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# Liquidity Risk Management in Islamic and Conventional Banking: A Comparative Study

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## Abstract

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This study examines liquidity risk management in Islamic and conventional banking using a systematic literature review. Liquidity risk is a critical driver of bank soundness, as even solvent institutions can fail when they cannot meet short term obligations at reasonable cost. Post crisis reforms, especially Basel III through the Liquidity Coverage Ratio and Net Stable Funding Ratio, have reshaped banks' liquidity positions and funding structures, creating a trade off between short term profitability and long term resilience. The review shows that Islamic banks face additional challenges due to Sharia compliant contracts, limited secondary markets, and underdeveloped Islamic interbank and lender of last resort facilities, making liquidity risk more sensitive to capital adequacy, asset quality, and balance sheet composition than in conventional banks. The findings highlight the central role of regulatory design and governance, including Sharīah governance, in shaping liquidity strategies and risk taking behavior. Overall, the evidence indicates that Islamic banks tend to hold higher liquidity buffers and adopt more conservative postures, suggesting that "one size fits all" regulation is suboptimal and that liquidity frameworks should be tailored to the distinct contractual structures, governance mechanisms, and market access conditions of Islamic and conventional banks.

## 1. Introduction

Liquidity risk management is a core pillar of banking soundness because even a solvent bank can fail if it cannot meet its short term obligations at reasonable cost. Post crisis regulatory reforms such as Basel III have tightened liquidity standards through instruments like the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), pushing banks to hold more high quality liquid assets and improve funding profiles. Empirical evidence shows that liquidity risk has significant implications for bank profitability and stability, especially in environments of heightened regulatory pressure and market volatility (Golubeva et al., 2019; Huong et al., 2021; Hacini et al., 2021).

For Islamic banks, liquidity risk management is even more complex because of Sharia principles that prohibit interest, speculative transactions, and conventional money-market instruments. Their balance sheets are dominated by asset backed and profit and loss sharing contracts, while the range of Sharia compliant liquidity instruments and secondary markets remains relatively limited in many jurisdictions. Prior studies highlight structural challenges such as maturity mismatches, underdeveloped Islamic interbank markets, and the absence or limited role of Sharia compliant lenders of last resort, all of which can intensify liquidity pressures (Rizkiah, 2018; Anis & Hamdi, 2022).

Comparative research suggests that Islamic and conventional banks exhibit different liquidity risk profiles and determinants, reflecting their distinct business models and funding structures. Panel evidence from emerging markets indicates that bank specific factors such as capital adequacy, profitability, and asset quality shape liquidity risk differently across the two systems, while macroeconomic conditions like GDP growth and inflation often play a secondary role (Abdul-Rahman et al., 2018; Hamdi & Herianingrum, 2022). At the same time, cross system studies find that the sensitivity of liquidity risk to credit risk and competition dynamics may diverge between Islamic and conventional banks, underscoring the need for tailored risk management and regulatory approaches (Ghenimi et al., 2021).

Despite this growing literature, there remains a limited number of studies that undertake a systematic, side by side comparison of liquidity risk management practices covering instruments, governance mechanisms, and regulatory responses between Islamic and conventional banks over recent periods marked by heightened uncertainty, including the COVID-19 pandemic. Existing works often focus either on a single banking system, on profitability outcomes, or on specific determinants of liquidity risk rather than on the holistic management framework (Golubeva et al., 2019; Hamdi & Herianingrum, 2022). Therefore, this study conducts a comparative analysis of liquidity risk management in Islamic and conventional banks to clarify how both systems design and implement liquidity strategies, how effective these strategies are under stress, and what lessons can be drawn for regulators and practitioners seeking to strengthen financial stability in dual banking systems.

## 2. Literature Review

Empirical research on liquidity regulation after the global financial crisis shows that stricter standards have reshaped banks' liquidity positions, funding structures, and profitability. Studies on Basel III implementation report that requirements such as the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) may reduce profit efficiency in the short run, but strengthen banks' resilience by constraining excessive maturity transformation and dependence on unstable funding (Mashamba, 2018; Le et al., 2020; Papadamou et al., 2021). These findings suggest that the impact of liquidity regulation on performance is heterogeneous across jurisdictions and business models, depending on how banks adjust their asset liability profiles and pass higher funding costs to borrowers.

Within Islamic banking, the literature highlights that Sharia compliant contracts and the limited depth of Islamic money and capital markets create distinctive liquidity risk exposures. Evidence from a full fledged Islamic banking system in Sudan shows that bank specific characteristics such as size, investment, and profitability significantly affect liquidity risk, with portfolios skewed toward short-term sukuk due to the lack of conventional hedging tools (Abdo & Onour, 2020). In the Indonesian context, capital adequacy and asset quality are identified as key determinants of liquidity risk in Islamic banks, indicating that weak capitalization and deteriorating credit quality can rapidly translate into liquidity pressures (Irawati & Puspitasari, 2019). Other contributions emphasize the need to recalibrate Basel III to Islamic balance sheets: one strand proposes specific designs for the LCR that recognize the structure of Islamic assets and liabilities, while another warns that imposing a uniform maximum liquidity ratio may distort incentives and constrain financing to the real sector if Islamic banks are forced to hold excessive low yield liquid instruments (Dolgun et al., 2019, 2020).

Regulatory and governance-focused studies further underline that effective liquidity risk management in Islamic banks depends on the surrounding institutional architecture. An analysis of Malaysia's regulatory framework shows how central bank guidelines, Sharīʿah governance arrangements, and Islamic liquidity facilities jointly shape banks' liquidity strategies and compliance costs (Rashid et al., 2018). At the same time, corporate governance and Sharīʿah governance structures have been found to influence risk taking and liquidity creation, with board and Sharīʿah supervisory board characteristics affecting how aggressively Islamic banks transform short-term liabilities into longer-term assets (Nomran et al., 2018; Safiullah & Shamsuddin, 2018). These results indicate that liquidity risk management in Islamic institutions cannot be separated from broader governance quality and the design of Sharīʿah oversight mechanisms.

Comparative studies between Islamic and conventional banks add an important cross system perspective. Evidence from Pakistan, Malaysia, and Indonesia suggests that liquidity risk management significantly affects profitability in both banking systems, but Islamic banks tend to hold higher liquidity buffers and adopt more conservative liquidity positions, partly reflecting their limited access to secondary markets (Yaqoob & Khalid, 2018). Cross country analysis of funding liquidity risk in 18 banking systems shows that lower funding liquidity risk encourages greater risk taking in both Islamic and conventional banks, although the effect is weaker for Islamic banks, implying that their business models and regulatory constraints temper the liquidity risk taking channel (Smaoui et al., 2020). Recent work on dual banking systems in the MENA region also finds that Basel III liquidity rules affect liquidity creation and funding structures differently for Islamic and conventional institutions, reinforcing the argument that prudential requirements and liquidity facilities need to be tailored to the contractual features and market realities of each banking segment (Alaoui Mdaghri & Oubdi, 2022; Dolgun et al., 2020). Taken together, these studies provide a strong basis for a comparative examination of how Islamic and conventional banks design and implement liquidity risk management frameworks under evolving regulatory and market conditions.

## 3. Methods

This study adopts a systematic literature review (SLR) approach to provide a transparent, structured, and replicable synthesis of existing research on liquidity risk management in Islamic and conventional banking. The SLR design enables a comprehensive examination of how liquidity risk is defined, measured, and managed, what instruments, governance mechanisms, and regulatory tools are employed, and how determinants and consequences of liquidity risk differ across the two banking systems. The review process follows several core stages, including the formulation of research questions, the development of a search strategy, the screening and selection of relevant studies, the extraction of key data, and the synthesis and analysis of the evidence base.

Data for the review are collected from major academic databases such as Scopus, Web of Science, ScienceDirect, Emerald Insight, Wiley Online Library, and Google Scholar. The search strategy relies on combinations of keywords and Boolean operators applied to titles, abstracts, and keyword fields. Examples of search terms include “liquidity risk” and “banking”, “liquidity risk management” and “Islamic banks”, “liquidity risk” and “conventional banks”, “Basel III” and “liquidity coverage ratio” or “net stable funding ratio”, “Islamic banking” and “liquidity instruments” or “interbank market”, and “comparative”, “Islamic and conventional banks”, and “liquidity”. In addition to database searches, backward and forward citation tracking is used to identify further relevant studies from the reference lists of key articles.

The selection of studies is guided by explicit inclusion and exclusion criteria. Studies are included when they focus on banks as the main unit of analysis, examine liquidity risk, liquidity creation, liquidity regulation, or liquidity management practices, and offer empirical, conceptual, or regulatory insights into the determinants, measurement, or management of liquidity risk. Only English language studies available in full text are considered. Studies are excluded when they do not relate to the banking sector, when they discuss only market liquidity in securities or foreign exchange markets without reference to banks’ balance sheet liquidity, or when they provide purely descriptive commentary without substantive discussion of liquidity risk, instruments, or governance. Screening is conducted in two main steps: an initial review of titles and abstracts to remove clearly irrelevant records, followed by a full text assessment of the remaining studies against the predefined criteria. Duplicate records obtained from multiple databases are identified and removed, and the final set of studies is organized by banking system, methodological approach, and thematic focus.

For each selected study, a structured data extraction template is used to collect information on authors and publication outlet, country or region and type of banking system, research objectives, measures or proxies of liquidity risk, key determinants and outcomes, descriptions of liquidity instruments, regulatory frameworks and governance mechanisms, and any comparative findings between Islamic and conventional banks. This information is coded into categories such as regulatory factors, bank-specific characteristics, governance features, market structure, and comparative outcomes. The analysis combines descriptive synthesis, which maps the distribution of studies by banking system, geography, and method, with qualitative content analysis, which identifies recurring themes and patterns related to conceptualization and measurement of liquidity risk, the role of Basel III and other regulations, the implications of Sharia principles, and the influence of governance and institutional frameworks. Where possible, similarities and differences in determinants, instruments, and outcomes are compared across Islamic and conventional banks to draw integrated conclusions about the design and effectiveness of liquidity risk management frameworks in dual banking environments. Throughout the process, search strings, databases, and selection criteria are documented to enhance transparency and allow replication or future updates of the review.

## 4. Results and Discussion

The systematic review reveals that liquidity risk management has multidimensional effects on bank performance, stability, and business models in both Islamic and conventional banking. Across the conventional banking literature, stricter post crisis regulations such as the LCR and NSFR are consistently shown to reshape banks' liquidity positions and funding structures. Studies report that tighter liquidity requirements may reduce profit efficiency in the short run, but strengthen resilience by limiting excessive maturity transformation and dependence on unstable funding sources (Mashamba, 2018; Le et al., 2020; Papadamou et al., 2021). These findings align with broader evidence that liquidity risk has significant implications for bank profitability and stability, especially under heightened regulatory pressure and market volatility (Golubeva et al., 2019; Huong et al., 2021; Hacini et al., 2021). Taken together, the results suggest that liquidity regulation imposes a trade off between short-term profitability and long term soundness, and that the magnitude of this trade off depends on banks' ability to adjust their asset liability profiles and pricing strategies.

For Islamic banks, the SLR confirms that liquidity risk management is structurally more complex due to Sharia principles that prohibit interest and conventional money market instruments. Evidence from full fledged Islamic banking systems shows that bank specific characteristics such as size, investment structure, and profitability significantly shape liquidity risk, with portfolios often skewed toward short-term sukuk in the absence of conventional hedging tools (Abdo & Onour, 2020). Studies in Indonesia similarly indicate that capital adequacy and asset quality are key determinants of liquidity risk, and that weak capitalization or deteriorating credit quality can rapidly translate into liquidity pressures (Irawati & Puspitasari, 2019). These results are consistent with earlier findings that Islamic banks face structural challenges such as maturity mismatches, underdeveloped Islamic interbank markets, and limited Sharia compliant lender of last resort facilities, all of which intensify liquidity vulnerabilities (Rizkiah, 2018; Anis & Hamdi, 2022).

The review also highlights an important regulatory design issue: the need to adapt Basel III liquidity standards to the specific balance sheet structure of Islamic banks. One strand of the literature proposes tailored LCR designs that better reflect the composition of Islamic assets and liabilities, while another warns that imposing a uniform maximum liquidity ratio may distort incentives and constrain financing to the real sector if Islamic banks are forced to hold excessive low-yield liquid instruments (Dolgun et al., 2019, 2020). These arguments converge with broader evidence that the impact of liquidity regulation on performance is heterogeneous across banking models and jurisdictions (Mashamba, 2018; Le et al., 2020; Papadamou et al., 2021), reinforcing the case for a differentiated prudential framework in dual banking systems.

A second major theme concerns the role of institutional architecture and governance in shaping liquidity risk. The review shows that effective liquidity risk management in Islamic banks depends not only on instruments and regulations, but also on the broader regulatory and Sharīʿah governance frameworks within which banks operate. Analysis of the Malaysian context demonstrates how central bank guidelines, Sharīʿah governance arrangements, and Islamic liquidity facilities jointly influence liquidity strategies and compliance costs (Rashid et al., 2018). At the micro level, corporate governance and Sharīʿah governance structures are found to affect risk-taking and liquidity creation, with board and Sharīʿah supervisory board characteristics influencing how aggressively Islamic banks transform short-term liabilities into longer-term assets (Nomran et al., 2018; Safiullah & Shamsuddin, 2018). These findings complement cross system evidence that bank-specific factors such as capital adequacy, profitability, and asset quality are central determinants of liquidity risk, and that their effects differ between Islamic and conventional banks (Abdul-Rahman et al., 2018; Hamdi & Herianingrum, 2022). Overall, the results indicate that liquidity risk management cannot be separated from broader governance quality and institutional design.

The comparative evidence between Islamic and conventional banks forms the third core finding of the review. Studies covering Pakistan, Malaysia, and Indonesia report that liquidity risk management significantly affects profitability in both systems, but Islamic banks tend to hold higher liquidity buffers and adopt more conservative liquidity positions, reflecting more limited secondary markets and fewer liquidity instruments (Yaqoob & Khalid, 2018). Cross country analysis of funding liquidity risk in 18 banking systems further shows that lower funding liquidity risk encourages greater risk-taking in both Islamic and conventional banks, although the effect is weaker for Islamic banks, suggesting that their business models and regulatory constraints temper the liquidity risk taking channel (Smaoui et al., 2020). Evidence from dual banking systems in the MENA region indicates that Basel III liquidity rules affect liquidity creation and funding structures differently across the two systems, again pointing to the need for prudential requirements and liquidity facilities that are tailored to the contractual features and market realities of each segment (Dolgun et al., 2020; Alaoui Mdaghri & Oubdi, 2022).

Synthesizing these strands, the SLR shows that liquidity risk in conventional banks is primarily driven by regulatory constraints and funding structure, whereas in Islamic banks it is additionally shaped by Sharia compliant contract design, market depth, and Sharīʿah governance. The existing literature already recognizes that liquidity risk is central to profitability and stability (Golubeva et al., 2019; Huong et al., 2021; Hacini et al., 2021), but the comparative studies reviewed here reveal that Islamic and conventional banks respond differently to the same regulatory shocks and market conditions (Yaqoob & Khalid, 2018; Smaoui et al., 2020; Alaoui Mdaghri & Oubdi, 2022). This implies that "one size fits all" regulatory approaches may be sub-optimal in dual banking systems. For regulators and practitioners, the main implication is that liquidity risk management frameworks should integrate bank-specific determinants, governance structures, and contractual features, while ensuring that Islamic banks have access to a sufficiently deep set of Sharia compliant liquidity instruments and facilities. At the same time, the identified gaps such as the limited number of truly holistic, side by side comparisons of instruments, governance, and regulatory responses highlight the need for further empirical work that jointly evaluates how Islamic and conventional banks design and implement liquidity strategies under conditions of stress and structural change.

## 5. Conclusion

This study concludes that liquidity risk management plays a pivotal and multidimensional role in shaping the performance, resilience, and strategic behavior of both Islamic and conventional banks. In conventional banking, stricter post crisis regulations such as the LCR and NSFR improve stability by constraining excessive maturity transformation and dependence on volatile funding, even though they may temporarily dampen profitability. In Islamic banking, liquidity risk is further complicated by Sharia compliant contracts, limited liquidity instruments, and underdeveloped Islamic money and interbank markets, making banks more vulnerable to structural mismatches and market frictions. The review also underscores that liquidity outcomes are strongly influenced by bank specific factors such as capital adequacy, asset quality, and profitability as well as governance and institutional arrangements, particularly Sharīʿah governance in Islamic banks.

At the same time, the comparative evidence shows that Islamic and conventional banks do not respond in the same way to regulatory and market pressures. Islamic banks generally maintain higher liquidity buffers and adopt more conservative liquidity postures, while their risk taking response to improved funding liquidity is more muted due to contractual and regulatory constraints. These differences suggest that uniform, "one size fits all" liquidity regulations may be sub optimal in dual banking systems. Therefore, policymakers and regulators should design prudential frameworks that recognize the distinctive balance sheet structures, governance mechanisms, and market access conditions of Islamic and conventional banks, while expanding the range and depth of Sharia compliant liquidity instruments and facilities. Future research is needed to develop more holistic, side by-side empirical assessments of instruments, governance structures, and regulatory responses, particularly under stress conditions such as financial crises or pandemics, to better inform the design of robust and context sensitive liquidity risk management frameworks.

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