



Liquidity Risk Management through Capital Increase Policies: A Future Perspective in Iraqi Islamic Banks

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Abstract: This study aims to explore how banks manage liquidity risks due to their impact on financial stability, specifically through the policy of capital increase, and to analyse the effect of such increases on the stability of banks. The sample consisted of a group of banks listed on the Iraq Stock Exchange from 2018 to 2023. An inductive financial statement analysis approach was used to determine whether banks succeeded in managing liquidity risks through capital increases. The study reached several key findings. There is a positive relationship between liquidity risks and capital increases, indicating that when banks increase their capital, they tend to increase the loans granted, which may lead to significant financial crises, pushing them to borrow from other sources. It was observed that increasing capital did not reduce liquidity risks, and banks did not succeed in managing these risks effectively. This also points to weaknesses in risk management systems, internal controls, and non-compliance with regulations issued by the Central Bank of Iraq.

Keywords: Capital; Capital Increase; Liquidity; Liquidity Risks

1. Introduction

Liquidity risk is one of the most prominent challenges facing Islamic banks, as it significantly affects their ability to meet their financial obligations. With Sharia restrictions on financial transactions, these banks face additional liquidity management challenges compared to conventional banks. Capital appreciation is an effective policy that can enhance banks' ability to cope with these risks. By raising capital, banks can improve their financial position and provide additional resources to meet emergency liquidity needs. This policy helps reduce dependence on external financing and achieve greater stability in banking operations. This study aims to analyse the role of capital raising policies in improving liquidity risk management in Islamic banks.

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2. Search Problem

The problem arises in the search for the relationship between liquidity risk and capital increase in banks listed on the Iraq Stock Exchange. How do banks manage liquidity risk by raising capital, does raising capital effectively reduce liquidity risk?

3. Research Objectives

1. Study the impact of capital increases on improving or exacerbating liquidity risks in Islamic banks.
2. Evaluate the effectiveness of the policies applied by Islamic banks to manage liquidity risk through capital increases.
4. Study the impact of capital increases on the ability of Islamic banks to increase lending without affecting liquidity stability.
5. Study the factors that contribute to improving or worsening liquidity after capital increase, such as effective supervision and compliance with Central Bank requirements.
6. Comparing the performance of Islamic banks that have increased their capital to meet liquidity risks with the performance of banks that have not done so.

4. Research Hypotheses

H0-There is no significant relationship between liquidity risk and capital appreciation.

H1-There is a significant relationship between liquidity risk and capital appreciation.

5. Importance of Research

This research is essential for improving risk management strategies in Islamic banks, as it provides an in-depth study on how capital increases can be used as an effective tool to manage liquidity risk. It helps Islamic banks identify optimal policies to implement to avoid financial crises that may result from increased liquidity risks. By analyzing the relationship between capital appreciation and liquidity risk, this research provides Islamic banks with a valuable tool to improve their financial stability, especially in the face of evolving economic challenges. Highlighting local challenges: The research focuses on the challenges of the Iraqi banking sector, making it more relevant to the local context compared to general studies.

6. Sample and Population of the Study

The study population consists of all listed banks, a sample of banks listed on the Iraq Stock Exchange was selected during the period from 2018 to 2023.

7. Data Sources

Annual reports of listed banks and financial statements published by the Iraq Stock Exchange (Iraq Stock Exchange, 2018-2023).

8. Previous Studies

The study focuses on analyzing the liquidity risk management strategy and its impact on the added market value of Iraqi commercial banks, using the financial statements and annual reports of banks listed on the Iraq Stock Exchange. Panel Data was used to study annual events during the research period. The study aimed to improve the market value of Iraqi banks by studying liquidity risk management strategies and highlighting the problems that lead to liquidity shortages. The study found a statistically significant relationship between liquidity risk management and market value added, and also made recommendations for the need to manage liquidity in a way that balances meeting customer demands and reducing opportunity costs (Al-Hayasha et al., 2024). The study concluded that transparency in financial disclosure was incomplete among banks listed on the Egyptian Stock Exchange, as the research was applied to 11 banks during the period from 2018 to 2022. The researcher used the Roy Z-score accounting index and content analysis method to assess the level of disclosure. The results showed that raising the levels of financial disclosure is only partial, and therefore the hypothesis was partially accepted and the hypothesis that there is no significant effect of full disclosure in the research sample was rejected (Al-Zanoun, 2017). The study aims to identify the role of deposit insurance systems in improving the liquidity risk management of banks by comparing nine countries around the world for which data can be collected. The study found that the role of these systems varies between countries based on the different characteristics of the insurance systems and the banking system in each country. The results also showed that insurance systems that rely on the adjusted risk method to calculate insurance premiums are the most contributing to improving liquidity risk management. The study also showed that these systems contribute to encouraging banks to make high-risk investments, which may lead to low liquidity levels and expose the bank to stability risks, especially in light of the weak supervision systems on banks. The study recommends increased interest in banks assessing liquidity levels to meet their obligations in normal and unusual circumstances, and calls for strengthening the powers of deposit insurance systems to improve risk management (Muhammad, 2016). The research aimed to study the relationship between capital adequacy and liquidity in the Saudi banking sector. The study sample included six Saudi banks during the period from 2010 to 2016. The focus was on a number of financial ratios, and the research used the method of analyzing cross-sectional time series based on the least squares method, with a focus on the fixed effects method and the random effects method to test hypotheses. The research reached important results, the most important of which is the existence of a significant relationship between capital adequacy ratios (such as: equity to risky assets, equity to total assets, equity to total deposits, and equity to total loans) and their significant and statistically significant impact on liquidity ratios (such as: cash ratio to current deposits, cash to total deposits, cash to total liabilities, and employment ratio). The study also showed a long-term equilibrium relationship between capital adequacy variables and liquidity variables. A set of recommendations related to the results of the research has been developed.

9. Definition and Concept of Liquidity Risk

It is the risk that arises as a result of the company's inability to meet its financial obligations when it is due to pay, by providing the necessary funds for it, without incurring unacceptable losses, in other words, insufficient liquidity for normal operating requirements, and may be the result of difficulty in obtaining liquidity at a reasonable cost through borrowing, or inability to liquidate assets, and these risks represent current and potential changes in net income and market value of shareholders' ownership. They arise as a result of internal and external factors, such as Liquidity planning, misallocation of assets to varying uses, abrupt shifts of certain liabilities, economic recession, and capital market crises (Santomero & Babbel, 2014, p. 525). It is a risk related to the bank's inability to face the default in payment, which occurs as a result of the borrower's inability to repay the loan at the agreed time, so the bank conducts its business through customer deposits (depositors), when the depositor requests his money from the bank at any time, this will expose the bank to the risk of liquidity as a result of sudden withdrawal by depositors because the bank has financed the loans it granted through these deposits, but the loans that were granted for borrowers whose maturity has not come or whose maturity time has not been repaid, and therefore this situation will lead the bank to request a loan from the Central Bank or other banks in order to face the risk of liquidity, because high liquidity helps the bank to face any risk it has, which will affect its performance (Masinde, 2017, p. 17).

Liquidity risk arises when a company cannot meet its financial obligations due to insufficient liquid assets, potentially leading to forced asset sales at unfavorable prices, realized losses, and deteriorating financial stability. Regulatory bodies, such as central banks and financial supervisory authorities, impose liquidity requirements to ensure institutions maintain sufficient buffers to absorb shocks. Effective liquidity risk management involves stress testing, contingency funding plans, and liquidity coverage ratios to handle unexpected outflows. Institutions that fail to manage liquidity efficiently may face reputational damage, credit downgrades, or even insolvency. Therefore, proactive liquidity management is essential for long-term sustainability and operational resilience. According to the Basel Committee on Banking Supervision, the Liquidity Coverage Ratio (LCR) is designed to promote short-term resilience by ensuring that banks have an adequate stock of unencumbered high-quality liquid assets (HQLA) to meet liquidity needs for a 30-day stress scenario. This measure improves the banking sector's ability to absorb shocks arising from financial and economic stress, thereby reducing the risk of spillover from the financial sector to the real economy (Bank for International Settlements, 2013). Furthermore, the Federal Deposit Insurance Corporation (FDIC) emphasizes that management typically uses stress testing results in developing funding plans to mitigate risks, including determining appropriate amounts for liquidity buffers and contingent borrowing lines (FDIC, 2015). In summary, robust liquidity risk management practices, including adherence to regulatory requirements like the LCR and the development of contingency funding plans informed by stress testing, are vital for financial institutions to maintain stability and resilience in the face of potential liquidity challenges.

9.1. Reasons for the Emergence of Liquidity Risks

The first reason: liquidity risk arises from the side of liabilities, and the reason for the liability side occurs when depositors or policyholders seek to claim their money immediately, when customers demand cash by withdrawing deposits, the bank will need to borrow additional money or sell assets to meet its obligations, and the most liquid asset is cash, banks use cash to pay their obligations,

however, they tend to reduce their cash reserves as assets as they do not generate return. The second reason: is the risk of liquidity on the part of the assets is the extent of the ability to finance loans, when the customer requests a loan from the bank the bank must finance the loan quickly, this creates a demand for liquidity, such a need for liquidity can be met by reducing its cash assets, selling other liquid assets, or borrowing additional money (496: According to the State Bank of Pakistan (SBP), liquidity risk is described as “the potential loss of an enterprise, either due to its inability to meet its obligations or to fund increases in assets at maturity without incurring unacceptable costs or losses” (Anees, 2012, p. 184). It is the risk of a sudden and unexpected increase in withdrawals that may require the financial intermediary to liquidate assets in a very short period of time at low prices (Saunders & Cornett, 2012, p. 576).

9.2. The Importance of Bank Liquidity

The importance of liquidity for banks stems from the nature of their work, as their financing depends mainly on external funds and public deposits that must be present to respond to withdrawal requests and this makes the process of planning and forecasting liquidity an important part of banking activity, whether for withdrawal or deposit, and conversely an inappropriate liquidity position can lead to creating a surplus or deficit in liquidity for the bank (Al-Shammari, 2014, p. 458), so bank liquidity is a key factor in the banking sector where banks need to ensure that sufficient cash or other liquid assets are held to meet their obligations, and generally the bank must be able and permanently to face normal (expected) and unusual (unexpected) changes in cash flows. Therefore, banks with liquidity problems must respond quickly and cautiously to the problem of lack of liquidity, if other institutions or depositors realize that the bank lacks Liquidity can lead to a scramble for the bank and may lead to bankruptcy (Casu & Other, 2015, p. 302).

9.3. Liquidity Risk Indicators

The liquidity risks facing banks, which are among the first risks affecting the financial system and the performance and continuity of banks, are measured through the following indicators: (Kantengwa, 2012, p. 16; Sanya et al., 2012, p. 16; Wójcik-Mazur & Szajt, 2015, p. 35). The liquidity risk of the banks of the study sample is measured through the ratio of loans to deposits, which is the ratio used to measure the level of bank lending, the more loans granted by the bank, the greater the liquidity risk, and the payment of interest received from customer credit payments will increase the bank's profits, and the increase in the amount of profit can increase the bank's profitability. That is, it is a measure of the ratio of loans granted by the bank to the money it receives (Al-Hamdi & Fatima, 2024, p. 62). A high indicator indicates an increase in liquidity risk, as it leads to an increase in the percentage of loans that the bank finds it difficult to easily liquidate. Conversely, a high index could lead to other sources of liquidity that allow the bank to meet loan demands. Some countries have set a record 70% for this indicator and this percentage should not be exceeded (Staror Guide, 2012, p. 125; Ahmed & Duha, 2021, p. 206; Hacini et al., 2021, p. 69; Moussa, 2015, p. 2015; Dogan, 2013) can be seen to the following indicator: **Liquidity Risk Index = Total Loans / Total Deposits.**

10. The Concept and Definition of Capital

Capital is one of the essential elements on which the success of any financial or banking institution depends. It forms the backbone of banking and is one of the main factors that determine the ability of a bank to start and carry out its operational activities. The bank uses capital to purchase fixed assets necessary to operate a business, such as buildings and equipment, and is used to finance day-to-day operations and ensure business continuity under volatile economic conditions (Mankiw, 2020, p. 102). In addition, capital acts as a “protective barrier” that contributes to the protection of depositors and creditors’ funds, thereby enhancing customer confidence in the banking institution. This protective barrier enables the bank to face unexpected financial or economic crises, as it allows it to deal with emerging challenges without significantly affecting the stability of its business (Brealey, Myers & Allen, 2021, p. 85).

Moreover, adequate capital levels are crucial for absorbing losses during financial downturns, thereby reducing the likelihood of bank failures and the need for government interventions (Thakor, 2014, p. 186). Higher capital ratios have been associated with increased lending capacity and improved liquidity creation, which are vital for sustaining economic activity (Polizzi, Scannella & Suárez, 2020, p. 30). Furthermore, robust capital positions enable banks to maintain credit supply during periods of economic stress, supporting financial stability and mitigating systemic risks (Barajas et al., 2015, p. 5). Regulatory frameworks, such as Basel III, emphasize the importance of capital adequacy to ensure that banks can withstand financial shocks and continue to operate effectively (Bank for International Settlements, 2013, p. 1). Strong capitalization also enhances market confidence, lowers borrowing costs, and provides a buffer against operational and market risks. Therefore, capital is not merely a financial resource but a strategic safeguard for long-term sustainability and institutional resilience.

10.1. The Importance of Capital

Capital is important in the joint stock company, as the company in order to be able to carry out its economic activity needs to have capital that provides sufficient liquidity to cover its expenses and be a guarantee for its creditors, and the lesson is not to register the company’s capital, but rather to actually form it because it is the source and supplier that feeds the company’s largest assets, and provides it with the opportunity and ability to develop and progress (Ross, 2022, p. 123). In any company, whether the owners are the State or individuals or the co-owner, the capital necessary to commence the implementation of the purposes for which it was established should be created, used to purchase fixed assets used in production and allocate sufficient capital for operation, and the capital should be sufficient to achieve the purpose of the company at present and also sufficient to achieve its purpose within a reasonable period while ensuring its adequacy to achieve current and future objectives (Brealey, 2022, p. 200).

10.2. Methods of Capital Increase

Banks are sometimes compelled to increase their capital in order to cope with major transformations occurring across all sectors, particularly the banking sector. This need arises, firstly, from the rapid and significant changes in the financial environment; secondly, from the continuous growth in the number of clients interacting with banks; and thirdly, from the intense competition both among banks themselves and between banks and other financial institutions. As a result, there has been a growing

tendency among banks to invest part of their capital in broader areas that can generate additional income and returns. These combined factors drive banks to increase their capital in order to enhance their financial security. Capital represents a safety net that protects banks from losses or exposure to known risks. Contemporary trends in the global financial system require banks to maintain strong and substantial capital bases. Recent studies, including those by the World Bank (2020), have shown that banks with larger and more robust capital are more capable of withstanding financial shocks, sudden crises, and risks—thus making them less vulnerable to collapse. Given the importance of capital and the need to increase it, we will now address the most prominent methods of capital increase as follows:

a) **Increase capital by retaining profits:** is one of the most important objectives of financial and banking institutions, and efficiency in the use of resources and good management leads to an increase in the volume of profits achieved and high growth rates in them (Ross et al., 2022, pp. 350-352). Therefore, banks always seek to maximize their profits for various reasons, including that they will contribute to covering the market value of shares and enable management to carry out development and expansion operations, so some departments resort to withholding a percentage of the profits achieved and adding them to a separate account called It has reserves (Brealey et al., 2022, pp. 440-442).

b) **Raising capital through reserves:** Reserves are amounts of money that have been deducted from the bank's profits realized over the years to enhance the financial strength of the bank, so that it has the ability to face crises or emergency events, whether related to the bank itself or the general economic situation. These reserves are intended to implement certain policies that may require dedicated funding or face unforeseen financial challenges (Mishkin, 2007, p. 78). In other words, the bank allocates a certain amount of profits to achieve certain goals such as expanding or expanding future activities (Brealey, Myers & Allen, 2017, p. 112).

c) **Increasing the capital by issuing new shares:** This method is represented in the issuance of new shares that are subscribed, whether by old shareholders or offered for public subscription, and this method enables banks to obtain new financial resources, and this strategy is one of the financial policies that are called external financing, and the method of increasing capital by issuing new shares is taken on many disadvantages, including:

d) **Increasing the capital by converting the bank's creditors into shareholders (capitalization of debts incurred by the bank):** The bank also resorts to increasing its capital by converting its debts or part of them into shares, especially if these debts are large and the bank cannot pay them, and laws often require that the consent of the debt holders be in writing with the number of shares that will be allocated to them depending on the value of the easiest share on the date on which the transfer is made (IMF, 2020).

e) **Banking merger** in general is the fusion of two or more banking entities into one, and the reasons for merger are many, including economies of scale, expansion motivation, and increased profitability in light of the liberalization of banking services (Ross et al., 2022, pp. 420-422).

11. Applied Framework of Study

This chapter includes the analysis of bank liquidity and capital increase for the banks surveyed in the study sample and during the study from 2018 to 2023.

11.1. Liquidity Risk Analysis

Liquidity risk analysis: Liquidity is one of the most important and important elements in business success and stability, as it plays an important role in achieving financial stability for commercial banks and conducting their business continuously, continuously and normally, as liquidity risks that hinder the work of banks are one of the most important major risks that limit the work of banks when practicing their activities and business, and for this it is necessary to provide solutions that in turn help protect customers.

11.1.1. Asia Iraq Islamic Bank

It is clear to us through No. 1 that there is a clear increase in the ratio of loans to deposits during the study period, as it reached the maximum increase in 2022 by (4.237%) and that the high ratio indicates that the bank does not have any sufficient liquidity to finance unexpected requirements and any financial crises that may occur, but in 2018 it was lower by (0.738%) This means that the low ratio, there is very high liquidity at the bank and there is no good policy for the investment of funds, and the average was (1.938) and a standard deviation (1.697).

Table 1

Details	Loans	Total Deposits	Ratio
2018	16,311,810,452	22,093,362,813	74%
2019	25,366,143,542	32,518,252,508	78%
2020	25,408,842,359	28,414,105,388	89%
2021	59,038,281,579	61,115,054,446	97%
2022	87,283,716,546	20,602,383,116	424%
2023	90,108,352,176	22,461,329,434	401%
Sum	303,517,146,654	187,204,487,705	1163%
Average	50,586,191,109	31,200,747,951	194%
Max	90,108,352,176	61,115,054,446	424%
Min	16,311,810,452	20,602,383,116	74%
S D	32938822932	15336323975	170%

11.1.2. Al-Mustashar Islamic Bank

Through No. 2 we notice that there is a clear increase in the ratio of loans to deposits during the study period, and when we look at the table, we see that the years 2020 and 2021 reached the highest rates of 230.5% and 225.7%, respectively, which is very high, due to the fact that the bank does not have sufficient liquidity to cover any unexpected financing requirements or economic crises, but in 2019 and 2022, we notice that the year is high, which indicates that the bank It follows an expansionary policy in granting credit in order to achieve profits, and in 2023 the percentage decreased, which indicates the availability of sufficient liquidity at the bank and also indicates its financial stability, and the average reached (144.8%) and a standard deviation (80.9%).

Table 2

Details	Loans	Total Deposits	Ratio
2018	4,500,000,000	9,263,487,676	49%

2019	64,730,890,123	36,105,371,323	179%
2020	77,555,903,968	33,653,651,432	230%
2021	77,448,832,122	34,319,727,764	226%
2022	105,290,892,810	80,518,921,162	131%
2023	143,177,327,800	264,102,712,603	54%
Total	472,703,846,823	457,963,871,960	869%
Average	78,783,974,471	76,327,311,993	145%
Max	143,177,327,800	264,102,712,603	230%
Min	4,500,000,000	9,263,487,676	49%
S D	45973926258	94845358498	81%

11.1.3. Amin Bank of Iraq Islamic

We see through No. 3 that it was found that in 2018 and 2019 there are no loans and deposits due to the lack of a license to practice banking activity, there is a clear and gradual rise in the ratio of loans to deposits, due to the bank's tendency to grant credit very significantly in order to achieve profits at a high rate and bear high risks, as the maximum loan index reached the total deposits for the year 2022 by 508.3%, which is a very high percentage, this is due to the fact that the bank does not have sufficient liquidity to cover any unexpected financing requirements or economic crises, and the average was 146.3% with a standard deviation of 203.5%.

Table 3

Details	Loans	Total Deposits	Ratio
2018	0	0	0%
2019	0	11,058,125,337	0%
2020	4,979,962,382	12,088,854,380	41%
2021	13,372,487,416	22,154,067,985	60%
2022	65,383,377,401	12,862,602,526	508%
2023	63,246,786,360	23,615,385,092	268%
Sum	2.98255E+11	124,491,246,000	878%
Average	49709125333	20,748,541,000	146%
Max	1.22803E+11	45,794,591,000	508%
Min	0	4,522,427,000	0%
S D	56875454602	15361015270	204%

11.1.4. Al Taif Islamic Bank

As shown in Table 4, there were no loans or deposits in the year 2018 due to the bank receiving its official banking license at the end of that year. Consequently, there was no credit recorded in the balance sheet—whether in the form of cash loans or contingent liabilities—and no deposits. There was a clear increase in the loan-to-deposit ratio during the study period. In 2021, the ratio reached 65.6%, indicating that the bank lacked sufficient liquidity to meet financial requirements. In 2022, the loan-to-deposit ratio rose sharply to 110.6%, reflecting the bank's adoption of an aggressive credit expansion policy aimed at generating profits. By 2023, the bank had granted loans significantly high, with the

loan-to-deposit ratio reaching 130.9%. This suggests that the bank was heavily focused on granting credit to achieve high returns, while also assuming substantial risk, indicating that the bank was actively employing its funds for profit generation. The average loan-to-deposit ratio during the study period was 51.5%, with a standard deviation of 59.6%.

Table 4

Details	Loans	Total Deposits	Ratio
2018	0	0	0%
2019	182,717,000	38,890,318,000	0%
2020	1,188,638,000	77,163,790,000	2%
2021	119,777,798,000	182,563,602,000	66%
2022	243,643,781,000	220,225,206,000	111%
2023	358,201,943,000	273,680,160,000	131%
Sum	7.22995E+11	792,523,076,000	309%
Average	1.20499E+11	132,087,179,333	52%
Max	3.58202E+11	273,680,160,000	131%
Min	0	0	0%
S D	1.51591E+11	1.091E+11	60%

11.1.5. Mashreq Arab Islamic Bank

Through No. 5, we see a clear increase in the ratio of loans to deposits during the academic years, due to the bank's tendency to grant credit very significantly in order to achieve profits at a high rate and bear high risks, as the maximum loan index reached the total deposits for the year 2022 and 2023 by 417.4% and 268.2%. Respectively, which is a very high percentage in the history of the bank due to the fact that the bank does not have sufficient liquidity to cover any unexpected financing requirements or economic crises, the average was 175.2% and a standard deviation of 148.7%.

Table 5

Details	Loans	Total Deposits	Ratio
2018	0	5,986,931,000	0%
2019	5,375,958,000	4,522,427,000	119%
2020	14,156,298,000	18,111,800,000	78%
2021	35,919,595,000	21,325,578,000	168%
2022	120,000,351,000	28,749,919,000	417%
2023	122,802,550,000	45,794,591,000	268%
Sum	2.98255E+11	124,491,246,000	1051%
Average	49709125333	20,748,541,000	175%
Max	1.22803E+11	45,794,591,000	417%
Min	0	4,522,427,000	0%
S D	56875454602	15361015270	149%

11.1.6. International Islamic Bank

Through No. 6, we note that the year 2018 was a zero liquidity risk ratio as a result of the increase in loans to total deposits, and this is a negative indicator for the bank indicating the bank's non-compliance with the guidelines and laws issued by the Central Bank, and we see the return of the index with a gradual rise in the ratio of loans to deposits due to the bank's tendency to grant credit in order to achieve high profits and bear high risks, and the maximum increase in the index in 2023 reached 181.9%, which is a very high percentage, this is due to the fact that the bank does not have sufficient liquidity to cover any unexpected financing requirements or economic crises, and the average was 104.0% with a standard deviation of 62.5%.

Table 6

Details	Loans	Total Deposits	Ratio
2018	35,665,502,000	39,814,288,000	0%
2019	49,146,551,000	58,204,331,000	84%
2020	100,794,089,000	92,506,230,000	109%
2021	204,082,992,000	208,025,913,000	98%
2022	296,208,706,000	196,453,595,000	151%
2023	416,281,189,000	228,796,425,000	182%
Sum	1,102,179,029,000	823,800,782,000	624%
avarge	183,696,504,833	137,300,130,333	104%
Max	416,281,189,000	228,796,425,000	182%
Min	35,665,502,000	39,814,288,000	0%
s.d	1.51036E+11	83233369616	62%

11.2. Capital Increase Analysis

Banks often resort to increasing their capital through the issuance of new shares, capitalization of retained earnings, debt cancellation, or through mergers. Subscriptions may be made by existing shareholders or through public offerings. These policies are considered part of external financing, which enables banks to obtain new financial resources.

11.2.1. Asia Iraq Islamic Bank

As shown in Table 7, the bank's capital in 2018 started at 100 billion IQD. In 2019, the bank subscribed an additional 50 billion IQD, but the newly issued shares were not listed for trading due to the incomplete deposit procedures at the Securities Depository Center. In 2020, the shares were listed on the Iraq Stock Exchange and began trading. In 2021, the bank decided to increase its capital by offering 50 billion IQD for public subscription, which was successfully executed. In the same year, the bank again resolved to raise its capital by another 50 billion IQD, and the procedures were completed by the end of the year, bringing the total capital to 250 billion IQD. In 2022 and 2023, the bank maintained its capital at a stable level of 250 billion IQD. The average capital was 250 billion IQD, with a relative significance of 6.59% and a standard deviation of 2.29%.

Table 7

Year	capital	Relative importance	Change ratio
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2018	100,000,000,000	3.44%	
2019	150,000,000,000	5.16%	50.0%
2020	150,000,000,000	5.16%	0.0%
2021	250,000,000,000	8.60%	66.7%
2022	250,000,000,000	8.60%	0.0%
2023	250,000,000,000	8.60%	0.0%
Sum	1,150,000,000,000	39.54%	116.7%
average	191,666,666,667	6.59%	23.3%
Max	250,000,000,000	8.60%	66.7%
Min	100,000,000,000	3.44%	0.0%
s. d	66458006791	2.29%	32.5%

11.2.2. Al-Mustashar Islamic Bank

As shown in Table 8, the bank had a capital of 100 billion IQD in 2018. In 2019, the bank increased its capital from 100 billion IQD to 150 billion IQD. In 2020, the bank was listed on the Iraq Stock Exchange with a capital of 150 billion IQD. In 2021, the bank decided to increase its capital through a public offering, issuing 50 billion IQD in shares, bringing the total capital at the end of the year to 200 billion IQD. In 2022, the bank raised its capital by capitalizing 7 billion IQD from the accumulated surplus account (shareholders' profits), in addition to offering 43 billion IQD through a public subscription, bringing the capital at the end of the year to 250 billion IQD. In 2023, the bank maintained its capital at 250 billion IQD. The average capital was 183,333,333,333 IQD, with a relative importance of 183,333,333,333 IQD and a standard deviation of 60,553,007,082 IQD.

Table 8

Year	capital	Relative importance	Change ratio
2018	100,000,000,000	3.58%	
2019	150,000,000,000	5.37%	50.0%
2020	150,000,000,000	5.37%	0.0%
2021	200,000,000,000	7.16%	33.3%
2022	250,000,000,000	8.95%	25.0%
2023	250,000,000,000	8.95%	0.0%
Sum	1,100,000,000,000	39.37%	108.3%
Average	183,333,333,333	6.56%	21.7%
Max	250,000,000,000	8.95%	50.0%
Min	100,000,000,000	3.58%	0.0%
s.d	60553007082	2.17%	21.7%

11.2.3. Ameen Al-Iraq Islamic Bank

As shown in Table 9, the bank's capital remained stable during 2018, 2019, and 2020. The bank was listed on the Iraq Stock Exchange in 2020 with a capital of 100 billion IQD. In 2021, the bank increased its capital from 100 billion IQD to 150 billion IQD through the issuance of 50 billion IQD in

subscribed shares. In 2022, the bank increased its capital in two phases: at the beginning of the year, 50 billion IQD were offered for public subscription, and before the end of the year, an additional 22.5 billion IQD were issued, bringing the capital at the end of the year to 222.5 billion IQD. In 2023, the bank once again increased its capital by offering 27.5 billion IQD, raising the total capital to 250 billion IQD by the end of the year. The average capital amounted to 263,571,428,571 IQD, with a relative importance of 263,571,428,571 IQD and a standard deviation of 67,337,768,006 IQD.

Table 9

Year	Capital	Relative importance	Change ratio
2018	100,000,000,000	11%	0
2019	100,000,000,000	11%	0%
2020	100,000,000,000	11%	0%
2021	150,000,000,000	16%	33%
2022	222,500,000,000	24%	33%
2023	250,000,000,000	27%	11%
Sum	922,500,000,000	100%	77%
Average	263,571,428,571	16.67%	22%
Max	922,500,000,000	27%	33%
Min	100,000,000,000	11%	0
s. d	67337768006	7%	16%

11.2.4. Al Taif Islamic Bank

As shown in Table 10, the capital of Al Taif Islamic Bank was 100 billion IQD in 2018. In 2019, the bank's shares began trading. In 2020, the bank decided to increase its capital by offering 53 billion IQD for public subscription, raising the capital to 153 billion IQD. In 2021, the bank again increased its capital through a public subscription by offering 50 billion IQD, bringing the capital to 203 billion IQD by the end of the year. In 2022, the bank continued to increase its capital, offering 47 billion IQD for subscription, raising the capital to 250 billion IQD by the end of the year. In 2023, the bank maintained its capital stability at 250 billion IQD. The average capital amounted to 28.6%, with a standard deviation of 6.5%.

Table 10

Year	capital	Relative importance	Change ratio
2018	100,000,000,000	9.5%	
2019	100,000,000,000	9.5%	0.0%
2020	153,000,000,000	14.5%	34.6%
2021	203,000,000,000	19.2%	24.6%
2022	250,000,000,000	23.7%	18.8%
2023	250,000,000,000	23.7%	0.0%
Sum	1,056,000,000,000	100.0%	78.1%
Average	176,000,000,000	28.6%	26.0%

Max	250,000,000,000	23.7%	34.6%
Min	100,000,000,000	9.5%	0.0%
s. d	68937652992	6.5%	0

11.2.5. Al Mashreq Al Arabi Islamic Bank

According to Table 11, the capital was 100 billion IQD in both 2018 and 2019. In 2020, the bank increased its capital from 100 billion IQD to 150 billion IQD by issuing 50 billion shares and amending its Articles of Association. In 2021, the bank was listed on the Iraq Stock Exchange and increased its capital by 50 billion IQD, bringing the capital to 200 billion IQD by the end of the year. In 2022, the bank decided to increase its capital by 50 billion IQD through a public subscription, raising the capital to 250 billion IQD by the end of the year. In 2023, the bank maintained its capital stability at 250 billion IQD. The average capital reached 300 billion IQD with a standard deviation of 68,920,243,760 IQD.

Table 11

Year	capital	Relative importance	Change ratio
2018	100,000,000,000	10%	0
2019	100,000,000,000	10%	0%
2020	150,000,000,000	14%	33%
2021	200,000,000,000	19%	25%
2022	250,000,000,000	24%	20%
2023	250,000,000,000	24%	0%
Sum	1,050,000,000,000	100%	78%
avarge	300,000,000,000	16.67%	22%
Max	1,050,000,000,000	24%	33%
Min	100,000,000,000	10%	0
s. d	68920243760	7%	15%

11.2.6. International Islamic Bank

According to Table 13, the bank was established as a joint-stock company in 2016 with a capital of 100 billion IQD, which remained the same in 2018, 2019, and 2020. The bank was listed on the Iraq Stock Exchange in the last year with a capital of 100 billion IQD. In 2021, the bank decided to increase its capital in two phases: the first phase involved issuing shares for subscription worth 60.846 billion IQD, which were traded on the market. The second phase was through the acquisition of the First Capital Islamic Bank, with the International Islamic Bank retaining its name and operations after the merger, valued at 100 billion IQD. By the end of the year, the bank's capital reached 260.846 billion IQD. No changes were made to the bank's capital in 2022 and 2023. The average and relative importance reached 309,296,571,429 IQD, with a standard deviation of 88,098,982,484 IQD.

Table 13

Year	capital	Relative importance	Change ratio
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2018	100,000,000,000	9%	0
2019	100,000,000,000	9%	0%
2020	100,000,000,000	9%	0%
2021	260,846,000,000	24%	62%
2022	260,846,000,000	24%	0%
2023	260,846,000,000	24%	0%
Sum	1,082,538,000,000	100%	62%
Average	309,296,571,429	16.67%	18%
Max	1,082,538,000,000	24%	62%
Min	100,000,000,000	9%	0
s. d	88098982484	8%	25%

11.3. Proving Hypotheses, Results and Conclusions

11.3.1. Results Analysis and Hypothesis Testing

11.3.1.1. General Results Analysis

1. Asia Iraq Islamic Bank increased its capital by 50% in 2019 and by 66% in 2021. We observe that liquidity risk gradually increased during this period. In 2019, the liquidity risk was 78%, and it peaked in 2023 at 401%. This indicates that the bank may face difficulties in providing liquidity, potentially due to the withdrawal of depositors' funds.
2. Al-Mustashar Islamic Bank increased its capital in 2019, 2021, and 2022 by 50%, 33%, and 25% respectively. Liquidity risk significantly increased during these years—179%, 230%, and 130%—which exceeded the regulatory threshold. This implies the bank is extending more credit than it holds in deposits in an effort to generate financial returns; however, this could lead to future financial crises.
3. Ameen Iraq Islamic Bank raised its capital in 2021, 2022, and 2023 by 33%, 33%, and 11% respectively. Liquidity risk was 65% in 2021, which remained within acceptable limits. However, it sharply rose to 502% in 2023—an extremely high and non-compliant figure—indicating a weakness in supervisory controls over loan issuance.
4. Al-Taif Islamic Bank increased its capital by 34%, 24%, and 18% during 2020, 2021, and 2022 respectively. Liquidity risk remained within acceptable levels in 2021, but rose to 110% in 2022 and peaked at 130% in 2023. This suggests poor compliance with regulatory rules and instructions.
5. Al-Mashriq Al-Arabi Islamic Bank raised its capital in 2020, 2021, and 2022 by 33%, 25%, and 20% respectively. Liquidity risk was generally high, particularly during capital increase periods, reaching 78% and 168%, and peaking at 417% in 2022. This indicates a lack of effective management in the bank.
6. International Islamic Bank increased its capital significantly in 2021 by 62%. Liquidity risk exceeded the regulatory threshold in several years: 109% in 2021, 151% in 2022, and peaked at 182% in 2023. These figures indicate non-compliance with regulatory guidelines, likely due to weak management and ineffective banking supervision mechanisms.

11.3.1.2. Hypothesis Testing

- Null Hypothesis (H_0): There is no significant relationship between liquidity risk and capital increase.
- Alternative Hypothesis (H_1): There is a significant relationship between liquidity risk and capital increase.

Based on the analysis of the selected banks, we observe that despite increases in capital, liquidity risks did not decline. This suggests a negative correlation between capital increases and liquidity risk, which supports the null hypothesis.

However, on a general level across all banks, we observe a positive relationship between liquidity risk and capital increases, coupled with weak supervisory oversight and non-compliance with central bank regulations. This leads to a notable increase in liquidity risk, thereby supporting the alternative hypothesis that there is a significant relationship between liquidity risk and capital increases.

11.3.2. Conclusions

1. The results revealed that increasing the capital of many banks led to an increase in liquidity risk rather than a decrease, indicating that capital increases alone may not be sufficient to improve liquidity management.
2. Some banks showed a positive relationship between capital increases and liquidity risk, suggesting that such increases may lead to more lending and associated risks. This reflects non-compliance with central bank standards and regulations.
3. Banks that experienced rising liquidity risks and failed to maintain balanced lending levels lacked sufficient liquidity, which can be attributed to weak internal controls, leading to excessive credit issuance and increased financial risk.
4. Several banks failed to maintain an adequate level of liquidity despite capital increases, indicating poor risk management effectiveness and non-adherence to banking policies and regulations.

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