

RESEARCH PAPER

Liquidity Risk Management And Financial Performance In Malaysia: Empirical Evidence From Islamic Banks

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Abstract - Liquidity risk arises from maturity mismatches where liabilities have a shorter tenor than assets. A sudden rise in the borrowers' demands above the expected level can lead to shortages of cash or liquid marketable assets (Oldfield and Santamero, 1997). This paper aims to analyse the liquidity risks and disclosure as well as to draw the relationship between liquidity risks and financial performance measures using return on assets (ROA) and return of equity (ROE) of the Islamic banks. Based on selected Islamic banks in Malaysia over the period from 2006 to 2008, the study also attempts to determine the impact of the global financial crisis on the Islamic banks' liquidity risks and financial performance. Findings of the study contribute towards enriching the literature on the risk management of the Islamic banks by providing deeper understanding on issues relating to liquidity risk management by the Islamic banks.

Keywords: Liquidity risk, Islamic banks, risk management, financial performance

Introduction

Managing liquidity is one of the top priorities of a financial institution's assets and liabilities management. In the context of banking, liquidity, or the ability to fund increases in assets and meet obligations as they come due, is critical to the ongoing viability of the banking institution. Since there is a close association between liquidity and solvency of banks, sound liquidity management reduces the probability of banks becoming insolvent, thus reducing the possibilities of bankruptcies and bank runs. Ultimately, prudent liquidity management as part of the overall risk management of the banking institutions ensures a healthy and stable banking sector.

Liquidity management is just as important to the Islamic banks as it is to the conventional banks. However, compared to the conventional counterpart, liquidity management for the Islamic banks is unique and even more challenging due to the fact that most of the existing instruments used for liquidity management are interest-based, therefore, not *Shari'ah* (Islamic law) compatible. In addition, rationality of bank customers in the conventional sense in which profit motive prevails in any economic transaction could result in liquidity withdrawal from the Islamic banks when return in the conventional counterpart is higher (Kassim et al., 2009). The Islamic banks might also experience severe liquidity mismatch when the market interest rate changes due to the changing economic environment. For example, in a high interest rate environment, the Islamic banks experience severe liquidity mismatch when assets (financing) tend to be more attractive relative to the conventional banks' loans, while Islamic banks' deposit is relatively less attractive compared to the conventional banks' deposits.

In managing liquidity, the Islamic banks dealings are restricted in the Islamic inter-bank market due to the requirement to avoid the interest-bearing instruments. Traditionally, many Islamic banks rely heavily on commodity *murabaha* (mark-up basis) based on *tawarruq* for short term investment and liquidity management. As increasing number of *Shari'ah* scholars are against the adoption of this arrangement since it is considered as a grey area, several new *Shari'ah*-compatible instruments have been introduced for liquidity management. Among others, several applications of the *sukuk* structure has been adopted in which the Islamic bank would buy or sell the *sukuk* (depending on its liquidity position) and in return, pay or earn profit on the *sukuk*. Several other instruments to fulfill the Islamic banks liquidity needs involve the applications of other contracts including *mudarabah*, *ijarah* and parallel *salam* (Ayub, 2007).

At the moment, the IFSB's principles of risk management outlines general guidelines pertaining to the liquidity management framework of the Islamic banks. In particular, the IFSB emphasizes that the Islamic banks shall assume liquidity risk commensurate with their ability to have sufficient recourse to mitigate risk in respect of the restricted or unrestricted current accounts. Since the current account holders and unrestricted account holders require a degree of liquidity to be maintained by Islamic banks to meet their requirements for withdrawal, the IFSB

principle suggests the Islamic banks to have separate liquidity management framework on each category of current accounts and investment accounts. In addition, the Islamic banks are required to recourse to *Shari'ah* compliant funds in their liquidity management. The Islamic banks should have in place liquidity management policy that cover a sound process for measuring and monitoring liquidity; adequate system for monitoring and reporting liquidity exposures on periodic basis; adequate funding capacity; having access to liquidity through fixed assets realization and through sale and lease-back arrangement; and has developed liquidity crisis management (Islamic Financial Services Board, 2005).

Due to the importance of liquidity risk management to the growth and survival of the Islamic banking institutions, this study attempts to analyse this topic from a new perspective. This study aims to assess the liquidity risk in selected Islamic banks in Malaysia from 2006 to 2008 so as to establish the relationship between the extent of liquidity risks with bank's financial performance. In addition, the study attempts to examine the liquidity risk management disclosure in the annual reports of selected Islamic banks in Malaysia.

Based on the existing literature, studies focusing on the relationship between liquidity risk management and performance in the case of the Islamic banks have been very limited if compared to the case of the conventional banks mainly due to the recent nature of the Islamic banking industry. In this regard, this study contributes towards enriching the literature on the risk management of the Islamic banks by providing deeper understanding on issues relating to liquidity risk management by the Islamic banks.

In particular, the study aims to answer the following research questions:

1. What is the extent of liquidity risk in selected Islamic banks in Malaysia?
2. Does the current crisis exert significant impact on the liquidity risk among the Islamic banks in Malaysia?
3. Is there any relationship between liquidity risk and financial performance of Islamic banks in Malaysia?
4. What is the extent of liquidity risk management disclosure in the annual report of Islamic banks in Malaysia?

Table 1 summarises the research objectives and research questions in this study:

Table 1: Research Objectives and Research Questions

Research Objectives	Research Questions
1. To assess the liquidity risk in selected Islamic banks in Malaysia from 2006 to 2008.	What is the extent of liquidity risk in selected Islamic banks in Malaysia? Does the current crisis exert significant impact on the liquidity risk among the Islamic banks in Malaysia?
2. To establish the relationship between the extent of liquidity risks with bank's financial performance of selected Islamic banks in Malaysia	Is there any relationship between liquidity risk and financial performance of selected Islamic banks in Malaysia?
2. To examine the liquidity risk management disclosure in the annual reports of selected Islamic banks in Malaysia	What is the extent of liquidity risk management disclosure in the annual report of Islamic banks in Malaysia?

The rest of the study is organized as follows. The next section discusses the existing literature on liquidity risk and its management as well as the relationship between risk management practices and banks' profitability. The following section presents the research methodology, focusing on the nature and sources of data, while the discussions on findings of the study are presented in the subsequent section. Lastly, the final section concludes.

Literature Review

Liquidity risk and its management

According to IFSB's Guiding Principles of Risk Management (2005, liquidity risk is the potential loss to Islamic banks arising from their inability either to meet their obligations or to fund increases in assets as they fall due without incurring unacceptable costs or losses. Liquidity risk arises from maturity mismatches where liabilities have a shorter tenor than assets. A sudden rise in the borrowers' demands above the expected level can lead to shortages of cash or liquid marketable assets (Oldfield and Santamero, 1997). Liquidity crisis in a banking institution could lead to insolvency and bank runs. Consequently, minimizing the liquidity risk is one of the most important aspects of banks' asset and liability management. In essence, the objective of liquidity risk management is to mitigate the impact of the maturity mismatch on the banks' statement of financial position. This requires the understanding of how cash flows

are moving within an organization, identifying the existence and location of cash flow strains by measuring emerging liquidity pressures, and taking corrective actions to prevent these pressures from growing (Taylor, 2001).

As banking institutions, Islamic banks also have to meet their liquidity needs and obligations to ensure the smooth running of their business, as it is the case with their conventional counterparts. However, the unique nature of Islamic banks with their objective of avoiding *riba* (interest) in any form requires additional issues to be addressed in order to meet their liquidity needs in a *Shari'ah* compliant manner. Many have argued that liquidity risk is a major risk facing the Islamic banks (see, for example, Ray, 1995). Apart from the financing nature of the Islamic banks which rely on long-term equity contracts such as *mudarabah* and *musharakah*, another reason for the potential liquidity problem in Islamic banks is due to the limited number of financial instruments that are accepted by *Shari'ah* scholars. As a result, Islamic banks do not have the same funding options that are available to conventional banks in the inter-bank market. The absence of an adequate money market or a secondary capital market for Islamic financial instruments complicates the problem of mismatched maturities. Liquidity problems have also been purported to be the major impediment to the growth of Islamic banking (Vogel and Hayes, 1998).

Essentially, the liquidity risk in the Islamic banks arises from the lack of sufficient *Shari'ah*-based liquid instruments. From the *Shari'ah* perspective, additional issues arise in transforming the financial modes into negotiable financial instruments due to the maxim that once a debt has been created, it cannot be transferred to other parties except at par value. On the other hand, depositor funds are either callable on demand or require very short withdrawal notice periods. Thus, the possibility of the Islamic bank to experience liquidity shortage is rather high in the event of a sudden rise in the borrowers' withdrawal of deposits.

In addition, the Islamic banks are prohibited by the *Shari'ah* from borrowing at short notice by discounting debt obligation receivables (for example through a central bank discount window). There is also no *Shari'ah* compliant lender of the last resort facility offered by many central banks. This means that Islamic banks are particularly exposed to liquidity risk because they tie up their investment account holders funds in illiquid long term assets, such as *Ijarah* assets, or *mudarabah/musharakah* profit-sharing arrangements. However, Al-Sadah (1999) found in his study that several Islamic banks in Bahrain take into consideration the level of liquidity on each type of account (investment, saving and current accounts) to meet investors' withdrawals. The level of liquidity is influenced by the liquidity requirements imposed by the regulatory agencies on the Islamic banks. Each Islamic bank uses different liquidity systems in order to achieve the same aim; there is some portion in the accounts acts as liquidity cushion for satisfying unexpected withdrawals. This enables the Islamic banks to meet the unexpected liquidity demands by current and investment account holders and prevents possibility of a run on the bank.

Unlike the conventional banks, the Islamic banks liquidity management is strictly limited in the Islamic interbank market. The Islamic inter-bank money market in Malaysia was introduced in January 1994 as a short-term intermediary to provide a ready source of short term investment outlets based on *Shari'ah* principles. This market is considered to be the first Islamic money market in the world. Inter-bank trading in Islamic financial instruments such as Islamic banker's acceptances, Islamic inter-bank investments where a bank with surplus funds can make an investment with another bank in deficit on the basis of *mudarabah* (profit-sharing arrangements), and inter-bank cheque clearing system are the key activities of this market. Here, the Islamic banks would be able to match their funding requirements effectively and efficiently.

Similarly, in Bahrain, the Bahrain Monetary Agency facilitated the setting up of the Liquidity Management Centre in 2002 to sell *Shari'ah* compliant securities which Islamic banks can hold as liquid asset. The short term securities (i.e. 3-month) known as *sukuk al-salam* are issued monthly and to be hold until maturity and non-tradeable. In addition, *ijarah sukuk*, which are tradeable but are exposed to rate of return risk¹ are issued for longer periods (i.e. between four to six years). The main objective of issuing *ijarah* securities is to address the requirements and needs of Islamic financial institutions and investors for attractive investment opportunities.

In the case of Malaysia, Bank Negara Malaysia introduced the Liquidity Framework in 1998 to replace the liquid asset ratio requirement. This framework, which is modelled against international best practices on liquidity management, focuses on an efficient matching of the assets and liabilities profile that will enable banks to be better positioned in times of liquidity shocks and allow better utilisation of funds, as well as remove price distortion on liquid assets resulting from the captive demand created under the previous framework.

Basel Committee on Banking Supervision (BCBS) in its paper 'Sound Practices for Managing Liquidity in Banking Organisation' in 2000 sets out several principles that highlight the key elements for effectively managing liquidity. One of the principles relating to disclosure is that a bank must have adequate information systems for measuring, monitoring, controlling and reporting liquidity risk. Reports should be provided on a timely basis to the bank's board of directors, senior management and other appropriate personnel. The other important principle is that each bank should have in place a mechanism for ensuring that there is an adequate level of disclosure of information about the bank in order to manage public perception of the organisation and its soundness.□

With regard to the accounting standard that deals with liquidity risk, there is Financial Accounting Standard No. 1, 'General Presentation and Disclosure in the Financial Statements of Islamic Banks and Financial Institutions' (FAS 1) issued by AAOIFI, is applicable to the financial statements published by Islamic banks to meet the

¹ *Sukuk salam* securities are bills whereas *ijarah* securities are bonds.

common information needs of the main users of such statements. This standard is applicable to all Islamic banks regardless of their legal form, countries of incorporation, or size.

FAS 1 demands that disclosure be made of any amount an Islamic bank is obligated to deposit with others as compensating balances, for disclosure. Islamic banks should also disclose the distribution of unrestricted investment accounts and their equivalent and other accounts (assets), by type, in accordance with their respective periods to maturity or expected periods to cash conversion (for assets). This can disclose liquidity requirements during the next period and liquidity requirements during the following periods.

Bank's risk management and financial performance

Studies on the relationship between risk management and financial performance of banks have been mostly 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.

Several studies draw the link between good risk management practices with improved financial performances. 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 (Smith, 1995). In addition, Schroeck (2002) proposes that ensuring best practices through prudent risk management result in increased earnings.

There are limited studies providing empirical evidence to the relationship between risk management practices and bank financial performance. The study by Drzik (2005) shows that bank investment in risk management during 1990s helped reduces earnings and loss volatility during the 2001 recession. In the same vein, the study by Pagach and Warr (2009) examines factors that influence the firm level of enterprise risk management and finds that the more leveraged the firms are, the more volatile are their earnings.

Angbazo (1997) offers another dimension of analyzing the relationship between risk management and financial performance by testing the influence of risk factors in determining banks' profitability. In particular, 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. The findings show that credit variable is positively related to profitability and liquidity variable is insignificant across all banks and have no impact on profitability.

Research Method

This study aims to assess the liquidity risk in selected Islamic banks in Malaysia from 2006 to 2008 so as to establish the relationship between the extent of liquidity risks with the Islamic bank's financial performance. In addition, the study attempts to examine the liquidity risk management disclosure in these Islamic banks. The study uses secondary data using the annual reports as the main source of reference.

A liquid asset to customer and short term funding are included to proxy bank liquidity. Angbazo (1997) states that as the proportion of funds invested in cash or cash equivalents increases, a bank's liquidity risk declines, leading to lower liquidity premium in the net interest margins. The higher the ratio the lower the liquidity risk and the lower the opportunity for profit. Liquid assets are used to measure the size of available cash and near cash assets to meet the withdrawal demand. This demand could be demand for loans withdrawals of demand deposits and opportunities for investments in securities. Failure to provide adequate liquidity to meet the demands of depositors or creditors can cause a shut down of a bank within a short period. This measurement is consistent with that proposed by Bank Negara Malaysia (BNM).

In this study return on assets (ROA) and return on equity (ROE) are used as a proxy for financial performance. 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 average equity.□

The study focuses on the top six Islamic banks in Malaysia, which are Bank Islam Malaysia Berhad (BIMB), Bank Muamalat Malaysia Berhad (BMMB), CIMB Islamic Bank (CIMB), Affin Islamic Bank (AFFIN), RHB Islamic Bank (RHB) and EON Capital Islamic Bank (EONCAP). The periods 2006 to 2008 are selected because the study also attempts to analysis the impact of the recent financial crisis on the liquidity risk. In particular, the year 2006 is

before the crisis, while the years 2007 and 2008 are the years of the crisis. Only six Islamic banks are chosen because they have sufficient data on their financial statements for the period 2006 to 2008. This is due to the years of commencement of these banks.

Results and Discussions

Extent of liquidity risk

Table 2 provides the liquidity risk of the banks included in the sample for the period of analysis, 2006 to 2008. In order to determine the liquidity risk of the selected Islamic banks, as mentioned in Section 2, the total liquid assets over liabilities are used as a proxy.

On average, the results suggest that the liquidity risk faced by the selected Islamic banks have remained relatively stable at around 0.3 over the three-year period. However, based on the individual bank data, the results show that the liquidity risk for BIMB continued to rise from 0.19 in 2006 to 0.27 in 2007 and 0.55 in 2008. Similarly, the liquidity risk for EONCAP was also on a rising trend from 0.096 in 2006 to 0.18 in 2007 and 0.27 in 2008. In contrast, the liquidity risk for CIMB, AFFIN and RHB declined over the three-year period, while that of BMMB has been relatively stable. Based on this trend analysis, it is found that the crisis has a very little impact on the extent of liquidity risk in the Islamic banks. This is due to the average of liquidity risk remains stable for 2006 and 2007 (0.35) and decline to 0.32 for 2008 and on average for 2007 and 2008 is 0.34.

Table 2: Liquidity Risks of Selected Islamic Banks in Malaysia

	2006	2007	2008	Average
BIMB	0.19	0.27	0.55	0.34
BMMB	0.39	0.34	0.37	0.37
CIMB	0.69	0.48	0.13	0.43
AFFIN	0.58	0.58	0.41	0.52
RHB	0.18	0.26	0.16	0.20
EONCAP	0.097	0.18	0.27	0.18
Average	0.35	0.35	0.32	0.34

Source: Authors' computation.

Note: Liquidity risk is calculated based on the proxy of liquid assets to liabilities. Liquid assets used in the calculations are only cash and short term funds and liabilities used are total liabilities in the banks.

Secondly, the extent of the liquidity risk of the individual Islamic banks is compared with the industry average. The results show that RHB and EONCAP consistently reported a lower liquidity risk as compared to the industry average liquidity risk. BIMB has lower liquidity risk as compared to average risk for 2006 and 2007 and CIMB for only 2008. Table 1 also indicates that BIMB and EONCAP banks make significant increase in liquidity risk during 2006 to 2008. On average, EONCAP Islamic Bank exhibits the highest liquidity risk (0.55), followed by AFFIN (0.52) and CIMB (0.43).

Liquidity risk and bank's financial performance

Table 3 shows the profitability ratios on the selected Islamic banks. In this study, the financial performance is assessed based on return on assets - ROA and return on equity - ROE.

On average, the descriptive statistics show that return on assets (ROA) is higher for the year 2007 than 2008 and 2006. Also, for the year 2008, BIMB has the highest ROA among all the Islamic banks being considered at 1.83 and followed by RHB at 0.97. The remaining banks in the sample have lower ROA as compared to the average ROA. For the year 2007, RHB has the highest ROA and followed by BIMB (1.34) and CIMB (0.94).

Meanwhile, ROE gives a different perspective compared to ROA. In particular, for the year 2008, based on the ROE, BIMB has the highest ROE at 32.90. BIMB's ROE was also high compared to the industry average at 12.43 in 2008 and 19.47 in 2007. The remaining banks in the sample have lower ROE as compared to average ROE for both 2007 and 2008. In 2006, due to the exceptionally high ROE in 2006 at 508.2 for BIMB, it is difficult to make a comparison with the average ROE. Regardless, there is a general decline in the ROE of the Islamic banks from 2006 to 2008. Relating this to the global financial crisis, the crisis seems to have an adverse effect on the Islamic bank's financial performance as being shown by the declining ROE over the three-year period.

Table 3: Financial performance for the periods 2006 to 2008

	2006	2007	2008	Average
Return On Assets (ROA)				
BIMB	-8.63	1.34	1.83	-1.82
BMMB	0.61	0.35	0.23	0.40
CIMB	0.22	0.94	0.53	0.56
AFFIN	0.94	0.77	0.45	0.72
RHB	1.10	1.43	0.97	1.17
EONCAP	0.25	0.54	0.25	0.35
Average	-0.92	0.90	0.71	0.23
Return On Equity (ROE)				
BIMB	508.23	56.52	32.90	199.27
BMMB	11.69	6.62	4.45	7.59
CIMB	1.92	11.42	11.48	8.27
AFFIN	18.61	18.23	11.24	16.02
RHB	14.20	17.01	10.85	14.02
EONCAP	3.07	7.01	3.67	4.58
Average	93	19.47	12.43	41.63

Source: Bankscope Database.

Several interesting observation can be made in the context of the individual Islamic bank. Relating this to financial performance, the findings show that BIMB has the highest ROA and ROE for 2008, yet, it has the highest liquidity risk. This is consistent with the financial theory where it claims that risk and return have linear relationship i.e. low risk is associated with low return and consequently high risk brings high return. In the case of outliers such as BIMB, the mathematical explanation could be the reason behind the relationship between the liquidity risk and financial performance. Second, the descriptive statistics show that RHB is among the top Islamic banks in terms of financial performance (ranked first in terms of ROA and ranked third in terms of ROE). Third, it shows that AFFIN essentially exhibited a positive relationship between liquidity risk and financial performance. This is reflected by its high liquid assets to liabilities and second rank in terms of ROA and second rank in terms of ROE.

From the descriptive statistics, it is quite difficult to ascertain the relationship between the liquidity risk and financial performance. Therefore, a Pearson correlation analysis is conducted to measure the relationship between liquidity risk and financial performance, both ROA and ROE. Based on this analysis, for 2006, the relationship between liquidity risk and ROA has a positive correlation of 0.323 whereas for liquidity risk and ROE is negative correlation of 0.334. The correlations show that as the liquidity risk increases, ROA is also increased but ROE will be decreased. However, for 2007, both the relationship between liquidity risk and ROA and ROE shows negative correlations (0.126 and 0.129, respectively). This explains some impact of global financial crisis on Islamic banks, meaning that during the year of crisis, the higher the liquidity risk, the lower will be the ROA and ROE. The correlations for 2008 show that the relationship of liquidity risk and both ROA and ROE are positive.

From the analysis of correlations, the study finds that the global financial crisis has impact on liquidity risk and financial performance of Islamic banks as measured by ROA and ROE due to different relationship for the years 2006 to 2008.

Liquidity risk management disclosure in Islamic banks

All Islamic banks in the study disclose the definition of risk in the annual reports. Table 4 provides summary of the items disclosed in the Islamic banks' annual report for the year 2008. With regard to the liquidity risk management disclosure, all the selected Islamic banks disclose that the banks use the Liquidity Framework approved by Bank Negara Malaysia to manage its liquidity. The banks' liquidity framework is subject to stress tests and its results are constantly reviewed. The liquidity framework ascertains the liquidity condition based on the contractual and behavioural cash flow of assets, liabilities and off-balance sheet commitments, taking into consideration the realisable cash value of the eligible liquefiable assets.

Table 4: Liquidity risk disclosure in Islamic Banks

	BIMB	BMMB	CIMB	AFFIN	RHB	EONCAP
Definition of liquidity risk	Yes	Yes	Yes	Yes	Yes	Yes
Frequency of meeting	Not available	Not available	Once	Not available	Twice	Not available
Monitoring frequency	Not available	Not available	Daily	Monthly	Not available	Not available
Risk Management	Liquidity Framework	Liquidity Framework	Liquidity Framework	Liquidity Framework	Liquidity Framework	Liquidity Framework
Risk Measurement	Not available	Stress testing	Stress testing	Not available	Stress testing	Not available
Responsibility	Not available	Not available	Asset Liability Management and Group Treasury	Bank Risk Management Committee	Asset Liability Committee (ALCO)	Not available

Note: Not available means that the information on the items are not disclosed in the annual reports of the Islamic banks

The risk measurement used by Islamic banks is stress tests but only three banks in the study disclose the information (BMMB, CIMB and RHB).

The liquidity risk management in Islamic banks are the responsibility of Risk Management Committee in these banks, where this committee provides oversight and management of all risks including liquidity risk. There is a continuous review of business activities and processes to identify significant risk areas and implement control procedures to operate within established corporate policies and limits. The banks' risk management strategy seeks to ensure that risks undertaken are well-managed within the boundaries of its risk appetite. However, only three banks disclose this information (CIMB, AFFIN and RHB). Majority of the Islamic banks in the study also did not provide disclosure on the frequency of the meetings for the liquidity risk management and also the monitoring frequency.

However, there is no disclosure in these annual reports with respect to quantitative information on the management of the liquidity risk, for example the techniques used to manage the liquidity risks, which is crucial to the market participants.

Conclusion and Recommendations

Based on a sample consisting of the top six Islamic banks in Malaysia, this study attempts to relate the liquidity risk with the banks financial performance.

The study finds that the financial crisis has little impact on the extent of liquidity risk in the Islamic banks as the trend in liquidity risks in the Islamic banks over the three-year period has been inconsistent throughout the banks. Secondly, assessing the performance of the Islamic bank through the ROE suggests that there is a general decline in the ROE of the Islamic banks from 2006 to 2008, indicating that the crisis has an adverse effect on the Islamic banks' profitability. Thirdly, relating liquidity risk to bank's financial performance, the findings show that the relationship between liquidity risk and financial performance is not always predicted by the conventional financial theory of "high risk-high return". For individual bank for example as shown by BIMB which has the highest ROA and ROE for 2008, yet, it has the highest liquidity risk.

In addition, the study also has shown that for the year 2006, the relationship between liquidity risk and ROA is positive whereas for 2007 is a negative relationship. This also can be the evidence that the year of crisis, for example 2007, the liquidity risk and ROA and ROE tend to behave in an opposite way. The findings also show that liquidity risk may lower ROA and ROE. This shows that during the crisis, Islamic banks with larger gap lack stable and cheap fund, and thus they have to use liquid assets or much external funding to meet the demand of fund, increase bank's cost of funding. It consequently decreases bank's profitability.

Liquidity management is difficult in Islamic banks due to the lack or limitation of practical instruments and the small number of participants on the money market. Because most of the conventional liquidity tools are not according to *Shari'ah*, Islamic banks sustain higher liquidity ratios compared to conventional banks. However, in the case of Malaysia, the regulator, particularly Bank Negara Malaysia introduced the Liquidity Framework in 1998 to enhance liquidity management and this is effective as during the crisis, Islamic banks in Malaysia are liquidity risk and financial performance as measured by ROA and ROE are not much affected based on the findings of this study.

In addition, the findings show that the level of liquidity risk reporting is still at minimum. The disclosure of firms' risk-management positions and strategies is crucial to improve corporate transparency for market participants and to enhance corporate governance.

Based on the findings in this study, particularly on the liquidity risk management disclosure, it is important for the standard setters and the bank regulators to work together to improve the risk disclosures, including liquidity risk. The prudential standard issued by Islamic Financial Services Board (IFSB) in December 2005 on Guiding Principles on Risk Management, similar to the BCBS's publications on sound practices and principles pertaining to market, credit and operational of banks, but cater for the specificities of Islamic banks, provides Islamic banks with the fifteen guidelines for risk management, including liquidity risk. However, these guidelines do not look specifically into risk disclosure.

It is hoped also that by having adequate disclosure in the annual reports, particularly risks information, future banking crises could be avoided. This is because research has shown that one of the causes of the Asian banking crises was the lack of transparency in the annual reports. However, not all information should be made available to the public, because some of the information such as the nature and the amount of investments of the restricted investment account holders should be made available to restricted investment account holders.

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