniques adopted by the Islamic banks. The last section was designed to gather information about the respondent's personal and demographic characteristics.

The survey questionnaires were distributed to risk managers in eight Islamic banks in Malaysia to assess the risk management practices in these selected banks. Since the questions in the questionnaire could only be answered by certain people in Islamic banks, only one response for each bank is expected. The selection of eight Islamic banks in Malaysia is based on the availability of the data for financial performance beginning 2006 to 2008. The eight banks are as follows:

1. Affin Islamic Bank (AFFIN)
2. Asian Finance Bank Berhad (AFBB)
3. Bank Islam M'sia Berhad (BIMB)
4. Bank Muamalat M'sia Berhad (BMMB)
5. CIMB Islamic Bank (CIMB)
6. EONCAP Islamic Bank (EONCAP)
7. Hong Leong Islamic Bank (HLBB)
8. RHB Islamic Bank (RHB)

In addition, this study also relies on the secondary data to evaluate the performance of the Islamic banks in Malaysia during the period of 2006-2008, which mainly gathered from *BankScope Database*. The selection of the banks is strictly based on data availability.

4. Findings

4.1 Sample Characteristics

Of the total eight banks selected, only 5 banks responded to the questionnaires, representing a response rate of 63%. Table 1 presents the profile of the respondents in the study. As shown in Table 1, 60% of the respondents are female and 40% are male. Most of the respondents are between the age groups of 31-40 years old, and all of them are from middle-management group. Around 40% of the respondents have either less than 1 year working experience or between 3 to 5 years working experience.

Table 1
Profile of Respondents

		Frequency	Percent
Gender	- Male	2	40
	- Female	3	60
	- 31-40 years	3	60
	- 41-50 years	2	40
Occupation Ranking	- Middle management	5	100
Working experience	Less than 1 year	2	40
	- 3-5 years	2	40
	- More than 5 years	1	20

4.2 Risk Management Practices in Islamic Banks

In efforts to assess the risk management practices in the Islamic banks by using the descriptive tests, the study used the 5-Likert scale approach in the questionnaire. The higher the scale indicates that the respondent strongly agrees to such practices adopted by their banks. Risk management practices are covered in five parts: Risk Management Environment, Policies and

Procedures, Risk Measurement Practices, Risk Mitigation Practices, Risk Monitoring Practices and Internal Control Practices as suggested by the Basel Committee on Banking Supervision (1999 and 2001b) and Bank Negara Malaysia (2001).

Table 2
Risk Management Environment, Policies and Procedures

Items	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev.
1. A formal risk management system is in place	-	-	-	60.0	40.0	4.4	0.548
2. Board of directors outlines the overall objectives	-	-	20.0	60.0	20.0	4.0	0.707
3. Overall objectives are communicated	-	-	-	100.0	-	4.0	0.000
4. Board of directors approves the overall policies	-	-	-	20.0	80.0	4.8	0.447
5. Board of directors ensures that management takes necessary actions	-	-	-	20.0	80.0	4.2	0.447
6. A committee responsible is in place	-	-	-	40.0	60.0	4.6	0.548
7. Internal guidelines are in place	-	-	20.0	80.0	-	3.8	0.447
8. Clear policy promoting asset quality	-	-	-	60.0	40.0	4.4	0.548
9. The bank adopted and utilised guidelines	-	-	-	20.0	80.0	4.8	0.447
10. Mark up on rates on financing are set	-	-	20.0	80.0	-	3.8	0.447
11. The bank has the policy of investment across different countries	-	-	60.0	20.0	20.0	3.6	0.894
12. The bank has the policy of diversifying investment across different sectors	-	-	-	60.0	40.0	4.4	0.548

Note: SD = Strongly Disagree D = Disagree
 N = Neutral A = Agree
 SA = Strongly Agree

With regard to “Risk Management Environment, Policies and Procedures”, the results as in Table 2 show that all the respondents agree with item 3: Overall objectives are communicated (with a mean of 4.0 and zero standard deviation), indicating the importance of transparency in effective risk management practices. Majority of the respondents (80%) strongly agreed with

three items, namely item 4: Board of directors approves the overall policies; item 9: The bank adopted and utilised guidelines; and item 5: Board of directors ensures that management takes necessary actions. This indicates a strong agreement amongst the respondents on the importance of the board of directors in Islamic banks as part of the corporate governance structure. Active participation of the board of directors in the risk management practices ensures consistency in achieving the objectives of the banks among the stakeholders.

Table 2 also depicts that the lowest mean is for item 11: The bank has the policy of investment across different countries, which means that the respondents do not perceived or are not clear if the Islamic banks abiding to a particular guideline in investing across different countries. This could be attributed to the nature of operations of most of the Islamic banks being selected in this study, which are very much relying on the domestic market.

Table 3
Risk Measurement

Items	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev.
1. A computerized support system for estimating the variability of earnings and risk management is in place	-	-	80.0	-	20.0	3.4	0.894
2. The bank regularly conducts simulation analysis and measure benchmark (interest) rate risk sensitivity	-	-	20.0	40.0	40.0	4.2	0.837
3. The bank regularly assessed the positions of profit and loss	-	-	-	20.0	80.0	4.8	0.447
4. The bank has a quantitative support system for assessing customers' credit standing	-	-	-	60.0	40.0	4.4	0.548

Note: SD = Strongly Disagree

D = Disagree

N = Neutral

A = Agree

SA = Strongly Agree

Moving on to the risk measurement practices, as shown in Table 3, 80% of the respondents strongly agreed that the bank regularly assesses the positions of profit and loss (item 3), with high mean of 4.8 and standard deviation of 0.447). This will assist the bank in managing the risks efficiently. The lowest mean is for item 1: A computerised support system for estimating the variability of earnings and risk management is in place (mean of 3.4 and a high standard deviation of 0.894). This indicates that there is still insufficient computerised support system for risk management in the Islamic banks.

Table 4
Risk Mitigation

Items	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev.
1. There are credit limits for individual counterparty	-	-	-	20.0	80.0	4.8	0.447
2. The bank regularly reappraises collateral (assets)	-	-	20.0	60.0	20.0	4.0	0.707
3. The bank regularly confirms a guarantor's intention to guarantee their financing with a signed document	-	-	-	60.0	40.0	4.4	0.548
4. The bank has a reserve that can be used to increase the profit share (rate and return) of depositors and investment accountholders in low performing period	-	-	-	40.0	60.0	4.6	0.548

Note: SD = Strongly Disagree D = Disagree
 N = Neutral A = Agree
 SA = Strongly Agree

Table 4 presents the perception on risk mitigation practices in Islamic banks. For risk mitigation practices, 80% of the respondents strongly agreed with item 1: There are credit limits for individual counterparty with a high mean of 4.8 and standard deviation of 0.447. However, all items in Table 5 show means between 4.0 to 4.8 which are considered good.

As shown in Table 5, for the risk monitoring practices, the highest mean of 4.8 is for item 2: The bank regularly (e.g. weekly) compiles a maturity ladder chart according to settlement date and monitor cash position gap. This shows that the bankers perceived that the bank has a good monitoring system for the risks.

Table 5
Risk Monitoring

Items	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev.
1. The credit limits for individual counterparty is strongly monitored	-	-	-	60.0	40.0	4.4	0.548
2. The bank regularly (e.g. weekly) compiles a maturity ladder chart according to settlement date and monitor cash position gap	-	-	-	20.0	80.0	4.8	0.447
3. The bank has in place a regular reporting system regarding risk management for senior officers and management	-	-	-	60.0	40.0	4.4	0.548
4. The bank regularly reviews country ratings if their financing or investments are international	-	-	-	60.0	40.0	4.4	0.548
4. The bank regularly monitors the customer's business performance after the extension of their financing.	-	-	-	40.0	60.0	4.6	0.548
5. The credit limits for individual counterparty are set and monitored strictly	-	-	-	40.0	60.0	4.6	0.548

Note: SD = Strongly Disagree D = Disagree
 N = Neutral A = Agree
 SA = Strongly Agree

As per Table 6, for internal control practices, the respondents strongly agreed that “The bank has backups of software and data files” (item 5) with 60% of the respondents chose “strongly agree”. Overall, for the Islamic banks, the best practice is for Risk Monitoring Practice which obtained the highest mean of 4.53, followed by Risk Mitigation Practices (mean of 4.45). The Risk Measurement Practice showed the lowest mean of 4.2.

In terms of individual bank performance, Bank Muamalat Malaysia Berhad (BMMB) has the best risk management practices due to the highest mean scores for the total items. This is followed by Bank Islam Malaysia Berhad (BIMB) and RHB Islamic (RHB).

Table 6
Internal Control

Items	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev.
1. The bank has put in place an internal control system capable of swiftly dealing with newly recognized risks arising from changes in environment	-	-	-	100.0	-	4.0	0.000
2. There is a separation of duties between those who generate risks and those who manage and control risks	-	-	20.0	20.0	60.0	4.4	0.894
3. The bank has countermeasures (contingency plan) against disaster and accidents	-	-	-	60.0	40.0	4.4	0.548
4. The internal auditor is responsible to review and verify the risk management systems, guidelines and risk reports	-	-	40.0	20.0	40.0	4.0	1.000
5. The bank has backups of software and data files	-	-	-	40.0	60.0	4.6	0.548

Note: SD = Strongly Disagree D = Disagree
 N = Neutral A = Agree
 SA = Strongly Agree

The next part of the questionnaire aims to examine the risk reports prepared by the Islamic banks, risk measurement and risk mitigation techniques used by Islamic banks.

As shown in Table 7, all Islamic banks in the study produce reports on credit risk, market risk, rate of return risk, liquidity risk and operational risk. This shows that all the important risks reports have been prepared by Islamic banks to enhance transparency in risk reporting. The results are consistent with Mohd Ariffin (2009), who suggests that risk reporting and disclosure in Islamic banks was perceived to be more important in Islamic banks than conventional banks due the existence of profit-sharing IAH in Islamic banks; and as IFSB (2005) in their guiding principles of risk management, emphasize on reporting on each specific risk and also to ensure the adequacy of relevant risk reporting to supervisory authorities. The commodities and equity position risk report and Shari'ah non-compliance risk report are the two reports that are not reported by Islamic banks as perceived by the bankers. This indicates that Islamic banks are still lacking with regard to disclosure of Shari'ah non-compliance risk as well as the commodities and

equity risk. The reason may be due that the Islamic banks do not really concentrate on equity based financing as compared to debt based financing.

Table 7
Type of Risk Reports by Islamic Banks

	YES	NO
Capital at risk report	80%	20%
Credit risk report	100%	-
Market risk report	100%	-
Rate of return risk report	100%	-
Liquidity risk report	100%	-
Foreign exchange risk report	80%	20%
Commodities & equities position risk report	60%	40%
Operational risk report	100%	-
<i>Shari'ah</i> non-compliance risk report	60%	40%
Country risk report	80%	20%

Table 8
Risk Measurement Approaches Used by Islamic Banks

	YES	NO
Credit ratings	100%	-
Gap analysis	100%	-
Duration analysis	100%	-
Maturity matching analysis	100%	-
Earnings at risk	100%	-
Value at risk	60%	40%
Simulation technique	100%	-
Estimates of worst case scenarios/ stress testing	100%	-
Risk adjusted rate of return on capital (RAROC)	20%	80%
Internal based rating system	60%	40%
<i>Less technically advanced risk measurement approaches³ (Average)</i>	100%	-
<i>More technically advanced risk measurement approaches⁴ (Average)</i>	68%	32%

For risk measurement, all the Islamic banks in the study currently uses all the less technically advanced risk measurement approaches (credit ratings, gap analysis, duration analysis, maturity matching analysis and earnings at risk). For the more technically advanced risk measurement approaches (Value at risk, simulation techniques, estimates of worst case scenarios/stress testing, RAROC and the internal-based rating system), the average is only 68%, meaning that majority of Islamic banks still not use the “more technically advanced risk measurement approaches” except for stress testing and simulation technique. Table 8 shows the risk measurement approaches used by Islamic banks. As argued by Mohd Ariffin et al (2009), Islamic banks are still new and do not have sufficient resources and systems to use more technically advanced techniques.

Table 9 shows the risk mitigation techniques used by Islamic banks. It is found that only minority of Islamic banks use the “*Shari’ah*-compliant risk mitigation technique” except the use of *Hamish Jiddiyah and Urboun* for their risk mitigation technique. The reasons of the lack usage of *Shari’ah*-compliant risk mitigation technique may be due to those technique are subject to different interpretation by *Shari’ah* scholar. Other reasons may include that as indicated by Mohd Ariffin et al (2009) that *Salam* and *Istisna’* contracts are not widely used in Islamic banks.

³ Credit ratings, gap analysis, duration analysis, maturity matching analysis and earnings at risk are in the category of less technically advanced risk measurement approaches.

⁴ Value at risk, simulation techniques, estimates of worst case scenarios/stress testing, RAROC and the internal-based rating system are in the category of more technically advanced risk measurement approaches.

Table 9
Risk Mitigation Technique used by Islamic Banks

	YES	NO
On-balance sheet netting	60%	40%
Third-party enhancement	40%	60%
Loan loss reserve	100%	-
Guarantees	100%	-
Collateral arrangement	100%	-
Islamic option	20%	80%
Islamic swaps	60%	40%
Islamic currency forwards	60%	40%
Parallel Salam contracts	-	100%
Parallel Istisna' contracts	20%	80%
Hamish Jiddiyah (Security deposit)	80%	20%
Urboun (Earnest money)	80%	20%
<i>Used by conventional institution⁵ (average)</i>	<i>80%</i>	<i>20%</i>
<i>Shari'ah risk mitigation technique⁶ (average)</i>	<i>66%</i>	<i>34%</i>

4.3 Financial Performance of Selected Islamic Banks in Malaysia

The study also evaluates the financial performance of the Islamic banks in Malaysia during the period of 2006-2008 by using selected financial ratios. The financial ratios analysis provides a method for assessing the financial strengths and weaknesses of the firm using information found in its financial statements (Rosly and Abu Bakar, 2003). The financial ratios used in this study include the rate of return on assets (ROA) and the rate of return on equity (ROE). ROA is the most comprehensive accounting measure of a bank's overall performance. Since it is defined as net income over total assets, it shows the profit earned per dollar of assets. It is an indicator of bank's efficiency and a measure of the bank's ability to earn rent from its total operations. The ROE, on the other hand, reflects how effectively a bank management is using shareholders' investment. It tells the bank's shareholders how much the institution is earning on the book value of their investment (Goudreau, 1992). In fact, ROE is the most important measurement of banking returns because it is influenced by how well the bank is performed on all other return categories, and indicates whether a bank can compete for private sources in the economy. ROE is defined as net income divided by total equity.

As shown in Table 10, in terms of the profitability ratio, the descriptive statistics show that RHB has the highest ROA among all the Islamic banks being considered at 1.2 percent, followed by HLIB at 0.8 percent, AFFIN at 0.7 percent, CIMB at 0.6 percent, BMMB at 0.4 percent, and EONCAP at 0.35 percent. BIMB and AFBB have negative average ROA at -1.8 percent and -0.9

⁵ On-balance sheet netting, third-party enhancement, loan loss reserve, guarantees and collateral arrangement are under the category of risk mitigation technique that used by conventional financial institutions.

⁶ Islamic option, Islamic swaps, Islamic currency forwards, Parallel *Salam* contracts, Parallel *Istisna'* contracts, *Hamish Jiddiyah* and *Urboun* are under the category of *Shari'ah*-compliant risk mitigation technique.

percent, respectively. Meanwhile, ROE gives a different perspective compared to ROA. In particular, based on the ROE, BIMB has the highest average ROE at 199.2 percent, which is largely attributable to the exceptionally high ROE in 2006 at 508.2 percent⁷. Nonetheless, BIMB's ROE was also high compared to the industry average at 56.5 percent in 2007 and 32.9 percent in 2008. The next Islamic bank ranked in terms of ROE is AFFIN with an average ROE for the three-year period at 16 percent, followed by RHB at 14 percent, HLIB at 9.4 percent, CIMB at 8.3 percent, BMMB at 7.6 percent and EONCAP at 4.6 percent. Of the eight Islamic banks being reviewed in the period, AFBB is the only bank with negative average ROE at -2.4 percent. Indeed, AFBB consistently has negative ROE for all the three years of observation.

Table 10
Financial Performance Indicators for Selected Islamic Banks in Malaysia, 2006-2008

Name	ROA	ROE
Affin Islamic Bank (AFFIN)	0.72	16.03
Asian Finance Bank Berhad (AFBB)	-0.91	-2.36
Bank Islam M'sia Berhad (BIMB)	-1.82	199.22
Bank Muamalat M'sia Berhad (BMMB)	0.40	7.59
CIMB Islamic Bank (CIMB)	0.56	8.27
EONCAP Islamic Bank (EONCAP)	0.35	4.58
Hong Leong Islamic Bank (HLBB)	0.82	9.35
RHB Islamic Bank (RHB)	1.17	14.02

Notes: Figures shown are simple average for three-year period from 2006 to 2008.
Source: Bankscope Database.

4.4 Risk Management Practices and Financial Performance

In linking the risk management practices and financial performance, the mean scores of each risk management practices are correlated with the ROA and ROE. Since not all banks participated in the survey, the link can only be done for five banks. Risk management practices are explained by risk management environment, policies and procedures, risk measurement practices, risk mitigation practices, risk monitoring practices and internal control practices. Table 11 provides the correlation coefficients for all variables.

In general, the result of correlations analysis between ROA and all risk management practices showed an existence of strong positive correlation between ROA and risk measurement practices (+65%). A moderate positive correlation relationship (+59%) exists between ROA and risk monitoring practices. Moreover, there are negative correlations between ROA and internal control practices, risk management environment, policies and procedures and risk mitigation practices (-43%, -35% and -9%, respectively). Based on these correlations, it can be concluded that the higher the ROA for Islamic banks, the better will be the risk measurement practices and also risk monitoring practices in the Islamic banks.

⁷ This high ROE for BIMB is due to big losses and negative equity in 2006.

With regard to ROE, as shown in Table 11, a highest positive correlation is found for internal control practices (+61%) and followed by risk management, environment, policies and procedure (+25%). In addition, there are negative correlations between ROE and risk measurement practices (-22%). In summary, the Islamic banks that have higher ROE tend to practice better internal control practices and risk management, environment, policies and procedure.

Table 11
Pearson Correlations

Financial Performance	Risk Management Practices				
	Risk Management Environment, Policies and Procedures	Risk Measurement	Risk Mitigation	Risk Monitoring	Internal Control
ROA	-0.349	0.652	-0.089	0.590	-0.427
ROE	0.254	-0.220	0.113	0.007	0.612

5. Conclusions and Recommendations

This study used primary data and secondary data to examine the risk management practices in selected Islamic banks and the financial performance of these Islamic banks. In addition, the study also aims to provide the link between risk management practices and financial performance of Islamic banks using correlation analysis. Table 12 provides a summary of major findings.

Overall, the findings on risk management practices show the importance of board of directors to approve the overall policies and to ensure that management takes necessary actions to manage the risks. In addition, the findings also show that overall objectives are communicated throughout the bank. This indicates the governance structure must be in place to cater this needs. Under risk measurement practices, 80% of the respondents strongly agree that the bank regularly assesses the positions of profit and loss. In order to mitigate the risks, there are credit limits for individual counterparty item has the highest mean. The Islamic banks also have good risk monitoring system with regard to compilation of maturity ladder chart according to settlement date and monitor cash position gap. Moving to internal control, the Islamic bankers in the study perceived that the bank has backups of software and data files.

With regard to risk management practices, Islamic banks are found to have better risk monitoring practices followed by risk mitigation practices and internal control as compared to risk measurement policies and risk environment policies and procedures.

Table 12
Summary of the Findings

Research Objectives	Research Findings
1. To assess the risk management practices in these selected banks.	All the banks in the study practice good risk management with few areas of improvements include the use of computerised support systems and more sophisticated approaches to measure risks and the use of Shari'ah compliance techniques to mitigate risks. Overall the best practice is for Risk Monitoring Practice which obtained the highest mean of 4.53, followed by Risk Mitigation Practices (mean of 4.45). With regard to the type of reports, the reports on credit risk, market risk, rate of return risk, liquidity risk and operational risk have been produced by the Islamic banks in the study.
2. To evaluate the financial performance of the Islamic banks in Malaysia during the period of 2006-2008 by using selected financial ratios	Using ROA and ROE, the findings show that on average, Islamic banks in the study performed well in the exceptions of BIMB who has negative ROA and AFBB which has negative ROA and negative ROE for the period 2006 to 2008.
3. To link between risk management practices and financial performance in selected Islamic banks.	The higher ROA, the better will be the risk measurement practices and risk monitoring practices in the Islamic banks. With regard to ROE, Islamic banks that have higher ROE tend to practice better internal control practices.

Moving to the type of reports produced by Islamic banks, all the Islamic banks in the study have reports on credit risk, market risk, rate of return risk, liquidity risk and operational risk. This indicates the Islamic banks agreed that in order to be transparent, all the risk reports must be produced. This can lead to improve accountability and better governance in Islamic banks.

The findings show that Islamic banks are perceived to use less technically advanced risk measurement techniques of which the most commonly used are credit ratings, gap analysis, duration analysis, maturity matching, and earnings at risk. The more technically advanced risk measurement techniques which include value at risk, simulation techniques, estimates of worst case scenarios/stress testing, RAROC and internal-based rating system) are perceived not to be used widely by Islamic banks in the study. The main explanation is that Islamic banks are still new and do not have sufficient resources and systems in place to employ more technical advanced techniques.

In addition, the results show that Islamic banks are not fully using the *Shari'a* compliant risk mitigation methods which are different from the ones used by conventional banks. The reason is because these methods are still subject to several objections by *fiqh* scholars, which according to them, (for example parallel *Bai' Salam*) may lead to speculation (Usmani, 1996).

In conclusion, even though, on average the Islamic banks in the study have better risk management practices, there is still enough room for Islamic banks to improve their risk management system. The introduction of an effective risk management culture in Islamic banks will ensure their competitiveness and survival in a world full of uncertainties and crises. On the other hand, the development of new products requires Islamic banks to adopt more technically advanced risk measurement techniques and also Shari'ah compliant risk mitigation technique in order to sustain their competitiveness in the market.

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