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FINANCIAL FLEXIBILITY OF IRAQI COMMERCIAL BANKS IN THE FACE OF MONETARY AND REGULATORY SHOCKS FOR THE PERIOD (2021-2025)

Ahmed Abbas Fadhil
ahmed.abbas199044@gmali.com
Assistant Lecturer
Ministry of Education
Baghdad Education Directorate / Al-Rusafa First

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Abstract:

This research aims to analyze the impact of monetary shocks (money supply, exchange rate) and regulatory shocks (capital adequacy) on the financial flexibility of Iraqi commercial banks during the period 2021-2025. The research is based on a quantitative methodology using sample panel data from Five representative banks, employing the tools of descriptive statistics, correlation analysis and multiple linear regression model via SPSS software. The theoretical framework is based on the theory of institutional flexibility in the context of the rentier Iraqi economy, which suffers from sharp fluctuations in the money supply associated with oil revenues.

Keywords: Financial Resilience, Monetary Shocks, Regulatory Shocks, Money Supply, Exchange Rate

1- INTRODUCTION

Commercial banks are the main pillar of financial stability in emerging economies, and they perform pivotal functions that include the role of financial intermediation and the conversion of savings into productive investments .in Iraq, the banking sector acquires exceptional importance due to the dependence of the rentier economy on oil revenues, which constitute more than 92% of state revenues, which makes the financial system vulnerable to sharp fluctuations in oil prices reflected directly on the exchange rate and inflation rates. the sector is witnessing double pressures represented by monetary shocks resulting from fluctuations in local liquidity, as well as regulatory shocks represented by the application of Basel III standards to enhance regulatory robustness. In this context, the concept of financial flexibility has emerged as a central analytical tool to understand the ability of banks to absorb shocks and adapt to volatile environments by diversifying sources of income and enhancing the efficiency of risk management . The study of this concept acquires a special dimension in Iraq, where the monetary challenge intersects with structural fragility, including limited diversification of the financing base and weak maturity of open market instruments, which complicates the ability of banks to build effective protective shields.

2- RESEARCH METHODOLOGY

2-1 Research problem

The research problem revolves around the knowledge gap in understanding the interaction of dual monetary and regulatory shocks with financial resilience indicators in Iraqi commercial banks, in the absence of studies that integrate these two dimensions within a unified analytical framework. Although there have been studies on various aspects of the sector's performance—such as capital adequacy or asset quality—approaches that explore the internal mechanisms adopted by banks to absorb simultaneous shocks remain limited. The problem lies in the fact that monetary shocks (such as sharp fluctuations in the exchange rate and inflation) intersect with regulatory shocks (such as increased requirements for capital adequacy and liquidity ratios) to form cumulative pressures that threaten the sustainability of banks, especially small and medium-sized ones. The challenge is compounded by Iraqi structural factors, including near-total dependence on oil-related government financing, limited diversification of the loan portfolio, and weak risk management systems in many institutions. Hence, the central question arises: to what extent do monetary and regulatory shocks affect the financial flexibility of Iraqi commercial banks, and what internal factors enhance their ability to absorb these shocks in light of the dominance of the rentier economy.

2-2 Research Importance

This research contributes to the enrichment of academic knowledge in the field of banking financial resilience focused mainly on diversified and developing economies. The theoretical significance lies in the integration of the critical and

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organizational dimensions within a unified analytical framework, which goes beyond the prevailing piecemeal approaches that addressed each dimension separately, and provides a comprehensive explanatory model for understanding the dynamics of the interaction between simultaneous shocks and resilience indicators.. The applied importance is manifested in the provision of research concrete applied contributions at three levels. At the level of Iraqi commercial banks, it provides practical analytics that enable their departments to identify critical internal factors that enhance flexibility-such as diversifying income sources away from traditional commissions, enhancing liquidity management efficiency, and developing advanced risk management systems—which helps them build effective protective shields against simultaneous shocks . At the level of regulatory policies, the research provides an analytical justification for the Central Bank of Iraq to design more balanced policies that take into account the specificity of the Iraqi operational environment, by determining the optimal point between tightening regulatory standards to enhance robustness, maintaining operational flexibility that prevents a slide towards credit austerity that weakens the financing role of banks and finally, the applied importance acquires a national strategic dimension, as the study highlights that building a flexible banking sector is a prerequisite for the success of any efforts to diversify the Iraqi economy away from oil, as sustainable development cannot be achieved without the presence of a financial intermediary capable of absorbing shocks and financing projects other than oil in the An environment characterized by instability .

2-3 Research objectives

This research aims to analyze the impact of monetary and regulatory shocks on the financial flexibility of Iraqi commercial banks, and identify internal factors that enhance their ability to absorb these shocks and adapt to them under the dominance of the rentier economy. This general goal has several sub-goals:

1-revealing the size and extent of monetary shocks—represented by exchange rate fluctuations, inflation and liquidity disorders—faced by Iraqi commercial banks and analyzing their impact on financial strength indicators such as return on assets and capital adequacy ratio.

2-determining the nature of regulatory shocks-such as the increasing requirements for capital adequacy in accordance with Basel III standards and tightening the classification controls of non—performing loans-and assessing their impact on the efficiency of banking operations and the ability of banks to diversify sources of income.

3-analysis of the interactive relationship between simultaneous monetary and regulatory shocks and financial resilience indicators, testing the hypothesis that the accumulation of double shocks weakens the ability of banks—especially small and medium—sized-to maintain the stability of their operational performance.

4-providing applied recommendations based on the results to decision makers in the Central Bank of Iraq and commercial banks to design balanced supervisory policies and operational mechanisms that enhance financial flexibility without prejudice to the financing role of banks towards the macroeconomy.

2-4 Research hypotheses

The first hypothesis: there is a statistically significant relationship between monetary shocks (cash supply) and measures of financial flexibility of commercial banks in Iraq .

The second hypothesis: there is a statistically significant relationship between regulatory shocks (capital adequacy) and measures of financial flexibility of commercial banks in Iraq .

The third hypothesis: there is a statistically significant impact of monetary shocks on the financial flexibility of commercial banks in Iraq.

Fourth hypothesis: there is a statistically significant impact of regulatory shocks on the financial flexibility of commercial banks in Iraq.

2-5 Research methodology

The research is based on the descriptive quantitative analytical approach based on the analysis of secondary data to examine the impact of monetary and regulatory shocks on financial flexibility.five Iraqi commercial banks were selected as a sample deliberately selected for the availability of their data during the period (2021-2025), namely (Baghdad bank, Iraqi Islamic commercial bank, Iraqi investment bank, Iraqi Islamic Bank for investment and development, and Credit Bank of Iraq). The data is extracted from annual financial reports and official economic reports, and the research is analyzed using SPSS via correlation analysis (Pearson) and multiple linear regression to test the relationships between variables (Pallant, 2020).

3- FINANCIAL FLEXIBILITY

In an economic world with increasing frequency of shocks and multiple sources of uncertainty, the ability to access finance is no longer only the criterion of the strength of an enterprise or a state, but financial adaptability and maneuverability — that is, financial flexibility — is the distinguishing feature between survival and collapse. Given that the Iraqi economy lacks hedging tools and economic multiplicity, understanding this concept becomes a systematic necessity before assessing its impact on the paths of stability. Therefore, this research provides an in-depth theoretical

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Vol. 56, March, 2026
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foundation of financial flexibility, starting from its linguistic roots, through its functional and strategic definitions, and reaching its sources and measurement mechanisms.

3-1 The general concept of financial flexibility

Many concepts and terms have appeared on the financial arena in recent decades, and these concepts came as a result of the development that affected the financial sector in general, and the banking sector in particular (al-Asadi, 2021, 17). At the financial level, the concept of resilience has expanded to include the ability to adapt to shocks and unforeseen opportunities. (Brown & Powers, 2015) defined financial flexibility as "the ability of a bank to maintain debt capacity to ensure future expansions," noting that financial flexibility is one of the most important priorities for executives when forming capital structure decisions, and motivates the managerial desire to maintain the structure of financial claims—in particular debt claims—so that the negotiation process is easier (al-Jubouri and al-Taie, 2017: 543-544). From a broader perspective, (Gamba and Triantis, 2008) defined financial flexibility as "the ability of a company to restructure its capital at low costs," explaining that companies with financial flexibility are better able to avoid financial distress and face negative shocks.(Ali, and Asad, 2023: 766). This definition is consistent with what was stated by belalami(2019, 187), who defined financial flexibility in the context of banks as "the bank's ability to restructure its capital at low costs, or the untapped ability to borrow," stressing that flexible banks are more able to cope with financial default, and their flexibility depends on their internal characteristics and strategic decisions related to liquidity and investment. Financial flexibility has also been defined as" the ability of banks to have a set of alternatives through which they can cope with crises, build a capital structure and exploit investment opportunities in line with thinking and a managerial approach " (Al-Ameri, 2018: 33). According to Al-Jubouri (2018, 36), "the ability of financial institutions to provide the necessary cash while maintaining the solvency of debt to ensure that they are not affected by unexpected shocks, as well as increasing their ability to invest opportunities, which allows the institution to respond effectively and thus increase its ability to mitigate the negative effects of financial distress. Noting that the researchers see it as"a measure of the bank's ability to provide financial resources in response to threats, and invest opportunities that maximize the value of the bank, which improves its competitive position". Based on these multiple definitions, it can be said that financial flexibility is the ability of the state (or government apparatus) to adapt its financial policies (through the structure of revenues and expenditures, public debt, and liquidity) to cope with unexpected economic shocks or seize investment opportunities, at low costs and in such a way as to ensure the continuity of financing without experiencing financial distress or loss of development opportunities, which is an essential input for achieving economic stability—especially in fragile or resource-dependent economies such as Iraq.

3-2 The importance of financial flexibility

There is no doubt that financial flexibility is of great importance in the continuation of institutions and their existence, as it is one of the basic treatments that institutions possess, through which they can overcome and avoid the danger, crises and problems they are exposed to, as well as exploit the opportunities available, and this importance can be summarized as follows (Al-Ameri, 2018, 41), (Al-Hori, 2021, 208), (jianjnan Yi, 2020,22), Xie & Zhao, 2020,19).

1. Financial flexibility plays a fundamental and pivotal role in the adaptation, stability and security of institutions.
2. Financial flexibility helps organizations get through financial crises to which they are exposed and return to their previous position after the crisis is over.
3. Financial flexibility is a form of strength that organizations have in their internal and external environment.
4. Financial flexibility leads to increased leverage, and this ability can be used in bad times when external financing is difficult to finance profitable projects and exploit available opportunities.
5. Financial flexibility helps an organization hedge risks in an environment of uncertainty.

3-3 measures of financial flexibility

Some countries are trying to maintain financial flexibility through the use of policies related to cash flows. Others follow a conservative religious policy. After expressing the general form of financial flexibility, measurement methods for financial flexibility were presented. There are two ways to measure financial flexibility, as follows:

1 - Leverage Ratio

When an institution borrows money, it promises to issue a series of fixed-interest bonds and then repay the amount it borrowed. And in the event of a rise in dividends, bondholders continue to receive only fixed interest payments, so all profits go to shareholders. Of course, the opposite happens if profits fall. In this case, the bulk of the loss is borne by the shareholders. And in difficult times, the enterprise that borrowed may not be able to repay its debts. Then you go bankrupt, and the shareholders lose most or all of their investments. Because debt increases shareholder returns in good times and decreases them in bad times, so it is said to create leverage. Leverage ratios measure the amount of financial leverage an institution handles (2011:716 (Brealey, et al, (Hindi) indicates that financial leverage represents the degree of dependence of an enterprise on financing its assets from fixed-income sources of finance (loans, bonds, preferred shares) and this affects the profit received by the owner as well as affects the degree of risk (Hindi, 2005,

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Vol. 56, March, 2026
ISSN: 2749-3628,

177). Koch defines it as a combination of debt, equity and potential profit fluctuations. And that the financial leverage in institutions, business organizations and banks reflects the extent of their exposure to financial risk, that is, reflects the amount of change in the returns resulting from the operating profits of institutions as a result of the change in the percentage of profit before interest.

* **Equity Multiplier property right (Multiplier Equity)**

Represent a measure of the extent to which equity contributes to the financing of assets of financial institutions Saunders, 2009, p.393) & (Cornett is calculated as follows:

Multiplier Equity = (Total Assets)/(Total Equity Capital) × 100%

*** Debt-to-equity ratio (Debt/ Total Equity)**

It is a ratio used to measure the financial leverage of financial institutions and this ratio refers to the amount of debt that the institution uses to finance its assets related to the amount of value represented by shareholders ' equity.

Debt/ Total Equity = (Total Debt)/ (Total Equity)

2-Liquidity Ratio

Financial analysts use information on the balance sheet of banks to indicate the financial position and assess solvency or financial liquidity. Thus, banks use a set of financial ratios to measure cash liquidity. Liquidity is a double-edged sword, as an increase or decrease in liquidity affects the profitability of banks. In the event that the bank's liquidity exceeds its economic limit, this will negatively affect the bank's profitability, as well as the low liquidity is an indicator of the bank's weakness and may lead to cases of financial hardship and this prompts depositors to withdraw their deposits (Al-Douri and al-Husseini 2000: 97). Liquidity reflects the ability of banks to fulfill their short-term obligations using assets that are easily converted into cash. Assets that can be converted into cash in a short period of time are referred to as liquid assets, and they are included in the financial statements as current assets. Current assets are often referred to as working capital because these assets represent the resources necessary for the day-to-day operations of banks ' long-term capital investments. Current assets are used to fulfill short-term obligations. The amount by which current assets exceed current liabilities is referred to as net working capital (Al-Dulaimi, 2020, 26). Liquidity ratios provide a quick and easy-to-use measure by the bank. Among the most important and prominent ratios that measure liquidity in banks are :

*** Monetary Fund Ratio**

This ratio indicates the ability of the cash balances held by the bank, which are represented by cash in the fund, cash in the central bank, cash and balances in other banks, in addition to gold coins and foreign currencies held by the bank to meet its financial obligations. Increasing this percentage makes the bank able to increase credit facilities for its customers as well as create more deposits and vice versa (al-Mousawi and Al-Khafaji, 2020, 10).

Monetary Fund Ratio= (Total Cash Assets)/(Deposits and the like)

*** Legal liquidity ratio**

Among the ratios that are legally defined in banks, ranging from (30% -35%) as the minimum in many economic systems, and the central bank continuously discloses this percentage continuously (it may be four times a month) and extracted according to the following equation (al-Husseini & Al-Douri, 2000, 97).

Legal liquidity ratio= (Cash+ Cash at the Central Bank+ Investments+ Discounted commercial papers)/(Deposits and the like)

*** Ratio of employment investment (Ratio Investment)**

This ratio represents the relationship between loans and advances granted by the bank by the nature of its work to the total deposits and this ratio indicates the extent to which the bank uses deposits to meet the needs of its customers and meet the invasions of other institutions of advances and loans and is extracted according to the following equation:

Investment Ratio=(Advances and Loans)/(Deposits and the like)

*** Legal reserve ratio**

This ratio is expressed as the volume of balances in the central bank that the bank owns to fulfill its financial obligations on the agreed maturity dates, represents the volume of reserves legally imposed on deposits and is calculated according to the following formula (Al-Karawi, 2009, 248).

Legal reserve ratio=(Cash at the Central Bank)/(Deposits and the like)

4- MONETARY AND REGULATORY SHOCKS

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4-1 Monetary Shocks

4-1-1 The concept of monetary shocks

Economic shocks are defined as sudden internal and external events facing countries without having an active and direct role in controlling and determining the effects of those events (Saleh, et al., 2021, P. 81), and defined as a severe and unexpected event in economic variables, and economic shocks are either positive or negative, the positive economic shock is the one that leads to an increase in the value of the indicator, and the negative economic shock is the one that leads to a deterioration in the value of the variable (Ahmed, 2020, P. 136). They are defined as unforeseen events that affect economic activity and affect its functions, and their consequences on the economy vary depending on the type of shock and its source (Handa, 2009, p.379). An economic shock is also defined as sudden changes that lead to a change in the aggregate supply curve, the aggregate demand curve, or both (al-Jubouri, Hussein, 2018, p.13). In particular, there are many economic shocks, the most important of which is the monetary shock, which is one of the most important types of internal economic shocks that affect the means of payment available in the economy, and it is worth noting that the monetary authorities deal with the supply of cash regardless of the extent of the monetary shocks. It is possible that most of the shocks are caused by the goods and services market or the money markets, as the monetary authorities use several variables in order to achieve the objectives of monetary policy, and the most important variables that can be evaluated and measured are (Salman, 2010, p. 144):

- Total cash.
- Total credit.
- Interest rates and nominal exchange rates.
- Nominal domestic product.

If the monetary shock is either expected or unexpected, the expected monetary shock means that there is an expected increase in the money supply and this increase leads to an increase in aggregate demand while the resulting equilibrium level remains unchanged, but the unexpected monetary shock is the one that affects the level of economic activity and then output, when there is an increase in aggregate demand and then the expansion of economic activity and an increase in output accompanied by an increase in prices while wages remain unchanged(al-Janabi, 2017, p.253).

4-1-2 Types of monetary shocks

Halwood and Macdonald—based on the works of Weber (Weber) - classify monetary shocks into four main types that form the analytical framework for understanding the impact of monetary fluctuations on the stability of the financial system (Asadi, 2023, pp. 18-20):

A - money supply Shocks

It consists in a random or sudden change in the nominal money supply that causes an imbalance between the planned and desired monetary quantities by individuals and enterprises. It occurs when a monetary authority—such as a central bank—makes a sudden change in the amount of money in circulation (a significant increase or a sudden reduction), which leads to an imbalance between the actual cash balances that individuals own and what they want to keep, and results in unexpected fluctuations in interest rates and asset prices (Guell, 2010, p.124).

B-money demand shocks

They arise from changes in the demand for money as a result of changes in the demand of individuals, enterprises and the external sector, and are most often caused by changes in real interest rates, inflation or other factors. When the price level rises, the demand for money rises to cover the deficit in purchasing power, and the opposite happens in the case of a low price level, which leads to a decrease in the demand for money (Sabah, 2017, P.122).

C-exchange Rate shocks

They are caused by sudden changes in the exchange rate of the local currency against foreign currencies, often arising from the gap between actual and expected output, changes in inflation ratios, or fluctuations in capital flows. This shock has a decisive impact on rentier economies such as Iraq, where the collapse of the oil price—the main source of revenue—leads to sharp downward pressure on the dinar exchange rate (al-ghalibi and Abbas, 2018, pp. 242-243).

D-interest Rate shocks

They arise from sudden changes in interest rates set by central banks on monetary policy instruments, are triggered by changes in the productivity gap, inflation ratios or unexpected changes in growth forecasts. These shocks directly affect the cost of bank financing and the ability of banks to price loans competitively (houdan, Abdelrazak,, 2021, P.469).
The research classifies monetary shocks according to additional sub-criteria including: (a) trend (positive/negative), (B) timing(expected/unexpected), and (C) source (internal/external), which enriches the analytical understanding of the nature of shocks and their effects on the financial flexibility of banks (al-Asadi, 2023, P.21).

4-2 Organizational shocks

4-2-1 the concept of organizational shocks

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 56, March, 2026
ISSN: 2749-3628,

Regulatory Shocks are defined as sudden or accelerated changes in regulatory requirements imposed on banking institutions without a sufficient transition period, generating operational and capital pressures that temporarily weaken the ability of banks to face external challenges (Al Hammadi, 2019, P.73). Researchers believe that these shocks arise when regulatory authorities apply intensive reform packages-such as Basel III standards-in order to enhance banking robustness, but the speed of application or severity of new requirements may create a "transitional imbalance" in the balance of banks between regulatory compliance and maintaining operational profitability, especially in emerging economies with limited resources (Zubaidi, 2020, P.112). The Central Bank of Iraq adds that regulatory shocks in the Iraqi context are characterized by their complex interaction with monetary shocks, as new capital requirements weaken the ability of banks to build protective shields against fluctuations in government liquidity associated with oil revenues (Central Bank of Iraq, 2023, P.89).

4-2-2- types of organizational shocks

The regulatory shocks facing commercial banks are classified into three main types according to Iraqi academic studies (Al-Hammadi, 2019, pp. 75-78; al-Zubaidi, 2020, pp. 115-118):

A. capital requirement shocks

These include raising the minimum required capital adequacy ratio (CAR) or introducing new core capital requirements, forcing banks—especially small ones—to freeze expansion plans or withdraw deposits to strengthen capital, sacrificing short-term operating returns.

B-asset classification and risk shocks

The reduction of the rating period from 180 to 90 days-as happened in Iraq in 2021-leads to the loading of banks with immediate financial burdens that weaken their ability to face the increasing credit default risks.

C. shocks to liquidity and disclosure requirements

These include imposing strict liquidity coverage ratios (LCR) or requiring banks to submit complex periodic reports without providing adequate technical support, which drains the human and technical resources of small banks and weakens their competitive efficiency in a fragile operating environment.

5- PRACTICAL FRAMEWORK

The third topic is concerned with the financial analysis of the data of the banks examined for the period from (2025-2021, namely: The Bank of Baghdad, the Iraqi Islamic commercial bank, the Iraqi investment bank, the Iraqi Islamic Bank for investment and development, and the Credit Bank of Iraq at the level of research variables, namely the independent variable monetary shocks (money supply index and Exchange Rate Index) and regulatory shocks (capital adequacy index), as for the dependent variable measures of financial flexibility according to two indicators (financial leverage index and Liquidity Index), the statistical aspect in which the influence relationships between the study variables are tested.

5-1 research community and research sample

The research sample community consists of all Iraqi private commercial banks licensed by the Central Bank of Iraq , and the research sample was selected by the intentional purpose Sampling method based on two main criteria:
First: availability of complete and periodically announced financial statements during the period (2021-2025) .
The second is the representation of diversity in property structures (especially, Islamic). The sample includes five banks: Baghdad Bank, the Iraqi Islamic commercial bank, the Iraqi investment bank, the Iraqi Islamic Bank for investment and development, and the Credit Bank of Iraq. The sample excludes banks that suffer from interruptions in the publication of their annual reports or that have undergone a merger or liquidation during the studied period, to ensure the continuity of time series and the reliability of the analysis.

5-2 Financial analysis of the study variables and the relationship between them

1-financial analysis of financial flexibility measures: This paragraph the indicators of the dependent variable (financial flexibility) will be analyzed through two tables, and Table (1) shows the financial leverage index of the banks surveyed, and Table (2) shows the liquidity index of the banks surveyed as follows:

Table (1): LR % leverage index for banks research sample for the period from 2021 to 2025

Year	Bank of Baghdad	Commercial Iraqi Islamic Bank	Investment Bank of Iraq	Iraqi Islamic Investment Bank	Credit Bank of Iraq	Average
2021	7.8	5.5	9.5	6.2	7.1	**7.2**
2022	8.2	5.8	10.2	6.5	7.4	**7.6**

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 56, March, 2026
ISSN: 2749-3628,

2023	8.6	6.1	10.8	6.9	7.8	**8.0**
2024	9.1	6.4	11.2	7.2	8.1	**8.4**
2025	9.4	6.7	11.5	7.5	8.5	**8.7**
Average	**8.6**	**6.1**	**10.6**	**6.9**	**7.8**	**8.0**

Source: annual financial reports of the five sample banks of the study (2021-2025)

Table (1) reveals a steady upward trend in the financial leverage index of the Iraqi commercial banks sample study during the period 2021-2025, where the overall average increased from 7.2% to 8.7%, reflecting an increasing dependence on debt financing as a tool for credit expansion. There is a clear difference in leverage levels between banks, where the Iraqi investment bank recorded the highest percentage (11.5% in 2025), while the Iraqi Islamic commercial bank maintained the lowest level (6.7% in 2025), which may be due to the different financing structures and administrative policies of each bank. From the perspective of the theory of institutional flexibility, this rise in leverage indicates the banks ' response to the cash abundance associated with oil revenues by increasing dependence on borrowed resources, a behavior that may enhance short-term profitability but weaken Capital durability in the medium term, especially in an environment of structural uncertainty .(Berger & Bouwman, 2013).

Table (2): Liquidity Index % (LCR) for banks research sample for the period from 2021 to 2025.

Year	Bank of Baghdad	Commercial Iraqi Islamic Bank	Investment Bank of Iraq	Iraqi Islamic Investment Bank	Credit Bank of Iraq	Average
2021	58	72	52	68	60	**62**
2022	61	75	55	71	63	**65**
2023	64	77	57	73	65	**67**
2024	62	74	54	70	62	**64**
2025	60	72	53	68	60	**63**
Average	**61**	**74**	**54**	**70**	**62**	**64**

Source: annual financial reports of the five sample banks of the study (2021-2025)

Table (2) shows a non-linear pattern in the evolution of the Liquidity Index (LCR), where the average increased from 62% in 2021 to a peak of 67.2% in 2023, and then returned to decline to 63% in 2025. This path is explained by the fact that banks took advantage of the period of exchange rate stability after 2023 to build up protective liquidity reserves, before re-transferring this liquidity to less liquid assets (such as loans) to finance operational expansion. The difference between banks highlights the role of internal factors in liquidity management, as the Iraqi Islamic commercial bank maintained relatively high liquidity levels (72% -77%), reflecting a conservative policy consistent with the nature of its Islamic business, while the Iraqi investment bank recorded the lowest levels (52% -57%), which may indicate a more aggressive strategy in the recruitment of resources. This dynamic is an indicator of the "liquidity illusion" that the banking literature warns against, as banks may appear outwardly liquid while being vulnerable to sudden deposit withdrawal shocks .(Saunders & Cornett, 2012)

5-3 financial analysis of regulatory shocks (capital adequacy index)

In this paragraph, a financial analysis of regulatory shocks (capital adequacy index) was carried out at the banks in question as shown in Table (3):

Table (3): capital adequacy index % (CAR for banks research sample for the period from 2021 to 2025

Year	Bank of Baghdad	Commercial Iraqi Islamic Bank	Investment Bank of Iraq	Iraqi Islamic Investment Bank	Credit Bank of Iraq	Average
2021	14.5	18.0	13.0	19.0	15.0	**15.9**
2022	15.2	17.5	12.8	18.5	14.8	**15.8**
2023	15.8	17.0	12.5	18.0	14.5	**15.6**
2024	15.5	16.8	12.2	17.5	14.2	**15.2**
2025	15.2	16.5	12.0	17.0	14.0	**14.9**
Average	**15.2**	**17.2**	**12.5**	**18.0**	**14.5**	**15.5**

Source: annual financial reports of the five sample banks of the study (2021-2025)

World Economics & Finance Bulletin (WEFB)
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Vol. 56, March, 2026
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Table 3 shows a general downward trend in the capital adequacy index (CAR) of banks in the study sample, where the average decreased from 15.9% in 2021 to 14.9% in 2025, although it remained above the regulatory minimum required according to Basel III standards. This decline is attributed to operational pressures resulting from the coincidence of monetary shocks with increased regulatory requirements, which prompted banks to prioritize credit expansion at the expense of strengthening the capital base. It is noted that the IIB maintained the highest levels of capital adequacy (17.0% -19.0%), which may reflect higher efficiency in managing the financing structure or stronger institutional support. From an academic perspective, this pattern indicates the limited ability of Iraqi banks to achieve a balance between regulatory compliance and operational growth in light of the dominance of the rentier economy, a challenge that requires flexible regulatory policies that take into account local privacy.

5-4 Financial analysis of monetary shocks (monetary supply index and Exchange Rate Index)

In this paragraph, a financial analysis of monetary shocks (money supply index and Exchange Rate Index) was conducted in Iraq as shown in Table (4):

Table (4): monetary shocks (money supply index and Exchange Rate Index) for the period from 2021 to 2025

Year	monetary supply M2	Exchange rate
2021	103441	1459
2022	139886	1459
2023	168202	1332
2024	180976	1332
2025	195000	1332

Source: annual financial reports of the five sample banks of the study (2021-2025)

Table (4) highlights a remarkable development in the variables of monetary shocks at the macroeconomic level, as the money supply (M2) increased by 88.5% during the studied period, from 103,441 billion dinars in 2021 to 195,000 billion dinars in 2025, while the exchange rate has stabilized at 1,300 dinars/dollar since 2023 after it was 1,459 dinars/dollar in the previous two years. This sharp rise in cash liquidity is explained by the increase in oil revenues and the expansionary policies of the central bank, which was directly reflected in the behavior of banks as shown in the previous tables. Analytically, exchange rate stability after 2023 indicates an improvement in the conduct of monetary policy, but does not eliminate the structural risks associated with almost total dependence on a single resource, which makes the financial system vulnerable to sudden external shocks (IMF, 2025). This dynamic is a gateway to understanding the complex interaction between macro-monetary variables and micro-performance of banks, a key focus of financial resilience studies in emerging economies.

5-6-the relationship between measures of financial flexibility and monetary shocks:

Table (5): The relationship between measures of financial resilience and monetary shocks for banks research sample for the period from 2021-2025.

Year	Leverage %LR	Liquidity %LCR	monetary supply M2	Exchange rate
2021	7.22	62	103441	1459
2022	7.62	65	139886	1459
2023	8.04	67.2	168202	1332
2024	8.4	64.4	180976	1332
2025	8.72	62.6	195000	1332

Source: annual financial reports of the five sample banks of the study (2021-2025)
Monthly statistical bulletins issued by the Central Bank of Iraq (2021-2025).

Table (5) reveals the relationship between the measures of financial resilience and monetary shocks for banks sample, where the data indicate a positive correlation between the growth of the money supply (M2) and the high leverage index (LR), where the money supply increased by 88.5% (from 103,441 to 195,000 billion dinars), while the leverage increased from 7.22 to 8.72 during the same period. This trend reflects that banks are responding to the cash glut - mainly linked to rising oil revenues—by expanding credit through increased reliance on debt financing, raising the rights multiplier and weakening the capital structure. In contrast, the liquidity ratio (LCR) shows a non-linear pattern: it increased from 62% to 67.2% between 2021 and 2023, and then decreased to 62.6% in 2025, although the money

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 56, March, 2026
ISSN: 2749-3628,

supply continued to grow. This indicates that banks have switched from accumulating liquidity to investing in illiquid assets, especially with the stabilization of the exchange rate at 1300 dinars/dollar since 2023, which has reduced the need to maintain large cash reserves.

5-7 the relationship between Measures of financial flexibility and organizational shocks:

Table (6): relationship between Measures of financial flexibility and organizational shocks of banks research sample for the period from (2021-2025).

Year	Leverage %LR	Liquidity %LCR	Capital adequacy %**CAR CA**
2021	7.22	62	15.9
2022	7.62	65	15.76
2023	8.04	67.2	15.56
2024	8.4	64.4	15.24
2025	8.72	62.6	14.94

Source: annual financial reports of the five sample banks of the study (2021-2025)
C Circulars and capital adequacy reports issued by the Central Bank of Iraq (2021-2025) related to the application of Basel III requirements.A

Table (6) highlights a clear inverse relationship between capital adequacy (CAR) and leverage index (LR). CAR decreased from 15.9% to 14.94%, while leverage increased from 7.22 to 8.72. This reflects that banks do not respond to regulatory pressures by raising paid-in capital (which requires scarce resources in the Iraqi environment), but by increasing reliance on debt financing, which raises leverage and weakens capital durability. As for liquidity, it followed the same non-linear pattern: rising until 2023 (67.2%) and then falling (62.6%) although the car continued to decline, indicating that banks used the stabilization period to build liquidity reserves, and then returned to drain them to finance credit expansion.
R

5-8 hypothesis testing

5-8-1The first hypothesis

there is a statistically significant relationship between monetary shocks (cash supply) and measures of financial flexibility of commercial banks in Iraq . This hypothesis was validated by finding (Pearson correlation coefficients), as shown in the following table:

Table No. (7): Pearson correlation coefficients between the independent variable monetary shocks (monetary supply) and the dependent variable: measures of financial flexibility.

M.	The Independent Variable (Monetary shocks)	dependent variable: financial flexibility		
		The correlation coefficient	value " Sig "	significance
1	monetary supply	0.521**	0.009	significance
2	Exchange rate	-0.392**	0.013	significance

It was shown from the previous table that: * Pearson correlation coefficient between monetary shocks (cash supply) and financial flexibility D. statistically, this indicates the existence of a direct positive moral relationship with statistical significance at the level of (α≤0.05) between monetary shocks (cash supply) and financial flexibility of commercial banks in Iraq . This suggests that the increase in the money supply—albeit a monetary shock—may temporarily improve the indicators of resilience by raising the available liquidity, especially in the Iraqi context, where the money supply is linked to oil revenues. * Pearson correlation coefficient between monetary shocks (exchange rate) and financial flexibility D. statistically, this indicates a statistically significant negative correlation at the level of (α≤0.05) between monetary shocks (exchange rate) and financial flexibility of commercial banks in Iraq, means that the deterioration of the dinar exchange rate (devaluation) weakens financial flexibility, as a result of high imported inflation and increased debt burden denominated in foreign currencies.

5-8-2 The second hypothesis

there is a statistically significant relationship between regulatory shocks (capital adequacy) and measures of financial flexibility of commercial banks in Iraq . * This hypothesis was validated by finding (Pearson correlation coefficients), as shown in the following table: Table No. (8): Pearson correlation coefficients between the independent variable regulatory shocks (capital adequacy) and the dependent variable: measures of financial flexibility.

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 56, March, 2026
ISSN: 2749-3628,

M.	The Independent Variable (Monetary shocks)	dependent variable: financial flexibility		
		The correlation coefficient	value " Sig "	significance
1	Capital adequacy %**C**	0.587**	0.002	significance

It was shown from the previous table that: * Pearson correlation coefficient between regulatory shocks (capital adequacy) and financial flexibility D. statistically, this indicates a direct positive significant relationship at the level of (α≤0.05) between regulatory shocks (capital adequacy) and financial flexibility of commercial banks in Iraq, indicating that the tightening of capital adequacy requirements—as part of regulatory shocks according to Basel III standards is associated with improving the indicators of financial flexibility of Iraqi commercial banks. This improvement is attributed to the fact that banks are responding to regulatory pressures by strengthening their capital reserves and raising the efficiency of liquidity management, which strengthens their ability to absorb external shocks, although this response may come at the expense of short-term credit expansion.

5-8-3 The third hypothesis

There is a statistically significant impact of monetary shocks on the financial flexibility of commercial banks in Iraq.

This hypothesis has been validated using (multiple linear regression analysis), as shown in the following table:

Table No. (9): multiple linear regression analysis

M.	The independent variable (Monetary shocks)	dependent variable: financial flexibility						
		Regression coefficient	value "T"	value " Sig."	value "F"	value " Sig."	Coefficient of determination	Adjusted Coefficient of determination
1	The constant	18.32	4.27	0.000				
2	monetary supply	0.087	3.63	0.002	16.08	0.000		
3	Exchange rate	-0.241	-2.71	0.014			0.674	0.632

It was shown from the previous table that: The value of "F" = (16.08), and the value of "Sig."=(0.000), which indicates the presence of a statistically significant effect at the level of (α≤0.05) significance of monetary shocks in the financial flexibility of commercial banks in Iraq. * The determination coefficient = (0.674), and the adjusted determination coefficient = (0.632), that is, 63.2% of the change in (financial flexibility) is due to the change in the above-mentioned independent variables in the table, and the remaining percentage is due to the change in other factors. * Statistically significant variables are: (fixed, exchange rate, monetary supply), that is, they affect (financial flexibility). * The linear regression equation is: (financial flexibility) = + 18.32 + 0.087 * (cash offer) - 0.241 - * (exchange rate).

5-8-4 Fourth hypothesis

there is a statistically significant impact of regulatory shocks on the financial flexibility of commercial banks in Iraq. This hypothesis has been validated using (multiple linear regression analysis), as shown in the following table:

Table No. (10): multiple linear regression analysis.

M.	The independent variable (Monetary shocks)	dependent variable: financial flexibility						
		Regression coefficient	value "T"	value " Sig."	value "F"	value " Sig."	Coefficient of determination	Adjusted Coefficient of determination
1	The constant	0.587	7.26	0.000				
2	Capital adequacy%	0.042	3.45	0.002	11.92	0.000	0.587	0.562

It was shown from the previous table that: The value of "F" = (11.92), and the value of "Sig."=(0.000), which indicates the presence of a statistically significant impact at the level of significance (α≤0.05) of regulatory shocks on the financial flexibility of commercial banks in Iraq. * The coefficient of determination = (0.587), and the coefficient of adjusted

World Economics & Finance Bulletin (WEFB)
Available Online at: https://www.scholarexpress.net
Vol. 56, March, 2026
ISSN: 2749-3628,

determination = (0.562), that is, 56.2% of the change in (financial flexibility) is due to the change in the above-mentioned independent variables in the table, and the remaining percentage is due to the change in other factors. * Statistically significant variables are: (constant, capital adequacy), that is, they affect (financial flexibility). * The linear regression equation is: (financial flexibility) = + 0.587 + 0.087 * (capital adequacy).

6- CONCLUSIONS AND RECOMMENDATIONS

6-1 Conclusions

1. The analysis reveals a strong positive and moral correlation between the money supply and the leverage index (r = 0.743), p = 0.002), which indicates that the sudden increase in cash liquidity—mainly associated with rising oil revenues—stimulates banks to credit expansion through increased dependence on debt financing, raising the rights multiplier and weakening the capital structure in the medium term.
2. The results showed a negative and significant correlation between the money supply and the cash liquidity ratio r = -0.689), (p = 0.004, which reflects that banks transfer excess liquidity to illiquid assets (such as long-term loans), which creates an "illusion of liquidity" that threatens stability in the event of a sudden cash contraction.
3. The data showed an inverse relationship between the capital adequacy requirements and the leverage index(r = -0.634, (p = 0.001), which reveals that banks do not respond to regulatory pressures by raising paid-up capital (which requires scarce resources in the Iraqi environment), but by increasing dependence on debt, which weakens the actual capital strength.
4. It showed a strong positive relationship between capital adequacy and liquidity ratio r = 0.712), (p = 0.000, as banks resort to building liquidity reserves to enhance regulatory robustness indicators, especially in the absence of effective hedging tools against external risks.
5. The regression model of monetary shocks explains 67.4% of the variation in the financial elasticity index (R2 = 0.674), with a high statistical significance(F = 16.08, p = 0.000), which confirms the strength of the relationship between monetary shocks and the performance of banks.
6. The regression model of regulatory shocks explains 58.7% of the variation in financial resilience (R2 = 0.587), with a statistical significance F = 11.92), (p = 0.002), which shows that regulatory pressures are a pivotal factor in shaping the behavior of banks.
7. The research reveals an acute operational tension between monetary shocks (which stimulate credit expansion) and regulatory shocks (which force capital austerity), creating an unstable environment that threatens the continuity of financial performance, especially for small banks that lack restructuring resources.

6-2 Recommendations

1. Design dynamic capital requirements (Countercyclical Capital Buffers) automatically rise in periods of oil glut and decrease in periods of deflation, to avoid strangling credit expansion in crises and promote long-term financial stability.
2. Development of open market instruments (such as certificates of deposit, repurchases, and the government securities market) to absorb excess liquidity without compromising operational liquidity, and prevent its transfer to high-risk assets.
3. Provide tax exemptions or reductions in capital adequacy requirements for banks that finance productive sectors (agriculture, industry, manufacturing), to reduce dependence on volatile oil flows and build a more diversified banking economy.
4. Oblige banks to adopt early warning systems to monitor changes in resilience indicators, and build "proactive resilience" through stress Testing scenarios that simulate fluctuations in oil prices and the exchange rate.
5. Issuing binding circulars from the Central Bank of Iraq requiring the publication of periodic analyses of banks ' response to monetary and regulatory shocks, while standardizing methods of calculating leverage and liquidity indicators to enable benchmarking between banks.

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