

The role of liquidity analysis in achieving financial efficiency of the commercial banks in Iraq: An applied study on a sample of banks working in Iraqi Stock Exchange

Zainab muodar fakhry, Prof.Dr. Abdulkhalq Dubi Aljubury

University of Babylon College of Administration and Economics Department of Financial and Banking Sciences
bus.abdul.khaleq@uobabylon.edu.iq bus656.zainab.mudar@student.uobabylon.edu.iq

Abstract: This study aims to investigate the role of liquidity analysis in achieving the financial efficiency of Iraqi commercial banks through an applied study on a sample of banks listed on the Iraq Stock Exchange. The importance of the study stems from the fact that liquidity is one of the most critical financial indicators relied upon by bank management to ensure the timely fulfillment of financial obligations while maintaining an appropriate balance between profitability and financial efficiency. The study adopts a descriptive-analytical approach based on the published financial statements of the selected banks during the study period. Several statistical techniques are employed to analyze the relationship between liquidity indicators and financial efficiency indicators, including descriptive statistics, Pearson correlation, regression analysis, and significance tests. The findings reveal a statistically significant relationship between liquidity analysis and financial efficiency. Maintaining an appropriate level of liquidity enhances banks' ability to manage their financial resources efficiently and achieve a balance between profitability and risk, which positively reflects on financial performance indicators. The results also indicate that excessive liquidity holdings may reduce returns due to idle funds, whereas insufficient liquidity increases the risk of financial distress and the inability to meet financial obligations. Accordingly, the study recommends that Iraqi commercial banks adopt effective liquidity management policies, strengthen risk management and internal control systems, and utilize modern forecasting models to estimate liquidity requirements. These measures would contribute to improving financial efficiency and enhancing the stability and competitiveness of the Iraqi banking sector.

Keywords: Liquidity Analysis, Bank Liquidity, Financial Efficiency, Iraqi Commercial Banks, Financial Performance Indicators, Iraq Stock Exchange

1. Introduction

The banking sector is one of the most important economic sectors that contribute in the economic development and financial stability since it works as a mainstay in the mobilisation of savings and its channelling to investments in addition to providing banking and financial services for individuals and companies. And the ability of banks to efficiently perform their functions depends on how well they are able to manage their financial resources and balance the profitability and liquidity, which definitely liquidity is one of the most significant indicators that reflects the extent to which a bank is able to meet its financial obligations on time without incurring unexpected losses or financial disruptions. The Iraqi banking sector has faced a lot of challenges in the recent years due to economic and financial crises, changes in oil prices and, developments in technology and the regulatory legislations imposed by the Iraqi Central Bank, which made liquidity management as one of the most crucial issues banks' management have to tackle. Poor liquidity management may result in reduced profitability or bank failure risk, whereas good liquidity management promotes financial stability and enhances depositor confidence. Importance of liquidity analysis is that it serves as an



instrument for aid of banking management in assessing the ability of a bank to meet short-term obligations and in financial, asset and liability management decisions. It also gives numeric improves that help with assessing financial performance and the usefulness of a bank in using the resources available to it.

Based on this, this study is aimed at investigating the role of liquidity analysis in enhancing the financial efficiency of the Iraqi commercial banks through the study of some of the financial ratios expressions of the published financial statements of a sample of the Iraqi commercial banks listed in the Iraq stock exchange, with the assistance of the suitable normal models to measure the nature of the relation between liquidity and financial efficiency.

1.2 Research Problem

The Iraqi commercial banks are confronted with huge challenge to balance between maintaining adequate levels of liquidity and achieving the utmost levels of profitability and financial efficiency, for excessive liquidity may be considered as reason for decrease in returns due to freezing of certain amount of funds in low yield assets, and decreasing liquidity will result in augmenting risk of illiquidity and not being able to meet short-term obligations. Although there was a progression in the Iraqi banking sector in last years, many banks still suffer for volatility in liquidity and profitability ratios, which raise questions on how far liquidity analysis can contribute to the improvement of the financial efficiency of banks. The problem of the research is stated in the following main question: What is the role of liquidity analysis in achieving the financial efficiency of Iraqi commercial banks? It raises the following questions:

1. What is the level of liquidity of the Iraqi banks?
2. What is the level of financial efficiency of the studied banks?
3. "Is there a statistical significant relationship between financial efficiency and liquidity ratios?"
4. To what extent does liquidity affect financial performance in the Iraqi commercial banks?

1.2 Significance of the research The significance of the study is derived from the following considerations:

The importance of the study emanates from the following:

Highlight the importance of liquidity analysis in the banking sector in Iraqi.

To what extent liquidity management affects financial efficiency of banks.

To provide scientific findings that bank managers could utilize in modifying their financial policies. To assist policy makers of the Iraqi Central Bank in formulating related liquidity management supervisory policies.

Enriching Arab library in research and study by applying a modern study of the relationship between liquidity and the financial performance.

Help investors to evaluate the financial performance of banks before making investment decisions.

1.3 Research objectives

The research seeks to accomplish the following objectives:

To assess the levels of liquidity in Iraqi commercial banks.

Financial efficiency index analysis of banks under investigation.

To test the relationship between liquidity and financial performance.

To assess the effect of liquidity indicators on financial performance with the conventional techniques.

To suggest means through which banks can improve liquidity management and their financial efficiency.

1.4 Hypotheses of the study

There is a statistically significant impact of liquidity analysis on achieving financial efficiency of the Iraqi commercial banks. Sub-Hypothesis

There is a significant positive correlation between liquidity and return on assets (ROA).

There is a significant positive correlation between liquidity and return on equity (ROE).

Liquidity has a significant influence on a NPM.

Liquidity influences the efficiency of asset utilization.

Liquidity has an impact on the financial stability of a bank.

1.5 research methodology

The study has been relied on descriptive analytical approach to present the related concepts of liquidity and financial efficiency while standard approach to measure the impact of liquidity on financial efficiency was utilized by employing the published financial data of a sample of Iraqi commercial banks listed at the Iraq Stock Exchange during the period of the study, also the tests of null hypothesis, co-integration and standard regression were applied using the soft ware EViews.

1.6 Limitations of the Study

Spatial limits: The samples are the Iraqi commercial banks that are listed in the Iraq Stock Exchange.

Temporal limits: From 2015 to 2024.

Scope: To investigate the role of liquidity analysis in determining financial efficiency of Iraqi commercial banks.

Section One

2.Theoretical Framework

The Concept of Bank Liquidity Bank liquidity is one of the main pillars upon which banking operations are based and simply reflects the ability of a bank in a given time to provide the necessary funds to meet its financial obligations as they fall due without having to suffer large losses or to interrupt its activity. The importance of liquidity lies in the fact that it allows a bank to meet sudden withdrawal demands from depositors, to finance lending and investment activities, to maintain the confidence of customers and investors, and to comply with central bank and regulatory body requirements (Al-Zahbawi and Faraj, 2022; Hassan and Jadoua, 2022) The meaning of liquidity in banking is distinct from that in other areas of the economy due to the nature of a bank's activities that are largely short-term deposits and long or medium-term loans and investments and this requires bank management to maintain a constant balance between liquidity and profitability. Holding more cash and liquid assets enhances a bank's ability to meet its obligations, but may reduce capital returns, whereas a loan boom can boost earnings in the short term but also increases the risk of running short on liquidity (Mohsen and Alfatlawi, 2025; Hammoudi, 2023) Bank liquidity is defined as the bank's ability to quickly liquidate its asset holdings at low cost or, conversely, to obtain additional funding if required, in a manner that preserves the continuity of its operations and leads to financial stability. and this is considered to be the most widely used concept in banking studies, due to its proximity to banking risk management and supervision (Tahir and Mohammed, 2022; Mohsen and Alfatlawi, 2025)

Interest in liquidity management has increased following the 2008 global financial crisis, due to the fact that the crisis exposed that many financial institutions were highly profitable but illiquid, and as such they became subject to financial crises. Since then, liquidity management has been one of the key topics covered by Basel Committee standards, in particular with the introduction of the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) as they contribute to reinforcing banking system resilience (Hassan & Jigme, 2022; Mohsen & Fatlawi,

2025). The importance of bank liquidity becomes very important in the banking business since it represents the basis guarantee for the continuity of the bank activity and its ability to meet its several commitments. The bank that has reasonable amount of liquidity is better prepared to face economic fluctuations and a sudden deposit withdrawals, besides it can take advantage of investment opportunity that may come through the financial markets which will increase depositor and investor confidence and ultimately firm its financial position (Zahbawi & Faraj, 2022; Tahir & Mohammed, 2022). Liquidity also contributes to reduce the risk of default and bankruptcy because the shortage of liquidity may lead a bank to be unable to fulfill its commitments, which has a negative impact on its financial stability. Prudent liquidity management also supports compliance with central bank instructions and financial safety requirements (Hamoudi, 2023; Hassan & Jad'a, 2022). Importance of Bank Liquidity Bank liquidity holds a central position in the banking business, as it represents the main indicator of the bank's ability to meet its financial obligations in the short term and maintain the trust of depositors and investors in the bank. Appropriate levels of liquidity also help a bank to meet unexpected withdrawal demands and day-to-day needs without selling assets at a loss or borrowing money at high rates. This also has the effect of bolstering financial stability and reducing the risk of financial distress (Al-Dhibawi & Faraj, 2022; Aljallad & Alhusseini, 2023).

Moreover, liquidity has a vital role in enhancing the bank financial performance as it enables the bank to take investment opportunities when they arise and provides it with more flexibility in asset and liability management. Therefore, the bank management strives to find the balance between holding enough liquidity and investing its money in investments or loans that return good profit, because too much holding of the cash could lead to low profitability and too little holding of the liquidity could cause the bank exposed to financial and operational risks (Henzal and Khallas, 2023; Hassan and Jdah, 2022). The importance of liquidity also emerges from a regulatory viewpoint, as central banks and the Basel Committee have issued-specific requirements on liquidity management to safeguard the soundness of the banking system, in particular the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR), which are intended to improve banks' abilities to withstand financial and economic turmoil (Basel Committee on Banking Supervision, 2013; Hamoudi, 2023). Objectives of Bank Liquidity Management Liquidity management pursues a number of objectives that contribute to enhancing the financial performance of the commercial bank among which is to secure the ability of the bank to meet all its financial obligations on its due dates, either its depositors or creditors or the regulatory bodies whether it is short term or long term. And this objective is the basis for the continuity of banking business and the retention of clients' trust (Zhihabai & Farag, 2022)

Types of Bank Liquidity

Bank liquidity is classified into several types according to the nature of its sources and its uses, and this classification is important to understand how financial resources are managed within banks.

Firstly: Cash liquidity

Cash on hand in the bank and balances held at the central bank are considered as the highest degree of liquidity, as they can be used immediately to meet demands for withdrawals or to fulfill daily commitments. This liquidity is the first line of defense against abrupt crises (Hamoudi, 2023)

Secondly: Quasi- liquidity

Short-term financial assets such as treasury bills, deposits with other banks, and government securities, which are easy and quick to convert into cash, also play a role in supporting cash liquidity when required and I consider these type of assets as an important source for supporting cash liquidity for a bank (Hassan and Jad3a, 2022)

Third: Liquidity of funding

Can a bank be said to be illiquid when it is unable to borrow from the central bank, which after all is its Lender of last Resort, or from the money market or other financial institutions, and what is more important in times of crisis or when the bank is under financial pressure requiring a fast increase of liquidity (Al-Dhahbawi and Faraj, 2022).

Liquidity of fourth market

It refers to the ability of the bank to sell its financial assets in the market without significantly affecting their prices or incurring substantial losses. This type of liquidity is increasingly important in the financial markets of financial deepening characterized by high turnover and the speed of performing financial transactions. (Hanzel and Khalaf, 2023)

Subsection 2: Indicators of Measuring Banking Liquidity

Liquidity ratios in banking are the best indicators that are utilized in assessing the capabilities of a bank to meet its short term obligations and strike a balance between liquidity and profitability. Bank management and regulators such as the central bank and basel committee on banking supervision use a certain set of financial ratios that measure the level of liquidity and how well it is managed. These ratios also provide management, investors and depositors with critical information about a bank's ability to withstand financial risk and maintain financial stability (Homoudy, 2023; Hassan & Janem, 2022)

Part One: the cash ratio (Cash Ratio)

The cash ratio is also one of the most conservative liquid ratios, indicating how well a bank can meet immediate liabilities with available cash and cash equivalents, without depending on collecting loans or selling other assets. The higher this ratio is, the more it shows that the bank has sufficient cash reserves to satisfy a sudden withdrawal of funds or unforeseen economic conditions. However, excessive high level of this ratio may reflect to many idle fund which may not generate an appropriate return and this can have a negative effect on the Bank profitability and the efficiency of using its finances (Zahbaoui and Farag, 2022; Homodi, 2023).

too help this ratio to assess how well/bad a bank can fulfill its instant obligations without selling off any other assets, so it's important for the regulators when assessing the solvency of the bank (Hanzal and Khalaf, 2023)

Second: Liquid Assets to Total Assets Ratio

This ratio measures the amount of liquid assets to that in a bank asset, informing how much of the bank's assets are those that could be converted into cash in a brief amount of time without incurring major losses. A high ratio implies greater ability of bank to meet its obligations, though significant increase may imply reduction in interest income earning assets that is, investments and advances which may have negative implication profit and financial efficiency (Hassan & Wadjah, 2022; Hamoudi, 2023)

This ratio is calculated as follows:

This measure is also widely applied in banking studies to examine the ability of a bank to cover potential liquidity-related risk, and is one of the key indicators embedded in the Basel Committee's standards for assessing the soundness of the banking system (Basel Committee on Banking Supervision, 2013).

Three: Loan to Deposit Ratio

The loan to deposit ratio is widely considered one of the best liquidity measures in the banking industry since it indicates how much the bank relies on deposits to fund its lending activities. A rise in this number indicates the bank is increasing its lending, which has the potential to increase profits if the loans are good loans, but it exposes the bank to greater risk of liquidity if there is a rise in withdrawal demands or loan defaults. And a low ratio, may reflect high liquidity, however it may also indicate under utilization of the available financial resources (Uras Khdeir Ubeis, 2022) This ratio is Used: 1) to test the stability of the company, and 2) to assess the leverage.

This ratio is among the key indicators used by banking management for retail lending, liquidity management, and risk-reward optimization (Ahmed Ghanem and Dai, 2025)

Section 4: The Legal Reserve Requirement The legal reserve; is that proportion of public deposits which the bank is required to keep with the central bank as per the regulatory instructions. This reserve serves to safeguard the depositors' money and to increase the ability of banks to meet unexpected withdrawals, as well as for its use in executing monetary policy and controlling the amount of liquidity in the economy. The imposition of the reserve

requirement contributes to increased financial stability and less likelihood of bank runs (Urass Khudair Ubeis, 2016)

Section 5 Liquidity Coverage Ratio (LCR) The liquidity coverage ratio is among the key indicators introduced in Basel III and aims to ensure that a bank possesses a sufficient amount of high quality liquid assets to cover its net cash outflows for a 30-day, when under financial distress. level reflects a bank's ability to survive a sudden financial crisis shock without being forced to sell its assets at a substantial loss or rolling over its debt (Basel Committee on Banking Supervision, 2013; Hammoudi, 2023)

Second demand: The concept of financial efficiency

Financial efficiency is a fundamental notion in the financial and banking management since it represents the ability of the bank to utilize the resources at its disposal to the maximum extent so that it can earn the maximum level of profit while meeting an acceptable amount of risk. Financially efficiency is a key standard to judge whether management have succeeded in utilizing the funds at its disposal in such a way to the business of the bank and enhancing its competitive market position. Efficiency in banking is receiving increasing attention because of the banks' role in sustaining the economy and financing investment projects as well as its role in the achievement of financial stability at national economy.

Financial efficiency reflects a bank's ability to increase revenue while decreasing costs and use its human, financial, and technical resources optimally, thereby positively impacting financial performance measures such as the return on assets, return on equity, and net profit margin. For these reasons financial efficiency is one of the key indicators with which bank performance is evaluated, as it provides an insight into how well a bank is positioned to pursue its strategic goals and to meet new challenges posed by the economic and financial environment.

Researchers argue that financial efficiency is not only related to profitability, but also the bank's ability to manage risks, liquidity and capital in a balanced manner that ensures financial sustainability and upholding depositor and investor confidence. Financial efficiency also contributes to increasing the bank's competitiveness, the value of its market share and the upgrading of its credit ratings and this will be reflected positively on the stability of the banking sector in general.

The importance of financial efficiency

The importance of financial efficiency lies in the fact that it is a main means for assessing the quality of financial and administrative performance of the bank, as it contributes to assess to what extent the bank was able to efficiently utilize its available resources and in making appropriate returns. It also allows management to identifies strengths and weaknesses and take corrective action to improve performance.

Financial efficiency also contributes in increasing the confidence of investors and depositors as the bank which obtains high level of efficiency is more capable to withstand crises and to achieve sustainable growth. It also contributes to increasing the bank's capacity to expand credit and investment, improving the quality of the banking services, enhancing profitability, and maximizing shareholders wealth.

Financial efficiency is also critical in supporting the decisions of the supervisory bodies as the financial authorities rely on financial efficiency indicators to assess the soundness of banks and take the necessary measures to ensure the stability of the financial system.

Objectives of financial efficiency

Financial efficiency has a number of purposes to accomplish of which the following are the most important:

Maximizing bank profits.

Optimal use of finances.

Enhance Return on Assets.

Increase return on equity.

Promoting financial stability. What Influences Financial Efficiency Financial efficiency is influenced by a number of internal and external factors of which are the most important: First: Bank Liquidity Liquidity also has a direct effect on financial efficiency, since the maintenance of an adequate level of liquidity enables the bank to meet its obligations and also promotes its financial stability, and excessive liquidity causes the profitability to decrease as a result of blocking a portion of funds in low-yielding assets.

Secondly: Asset quality

As the quality of credit portfolio improves and the non-performing loans decrease, the financial performance of the bank gets better, since the decrease in non-performing loans leads to increase in profit and decrease in provisioning.

Thirdly: Capital Adequacy

Adequate capitalization enhances bank resilience against risk and financial stability and increases investors' and depositors' confidence.

Fourthly, the volume of deposits

Deposits are the primary source for financing bank activities, and when a bank has more deposits, it can extend more loans and make more profits.

Fifth: Management efficiency

Efficient management plays a crucial role in financial performance improvement through proper planning and good risk, liquidity and financial resources management.

Sixth: Economic Factors

Inflation rates, interest rates, economic growth and monetary policy influence the level of financial efficiency of banks, since they affect the cost of money, and the demand for credit and investment.

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There is a strong relationship between financial efficiency and profitability because efficient management of resources leads to increased revenues and decreased expenses which in turn is reflected by higher profit ratios. However, achieving the highest profitability does not always imply a high financial efficiency, because some banks might achieve high profits through taking very high levels of risks which might affect the sustainability of their performance over long-term. Hence, financial efficiency is concerned with attaining the acceptable balance between profitability, liquidity and risk that ensures the continuance of banking activity and the growth in sustainable way.

Second Requirement :Measures of financial efficiency in commercial banks

Financial efficiency ratios are among the key tools used by financial analysts and the management of banks to evaluate the financial performance of commercial banks as they help in assessing how efficiently a bank utilizes its resources to earn profits and maximize shareholder value while maintaining adequate levels of liquidity and risk. These ratios also help to compare performance of different banks and identify the areas of strengths and weaknesses for the purpose of taking corrective managerial and regulatory actions.

And the good thing about financial efficiency ratios is that they are based on data taken from bank's financial statements, so they're more objective and accurate when it comes to assessing financial performance. These ratios are also employed by senior management, central banks, investors and financial analysts to assess the competence of management and the potential for financial sustainability.

Return on Assets (ROA) – Part I) First: Return on Assets (ROA)

Return on assets is one of the most widely used indicators to assess financial efficiency of banks, as it reflects the management's ability to utilize the bank's assets to generate profits. A rising number suggests that management

has been successful in employing the assets effectively, whereas a declining one may indicate poor utilization of financial resources or increasing operational expenses.

This ratio is also one of the important ratios that financial studies rely on to evaluate the banking performance as it relates the profits earned to the total assets which allow making comparisons amongst banks no matter how big they are. A higher ROA value indicates better financial efficiency and higher profit earning ability for the bank from its assets.

2- Return on equity (ROE)

This index indicates the amount of return the bank earns on the shareholders' money and it is one of the most important indicators which investors are interested in, because it reflects how successful the management has been in using the shareholders' equity to make profits.

The higher the successful returns on the equity ratio is, the more efficient the management is in utilizing the shareholders' fund and generating more value for the shareholders; conversely, the lower the successful returns on the equity ratio is, the more it implies poor financial performance or lesser profits.

This ratio is also often used for comparing the performance of banks listed in stock markets.

3: Net Profit Margin

Net profit margin measures the ability of the bank to convert revenues into profits after all expenses and taxes. It is an indicator of management efficiency in controlling expenses to maximize revenue-related returns.

There is an increase in net margin and therefore an increase in the bank's ability to rely on internal funds to support its future activities and its financial position, and a decrease may be attributable to an increase in operating expenses or to a decrease in revenues.

4- Asset turnover ratio

This ratio shows how well the bank has been able to make use of its assets to generate income, so this is one of the important indicators that can express to what extent the bank has taken full advantage of its assets. A rising asset turnover indicates a more profitable use of assets, and a decreasing one is interpreted as assets that are not used efficiently.

Section Third

3. The Practical Aspect of the Research and Study Methodology

Research methodology

The related research methodology This research is descriptive analytical in nature since it is related to the study, with reviewing the theoretical part concerning liquidity and financial efficiency then analyzing financial statements for a sample of Iraqi commercial banks to test the impact of liquidity analysis on achieving financial efficiency. The normative approach in analysing the relationship between the variables of the study and the hypotheses was also utilized.

Research Community

The population of the study consists of all the listed Iraqi commercial banks in the Iraq stock exchange that publish their financial information regularly.

Sample of the study

The sample included a number of Iraqi commercial banks for which full financial data were available over the period of study that covered three years. They were selected via purposive sampling to fit the criteria of the study.

Period of the study

The study was based on the annual data of the selected banks during the period (2018–2024) to reveal the impact of liquidity on the financial performance in the period of study.

research variables

First: independent variable

Liquidity Analysis

And the independent variable in the study is, it was measured by the following indicators:

- The current account ratio.
- A cash ratio.
- Loans to deposits ratio.
- Ratio of liquid assets to total assets.

Secondly, the dependent variable

Financial Efficiency

It had been assessed by the following indicators:

- Return on Assets (ROA).
- Return on Equity (ROE).
- Net profit margin. "
- Capital adequacy.

Hypotheses of the research

The main hypothesis

There is a statistically significant effect of liquidity analysis on the achievement of financial efficiency of Iraqi commercial banks.

The sub-hypotheses

there is a significant effect of cash ratio on ROA.

There is a significant effect of the loans to deposits ratio on the return on equity.

There is a significant effect of liquid assets on financial efficiency.

There is a positive correlation between liquidity and financial efficiency." The standard model The research followed the model: $FE = \beta_0 + \beta_1 LQ + \varepsilon$ to wit: • FE = Financial Efficiency. • LQ = Liquidity analysis. • β_0 = Constant term. • β_1 = the slope coefficient. • ε = the random error term. Statistical methods The study utilizes EViews software to conduct the statistical analysis by: • Descriptive statistics. • test of correlation. • test of regression. • test t. • test F. • The coefficient of determination (R^2). Results Analysis and Discussion First: Estimation Of Panel Data (Panel Data): The panel data estimation procedure goes through the following stages:

Time-Series Stability: For panel data, unit root tests that differ from time series root tests are applied, here we will apply Liven, Lin, chu test, Table (2) shows the results of Liven, Lin, chu test for the model's variables, it is clear that all the series are found to be stationary at Level.

Table 1 Stability of the Time Series out

VARIABLE	LEVEL I(0)			Result
	Constant	Constant and Trend With	Constant and Trend	Result
Y	0.9119	0.0000	0.9985	Stable
Y1	0.0009	0.0000	0.9997	Stable
Y2	0.9760	0.0000	0.9996	Stable
X	0.9535	0.0000	0.9985	Stable
X1	0.0170	0.0006	0.9999	Stable
X2	0.9119	0.0000	0.9991	Stable

Source: EVIEWS 12 Output

$$Y = \beta_0 + \beta_1 X + \beta_2 X1 + \beta_3 X2 + \mu_t$$

1. التجميعي (Pooled OLS Model).

Table (2)

Results of estimation by OLS method

Dependent Variable: Y				
Method: Panel Least Squares				
Date: 06/17/26 Time: 12:20				
Sample: 2018 2025				
Periods included: 8				
Cross-sections included: 3				
Total panel (balanced) observations: 24				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	7.061044	1.562494	4.519085	0.0002
X1	-0.011773	0.007347	-1.602500	0.1247
X2	0.109930	0.026242	4.189042	0.0005
C	-8.036758	0.937565	-8.571947	0.0000
Root MSE	0.078200	R-squared		0.997531
Mean dependent var	8.391667	Adjusted R-squared		0.997160

S.D. dependent var	1.607568	S.E. of regression	0.085664
Akaike info criterion	-1.925760	Sum squared resid	0.146766
Schwarz criterion	-1.729418	Log likelihood	27.10912
Hannan-Quinn criter.	-1.873671	F-statistic	2693.250
Durbin-Watson stat	1.556709	Prob(F-statistic)	0.000000

Source: EVIEWS 12 output package programming results

- Testing the results of random effects regression by Breusch-Pagan Lagrange Multiplier (LM) If Breusch-Pagan Lagrange Multiplier (LM) results a non-significant (i.e. P-value > 0.05) for effects individual (Cross-Sections) or temporal (Time), it means that the differences between units (banks) are not fundamental enough to separate them, then the model of pooled OLS is the most efficient and the simplest. If the Lagrange Multiplier test confirms that the significance of both (Cross-section) and (Time) or one of them is less than (0.05), then proceed to estimate the model by Random or Fixed Effects. If the Lagrange Multiplier test for each the (Cross-section) and (Time) turns out to be smaller than (0.05), then We have the (Two-Side) model. At this stage, you should mark the options of (Cross-section) and (Time) in the new estimation interface after you rejected using Ordinary Linear Regression (Pooled OLS) since There are Unobserved Heterogeneity concerning units and time that affects the dependent variable, and Checked should be Either Both (Random Effect) or Both (Fixed Effect) depending on the results of Hausman Test. If Lagrange Multiplier test indicates that the significance of one of (Cross-section) or (Time) is less than (0.05), then we have (One-Side) model. Table (3) reveals that Breusch-Pagan Lagrange Multiplier (LM) test produced non-significant results (that is P-value > 0.05) for individual effects (Cross-Sections) and temporal effects (Time); hence the pooled OLS is efficient for estimation.

(3) Table

Breusch-Pagan Lagrange Multiplier (LM)

Lagrange Multiplier Tests for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one			
-sided (all others) alternatives			
	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	1.707618	0.454031	2.161649

	(0.1913)	(0.5004)	(0.1415)
Honda	1.306759	0.673818	1.400479
	(0.0956)	(0.2502)	(0.0807)
King-Wu	1.306759	0.673818	1.470094
	(0.0956)	(0.2502)	(0.0708)
Standardized Honda	2.201836	1.409795	-0.630615
	(0.0138)	(0.0793)	(0.7359)
Standardized King-Wu	2.201836	1.409795	-0.195516
	(0.0138)	(0.0793)	(0.5775)
Gourieroux, et al.	--	--	2.161649
			(0.1556)

Source: Results of the Eviews 12 programming package.

Returning to table (3), the following can be reported: 1. Statistical significance and size effect evaluation: • Leverage (X): The results reveal a positive and statistically highly significant effect of the leverage rate on profitability indicators with a beta of (7.061) at a significance level of (0.0002) which is less than (0.05), this indicates that a one unit increase in the debt ratio results in increasing the profitability indices by around 7.06%. • Liquid Assets (X₁): The coefficient sign was negative (-0.011) but insignificant at the 0.05 level for the fox-validation as the p-value was (0.1247), which was above (0.05), that is, statistically, it means that there is no meaningful impact of the liquid assets as an independent variable on profitability in this model. • Loan to Deposit Rate (X₂): The result exhibited a positive and significant effect of the loan to deposit rate on profitability with a coefficient of (0.10) at a p-value of (0.0005), which indicates that the higher the ratio is by 1%, the more profitable the bank is by around 0.11%. 2. Interpretive Efficiency: • Adjusted R²: The adjusted R² was (0.997), which is a very high value which means that the pooled independent variables (liquidity) explain 99.7% of the variations in the profitability measures of the banks in the sample. • Overall model validity (test: F-statistic was around F = (2693.25) with zero (most likely round-off) p-value, confirming a very high degree of model validity in terms of estimation overall. • Test of Autocorrelation in Random Boundary (DW): Durbin-Watson test value (1.556) fell in an acceptable range, indicating statistically no serial correlation problems.

Economic and Banking Explanation: These results are consistent with modern economic and banking theory, as the significant positive effect of the turnover rate and credit to deposit ratio indicates that the Iraqi commercial banks have been able to utilize their funds efficiently to generate high operating profits without endangering their current financial position, and the insignificant negative relationship of liquid assets (X₁) explains the traditional dilemma in bank management which is "the trade-off between liquidity and profitability" (Liquidity-Profitability Trade-off) in, for holding excessive cash and idle liquid assets without

being employed in investment or credit business imposes alternative opportunity cost that negatively pressurizes bank s profitability.

$$Y1 = \beta_0 + \beta_1 X + \beta_2 X1 + \beta_3 X2 + \mu_t$$

النتيجة

1. The estimation is done by ordinary least squares (OLS) and this is known as the pooled OLS model.

Table (4) Results of estimation by ordinary least squares (OLS)

Dependent Variable: Y1				
Method: Panel Least Squares				
Date: 06/17/26 Time: 12:39				
Sample: 2018 2025				
Periods included: 8				
Cross-sections included: 3				
Total panel (balanced) observations: 24				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X	-13.16197	12.20842	-1.078106	0.2938
X1	0.783326	0.057403	13.64619	0.0000
X2	0.290302	0.205042	1.415813	0.1722
C	15.49045	7.325586	2.114568	0.0472
Root MSE	0.611009	R-squared		0.982973
Mean dependent var	46.74167	Adjusted R-squared		0.980419
S.D. dependent var	4.783206	S.E. of regression		0.669327
Akaike info criterion	2.185924	Sum squared resid		8.959977
Schwarz criterion	2.382267	Log likelihood		-22.23109
Hannan-Quinn criter.	2.238014	F-statistic		384.8658
Durbin-Watson stat	0.955064	Prob(F-statistic)		0.000000

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Source: EVIEWS 12 output programming package results

Head Fourth Conclusions and recommendations

First: The conclusions

1. The study found that the liquidity analysis is among the most important financial tools that commercial banks rely on to assess their ability to meet their short-term obligations and financial stability.
2. There was a positive relationship between financial liquidity and profitability as good liquidity management leads to better financial performance and higher earning potential of the banks.
3. The results confirmed that keeping an adequate liquidity level enables commercial banks to resist financial risk and reduce the possibilities of failure and bankruptcy.
4. It was found that excessive liquidity holding have a negative effect on the return on assets since part of the fund are frozen in low return assets, while low liquidity increase the risk of being unable to meet obligations.
5. It was found that liquidity ratios, in particular the loan-to-deposit ratio and the liquid asset ratio to total assets ratio, are among the most powerful ratios in analyzing the financial performance of commercial banks.
6. The study proved that financial efficiency depends on number of factors mainly quality liquidity management, capital adequacy, quality of credit portfolio and bank management efficiency.
7. The findings revealed that banks that apply effective liquidity management policies tend to achieve higher levels of profitability and financial stability than do the poor liquidity managers.
8. The study showed that compliance with the central bank of Iraq 's requirements and basel committee standards help to strengthen the resilience of the banking sector and the financial efficiency indicators.
9. The results of the analysis suggest that improving liquidity management positively affects financial performance indicators such as ROA and ROE.

10. The study confirmed that liquidity-management and profit management are top priorities that managers of the Iraqi banks are facing in the economic and financial changing environment.

Secondly Recommendations:

1. The need for the Iraqi commercial banks to adopt new policies of liquidity management that balance the payment of financial obligations and maximize profitability.
2. Strengthening internal control and risk management systems to ensure optimum use of financial resources and minimize the risk of liquidity shortage.
3. Develop early warning systems to track liquidity indicators and detect problems before growing.
4. Full compliance with Basel III standards for LCR and NSFR to enhance financial stability.
5. To work towards diversifying sources of finance and reducing reliance on short-term deposits so as to improve liquidity sustainability.
6. Expansion of the application of fintech and digital financial analysis systems to increase the efficiency of gathering liquidity information and making decision.
7. Attention towards training the workers in the treasury and risk management departments on the latest various methods in liquidity management and financial analysis.

8. Strengthening the cooperation between the Commercial Banks and the Central Bank of Iraq (CBI) to enhance the supervisory policies that sustaining financial stability and strengthening banking sector efficiency.
9. To encourage banks to undertake regular assessment of liquidity and financial efficiency indicators and utilize the results of the assessment for the continuous improvement of operational and strategic plans.
10. Conduct further future studies that address the influence of economic variables such as inflation rate, interest rate, and exchange rate on the liquidity and financial efficiency of the Iraqi commercial banks, which contribute to advancing scientific knowledge and providing governance

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