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LIQUIDITY AND LIQUIDITY RISK MANAGEMENT IN ISLAMIC BANKS: AN EMPIRICAL ANALYSIS

BY

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ABSTRACT

The major business of the banks is maturity transformation of funds through mobilization of deposits which are repayable on short notice demand and use the deposits to provide longer period financing or credit facilities to the borrowers. Inability of the banks to match depositors' demand for withdrawal with realization of longer-term assets exposes banks to liquidity risk. Thus, liquidity management becomes a critical issue/area that calls for attention and prudential supervision by the banking regulators. Past and recent failure episodes of many conventional banks, various financial crises experienced by few Islamic banks in the recent past, and current global financial crisis are testimonies to the fact that liquidity risk (shortages) is a direct consequence of ineffective and inefficient liquidity management. In a nutshell, liquidity risk is a critical issue which is detrimental to the health of financial system and harmful to the real economy. Though, given the perception of the worldwide ongoing rapid growth of the Islamic financial industry, the assumption is that Islamic financial system enjoys surplus liquidity. Hence, it is not vulnerable to this problem. However, the recent failure and closure of some Islamic banks spurred by financial crisis is a sufficient proof that there is a need for sound financial stability and efficient liquidity management which requires urgent attention and redress in order to protect the reputation of the nascent Islamic banking industry. Therefore, this study through the participation of practitioners in some full fledged Islamic banks, subsidiaries and Islamic windows and experts in Islamic banking and finance intends to investigate the causes of the liquidity problems in Islamic Banks in spite of the claimed excess liquidity, patronage and continuous growth being enjoyed by Islamic financial institutions, and determine how effective and efficient liquidity management can be achieved. The study employed quantitative data analysis using statistical tools such as SPSS 16.0 and AMOS 16.0 and statistical techniques like Descriptive Statistic, Factor Analysis and Structural Equation Modeling (SEM). The findings revealed the impacts of regulation and supervision, Islamic financial instruments; Islamic corporate governance and Islamic financial ethics towards ensuring sound liquidity risk management in Islamic banks and also identified strategies for enhancing Islamic banking liquidity risk management. The Structural Equation Modeling produced a model fit for the Islamic banking liquidity risk management framework which confirmed the relationship between liquidity risk management and its hypothesized predictors.

خلاصة البحث

إن مهمة البنك الرئيسية هي تحقيق التحول التنموي الزمني للأموال من خلال تعبئة الودائع المدخرة والتي تكون مجهزة للسحب بمهلة قصيرة من طلب أصحابها، وتستخدم تلك الودائع في التمويل أو توفير التسهيلات الائتمانية للمقرضين، وبناءاعلى ذلك، فإن عدم قدرة البنوك على تلبية الطلب المودعين في سحب أموالهم مع تحقيق تنمية أصولها ذات المدة الطويلة يعّرض البنوك للمخاطر السيولة. وبالتالي، فإن مسألة إدارة السيولة قد أصبحت مسألة حاسمة في هذا المجال، وتدعو إلى اهتمام كبير ووإيجاد تحقيق المراقبة الاحذارية من قِبَل الجهات المعنية بالرقابة على المصارف. فإن مظهر الفشل من عديد البنوك التقليدية سابقا وأخيرا، وسائر الأزمات المالية التي تعرضت لها بعض البنوك الإسلامية في الماضي القريب، بما في ذلك الأزمة المالية العالمية الحالية، تشهد بأن حقيقة مخاطر السيولة (أي، نقص السيولة)، إنما هي نتيجة مباشرة عدم فعالية وعدم قدرة إدارة السيولة. و اختصارا يمكن القول بأن مسألة مخاطرالسيولة إنما هي مسألة حاسمة التي تضر بصحة النظام المالي وتلحق الضرر بالاقتصاد الحقيقي . لكن، بالنظر إلى اسمرار سرعة نمو الصناعة المالية الإسلامية في جميع أنحاء العالم حاليا، فإن القول المفارض حول ذلك هو القول بأن النظام المالي الإسلامي يتمتع السيولة الفائضة. وعلاوة على ذلك، فإنه سيتم الاحتفاظ بهاعلى هامش هذه المشكلة، ولكن فشل الأخيرة وإغلاق بعض المصارف الإسلامية بسبب الأزمة المالية تمثل دليل كاف على أن هناك حاجة إلى الاستقرار السليمة للمالية، و إيجاد إدارة السيولة الفعالة، وهي واقعة تتطلب اهتماما عاجلا والتدارك للحماية على سمعة الصناعة المصرفية الإسلامية الناشئة. وطبقا لذلك، فإن هذه الدراسة تعتزم على تحقيق أسباب مشاكل السيولة في المصارف الإسلامية، برغم من وجود السيولة الزائدة، وانكباب الزبون إليها، ونمو مستمر التي تتمتع بها المؤسسات المالية الإسلامية، وذلك مشاركة العاملين في بعض البنوك الإسلامية الكامل الريش، والشركات التابعة والنوافذ والخبراء في الصيرفة الإسلامية والتمويل الإسلامي في البحث، فقامت بتحديد كيفية تحقيق إدارة السيولة الفعالية والقادرة، وللتواصل إلى ذلك، تبنت الدراسة طريقة تحليل البيانات الكمية، وذلك باستخدام الأدوات الإحصائية SPSS مثل 16.0 وAMOS 16.0 والأساليب الإحصائية مثل الإحصاء الوصفي، والتحليل الهيكلي وعامل نمذجة المعادلة (SEM). وفي الأخير، وصلت إلى النتائج، واكشفت بأن مما يمثل العائق في هذا المجال، هو أثر التنظيم والإشراف، والأدوات المالية الإسلامية الموجودة؛ والحوكمة الإسلامية للشركات والأخلاق المالية الإسلامية تجاه ضمان الإدارة السليمة للمخاطر السيولة في المصارف الإسلامية، وكذلك حددت الاستراتيجيات لتعزيز إدارة مخاطر السيولة في المصرفية الإسلامية. أما نمذجة المعادلة الهيكلية فإنها تواصلت إلى نتيجة ضرورة توليد النموذج الأمثل للمصرفية الإسلامية في إدارة مخاطر السيولة وتأكد على العلاقة الكاتنة بين إدارة مخاطر السيولة ومؤشر الافتراضي.

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DECLARATION

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To

The memory of my late parents

My Mother
Late Princess F.Igbayilola. Sekoni

My Father
Late Alhaji T. Akande Sekoni

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CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND OF STUDY

Available evidences show that lack of sound, efficient and effective liquidity management lead to liquidity risks which poses a great threat to the survival and growth of the financial service industry and economy as a whole (Salman, 2004). Fundamentally, all banks rely on liquidity to effectively perform their day-to-day obligations. The focus is on maintaining adequate liquidity to carry out their daily businesses, optimizing their liquid assets, complying with the minimum liquidity requirements and satisfying the ever increasing scrutiny of the regulators (FSC, 2010).

Islamic financial institutions, like their conventional counterparts perform financial intermediation by intermediating between suppliers and the users of funds. One of the core functions of financial intermediation is mobilization of resources from the surplus units and channeling them to those with deficits (Iqbal & Mirakhor, 2007). The crucial financial intermediation business of financial institutions is to manage the inflows and outflows of funds. These funds which represent the liquidity comprised both the assets and liabilities of the financial institutions. On the asset side, managing liquidity is about preservation of funds to make them available on demand, which takes into account bank's efforts to monitor the financing, arrange proper financing allocation, tackle financing default and unpleasant economic condition, and handle liquidity shortages (Ismal, 2008). While on liability side, it is about having access to a determinate amount of cash at that material time when it is needed through setting up an appropriate proportion of the funds, maintaining a good understanding and

communication with depositors in respect of their liquidity withdrawal behaviour and as well as tracing the potential of liquidity run (Edwardes, 2004 & Ismail, 2008).

Therefore, Basel Committee on Banking Supervision (BCBS, 2009) refers to the concept of liquidity as the ability of the financial institutions to match the maturity of assets and liabilities when they fall due on a daily basis. The objectives of the ideal use of liquidity by Islamic banks are to ensure that at all times there is availability of enough liquidity to meet current demand for funds by depositors and that they are able to apportion part of liquidity for financing instruments and investments (Dusuki, 2007). The availability of funds or assurance that funds will be available to honour all these commitments involving cash outflows as they fall due determines the liquidity potential of financial institutions (Bank of Jamaica, 2005). However, meeting these commitments is generally through cash inflows (deposits), supplemented with assets (investments) readily convertible to cash or through the institutions' capacity to borrow.

Liquidity problem arises if there is mismatch between the cash flows related to assets and liabilities (Al-Amine, 2006). Dore (2007) emphasized that asset – liability mismatches could potentially leads to insolvency in banking institution, especially during the period of liquidity tension in the financial system. That is when a bank experiences decline in its net cash inflows and it is unable to mobilize resources at a reasonable cost and time to assuage the effects of the shortages. This puts a bank in a serious situation whereby it becomes difficult for the bank to meet its obligations when unexpected opportunities of profitable businesses arise (Al-Amine, 2006). Hardly, could most banks hold out for long during an extended period in which the tempo of cash outflows rapidly exceeds the tempo of cash inflows and inability of a bank either Islamic or conventional to properly match deposits and investments

financing expose such bank to liquidity problems (Edwardes, 2004). The bank may decide to hold enough liquidity in order to avoid these problems but it does so at the expense of investing in profitable investment opportunities and thereby loses the opportunity of making additional profits and this affects its competitiveness in comparison with the conventional counterparts. On the other hand, if the bank decides to invest all its liquidity, customers' confidence is subsequently eroded if the bank is unable to meet their deposits withdrawal demands. Arguably, a bank having strong earnings, adequate capital and good asset quality, runs the risk of failure, if it is unable to maintain sufficient liquidity. Dusuki (2007) in corroborating the argument submitted that, in fact, only a few banks with drowning in liquidity by pursuing a liquidity maximization strategy can survive in an increasingly competitive environment. To maintain a right balance between holding liquidity for safety purpose and investing part of the liquidity for profits gain is the major concern of the liquidity risk management issue. Thus, liquidity management lies at the center stage of the financial institutions' operations.

Fundamentally, liquidity management involves optimizing the level of liquidity through identification of a variety of means to add cash flows when liquidity gets tight and developing strategies to reduce the liquidity drains during times of rapid cash outflows (FDIC, 2005). Therefore, "Managing liquidity is a fundamental component in the save and sound management of all financial institutions. Sound liquidity management involves prudently managing assets and liabilities (on-and off-balance sheet), both as to cash flows and concentration, to ensure that cash inflows have relationship to approaching cash outflows" (Bank of Jamaica, 2005).

Thus, liquidity management is a more paramount and complex issue which concerns both conventional and Islamic financial institutions. Failure to address this

issue may result to liquidity problems, which in turn may lead to banking crises with adverse effects on the banking system and unpleasant consequences on the economy through domino effect (Abdul Majid, 2003). As a matter of fact banking crises both in the past and present are caused by inability of the financial institutions to manage their liquidity problems. The inherent unstable nature of the conventional banks had been identified by the literature on banking crises as a contributor to the occurrence of the crises. However, the view of the theoretical literature on Islamic banking that Islamic banks are more stable is being put to test as some Islamic banks have shown signs of liquidity shortages which had forced few to close their operations[1]. Hence, the banks' management as well as the supervisors and regulators are keenly concerned about the liquidity position of Islamic financial institutions and are thereby committed to finding ways of strengthening their liquidity framework (Abdul Majid, 2003).

According to Dusuki (2007), the issue of liquidity risk management, therefore, applies to Islamic banks as well in the sense that they follow the structures and characteristics of conventional banks' balance sheets and their operations are tailored after conventional banking practices. However, liquidity risk management for Islamic banks is supposed to be unique due to the fact that the nature of their operation is embedded with *Shari'ah* considerations. *Shari'ah* demands that Islamic banks must avoid *riba*[2] in their operations. The Islamic prohibition of *riba* (interest) coupled with compliance with *Shari'ah* guidelines on saving, investment and trade contracts subject Islamic banks to risk profiles quite different from those of conventional banks (Dusuki, 2007). Hence, the need for a number of regulatory issues pertaining to capital

[1] Ihlas Finance House in Turkey closed its operation in 2001, Bank Taqwa was closed in 2001, Gulf Finance House Bahrain distressed in 2010 and Islamic Bank of Britain distressed and bought over by Qatar International Islamic Bank in 2011.
[2] Riba is defined by Iqbal & Mirakhor (2007) as "the practice of charging financial interest or a premium in excess of the principal amount of a loan"

adequacy, liquidity requirements and liquidity management. However, it had been noticed that insufficient *Shari'ah* compliant instruments make liquidity management very significant and intricate issue for Islamic financial institutions (Dusuki, 2007). In addition, according to Adullah Haron, assistant secretary general of the Malaysian based Islamic Financial Services Board (IFSB) quoted by Dore (2007) "underdevelopment, or non-existence, of a formal or organized Islamic money market in one form or another except in Bangladesh, Bahrain, Indonesia, Iran, Malaysia, Saudi Arabia and Sudan is a significant problem". He explained further that, even where a market is in existence, it is usually constrained by the small number and size of Islamic financial institutions as market participants.

Owing to the fact that several financial crises had been experienced by conventional financial institutions, the western scholars are quite familiar with the relationship between liquidity risk (shortages) and failure of financial institutions. The issues of liquidity shortages/deficits became known in Islamic financial system in the early 2000 following the liquidity problems faced by *Ihlas* Finance House in Turkey, which eventually led to its closure. Although, some other Islamic financial institutions also suffered the same fate like *Ihlas*, yet literature on liquidity risk management, especially liquidity shortages in Islamic financial institutions is new and scarce which indicates that there are much more studies to be carried out in the area.

Nevertheless, the focus of recent literature on liquidity risk and liquidity management by Islamic financial institutions is principally on surplus liquidity with emphasis on difficulties posed for Islamic financial institutions due to insufficient availability of short term investment opportunities that are *Shari'ah* compatible (Salman, 2004). Liquidity shortages are rarely discussed perhaps, because of the claim that majority of Islamic banks especially those in the Gulf region are enjoying

abundance of liquidity. Some efforts were also made towards analyzing various modes of financing employed by Islamic banks, *Shari'ah* compatible instruments for short term investments and liquidity management, and identifying strategies adopted by these banks in mitigating the associated liquidity risks. In contrast, little attention is paid to the role of Islamic financial market on liquidity management, while, the regulatory, financial ethics and corporate governance aspects of liquidity risk management are hardly discoursed. Whereas, Jamal (2007) affirms that liquidity management by Islamic financial institutions is constrained by a number of issues, such as market driven factors, choice of instruments available to Islamic investors, regulatory environment, risk profile of *Shari'ah* compliant-instruments and asymmetric information.

In this context, this study intends to contribute to the debate on liquidity risk and its management by empirically addressing the following core questions, (i) what is the extent of liquidity risk in Islamic banking system? (ii) what are the likely causes of liquidity problems (shortages) in Islamic financial institutions amidst perceived surplus liquidity and fast growth rate? (iii) what are the policies or strategies that can be used to enhance liquidity management in Islamic banks? (iv) does availability/usage of *Shari'ah* compliant instrument has impact on liquidity risk management in Islamic financial institutions? (v) does roles of the regulators and supervisors has impact on strengthening liquidity management in Islamic banking system? (vi) does Islamic financial ethics have effect on liquidity risk management?, and (vii) does corporate governance has impact on management of liquidity risk in Islamic banks?

The reasons for addressing these questions empirically is due to the fact that, first, most of the theoretical researches on liquidity risk and liquidity management

have over stressed the role of excess liquidity as result of lack of sufficient *Shari'ah* compliant investments to explain banks' financial crisis and eventual bank failures. Second, addressing these questions will be of great relevance to the policymakers and authorities responsible for Islamic financial institutions' regulation and supervision. As understanding the causes or sources of liquidity shortages and sudden bank failures or closures has very important policy implications for the policymakers and the supervisors. Thus, it is desirable to formulate policy/strategies or conceptual framework that would strengthen the liquidity risk management in Islamic financial institutions with spotlight on Islamic financial regulation and supervision system, regulatory and legal framework, *Shari'ah* requirements, Islamic financial ethics and Islamic corporate governance forming the basis for liquidity risk management.

There, are many ways through which liquidity risk can be mitigated. One of such ways is matching of the assets and liabilities. Zeti (2004) and Horst (2008) emphasized that liquidity risk management is very essential since stability of the financial system depends on the ability of the banks to maintain adequate liquidity in the system (both market liquidity and funding liquidity). Horst (2008) elaborated further that for banks to be able to perform this duty they need to have a rigorous liquidity risk assessment and mechanism as well as good corporate governance infrastructure in place. This enables them to be more engaged in business activities and maintain banks solvency, since, effective performance of banks' daily operation depends on their accessibility to adequate liquidity.

1.1 PROBLEM STATEMENT

Literature holds it that management of liquidity is one of the greatest challenges facing the Islamic financial industry. To be specific, the foremost concern is how

Islamic financial institutions can mitigate their liquidity risks and manage their liquidity efficiently and effectively in order to compete favourably with conventional financial institutions.

Liquidity management, a part of larger risk management framework of the financial industry is a very critical and complex issue which poses a great threat to the efficiency, survival and growth of the industry and stability of the whole financial system. As a matter of fact, the factors that may trigger liquidity risk exist in every operational and management area of financial institutions (Bank of Japan, 2009). The current financial crisis which originated from the US subprime mortgage market as a credit event caused deterioration in the value of the asset-backed securities and consequently gave rise to market illiquidity in the instruments and eventually transformed to funding illiquidity (Charles, 2008). It becomes a more serious issue for Islamic financial institutions due to the required *Shari'ah* compatible nature of their financing and investments coupled with the similarity in their operations and that of conventional banking system.

Regrettably, there is problem of insufficient *Shari'ah* compatible instruments available for liquidity risk management in Islamic financial institutions. Most of the available instruments used by Islamic Banks for liquidity management are conventional which are interests based (Dusuki, 2007). Unavailability of sufficient *Shari'ah* compatible instruments creates problems such as inefficient use of funds by the Islamic banks resulting to low returns, loss of confidence in the banks by the depositors and reputational damage to the nascent Islamic financial industry. As a result of the setback, there is a limited development of Islamic Interbank money market, an important component of the liquidity that serves as the first avenue for Islamic banks to conduct their short term financial transactions. Furthermore, lack of

acceptable standard Islamic regulatory and supervisory framework coupled with inadequate Islamic corporate governance and Islamic financial ethics force the Islamic banks to use all sorts of frameworks, conventional framework inclusive. This creates a kind of bottleneck to their expected mode of operation, generates criticisms and bad impression against Islamic banks. All these issues have remarkable and important roles to play in ensuring proactive liquidity risk management and stable financial system. Therefore, these issues require more thorough analysis.

So far, there is yet in existence any literature that carried out a comprehensive empirical study on liquidity risk management in the context of liquidity shortages based on the issues raised above. Therefore, this study intends to fill this gap. However, proper monitoring and developing an early warning system that can detect issues earlier before they become full-blown liquidity problems and proactive and effective liquidity risk management will go a long way to mitigate the tendency for financial crisis.

1.2 JUSTIFICATION OF THE STUDY

Given the role of the banking system as liquidity insurer coupled with its financial intermediation function, there is no doubt that banks are of great importance to the stability of a financial system and have greater responsibility towards the wider economy. But, according to the literature, there are so many risks associated with banking business that hinder performance of these role and function. In other words, banking is a risky business. Matz & Neu (2007) identified liquidity risk as consequential risk of all the risks inherent in banking institutions. They argued that