THE INFLUENCE OF LIQUIDITY MANAGEMENT ON EFFICIENCY, PERFORMANCE AND RISK TAKING IN ISLAMIC BANKING INDUSTRY

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THE INFLUENCE OF LIQUIDITY MANAGEMENT ON EFFICIENCY, PERFORMANCE AND RISK TAKING IN ISLAMIC BANKING INDUSTRY

by

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ACKNOWLEDGEMENT

I dedicate my work to

The Greatest Teacher of All Times

Prophet Muhammad ṣallā llāhu ʿalayhī wa- waalyhi wa-sallama

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LIST OF ABBREVIATIONS

AAOIFI	Accounting and Auditing Organization for Islamic Financial Institutions
ADF	Augmented Dickey-Fuller
ASF	Available Stable Funding
ATM	Automated Teller Machine
CAGR	Compound Annual Growth Rate
CAR	Capital Adequacy Ratio
CBs	Conventional Banks
DEA	Data Envelopment Analysis
FGLS	Feasible Generalized Least square
GDP	Gross Domestic product
HQLA	High-Quality Liquid Assets
IBs	Islamic Banks
IFI	Islamic Financial Institution
IFSB	Islamic Financial Services Board
IIFM	International Islamic Financial Market
IILM	International Islamic Liquidity Management
IIMM	Interbank Islamic Money Market
LCR	Liquidity Coverage Ratio
LIBOR	London Interbank Offering Rate
LM	Liquidity Management
LMC	Liquidity Management center
LnTA	Log of Total Asset proxy
MENA	Middle East/North Africa
NIM	Net Interest Margin
NSFR	Net Stable Funding Ratio
OLS	Ordinary Least Square

ROA	Return on Assets
ROE	Return on Equity
RSF	Required Stable Funding
SFA	Stochastic Frontier Approach

PENGARUH PENGURUSAN KECAIRAN PADA KECEKAPAN, PRESTASI DAN PENGAMBILAN RISIKO DALAM INDUSTRI PERBANKAN ISLAM

ABSTRAK

Transaksi perniagaan dalam dunia perbankan menjadikannya terdedah terhadap pelbagai risiko seperti risiko kecairan, risiko kredit, risiko pasaran, risiko operasi, dan lain-lain. Risiko kecairan dapat dikategorikan di antara yang paling penting. Kekurangan, serta kecairan yang banyak akan mengakibatkan kerugian bank sehingga boleh menyebabkan muflis. Krisis kecairan adalah–situasi kewangan yang disebabkan oleh kekurangan tunai atau mudah ditukar menjadi aset tunai segera oleh perniagaan atau institusi kewangan secara serentak, dan limpahan kecairan akan mengakibatkan kos peluang (*opportunity costs*). Status pengurusan kecairan yang rumit ~~ini~~ mendorong kajian ini untuk meneroka kesannya dalam industri perbankan Islam dari ~~tempoh~~ tahun 2006 hingga 2018. Objektif utama kajian ini adalah untuk mengkaji kesan pengurusan kecairan terhadap pengambilan risiko, prestasi dan kecekapan sepuluh perbankan Islam yang terbaik. Kajian ini juga mengupas peranan tadbir urus Syariah sebagai moderator dalam impak pengurusan kecairan terhadap pengambilan risiko, prestasi, dan kecekapan bank-bank Islam. Kekurangan amalan pengurusan kecairan yang baik dianggap sebagai salah satu masalah utama yang menyumbang kepada prestasi rendah dan kecekapan pekerja institusi kewangan Kajian ini menggunakan kaedah kuantitatif untuk mengkaji kesan pengurusan kecairan terhadap pengambilan risiko, prestasi, dan kecekapan bank-bank Islam. Analisis data FGLS panel dan teknik statistik deskriptif digunakan untuk menganalisis data. Hasil kajian menunjukkan bahawa pengurusan kecairan jangka pendek (LCR) mempunyai kesan positif dan signifikan terhadap pengambilan risiko, prestasi dan kecekapan, sementara pengurusan kecairan jangka panjang (NSFR)

mempunyai kesan negatif dan signifikan terhadap prestasi dan kecekapan tetapi mempunyai kesan positif dan tidak signifikan terhadap pengambilan risiko. Tadbir urus Syariah secara sederhana mempengaruhi kesan LCR terhadap prestasi dan kecekapan. Manakala dalam NSFR, peranan tadbir urus Syariah sebagai moderator adalah negatif dengan prestasi dan kecekapan tetapi positif dengan pengambilan risiko. Kajian ini juga menemukan dapatan kajian dengan implikasi yang luar biasa kepada pengamal dan penggubal dasar terhadap pengurusan kecairan di perbankan Islam bersama dengan kesan moderator tadbir urus Syariah. Dengan potensi pengaruh amalan pengurusan kecairan terhadap prestasi dan kecekapan pengambilan risiko, penggubal dasar dalam industri perbankan Islam akan menyokong secara berkesan kepentingan pengurusan kecairan di perbankan Islam.

THE INFLUENCE OF LIQUIDITY MANAGEMENT ON EFFICIENCY, PERFORMANCE AND RISK TAKING IN ISLAMIC BANKING INDUSTRY

ABSTRACT

Business transaction in the banking world makes it vulnerable to various risks such as liquidity risk, credit risk, market risk, operational risk, etc. Liquidity risk can be categorized among the most crucial ones. The shortage, as well as an abundance of liquidity, will result in bank losses. Liquidity shortage may lead to bankruptcy, as a liquidity crisis is a financial situation characterized by a lack of cash or easily convertible to cash assets on hand across many businesses or financial institutions simultaneously, and the abundance of liquidity will result in opportunity cost. The complex status of liquidity management urges the need of the research to explore its influence in the Islamic Banking Industry over the period 2006 to 2018. The main objective of the study is to examine the influence of liquidity management on efficiency, performance and risk taking from the top ten Islamic banking countries. This study also focuses the discussion on the moderating effect of the Shariah Governance between the relationship of the liquidity management and risk-taking, performance, and efficiency. This study utilized quantitative methods to study the influence of liquidity management on the risk-taking, performance, and efficiency of Islamic banks. Panel data Feasible Generalized Least Square (FGLS) analysis and descriptive statistical techniques are used to analyze the data. The findings revealed that short term liquidity (LCR) management had a positive and significant influence on risk-taking, performance, and efficiency, while long-term liquidity management (NSFR) had a negative and significant influence on performance and efficiency but had a positive and insignificant influence on risk-taking. Shariah Governance had positively moderated the influence of short-term liquidity management on

performance and efficiency while in the case of long-term liquidity management the moderation role of Shariah Governance is negative with performance and efficiency while positive with risk-taking. This research also presented the remarkable implications for the practitioners and the policymakers on the LM in IBs along with the moderating effect of Shariah Governance. Given the potential influence of LM practices on risk-taking performance and efficiency, policymakers in the Islamic Banking Industry would effectively advocate the importance of LM at IBs.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter tends to discuss the introductory part of the study. This study plans to give three fundamental contributions to the Islamic banking system. To start with, this study emphasizes the importance and valuation of banks short term and long-term liquidity management (LM) of the Islamic banking system in the Islamic world.

Second, this study centers on the unfamiliar zone of Islamic banking, because there is a renewed discussion about the role and performance of Islamic banks, as well as some ongoing investigations on performance, efficiency, and risk-taking cast questions on the existing status of the Islamic Banking Industry. Subsequently, it is significant to assess the influence of LM on performance, efficiency, and bank risk-taking. Alongside LM, Shariah Governance is additionally an important factor that mayhave a major influence on bank performance, efficiency, and risk-taking because of its exceptional characteristics and moral element. Therefore, it is also very important to investigate the role of Shariah Governance. Third, from a policy point of view, as the worldwide Islamic banking system has rapidly advanced into a multi-trillion US$ industry, gradually making advances across different regions globally. So, it’s very essential to study more about the different aspects of Islamic banking.

This first section of the thesis prompts why Islamic banking is so essential and why it is crucial to explore the influence of LM in the Islamic Banking Industry. This section also exhibits research background, research questions, research objectives, scope, operational definitions and limitations, significance and contribution of the study and organization of the thesis.

1.2 Background of the Study

Islamic banking is one of the firmest developing sectors in the worldwide financial market. The history of Islamic banking and finance is as old as Islam. Even though the concepts, rules and regulation of Islamic banking date from the very formation of Islam, the presentation and practice of Islamic banking have just evolved over the last few decades (Iqbal & Molyneux, 2016). The necessities of opportunity advancements gave a specific form to Islamic culture altogether considered about the whole Islamic world. It is important to struggle that Islam anticipated Muslims to fight for freedom and that it offers a better standard of living than the predominant western structures of private enterprise and socialism.

This inspires Muslim intellectuals to plan and identify Islamic socio-political and financial framework. In spite of the fact that these matters have been discussed by many Muslim scholars, three notable figures [Ubaidullah Sendhi (1945), Mohammad Baqir Al-Sadr (1961) and Sayyid Abul A'la Maududi (1970)] dedicated substantial energy and time informing the foundation and protecting the necessity for a distinctive Islamic financial system. This enforced all Muslim intellectuals to define and differentiate Islamic socio-political and financial systems. Although those problems were discussed numerous Muslim researchers, but these 3 essential figures dedicated sizeable strength and time to develop the foundation and need for the Islamic financial system. Chapra (2004), summaries this verifiable basis and views of Maududi, which offers references to the last's various works. He also appreciates the hard work of these scholars for making an Islamic framework and also for protecting it against the predominant Western frameworks in the mid-20th century.

Islamic banking system achieved incredible progress globally since the 1970s as a successful banking system (Hassan & Lewis, 2009). Muslim countries introduced diverse strategies and guidelines to improve the Islamic banking. The worldwide Islamic banking system has constantly emerged throughout the most recent decades (Iqbal & Molyneux, 2016). The improvement of the Islamic Banking Industry is moving at a fast speed, and nearly every country now has some form of the Islamic banking system (Iwona Sobol, 2016).

The entire activity of Islamic banking only in Asia displays a remarkable performance (as shown in Figure 1.1.). The overall assets stretched up to USD 1652 billion and the total Shariah compliance financing reached up to USD 1013 billion. The figure 1.1 shows the total Islamic banking activities (total assets, total Shariah compliant financing and total liabilities) of fourth quarter of 2013-17 and first 2 quarters of 2018. Total assets were maximum in first quarter of 2018 and touched the value of USD 1699 billion and were minimum with the value of USD 1168 billion in 2013 Q4.

Coming to the total Shariah compliant financing, it was maximum at USD 1033 billion in quarter 1 of 2018 and minimum at USD 753 billion in 4th quarter of 2013. Total funding liabilities inclined from USD 1067 billion to USD 1655 billion from Q4s of 2013-17 and first two quarters of 2018.

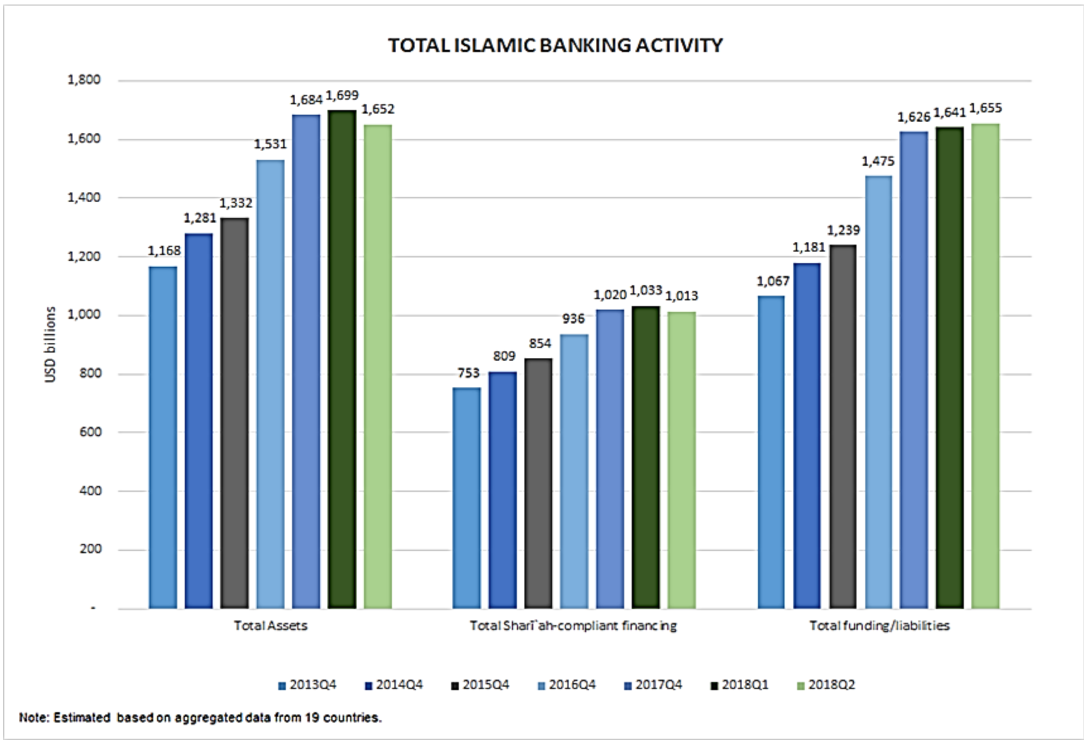

Figure 1.1: Total Islamic Banking Activity in the Asia Pacific

Source: https://www.ifsb.org/psifi_02.php

Generally, the worldwide Islamic Financial Institutions are all around set to keep up the positive developments of its assets and market share. Despite the slow progress because of the local currencies depreciation which influenced the Islamic financial asset values, the market has prevailing to upsurge the value of the assets from the USD 2 trillion imprints it went after the first run to USD 2.19 trillion in 2018 and has reached national market share for its Islamic banking segment in the 20 nations as appeared in figure 1.2 below:

In 2Q18, assets of Islamic banking were at highest showing the worth of USD 520 billion in Iran and were at lowest showing the worth of less than USD 10 billion in Brunei, Iraq and UK while market share was maximum (100%) in Iran and Sudan and was 0% in UK, Thailand, Lebanon, Sri Lanka, Afghanistan, Tanzania, and Kyrgyz Republic (see Figure 1.2).

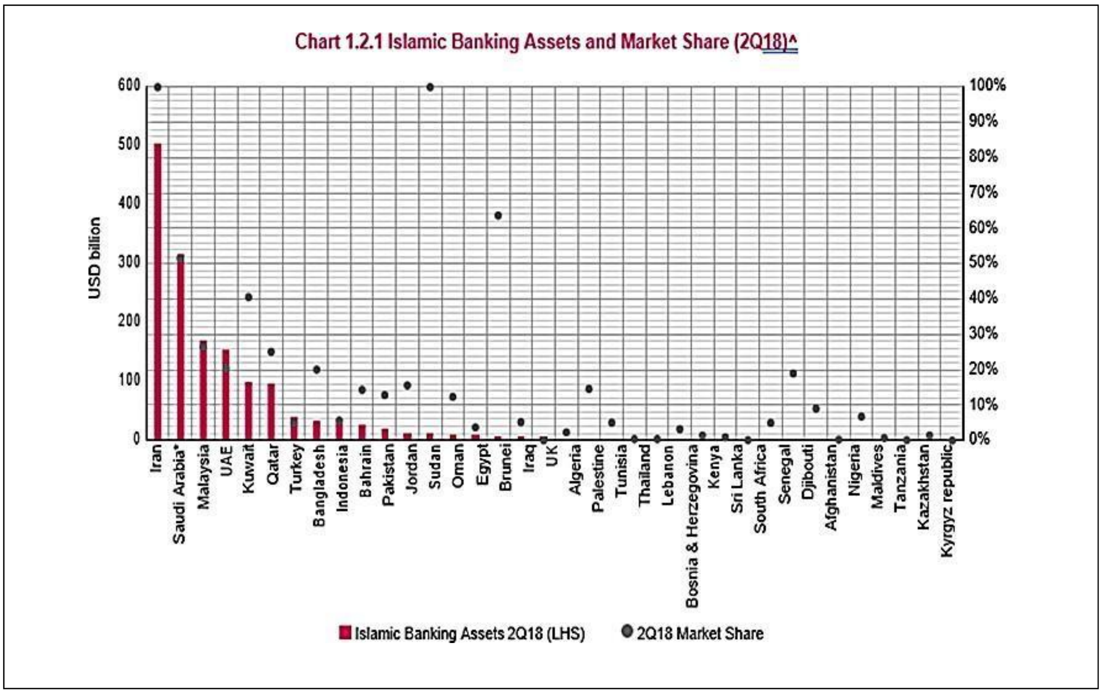

Figure 1.2: Asset and Market Share of Islamic Banking

Source: PSIFIs IFSB Secretariat Working (2018)

As indicated by Global Finance Magazine, (2018) Islamic financial industry in present a USD 2.2 trillion business spread over more than 60 countries. Compound yearly development rates (CAGR) for Islamic banking can be moderate considering lower resource development rates lately. Across 17 jurisdictions Islamic banking assets have been affected by extended foreign money depreciation developments and financial uncertainties in several key Islamic banking jurisdictions and increased at a CAGR of 7.2% among the 4th Quarter of 2013 and the 2nd Quarter of 2018. CAGR was reported at 8.8% in the 2nd quarter of 2017 and 9.9 % in the 2nd Quarter of 2016 (see Figure 1.3).

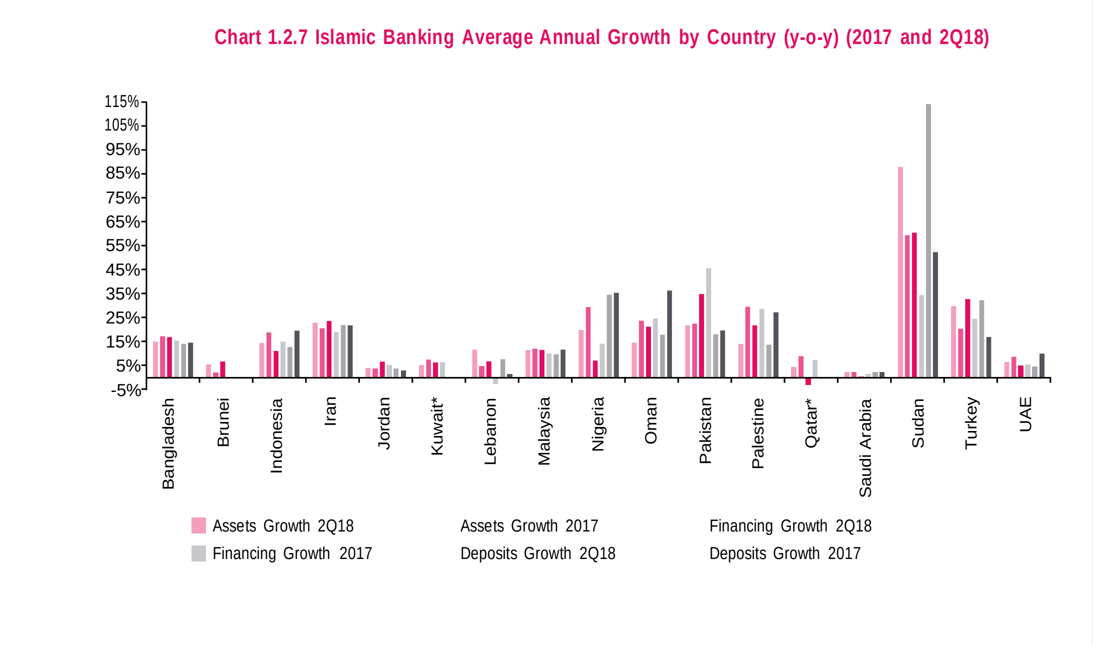

Figure 1.3: Annual Growth of Islamic Banking

Source: PSIFIs, IFSB Secretariat Workings (2018)

The research department of the Union of Arab Bank (2018), indicated that only 10 nations own the 95% share of the worldwide Shariah-compliant assets. Iran is leading with (30%) followed by Saudi Arabia (24%), Malaysia (11%), the United Arab Emirates (10%), Qatar (6%), Kuwait (5%), Bahrain (4%), Bangladesh (1.8%), Indonesia (1.6%) and Pakistan (1%). These nations drive the progress of the Islamic banking system, establish industry values, and encourage revolution. During the previous few decades, Islamic banking has been developing at a yearly pace. News agency Reuters predicted all-out Islamic banking assets to reach USD 3.5 trillion by 2021 (Sidlo, 2017). Although, those circumstances rely on the economic welfare of these 10 countries.

This huge development of the Islamic banking system had prompted the development of Islamic business products and governance system. Increasing public interest in Islamic Financial Institutions (IFIs) impose IFIs to be controlled through a set of

Shariah principles. IFIs have to safeguard conformity with Shariah rules in every phase of their financial instruments, processes, activities, and administration are then going to be accomplished by the arrangement of a legitimate Shariah Governance framework.Therefore, Shariah Governance has a basic influence on the control of the IFIs (Hamza,2013).

The importance of Shariah Governance is derived from five diverse means (religious, social, economic, legal, and governance). The religious position is resultant from the capability of Shariah intellectuals in understanding and inferring Islamic values to other people. The social control of Shariah Governance offers assurance to the stakeholders regarding the legitimacy and rightfulness of the dealings and practices of the IFIs. The economic role of Shariah Governance can be seen from the way that the profitability of IFIs is reliant on the performance of Shariah specialists. The legal power is resultant from a range of foundations comprising controllers of some particular states. The authority level of Shariah Governance underneath the investors of the IFIs highlights its power over other governance authorities. Therefore, providing them with the opportunity to form their core policy comprising tasks, responsibilities, and associations with other authority structures in the Islamic financial institutions (Garas & Pierce, 2010).

Nathan and Ribière (2007) suggested that the requirement for an active Shariah Governance system for Islamic banking appears to be essential nowadays to reinforce the reliability of the Islamic banking system in the eyes of the Muslims. Well-organized Shariah Governance adds further principles to the present business governance structure. It instructs transparency, reliance, moral conduct, integrity, beliefs underlying trust and confidence. Failure to create a concrete Shariah governance structure can unescapably prompt serious situations for the Islamic banking system.

Almost all Muslims and some non-Muslim countries have introduced some strategies to develop and foster the development of its Islamic Banking Industry. Even though just like the conventional banking system, the Islamic banking system also starts to challenge numerous risks, which could affect their implementation and activities (Malik, Malik, & Mustafa, 2011).

Islamic banks (IBs) and Conventional banks (CBs) face numerous risks, which may influence on their operations and performance. One of these numerous risks is liquidity risk management, which displays further types in the instance of IBs (Iqbal, 2012). Both global financial standards and the Shariah principles propose that banks should have vigorous liquidity risk management strategies. Ismal (2010), directed research that deliberates the liquidity risk management of Islamic banks in Indonesia. He suggested the strategies to develop the managing of liquidity risk. This involves an approachable asset & liability board, an active information system, and within the organization control system and, techniques for handling deposits to manage liquidity risk and to decrease on-demand liquidity.

To control and mitigate liquidity problems, the engineering of LM instruments is primarily started at nations that have adequate players of Islamic banking systems (See Table 1.1). Yet at the same time for nations with few Islamic banks, they have very limited alternatives than to trade with the central bank. However, all central banks haven't a Shariah-compliant financial instrument as a final resource for IBs. A few nations with just a couple of Islamic banks or nations with CBs that offer Islamic windows product are left with no liquidity instrument accessible.

Table 1.1: Islamic Liquidity Management Instrument across Countries

Country	**Instrument Available**
Malaysia	Islamic Interbank Money Market (IIMM) Government Investment Issues (GII) Islamic Commercial papers Bank Negara Malaysia Negotiable Notes (BNNN) Bursa Suq Al-Sila' (Commodity *Murabahah*)
Indonesia	*Pasar Uang Antar Bank* (*Mudhārabah* Interbank Investment) *Fasilitas Pendanaan Jangka Panjang Syariah* (Long term shariah financing by the central bank)
Bahrain	Sukuk *Ijarah* and Sukuk *Al-Salam* by Central Bank Reliance on non-interest-bearing excess reserve in central bank
UAE	Global Commodity Finance (Electronic Islamic interbank money market) Islamic Certificates of Deposit based on commodity *Murabahah*
Pakistan, Brunei, Singapore	Short term sukuk *ijarah*
Kuwait	Corporate Sukuk
Saudi Arabia	Karawan *Ijarah* Sukuk
Iran	*Ijarah* and *Musharakah* Sukuk
Bangladesh	*Murabahah* Sukuk

Source: Rizkiah, (2018) and https://www.statista.com

Some institutions were also established to nurture the constancy and LM for the Islamic banking system, for instance, International Islamic Liquidity Management (IILM), Liquidity Management Center (LMC), International Islamic Financial Market (IIFM) and Islamic Financial Services Board (IFSB) etc. (Griffin, 2010; Sole, 2007).

IFSB is a global association that forms wise guidelines and core values to guarantee the stability of the Islamic financial system. IFSB is playing the job of reviewing the committee for the implementation of the Basel III standards in Islamic Banks (Board, 2017).

IIFM was formed to set up the normalization of global Islamic financial markets, research, and build up a functioning secondary market that is very necessary for Islamic banks to manage Liquidity problems.

Moreover, the current growth of the Islamic financial industry is confronting the accompanying issues. First, Islamic banking is experiencing a time of fast development; it must be joined by a powerful LM program. Such a program is as of now not being readied successfully by banking controllers. Second, the current practice of the Islamic financial industry uncovers the deficiencies of LM practice. Currently, the banks just focus on short term financing and they are not ready to go towards long term financing mode of transections (Rizkiah, 2018). Third, investors and depositors show sensitive liquidity conduct and may pull back their assets if the economy is in a downturn. Fourth, the constrained Islamic liquid instruments to cover short term liquidity problems of Islamic banks, since some Muslim nations, for example, Pakistan, Bangladesh, Egypt, and so on have a less evolved Islamic money market (Arif & Nauman Anees, 2012). Fifth, the future growth of the Islamic financial industry requests appropriate LM, given the importance of banking activities and financial conditions.

The above requirements create new procedures for the LM specially and the entire banking system generally. For the proper and smooth working of IBs the importance, challenges, and management of liquidity is a very big dilemma (IFSB, 2014-2015). During the worldwide financial crisis of 2007-2008, numerous banks faced several complications because they failed to manage liquidity sensibly in a better way. Therefore, the crisis highlighted the crucial role of liquidity for the suitable functioning of economic markets and the banking industry (Marozva, 2015). There are a lot of previous researchers like (Allen, 2008; Orhangazi, 2015; Lastra, 2010) that prompts the way that liquidity crunch was the basic reason for the 2007/08 financial crises. However very slight is acknowledged about the connection between bank performance, efficiency, risk-taking, Shariah Governance, and LM.

1.3 Problem Statements

In the financial world, every business affair exhibits various risks, such as operational risk, market risk, credit risk liquidity risk and so on. Liquidity risk can be categorized as the most demanding one. Bank loss would be occurred by inadequacy and an abundance of liquidity which may cause bankruptcy and opportunity cost respectively (Hamza, 2013). Because in a financial crisis, liquidity issues at individual organizations lead to an intense rise in demand and a decline in the supply of liquidity, and the resulting shortage of accessible liquidity could lead to extensive defaults or bankruptcies which will ultimately effect the performance, efficiency and risk-taking of the banks. While, a high quantity of liquidity will result in opportunity cost. In both cases it will ultimately effect the performance, efficiency and risk-taking of the banks. (Hassan, Khan, & Paltrinieri, 2019). So, a remarkable equilibrium must be maintained in the LM if the banks wish to take full benefit of its resources.

Over the last two decades, IBs have proved itself as the best option in contrast to conventional banking because of its exceptional features and qualities (Interest and Gharar Free). In the 2007/2008 financial crises, CBs needed to depend on the bailout reserves from the government to meet their liquidity issues. Then again, the Islamic Banking Industry could get through the crises without requesting the bailout reserves. This shows the status of Islamic banks as a secure financial institution. Nonetheless, running an alternate banking system does not promise a risk-free environment and will have complications of its own (Sukmana & Suryaningtyas, 2016; Suryanto & Ridwansyah, 2016).

Contrasting CBs, IBs face contradict/reverse difficulties in LM, such as the Shariah issue, the status of the assets, the incompetence of Islamic money markets (Mahdi & Abbes, 2018). LM in Islamic banks stays a challenging task (Al-Muharrami & Hardy, 2014; Sundararajan & Errico, 2002). Islamic banks cannot refinance through ordinary means like a lender of last resort and conventional money market etc. Due to Shariah limits which makes it challenging for Islamic banks to overcome their short-term problems.

The existing problem in the LM in IBs contrasted with CBs needs new processes for the management of the banking system in general and in LM specifically. Given the importance of liquidity for the smooth working of Islamic banks, its challenge, and its administration have a dilemma and concern for Islamic bank (IFSB, 2014-2015). Viewing the essence of the business, LM is one of the banking industry's top priority concern. The magnitude of the problem for IBs is even bigger, as the limited LM instruments are available in the financial market. Because CBs have so many sources to fulfill their liquidity requirements such as issuing bonds and investment in shares, money at call, government securities, and short-term loans, while IBs have limited sources for fulfilling their liquidity requirement because of prohibition of interest based transaction.

The role of LM in the banking system has fascinated significant consideration from researchers and policymakers. However, the worldwide financial crisis in 2007, revealed numerous systemic flaws among several banks, linked to their incapability to accomplish liquidity problems. Nonetheless, prior researches (Berger & Bouwman, 2013; Asli Demirgüç-Kunt & Huizinga, 2010; Gorton, 2014; Thakor, 2014) on banking constancy have mostly concentrated on the part of the capital in decreasing banking instability throughout financial crises whereas a smaller amount of concentration has been dedicated to the influence of liquidity on the performance, efficiency, constancy, and risk-taking of the banks in phases of the crisis, because it is very rare to find out previous research on these topics.

Some crucial problems are involve in liquidity management as stated by International Islamic Financial Market (IIFM) which can badly effect the performance, efficiency and risk-taking of the IBs. These problems includes less contributors, slow progress in Islamic finance tools, various explanations of Shariah, nonexistence of Islamic secondary market, an operative Islamic inter-bank market and Lender of the Last Resort (LOLR) facility (Ayub, 2017). Previous research on the influence of liquidity on the performance and efficiency of the banks is rare and gives different results. For instance, a study was done by atnovski (2013) resulted that by increasing liquidity buffers the banks can mitigate the liquidity shocks. In addition, it may be costly for a bank to keep up a high level of liquidity, as liquid assets make low benefits contrasted with illiquid assets. In other words, there is a compromise among the advantage associated with liquidity buffers regarding less vulnerability and the expenses of holding less beneficial resources. King (2013) using the data of 15 countries globally demonstrated that the net stable Funding Ratio (NFSR) diminishes on average net interest margin by 70–88 points. Correspondingly, Härle et al. (2010)

demonstrated that the new standards cause the bank to return on equity (ROE) to rot by an average of 3% in the US and 4% in Europe. In dissimilarity, one another study conducted by Bordeleau and Graham (2010) argues that by keeping liquid asset banks can improve their performance, though Dietrich, Hess, and Wanzenried (2014) said that the NSFR has no influence on Net Interest Margin (NIM), Return on Assets (ROA) and ROE. The cost and benefit of LM requirements in the Islamic Banking Industry are still unexplored. Because most of the empirical literature on banks failures due to liquidity problems has focused U.S. or European cases and particularly the conventional banking sector. It is nearly impossible to find a research that has been done on the influence of LM on performance, risk-taking, and efficiency of the Islamic Banking Industry.

Resulting from the crises of US subprime in 2007, most banks learned on how to manage liquidity risks which turns out to be challenging for Islamic banking. It is even more challenging for Islamic banks to manage the liquidity risks compared to their conventional counterparts due to the limited spectrum of investments due to Shariah requirements on the prohibition of interest. Deloitte (2010) asserted that managing liquidity is an old and primary focus of Islamic banks. According to a survey of industry practitioners and leaders of Middle East Islamic Financial Institutions that was conducted in 2010, liquidity ratio was considered as the top priority in the banking industry. A renowned bank run case of Ihlas Finance House in Turkey occurred in 2001 (Rizkiah, 2018). In February 2001, this largest finance house in Turkey became insolvent due to irregular use of funds and was abruptly closed. Occurring at the same time as a macro/financial crisis runs on the other Special Finance Houses (SFHs) erupted, resulting in a sizable loss of deposits in the sector (Starr &

Yilmaz, 2007). The same scenario also happened in 2007 to the UK-based Northern Rock bank with 150 years of establishment due to the credit crisis (Saiful Azhar, 2015).

Alongside LM, Shariah Governance is additionally an important factor that may have a major influence on bank performance, efficiency, and risk-taking because of its exceptional characteristics and moral element (Shafii, 2013). The Shariah non-compliance risk emerges from the failure to fulfil the Shariah instructions and values determined by the Shariah Governance framework (IFSB, 2005). Shariah non-compliance risk can affect asset values of IBs with the potential loss of investment or reinvestment profits. The direct effect of Shariah non-compliance can be in the form of immediate withdrawals of the fund and the termination of investment agreements which will cause a decline in profits and performance of IBs. The non-compliance with the Shariah affects community assurance in Islamic banking and exposes the IBs to the credibility risk. So, this study analyses the moderating role of Shariah Governance on the influence of LM on performance, efficiency, and risk-taking in IBs.

Given the importance of investigating the influence the of LM on Islamic bank's performance, efficiency and risk-taking, and to explore the moderating role of Shariah Governance in the relationship between LM and risk-taking, performance and efficiency this research is amongst the initial determination that studies the influence of LM on performance, efficiency and risk-taking capabilities of Islamic banks. This research adds to the obtainable literature by giving innovative perceptions into the usefulness of the LM procedure. This study specifically explores whether tightening the LM requirements contribute to enhancing performance, efficiency, and risk-taking and also explore the moderating role of Shariah Governance.

In light of the finding and issues above, it is very essential to empirically explore the said association from the top 10 Muslim nations in Islamic banking (Union of Arab Banks research department, 2018). Most of the empirical literature on banks failures due to risk-taking has focused U.S. or European cases and particularly the conventional banking sector (Anginer, Cerutti, & Pería, 2017; Berger, Bouwman, Kick, & Schaeck, 2016; Hong, Huang, & Wu, 2014; Imbierowicz & Rauch, 2014; Vazquez & Federico, 2015). Although, emerging and developing markets have become an important economic area. Research studies on this topic in emerging and developing markets have not earned enough consideration. To provide such insights, this study investigates the influence of LM on performance, efficiency, and risk-taking in IBs, using a dataset of all full-fledged local IBs from the top 10 Islamic banking countries.

LM is the core problem for both the Islamic and the conventional banking sector in today's financial world. Particularly, for IBs the problem is how to manage liquidity proficiently (Djelassi, 2020). It is nearly impossible to find ~~a~~ research that has been done on the influence of LM on performance, risk-taking, and efficiency in Islamic banking moderating by Shariah Governance. Therefore, this thesis proposes todiscover the extent of the influence of LM in the Islamic Banking Industry and how Shariah moderates the influence of LM in the Islamic Banking Industry.

1.4 Research Objectives

The purpose of this study is to examine the influence of LM of the Islamic Banking Industry on performance, efficiency, and risk-taking of IBs in diverse Islamiccountries. Precisely, this study intends to attain the following objectives:

1. To assess the relationship between the extent of the influence of LM on performance, efficiency and risk taking of IBs.
2. To analyze the influence of LM on risk taking, efficiency, and performance of IBs
3. To assess the moderating role of Shariah Governance on the influence of LM on Risk Taking, Efficiency and Performance of IBs

1.5 Research Questions

Considering the planning of three specific research objectives, this study creates various research questions to support the objectives. For each specific objective, the assorted research questions have been described. This study focusses to solve the questions mentioned in the following:

i) What is the extent of the influence of LM on Performance?

ii) What is the extent of the influence of LM on Efficiency?

iii) What is the extent of the influence of LM on Risk-Taking?

iv) How LM influence performance of IBs?

v) How LM influence Risk-taking of IBs?

vi) How LM influence Efficiency of IBs?

vii) How Shariah Governance moderate the influence of LM on Performance IBs?

viii) How Shariah Governance moderate the influence of LM on Risk-Taking of IBs?

ix) How Shariah Governance moderate the influence LM on Efficiency of IBs?

Table 1.2 shows the relationship between the research objectives and research questions. There are three research questions to achieve the first objective and three research questions to achieve the second objective and three research questions to achieve the last objective. These objectives are the main guideline in this study to achieve the relevant findings in the fourth and fifth chapters later.

Table 1.2: Research Objectives and Research Questions

Research Objectives	**Research Questions**
To assess the relationship between the extant of the influence of LM on performance, efficiency and risk-taking of IBs	i) What is the extent of the influence of LM on Performance? ii) What is the extent of the influence of LM on Efficiency? iii) What is the extent of the influence of LM on Risk-taking?
To analyze the influence of LM on efficiency, performance, and risk-taking of IBs	i) How LM influence performance of IBs ii) How LM influence Risk-taking of IBs iii) How LM influence Efficiency of IBs

Table 1-2. Continued

Research Objectives	Research Questions
To assess the moderating role of Shariah Governance	i) How Shariah Governance moderate the influence of LM on Performance, of IBs ii) How Shariah Governance moderate the influence of LM on Risk-taking of IBs iii) How Shariah Governance moderate the influence LM on Performance, Efficiency of IBs

1.6 Operational Definitions

In operational definition the researcher define specific terms used in the research. It is depending on the scope and objectives of the study. Operational definitions fulfil two basic requirements, Firstly, it develops the percepts and techniques the researcher will use to measure the key variables of the research, Second the operational definition clarify the exact meaning of the terms that usually might be understood in different ways. The operational definitions in this study will focus on the terms that are generally used in the research. The definitions that are incorporated into this study are as follow:

1.6.1 Liquidity Management

Liquidity is a financial concept that implies the measure of capital that is available for investment. Nowadays, an enormous part of this capital is credit, not cash. Bank Liquidity suggests the capability of the bank to keep up suitable assets to pay for its everyday obligations. Liquidity is the bank’s ability to rapidly meet cash, checks, several withdrawal commitments, and satisfy new loan interests. Nwaezeaku (2006) categorized liquidity as the degree of convertibility to cash or the straightforwardness with which an asset can be altered into cash (sold at a reasonable cost). According to Abdul-Rahman (1999), liquidity is a basic route through which one can change their asset from one form to another with a very slight or nearly zero loss. In banks, liquid resources are practically in cash or in the form of such an instrument which can be transformed into cash easily.

The concept of LM turns around the size of a bank to keep up enough assets to meet its commitments, which will show its capability to attract deposits later on (Majid & Rais, 2003). While Largan (2000) says LM is the capacity of planning the growth of assets and liabilities on daily basis and setting up the responsibility to absorb any pressure which may arise from the shortage of cash. The term liquidity commonly alludes to the capability to exchange instruments at costs that are reasonable considering the fundamental interest/supply conditions through the profundity, extensiveness, and adaptability of the market at minimum possible execution cost (Dusuki, 2007). A flawlessly liquidity is characterized as one whose full present worth can be acknowledged, i.e. immediately transformed into buying ability over products and services (Allen & Morris, 1998).

In light of the above discussion, this study approves the definition given by AAOIFI's Shariah standard on LM and Basel Committee, 2008 as the ultimate meaning of both definitions are same. Because the main goal of this organization is to organize accounting, auditing, governance, moral, and Shariah standards for Islamic financial organizations and the Islamic Banking Industry. As per AAOIFI liquidity alludes the cash and other assets that are quickly and easily changeable into cash; while, in the case of the bank, LM alludes to the comprehension of a reasonable and fitting balance between liquidity's acquisition, at the best cost in the most limited timeframe, and liquidity's investment in the best possible way (AAOIFI, 2014). However, according to the Basel Committee, LM means strengthening a bank's ability to meet all its financial obligations on its liability side, as well as, seizing all the investment opportunities on its assets' side, without incurring any unexpected losses (Basel Committee, 2008).

The Basel Committee on Banking Supervision published the Basel III for the improvement of LM practices. Basel III was introduced to affirm sound liquidity in financial institutions and restrain the return of the liquidity risk. Resembled the earlier Basel I and II framework, Basel III proposes a lot of additional capital and liquidity standards to strengthen the guideline, oversight, and risk management in the banking industry. Two measurements Liquidity Cover Ratio (LCR) for short term LM and Net Stable Funding Ratio (NSFR) for long term LM have been introduced. As per (Basel III), the essential point of introducing the LCR is to encourage short term resilience of the liquidity risk profile of banks via making sure that bank have sufficient high-quality liquid assets (HQLA) can be converted to cash to live on any stress situation lasting for 30 calendar days. While for NSFR, the main objective is to encourage resilience over an extended time horizon through growing extra incentives for banks to fund their activities with greater stable sources of funding on-going basis. Normally Net Stable Funding Ratio has a time horizon is 365 days and has been developed to provide a sustainable maturity structure of assets and liabilities (Iskandar, 2014).

1.6.1(a) Liquidity Coverage Ratio (LCR)

The LCR resembles a new worldwide liquidity requirement developed by the BCBS to address difficulties produced by the global liquidity freeze throughout the financial calamity of 2007, 2008. In the LCR, the Islamic banks must hold the HQLA to absorb the shortage of cash during the period of one month of financial recession. The goal of LCR is to safeguard Banking systems to survive the temporary liquidity threats (IFSB 2014). To encounter this condition, Islamic banks should have a reasonable stock of HQLA that can be quickly and easily convertible into cash to deal with any kind of stress scenario during the 30 calendar days. This ratio is based on the assumption that if the Islamic banks meet the requirements of this ratio then the banks could survive for 30 days during the financial stress. The formula as follows:

$$LCR = \frac{Stock\ of\ Shariah\ Compliant\ (HQLA)}{Total\ net\ cash\ outflows\ over\ the\ next\ 30\ calendar\ days} \geq 100$$

This indicator was introduced in January 2015. It can be calculated by taking the stock of Shariah-compliant HQLA as the numerator and the total net cash outflows as the denominator.

1.6.1(b) Net Stable Funding Ratio

NSFR is the ratio of the amount of available stable funding (ASF) to the amount of required stable funding (RSF), that's intended to encourage banks to expand access to medium- and long-time period investment. The ratio needs to be more than 100%. Stable funding can be described as the portion of those equity and liability financing expected to be reliable sources of funds over a time of one year under the financial stress. A greater value of this ratio implies that the bank has low liquidity risk and the lower worth of this ratio will lead the banks to have higher liquidity risk.

As demonstrated by IFSB 2014, the main purpose of NSFR is to embrace adaptability over a more extended timeframe. It affirms that with at least a minimum amount of stable liability the long-term assets are funded. The formula is:

$$NSFR = \frac{Available\ amount\ of\ stable\ funding}{Required\ amount\ of\ stable\ funding} \geq 100$$

1.6.2 Performance

The concept of overall performance has received huge interest from the researchers in the previous few decades, being pervasive in nearly all domains of the human interest. Performance is a subjective belief of fact, which explains the huge number of essential reflections on the concept and its assessing instruments.

Generally, the performance is portrayed as the achievement of the objectives set out by the bank in the agreed time and with the lowest costs while using the accessible resources (Hajer & Anis, 2018). Lorino (1997) said that: ″Performance in the businesses is what contributes to refining cost-value couples and not just what benefits to decrease the cost or increase the value″. Kane (1996) contends that the performance is ″something that an individual leaves behind, and which occurs outside the said purpose″. As indicated by Kane (1996), performance is characterized by the degree of every person at the organization level or inside the organization. It is supposed as an understanding of the attained outcomes. The author highlights the specific idea of the definition and the impracticality of laying out an overall definition. One another study done by Pintea and Achim (2010), argued that the idea of performance is a reference both in hypothetical methods and in practice because the field of financial performance contains several terms, through the most significant we can mention, productivity, profitability, business progress.

Consequently, it can express the accurateness of the definition at a specific level and unclearness of it at an overall level. Reconsideration of the idea of performance has been and stays a need for financial research with finding indicators that better reveal the refinements of the functioning of financial entities. What indicators would best reflect financial performance? Profit level? Various paces of productivity? Good-Will? Achieve planned outcomes? The expenses? Monetary worth? Or maybe others? The elements of this idea have changed with the developing complication of the financial environment in which financial institutions work.

In financial literature, bank performance has no generally acknowledged definition. Yet, some prior studies have endeavored the definition of bank performance. For instance, as indicated by the European Central Bank (2010) bank performance refers to the bank's capability to produce justifiable profits. The literature on bank performance has recognized several instruments for measuring of bank performance.

In light of the definition put forward by the European Central Bank (2010) trying to depict bank performance in a specific case. So, to measure the bank performance several studies (Busch & Kick, 2009; Cotugno & Stefanelli, 2012; D'Souza & Lai, 2003; Hasan, Saunders, & Acharya, 2002; Schertler, Buch, & Von Westernhagen, 2006) used ROA analysis. Therefore, in this study, the researcher used ROA analysis for the measurement of bank performance.

1.6.3 Efficiency

The important role of efficiency in the banking area in guaranteeing stability in the future particularly in the competition era has become the focus of various studies, specifically in the most recent decade. A study of efficiency as a measure of banking performance has been deeply accomplished in various countries, whichever conventional or Islamic banking. Conclusions from numerous researches specify that