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Islamic Perspectives on Liquidity Risk Management Practices of Islamic Banks in Malaysia and Bahrain

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Abstract: *The objective of this paper is to highlight the Shariah guidelines on management of liquidity risk based on Qur'an and Hadith. It also seeks to discuss the sources and challenges of liquidity risk in Islamic banks. Various attempts being made at mitigating the effect of liquidity risk on Islamic banks in Malaysia and Bahrain are also reviewed. The paper adopts library research by extracting information from relevant texts, journals and other publications. The authors recommend extension of Liquidity Management Framework in Malaysia and Liquidity Management Centre in Bahrain to other countries to ease the problem of liquidity management. It also advocates for independent or autonomous central authorities that will provide Shariah-compliant Lender of Last Resort (SLOLR) across each of the countries operating dual banking systems to provide adequate support for Islamic banks*

Keywords: Liquidity, Liquidity Risk, Liquidity Risk Management, Liquidity Management Framework, Liquidity Management Centre, Islamic Banks, SLOLR.
JEL Classification: G01, G21, G24, G28, G32

1. INTRODUCTION.

One of the major priorities of a financial institution is to maintain sufficient liquidity position. Liquidity is very critical to banking operations and also contagious to other risks. Tight liquidity position exposes banks to liquidity risk and high funding costs. As such, liquidity risk management has become the single most important area for banks (Ali, 2013). Mismanagement of funds and volatility in the depositors' withdrawal are some of the major causes of liquidity problems in banks (Ahmed, Ahmed and Naqwi,2011).

Asset and Liabilities Management(ALM) function is one of the key functions of a bank to manage liquidity risk. ALM is as important in Islamic banks as it is in conventional banks. However, Islamic banks face greater challenges in managing liquidity risk than conventional banks due to Shariah's restrictions on the instruments used for liquidity management. The restrictions only allow instruments which are non- interest based whilst many liquidity instruments available in the market are interest based.

Apart from these restrictions, Islamic banks are also affected by the changes in interest rates in the financial market and in the conventional banks. The depositors of Islamic banks expect a high return whenever interest rate is high in conventional banks, and deposits of Islamic banks are also reduced when customers switch their deposits to higher yield investments offered by other competitors (Ariffin, 2012). In another instance, Islamic banks are vulnerable to the changes in the interest rates as they use interest rate in the form of London Inter Bank Offered Rate (LIBOR) as a benchmark in arriving at a profit markup in their financial contracts.

In the light of the unique position of Islamic banks in the liquidity management, Islamic banks are in need to behave differently from their conventional counterparts in managing their liquidity risks. This is necessary to ensure Islamic banks remain competitive in their liquidity risk management and at the same time, their liquidity risk management is Shariah compliant and receives the blessings from Allah (*subhanahu wata 'ala)*. A survey of the Quran and related literature highlights that there are already Allah's commandments on liquidity management since 1400 years ago stated in the Qur'an as well as in the Hadiths. However, there exists a lack of knowledge among practitioners as well as Muslim customers on these divine rule.

As a result of this lack of knowledge, Islamic banks rely mostly on conventional banks to fashion out practices that are Shari'ah compliant rather innovate new ideas based on Qur'anic injunctions. In this circumstance, Islamic banks were more or less a replication of conventional banking system that is being 'islamised'

It is the objective of this paper to highlight some of the Divine injunctions from Islamic perspectives regarding liquidity and risk management. This is to enable Islamic banks understand the principles upon which their practices are based. The paper will also present the reviews of the management of liquidity practices in Islamic banks in Malaysia and Bahrain. Malaysia is among the pioneer of modern Islamic banking and is still a frontrunner in the global Islamic banking (Arif, 2014). Islamic banks in both Malaysia and Bahrain enjoy government support with adequate framework on liquidity management.

This paper is exploratory in nature and adopts content analysis as a tool to extract information from available literature. The paper is divided into six sections. Section 2 contains Literature Reviews comprising reviews of Quranic verses and Hadith on liquidity and risk management. It also identifies the causes and how liquidity is being managed currently in Islamic banks. Section three identifies the challenges of liquidity in Islamic banks while section four discusses the Islamic perspectives on risk and risk management. Section five highlights the causes and sources of liquidity risk while section six concludes the discussion.

2.1 Liquidity in Financial Institutions

The word liquidity has so many facets that is often counter-productive to use it without further and closer definition (BDF, 2008). It is a concept that is not only hard to define but also hard to ignore (Calvo, 2013).

Liquidity relates to the ability of an economic agent to exchange his or her existing wealth for goods and services or for other assets. Here, liquidity is regarded as a flow concept rather than stock (Nikolaou 2009). Thus, the liquidity of an asset is its ease to convert into cash or a cash equivalent (Ali, 2013). It is the enduring ability to accommodate liability maturities, to fund asset growth and to meet other contractual obligations in a timely and cost-effective manner (Parashar,2014).

Similarly, Bankscope defines liquid assets as loans with less than three months to run to maturity plus quoted or listed government bonds and cash (Alman & Oehler, 2010).
Furthermore, liquidity is the lifeblood of any organization (Sekoni, 2015). This means that both banking and non-banking institutions require liquidity and management of cash and liquid assets is a fundamental management function in any organization.

In economics, liquidity refers to the ease and speed at which one asset can be converted into another. Based on this definition, a car for instance is less liquid an asset than gold, and treasury bills are more liquid than corporate bonds. Thus money (cash) is the most liquid of wealth (Hasan, 2014).

There is always a tradeoff between profit (from lending or investment) and liquidity in bank's business. This is due to the fact that while banks deal in cash or liquidity, they operate on a fractional reserve principle. The regulatory principle is to maintain balance between liquidity and profit.

The structure of a bank's balance sheet depicts the importance of liquidity. On the asset side, the listing is from the most liquid asset (cash) to the most illiquid one (fixed assets like building). This is contrary to the reverse listing in other organizations where the fixed assets are first listed (Hasan, 2014)

Moreover, the survival of a banking institution and the entire financial system rests on the availability of liquidity and ability to understand the rudiments of its risk for proper mitigation.

The main objectives of liquidity in a bank are to:

- Ensure that banks can conveniently meet their expected and unexpected cash obligations at all times.
- Contribute to the profitability of the bank.

In addition, liquidity is inherent in every market and it manifests itself in every transactions involving assets or portfolios trading. Sekoni (2015) also reports three situations in which liquidity manifests itself:

i. Normal daily business activities.
ii. Investments.
iii. Fire-sales during times of shortage of funds.

Shortage of liquidity is a financial element that always manifests during major financial crisis. During such crisis, there is often massive outflows of capital with no more or at least equal inflows.

2.2 Sources of Liquidity for Banks

Nikolaou (2009) enumerates four sources of liquidity:

i. Short-term (liquid) deposit: This is money entrusted by depositors to the bank. It is considered as the major source of funding liquidity.
ii. The market: Banks engage in selling of assets in markets to generate liquidity. This can be through loan syndication, securitization and loans from secondary markets.
iii. Interbank Market: Liquidity can be sourced by banks from other banks through interbank market.
iv. Central Bank: through its function as lender of last resort, central banks do directly provide liquidity to banks.

The Central Banks act as an immediate but temporal buffer to liquidity shocks which allows time for supervision and regulation to confront the causes of liquidity risk (Nikolaou, 2009).

Nikolaou (2009) also identifies monetary or macroeconomic liquidity which he refers to as the growth of money, credit and aggregate savings. Thus, it includes Central bank liquidity which he says is synonymous to supply of base money.

In addition, there is also funding liquidity which is the ability of banks to meet their liabilities and to settle their obligations as they come due (BIS, 2008).

There are linkages among these sources of liquidity. In normal periods, the Central banks make available the amount of liquidity that will stabilize demand and supply through controlling of Statutory Reserve Requirement (SRR), while market liquidity is managed through the interbank money market and short term asset markets re-distributes and maintain the liquidity and funding position. Liquidity management also safeguards an effective sharing of liquidity resources.

However, in an atmosphere of imperfect markets, and irregular information, the Central bank cannot differentiate between illiquid bank and the bank in debt. When there is a failure in coordination among depositors, banks, or traders which provide and are provided with information asymmetric and imperfect markets, the liquidity risk will result (Nikolaou, 2009).

2.3 Liquidity Management from the Qur’an

Previous studies have not highlighted specific Qur’anic verses dealing with liquidity management. For instance, Khan and Porzio (2010) only considered the Qur’anic rules on liquidity management in terms of its prohibition of riba. The prohibition of riba made Islamic banks to develop their own instrument that are interest free to manage liquidity(Sobol,2013). However, there are a number of verses in the Holy Qur’an regarding liquidity management.

The Qur’an speaks on management of properties and wealth. This is represented by cash or liquidity in financial terms.

ولا تاكلوا اموالكم بينكم بالباطل وتدلوا بها الى الحكام لتاكلوا فريقا من اموال الناس بالاثم وانتم تعلمون

And do not consume one another's wealth unjustly or send it [in bribery] to the rulers in order that [they might aid] you [to] consume a portion of the wealth of the people in sin, while you know [it is unlawful](Al-Qur’an, Surah Baqara:188)

`Ali bin Abu Talhah reported that Ibn `Abbas said, "This (Ayah 2:188) is around an obligated individual when there is no confirmation of the credit. So he denies taking the advance and the case goes to the powers, despite the fact that he realizes that it is not his cash and that he is a heathen, expending what is not considered his." This feeling was likewise reported from Mujahid, Sa`id bin Jubayr, `Ikrimah, Al-Hasan, Qatadah, As-Suddi, Muqatil bin Hayan and `Abdur-Rahman bin Zayd bin Aslam. They all expressed, "Don't debate when you realize that you are being unjust."-(Ibn Kathir,2000)

Islam recognizes just acquisition of wealth. Such wealth when deposited in banks should also be managed justly on behalf of the owners.

Also, Allah says:

ولا تؤتوا السفهاء اموالكم التي جعل الله لكم قياما وارزقوهم فيها واكسوهم وقولوا لهم قولا معروفا

And do not give the weak-minded your property, which Allah has made a means of sustenance for you, but provide for them with it and clothe them and speak to them words of appropriate kindness(Al-Qur’an, Surah Nisa:5)

Here, Allah disallowed giving the hasty the opportunity to do as they wish with riches, which Allah has made as a method for backing for individuals. It prohibits the management of wealth to be handled by inexperience and unwise people since they are incapable of making wise decisions. This decision now and again applies on account of being youthful, as youngsters are unequipped for settling on insightful choices. It additionally applies to people in instances of madness, sporadic conduct and having a frail brains or religious practice. It applies in instances of insolvency, when the indebted individuals solicit that the property from a bankrupt individual is placed retained, when his obligations cannot be paid off with his cash (Ibn Kathir, 2000).

Islamic banks should ensure sound liquidity management practices in order to give depositors and owners some confidence that their wealth is in safe hands.

قالوا يا شعيب اصلاتك تامرك ان نترك ما يعبد اباؤنا او ان نفعل في اموالنا ما نشاء انك لانت الحليم الرشيد

They said, "O Shu'ayb, does your prayer command you that we should leave what our fathers worship or not do with our wealth what we please? Indeed, you are the forbearing, the discerning!" (Al-Quran, Surah Hud verse 87).
(or that we give up doing what we like with our property) This means, "Should we abandon our practice of lightening the scales because of your statement. This is our wealth and we will do with it as we please.'' (Ibn Kathir, 2000)

Here, the people of Hud is challenging their Prophet over the right they have to manage their wealth.

Liquidity represents the wealth of depositors who are customers and owners of the bank. The banks hold the liquidity in trust for the customers and shareholders and thus have fiduciary duty to manage the liquidity appropriately.

Also, the hadith that the upper hand and is better than the lower hand (the giver is better than the receiver) indicate that a Muslim is better to be liquid and able to give especially for needy ones.

حَدَّثَنَا أَبُو النُّعْمَانِ، قَالَ حَدَّثَنَا حَمَّادُ بْنُ زَيْدٍ، عَنْ أَيُّوبَ، عَنْ نَافِعٍ، عَنِ ابْنِ عُمَرَ ـ رضى الله عنهما ـ قَالَ سَمِعْتُ النَّبِيَّ صلى الله عليه وسلم. وَحَدَّثَنَا عَبْدُ اللَّهِ بْنُ مَسْلَمَةَ، عَنْ مَالِكٍ، عَنْ نَافِعٍ، عَنْ عَبْدِ اللَّهِ بْنِ عُمَرَ ـ رضى الله عنهما ـ أَنَّ رَسُولَ اللَّهِ صلى الله عليه وسلم قَالَ وَهُوَ عَلَى الْمِنْبَرِ، وَذَكَرَ الصَّدَقَةَ وَالتَّعَفُّفَ وَالْمَسْأَلَةَ " الْيَدُ الْعُلْيَا خَيْرٌ مِنَ الْيَدِ السُّفْلَى، فَالْيَدُ الْعُلْيَا هِيَ الْمُنْفِقَةُ، وَالسُّفْلَى هِيَ السَّائِلَةُ ".

Narrated By Ibn 'Umar: *I heard Allah's Apostle while he was on the pulpit speaking about charity, to abstain from asking others for some financial help and about begging others, saying, "The upper hand is better than the lower hand. The upper hand is that of the giver and the lower (hand) is that of the beggar."* [Sahih Bukhari, Vol 2, Book 24, Hadith #509]

Begging and parasitic living as a lifestyle is precluded as the above hadith demonstrated. Ogunbado (2011) expresses this thought as unlawful and wicked. One ought to discover a method for acquiring legal job and if the need arises to beg, it should be done to satisfy immediate needs only.

2.2 Guidelines on Liquidity Management

Based on the above and other divine instructions, Shariah provides guidelines on management of liquidity. Money is regarded as a measuring tool which can only be exchanged for exact value in cash. The growth of money will only occur if invested in economic activities (Abdul-Raman, 1999). Deposits for specific purposes cannot be mixed with other purposes without the approval of the account owner.

Similarly, financial instruments of Islamic banks like shares can be bought or sold for investment activities but not for speculation. This is due to the fact that shares represent a portion of the total assets of the business. However, shares in a company which has debt in its portfolio can only be traded provided the debt is not more than 35% of the total assets (Abdul-Rahman, 1999).

On the other hand, financial instruments like Commercial Papers(CP) Certificates of Deposits (CD's) and Bankers' Acceptance (BA) are not Shariah compliant because they are based on interest rates.

However, in Malaysia, Bank Negara (Central Bank) introduced in 1994, the Islamic Money Market with the objective of managing liquidity among the Islamic banks. In the operation of the market, the Bank has a number of Shariah-compliant instruments like *Wadiah* Acceptance (guaranteed custody). This is keeping of something by someone with another. It could be from either an individual or organization that is to be safeguarded and returned to the owner (Qaed, 2014). Through this instrument, Islamic banks deposit surplus deposit with the Central Bank which is used through Commodity *Murabahah* Programme (CMP) to manage liquidity (BNM, 2015). This market is unique to Islamic banks in Malaysia and should be introduced in other countries

3.0 Challenges of Liquidity in Islamic banks

The Islamic Financial Service Board (IFSB, 2013) reveals that liquidity has been a major issue in Islamic banks due to the nature of Islamic banks instruments and contracts which tend to be short to medium term because of the absence of long term liquidity market.

The report highlights the challenges to include:

i) Inappropriate (Sharia'h compliant) liquidity instruments like Certificates of Deposits (CD's), Bankers' Acceptance (BA's).
ii) Transfer of debts is limited to its face value in most of the jurisdiction due to Sharia'h compliance.
iii) Islamic banks rely on retail funding which limits it to domestic market. Hence, the capacity to transfer funds across borders is also limited.
iv) Supervisory authorities do not have sufficient tools to provide adequate liquidity support to International Islamic Financial Institutions (IIFI's) in normal and stressed market situation. For instance, there is no Sharia'h-compliant Lender of Last Resort (SLOLR). This connotes where the central bank provides guarantee (*Kafalah*) to Islamic banks under liquidity stress by providing liquidity with some collateral (Alamsya, 2011). In order to be Sharia'h compliant, such liquidity provision will not involve interest.
v) The open market operation is also not Sharia'h compliant and cannot meet the monetary policy objectives of the supervisor.
vi) The level of cash and high-liquid assets is high among IIFI's compared to conventional banks. Thus, the performance of Islamic banks is limited.

vii) The existing interbank transactions such as commodity *Murabahah* transactions (CMT) are predominantly not collateralized. This increased counterparty risk apprehension in bilateral transaction in stressed market situation thereby reducing the level of system-level liquidity available.

In addition, Parashar (2014) also notes that Profit and Loss Sharing (PLS) and asset-backing restrictions make it difficult and costly to place or raise short-term, especially overnight and even less than one- month maturity funds for liquidity management.

Hence, these challenges pose several causes for liquidity risk in Islamic banks.

4.0 ISLAMIC PERSPECTIVE ON RISK

The broad perspectives of Islam on risk and its management are embodied in the overall goals of Islamic Law which defines *Maqasid* as promotion of 'well-being of the people which lies in safeguarding:

- Faith
- Self
- Intellect
- Dignity and
- Wealth'.

The general concept of risk in Islam is in the dictum: *Al-Ghunm bil Ghurm.* This is a Sharia'h maxim which says the legitimacy of earning profit is based on the condition of risk-sharing and engaging in economic activities which contributes to the entire economy (Rosly and Mohammad Zaini, 2008).

Risk and human behavior are related. While some people are risk averse, others are risk takers. In the context of Islamic banks, bankers are controlled by Shari'ah. In conventional banks, the risk behavior is guided by risk bearing capacity, risk appetite and risk tolerance (Blyth, 2013, Michel,2014).

Thus Islam differentiates between two types of risks, commercial risk and gambling. While Islam recognizes the inevitability of commercial risk in every transaction, it forbids gambling. In commercial risk, an entity will be bought for the purpose of gaining a profit after selling it. The buyer reckons on Allah for a profit. In this case there may be a loss but this is necessary for a merchant because it is the nature of trade. In gambling, wealth is made for no effort and completely at the expense of the other party. Islam forbids gambling because in it there is a definite loss. The loss is intrinsic or by definition. This is related to the economic concept of added value. Gambling is about pure chance, no value is added. On the other hand, loss is possible in business but not definite. If someone buy goods for resale, he may lose part or the entire value and he may not. There is no intrinsic loss.

Islam also prohibits gambling or *Qimar or Maysir* which includes every game in which the winner receives something (money, commodity) from the loser. *Maysir* comes from Arabic word *yisir* which means ease. It is so called because it is associated with attempt to easily acquire wealth through games of chance. This zero-sum constitutes wagering on every uncertain or risky outcome which Islam forbids (Paldi,2014). It is a definite cost in exchange for possible gain.

On commercial risk, Islam places restriction on risk taking. It forbids excessive uncertainty otherwise known as *Gharar*.

4.1 Risk Management in Qur'an and Hadith.

Allah (the Exalted) encourages precautionary measure against anticipated risks in a number of verses in the Qur'an. Allah relates to us the story of Prophet Yusuf (peace be upon him) with many lessons to learn on risk management.

اذ قال يوسف لابيه يا ابت اني رايت احد عشر كوكبا
والشمس والقمر رايتهم لي ساجدين
قال يا بني لا تقصص رؤياك على اخوتك فيكيدوا لك
كيدا ان الشيطان للانسان عدو مبين

Remember when Yusuf said to his father 'O my father! Verily, I saw (in a dream) eleven stars and the sun and the moon, I saw them prostrating themselves to me!
He (the father) said.' O my son! Relate not your vision to your brothers, lest they arrange a plot against you. Verily! Shaitan is to man an open enemy! (Al-Qur'an, Surah Yusuf 12: 4 and 5)

The lesson here is how to manage information. And information asymmetry plays a key role in risk management. Economists have argued that there is a potential danger of adverse selection when there is asymmetry information (Lewis,2011).

Further, in subsequent verses, the king of Egypt sought the interpretation of his dream from Prophet Yusuf, he said:

قال تزرعون سبع سنين دابا فما حصدتم فذروه في
سنبله الا قليلا مما تاكلون
ثم ياتي من بعد ذلك سبع شداد ياكلن ما قدمتم لهن الا
قليلا مما تحصنون ثم ياتي من بعد ذلك عام فيه يغاث
الناس وفيه يعصرون

'For seven consecutive years, you shall sow as usual and that (the harvest) which you reap you shall leave in ears, (all)-except a little of it which you may eat. Then will come after that seven hard (years), which will devour what you have laid by in advance for them(all) except a

little of that which you have guarded (stored). Then thereafter will come a year in which people will have abundant rain and in which they will press (wine)' (Al Qur'an, Surah Yusuf verses 47-49)

قال اجعلني على خزائن الارض اني حفيظ عليم

Yusuf said: Set me over the storehouses of the lad, I will indeed guard them with full knowledge (verse 55).

In this portion of his story, Prophet Yusuf identified the impending risk of famine in Egypt, suggested methods to mitigate or manage the risk. After the method of mitigation is introduced, it is important to monitor its effectiveness. As such, he also offered to monitor the effectiveness of the risk management process.

Allah also says:

وقال يا بني لا تدخلوا من باب واحد وادخلوا من ابواب متفرقة وما اغني عنكم من الله من شيء ان الحكم الا لله عليه توكلت وعليه فليتوكل المتوكلون

And he said: "O my sons! Do not enter by one gate, but enter by different gates, and I cannot avail you against Allah at all. Verily! The decision rests only with Allah. In him, I put my trust and let all those that trust, put their trust in Him."(AL Qur'an, Surah Yusuf verse 67).

Here, Prophet Ya'qub (Prophet Yusuf's father, peace be upon them) admonishes his children going to meet Yusuf in Egypt to take precaution when entering Egypt. It was related that the children are handsome and could easily caught the attention of Egyptians if they enter in a group since they are foreigners. Ibn Kathir reports that he feared the evil eye for them, because they were handsome and looked beautiful and graceful. He feared that people might direct the evil eye at them, because evil eye is harmful (Ibn Kathir, 2000).

Similarly, Al-Maududi explains that Ya'qub advised them to be on their guard against the dangerous political situation and to enter the capital by different gates so as not to give cause for alarm and suspicion. In short, as far as it was possible, he took all the precautionary measures to avoid every possible risk (Maududi, 1990).

The lesson to be learnt from this is diversification as a risk management technique. It is argued that while risk may not be completely eliminated, diversification lessen the extent of the risk (Gurrib and Ashahrani,2012).

Additionally, the Holy Prophet Muhammad ﷺ (peace be on him) in his exhortation to a Bedouin Arab said:

عن أَنَسِ بْنِ مَالِكٍ قَالَ: قَالَ رَجُلٌ يَا رَسُولَ اللَّهِ: أَعْقِلُهَا وَأَتَوَكَّلُ أَوْ أُطْلِقُهَا وَأَتَوَكَّلُ قَال اعْقِلْهَا وَتوَكَّلْ

«: ◌َ

Anas (radi Allahu anhu) reported that a person asked Rasul Allah , "Should I tie my camel and have Tawakkul (trust in Allah for her protection) or should I leave her untied and have Tawakkul." Rasul Allah replied, "Tie her and have Tawakkul." (Hasan) [Jami At-Tirmidhi]

Here, we are taught that our trust in Allah (the Exalted) should not prevent us from taking necessary precaution when managing our affairs. Therefore, we should manage risk as best as possible.

Furthermore, one of the ways of managing risk is the placement of a collateral against loan or finance. It was narrated by Aishah (wife of the Prophet ﷺ) that " The Prophet bought some foodstuff on credit for a limited period and mortgaged his armor for it (Bukhari, Volume 3, Book 45, Number 686**).**

4.2 Risk Management in Islamic and Conventional Banks.

The business of a bank whether Islamic or conventional is to take calculated risk. Both Islamic and conventional banks are economic entities that specialize in risk management and maturity transformation (Howladar, 2011). Risk management is more of optimization of risk reward equation rather than minimization of losses. Thus, a bank will be in a competitive advantage if it is able to manage its risk (Jeroen, 2015).

Risk management as a subject and professional discipline in its own right is gaining momentum (Ebrahim, 2011). It is now seen as distinct from corporate governance, Internal Audit or Control, Financial reporting and regulatory compliance to which it is closely linked.

Risk management is a process that involves identifying, measuring, mitigating, reporting and monitoring risk (Ismal, 2010; Jeroen, 2015). It is a management process that deals with uncertainties an entity faces, threats to its resources and its consequences. It provides opportunities to increase the value of the entity based on its operating environment (Ebrahim, 2011). It is also seen as being concerned with both positive and negative aspects of risk. The practices of risk management, processes and tools which measure the risks and the techniques adopted to mitigate risk are similar in both Islamic and conventional banks (Al Ali and Naysary, 2014). In most cases, where Islamic banks are relatively new, the central banks apply the same rules to both Islamic and conventional banks.

5.0 LIQUIDITY RISK IN BANKS

Liquidity risk is complex but it is easier to identify the symptoms and causes of liquidity risk rather than to define it (Sekoni, 2015). There are several definitions of liquidity risk as discussed below.

Liquidity risk arises from the difficulty of selling an asset quickly without incurring large losses (Ali,2013). He also defines it in terms of likelihood of illiquid positions. Thus according to him, there is an inverse relationship between liquidity and liquidity risk. The higher the liquidity risk, the higher the probability of becoming illiquid, and therefore, the lower the liquidity.

Similarly, Hasan (2014) defines liquidity as the possibility of loss due to a temporary inability to meet an obligation as a result of shortage of cash. Sekoni (2015) also reports that the Office of Thrift Supervision in its 2010 examination handbook defines liquidity risk as the risk to a saving/credit institution's earning and capital that arises from its inability to meet its due obligations in a timely manner, without incurring unacceptable loss.

5.1 Causes and Sources of Liquidity Risk

Kumar (2008), identifies the following causes of liquidity risk:

i. Sudden or unexpected cash flows by way of large deposit withdrawals.
ii. Large credit disbursements.
iii. Unexpected market movements or crystallization of contingent obligations.
iv. Other events which causes counterparties to avoid trading with or lending to the bank.
v. If the markets on which a bank depends are subject to loss of liquidity.

In addition, Mohammad and Shahwan (2013) explains the causes of liquidity risk in Islamic banks to include:

vi) Limited accessibility of Sharia'h-compatible money market and intra-bank market.
vii) Slow developments of financial instruments which prevent Islamic banks from raising funds when required.
viii) Instruments used by conventional banks are not Sharia'h based because they are interest based.
ix) By rule, some of the Islamic products like *Murabahah* and *Bay' al-Salam* can only be traded at par value.
x) Current accounts being the major components of Islamic banks' deposit, are demand deposits which can be withdrawn at any time.
xi) In most cases, the number of Islamic banks are small compared to conventional banks.
xii) There are also different and sometimes conflicting interpretations of Sharia'h teachings on some of the Islamic banks products. For instance, while *bay'al-dayn* (sale of debt) is acceptable in Malaysia, it is not allowed in other regions.

Thus, if liquidity risk is not maintained properly, there is a threat to banks of becoming insolvent or subjected to bad publicity and reputational damage. Liquidity risk has compound effect on other risks, hence it is more important to manage it effectively.

Similarly, Ali (2013) states that the major source of liquidity risk is maturity mismatch. He summarizes the sources to include:

1) Incorrect judgement or complacent attitude of the bank towards timing of its cash in- and out-flows.
2) Unanticipated change in the cost of capital or availability of funding.
3) Abnormal behavior of financial markets under stress.
4) Range of assumptions used in predicting cash flows.
5) Risk activation by secondary sources such as:
   i. Business strategy failure
   ii. Corporate governance failure.
   iii. Modelling assumptions
   iv. Merger and acquisition policy.
6) Breakdown in payment and settlement system.
7) Macroeconomic imbalance.
8) Contract form.
9) Sharia'h restrictions on sale of debt.
10) Financial infrastructure deficiency.

5.2 Liquidity Management Framework

One of the successful resolutions of liquidity problems in Islamic banks was the introduction of Liquidity Framework in Malaysia. The Bank Negara (Central Bank) introduced in 1998 Liquidity Framework to replace liquid assets requirement ratio. The objective of the framework was to create awareness among Islamic banks their ability to handle short term liquidity issues based on their funding structure. It was also meant to provide a better assessment of the present and future liquidity position of Islamic banks and make available a more efficient and uninterrupted efficient liquidity measurement and management (Bank Negara, 1998).

The framework projects the maturity profiles of Islamic banks' assets, liabilities and off- balance sheet items on three levels up to one year. The first level assesses whether Islamic banks have sufficient liquidity in the normal course of business. The second level checks if the banks can withstand liquidity withdrawal shocks while the third level assesses the degree of dependence of Islamic banks on a volatile source of funding.

Similarly, Bahrain introduced Liquidity Management Centre(LMC) in 2002 to sell Shariah compliant securities which Islamic banks can hold as liquid assets (Ariffin,2012). The LMC was established to facilitate the investment of surplus funds of Islamic banks and financial institutions into quality short- and medium-term financial instruments that is structured in line with Shariah principles. It is also to assist Islamic financial institutions on how to manage their short-term liquidity through Islamic Interbank market (Parashar (2014). LMC also tried to implement the possibility of short-term deposits including overnight deposits of less than one-month maturity under Unrestricted Investment Accounts(UIA). This is to be rewarded on the basis of historical profit rate of UIA's and serves as a readily available instrument for short-term liquidity management by Islamic banks.

Furthermore, Islamic Financial Services Board (IFSB) also set up International Islamic Corporation in order to issue short-term liquidity management instruments that are compliant with Shariah.

6.0 CONCLUSION

The paper has highlighted the Shariah guidelines on management of liquidity risk. It has also noted the sources and challenges of liquidity risk in Islamic banks. Various attempts being made at mitigating the effect of liquidity risk on Islamic banks have also been discussed.

It is recommended that such instruments of managing liquidity risk as Liquidity Management in Malaysia and Liquidity Management Centre in Bahrain should be extended to other regions where Islamic banks are operating. It should be noted that government support and establishment of an independent central bank for Islamic banks especially where dual banking is being practiced is key to the success of the Islamic banks. This will create the much needed Shariah-compliant Lender of Last Resort (SLOLR).

Furthermore, a number of short-term liquidity instruments like Certificates of Deposits (CD's) can be tied to a portfolio of leases (*Ijaara*) and its expected rate of returns in order to make it Shariah compliant. This is similar to SPIN CD's (Specific Investors CDs) suggested by Abdul-Rahman (1999). Similarly, Bankers' Acceptance which is based on interest rates in conventional banks can be based on service charge or a commission to finance economic transactions. However, this should be tied to the returns from the transactions.

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