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RESEARCH ARTICLE –FINANCIAL MANAGEMENT

The Relationship between Financial Flexibility and Banking Efficiency: Application Study at Iraqi Private Banks

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Abstract

This study aims to investigate the effect of financial flexibility on rising banking efficiency in private Iraqi banks listed by the Iraqi Securities Commission (ISC). Financial flexibility refers to the bank's ability to grow and remain in the financial markets during sudden economic crises. Whereas banking efficiency demonstrates the bank's ability to use its available resources to achieve profits while providing high-quality banking services. In total, five Private Iraqi Banks listed within the ISC were selected that achieve the research objectives. The study problem reveals whether the selected banks have greater financial flexibility that contributes to improving overall their performance. The official annual reports published were approved by ISC for the period 2011-2020. Accordingly, quantitative statistical analysis methods were used in addition to financial analysis standards to prove the extent of the impact of financial flexibility variables in increasing the banking efficiency of the selected banks. The most important indicators measure the ratios of total liabilities, total assets, equity, liquidity ratio, return ratio, capital ratio, deposits, and loan ratio. The important conclusion indicated that the liabilities-to-assets ratio indicator reflects a close and stable level for the selected banks within the study period. This proves that the selected banks have financial flexibility in deploying funds. Accordingly, this study contributes by providing valuable insights to both financial institutions and policy-makers to promote a more flexible and efficient banking sector.

Publisher: Middle Technical University

Keywords: Banking efficiency, bankruptcy prediction, capital structure, sustainable finance, economic crises

1. Introduction

The development of the financial and economic sectors depends on the level of financial flexibility that companies have. This affects their ability to make investment decisions in emerging economies, even after accounting for various macroeconomic factors. It also influences the company's market value, the development of the stock market, and organizational quality [1-2]. However, the crises and natural disasters that the world has witnessed since 2020, especially during the Corona (COVID-19) pandemic, have greatly affected the local and international economies worldwide [3-4]. Accordingly, the majority of small and medium-sized companies faced significant challenges in generating profits due to issues with corporate sales, employment, asset growth, and corporate culture, as well as limited financial flexibility. To address financial crises, the best solution was to expand the balance sheet and improve cash liquidity by raising funds from banks, bonds, and stock markets [4]. Whereas, the return on equity and return on assets are used as indicators to evaluate a bank's performance. These indicators take into account factors that fundamentally affect the bank's performance, such as the bank's size, asset quality, liquidity, credit deposit ratio, and capital adequacy. Other important factors include the ratio of debt to equity, and employee productivity, as well as macroeconomic factors such as the inflation rate, tax rate, and gross domestic product [3].

Whereas, the efficiency of a bank has a direct impact on its profitability. The cost-to-income ratio negatively affects the bank's return on assets and net interest margin ratio. Additionally, the ratio of employee expenses to total expenses positively affects the bank's return on assets and has a non-significant positive effect on the bank's net interest margin ratio [5]. As, the quality of earnings is a growing concern for shareholders due to the potential increase in information asymmetry, which can have a negative impact on the financial flexibility of the company. In contrast, higher earnings quality can mitigate information asymmetry and enhance financial flexibility [6]. Hence, most financially stable companies might choose to increase their investments. Increasing the investment potential relies on the continual improvement and quality of performance in the banking sector, as well as the development of the stock market. Financial companies can enhance their financial capacity by borrowing from banks [2].

Since 2015, the governments of 193 UN member states have adopted the 2030 Sustainable Finance Agenda, which was followed by the Paris Agreement. This became an important target for the European Union and was included in the "Treaty of Lisbon". These actions motivated international organizations to adopt a sustainable financing approach in their investment decision-making processes, directing capital towards sustainable investments to address urgent financial and economic crises [7].

Abdul Kareem et al., (20230) study conducted within the context of the Iraq Stock Exchange confirmed a significant impact of the working capital turnover rate and the financial leverage ratio on the sustainable growth gap for 25% of the Iraqi industrial companies listed on the Iraq Stock Exchange during the period 2005-2014 [8]. It's important to use financial analysis methods to understand the financial status of private Iraqi banks listed on the stock market and identify signs of financial failure or potential bankruptcy. The findings of a study by (Hilo and Mkalaf, 2021) used trend analysis of the Z value from 2014 to 2018, employing the Altman Z-score model. This model accurately detects banks' financial positions. Some private banks, like the Middle East Bank, have been suffering from financial distress since 2015, while the United Investment Bank faced financial distress in 2018 despite strong recent financial performance. This indicates financial risks from bad debts or increased financial loans without guarantees [9]. Financial indicators like the "Tobin Q model" can help determine the market value of banks, aiding management in developing strategies to reduce credit risks, improve profitability, and maximize returns during financial and economic crises [10].

Consequently, the current study's originality indicated its reliability in developing financial analysis models that can uncover key financial indicators contributing to improved efficiency in private Iraqi banks regulated by the Iraqi Securities Commission. Additionally, it intends to evaluate the financial flexibility of these banks to adapt and respond to sudden economic crises.

2. Methodology

This research aims to investigate the role of financial flexibility in achieving banking efficiency. It also seeks to identify private Iraqi banks that exhibit financial flexibility and banking efficiency by using a set of financial indicators to measure their performance. The research problem revealed that the majority of investors in the banking sector rely on the ability of bank management to achieve banking efficiency and financial flexibility, which in turn maximizes the financial performance of banks and enables them to mobilize financial resources in the face of future uncertainties.

Financial flexibility allows bank management to easily access external financing at the lowest possible cost. This is important for several reasons, including; (1) unexpected declines in income, (2) sudden new investment opportunities, (3) avoiding situations that may lead to weak investments, and (4) addressing the weak financial performance of banks. The research's hypothetical conceptual outline was designed based on the research problem and objectives, as shown in Fig. 1.

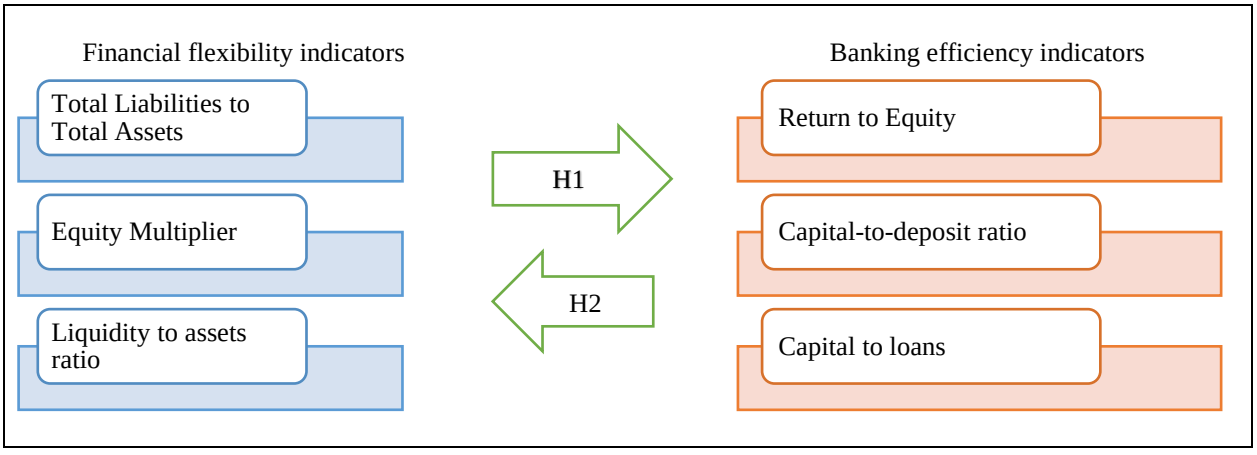

Fig. 1. Conceptual framework for research hypotheses

Accordingly, the research questions were formulated based on the research problem. These are:

Q1. What is the extent of financial flexibility that banks possess?

Q2. How does financial flexibility contribute to achieving banking efficiency?

Q3. Is there a statistically significant impact of financial flexibility on banking efficiency?

The research hypotheses were formulated to test the validity of the following research questions:-

H1: Is there a statistically significant effect of the financial leverage index on banking efficiency?

H2: Is there a statistically significant effect of the financial liquidity index on banking efficiency?

Consequently, a conceptual model was designed for the validity of the research hypotheses. The model includes two main variables. The first variable measures financial flexibility using indicators such as total liabilities to total assets, equity multiplier, and liquidity to assets ratio. The second variable measures banking efficiency using indicators like return to equity ratio, capital to deposits ratio, and capital to loans ratio. To validate the research hypotheses, five private Iraqi banks listed within the Iraqi Securities Commission were selected. These banks are "The Commercial Bank of Iraq, Investment Bank of Iraq, Credit Bank of Iraq, Gulf Commercial Bank, and Union Bank of Iraq". The data was collected from the annual reports officially published by the Iraqi Securities Commission for the period 2011-2020. So, quantitative statistical analysis methods and financial analysis standards were used to demonstrate the impact of financial flexibility on banking efficiency in selected private banks.

3. Literature reviews

3.1. Financial flexibility

Banks rely on making financial decisions based on the current economic conditions of the country to effectively address urgent financial and economic crises. This can be challenging due to the uncertainties and constantly changing information and data. This underscores the importance of financial flexibility in dealing with financial distress and crises that can have adverse effects on the financial positions of financial and economic companies [11]. The study emphasizes the significance of financial flexibility in dealing with crises that impact a company's income, decrease the value of its stocks, or limit its access to international capital markets [12].

Financial flexibility can be defined as the company's ability to effectively allocate its financial resources to achieve its objectives in line with its competitive position and the prevailing environmental conditions [13]. Also, is defined as "the company's ability to manage cash flow in the event of unexpected needs." This definition encompasses two fundamental aspects of managing the financial flexibility of banks [1- 14].

- ***The first aspect concerns the risks associated with unforeseen needs for cash flow and financial stability.***
- ***The second aspect pertains to financial flexibility or the extent to which banks can capitalize on opportunities in the stock market.***

Financial flexibility refers to the reserves available to banks due to untapped borrowing power, and the company's ability to adapt to changes in business conditions, such as the environment, technology, financial markets, and organizational structure [15]. As a result, the company's management can take effective measures to adjust the volume and timing of cash flows, enabling it to respond to and confront unexpected events and opportunities [16]. In the context of commercial banks, financial flexibility refers to the bank's ability to carry out future operations using its own funds and to meet investment needs and growth opportunities through an effective financial strategy [17]. Financial flexibility is achieved when bank management can acquire liquid assets when they are needed [18-19].

Shah et al., (2014) study suggested three basic dimensions of financial flexibility are necessary to achieve competitive advantage for banks that are consistent with continuous developments, namely; diversification, innovation, and change [20]. Financial flexibility refers to the company's ability to respond effectively to emergency conditions and unexpected economic and financial crises that have a significant positive impact on the company's performance (return on assets). Which is important in strategic adaptation [21]. Therefore, business companies face constant fluctuations in their cash flows. Also, a limitation in investment opportunities. So, it needs financial flexibility to avoid economic and financial crises [22-23-24]. Otherwise, the company's management may face difficulties in securing its financial needs (cash liquidity), to survive and compete in the stock market. Then, the possibility of financial failure, which means losing the flexibility of growth and improving performance [25].

3.2. Measuring the financial flexibility

Financial flexibility measuring can be tested for financial Leverage and liquidity ratio tests for the business banks.

Financial Leverage: The Company's ability to utilize borrowed funds for additional profits can be measured by exploiting investment opportunities, which is quantified by the following ratios:

Ratio of total liabilities to total assets = total liabilities/total assets x 100 (1)

Equity multiplier = Total assets/Equity x 100 (2)

Liquidity ratio measures a company's ability to meet its financial obligations. In other words, it indicates whether the company can pay its debts without financial difficulty. This ratio is calculated using the cash balance ratio, cash liquidity ratio, and liquidity coverage ratio [26-27-28]:

Cash balance ratio = cash assets / total deposits x 100 (3)

Cash Ratio = Cash + Investments / Total Deposits x 100 (4)

Asset liquidity ratio = current assets/total assets x 100 (5)

Liquidity Coverage Ratio = High Quality Liquid Assets/Net Cash Outflows within 30 Days x 100 (6)

This study focused on measuring the financial flexibility of the selected private banks in Iraq by using the total liabilities to total assets ratio, the equity multiplier, and the asset liquidity ratio.

3.3. Banking efficiency

Banking efficiency is closely tied to the ability to generate profits. The market power of banks depends on their capacity to earn additional profits that match the fast changes in the securities market [29-30]. Banking efficiency refers to a bank's effectiveness in utilizing resources to increase financial returns while minimizing operational costs [31-32]. Factors such as inflation, economic growth, competition, corporate development, and bank size all can influence a bank's efficiency [29]. Increasing the number of bank branches can lower efficiency due to higher operational costs. Factors like challenges in identifying suitable local markets, societal and economic conditions, and the complexity of establishing electronic banking services contribute to this. Banks must prioritize efficiency and have sufficient capital to manage stock market fluctuations and meet financial obligations to lenders and borrowers. [33-34].

Banks need to have sufficient capital as a safety measure to be able to handle potential losses. This is also an indicator of the stability and market strength of banks and is a legal requirement to improve the stability and performance of the banking system.[35] Consequently, banks must have enough liquidity in the form of cash, deposits, and short-term securities that can be readily converted into reserves to meet their obligations. Efficient banking is essential for reducing the cost of services while maintaining high quality and adhering to lending standards set by the monetary authority to minimize non-performing loans and achieve high returns [36].

There are various types of banking efficiency, including:

A - Functional efficiency: This type of efficiency refers to the optimal use of production elements, inputs, and outputs. While taking into account prevailing prices and technology [37].

B- Volumetric efficiency: This involves measuring the volume of services provided by the bank and assessing whether it aligns with the optimal volume and actual productivity. It also involves identifying lost productivity due to inefficiency [38], [39], and indicates potential cost savings when increasing the volume of banking products and fixed inputs [40].

C- Technical efficiency: This aspect refers to the bank's ability to achieve maximum outputs with a specific set of inputs [41].

1.1 Banking efficiency indicators

For measuring bank efficiency, it's essential to identify input and output variables, such as deposits, investments, and fixed assets. Two common approaches for this are the value-added approach and the operational approach [42, 43, and 44].

This study has incorporated several indicators for measuring banking efficiency, including:

- **Profitability ratios** are measured by finding the rate of return to assets. Similarly, the rate of return to equity is calculated using the following equations [45].

ROA = Net Income / Assets x 100 (6)
ROE = Net Income/Equity x 100 (7)
Cash Ratio = Cash + Investments / Total Deposits x 100 (8)
Liquidity Coverage Ratio = High-Quality Liquid Assets / Net Cash Outflows within 30 Days x 100 (9)

- **Net stable financing ratio:** It is used to measure liquidity in the medium and long term to provide stable liquidity resources for the bank. It must not be less than 100%. Financing (liabilities and ownership rights to the uses of these sources) is measured by the following ratio [15].

Net stable financing ratio = value of required stable financing/value of available stable financing x 100 (10)

One of the metrics that is used to measure banking efficiency is the DuPont model [46], which can be measured with the following equation:

ROE=Total Assets/ Equity * Total Revenue/Total Assets *Net profit/Total Revenue (11)

In this research, the following ratios will be adopted to reflect banking efficiency (return on equity, capital-to-deposits ratio, and capital-to-loans ratio).

4. Analyze and discuss the results

This section aims to verify the research hypotheses. Quantitative statistical methods and financial analysis standards were performed to demonstrate the impact of financial flexibility variables on private banking efficiency. The first variable involved assessing financial flexibility indicators, such as the total liabilities to total assets, the equity multiplier, and the liquidity to assets ratio. The second variable focused on evaluating banking efficiency through indicators including the return to equity ratio, capital to deposits ratio, and capital to loans ratio.

4.1. Financial flexibility indicators

4.1.1. Total Liabilities to Total Assets indicator

The total liabilities to total assets ratio indicates the bank's ability to use borrowed funds to generate additional profits by taking advantage of investment opportunities. The results in Table 1 show that the average of the observations was (0.51). The Union Bank of Iraq achieved the highest average at (0.57), while the Commercial Bank of Iraq achieved the lowest at 0.40. This resulted in a range of (0.11) between the highest and lowest averages. These results suggest that there is a narrow range in terms of the ratio of liabilities to assets for the selected banks, and the ratios were favorable.

Table 1. Shows the financial bank's status based on total liabilities to total assets of selected Iraqi private banks during (2011-2020).

Bank name	Years										SD
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Commercial Bank of Iraq	1.83	2.05	1.7	1.58	1.42	1.5	1.58	1.56	1.65	2	1.69
Investment Bank of Iraq	2.8	3.19	2.79	1.97	1.96	1.99	2.03	2.14	2.03	2.15	2.31
Credit Bank of Iraq	2.92	3.2	3.06	2.15	2.05	1.65	1.51	1.59	1.76	1.79	2.17
Gulf Commercial Bank	2.91	2.85	2.57	2.36	2.52	2.52	1.88	1.84	1.79	1.66	2.32
Union Bank of Iraq	2.25	5.11	2.29	2.58	2.42	2.39	2.26	2.1	1.83	1.86	2.51
The arithmetic mean	2.54	3.28	2.48	2.13	2.07	2	1.85	1.85	1.81	1.89	2.2
Source: The results were obtained by using the officially published annual financial reports of the selected private banks in this study											

The results in Table 1 show that the Union Bank of Iraq ranked first in achieving additional profits through investment of borrowed funds, with a ratio of (0.57), compared to an arithmetic mean of 0.51. Following closely are Gulf Commercial Bank with a ratio of (0.55), and Iraqi Credit with a ratio of (0.51), both compared to the arithmetic mean of (0.51). Furthermore, the results indicate that both the Iraqi Investment Bank (0.50) and the Iraqi Commercial Bank (0.40) face challenges in investing money and generating profits during economic crises.

4.1.2. Equity Multiplier Indicator

The Equity Multiplier Indicator helps the bank determine the ratio of total assets to ownership rights. According to Table 2. The average ratio across all observations is 2.20. The Union Bank of Iraq has the highest average ratio at (2.51), while the Commercial Bank of Iraq has the lowest at (1.69). This results in a range of (0.51) between the highest and lowest averages, showing a relatively close level of the ratio of total assets to ownership rights.

Table 2. Shows the financial bank's status based on the Ratio of total assets to equity of selected Iraqi private during (2011-2020).

Bank name	Years										SD
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Commercial Bank of Iraq	1.83	2.05	1.7	1.58	1.42	1.5	1.58	1.56	1.65	2	1.69
Investment Bank of Iraq	2.8	3.19	2.79	1.97	1.96	1.99	2.03	2.14	2.03	2.15	2.31
Credit Bank of Iraq	2.92	3.2	3.06	2.15	2.05	1.65	1.51	1.59	1.76	1.79	2.17
Gulf Commercial Bank	2.91	2.85	2.57	2.36	2.52	2.52	1.88	1.84	1.79	1.66	2.32
Union Bank of Iraq	2.25	5.11	2.29	2.58	2.42	2.39	2.26	2.1	1.83	1.86	2.51
The arithmetic mean	2.54	3.28	2.48	2.13	2.07	2	1.85	1.85	1.81	1.89	2.2
Source: The results were obtained by using the officially published annual financial reports of the selected private banks in this study											

In Table 2. The arithmetic mean results show the "bank debt utilization" measure of financial leverage, which reflects banks' ability to invest borrowed funds and generate additional profits. A higher debt leads to lower bank balances within a higher multiplier of financial stocks in the market. The top-ranking bank in terms of investing borrowed funds is "Union Bank of Iraq", which achieved a ratio of (2.51), compared to the arithmetic mean of (2.20). Following closely are "Gulf Commercial Bank, Investment Bank of Iraq, and Credit Bank of Iraq" with ratios of (2.32, 2.31, and 2.17) respectively, compared to the arithmetic mean of (2.20). On the other hand, the results reveal that the "Commercial Bank of Iraq", with a ratio of (1.69), faces challenges in using borrowed funds to generate profits, especially during economic crises.

4.1.3. Liquidity to assets ratio indicator

The liquidity-to-assets ratio indicates the extent to which a bank can meet its financial obligations to creditors and demonstrates its financial stability, as shown in Table 3. The average of all observations in Table 3 was (0.95(. The Credit Bank of Iraq has the highest average ratio at (0.99), while "The Gulf Commercial Bank, and Union Bank of Iraq" have the lowest at (0.91). The difference between the highest and lowest averages was (0.08), indicating a relatively small variation in liquidity-to-assets ratios among the banks.

Table 3. Shows the financial bank's status based on the Liquidity-to-assets ratio for elected Iraqi private banks from 2011 to 2020.

Bank name	Years										SD
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Commercial Bank of Iraq	0.99	0.9	1	1	0.99	0.99	0.98	0.98	0.98	0.98	0.98
Investment Bank of Iraq	0.96	0.96	0.97	0.97	0.97	0.97	0.96	0.97	0.97	0.97	0.97
Credit Bank of Iraq	1	0.99	1	1	1	0.99	0.99	0.99	0.98	0.97	0.99
Gulf Commercial Bank	0.94	0.95	0.95	0.94	0.94	0.92	0.83	0.84	0.92	0.83	0.91
Union Bank of Iraq	0.94	0.98	0.96	0.97	0.9	0.93	0.9	0.88	0.85	0.82	0.91
The arithmetic mean	0.97	0.93	0.98	0.98	0.96	0.96	0.93	0.93	0.94	0.92	0.95
Source: The results were obtained by using the officially published annual financial reports of the selected private banks in this study											

The results in Table 3 show the ability of banks to repay their debts and meet their obligations during economic crises and disasters without facing a decrease in financial liquidity or a financial deficit. The Credit Bank of Iraq ranked the highest, with a ratio of (0.99) compared to the average ratio of (0.95). The Commercial Bank of Iraq and Investment Bank of Iraq followed closely with ratios of (0.98) and (0.97), respectively, compared to the average ratio of (0.95). Conversely, the Union Bank of Iraq and the Gulf Commercial Bank both had a ratio of (0.91), indicating their inability to achieve their obligations and pay their debts during economic crises, compared to the average ratio of (0.95).

4.2. Banking efficiency indicators

4.2.1. Return to Equity Indicator

The return on equity indicator demonstrates the private bank's ability to achieve profitability. The results in Table 4 show that the general average of observations reached (0.05). The Gulf Commercial Bank achieved the highest arithmetic average among banks compared to the general average of (0.07), while the arithmetic averages for the Investment Bank of Iraq and the Union Bank of Iraq were both (0.06). The Credit Bank of Iraq and the Commercial Bank of Iraq achieved minimum averages of (0.04) and (0.03), respectively. Consequently, the range between the highest and lowest averages was (0.04), indicating varying levels of instability of returns. This fluctuation occurs due to periodic rises followed by declines. It is important to note that the general average may not accurately reflect the reality for the rest of the years due to these risky percentages.

Table 4. Shows the financial bank's status based on the Return to equity for elected Iraqi private banks from 2011 to 2020

Bank name	Years										SD
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Commercial Bank of Iraq	0.04	0.07	0.04	0.03	0.03	0.03	0.03	0.04	0.02	0.01	0.03
Investment Bank of Iraq	0.1	0.03	0.17	0.12	0.07	0.04	0.02	0	0	0.02	0.06
Credit Bank of Iraq	0.12	0.14	0.07	0.05	0.04	0.02	0.02	0.02	0	0	0.04
Gulf Commercial Bank	0.11	0.24	0.18	0.12	0.04	0.02	0.01	0	0	0	0.07
Union Bank of Iraq	0.07	0.18	0.25	0.07	0	0	0	0	0	0	0.06
The arithmetic mean	0.09	0.13	0.14	0.08	0.04	0.02	0.02	0.01	0	0.01	0.05
Source: The results were obtained by using the officially published annual financial reports of the selected private banks in this study											

4.2.2. The capital-to-deposit ratio indicators

The capital-to-deposit ratio indicator is used to measure the ratio of capital to deposits, as shown in Table 5. The results in Table 5 indicate that the average of the observations was (8.00). The Union Bank of Iraq ranked first in attractive deposits, with the highest average achieved at the bank level, which was (29.83), compared to the general average of (8.00). The results of the Gulf Commercial Bank (7.19) and the Commercial Bank of Iraq (1.70) showed a significant difference in their ability to attract deposits compared to the general average. The Investment Bank of Iraq and the Commercial Bank of Iraq faced difficulties in attracting deposits, with credit amounts of (0.87) and (0.39), respectively, which affected their capital ratio. The average range between the highest and lowest ratios is (29.44), indicating varying levels of capital-to-deposit ratio among the banks. The general average is greatly affected by extreme ratios, which may not reflect the reality of the index for the other banks.

Table 5. Shows the financial bank's status based on the Capital-to-deposit ratio for elected Iraqi private banks from 2011 to 2020

Bank name	Years										SD
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Commercial Bank of Iraq	1.2	0.89	1.55	2.07	2.78	2.12	1.86	1.86	1.71	0.92	1.7
Investment Bank of Iraq	0.53	0.52	0.55	0.97	0.96	0.98	1.02	1.05	1.19	0.93	0.87
Credit Bank of Iraq	0.23	0.18	0.25	0.4	0.4	0.49	0.52	0.5	0.48	0.47	0.39
Gulf Commercial Bank	10.12	12.63	9.17	17.75	12.93	1.31	1.57	1.87	2.17	2.42	7.19
Union Bank of Iraq	20.94	18.86	16.97	36.74	11.76	13.03	58.73	43.45	40.35	37.44	29.83
The arithmetic mean	6.6	6.62	5.7	11.59	5.77	3.59	12.74	9.75	9.18	8.44	8
Source: The results were obtained by using the officially published annual financial reports of the selected private banks in this study											

4.2.3. Capital to loans indicators

Table 6. below displays the capital to loans ratio indicator. The results show that the average ratio across all observations was (1080.55). The capital ratio is an important measure for building confidence with depositors, as it represents the bank's strength to repay deposits during economic crises. Based on financial analysis, the Credit Bank of Iraq achieved the highest average ratio among banks, with (5358.51), while the Commercial Bank of Iraq had a much lower ratio of (36.66). The Gulf Commercial Banks, the Investment Bank of Iraq, and the Union Bank of Iraq had even lower ratios of (3.97, 2.51, and 1.08), respectively, compared to the overall average of (1080.55). The range between the highest and lowest ratios is displayed at (5357.43), indicating significant variation in the capital-to-loans ratio from year to year. These results suggest that extreme ratios have a substantial impact on the general average, which may not fully reflect the performance of the other banks.

Table 6. Shows the financial bank's status based on the ratio of capital to loans for elected Iraqi private banks from 2011 to 2020

Bank name	Years										SD
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Commercial Bank of Iraq	120.61	43.27	37.91	34.94	25.42	25.24	23.17	20.95	21.84	13.27	36.66
Investment Bank of Iraq	1.04	0.70	1.21	2.88	3.71	4.30	3.24	2.55	2.51	2.94	2.51
Credit Bank of Iraq	10.38	147.29	962.12	2129.94	50000	8.53	0	108.95	108.95	108.95	5358.51
Gulf Commercial Bank	11.05	2.92	4.12	8.40	4.28	1.04	1.47	2.14	2.15	2.16	3.97
Union Bank of Iraq	2.12	0.83	1.31	0.92	0.66	0.68	0.83	1.20	1.17	1.06	1.08
The arithmetic mean	29.04	39. 00	201.33	435.42	10006.81	7.96	5.74	27.16	27.33	25.68	1080.55
Source: The results were obtained by using the officially published annual financial reports of the selected private banks in this study											

4.3. Investigate the Research Hypotheses

This section is designed to investigate and validate the research hypotheses.

> The primary hypothesis is: "Is there a statistically significant relationship between financial flexibility and banking efficiency for the selected private banks in this study?"

This main hypothesis was assessed using "Pearson's correlation coefficient", as presented in Table 7. The quantitative statistical analysis reveals a correlation coefficient of (0.023) between the variables. The calculated T value was (0.159), which is lower than the tabulated T value of (2.042) at a significance level of (0.875). These results suggest a weak significant relationship between the independent variable and the dependent variable. Consequently, this hypothesis was rejected as it did not meet the research objectives.

Table 7. Analyzing the correlation between variables using the Pearson correlation coefficient matrix

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
		B	Std. Error	Beta				
1	Constant	527.142	1087.300		.485	.630		
	x7	-130.210	820.847	-.023	-.159	.875		
Coefficients[a]								
		95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	Constant	-1659.022	2713.306					
	x7	-1780.633	1520.212	-.023	-.023	-.023	1.000	1.000
	a. Dependent Variable: x8, N=50							

The second main hypothesis was tested to determine:

> "Whether there was a statistically significant effect of financial flexibility on the banking efficiency of the selected private banks".

This was accomplished by using quantitative statistical methods such as linear regression to measure the impact of financial flexibility on banking efficiency. Tables 8 and 9 display the results of the testing. Table 8 presents the testing of the second main hypothesis through influence relationships using the coefficient of determination and the significance of the effect. The coefficient of determination was 0.001, and the calculated F value (0.025) was lower than the tabulated value of (0.875). These results indicate non-acceptance of the second hypothesis, as indicated in the table using regression analysis.

Table 1. The impact of financial flexibility on banking efficiency using linear regression analysis.

Model Summary[b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.023[a]	.001	-.020-	2379.00984	.001	.025	1	48	.875	2.048
a. Predictors: (Constant), x7; b. Dependent Variable: x8; N=50										

Table 9. The (F) test results display the effect of financial flexibility on banking efficiency.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	142416.499	1	142416.499	.025	.875[b]
	Residual	271665016.105	48	5659687.836		
	Total	271807432.604	49			
a. Dependent Variable: x8; b. Predictors: (Constant), x7; *N=5*						

5. Conclusions and recommendations

5.1. Conclusions

This study shows that the efficiency of banking is directly influenced by the financial flexibility of the corporate financial sector. In the realm of private banking services, the capacity to adjust to evolving economic conditions and regulatory environments is crucial for attaining sustainable growth and a competitive edge in the Iraqi stock market. Hence, banks with high financial flexibility can quickly allocate financial resources, improve their capital structure, and take advantage of profitable opportunities. This enhances their ability to withstand economic crises, manage risks, and deliver acceptable returns to stakeholders such as owners and investors. To improve banking efficiency, financial institutions like the Central Bank of Iraq should concentrate on strategies that enhance their financial flexibility. This can be accomplished by diversifying funding sources, effectively managing liquidity, and maintaining a strong risk management framework. These measures can help banks steer clear of financial market crises and remain competitive in the future.

Accordingly, the key findings of this study can be summarized as follows:

1. The ratio of liabilities to assets for the selected private banks shows a convergence in level and stability from 2011 to 2020. This indicates that these banks have the financial flexibility to deploy funds and maintain a balance between total assets and ownership rights. The selected private banks have achieved similar levels of results, showing that they understand the importance of balancing their liabilities and assets.
2. The research findings demonstrate that the selected banks have increased their cash liquidity compared to their fixed assets. This suggests that the banks are choosing to hold onto cash rather than investing it. As a result, the banks are susceptible to bearing the costs associated with the decrease in the value of that money in the stock market.
3. The selected banks prioritize increasing their current assets, leading to a higher proportion of current assets to total fixed assets, providing an opportunity for long-term investment.
4. The selected private banks achieved different levels of return on equity, indicating that these banks may not fully understand the importance of financial returns given the cash liquidity deficit. Similarly, the capital ratio shows that deposits and loans are essential for banks to survive and thrive in the financial markets.
5. The study results showed that the private banks ranked based on financial indicators are as follows: the Iraqi Investment Bank took first place, the Iraqi Credit Bank took second place, and the Union Bank took last place.

5.2. Recommendations

This study uncovered that most Iraqi commercial banks depend on their capability to generate profits through investment returns in order to bolster their financial standing and competitiveness in the stock market. Investing in financial stocks is often associated with risks and unexpected financial losses [47]. Therefore, commercial banks must adopt electronic financial control systems that keep up with global technical developments to manage risks in the securities market [48]. In addition, using accurate and reliable forecast indicators to analyse stocks in the Iraqi stock market helps bank management make investment decisions in financial stocks. AlHakeem et al. (2023) study proposed effective models to predict the position of commercial stocks in Iraqi securities from 2017 to 2021. The study utilized artificial neural networks and long and short-term memory algorithms. The average square error rate was found to be less than 0.0016 using the short-term memory algorithm, while it reached 0.0055 using the artificial neural network algorithm [48].

Consequently, this study recommends that selected banks need to adopt the financial analysis of key indicators to improve their financial position in the stock market. This will help them survive and compete in the market, enhance their strengths, diagnose and address weaknesses,

take corrective measures, and prevent bankruptcy in time. Furthermore, “The Union Bank of Iraq should pay attention to financial indicators to improve its performance compared to other banks. It needs to identify weak points and address them. It also needs to adopt a new work strategy to enhance performance. In addition, banks in the research sample should focus on long-term investment besides short-term investment."

In conclusion, this study presents a series of strategies, policies, and practices aimed at improving and addressing issues within the bank. The following are the main areas that require focus:

1. Digital Transformation: Adopting technology and digital banking solutions to streamline operations, reduce costs, and provide convenient services to customers. This includes implementing mobile banking applications, online account management, and digital payment options.
2. Enhance risk management practices to reduce exposure to financial, operational, and compliance risks. by developing modern methods for risk assessment and regularly updating risk policies to ensure compliance with government regulations and laws.
3. Distinctive banking services to enhance the customer experience by using modern technologies. Based on a commitment to investing in training and development programs for employees to improve their communication skills with customers. This will assist the bank's managers in identifying issues promptly by conducting regular surveys to gather feedback from consumers and beneficiaries of our banking services.
4. Benefiting from employee expertise: Promoting a positive work environment to attract highly skilled employees to work in commercial banks. Where employee satisfaction is linked to customer satisfaction, so investing in your workforce can lead to improved banking service.
5. Financial stability involves maintaining a strong financial position by improving capital allocation, efficiently managing cash flow, and diversifying revenue sources. Regular review and testing of financial analysis models ensure flexibility in challenging economic conditions.
6. Implement stringent fraud detection and prevention procedures to safeguard customer accounts and bank assets. Continuously update security protocols and educate employees and customers about cybersecurity risks.
7. Compliance and Regulatory Commitment: Continuously monitoring updates in banking regulations and ensuring strict compliance. Developing a compliance management system that includes continuous monitoring, reporting, and employee training to avoid regulatory issues.
8. Continuous innovation of banking services to meet changing customer needs leads to increased market value for banks, revenue diversification, and greater competitiveness in the securities market.
9. Cost management: Implementing modern technical methods for customer service to reduce banking costs by streamlining work processes and cutting operational expenses.
10. Community involvement: commercial banks can enhance their reputation and build customer loyalty by actively engaging in supporting local initiatives, e.g. providing various low-interest bank loans that contribute to solving their problems.
11. Customer survey analysis: Use periodic surveys to gain insights into customer behavior, market trends, and operational efficiencies, aiding in decision-making for improving banking capabilities.
12. Professional ethics: Promoting professional ethical behavior within financial and banking organizations to establish trust with customers, government, and private entities benefiting from banking services.
13. Develop and regularly test disaster recovery and business continuity plans to ensure the bank can continue operating during crises.

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