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Liquidity Risk Management in Islamic Banks: A Survey

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Abstract

One of the most important functions of banks is the transformation of maturities, i.e. the ability to obtain funding from short term deposits so as to finance loans over a longer term. As a result of such behaviour, banks are exposed to liquidity risk. Liquidity risk occurs when a bank is unable to cover its financial obligation when it is due without bearing any costs. Hence, liquidity risk management can be defined as a regular process to guarantee that the expected and unexpected cash needs can be met at reasonable costs. While, on the liability side, liquidity risk arises when depositors withdraw their money at once or in large amounts, on the asset side, banks are vulnerable to liquidity risk if the demand in loans increases. Hence, this research provides an overview of the authentic principles of the Shari'ah and the main guidelines of Islamic finance with relation to liquidity risk. In addition, attention is focused on the undertaking of specific techniques and policies as well as the initiation special types of supervision to provide high-quality services so as to satisfy the spiritual and objectives of Islamic finance and subsequently to develop a better understanding of liquidity risk management.

Key Words: *Liquidity risk, Liquidity risk management, Islamic banking and finance*

Introduction

One of the most essential functions of banks is the transformation of maturities; in other words, the capability to acquire funding from short term deposits in order to finance loans at a longer term. As a result, banks

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are susceptible to an inherent liquidity risk (Berger and Bouwman, 2009). Furthermore, due to a number of changes and developments in the financial market, such as the growing use of multifaceted financial instruments by huge financial institutions in a highly competitive manner and the globalisation of the financial market in an increasingly critical atmosphere, the banking sector faced severe challenges related to liquidity risk management in banking sector.

In the financial system, banks' liquidity can be categorised into two types: funding (or liability) liquidity risk and market (or asset) liquidity risk. While, market-liquidity risk is related to the banks' inability to easily counterbalance or sell assets at the market price as a result of inadequate market strength or market distraction, funding-liquidity risk associated to the risk whereby the bank is not able to meet efficiently its obligations as they become due (Basel Committee, 2008). In fact, most banks failures, whether they are Islamic or conventional, are due to the difficulties in managing their liquidity needs (Abdul Majed, 2003).

Islamic banking has grown widely over the last thirty years all over the world through the emergence of an ever-increasing number of banks, branches, accounts and the amount of capital that is invested (Khan, 2010). Good testimony supporting this claim is that many international conventional financial institutions such as Citigroup, ABN Amro, Bank of America, Standard Chartered, Union Bank of Switzerland, HSBC, JP Morgan, Barclays, Kleinwort Benson, Deutsche Bank and Lloyds TSB are now offering Islamic finance services through their Islamic windows. Consequently, the Islamic financial industry has become an essential player in the global financial market. Furthermore, since 1999 both the Dow Jones and FTSE provide specialised indices for *Shari'ah* compliant activities since 1999 (Khan, 2010; Aggarwal and Yousef, 2000). Thus, it can be stated with conviction that Islamic banking is considered considered as one of the fastest developing industries, with a growth rate that doubles every passing year.

According to the latest data from Global Islamic Finance Report GIFR (2012), the actual global size of Islamic financial services industry stands at US$ 1.357 trillion (see table 1) with a growth rate of 25 %. However, the potential global size of Islamic financial service industry is calculated at US$ 4 trillion growing at 10 % (GIFR, 2010). Such a difference between the actual size and the potential one can be attributed to either a misunderstanding of the real meaning of Islamic financial principles or an imperfect implication of these principles in the investment activities of Islamic financial institutions. Such attitudes may lessen the confidence of customers in Islamic banks, and hence, hamper the efforts of Islamic financial industry to reach the size that is potentially feasible.

Table 1: Size of the Islamic Financial Industry

Country	2007	2008	2009	2010	2011
Iran	235	293	369	406	413
Saudi Arabia	92	128	161	177	205
Malaysia	67	87	109	120	131
UAE	49	84	106	116	118
Kuwait	63	68	85	94	95
Bahrain	37	46	58	64	65
Qatar	21	28	35	38	47
UK	18	19	24	27	33
Turkey	16	18	22	25	35
Bangladesh	6	8	9	10	13
Sudan	5	7	9	10	11
Egypt	6	6	8	9	12
Pakistan	6	5	6	7	12
Jordan	3	5	6	6	11
Syria	1	4	5	5	5
Iraq	--	4	5	5	9
Indonesia	3	3	4	5	9
Brunei	3	3	4	4	8
Other Countries	7	7	9	10	125
Total	639	822	1036	1139	1357

Source: GIFR (2012)

It is estimated, optimistically, that Islamic finance will account for 50% of all banking assets within next 10 years in Islamic counties (Farhani and Dastan, 2013; GIFR, 2010). Although the Islamic finance industry is still in its infancy and not as competitive as its conventional counterparts, the customer's desire to conduct their business in accordance with their own beliefs (GIFR, 2010) and the dramatic increases in crude oil prices over recent years were cited as the main factors behind the significant growth of Islamic finance industry in the Middle East (Khan, 2010) in general and in the GCC region in particular.

Presently there are more than 614 Islamic banks and financial institutions in more than 75 countries (Farhani and Dastan 2013: 157; Khan, 2010). 420 institutions are offering Islamic exclusively Islamic financial services and the remaining 194 are conventional institutions having Islamic windows. Over the past two to three years alone, more than 50 Islamic financial service institutions have been launched globally. In particular, the Middle East has witnessed an explosion in the number of Islamic financial service institutions. Islamic financial institutions account for 15% of the Middle East top 30 banks' assets (GIFR, 2010). Furthermore, the GCC Islamic financial market represents 39.05% of the total Islamic financial industry worldwide (GIFR, 2012). According to Khan (2010), Islamic banking and the accompanying finance sector have strongly demonstrated their transformation from a form of ambiguous financial experimentation to a key player in global finance market.

However, like their conventional counterparts, Islamic banks face different types of risks that come as a result of recent changes and developments in the financial market combined with a critical atmosphere and severe key challenges that gained prominence after the recent financial crisis (2007-2009). Moreover, as a result of the unique and complex nature of Islamic financial products, Islamic Banks have been confronted head-on with very different types of risks when compared with those that conventional banks have encountered.

In the banking sector, the transformation of short-term liabilities to long-term assets on the balance sheet is one of the most crucial characteristics in banking that may lead to a liquidity risk for banks (Berger and Bouwman, 2009; Diamond, 2007; Diamond and Dybvig, 1983 and Bryant, 1980). As a result of such functions, banks, whether Islamic or conventional, are exposed to liquidity risk, where banks may experience the harshness of the costs of liquidating their assets so as to cover the liquidity requirements of customers (Berger and Bouwman, 2009; Allen and Gale 2004; Allen and Santomero, 1998). All depositors trust that the bank will pay their deposits back whenever they demand it. However, in the event of any difficulty in response to the desire to withdraw deposits, the bank's reputation will consequently be placed under question. This might well lead to a massive desertion of the bank's customers and a resulting 'run on the bank'. Furthermore, in the case of a 'run on the bank', this might cause incomparable harm to the perceived solidity of the entire financial system of a country.

The anxiety over liquidity risk is more severe with regard to Islamic banks on account of the specific nature of Islamic financial products and activities and also due to the restricted accessibility of *Shari'ah* compatible money market instruments and '*lender-of-last-resort*' (LOLR) facilities (Dusuki, 2007). Accordingly, Islamic banks may face a more critical and wider mismatch between its assets and liabilities. Hence, it is a key challenge for Islamic banks to ensure their ability to obtain adequate funds to offset such mismatch on their balance sheets. However, looking at the issue from another perspective, attaining or upholding a massive sum of liquid funds to evade liquidity risk, would positively increase the costs and negatively affect the effectiveness of the bank to enhance their profitability (Dusuki, 2007). By considering such consequences, the principal challenges towards maintaining an equilibrium consists of key factors such as the safety and profitability of transactions, as well as the compliance with *Shari'ah* concepts in banking operations. The latter represents the core concern of the liquidity risk management in Islamic banking sector.

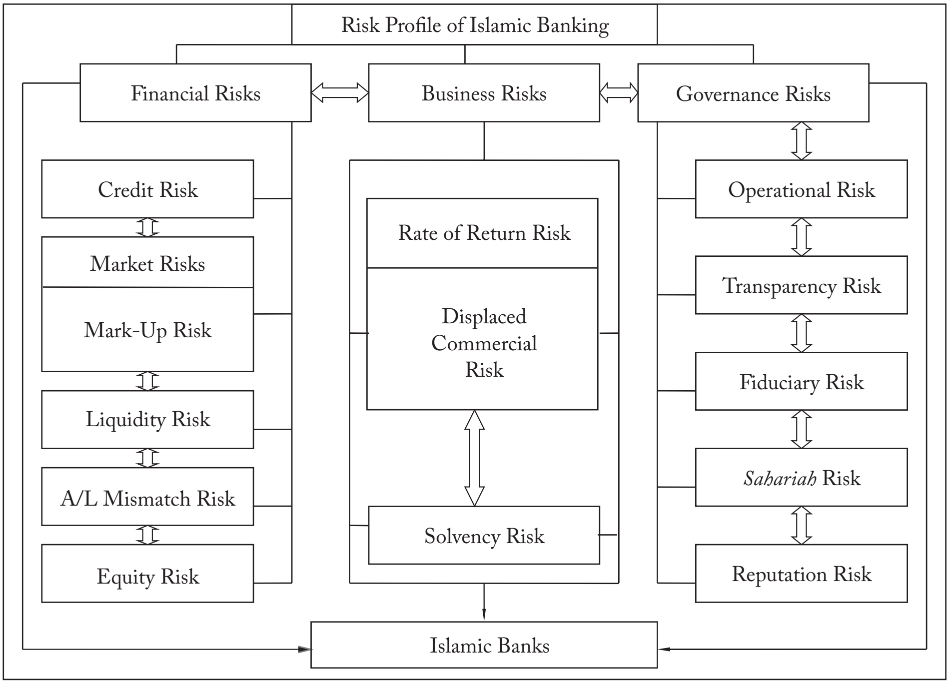
Hence, it is crucial to understand the authentic *Shari'ah* principles and main guidelines of Islamic finance in relation to liquidity risk. Also, an exploration of the key features of Islamic financial contracts and products in relation to liquidity risk constitutes a significant element in the mitigation of the magnitude of liquidity risk. It follows that the main challenge f is to provide supervision of high-quality services that satisfy the spiritual tenets and objectives of the Islamic finance system through the undertaking of specific techniques and policies. (A thorough examination of this key challenge will subsequently help us to develop a better understanding of liquidity risk management within the context of Islamic finance.)

The Nature of Risks Faced by Islamic Banks

As a result of the development and changes in the nature of banking businesses, Islamic banks are exposed to very different kinds of risks. Many factors play significant role in the occurrence of risks, such as increased volatility in the market; rapid development of financial innovations; and increases or changes in competitive and regulatory environments (Iqbal and Mirakhor, 2007). Besides the risks that conventional banks face, Islamic banks have to deal with additional types of risks (See figure 1).

Credit risk is a critical risk that Islamic banks face, as lending is replaced with investments and partnership. Due to the unique characteristics of Islamic finance, Islamic banks encounter unique types of credit risks, such as in the case of *murabaha*, when the bank delivers the asset to the client but does not receive payment from the client on time. *Bay'al-salam*,

Figure 1: Risk Profile of Islamic Banking



Source: Iqbal & Mirakhor (2008) (Modified version).

istisna' contract and *mudarabah* are other areas of finance that encompass credit risks for Islamic banks' operations (Iqbal and Mirakhour, 2007).

Market risk is another important financial risk for Islamic banks, which exposes banks as a result to different types of risks, such as mark-up risk, price risk, leased asset value risk, foreign exchange (FX) risk and securities price risk. For example, in the case of *bay'al- salam*, during the period between the delivery of the commodity and the sale of the commodity at the prevailing market price, Islamic banks are exposed to commodity price volatility (Iqbal and Mirakhor, 2007).

As the interest-based loan is prohibited by *Shariah*, liquidity risk is more serious for Islamic banks as compared with their conventional counterparts (Ahmad and Khan, 2001). For instance, Islamic banks cannot utilize the financial instruments used for liquidity risk management which are accessible on the market to conventional banks such as the inter-bank market, the secondary market for debt instruments, and discount windows from the lender of the last resort; this being the central bank. Such discount windows and debt instruments are interest-based, therefore, they are not *Shariah* compliant.

Another type of financial risk is Asset Liability mismatch risk, which can occur due to different maturities and the conditions of the investment portfolio of the bank on its assets and liabilities levels. In profit-loss sharing investment there is a strong probability of equity investment risk in Islamic banking on the asset side. This constitutes a unique risk to Islamic banks due to equity-based nature of some Islamic financial contracts.

Business risk is another type of particular risk from which Islamic banks are suffering. One of the specific business risks is the rate of return risk, which may occur as a result of the uncertainty of returns of Islamic banks. As part of the business risk, 'displaced commercial risk' is the transfer of the risk associated with deposits to equity holders. This type of risk occurs when Islamic banks suffer from the pressure of paying its depositors a rate of return higher than what should be paid under the actual terms of the investment contract. (Ahmad and Khan, 2001). Withdrawal risk is also considered as one of the business risks that may affect Islamic banks when depositors decide to withdraw their money due to the low rate of return compared with that which their competitors offer or as a result of reputation risk (Ahmad and Khan, 2001).

Governance risk also can also represent a serious risk to Islamic banks. This type of risk arises as a result of failure in governing the bank or negligence in conducting business and meeting contractual obligations in accordance with *Shari'ah*. It may also occur due to a weak internal and/or external institutional environment. Operational risk is a type of governance risk. It is the risk of inadequacy of internal processes such as: risk of failure of technology, systems, analytical models and external risks (Iqbal and Mirakhor, 2007). Another type of governance risk is fiduciary risk, which can be caused by breach of contract on the part of Islamic banks. For instance, the bank may not be able to completely comply with the *Shari'ah* obligations of various contracts (Ahmad and Khan, 2001). Moreover, Islamic banks are exposed to transparency risk due to the lack of standardised of accounting and the reporting of Islamic financial instruments. Governance risk can also be expressed through *Shari'ah* Risk, which is caused, by non-standard practices in respect to different contracts in different jurisdictions and also the failure to comply with *Shari'ah* rules. Finally, reputation risk is another critical risk faced by Islamic banks due to irresponsible behaviour by some Islamic banks. Negative publicity can have a significant impact on a bank's market share, profitability and liquidity (Iqbal and Mirakhour, 2008).

Nevertheless, it has been observed that liquidity risk can play a critical role in bringing financial crisis to the doorstep of Islamic banks. All the categories of risks such as credit risk, operational risk etc., conclude in the structure of a liquidity problem for individual banks and the banking sector as a whole; therefore, it sometimes becomes hard to study these risks in an isolated manner (Ali, 2004), as each one of them is interlinked.

The Key Causes of Liquidity Risk in Islamic Banking

Liquidity risk blights the ability of the bank to match the maturities on the assets and liabilities side and to be able to conduct active portfolio management. Therefore, it is important to know the causes that can make liquidity risk in Islamic banking more severe:

- (i) One of the fundamental reasons of the liquidity risk in Islamic banking is limited accessibility of the *Shariah*-compatible money market and intra-bank market.
- (ii) The slow development of financial instruments which avert Islamic banks of raising funds from market when needed (Khan and Ahmad, 2001);
- (iii) The fact that most available conventional instruments used for liquidity management are interest-based; therefore, they are not *Shariah* compliant;
- (iv) Due to certain characteristics of some Islamic instruments, Islamic banks face additional liquidity risks. For instance, the inability to trade *murabaha* or *bay' al salam*, which can be traded only at par value (Iqbal and Mirakhour, 2007);
- (v) Islamic banks heavily depend on current accounts which are demand deposits and can be withdrawn at any time (Iqbal and Mirakhour, 2007);
- (vi) A small number of Islamic banks, as they emerged recently and very young compared with their conventional counterparts;
- (vii) Different interpretations of *Shari'ah* teachings (Islamic financial law) is a critical source of liquidity risk. For example, the contract of *bay' al-dayn* (sale of debt) is allowed commonly and practised in Malaysian financial markets. This type of contract is not permitted by the mainstream of *Shari'ah* scholars outside Malaysia who maintain that debt can be traded only at par value. If trade

is not at par value, it opens doors of *riba* (interest). Therefore, *Shariah* scholars in other jurisdictions need to become engaged in finding solutions for such issues (van Greuning and Iqbal, 2008).

It should be stated that the unique nature of Islamic banks with their purpose of staying away from interest in any form, have additional issues to address in order to cover their liquidity shortfalls in a *Shari'ah*-complaint manner.

Managing Liquidity Risk from the Perspective of Islamic Banking

Real business transactions are the core of practicing efficient liquidity risk management in Islamic banking practices (Antonio, 1999 and Ismal, 2008). This reflects the real economic activities performed throughout the business cooperation and the good behavior of all stakeholders (Iqbal and Mirakhor, 2007). As a result, liquidity risk in Islamic banking stems from the actual circumstances of the economy. As a result of complying with the spirit of Islamic law, the liquidity risk management of Islamic banks is different from that of conventional banks.

As part of liquidity management, liquidity stress in Islamic banks can be managed internally and externally. Internally, considering the trust as the cornerstone of the relationship between all partners, the bank's management, stakeholders and shareholders are considered as trusted business partners. This principle can play a significant role in reducing the liquidity risk of each partner. Externally, liquidity risk is managed through the Islamic financial market system, stimulated via regulators and linked with real economic activities (Ismal, 2008).

Moreover, Islamic banks take a forward role as institutions trusted by their investors and business partners by playing the role of business advisor, consultant and source of knowledge. From the point of view of Islamic banking, if each business partner was left to individually bear the risks involved in his financial activity, business activity would be harshly constrained. It is commercially advantageous to allow business partners to distribute the burden of risk-bearing. The wider the dispersal of risks, the larger the volume of risks that can be tolerated by the business partners. Therefore, the responsibility of liquidity risk is assumed by both the bank and the investors, as they work together and are accountable mutually (Iqbal and Mirakhor, 2007).

Liquidity Risk Management Policy of Islamic Banks

As banks deal with other peoples' money, they should put in place an effective liquidity risk management policy to maintain their solvency. Therefore, it is required to allow an active oversight by the Board of Director (BOD). The BOD, as a key entity in the bank, should set up a liquidity-risk management policy in association with senior management and other bodies and personnel. Taking into consideration the nature of the Islamic banks and their business activities, Islamic banks should review their liquidity management policies periodically which cover (IFSB, 2005):

(i) A policy for managing liquidity risk conducted by well-organized BOD and senior management supervision;
(ii) A structure for developing and practicing sound procedures for assessing and monitoring liquidity;
(iii) The preparation of sufficient techniques for monitoring and reporting liquidity exposures on a periodic basis;
(iv) The provision of adequate funding capability, with exact recommendation as to the willingness and aptitude of shareholders to supply supplementary funds when required;
(v) The provision of liquidity through fixed asset realisations and arrangements such as sale and lease-back; and
(vi) Liquidity crisis management.

In addition, liquidity risk management policy should include both quantitative and qualitative factors. Quantitative factors include the degree of variety and sources of funds, concentration of the funding base, reliance on marketable assets, or availability of reserve lines of exterior funding. Qualitative factors include evaluation of the general capabilities of the management, the bank's reputation in the market, the particular skills in treasury management and public relations, the quality of management information system and the willingness and ability of shareholders to provide additional capital (IFSB, 2005).

Assessment and Monitoring of Liquidity Risk in Islamic Banking

Assessing and controlling liquidity risk can be challenging; because the underlying variables that drive exposures can be dynamic and unpredictable. Indeed, liquidity risk is often deemed to be more difficult to assess than other dimensions of financial risk accurately in view of the fact that it is so changeable. Notwithstanding the challenges, some attempt must be made to estimate the relative level of risk. If this can be done, then the next step in the process, namely controlling risk through limiting mechanisms, can be successfully accomplished. Therefore, to preserve the bank's solvency, Islamic banks should have in place an adequate amount of liquidity. And in order to maintain the required limits of the liquidity that must be reserved, an efficient review and monitoring should be practiced by the Islamic banks periodically (IFSB, 2005: 20). Thus, Islamic Banks, in satisfying the required procedures in respect to assessing the limits of the mandatory liquidity reserve, need to identify any future deficits in liquidity by constructing maturity ladders based on proper time bands. Islamic banks may have their own criteria for classifying cash flows including behavioral methods. Islamic banking categories cash flows in different forms as explained below:

(i) Known cash flows: When the maturities and the amounts are known in advance. This category includes receivables from *murabahah, ijarah, ijarah muntahya bitamlik* (IMB) receivables and diminishing *musharakah*;
(ii) Conditional but expected cash flows: Such as *salam* and *istisna*, conditionality is defined in terms of the type of contract or performance of work based on the agreed terms and conditions over a specific period.
(iii) Conditional and unpredictable cash flows: In some cases, an investment in a *mushārakah* is for an open-ended period and an exit strategy may be assessed periodically. The redemption of invested capital and possible levels of return on investment is conditional upon the performance of conducting business.

Considering Islamic banks obliged to meet their duties, periodical cash flow analyses under various market scenarios and conditions should be practiced. The scenarios may vary depending on local market conditions, and may be based on (a) a 'normal' operating environment; and (b) scenarios of adverse circumstances (IFSB, 2005).

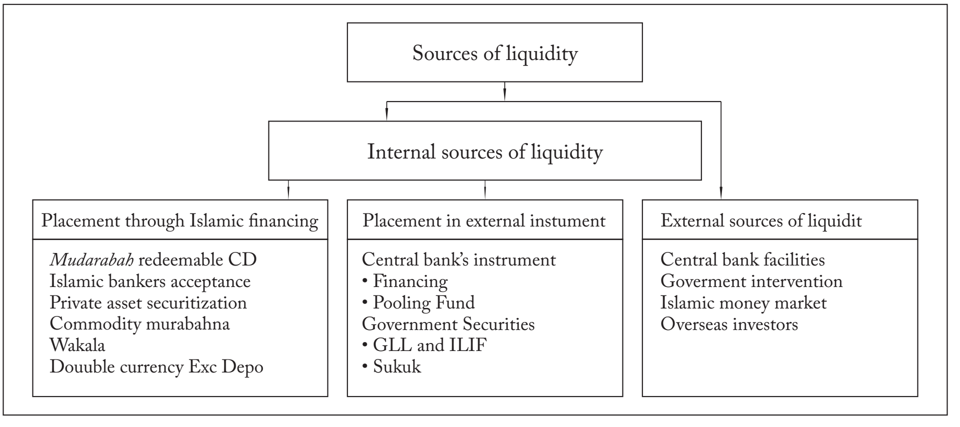
Financial Instruments for Managing Liquidity Risk of Islamic Banks

After explaining policies, techniques and procedures for managing liquidity risk, Islamic banks are required to have access to many types of

Islamic financial instruments to provide liquidity when necessary. Islamic instrument defined by Hassan (1993) and Ahmad (2001: 43) as "a certificate representing common shares in a mobilized fund to be invested for the purpose of sharing in profit. This certificate is negotiable and convertible to money".

Islamic financial instruments, such as central bank instruments and government securities are used by Islamic banks as internal sources. In addition, Islamic banks use central bank facility, government intervention, the Islamic money market and overseas investors as external sources of liquidity. All the instruments are illustrated in figure 2 and detailed bellow.

Figure 2: Sources of Liquidity for Islamic Bank



Sources: Ismal (2008) (Modified version).

Islamic financial instruments

In order to manage their liquidity risks efficiently, many types of Islamic financial instruments are used by Islamic banks, as illustrated in figure 2. Although there is a debate between scholars about the practicing commodity *murabaha* (Cox and Thomas, 2005), it is a vital instrument used by Islamic banks to address the problem of liquidity (Abdul Majid, 2003). It is a structure of a short-term finance based on *murabahah* contract and it is generally used for the selling of commodities on the international market when liquidity is needed (Abdul Majid, 2003). Another instrument used by Islamic banks for short-term placement is *mudarabah*-based redeemable certificate of deposit/ MRCDs (Ahmed, 2001); this constitutes a joint financing agreement between those Islamic banks, which have redemption facilities. Through repurchase (repos) commitment, liquidity is supplied, where the issuer affords liquidity by liquidating the project or the project keeps going while the MRCDs holder sells it onto the Islamic money market (Ismal, 2008). The next alternative instrument of liquidity is the Islamic banker's acceptance (BA), where an Islamic bank acts as agent for a trader dealing in trade and takes fixed commissions (Ahmad, 2001). However, when a liquidity problem occurs, the BA can be sold in secondary market as a quick source of funds (Ismal, 2008). Finally, securitisation is an Islamic financial instrument utilised by Islamic banks to cover liquidity shortfall. It is the sale of ownership rights in high-value tangible assets through the unitisation of the ownership of these assets into monetary- denominated participation certificates to be sold to investors (Maroun, 2002).

External instruments for managing the liquidity risk of Islamic Banks

Beside Islamic financial instruments, Islamic banks use some external instruments for providing liquidity, when needed, such as purchasing government or central bank instruments (Ismal, 2008: 63). According to Kahf (2000), the Islamic Leasing Investment Fund (ILIF) is a useful instrument for covering liquidity needs. It is a government instrument used to purchase assets to lease them. Since these ILIF represents the pro rated ownership of their holders in the tangible assets of fund, they are fully negotiable and can be sold on the secondary market for providing liquidity when necessary. In addition, *sukuk* and Government Investment Issues (GIIs) are instruments used for liquidity purposes. Islamic banks sell GIIs to the central bank, under various modes of underlying Islamic contracts, typically *mudarabah*, *musharakah*, *ijarah*, *salam*, to meet their liquidity needs. GIIs are government securities issued on an Islamic basis (Abdul Majid, 2003).

External sources of liquidity of Islamic Banks

In addition to the Islamic financial instruments and external instruments, Islamic banks have external sources to cover their liquidity needs. One of the crucial external instruments is the Islamic Inter-bank Money Market. Islamic banks can satisfy their short-term liquidity needs by issuing a set of acceptable instruments through the Islamic inter-bank money market (Maroun, 2002). In addition to this, the Islamic international interbank money market and Liquidity Management Center are vital external sources for Islamic banks to gain access to efficient funds to manage their liquidity shortfall (Iqbal and Mirakhor, 2007). Another powerful external source that can be used for liquidity purposes is the central bank's liquidity supply to the Islamic banks under a *Shari'ah* compliancy-code (Abdul Majid, 2003). Finally, as regards Islamic banks, in the case of subordinates, liquidity injections can be provided immediately by parent company (Ismal, 2008).

Conclusion

The emphasis on the liquidity risk has recently become a very prominent issue particularly in the aftermath of the recent global financial crisis. Hence, this paper has attempted to investigate the key feature of Islamic finance in relation to liquidity risk and the techniques used in managing it. It can be comprehended from the preceding discussion that Islamic banks have unique features in relation to liquidity risk management. Therefore, Islamic banks aim to mitigate their liquidity risk by practising and adhering to *Shari'ah* concepts such as cooperation between all the business partners through the sharing of the risks and mutual responsibilities of running the business.

Accordingly, Islamic banks are obliged to have in place effective techniques, procedures and highly industrialized liquidity risk-management practices via appointment of a sufficiently qualified BOD, senior management and other personnel. Efficient accessibility to adequate financial instruments is also significant for Islamic banks to meet their liquidity needs in a timely manner. Based on the achieved empirical results, in order to ease liquidity risk exposure in the Islamic banking sector, innovative approaches are essential in terms of the engineering of new financial instruments and the development of comprehensive regulations and policies.

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