

BASEL III CAPITAL REGULATION FRAMEWORK AND ISLAMIC BANK'S RISK

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ABSTRACT

Basel III modified the requirements for approving new regulatory capital norms to improve capital quality. Because bank liquidity problems were a defining feature of the crisis, Basel III established new requirement ratios while also tightened capital requirements. The Liquidity Coverage Ratio (LCR) was developed to safeguard banks' short-term liquidity, whereas the Net Stable Funding Ratio (NSFR) is being proposed to strengthen banks' medium- and long-term liquidity shock resilience. As a necessary consequence, Islamic financial institutions (IFIs) must issue instruments that satisfy both Basel III and Shari'ah requirements. This study aims to identify the regulatory requirements for Basel III and the Islamic Financial Services Board (IFSB)'s new capital and liquidity rules, as well as the implications for Islamic banks (IB). This study employs a mixed research methodologies approach which includes document analysis of primary and secondary sources, as well as the relevant regulations published by BCBS and IFSB. This study relies on the identification of Standards for each criterion before conducting a systematic review of the 23 publications that meet the study's requirements published between 2013 and 2022. There is a scarcity of Shari'ah-compliant research on capital buffers, tier 1 capital, and common equity tier 1 capital, according to certain findings. Furthermore, the empirical literature suggests that Basel III has a significant impact on the financial risk of the IB sector in the samples collected. However, there is still a significant gap in studies investigating the influence of Basel III/IFSB capital and liquidity regulations on Islamic bank risk, or

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more precisely, supportive data from empirical investigations. The wealth of research will provide new insights to standard-setters (BCBS and IFSB), regulators, researchers, and academicians.

Keywords: Regulation, IFSB, BASEL III, Islamic Bank's Risk.

RANGKA KERJA PERATURAN MODAL BASEL III DAN RISIKO BANK ISLAM

ABSTRAK

Basel III mengubahsui keperluan untuk meluluskan norma modal pengawalseliaan baharu untuk meningkatkan kualiti modal. Oleh kerana masalah kecairan bank merupakan ciri yang menentukan krisis, Basel III menetapkan nisbah keperluan baharu disamping mengetatkan keperluan modal. Nisbah Liputan Kecairan (LCR) dibangunkan untuk melindungi kecairan jangka pendek bank, manakala Nisbah Pembiayaan Stabil Bersih (NSFR) dicadangkan untuk mengukuhkan daya tahan kejutan mudah tunai jangka sederhana dan jangka panjang bank. Lanjutan dari itu, institusi kewangan Islam (IFI) perlu mengeluarkan instrumen yang memenuhi kedua-dua keperluan Basel III dan Syariah. Kajian ini bertujuan untuk mengenal pasti keperluan kawal selia bagi peraturan modal dan mudah tunai baharu Basel III dan Lembaga Perkhidmatan Kewangan Islam (IFSB), serta implikasi terhadap bank Islam (IB). Kajian ini menggunakan pendekatan metodologi penyelidikan campuran yang merangkumi analisis dokumen sumber primer dan sekunder, serta peraturan berkaitan yang diterbitkan oleh BCBS dan IFSB. Kajian ini adalah berdasarkan pengenalan piawaian bagi setiap kriteria sebelum melakukan semakan sistematik terhadap 23 penerbitan yang memenuhi keperluan kajian yang diterbitkan di antara 2013 dan 2022. Terdapat kekurangan penyelidikan patuh Syariah mengenai penampakan modal, modal peringkat 1, dan modal peringkat 1 ekuiti biasa, berdasarkan penemuan tertentu. Tambahan pula, kajian empirikal mencadangkan bahawa Basel III mempunyai kesan yang ketara terhadap risiko kewangan sektor IB berdasarkan sampel yang dikumpul. Walau bagaimanapun, masih terdapat jurang yang ketara dalam kajian terhadap pengaruh modal Basel III/IFSB dan peraturan kecairan ke atas risiko bank Islam, atau lebih tepat lagi, data sokongan daripada kajian empirikal. Penyelidikan akan memberikan pandangan baharu kepada penetap piawai (BCBS dan IFSB), pengawal selia, penyelidik dan ahli akademik.

Kata Kunci: Peraturan, IFSB, BASEL III, Risiko Bank Islam.

INTRODUCTION

Basel III¹ is a collection of internationally agreed-upon regulations designed by the Basel Committee on Banking Supervision (BCBS)² in response to the Global Financial Crisis (GFC) that occurred between 2007 and 2009. It comprises a set of regulatory guidelines that establish similar criteria for banks across a variety of jurisdictions. A primary goal of Basel III regulation is to improve the effectiveness of bank regulation, supervision, and risk management within the financial services industry. Risk management is among those plays a critical part in a country's banking system, social and economic development, and Islamic banking is certainly not excluded. To improve the existing regulation (Basel II) supervision, and risk management of the banking industry globally, Basel III guidelines have been developed. The guidance offered by the IFSB is an important contribution to the achievement of these worldwide objectives. Thereby assisting in the construction of resilient financial market infrastructures and providing sound and robust core IFIs that operate in accordance with safe and good risk management procedures.

There are several fundamental concepts that apply equally to both IB and conventional banking (CB), despite some discrepancies between the two. Rigorous risk management and solid corporate governance contribute to the safety and soundness of the international banking system, which is essential for financial stability. This viewpoint is reinforced by the rising integration of Islamic financial services into global financial markets, which is becoming increasingly important considering the expanding relevance of IB and Shari'ah-compliant financial innovation. Basel III is a set of regulations to improve global banking regulation, supervision, and risk management. However, more work remains to be done to strengthen the risk management of Islamic banking with Basel III, both by regulators enacting legislation and by banks adjusting their infrastructure. Several

¹ The BCBS established the Basel Accords, which are a set of three banking regulation accords (Basel I, II, and III) Basel 1 was signed in July 1988, Basel 2 was signed in June 2004, and Basel 3 was signed in December 2010. Retrieved from <https://www.bis.org/bcbs/history.htm?m=3076> (accessed on March 31, 2022).

² At the end of 1974, the BCBS was founded, which was originally known as the Committee on Banking Regulations and Supervisory Practices. The BCBS today has 45 members from 28 different jurisdictions. Accessed March 31, 2022, <https://www.bis.org/bcbs/about/overview.htm?m=3077>.

questions arise. To begin with, how do Basel III regulations and IFSB requirements differ in terms of business strategy since IB's operation is based on the principles of Shari'ah?³ What impact have Basel's Capital Adequacy Ratios (CARs), LCR and NSFR had on the IB sector? To be more specific, on the risk associated with products provided by IB, such as *Mudarabah*, *Musharakah*, *Salam*, *Istisnah*, and other similar instrument.⁴ Finally, is there any reasonable evidence that the standards' implementation was successful in the IB system?

To address those issues, a general objective in this regard will be an overview of the regulations in relation to both banking systems to provide a better knowledge of the regulatory requirements in this area. In general and especially, it emphasises the literature review in accordance with international standards and empirical studies on the impact on Islamic banks (IBs) that operate alongside conventional banks. Different economies can strengthen their financial system by implementing key components of global regulatory reform. Domestic regulators, on the other hand, may need to modify international regulations to fit local markets, the sophistication and character of their financial institutions, the level of detail in the information they have, and their capabilities. Adopting the Basel standards in a timely manner would subject IFIs to a regulatory framework that supports financial sector's resilience without imposing excessive compliance costs. For example, Basel III regulation should not limit IBs from delivering Profit and Loss Sharing (PLS) contracts, which is a basic principle that underpins IB's capability to provide financial stability.⁵ These objectives are accomplished using document analysis and systematic literature review approach. Firstly, this article illustrates regulations under the Basel Committee on Banking Supervision (BCBS) for the international bank and IFSB for IBs to have an overall distinction on those regulations. Secondly, this article examines regulatory research

³ Maruf Adeniyi Nasir, "Compatibility of Islamic Finance and Anti-Money Laundering Laws: A Myth or Reality?" *IIUM Law Journal* 26, no. 1 (2018): 55-55.

⁴ Tijjani Muhammad, and Abatcha Melemini, "Assessment of 5Cs Relationship towards Credit Risk Management: Evidence from Islamic Banks," *Journal of Islamic Finance* 10, no. 1 (2021): 76-89.

⁵ Aulia Fitria Yustiardi et al., "Issues and Challenges of the Application of Mudarabah and Musharakah in Islamic Bank Financing Products," *Journal of Islamic Finance* 9, no. 2 (2020): 26-41.

to determine what challenges IBs suffer in adopting the BCBS/IFSB-mandated ratios in their operations. Empirical studies analysis is undertaken to provide practical information on the influence of various implementations on IB aspects, particularly, the impact on risk.

This study contributes to the existing body of knowledge in different manners. First, it fills gaps in the literature on Basel III regulatory capital standards and IB risk in terms of practical applicability. Second, it provides new insights on this important topic to standard-setters (BCBS and IFSB), regulators, researchers, and academics, as well as assists them in discovering more about the latest amendments. Third, this study is unique in that it examines Basel III and IB risk literature using both documents and systematic analysis. At this stage of implementation, mixed research rather than a regulatory analysis is required due to the Basel III/IFSB capital ratios requirement, new liquidity ratios requirement, as well as their impact on IB risk, and their novelty. Fourthly, the study's findings help provide information to bankers and relevant regulators across jurisdictions relating to increasing current bank risk management through regulatory capital necessary approaches. In addition, from an originality/importance aspect, this study offers a critical appraisal of prior research on Basel III and IB risk, as well as fresh factors and challenges for researchers in this sector. Consequently, it identifies a gap in literature that necessitates additional empirical research and a workable remedy. Lastly, it is submitted that this is the first study undertaken to analyse the gap in literature concerning Basel III requirements and IB risk.

Accordingly, the research is organized as follows. The second section deals with the standards background of this paper. The third section explains the methodology employed, followed by the fourth and fifth sections which present the findings from non-empirical and empirical studies by the systematic literature review. Lastly, the sixth section concludes the paper, and some recommendations for future research and practice are also discussed.

STANDARDS DEVELOPED BY THE BCBS AND IFSB ON BASEL III CAPITAL REGULATION

BCBS Published Basel III Regulatory Framework for Banks

As the primary global standard-setter for prudential regulation of banks, the BCBS adopted new regulations and altered old ones to address significant deficiencies exposed by the global financial crisis.

The Basel Framework⁶ brings together these global standards for bank regulation and supervision. The Basel Accords are a set of three sequential banking regulation agreements (Basel I, II, and III) that established capital requirements and risk measurements for financial institutions with the goal of improving banking reliability and strengthening banking supervision.⁷

The first Basel Accord, known as Basel I, was published in 1988 and focused on financial institutions' capital sufficiency to offer a framework for risk management from the perspective of capital adequacy. A minimum capital-to-risk-weighted-assets ratio of 8% was supposed to be in place starting 1992. In June 1999, the Committee submitted a proposal to the original 1988 Capital Accord (Basel I) with a new capital adequacy framework. This resulted in the June 2004 publication of a revamped capital framework (with some revisions in November 2005), generally referred to as Basel II. This second Basel Accord concentrated on three key areas: minimum capital requirements; supervisory review of an institution's capital adequacy and internal assessment process; and effective use of disclosure as a lever to reinforce market discipline and promote sound banking practices, including supervisory review. These three areas of attention are together referred to as the three pillars.

Following the 2008 fall of the Lehman Brothers and the subsequent financial crises, the BCBS resolved to amend and strengthen the Accords. Basel III, the most recent deal, was reached in November 2010 (with a revised version in June 2011). Basel III's terms were finally completed in December 2017. However, due to the impact of the 2020 global crisis, its implementation has been postponed, and the reforms are now slated to take effect in January 2023. Basel III is a collection of internationally agreed regulations developed in response to the financial crisis of 2007–2009, and its primary purpose is to require banks to maintain an additional layer of common equity (a

⁶ The framework is made up of the 14 standards that are specified on the BIS webpages. Each standard is subdivided into chapters, many of which have several versions. “Background to the Basel Framework”, last modified April 11, 2022, <https://www.bis.org/baselframework/background.htm#:~:text=The%20Basel%20Framework%20is%20a,the%20prudential%20regulation%20of%20banks>.

⁷ “History of the Basel Committee”, last modified April 11, 2022, <https://www.bis.org/bcbs/history.htm?m=3076>.

capital conservation buffer) and a minimum liquidity ratio to strengthen bank regulation, supervision, and risk management.

IFSB Approved the Basel III Regulatory Framework for Islamic Banks

The BCBS membership, which includes 45 institutions from 28 different jurisdictions, has agreed to fully implement the Basel III standards and apply them to internationally active banks in their respective jurisdictions. At least six countries (Germany, Indonesia, Saudi Arabia, Singapore, Turkey, and the United Kingdom) are members, and two countries (Malaysia and the United Arab Emirates) are observers of the Basel Committee, where Islamic and conventional banking systems coexist.⁸

The Islamic Financial Services Board (IFSB) is the body in charge of developing standards for the Islamic banking industry. The IFSB accepted the Basel III regulatory framework after making various revisions to accommodate the nature and unique combination of assets and liabilities of IBs, which differ from those of conventional banks (CBs). These include the IFSB-2 (December 2005) and two revised standards IFSB-15 (December 2013) and IFSB-23 (December 2021) on Capital Adequacy Standard, IFSB-7 (January 2009) by specifying Capital Adequacy Requirements (CAR) for Sukuk, Securitisations, and Real Estate Investment, as well as two risk management standards, IFSB-1 (December 2005) and IFSB-12 (March 2012). Additionally, the IFSB published the GN-6 to measure IBs' net stable financing ratio in connection with Basel III.⁹ Provide below in Table 1 is an overview of the relevant regulations published by the BCBS for banks around the world and by the IFSB for IBs in line with the Basel III agreement. Table 1 summarises BCBS's Basel III regulations and the IFSB's amended standards in relation to increased capital and new liquidity requirements, as well as bank risk management.

⁸ "Basel Committee membership", last modified April 11, 2022, <https://www.bis.org/bcbs/membership.htm>.

⁹ The IFSB adopted the Basel III regulatory framework after providing modifications to respect for the distinctions in the models of conventional and IBs as defined by those six standards from 2005 to 2021. Last modified April 11, 2022, <https://www.ifsb.org/published.php>.

Table 1: Summary of BCBS's Basel III Regulations
and IFSB's Amended Standards

Organizational	Standards/Notes	Published Year	Topics
IFSB	Capital Adequacy Standard for Institutions (other than Insurance Institutions) offering only Islamic Financial Services (IIFS)	IFSB-2 (December 2005)	Principles for Minimum Capital Adequacy Requirements . Minimum Capital Requirements for Islamic Financing Assets.
	Revised Capital Adequacy Standard for Institutions Offering Islamic Financial Services Excluding Islamic Insurance (<i>Takāful</i>) Institutions and Islamic Collective Investment Schemes]	IFSB-15 (December 2013)	Regulatory Capital. Principles for Minimum Capital Requirements . Capital Requirements for Islamic Financing and Investment Assets. Sukuk and Securitisation. Real Estate Activities.

	Revised Capital Adequacy Standard for Institutions Offering Islamic Financial Services [Banking Segment]	IFSB-23 (December 2021)	Capital Adequacy and Macroprudential Measures. Regulatory Capital. Principles for Minimum Capital Requirements . Capital Requirements for Islamic Financing and Investment Assets. Treatment of Exposures Related to Sukuk. Real Estate Activities.
	Capital Adequacy Requirements for Sukuk, Securitisations and Real Estate Investment	IFSB-7 (January 2009)	Sukuk and Securitisation. Real Estate Investment.
	Guiding Principles of Risk Management for Institutions (other than	IFSB-1 (December 2005)	Credit Risk Equity Investment Risk

	Insurance Institutions) offering only Islamic Financial Services (IIFS)		Market Risk Liquidity Risk Rate of Return Risk Operational Risk
	Guiding Principles on Liquidity Risk Management for Institutions offering Islamic Financial Services	IFSB-12 (March 2012)	Liquidity Risk and Necessary Elements for Its Effective Management in the IFSI (Islamic financial services industry). General and Guiding Principles for the IIFS (Institution(s) offering Islamic financial services). Guiding Principles for Supervisory Authorities.
	Guidance Note on Quantitative Measures for Liquidity Risk Management in Institutions	GN-6 (April 2015)	Application of the LCR in IIFS. Application of the NSFR in IIFS.

	Offering Islamic Financial Services [Excluding Islamic Insurance (<i>Takâful</i>) Institutions and Islamic Collective Investment Schemes]		Role of Supervisory Authorities.
BCBS	Full version of Basel framework	2022	Comprises all the current and forthcoming standards of the Basel Committee on Banking Supervision.
	Basel III: International framework for liquidity risk measurement, standards, and monitoring ¹⁰	16 December 2010 Status:Superseded	
	Basel III: A global regulatory framework for more resilient banks and	16 December 2010 Status:Superseded	

¹⁰ “Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring”, last modified April 11, 2022, <https://www.bis.org/publ/bcbs188.htm>.

	banking systems ¹¹		
	Basel III: A global regulatory framework for more resilient banks and banking systems - revised version June 2011 ¹²	01 June 2011 Status: Consolidated	Market risk, Credit risk, Definition of capital
	Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools ¹³	07 January 2013 Status: Consolidated	Liquidity risk
	Basel III: the net stable funding ratio ¹⁴	31 October 2014 Status: Consolidated	Liquidity risk

Source: IFSB¹⁵ and BIS website

¹¹ “Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems”, last modified April 11, 2022, https://www.bis.org/publ/bcbs189_dec2010.htm.

¹² “Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems - revised version June 2011”, last modified April 11, 2022, <https://www.bis.org/publ/bcbs189.htm>.

¹³ “Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools”, last modified April 11, 2022, <https://www.bis.org/publ/bcbs238.htm>

¹⁴ “Basel III: The Net Stable Funding Ratio”, last modified April 11, 2022, <https://www.bis.org/bcbs/publ/d295.htm>.

¹⁵ “Published Standards”, last modified April 11, 2022, <https://www.ifsb.org/published.php>.

RESEARCH METHODOLOGY

A mixed study rather than a regulatory analysis is required at this stage of implementation due to several factors, namely the nature of the Basel III/IFSB capital ratios requirement, the new liquidity ratios requirement, the impact of these requirements on IB risk, and the novelty of these requirements. As a result, given the purpose of this study, a mixed methodologies approach is applied. This includes reference to previous literature of Ahmad¹⁶ and Salman et al.¹⁷, document analysis of primary and secondary sources, as well as the analysis of relevant regulations published by the BCBS and IFSB. Regulatory and empirical studies are also relied upon from the Web of Science database.

Information Sources and Period

A thorough literature review was done for both empirical and theoretical studies published in English between 2013 and 2022 on electronic databases, namely, Web of Science (WOS). The justification for choosing 2013 as the year to begin the review is to ensure that all papers linked to the theme of the study are reviewed. However, limitation of this study is that the data collected was only from the official websites of BCBS and IFSB, as well as the WOS database. It will contribute more if the data from both WOS and SCOPUS are combined. Secondly, software such as VOSviewer¹⁸ or ATLAS.ti¹⁹ was not utilised for systematic analysis to obtain more thorough results.

¹⁶ Mahadi Umar Ahmad et al., "Social Impact Bond (SIB): A Shari'ah Appraisal," *IJUM Law Journal* 27, no. 1 (2019): 181-208, <https://doi.org/10.31436/ijumlj.v27i1.408>.

¹⁷ Nadhratul Wardah Salman et al., "Legal Framework of Arrest and Post-Arrest Safeguards: A Comparative Analysis as To the Laws of Bangladesh, India, And the United Kingdom," *IJUM Law Journal* 29, no. 2 (2021): 363-386, <https://doi.org/10.31436/ijumlj.v29i2.645>

¹⁸ Nurul'Iffah MA Zaaba and Rusni Hassan, "A Systematic Literature Review on Zakat," *Journal of Islamic Finance* 10, no. 2 (2021): 101-111.

¹⁹ Nor Fadzlina Nawi et al., "Policy, Legal and Regulation Research in the Sharing Economy: A Bibliometric Analysis and Systematic Literature Review," *IJUM Law Journal* 30, no. 1 (2022), 1-33, <https://doi.org/10.31436/ijumlj.v30iS1.697>.

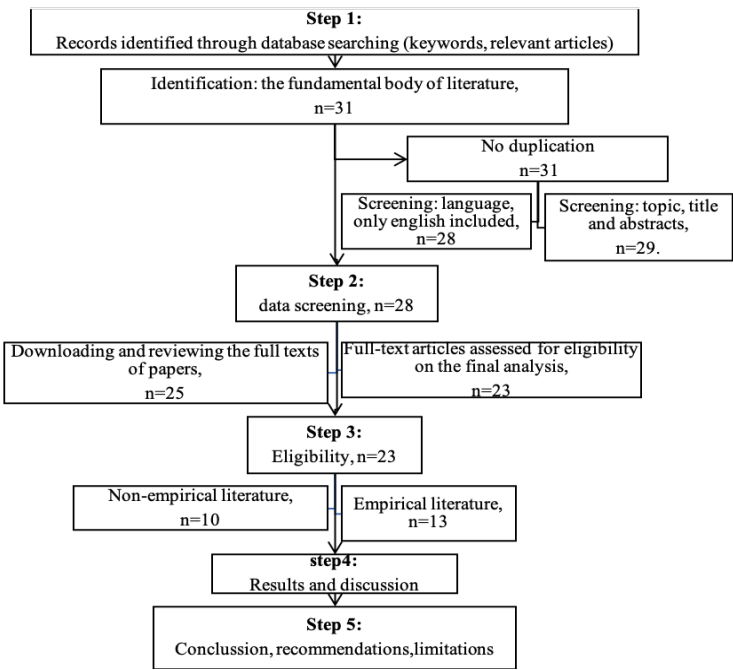
Search Strategy

Following a previous study of Nomran and Haron²⁰, a five-step data collection and analysis procedure was devised to deal with the collection of papers on the subject of interest, namely: Basel III capital requirements and Islamic bank risk. However, using these key phrases, only one document is available. It is believed that the main reason for this is the complexity of the Basel III study, which is still in its early stage, as well as the data limitation of Islamic banks. Then the keywords were extended to get the following results: the first one, ALL= (“Basel III” OR “Basel III capital regulation” OR “Basel III regulation” OR “Basel III capital requirement” OR “Basel III Accord*”) with 854 results, and the second one, ALL= (“ISLAMIC BANK*”) with 3070 results. After combining these two results, 31 papers were accomplished in this investigation. Second, the results were filtered by TS OR TI OR AB²¹ (“Basel III” OR “Basel III capital regulation” OR “Basel III regulation” OR “Basel III capital requirement” OR “Basel III Accord*”) AND TS OR TI OR AB (“ISLAMIC BANK*”) by Advanced Search Query Builder on WOS. This inquiry found a total of 29 papers, all of which were articles or reviews and published in peer-reviewed journals that are used to certify the quality of academic work. Third, because all papers were chosen on the database of WOS, there is no duplication in the literature. Similarly, one item was omitted because it was written in a language other than English, and three papers were not available for full-text review. Following a thorough review, 23 papers based on Basel III and IB concepts were selected. The fourth stage is concerned with the outcomes, which will be discussed further in the following section, and the final stage includes the conclusion, suggestion, and limitation. Figure 1 below depicts a summary of the five stages of the data collection and analysis process.

²⁰ Naji Mansour Nomran, and Razali Haron, “A Systematic Literature Review on Sharīʿah Governance Mechanism and Firm Performance in Islamic Banking,” *Islamic Economic Studies* 27, no. 2 (2020): 91–123. <https://doi.org/10.1108/ies-06-2019-0013>.

²¹ TS=Topic, TI=Title, AB=Abstract

Figure 1: Collection and analysis process²²



RESULTS: REVIEW OF LITERATURE ON BANKING CAPITAL REGULATIONS AND ISLAMIC BANK PRACTICES

Most of the Basel III reforms were introduced in 2013 and in accordance with the phase until 2019.²³ There are currently 17 peer-reviewed journals which published 23 papers on the study of Basel III and Islamic banks that are available on the Web of Science database. 13 of the 23 papers are empirical, while the other ten are theoretical and/or qualitative studies. All of these studies were carried out from

²² Naji Mansour Nomran and Razali Haron, “A Systematic Literature Review on Sharī’ah Governance Mechanism and Firm Performance in Islamic Banking,” *Islamic Economic Studies* 27, no. 2 (2020): 91–123. <https://doi.org/10.1108/ies-06-2019-0013>.

²³ History of the Basel Committee”, last modified April 11, 2022, <https://www.bis.org/bcbs/history.htm>.

2013 until the beginning of 2022. Table 2 below characterises the final selection of the articles by authors, date of issue, nature of studies, and journal names.

Table 2: Summary of the Final Papers Collection Based on Authors, Type of Literature and Journals

Authors	Type of Literature ²⁴		JN ²⁵	Source Title
	ES ²⁶	TS ²⁷		
(Ghosh 2018) ²⁸	√	—	1	Accounting Research Journal
(Engku et al. 2017) ²⁹	—	√	2	<i>Al-Shajarah</i>
(Sairally and Mustafa 2016) ³⁰	—	√	3	Arab Law Quarterly
(Mustafa and Muhammad 2018) ³¹	—	√	3	Arab Law Quarterly

²⁴ Type of literature refers to empirical studies (ES) and theoretical and/or qualitative studies. Source: Nomran and Haron, *Islamic Economic Studies* 27, no. 2 (2020): 91–123.

²⁵ JN=Journal Number

²⁶ ES= Empirical Studies

²⁷ TS= Theoretical Studies

²⁸ Saibal Ghosh, “Capital Structure, Ownership and Crisis: Evidence from Middle East and North African Banks,” *Accounting Research Journal* 31, no. 2 (2018): 284–300, <https://doi.org/10.1108/ARJ-09-2015-0121>.

²⁹ Engku Rabiah Adawiah Engku Ali et al., “Towards the Development of Sharīah Compliant High-Quality Liquid Assets for Islamic Financial Institutions,” *Al-Shajarah: Journal of the International Institute of Islamic Thought and Civilization (ISTAC)* (2017): 233-264.

³⁰ Madaa Mustafa et al., “Additional Tier 1 Capital Instruments under Basel III: A Sharī‘ah Viewpoint,” in *Arab Law Quarterly* 30, no. 2 (Brill Academic Publishers, 2016): 138-162. <https://doi.org/10.1163/15730255-12341314>.

³¹ Madaa Mustafa et al., “Tier 2 Capital Instruments Under Basel III: A Sharī‘ah Viewpoint,” in *Arab Law Quarterly* 32, no. 3 (Brill Academic Publishers, 2018): 205-241, <https://doi.org/10.1163/15730255-12320023>.

(Alam et al. 2019) ³²	√	—	4	Borsa Istanbul Review
(Ozili and Outa 2017) ³³	—	√	4	Borsa Istanbul Review
(Nurul Fatihah 2019) ³⁴	√	—	5	International Journal of Economics Management and Accounting
(Dolgun et al 2020) ³⁵	√	—	6	International Journal of Islamic and Middle Eastern Finance and Management
(Abdel Karim and Archer 2013) ³⁶	—	√	7	Islamic Finance: The New Regulatory Challenge, 2nd Edition
(Ashraf and Lahsasna 2017) ³⁷	—	√	8	ISRA International Journal of Islamic Finance

³² Nafis Alam, Sara Sophia Zainuddin, and Syed Aun R. Rizvi, "Ramifications of Varying Banking Regulations on Performance of Islamic Banks," *Borsa Istanbul Review* 19, no. 1 (2019): 49-64, <https://doi.org/10.1016/j.bir.2018.05.005>.

³³ Ozili, Peterson K., and Erick Outa. "Bank loan loss provisions research: A review." *Borsa Istanbul Review* 17, no. 3 (2017): 144-163.

³⁴ Aisyah Abdul-Rahman, Mariani Abdul-Majid and Nurul Fatihah KJ, "Equity-Based Financing and Liquidity Risk: Insights from Malaysia and Indonesia," *International Journal of Economics, Management and Accounting* 27, no. 2 (2019): 291-313.

³⁵ Muhammed Habib Dolgun, Adam Ng and Abbas Mirakhor, "Need for Calibration: Applying a Maximum Threshold to Liquidity Ratio for Islamic Banks," *International Journal of Islamic and Middle Eastern Finance and Management* 13, no. 1 (2020): 56-74, <https://doi.org/10.1108/IMEFM-03-2018-0098>.

³⁶ Simon Archer, and Rifaat Ahmed Abdel Karim, "Supervision of Islamic Banks: The Regulatory Challenge—Basel II and Basel III," in *Islamic Finance: The Regulatory Challenge*, ed. John Wiley & Sons (O'Reilly, 2013), 1-12, <https://doi:10.1002/9781118628973.ch1>.

³⁷ Muhammad Adeel Ashraf, and Achene Lahsasna, "Proposal for a New Shari'ah Risk Rating Approach for Islamic Banks," *ISRA International Journal of Islamic Finance* 9, no. 1 (2017): 87-94, <https://doi.org/10.1108/IJIF-07-2017-008>.

(Lince Bulutoding et al. 2021) ³⁸	—	√	9	Journal of Asian Finance Economics and Business
(Ahmed 2015) ³⁹	—	√	10	Journal of Banking Regulation
(Abdul-Rahman and Sulaiman 2017) ⁴⁰	√	—	11	Journal of Central Banking Theory and Practice
(Ashraf et al 2016) ⁴¹	√	—	12	Journal of Financial Stability
(Alsharif et al. 2019) ⁴²	√	—	13	Journal of Islamic Accounting and Business Research
(Harkati et al. 2020) ⁴³	√	—	13	Journal of Islamic Accounting and Business Research

³⁸ Bulutoding, Lince, Cici Rianti K. Bidin, Alim Syariati, and Qarina Qarina. "Antecedents and Consequence of Murabaha Funding in Islamic Banks of Indonesia." *Journal of Asian Finance, Economics and Business (JAFEB)* 8, no. 3 (2021): 487-495.

³⁹ Habib Ahmed, "Basel III Liquidity Requirement Ratios and Islamic Banking." *Journal of Banking Regulation* 16, no. 4 (2015): 251-264. <https://doi.org/10.1057/jbr.2014.20>.

⁴⁰ Aisyah Abdul-Rahman, Noor Latifah Hanim Mohd Said and Ahmad Azam Sulaiman, "Financing Structure and Liquidity Risk: Lesson from Malaysian Experience," *Journal of Central Banking Theory and Practice* 6, no. 2 (2017): 125-148, <https://doi.org/10.1515/jcbtp-2017-0016>.

⁴¹ Dawood Ashraf, Muhammad Suhail Rizwan, and Barbara L'Huillier, "A Net Stable Funding Ratio for Islamic Banks and its Impact on Financial Stability: An International Investigation," *Journal of Financial Stability*, no. 25 (2016): 47-57, <https://doi.org/10.1016/j.jfs.2016.06.010>.

⁴² Mohammad Alsharif et al., "The Productivity of GCC Islamic and Conventional Banks after Basel III Announcement," *Journal of Islamic Accounting and Business Research* 10, no. 5 (2019): 770-92, <https://doi.org/10.1108/JIABR-04-2017-0050>.

⁴³ Rafik Harkati, Syed Musa Alhabshi, and Salina Kassim, "Does Capital Adequacy Ratio Influence Risk-Taking Behaviour of Conventional and Islamic Banks Differently? Empirical Evidence from Dual Banking System of Malaysia," *Journal of Islamic Accounting and Business*

(Mateev et al. 2021) ⁴⁴	√	—	13	Journal of Islamic Accounting and Business Research
(Alhammadi et al. 2020) ⁴⁵	—	√	13	Journal of Islamic Accounting and Business Research
(Zainudin et al. 2019) ⁴⁶	—	√	14	Journal of Risk and Financial Management
(Mahmood et al. 2018) ⁴⁷	√	—	15	Managerial Finance
(Alsharif 2021) ⁴⁸	√	—	15	Managerial Finance
(Abdul-Rahman et al. 2018) ⁴⁹	√	—	16	Pacific-Basin Finance Journal

Research 11, no. 9 (2020): 1989–2015, <https://doi.org/10.1108/JIABR-11-2019-0212>.

⁴⁴ Miroslav Mateev, Syed Moudud-Ul-Huq, and Ahmad Sahyouni, “Regulation, Banking Competition and Risk-Taking Behavior in the MENA Region: Policy Implications for Islamic Banks,” *Journal of Islamic Accounting and Business Research* 13, no. 2 (2021): 297–337, <https://doi.org/10.1108/JIABR-01-2021-0009>.

⁴⁵ Salah Alhammadi, Simon Archer and Mehmet Asutay, “Risk Management and Corporate Governance Failures in Islamic Banks: A Case Study,” *Journal of Islamic Accounting and Business Research* 11, no. 9 (2020): 1921–39, <https://doi.org/10.1108/JIABR-03-2020-0064>.

⁴⁶ Shazleena Mohamed Zainudin et al., “The good and bad news about the new liquidity rules of Basel III in Islamic banking of Malaysia,” *Journal of Risk and Financial Management* 12, no. 3 (2019): 120, <https://doi.org/10.1016/j.bir.2017.05.001>

⁴⁷ Haroon Mahmood, Christopher Gan, and Cuong Nguyen, “Maturity Transformation Risk Factors in Islamic Banking: Implication of Basel III Liquidity Regulations,” *Managerial Finance* 44, no. 6 (2018): 787–808, <https://doi.org/10.1108/MF-07-2017-0259>.

⁴⁸ Mohammad Alsharif, “Risk, Efficiency and Capital in a Dual Banking Industry: Evidence from GCC Banks,” *Managerial Finance* 47, no. 8 (2021): 1213–32, <https://doi.org/10.1108/MF-10-2020-0529>.

⁴⁹ Abdul-Rahman, Aisyah, Ahmad Azam Sulaiman, and Noor Latifah Hanim Mohd Said. “Does financing structure affects bank liquidity risk?” *Pacific-Basin Finance Journal* 52 (2018): 26–39.

(Louhichi et al. 2020) ⁵⁰	√	—	17	Research in International Business and Finance
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Standards Studies on the Basel III Regulation/IFSB and Islamic Banks

The analysis was conducted on ten publications (one of which was a review article), utilising a qualitative research methodology that utilised regulatory analysis to assess the influence of Basel III regulations on Islamic banking in the following ways: as an overview, the Basel III framework (BCBS June 2011)/IFSB-15 (December 2013) specifies the impact of capital regulations, while the Basel III LCR (BCBS January 2013) & Basel III NSFR (BCBS October 2013) /IFSB-12 (March 2012 & GN-6 (April 2015) focuses on the effect of liquidity risk. Table 3 contains all the pertinent main information, which is addressed in the following sections.

Table 3: Standards Studies

Authors	Standards (BCBS/IFSB)	Islamic bank factors (risk/contracts/model)
(Abdel Karim and Archer 2013) ⁵¹	This paper assessed the influence of Basel III on Islamic banking regulations.	No specific discussion on this aspect
(Ahmed 2015) ⁵²	Basel III LCR (BCBS January 2013) Basel III NSFR (BCBS October 2014) GN-16 (April 2015) &IFSB-12(March 2012)	The issues IB have in achieving Basel III liquidity rules are discussed.

⁵⁰ Louhichi, Awatef, Salma Louati, and Younes Boujelbene. "The regulations–risk taking nexus under competitive pressure: What about the islamic banking system?." *Research in International Business and Finance* 51 (2020): 101074.

⁵¹ See Footnote 36

⁵² See Footnote 39

(Sairally et al. 2016) ⁵³	Basel III framework (BCBS June 2011) IFSB-15 (December 2013)	AT1 Capital Instruments in the form of <i>Musharakah</i> Sukuk perpetual <i>Mudarabah</i> Sukuk
(Ashraf and Lahsasna 2017) ⁵⁴	Basel III framework (BCBS June 2011) IFSB-15 (December 2013)	Shari'ah non-compliance risk
(Engku et al. 2017) ⁵⁵	LCR (BCBS January 2013) NSFR (BCBS October 2014) GN-16 (April 2015) & IFSB-12 (March 2012)	Shari'ah-Compliant Instruments of HQLA
(Ozili and Outa 2017) ⁵⁶	Basel III framework (BCBS June 2011) IFSB-15 (December 2013)	LLP
(Mustafa et al. 2018) ⁵⁷	Basel III framework (BCBS June 2011) IFSB-15 (December 2013)	T2 Capital Instruments in the Form of <i>Murabahah</i> and <i>Ijārah</i> Şukuk
(Zainudin et al. 2019) ⁵⁸	LCR (BCBS January 2013) GN-16 (April 2015) & IFSB-12 (March 2012)	Deposits in IBs IA deposit HQLAs
(Alhammadi et al. 2020) ⁵⁹	LCR (BCBS January 2013) NSFR (BCBS October 2014)	Risk management

⁵³ See Footnote 30⁵⁴ See Footnote 37⁵⁵ See Footnote 29⁵⁶ See Footnote 33⁵⁷ See Footnote 31⁵⁸ See Footnote 46⁵⁹ See Footnote 45

	GN-16 (April 2015)	
	&IFSB-12(March 2012)	
(Lince	Basel III framework	<i>Murabaha</i> funding
Bulutoding	(BCBS June 2011)	
et al.	IFSB-15 (December	
2021) ⁶⁰	2013)	

Criteria for Regulatory Capital requirements under Basel III and IFSB-15: Analysis from the Shari’ah Perspective

Archer et al.⁶¹ stated that the IFSB has set up rules that show neither Basel II nor Basel III were written with IB in mind. Then, regulatory, and supervisory issues, as well as how and to what extent Basel III concepts and procedures can be used in the regulation and supervision of IBs, must be addressed. Incorporating Basel III in countries where IBs are in operation is more difficult because of the specifics of the Islamic (Shari’ah-compliant) modes of financing used by those institutions. Because the application of Basel III to IBs raises so many regulatory concerns, testimony from experts from many backgrounds will be particularly useful in dealing with them and contribute to both the regulatory and practical elements. Standards, for example, are analysed from both a content analysis and implementation perspective.

The parameters for regulatory capital instruments have been modified under Basel III. As a result, IBIs must contemplate issuing instruments that meet both Basel III objectives and Shari’ah criteria.⁶² Basel III increased the minimum capital levels to be maintained by banks and redefined the requirements for the instruments to be under Tier-1 (T1), such as Common Tier 1 Capital (CET1), Additional Tier-1 (AT1), and Tier-2 (T2) capital, which was published in 2010 and revised in 2011.⁶³ In response to Basel III regulatory requirements, the IFSB issued its Revised Capital Adequacy Standard for Institutions Offering Islamic Financial Services [Excluding Islamic Insurance (*Takaful*) Institutions and Islamic Collective Investment Schemes] – IFSB-15 – in December 2013. The standard provides guidance to

⁶⁰ See Footnote 38

⁶¹ See Footnote 36

⁶² See Footnote 31

⁶³ BCBS, “Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems - revised version June 2011,” accessed March 31, 2022, <https://www.bis.org/publ/bcbs189.htm>.

regulators and IBIs around the world on the achievement of high regulatory capital components and the issuance of Shari'ah-compliant capital instruments.⁶⁴

In the study of Mustafa et al.⁶⁵ the key features of T2 capital instruments under Basel III were discussed from the perspective of Shari'ah law. First and foremost, they compared the regulatory capital instruments for IBIs – specifically, the qualifying T2 capital instruments – as specified by Basel III and the IFSB-15. Under these two standards, one of the key criteria for classifying T2 capital instruments is to cover losses on a gone-concern basis under the former, and to issue T2 capital instruments in the form of *Murabahah* or *Wakalah* Sukuk, the underlying assets of which would be convertible into shares of common equity at the point of non-viability or insolvency under the latter. To put it another way, the most important Shari'ah issue about achieving the Basel III criteria is subordinating the instruments so that the ranking of CET1, AT1, and T2 is preserved, and that T2 instruments only sustain losses in the event of non-viability or gone-concern scenarios.

Sairally et al.⁶⁶ examined the Shari'ah-compliant criteria for AT1 Regulatory Capital under Basel III and IFSB-1. They evaluated Basel III's regulatory capital requirements and focused primarily on the qualifying AT1 capital instruments that IBIs can issue to satisfy both Shari'ah and Basel III standards. According to their discussion, the primary Shari'ah concern with meeting Basel III requirements is subordinating the instruments to maintain the ranking of CET1, AT1, and T2, and ensuring that CET1 and AT1 instruments bear losses in a going-concern scenario. In light of the Shari'ah issues surrounding regulatory capital instruments to comply with Basel III and Shari'ah requirements, the most appropriate Shari'ah contract for structuring AT1 instruments would be *Musharakah*. For IBIs, the *Musharakah*

⁶⁴ IFSB, *IFSB-15, Revised Capital Adequacy Standard for Institutions Offering Islamic Financial Services Excluding Islamic Insurance (Takāful) Institutions and Islamic Collective Investment Schemes*, (December 2013), accessed March 31, 2022, <https://www.ifsb.org/published.php>

⁶⁵ See Footnote 30

⁶⁶ Madaa Mustafa et al., "Additional Tier 1 Capital Instruments under Basel III: A Shari'ah Viewpoint," in *Arab Law Quarterly* 30, no. 2 (Brill Academic Publishers, 2016): 138-162. <https://doi.org/10.1163/15730255-12341314>.

contract would enable the capital raised for AT1 instruments to be utilised for general business purposes. They would also represent perpetual instruments, and they would be able to withstand losses in the event of a going concern.

In this systematic literature review, three theoretical studies examined the Islamic bank's capital allocation and Shari'ah non-compliance risk, the bank's credit risk with loan loss provisions, and the *Murabahah* model of Islamic financing based on document analysis, respectively. In order to quantify the Shari'ah risk taken by IBs and to better inform customers about the level of Shari'ah compliance, Ashraf and Lahsasna⁶⁷ envisioned the Shari'ah risk rating model in their paper, which consisted of 14 factors that record Shari'ah risk and are classified into five major categories: regulatory support, Shari'ah supervision quality, business structure, product mix, and treatment of capital adequacy ratio. This model is used to determine Islamic bank's degree of Shari'ah compliance. Users and the public in general can use this model to determine a bank's Shari'ah compliance score. This rating will foster healthy competition among Islamic banks to ensure that they adhere to Shari'ah laws and regulations. Additional study is necessary to extend the concept to a broader range of Islamic financial organisation.

Criteria for Regulatory Liquidity Requirements under Basel III and IFSB-15

In terms of enhancing capital requirements, Basel III introduced liquidity requirement ratios. To be specific, LCR was developed to ensure banks' short-term liquidity, and NSFR is being considered to increase banks' medium- and long-term resilience to liquidity shocks.

One prior research has examined issues and challenges of the implications of both LCR and NSFR for IBs, which was based on an examination of the relevant documents. To accomplish this, Ahmed⁶⁸ first outlines the fundamental Shari'ah concepts and products that IBs use on both the liabilities and assets sides of the balance sheet; then goes on to discuss the regulatory contexts in which these banks operate. Following an overview of the fundamental components of the Basel III liquidity requirements, three difficulties that IBs are anticipated to confront in achieving these criteria are discussed. To support these

⁶⁷ See Footnote 37

⁶⁸ See Footnote 39

findings, additional empirical investigations will be required, which will be based on the in-depth analysis of these two standards.

Zainudin et al.⁶⁹ focused on a bank's current LCR problems, as well as the current regulatory rules and operational challenges that come with implementing a new banking system. They examined the challenges of the LCR, including both the challenges of implementing the LCR and the challenges of sustaining the LCR in Islamic banks, as well as proposed solutions. Obtaining and maintaining specific categories of deposits that would assist in increasing the LCR has proven to be difficult for IBIs, particularly those classified as retail deposits. Furthermore, IBIs are heavily reliant on corporate depositors and financial institutions, which drive up the cost of doing business for the bank because they require a high rate of return on their deposits. This study lays the groundwork for a more in-depth study into how to control and price liquidity risk. It focuses mostly on the implementation and challenges of the LCR in the context of a single IB in Malaysia. Even though this study has some new information, the effects of the Basel III liquidity framework need to be investigated more. For future research, similar studies can be done at cross-country comparisons and different types of market competition. Following this, it could offer a more comprehensive view of how to use the LCR. As a result, it may provide researchers with new ideas about how to solve problems related to the banking system after Basel III.

Finally, two theoretical studies were done in compliance with Basel III and Islamic bank studies. Ali et al.⁷⁰ addressed the challenges that IFIs face while appraising Shari'ah-compliant HQLA through an analysis of existing projects. Whereas Alhammadi⁷¹ reported a case study, Arcapita, a Shari'ah-compliant Islamic investment bank, and emphasised the importance of reinforcing the Basel Committee's prudential standards in the various Basel III protocols. Both studies discovered that cash reserves are critical for efficient banking arrangements because they reduce banks' sensitivity to liquidity concerns generated by depositors' ability to withdraw funds, necessitating the development of stress-testing methodologies. Additionally, the studies were of the view that all parties should take the Basel III and IFSB attempts to address this issue seriously. The

⁶⁹ See Footnote 46

⁷⁰ See Footnote 29.

⁷¹ See Footnote 45

second study indicates that Basel III's additions to prudential standards are a beneficial development, particularly in liquidity risk management. According to the research, Arcapita's risk management practices prior to filing for Basel III, as well as subsequent enhancements, were designed to address these concerns.

Empirical Studies on the Basel III /IFSB Regulation and Islamic Banks

The influence of Basel III on Islamic banks is divided into two categories to determine its empirical impact: regulatory and financial ratio effect. The impact of Basel III New Capital Requirements, Basel III Liquidity Coverage Ratio, and Basel III Net Stable Financing Ratio on Islamic banks can all be categorised as part of the second category.

Empirical Studies on the Linkage of Basel III Regulatory System and Islamic Banks

According to Alam et al.⁷² the considerable impact of bank regulatory and supervisory systems linked with Basel III's pillars on IBs' performance is region dependent. They used a two-step Generalized Methods of Moments (GMM) technique to examine the linkages between regulatory variables and IB performance in Asia and the Gulf Cooperation Council (GCC) and discovered that it is positively significant with IB performance in the Asian countries but not in the GCC. Louhichi et al.⁷³ focus on three regulatory measures in the Middle East and Asia industry: capital requirements, activity restrictions, and official supervisory authorities. Based on ten years of imbalanced panel data from 123 Islamic and conventional banks operating in the jurisdictions, the researchers found that the adoption of Basel III poses a considerable regulatory issue since it ignores the unique characteristics of IB. As shown in a study by Alsharif et al.,⁷⁴ the Basel III treaty has harmed the productivity of GCC banks, with the effect being greater on Islamic banks.

⁷² See Footnote 32

⁷³ See footnote 50

⁷⁴ See Footnote 42

Empirical Studies on the Relationship between Basel III New Capital Requirements and Islamic Banks

There is a scarcity of empirical studies on the influence of new capital financial ratios on IBs' factors. Evidence from the Middle East and North Africa (MENA) region was presented by Ghosh⁷⁵ and Mateev et al.⁷⁶ The former looked at the growth of bank capital structure and its proximal factors using data from over 100 banks in 12 MENA countries from 2000 to 2012. One of their key findings was that the characteristics that influence book leverage are identical to those that influence market leverage. The common understanding that bank capital structure is solely a response to regulatory⁷⁷ needs is debunked by these findings. The later study uses an empirical framework based on panel fixed effects/random effects specification to test the hypothesis that regulatory capital requirements have a significant effect on financial stability of Islamic and conventional banks (CBs) in the MENA region, using both CAR⁷⁸ and Tier 1⁷⁹ as proxies for capital adequacy. It was concluded that the estimation results back up the idea that the CAR has no bearing on credit risk.⁸⁰ However, this study finds the opposite for CBs: an increase in minimum capital requirements⁸¹ is accompanied by an increase in a bank's risk level, which has a

⁷⁵ See Footnote 28

⁷⁶ See Footnote 44

⁷⁷ The Basel III CAR was used as a surrogate for regulatory requirements in the study. The CAR is derived by dividing risk-weighted assets by the sum of Tier 1 and Tier 2 capital (capital /risk weighted assets). And it's one of three new Basel III capital requirements.

⁷⁸ The CAR of a bank is calculated by dividing its capital by its RWS. Basel III requires this as the first CR.

⁷⁹ Tier 1 capital is separated into two tiers (Tier 1 and Tier 2) of banks, while Tier 2 capital is divided into two Tiers (Tier 1 and Tier 2) of Islamic banks (IBs) (Proxy for capital adequacy defined as the ratio of Tier 1 capital to RWS).

⁸⁰ The ratio of loan loss reserves to gross loans (LLR/GL) and the non-performing loans to gross loans (NPL/GL) ratio were used to assess credit risk in this study.

⁸¹ The Tier 1 capital requirement increased to 6% in Basel III in 2015, up from 4% in Basel II. The 6% includes 4.5 percent Common Equity Tier 1 capital and an additional 1.5 percent Tier 1 capital. A bank's tier 1 and tier 2. minimum CAR (including the capital conservation buffer) must be at least 10.5 percent of its risk-weighted assets RWA by 2020, according to Basel III.

detrimental influence on financial stability. The findings provide guidance to regulatory authorities concerned with enhancing the financial stability of the banking sector in the MENA area, advising them to tailor their policies according to the level of concentration in the banking market.

Alsharif⁸² offered evidence from the Gulf Cooperation Council (GCC) market. From 2005 to 2018, the study used the simultaneous-equation modelling technique with a three-stage least square estimator on 60 listed GCC commercial banks. The GCC Islamic banks are more capitalised and liquid than the conventional GCC banks, however they are riskier and less efficient. Furthermore, a higher amount of capital minimises both types of GCC banks' insolvency and credit risk. The report also claims that the risk-taking behaviour in Islamic banks is spurred by the shareholders' incentives because of Islamic banking's risk-sharing nature.

The lone study on a single economy, Harkati et al.⁸³ provided national evidence. They investigated the influence of Basel III's CAR on Islamic and conventional commercial banks' risk-taking behaviour in Malaysia. They also looked at the idea that CAR has the same effect on IB and CB management risk-taking behaviour. A panel data of 43 commercial banks, 17 IBs and 26 CBs, was evaluated using both dynamic ordinary least squares and generalised method of moments approaches for the period 2011–2017. The findings of this study backed up the favourable impact of the CAR as outlined in the Basel III agreement on both types of banks' risk-taking behaviour. CBs appeared to be substantially better situated in terms of capital buffers. The risk-taking behaviour of IBs and CBs managers is found to be equivalent under the influence of CAR.

Empirical Studies on the Impact of Basel III Liquidity Ratios Requirement on Islamic Banks

Five empirical studies analyse the role of Basel III liquidity requirements⁸⁴ on IBs.

⁸² See Footnote 48

⁸³ See Footnote 43

⁸⁴ The LCR and the NSFR were implemented as part of Basel III. The LCR mandates that banks maintain sufficient liquid assets to withstand a 30-day financing squeeze. And this regulation, which started at 60% of the stated criteria in 2015, is expected to expand by 10% per year until it

Ashraf et al.⁸⁵ and Mahmood et al.⁸⁶ provided evidence from a global perspective. Between 2000 and 2013, Ashraf et al. estimated the modified NSFR of 136 IBs from 30 countries and investigated the potential influence of the ratio's requirements on IBs' financial stability. The empirical data imply that during the sample period, the modified NSFR had a favourable impact on the financial stability of the Islamic institutions. A study was undertaken by Mahmood et al. which uses a two-step system GMM estimation approach on an imbalanced panel data using an annual data set of 55 full-fledged IBs from 11 different countries from 2006 to 2015. Bank size, capital, less-risky liquid assets, risky liquid assets are all major bank-specific determinants in predicting maturity transformation risk⁸⁷, according to the empirical findings.

BCBS Members commit to adhere to the Committee's schedule and to establish and apply standards in their respective jurisdictions.⁸⁸ However, there have been very few studies undertaken by those members and observers to date. Islamic and conventional banking systems are intertwined among them.⁸⁹

reaches 100% in 2019. While the NSFR mandates that banks maintain stable funding levels above the required level for a year of prolonged hardship. The NSFR was intended to help banks deal with liquidity difficulties, and it will go live in 2018. Basel III mandates the NSFR to be at least 100% on a continuous basis.

⁸⁵ See Footnote 41

⁸⁶ See Footnote 47

⁸⁷ NSFR is the proxy of Maturity transformation risk, is defined as the ratio of available amount of stable funding to required amount of stable funding.

⁸⁸ The Basel Committee is made up of 45 members representing 28 different countries and 4 observers with 3 countries. Accessed on April 6, 2022, <https://www.bis.org/baselframework/background.htm>.

⁸⁹ There are 6 jurisdictions/ 10 institutions as membership countries and two jurisdictions/ 2 institutions as observers in this case represented on the BCBS. 6 membership- jurisdictions/ 10 institutions are : Germany/Deutsche Bundesbank & Federal Financial Supervisory Authority (BaFin), Indonesia/ Bank Indonesia & Indonesia Financial Services Authority, Saudi Arabia/Saudi Central Bank ,Singapore/ Monetary Authority of Singapore, Turkey/Central Bank of the Republic of Türkiye and Banking Regulation and Supervision Agency, United Kingdom/ Bank of England and Prudential Regulation Authority; 2

In this systematic studies, empirical information is only accessible for Malaysia, Indonesia, and Turkey. In the case of Malaysia and Indonesia, Abdul-Rahman et al.⁹⁰ looked at the impact of equity-based financing (EBF) on IB liquidity risk (LR). The traditional and Basel III liquidity measurements are used to compare the EBF-LR relationship. The findings show that EBF boosts banks' LR when employing the NSFR. The higher the EBF, the more consistent funding is necessary; thus, lower NSFR raises the LR progressively. If IBs frequently employ short-term deposits to support long-term loans, EBF's exposure to LR may expand. However, EBF has no effect on the standard LR measure, signalling that a pass-through mechanism exists, implying that investment account holders absorb losses in the event of a default. Using the traditional measure, this study provides empirical evidence of the profit loss-sharing pass-through mechanism in Islamic banks, as well as validating the maturity transformation theory using the Basel III LR measure.

Also, Abdul-Rahman et al.⁹¹ targeted the Malaysian market in 2017 and 2018 respectively.⁹² They looked at financing structure and bank liquidity risk. In Malaysia, they contrasted Islamic and conventional banks' findings. Their findings revealed that real estate financing and the stability of short-term financing structures for IBs are positively associated to both LR metrics (LCR & NSFR). For IBs, this means expanding the volume of real estate loans and a stable short-term financing structure may create liquidity risks. Contrary to popular belief, real estate financing does not affect banks' liquidity issues, but a stable short-term financing structure and increasing finance concentration can.

observers - jurisdictions/ 2 institutions are: Malaysia/Central Bank of Malaysia, United Arab Emirates/Central Bank of the United Arab Emirates. Accessed on April 2, 2022, <https://www.bis.org/bcbs/membership.htm>.

⁹⁰ See Footnote 34

⁹¹ See Footnote 40

⁹² Aisyah Abdul-Rahman, Ahmad Azam Sulaiman and Noor Latifah Hanim Mohd Said, "Does Financing Structure Affects Bank Liquidity Risk?" *Pacific-Basin Finance Journal*, no. 52 (December 2018): 26-39, <https://doi.org/10.1016/j.pacfin.2017.04.004>.

Only the liquidity risk proxied by LCR is accessible for Turkey. Dolgun et al.⁹³ used Turkey as an example of how liquidity regulations affect IB. To mitigate some risks, it suggests an alternate approach based on capital market regulations for Islamic banks. Relating to cash and earnings, liquidity coverage ratio and capital adequacy ratio of Turkish banks. It was found that the Islamic banks have too much cash. As regards liquidity ratio, the study offers Islamic banks to put a ceiling on the liquidity coverage ratio which will force the banks to handle their assets responsibly and promote real-world financial intermediation. Even if cash withdrawals from investment accounts on Islamic banks' balance sheets are included in the short-term projection, they should not be included in the liquidity coverage ratio denominator, according to the authors.

Critical Analysis of the Above Empirical Studies

Islamic banks are discouraged from providing risk-sharing or partnership-based investments and services to their customers and depositors under the existing Basel criteria and IFSB norms. The risk profile of a typical IB and a CB must be considered in an effective legal and regulatory framework and supervisory control. The studies cited above have aided the present research. Although it is widely acknowledged that without proper regulatory participation, it will be impossible to regulate and minimise the risks associated with IB financial intermediation, the industry's growth and stability must be balanced. It would be beneficial to have regulatory involvement that achieves this balance.

The findings highlight important policy implications for regulators and market participants in the context of risk management, as well as the necessity for a different framework for conventional and Islamic banking institutions. The above-mentioned empirical research that explored the influence of Basel III on IB is summarised in Table 4.

Table 4: Empirical Studies

⁹³ See Footnote 35

Authors	Basel III/IFSB (regulations)	Islamic bank factors	Results
(Ashraf et al 2016) ⁹⁴	NSFR	Z-score	The results show that the IFSB's NSFR metric for IBs had a beneficial impact on their financial stability during the study period.
(Abdul-Rahman et al. 2017) ⁹⁵	CAR, LCR, NSFR	FS in IBs	In IBs, the FS has a substantial impact on either LCR or NSFR risk exposures.
Ghosh 2018 ⁹⁶	CRAR	NPL/GL	A noticeable decline in bank capital appears to have occurred due to the financial crises.
(Mahmood et al. 2018) ⁹⁷	GN-6 (April 2015) NSFR	Credit risk	The results show that bank capital and risky liquid assets affect risk.
(Abdul-Rahman et al. 2018) ⁹⁸	LCR &NSFR (IFSB, 2015).	Credit risk	According to the findings, increased real estate finance and IBs' short-term FS stability may exacerbate liquidity difficulties. They advise regulators and market participants to create different liquidity risk management frameworks for CB and IB systems.

⁹⁴ See Footnote 41

⁹⁵ See Footnote 40

⁹⁶ See Footnote 28

⁹⁷ See Footnote 47

⁹⁸ See Footnote 49

(Alam et al. 2019) ⁹⁹	Capital requirements	ROA and Non-interest Net Revenue	Regulatory variables are linked to better performance in Asia but not in the GCC.
(Nurul Fatihah 2019) ¹⁰⁰	NSFR	ROA, Equity, Credit Risk	The relationship between NSFR and NPL and ROA are significant. Increasing the NSFR followed by increase in ROA and reductions in risk.
(Alsharif et al. 2019) ¹⁰¹	New Basel III announcement.	Productivity index	The results demonstrate that the Basel III accords has harmed the productivity of GCC banks, with the influence being greater on IBs.
(Harkati et al. 2020) ¹⁰²	CAR	Z-score	The findings support CAR's impact on both types of banks' risk-taking behaviour.
(Louhichi et al. 2020) ¹⁰³	Capital requirements	Z-score & NPL	The negative impact of capital regulation on bank risk taking
(Dolgun et al. 2020) ¹⁰⁴	(IFSB, 2015). (IFSB, 2012 IFSB-15	Bank net profit	Reflect the positive links between net profit and LCR. The amount of cash held by IB is more than it should be

⁹⁹ See Footnote 32

¹⁰⁰ See Footnote 34

¹⁰¹ See Footnote 42

¹⁰² See Footnote 43

¹⁰³ See Footnote 50

¹⁰⁴ See Footnote 35

LCR			
(Alsharif 2021) ¹⁰⁵	Capital regulation	Z-score, LLR, NPL, LLP	+ CR vs z-score with significance. - CR vs LLRGL with significance. - CR vs NPLGL with significance. -CR vs LLPGL with significance.
(Mateev et al. 2022) ¹⁰⁶	T1	LLR/GL NPL/GL Log Z	CAR has no significant impact on credit risk of IBs, in MENA region.

As seen in Table 4, most of this research had certain limitations, indicating the need for greater empirical analysis. Firstly, empirical research on the subject of Basel III and Islamic bank risk is essential because it can help regulators and other authorities in different jurisdictions to improve the present Basel III regulating practises. Not only is empirical evidence from research on Basel III regulation in IB scarce, there are also few studies that investigate the influence of Basel III on Islamic bank risk. Nonetheless, as shown in Table 4, 13 out of 23 literatures suggested that some empirical studies have been done to assess the impact of Basel III criteria on the features of Islamic banks.

Aside from the gaps in research, the inquiry of whether member countries perform superior evidence than non-members are mainly absent. Out of the eight member countries: Saudi Arabia, Indonesia, the United Kingdom, Germany, Singapore, Turkey, and observers the United Arab Emirates and Malaysia, only Malaysia has data on the availability of total capital regulation ratio.

Moreover, there is evidence from three new regulatory capital requirements under Basel III, focusing on the qualifying total capital ratio with buffer, Tier 1 ratio, and common equity Tier 1 instruments that the IFSB can be issued to meet both Shari'ah and Basel III requirements. In this regard, the Shari'ah issues, particularly those

¹⁰⁵ See Footnote 48

¹⁰⁶ See Footnote 44

relating to the feature of subordination that arises in equity-based contracts when these capital instruments are structured, need to be examined more. Finally, there is a dearth of worldwide and national studies on capital requirements based on empirical facts.

RECOMMENDATIONS FOR FUTURE RESEARCH

Several aspects and thoughts should be noticed following a comprehensive reading of those standards and literature.

Basel III standards establishing new capital and liquidity requirements for international banks have been announced, and the IFSB has produced updated standards/guidance specifically for Islamic banks. However, until now, no research has been undertaken on the implementation of the most recent publication, Revised Capital Adequacy Standard for Institutions Offering Islamic Financial Services [Banking Segment] [IFSB-23 (December 2021)].

Furthermore, previous research is cited to justify non-empirical studies. Additional tier 1 and tier 2 capital is submitted to a critical examination in accordance with Shari'ah. They do, however, have some limits. Basel III/IFSB established new capital standards with the objective of improving capital quality. To address the financial system's vulnerabilities exposed by the GFC, the IFSB connects to Basel III by establishing two universally applicable buffers: the capital conservation buffer and the countercyclical capital buffer. Nevertheless, there is no Shari'ah-compliant research on these buffers, Tier 1 capital, and common equity Tier 1 capital. Thus, these are recommended for future research.

Additionally, empirical research on the impact of Basel III on the risk of Islamic banks is sparse. Basel III's major objective is to strengthen the banking industry's regulatory, supervisory, and risk management frameworks. However, only a few research have examined it. For example: the following are the four areas for future research on the impact of Basel III on the risk of Islamic banks:

- (i) The overall impact of Basel III's new capital requirements on Islamic bank risk using four different proxies of regulation capital.
- (ii) The global impact of Basel III's increased capital requirement on Islamic bank risk, using a variety of metrics to explore the implications from several perspectives, including credit, liquidity, operational, and market risk, Shari'ah non-compliance risk etc.

- (iii) To examine the influence of various jurisdictions.
- (iv) To compare the impact of Islamic and conventional banks.

CONCLUSION

This article analyses and assesses existing legislation and literature on the Basel accord and its impact on IB. Review from the regulatory viewpoints, implications, and issues, along with recommendations for more research based on standards and published literature have been provided. This research considered all Basel III and IFSB-amended criteria that apply to Islamic financial institutions. Then, using a systematic review procedure, 23 papers published between 2013 and 2022 were analysed.

The documents analysis method has shown several findings. As the global standard-setter for bank prudential regulation, the BCBS enacted new laws and revised old ones to address global financial crisis inadequacies. The Basel III Framework combines bank regulation and oversight norms. As the organisation responsible for creating standards for the Islamic banking sector, the IFSB adopted the Basel III regulatory framework after modifying it to meet Islamic banks' unique nature and asset-liability structure. The IFSB has produced every standard since 2005, including the most recent one, Revised Capital Adequacy Standard for Institutions Offering Islamic Financial Services [Banking Segment] [IFSB-23 (December 2021)].

To analyse the theoretical studies undertaken on the study of these IFSB regulations, a systematic evaluation of the studies available in the WOS database was undertaken and it was found that most of them were conducted from distinct vantage points. The Basel III tier 1 capital requirement, the Common equity tier 1 capital requirement, the overall capital need, and the related instruments from a Shari'ah perspective must be explored further. Moreover, no research has been conducted on the implementation of the most recent publication, [IFSB-23 (December 2021)].

Prior research has demonstrated how the Basel III standard differs between BCBS and IFSB due to the nature, business model, and risk profile of Islamic banks in practice. From the empirical literature, it is suggested that Basel III has a major impact on the Islamic banking sector's financial risk. It is recommended that future research is undertaken to investigate current Islamic banking trends and how Basel III could accord with the Shari'ah standards.