CENTRAL BANK OF IRAQ
STATISTICS & RESEARCH DEPARTMENT
MONETARY & FINANCIAL STABILITY DIVISION

FINANCIAL STABILITY REPORT 2024

Central Bank of Iraq
Statistics & Research Department
Monetary & Financial Stability Division

البنك المركزي العراقي
دائرة الإحصاء والأبحاث
قسم الاستقرار النقدي والمالي

تقرير الاستقرار المالي لعام 2024

Financial Stability Report 2024

Name: Financial Stability Report 2024 (Issue No. 15)
Description: Baghdad – Central Bank of Iraq, Issued Annually, Started in 2010.
Address: Central Bank of Iraq, Alrasheed St., Baghdad, Iraq.
Phone: 8165171
P.O: 64
Fax: 0096418166802
Email: cbi@cbi.iq

Financial Stability Report: An Annual Analytical Study Prepared by the Monetary and Financial Stability Division within the Statistics and Research Department of the Central Bank of Iraq. This report is used to prepare the necessary indicators for diagnosing financial risks that may harm the Iraqi financial sector, as well as to analyze these risks according to local and international scientific practices.

You can quote from the report according to the following format:
Central Bank of Iraq, Financial Stability Report 2024, Issue No. 15, Baghdad, Iraq, 2024.

Requests for electronic copy of this issue should be sent to the following address: mfs.dept@cbi.iq

English Edition / Central Bank of Iraq 2025
Design: Central Bank of Iraq / Statistics & Research Department / Monetary & Financial Stability Division

CONTENTS

CONTENTS

CONTENTS

CONTENTS

The List of Tables

The Financial Stability Report is one of the key reports issued by the Central Bank of Iraq for the purpose of assessing the operation and soundness of the financial system and the institutions operating within it. This assessment relies on a set of benchmark indicators that are adapted to the practices of the financial system to identify existing deviations and work towards overcoming them.

The report, which presents a detailed analysis of the Iraqi financial system's structure, is organized into seven chapters. It begins with an **analysis of financial sector developments** and concludes with the **Financial Stability Index**. Key sections include two recently introduced chapters: **Domestically Systemically Important Banks (D-SIBs)** and **Macro-Prudential Policy**, which reflect the specific operations of the Iraqi banking sector.

Other core chapters, such as **Macro Stress Tests** and **Household and Corporate Sector Indebtedness** (both updated this year), assess the influence of banks on the real economy. The final chapter details **Financial Infrastructure** Developments, addressing its current status and major annual advancements.

Ultimately, we hope this report will be a valuable guide for anyone interested in the Iraqi financial sector.

God is the Grantor of Success

Ali Muhsin Ismail Al-Alaq

Governor

Central Bank of Iraq

The Central Bank of Iraq (CBI) has adopted a series of policies and initiatives aimed at enhancing the financial system's efficiency and stability. This has been achieved by strengthening banks' solvency, expanding financial inclusion, deepening the use of electronic payment instruments, and modernizing the financial and digital infrastructure. These efforts have supported financial institutions in providing more efficient and inclusive services to both Business and individuals, thereby boosting financial depth and facilitating transaction settlements to the public and private sectors.

The progress realized in digital transformation, the development of payments systems, and the support for targeted credit toward productive sectors reflect the CBI's commitment to building a resilient and modern financial sector capable of adapting to challenges and supporting economic growth. These endeavors affirm the Central Bank of Iraq's vision for achieving sustainable financial stability, which serves as a crucial pillar for formulating more effective monetary policies and a fundamental basis for realizing comprehensive economic development in Iraq.

Financial Sector Developments in Iraq

The financial sector in Iraq, encompassing both banking and non-banking Institutions, continues to achieve significant strides toward development and stability.

The banking sector witnessed positive growth in total capital during 2024, rising from IQD (19.07) trillion in 2023 to IQD (20.54) trillion in 2024, representing a growth rate of 7.74%. This increase is attributable to the strategic directives issued by the Central Bank of Iraq (CBI), which aimed to strengthen banks' financial resilience by raising the minimum capital requirement to IQD (400) billion, payable in three installments of IQD (50) billion each, starting with the first installment.

Despite a slight decrease in total assets over the same period, dropping from IQD (205.25) trillion to IQD (203.33) trillion (a decline of 0.94%), this reduction is primarily due to a decrease in the assets of state-owned banks. These banks maintain their leading role in the sector, contributing a substantial share of (76.71%) of total assets.

Regarding deposits, while they fell from IQD (133.50) trillion to IQD (122.88) trillion over the period, the banking sector continues to develop its services and products to attract more savings. This effort is focused on enhancing public trust in the banking system, particularly through financial inclusion policies.

Credit registered a positive indicator, rising from IQD (95.66) trillion to IQD (102.24) trillion, with a growth rate of (6.87%). This growth was primarily driven by CBI initiatives aimed at funding vital economic sectors. Furthermore, cash credit increased from IQD (69.25) trillion to IQD (73.46) trillion, growing by (6.08%) over the same period, reflecting the Central Bank's pivotal role in stimulating economic activity through the banking system.

Finally, the non-banking financial sector, which includes financial institutions both supervised and non-supervised by the CBI, plays an increasingly important role in supporting development and financial stability by funding economic activities and directing investment. The Central Bank of Iraq remains committed to monitoring this sector and developing its regulatory frameworks to ensure its sustainable contribution to achieving macroeconomic objectives.

Prudential Policy in the Iraqi Financial System

The importance of macro-prudential policy became prominent following the 2008 Global Financial Crisis. It is considered one of the essential tools adopted by central banks and monetary authorities to enhance financial stability across the system as a whole. Based on the classification by the Basel Committee on Banking Supervision (BCBS), which stems from the Bank for International Settlements (BIS), these tools are divided into three types: capital-based tools, liquidity-based tools, and asset-side tools.

Iraqi banks achieved a high Liquidity Coverage Ratio (LCR) of (121.16%), in addition to a Net Stable Funding Ratio (NSFR) of (130.52%). Thus, the banks surpassed the minimum requirement of (100%) for both ratios.

However, Capital Adequacy declined to (39.35%) at the end of 2024, although it still did not exceed the minimum required limit of (12.5%).

The Risk-Weighted Assets (RWA) of government banks accounted for (51.55%) of the banking sector's total RWA. The remaining percentage of (48.45%) represents the ratio of private banks' RWA to the banking sector's total RWA. Furthermore, the ratio of the Net Open Position in Foreign Currency to capital rose to reach (49.30%) at the end of 2024.

Domestically Systemically Important Banks (D-SIBs)

Domestically Systemically Important Banks (D-SIBs), also known as systemic banks, play a significant role in banking activity. Their failure or collapse would have a major impact on local financial stability. Within the banking sector, (9) banks were classified as Domestically Systemically Important. These banks accounted for (20.44%) of the total assets of banking sector. Furthermore, their cash credit totaled (84.46%) of the aggregate cash credit, and their deposits were (12.59%) of the aggregate banking deposits. Their capital constituted (31.72%) of the total capital of the banking sector.

The Liquidity Coverage Ratio (LCR) reached (108.68%), and the Net Stable Funding Ratio (NSFR) reached (127.65%). Both ratios exceeded the minimum requirement of.(%100)

The credit granted by these banks to the private sector was (75.37%) of the total credit provided to the private sector. The non-performing credit of these systemic banks, relative to their cash credit,

was (4.69%). The ratio of non-performing credit for the household sector was (2.96%) relative to private credit, and (1.59%) relative to the systemic banks' total credit.

Household and Corporate Sector Indebtedness

The ratio of cash credit extended to the private sector to Iraq's GDP rose to (12%) in 2024, compared to (6.04%) in 2022. This credit is distributed between the household and corporate sectors. The ratio of credit extended to the household sector to GDP reached (8.27%) in 2024, while this ratio for the corporate sector was (3.78%) during the same period.

From a financial stability perspective, this indicates that household sector credit poses no high risk to financial stability and can be expanded without major concerns. Household credit represents (40.91%) of total credit and (68.39%) of total private credit, reflecting banks' focus on household lending, which acts as the main driver for private credit growth.

Furthermore, the ratios for non-performing household credit are (3.44%) relative to total credit and (5.75%) relative to private credit. These percentages are considered low and do not impact on the levels of financial stability.

Financial Infrastructure Developments

Iraq's financial infrastructure witnessed a qualitative leap during (2024) thanks to strategic initiatives launched by the Central Bank of Iraq (CBI). These initiatives aim to enhance the efficiency of the financial system, support monetary and financial stability, and expand financial inclusion nationwide.

The most prominent of these initiatives was the launch of the National Strategy for Bank Lending (2024–2029), in cooperation with the German Agency for International Cooperation (GIZ). The strategy aims to support private sector financing, particularly for Small and Medium Enterprises (SMEs)—to achieve economic diversification and reduce reliance on oil. The strategy has established clear objectives and key performance indicators to measure progress, while taking potential challenges into account.

Efforts toward digital transformation and the development of payment systems continued, including the modernization of the Real-Time Gross Settlement (RTGS) system, the Retail Payment System (IRPSI), the Automated Clearing House (ACH), and the On-Us Clearing System (ON-US). These systems recorded tangible growth in both the number of transactions and financial values, reflecting increased user confidence and the expanded use of digital financial tools.

The CBI also made advanced progress in enhancing cybersecurity, automating supervisory operations, and preparing the necessary infrastructure for banking digitization, including issuing regulations for establishing digital banks in Iraq.

Collectively, these developments represent essential pillars for building a more efficient, transparent, and inclusive financial system that contributes to supporting economic growth and achieving sustainable financial stability in Iraq.

Macro Stress Tests

The results of the Macro Stress Tests are analyzed according to two models; the first model analyzes the impact of shocks in certain variables on the growth rate of liquid assets. These variables are the growth rates of: (non-performing loans), (risk-weighted assets), (deposits), (cash credit), (market exchange rate), (public revenues), and (public expenditures). This model concluded that the relationship is inverse between the growth rate of liquid assets and the growth rate of both: (non-performing loans) and (risk-weighted assets). The remaining variables showed a direct (positive) relationship with the growth rate of liquid assets.

The second model analyzes the impact of shocks in certain variables on the (non-performing loan ratio). These variables are: (deposits), (cash credit), (public revenues), (public expenditures), (market exchange rate), and (inflation). This model concluded that the relationship is inverse between all the aforementioned variables and the (non-performing loan ratio).

In general, the analysis of the tests shows how these factors affect the sustainability and stability of the financial system, and how these shocks can lead to changes in the growth rate of liquid assets and the (non-performing loan ratio. This in turn affects the volume of credit provided to the private sector, which will reflect the variables of the economy. It is noted that the exchange rate is no longer a dynamic stabilizer of inflation following the implementation of the electronic platform for foreign transfers.

Financial Stability Index

The index maintained its level with a slight decrease, reaching (0.504) in 2024, compared to (0.521) at the end of 2023. This reflects the financial system's state of stability and its lack of exposure to potential risks.

An improvement was recorded in some stability indicators, with the Macroeconomic Index, the Capital Market Index, the Global Economic Index, and the Financial Cycle Index all rising to (0.175), (0.093), (0.024), and (0.030), respectively, in 2024. Conversely, the Banking Sector Index decreased to (0.182) in 2024.

Chapter one

Financial Sector Developments in Iraq

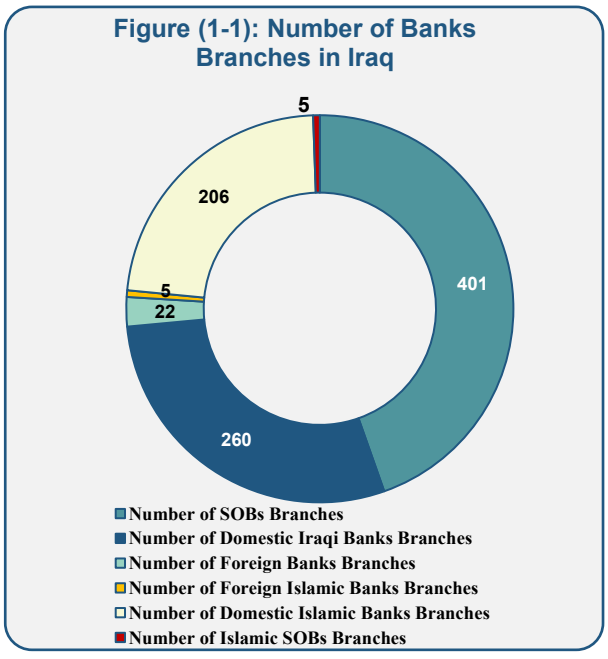
1- Financial Sector Developments in Iraq:

1-1 Developments of the Banking Sector:

The number of operating banks in Iraq reached (72) banks in 2024, distributed between (7) state owned banks (SOBs) and (65) private banks. The SOBs included (3) main commercial banks: Al-Rasheed, Al-Rafidain, and Trade Bank of Iraq. In addition to (3) specialized SOBs: Cooperative Agricultural, Industrial, and Real Estate Bank. The government sector also included one Islamic bank, Al-Nahrain Islamic Bank, bringing the total number of SOBs branches to (406) branches.

As for private banks, there are (22) private domestic conventional banks with (260) branches, in addition to (11) foreign conventional banks with (22) branches. The sector also includes (30) domestic Islamic banks with (206) branches, and (2) foreign Islamic banks with (5) branches, as shown in Figure (1-1).

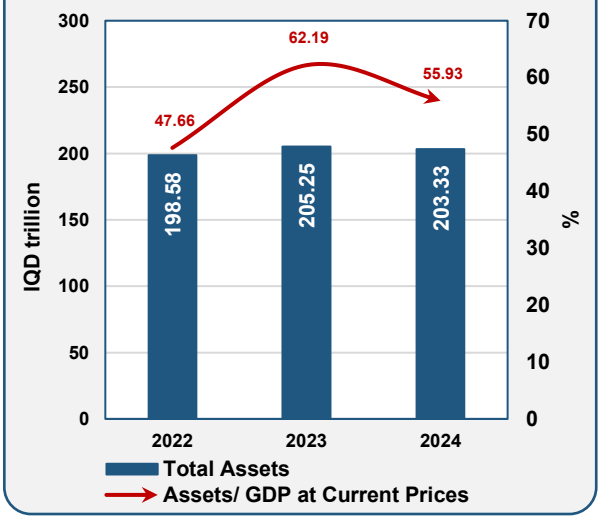
Figure (1-1): Number of Banks Branches in Iraq



1-1-1 Banking Sector Assets:

In 2024, the banking sector in Iraq witnessed a decrease of total assets by (0.94%) to reach IQD (203. 33) trillion after reaching IQD (205.25) trillion in 2023, which could reflect a natural restructuring process that enhances the efficiency of financial assets, despite a decline of deposits by (7.95%). This may contribute to banks moving towards more innovative strategies to enhance liquidity and attract investments. Also, the ratio of assets to GDP at current prices decreased from (62.19%) in 2023 to (55.93%) in 2024, as shown in Figure (1-2).

Figure (1-2): Ratio of Total Assets to GDP at Current Prices

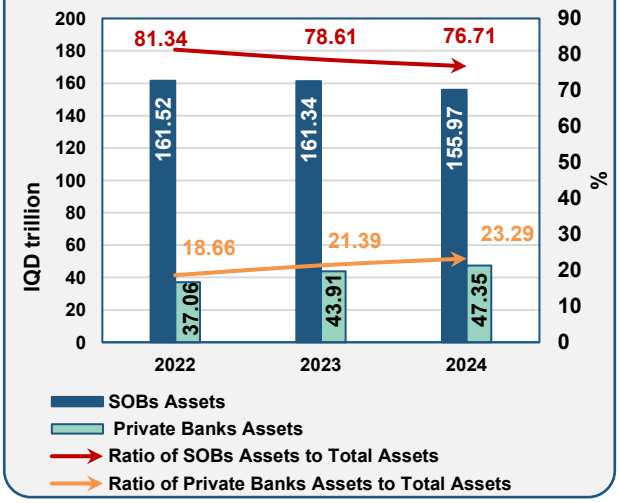


Total assets of **SOBs** witnessed a decrease from IQD (161.34) trillion in 2023 to IQD (155.97) trillion in 2024. Despite the decrease in the ratio of their assets to total assets from (78.61%) to (76.71%) for the same period, they maintained their leading position in the Iraqi banking sector. In contrast, **private banks** recorded a clear growth, as their assets increased from IQD (43.91) trillion to IQD

(47.35) trillion for the same period, thus increasing their ratio to total assets from (21.39%) to (23.29%) for the same period, which reflects increased confidence in them and the expansion of their role in the economy.

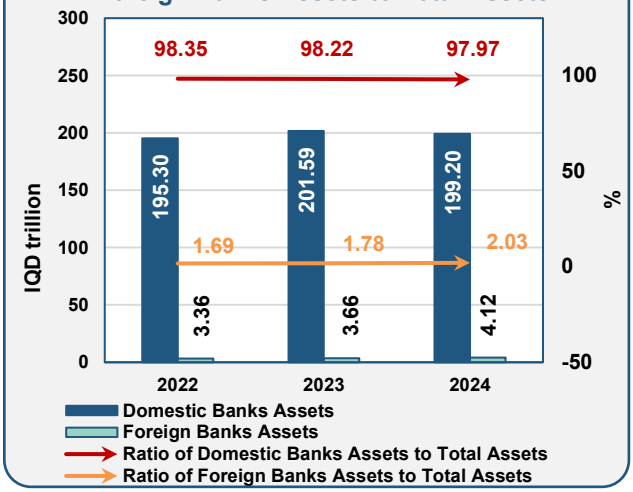
This development reflects greater maturity and diversity in the banking sector, as the high proportion of private banks contributes to enhance competitiveness between SOBs and private banks, which pushes towards providing more innovative and efficient services to beneficiaries. Banking competition between SOBs and private banks can create a more diversified and stable financial climate, as shown in Figure (1-3).

Figure (1-3): Ratio of SOBs and Private Banks Assets to Total Assets



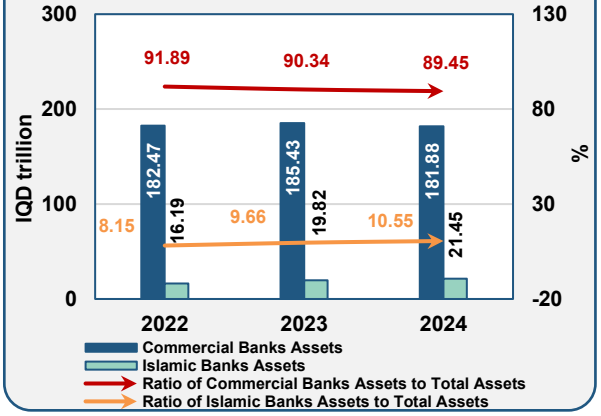
Total assets of **domestic banks** also witnessed a decrease from IQD (201.59) trillion to IQD (199.20) trillion for the same period, leading to a decrease in the contribution ratio of these assets to total banking assets from (98.22%) to (97.97%) for the same period. In contrast, **foreign banks** recorded a growth of their total assets, as it increased from IQD (3.66) trillion to IQD (4.12) trillion, which was reflected in an increase in its ratio to total assets from (1.78%) to (2.03%) for the same period, which enhances the role of foreign banks in the financial system, as shown in Figure (1-4).

Figure (1-4): Ratio of Domestic and Foreign Banks Assets to Total Assets



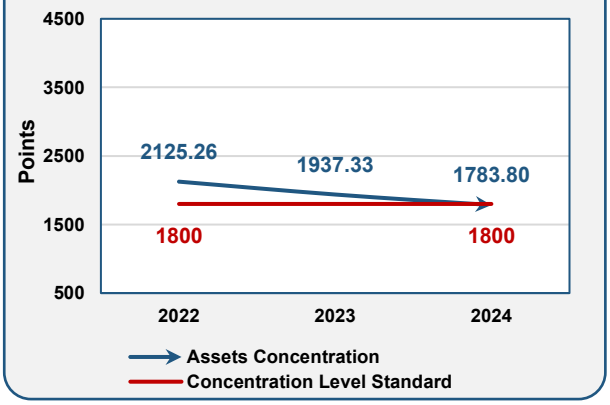
Also, **commercial banks (conventional)** assets recorded a decrease from IQD (185.43) trillion to IQD (181.88) trillion for the same period, therefore, the ratio of their assets to total assets decreased from (90.34%) to (89.45%). In contrast, the ratio of **Islamic banks** assets to total assets increased from (9.66%) to (10.55%) for the same period, reaching IQD (21.45) trillion in 2024 as shown in Figure (1-5).

Figure (1-5): Ratio of Commercial and Islamic Banks Assets to Total Assets



As for the (Herfindahl-Hirschman) index, which expresses the level of assets concentration for the five largest banks, it shows a decrease from (1937.33) points to (1783.80) points for the same period, as shown in Figure (1-6). It's a lower level than the index value of (1800) points. This decrease reflects an improvement in competition level within the banking sector, which provides a more diverse and sustainable environment for financial services. It also indicates the possibility of strengthening this trend in the future with other banks adopting financial technologies with the aim of developing their services and products, which contributes to enhance innovation and expanding the range of available options to clints.

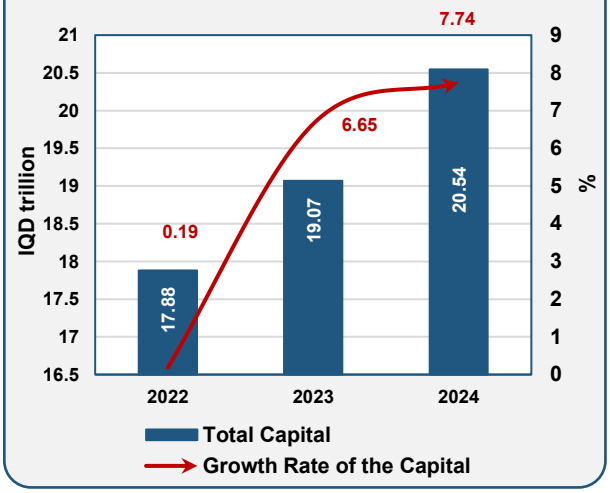
Figure (1-6): Assets Concentration level for the Five Largest Banks



1-1-2 Banking Sector Capital :

Total capital of the Iraqi banking sector increased from IQD (19.07) trillion in 2023 to IQD (20.54) trillion in 2024 with a growth rate of (7.74%) as a result of instructions issued by the Central Bank of Iraq to increase the capital ceiling for banks from IQD (250) billion to IQD (400) billion in the form of three installments, with an amount of IQD (50) billion for each installment starting the first installment on 31/12/2023 till the end of 2024, as shown in Figure (1-7).

Figure (1-7): Growth Rate of Banking Sector Capital



It is noted that the total capital of **SOBs** increased from IQD (5.02) trillion in 2023 to IQD (5.10) trillion in 2024 with a growth rate of (1.66%). Despite this increase, the ratio of capital contribution of SOBs to total capital of the banking sector witnessed a decrease from (26.32%) to (24.83%) for the same period.

As for **private banks**, their total capital witnessed a growth of (9.91%) for the same period, as they increased from IQD (14.05) trillion to IQD (15.44) trillion for the same period. The ratio of private bank`s capital contribution to total banking sector capital also increased from (73.68%) to (75.17%), however, it still constitutes the largest share of banks total capital, reflecting its continued major role in supporting banking activity and enhancing financial market stability, as shown in Figure (1-8).

Figure (1-8): Ratio of SOBs and Private Banks Capital to Total Capital of the Banking Sector

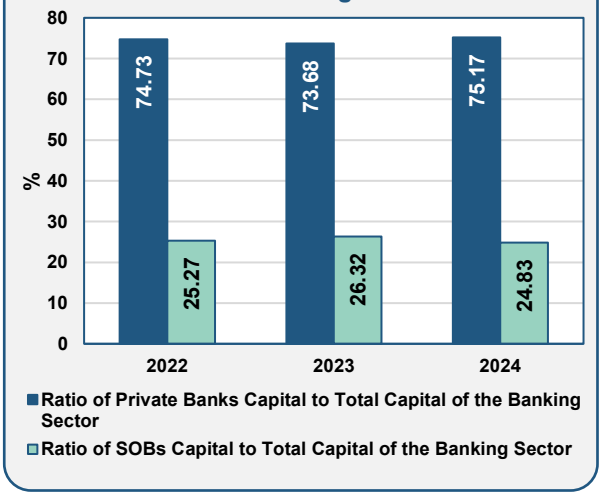
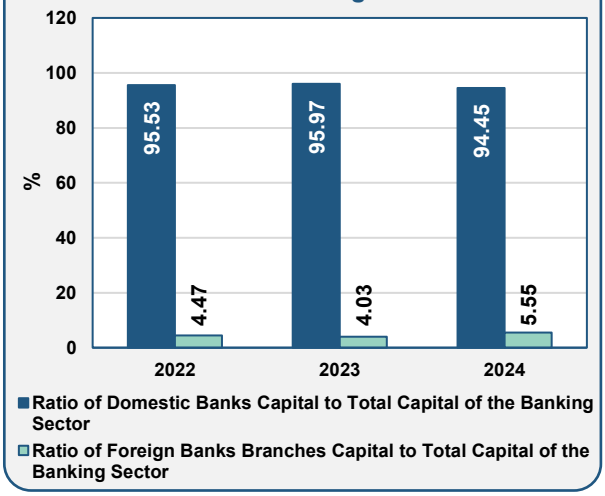


Figure (1-9): Ratio of Domestic and Foreign Banks Capital to Total Capital of the Banking Sector

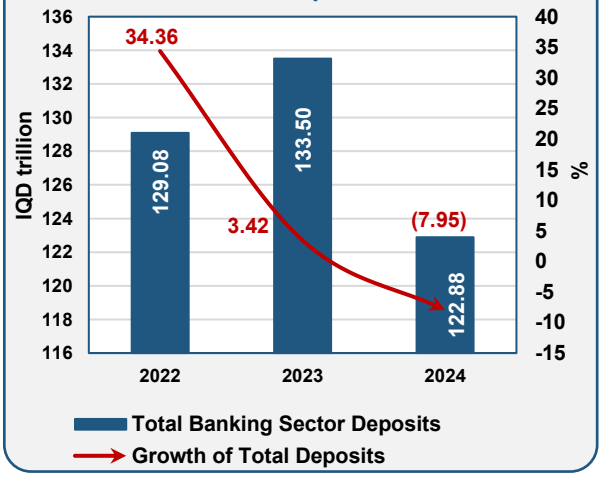


The banking sector also witnessed remarkable changes in the capital structure between domestic and foreign banks, as the total capital of **domestic banks** increased from IQD (18.30) trillion to IQD (19.40) trillion for the same period, recording a growth rate of (6.04%). Despite this growth, the ratio of domestic banks` contribution to total capital of the banking sector decreased from (95.97%) to (94.45%) for the same period. This change reflects the dynamism of the banking sector and its trend towards a greater balance between domestic and foreign banks. **Foreign banks** branches witnessed an increase in total capital from IQD (0.77) trillion to IQD (1.14) trillion, with a growth rate of (48.19%). Also, the capital contribution ratio of foreign banks as part of the total capital of the banking sector increased from (4.03%) to (5.55%), indicating an increase in foreign banks' role in the financial landscape and an enhancement in their competitiveness. Figure (1-9) illustrates these changes.

1-1-3 Banking Sector Deposits:

In 2024, the banking sector witnessed a significant decrease of total deposits, as deposits balance decreased from IQD (133.50) trillion in 2023 to IQD (122.88) trillion in 2024, with a decrease rate of (7.95%). This decline is mainly due to a decrease in current deposits, which decreased by IQD (10.67) trillion with a decline rate of (9.93%) for the same period. In addition, fixed deposits decreased by (0.39%), however, saving deposits witnessed a slight increase in growth rates by (0.58%), as shown in Figure (1-10).

Figure (1-10): Growth Rate of Banking Sector Deposits

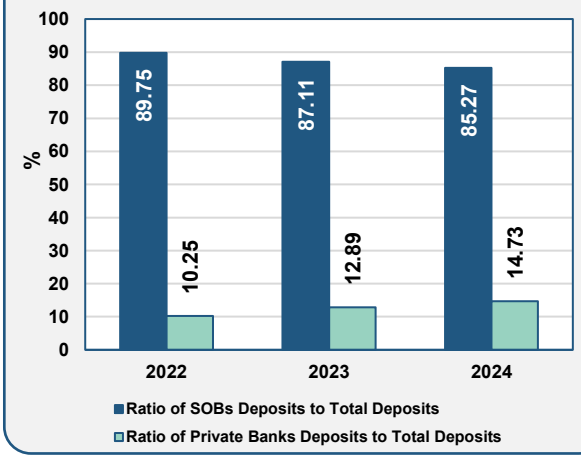


SOBs also witnessed a decrease in total deposits by (9.9%) for the same period, as they decreased from IQD (116.28) trillion in 2023 to IQD (104.78) trillion in 2024. This decrease is mainly due to a decrease in current deposits by (11.53%), in addition to the decrease in fixed deposits by (10.14%). Despite this decrease, savings deposits witnessed a slight growth of IQD (0.11) trillion with a rate of (0.76%).

Despite the decrease in total deposits, SOBs still dominate the banking sector, as their deposits constituted (85.27%) of total bank deposits in 2024, reflecting their continued major role in supporting the economy and financial stability.

As for total deposits at **private banks**, they recorded an increase of IQD (0.89) trillion, achieving a growth rate of (5.18%) for the same period. Current deposits constitute the largest share of total private deposits, as their value reached IQD (13.78) trillion in 2024. While total fixed and savings deposits amounted to IQD (2.61) trillion and IQD (1.72) trillion, respectively, in 2024. The ratio of private bank deposits to total bank deposits increased from (12.89%) to (14.73%) for the same period, reflecting its growing role in supporting financial activities, as shown in Figure (1-11).

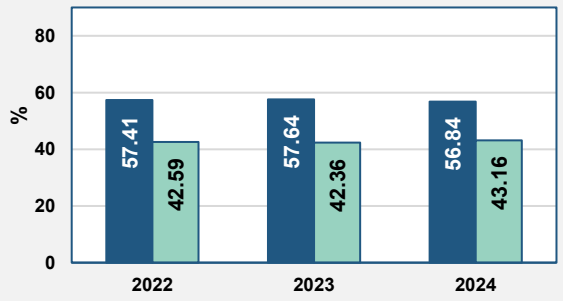
Figure (1-11): Ratio of SOBs and Private Banks Deposits to Total Banking Sector Deposits



Total **public sector** deposits also witnessed a decline, reaching IQD (69.85) trillion in 2024, as it recorded a decline rate of (9.22%) compared to 2023, which amounted to IQD (76.94) trillion. As ratio of total public sector deposits decreased to (56.84%) of total banking sector deposits in 2024 compared to (57.64%) in 2023 because of a decrease of total deposits of the central government from IQD (47.32) trillion in 2023 to IQD (42.43) trillion in 2024. As regards public institutions, their deposits decreased from IQD (29.62) trillion in 2023 to IQD (27.42) trillion in 2024.

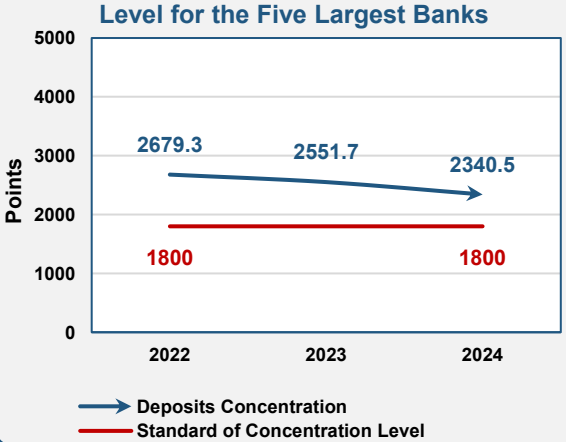
While **private sector** deposits recorded a decrease of IQD (3.52) trillion in 2024, with a decrease rate of (6.23%) compared to 2023. While the ratio of private sector deposits to total banking sector deposits increased by a small percentage from (42.36%) in 2023 to (43.16%) in 2024 because of a decrease in total banking sector deposits, as shown in Figure (1-12).

Figure (1-12): Ratio of Public and Private Sectors Deposits to Total Banking Sector Deposits



It is noted from Figure (1-13) that the Herfindahl-Hirschman index, which measures the deposits concentration, decreased from (2551.7) points in 2023 to (2340.5) points in 2024. However, the value of the index is still higher than the level of the value of the index (1800) points. This is clear evidence of public confidence in these banks, as most of them are affiliated with the public sector and are, therefore, guaranteed by the state. Thus, high concentrations in them do not constitute a defect of the financial system, and private banks must increase the banking services they provide to increase competitiveness.

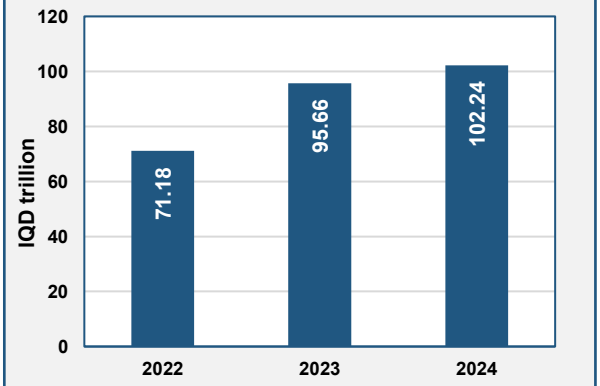
Figure (1-13): Deposits Concentration Level for the Five Largest Banks



1-1-4 Banking Credit Development:

Total credit extended by banks recorded an increase in 2024. As it increased from IQD (95.66) trillion in 2023 to IQD (102.24) trillion in 2024, with a growth rate of (6.88%) due to the increase of total cash credit from IQD (69.25) trillion in 2023 to IQD (73.46) trillion in 2024, with a growth rate of (6.08%). On the other hand, total commitment credit witnessed an increase from IQD (26.40) trillion in 2023 to IQD (28.78) trillion in 2024, with a growth rate of (9.01%), as shown in Figure (1-14).

Figure (1-14): Total Credit

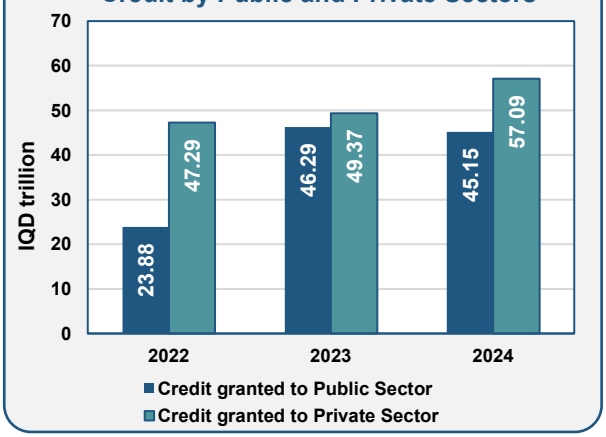


It was noted that the total cash credit granted to the public and private sectors exceeded the commitment credit volume granted to them. Cash credit granted to the public sector decreased from IQD (29.70) trillion in 2023 to IQD (29.52) trillion in 2024, with a decline rate of (0.61%). Its ratio to total cash credit amounted to (40.19%) for the same year. This decline resulted from the decrease of total cash credit granted to the central government from IQD (27.45) trillion to IQD (27.02) trillion, with a decline rate of (1.59%) for (2023-2024). The volume of cash credit in public institutions increased from IQD (2.25) trillion in 2023 to IQD (2.51) trillion in 2024 compared to total cash credit granted to the

private sector, as the latter increased from IQD (39.55) trillion in 2023 to IQD (43.94) trillion in 2024, with a growth rate of (11.10%) in 2024. This growth highlights the persistent gap between the ratio of cash credit granted to the public sector and that granted to the private sector.

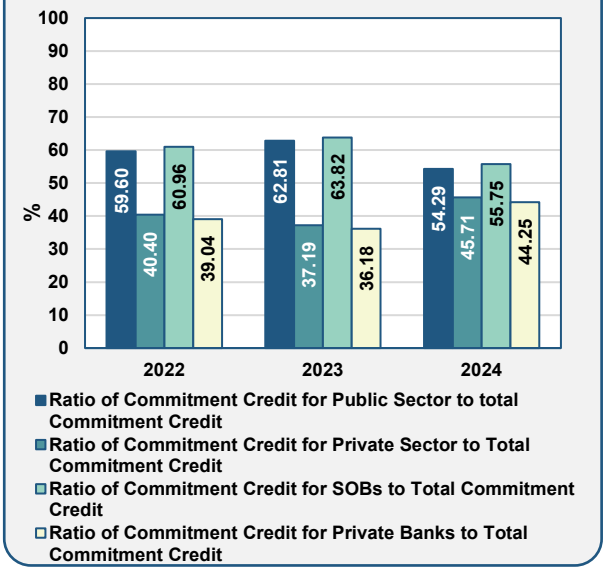
As for the commitment credit granted to the public sector, it decreased from IQD (16.58) trillion in 2023 to IQD (15.63) trillion in 2024, with a decline rate of (5.78%). This decrease is due to the reduction in the volume of commitment credit granted to central government from IQD (4.75) trillion to IQD (3.28) trillion, with a decline rate of (30.98%) during the period (2023-2024). On the other hand, commitment credit provided to the private sector recorded an increase of IQD (13.16) trillion, with a growth rate of (34%) in 2024, compared to the previous year, which amounted to IQD (9.82) trillion. The ratio of commitment credit granted to the public and private sectors to total commitment credit reached (54.29%) and (45.71%), respectively, in 2024, as shown in Figure (1-15).

Figure (1-15): Distribution of Total Credit by Public and Private Sectors



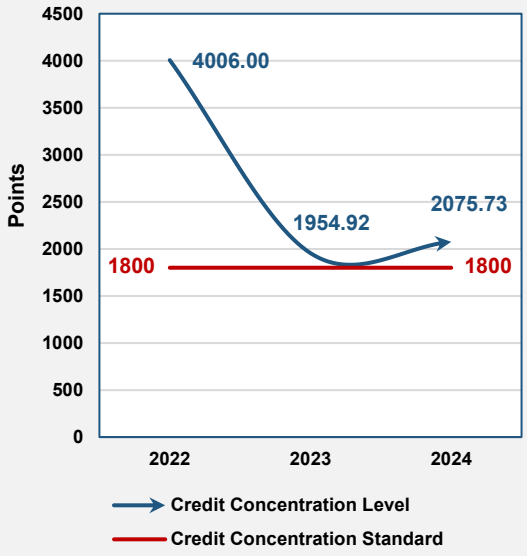
SOBs still hold the largest share of total cash and commitment credit provided by the banking sector. This is primarily attributed to the significant volume of deposits held by these banks, which enables them to grant credit. In addition, these banks enjoy high public trust. In 2024, total cash credit granted by SOBs increased from IQD (58.40) trillion in 2023 to IQD (60.35) trillion, with a growth rate of (3.35%). Its ratio to the total cash credit of the banking sector decreased to (82.37%) in 2024, compared to the previous year, which amounted to (84.32%). Total commitment credit granted to SOBs decreased from IQD (16.85) trillion in 2023 to IQD (16.05) trillion in 2024, with a decline rate of (4.77%). Its ratio to total commitment credit decreased from (63.82%) to (55.75%) during the period (2023-2024). As for private banks, total cash credit increased from IQD (10.86) trillion in 2023 to IQD (12.95) trillion in 2024, with a growth rate of (19.25%). In contrast, the volume of commitment credit granted by them increased from IQD (9.55) trillion for the previous year to IQD (12.74) trillion in 2024, with an increase rate of (33.31%). This increase shows an increase in its ratio to total commitment credit from (36.18%) to (44.25%) for the period (2023-2024), as shown in Figure (1-16).

Figure (1-16): Relative Importance of Commitment and Cash Credit for SOBs and Private Banks



SOBs hold a large ratio of cash credit provided by the banking sector, as the ratio of cash credit provided by the five largest SOBs reached (80%) of total cash credit. They captured the largest ratio of total cash credit provided to various economic sectors. The credit concentration points for the five largest banks recorded an increase to reach (2075.73) points in 2024 compared to the previous year, reaching (1954.92) points. Credit concentration at SOBs reveals its impact on controlling the banking sector. This is a natural result given its branch network that spread throughout Iraq, the ease of access to its services, and its clear developmental role in increasing the credit it provides compared to private banks, as shown in Figure (1-17).

Figure (1-17): Credit Concentration Level for the Five Largest Banks



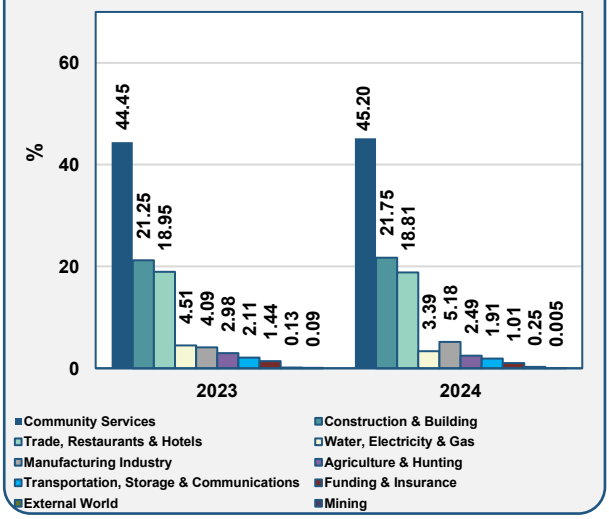
1-1-4-1 Sectoral Distribution of Cash Credit:

The community services sector holds the largest ratio of total cash credit, as it increased from IQD (30.79) trillion in 2023 to IQD (33.21) trillion in 2024, representing a growth rate of (7.86%). Its ratio to total cash credit increased from (44.45%) to (45.20%) for the same period. This is followed by the construction and building sector, where total cash credit increased from IQD (14.72) trillion to IQD (15.98) trillion for the same period, with a growth rate of (8.58%). Its ratio to total cash credit increased from (21.25%) to (21.75%) for the same period, in addition to a slight decrease in total cash credit provided to (trade, restaurants and hotels) sector by IQD (0.70) trillion. Its ratio to total cash credit reached (18.81%) in 2024 compared to 2023, which amounted to (18.95%).

Other sectors, such as (manufacturing industry), (agriculture & fishing), received low

ratios of the total credit granted. This indicates that Iraqi banks rely heavily on granting commercial loans, a practice consistent with the nature of real economic activity dominated by the following sectors: (Community services, construction and building, trade, restaurants and hotels). This emphasis, and the limited attention to other activities (industrial, agricultural, etc.), has contributed to shaping the sectoral distribution map of banking credit, as shown in Figure (1-18).

Figure (1-18): Ratio of Cash Credit for Economic Sectors to Total Cash Credit

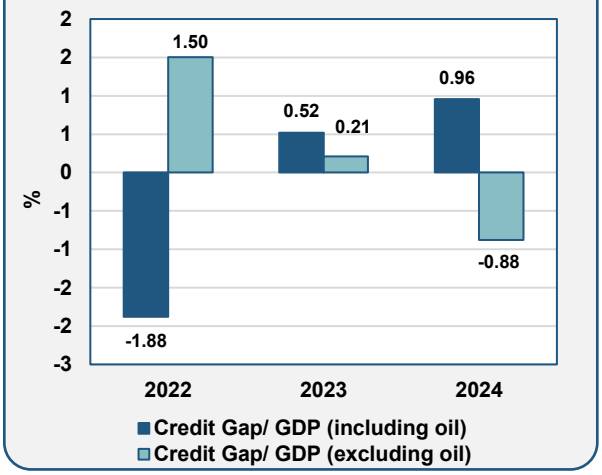


1-1-4-2 Analysis of Cash Credit Extended to Private Sector to GDP Gap:

The gap is measured by the difference between the ratio of credit extended to the private sector to GDP at current prices and its long-term trend to address cyclical fluctuations. A positive gap signal indicates an acceleration in the ratio's growth beyond its historical trend, which requires building buffers (from the reserve capital) to protect the banking system from potential risks when it reaches (2.5%). Additionally, an increase in the value of the gap above the upper limit of (10%) explains the increase of total credit by a ratio greater than the growth rate of GDP, which means an increase in the degree of risks resulting from excessive credit granting to the private sector. Consequently, this requires the building of a larger amount of additional capital reserves to meet expected losses and ensure the financial system remains able to continue performing its basic functions.

The Hedrick-Prescott (HP) Filter method, which is used by the Basel Committee on Banking Supervision (BCBS), was employed to calculate the Credit-GDP Gap. The results, shown in Figure (1-19), indicate a positive gap of (0.96%) when using GDP data including oil, but show a negative gap of (0.88%) when using GDP data excluding oil. These findings suggest that there is no immediate need to build additional capital buffers. This implies that banking credit can be increased without adversely affecting stability within the Iraqi financial system, provided the necessary standards and foundations for granting credit to various economic sectors are met.

Figure (1-19): Credit-to-GDP Gap



1-1-5 Total Non-Performing Loans (NPLs):

Total non-performing loans (NPLs) recorded an increase of IQD (5.25) trillion, with a growth rate of (20.91%) in 2024 compared to the previous year, which amounted to IQD (4.34) trillion. The ratio of (NPLs) to cash credit increased to (7.14%) in 2024 compared to the previous year, which amounted to (6.26%). This signifies a rise in risks facing the banking sector, particularly those originating from private sector activity, as private sector NPLs constitute the largest proportion compared to the public sector, as shown in Figure (1-20).

Figure (1-20): Ratio of NPLs to Total Cash Credit and Their Growth Rates

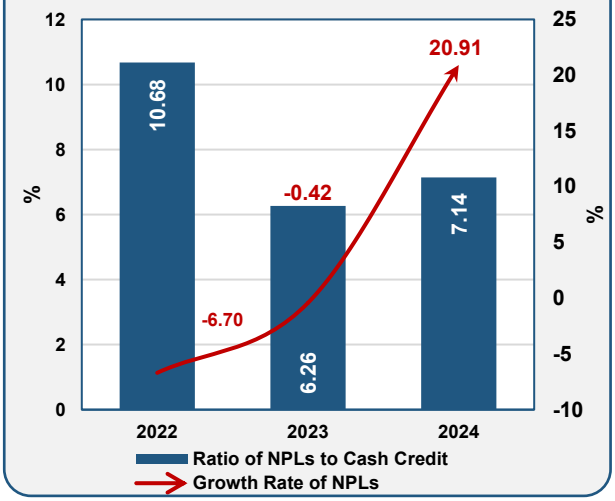


Figure No. (1-21) shows that the private sector continues to hold the largest ratio of NPLs compared to the public sector. Private sector NPLs increased from IQD (4.27) trillion in 2023 to IQD (5.17) trillion, with a negative growth rate (21.24%) in 2024. The private sector's ratio of NPLs to total NPLs reached (98.63%) in 2024, an increase from (98.36%) in the previous year.

Figure (1-21): Ratio of NPLs for Public and Private Sectors toTotal Cash Credit

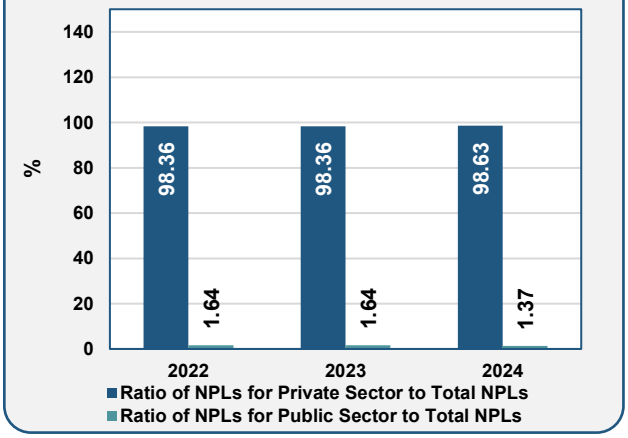
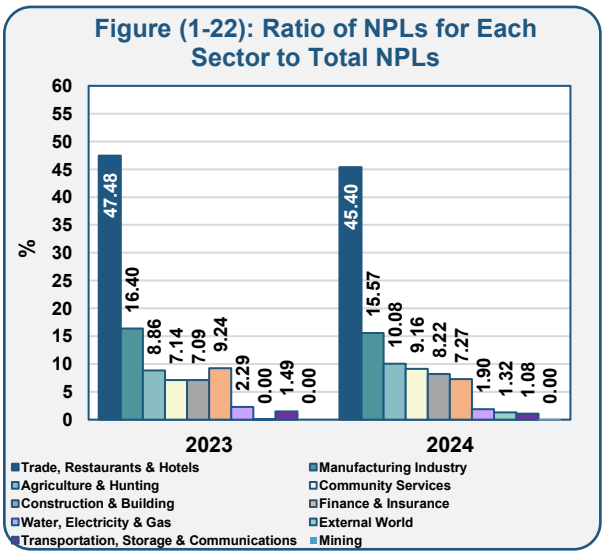


Figure (1-22) shows the ratios of non-performing debts across economic sectors, and these ratios varied for each sector. The (Trade, Restaurants and Hotels) sector held the highest ratio in 2024, although it recorded a decrease to (45.40%) from (47.48%) for the previous year. It was followed by the (Manufacturing Industry) and (Agriculture and Fishing) sectors, which had non-performing debts rates of (15.57%) and (10.08%), respectively, in 2024 compared to 2023, rates of (16.40%) and (8.86%).

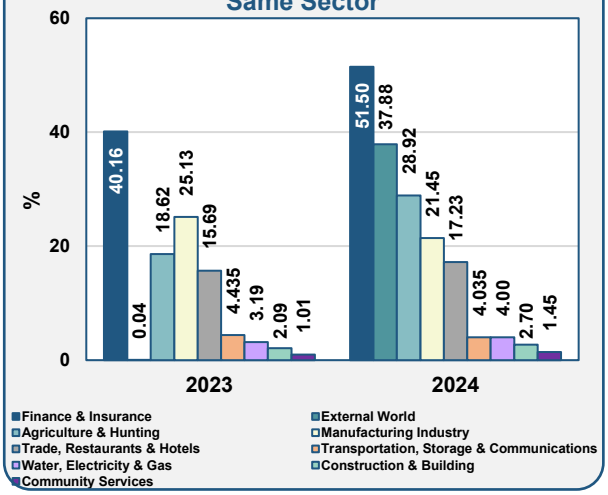
Figure (1-22): Ratio of NPLs for Each Sector to Total NPLs



The ratio of non-performing debts for each sector to total cash credit granted to the

same sector showed rates of non-performing risks in each of (Finance & Insurance) sector, which amounted to (51.50%), followed by (External World) sector by (37.88%), and (Agriculture & Hunting) by (28.92%), (Manufacturing Industry) sector by (21.45%), and (Trade, Restaurants & Hotels) sector by (17.23%). As for the other sectors, their recorded rates reached less than (10%), as shown in Figure (1-23).

Figure (1-23): Ratio of NPLs for Each Sector to Cash Credit Granted to the Same Sector



1-2 Non-Banking Financial Sector:

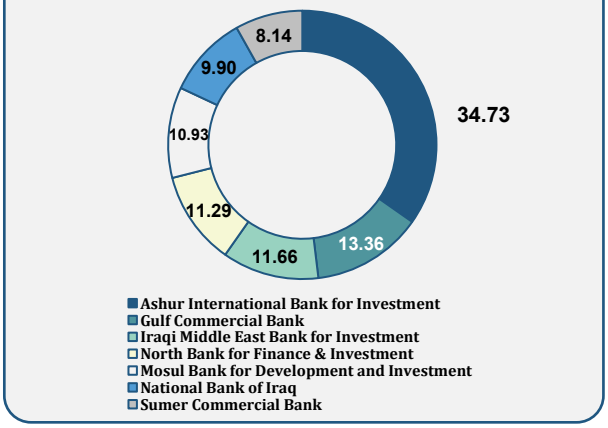
The non-banking financial sector in Iraq is among the most critical sectors contributing to financial and economic growth and stability. This sector comprises financial institutions that own investment portfolios containing financial and non-financial assets, which are used for lending to individuals and companies and for investment in public bonds issued by the government. The Central Bank of Iraq (CBI) supervises some of these institutions, while others operate outside its scope of supervision. These institutions influence financial stability by managing financial risks and directing their investments toward activities across various sectors. Therefore, monitoring the performance of this sector is essential to ensure its continued support for growth and financial stability.

1-2-1Non-Banking Financial Institutions Under CBI Supervision:

1-2-1-1Companies for Financing Small and Medium Enterprises[1]:

These companies play a vital role in supporting the domestic economy and promoting sustainable growth. They contribute to providing the necessary financing and support for small and medium enterprises (SMEs), which enhances job opportunities and contributes to achieving economic development. The capital of Iraqi Company for Financing Small and Medium Enterprises amounted to IQD (26.46) billion in 2023, with the participation of seven (7) private banks in its capital, as shown in Figure (1-24).

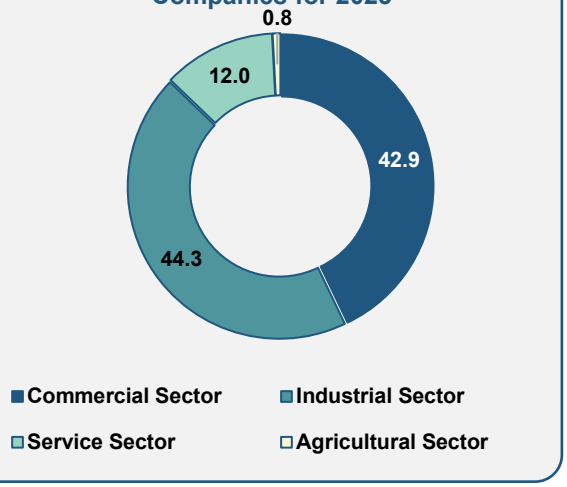
Figure (1-24): Ratio of Banks Contribution to the Capital of the Iraqi Company for Financing SMEs in 2023



(1) Annual report of the Iraqi Company for Financing Small and Medium Enterprises for 2022.

The volume of the loan portfolio provided by the company through the contributing banks and individuals amounted to IQD (15.3) billion in 2023, distributed among the sectors as shown in Figure (1-25).

Figure (1-25): Sectoral Distribution of Loans Granted by SMEs Financing Companies for 2023



1-2-1-2 Exchange and Mediation Companies for Buying and Selling Foreign Currency:

These companies are considered one of the foundational elements of the non-banking financial system infrastructure in Iraq. In addition to their vital role in meeting the domestic foreign currencies needs for economic transactions (such as travel, education, health, and tourism), they also facilitate remittances from residents to their families and friends abroad, as well as internal transfers.

The number of exchange companies reached (530) companies by 2023, classified as follows:

- (79) exchange companies categorized as class (A), with a total assets value of IQD (554.20) billion.
- (51) exchange companies categorized as class (B), with a total assets value of IQD (163.63) billion.
- (400) mediation companies categorized as class (C), with a total assets value of IQD (224.48) billion.

1-2-1-3 Financial Investment Companies:

These are non-banking financial institutions in Iraq, supervised by the Central Bank of Iraq, that specialize in investing in securities. These companies form and manage investment portfolios, by mobilizing idle capital towards investment channels, thus contributing to the revitalization and development of the national economy. In 2023, the number of these companies reached (5), with a total capital of IQD (6.65) billion. The total assets volume for the same year amounted to IQD (37.4) billion.

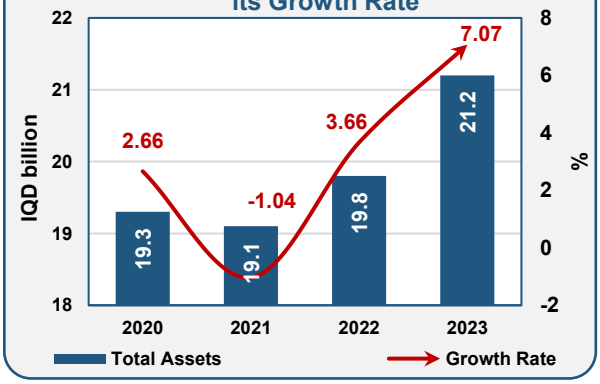
1-2-1-4 Electronic Payment Service Providers:

Electronic payment companies have witnessed significant growth thanks to advancements in information and communication technology. This growth is largely supported by the Iraqi payment system, which has made payment processes and financial transactions easier, faster, and more secure. This, in turn, has led to increased use of online electronic payment services by individuals and companies at a lower cost. In 2023, the number of electronic payment companies reached (17), with a total capital of IQD (265.97) billion.

1-2-1-5 The Iraqi Company for Bank Guarantees:

The capital of the Iraqi Company for Bank Guarantees reached IQD (9.63) billion in 2023. This capital structure includes (14) private Iraqi banks holding (99.61%), a financial mediation company holding (0.24%), and (15) individual shareholders holding (0.15%). The company's primary objective is to motivate private banks to provide loans guaranteed by the Iraqi company, to boost the activity of small and medium-sized enterprises. The company provides guarantees of up to (75%) of the value of loans granted by participating banks, with loan limits ranging between US$ (5,000-250,000) or their equivalent in Iraqi dinars. The company generates revenues from both the operational and investment activity of guaranteed loans. Figure (1-26) shows an increase in the company's total assets by (7%) to reach IQD (21.2) billion in 2023, compared to IQD (19.8) billion in 2022. This increase is a positive indicator reflecting company's growth and stability in the financial market. This growth positively impacts on the non-banking financial sector by providing loan guarantees that boost SME activity, thereby enhancing investment and stimulating the domestic economy.

Figure (1-26): Total Assets of the Iraqi Company for Bank Guarantees and its Growth Rate



1-2-1-6 Iraqi Company for Deposit Insurance [2]:

This company plays a vital role in enhancing financial stability through banking deposit insurance system. The company aims to provide protection for bank deposits, thereby contributing to building trust in the banking sector and promoting overall financial stability. The insurance system also helps to reduce the phenomenon of money hoarding among the public, as it encourages depositors to place their money at banks.

The company's capital has been set at IQD (100) billion, with a share price of one Iraqi dinar. The company has 68 shareholders, with the public sector holding (49.3%) and the private sector holding (51.7%). Shareholders include individuals and companies.

The company covers approximately (80%) of total small deposits in the banking sector, which are defined as deposits of up to IQD (25) million, making it the primary pillar of deposits at banks. The maximum compensation ceiling reached IQD (150)

(2) Report of the Iraqi Company for Deposit Insurance 2023.

million distributed on (6) tranches, as shown in Table (1- 1).

Table (1-1): Structure of Compensation Rates of the Iraqi Company for Deposit Insurance

Deposit Amount	Compensation Rates %
IQD (25) million	100
IQD (50) million	30
IQD (100) million	20
IQD (250) million	10
IQD (500) million	5
IQD (1) billion	4

The company's total revenue from guaranteed premiums paid by member banks in 2023 reached approximately IQD (22.1) billion. Additionally, total investment revenues amounted to approximately IQD (5.3) billion, which were derived from investment deposits in government bonds and Islamic Certificates of Deposit.

1-2-2 Non-Banking Financial Institutions Outside CBI Supervision:

1-2-2-1 Iraqi Housing Fund:

The Fund aims to provide adequate housing for the largest possible number of families and individuals in Iraq, to expand housing options, and improve the efficiency of housing production. The Fund's total assets reached IQD (6.33) trillion, in addition to a capital of IQD (1.12) trillion, with a total of IQD (4.99) trillion in loans granted in 2023. These loans reflect the Fund's success in achieving its objectives and providing adequate housing, especially since most of the loans granted were from initiatives of the Central Bank of Iraq, as a continuation of its developmental role and its contribution to enhancing economic growth in achieving the goals of monetary policy, especially stabilizing the general price level.

1-2-2-2 National Pension Fund:

This fund works to serve civilian, military, and security forces retirees to obtain their retirement benefits as quickly as possible. The fund receives its revenues from several sources, including collecting contributions from state employees, financial investments, and subsidies and grants.

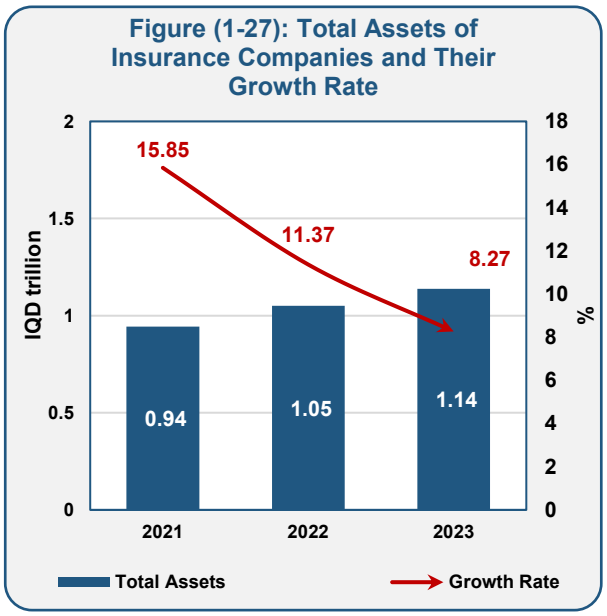
The fund then directs a portion of its funds to invest in investment portfolios in accordance with specific laws, which reduces the burden on the state's general budget. The retirees' benefits of beneficiaries are calculated and distributed in accordance with applicable laws.

1-2-2-3 Social Security Fund:

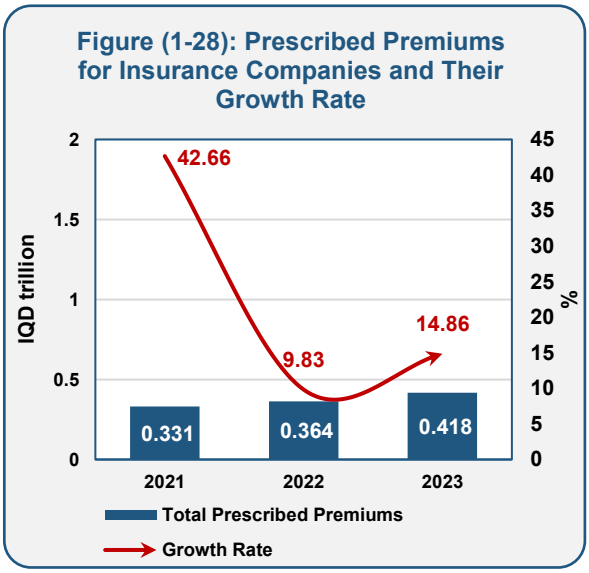
This fund is part of the Ministry of Labor and Social Affairs in Iraq. It is self-funded through social security contributions paid by employers, from investment returns, and from other revenues. The fund aims to achieve the humanitarian values of work and improve the living standards of covered workers by providing social security in areas such as health, occupational injuries, retirement, and other services.

1-2-2-4 Insurance Institutions [3]:

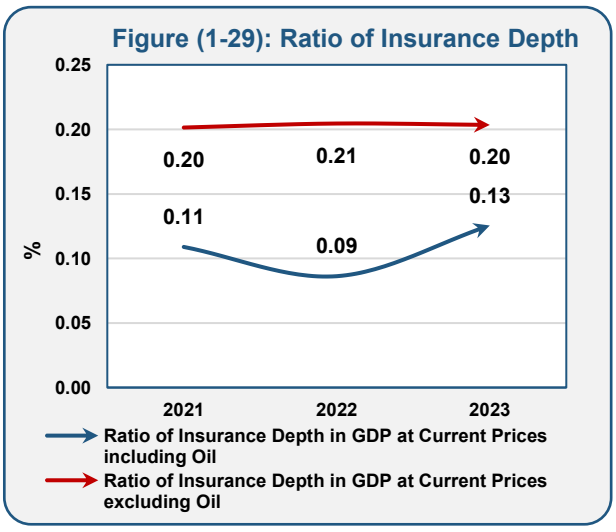
These institutions are characterized by their financial activities and unique investment approaches. They employ contractual mechanisms to achieve both social and economic objectives, playing a significant role in the national economy. These institutions influence economic growth and contribute to the realization of development programs. Insurance branches in Iraq are diverse, encompassing marine insurance, automobile insurance, fire insurance, other accident insurance, as well as life insurance. Figure (1-27) shows a notable increase in total assets of insurance companies to IQD (1.14) trillion in 2023, compared to IQD (1.05) trillion in 2022, with a growth rate of (8.3%).



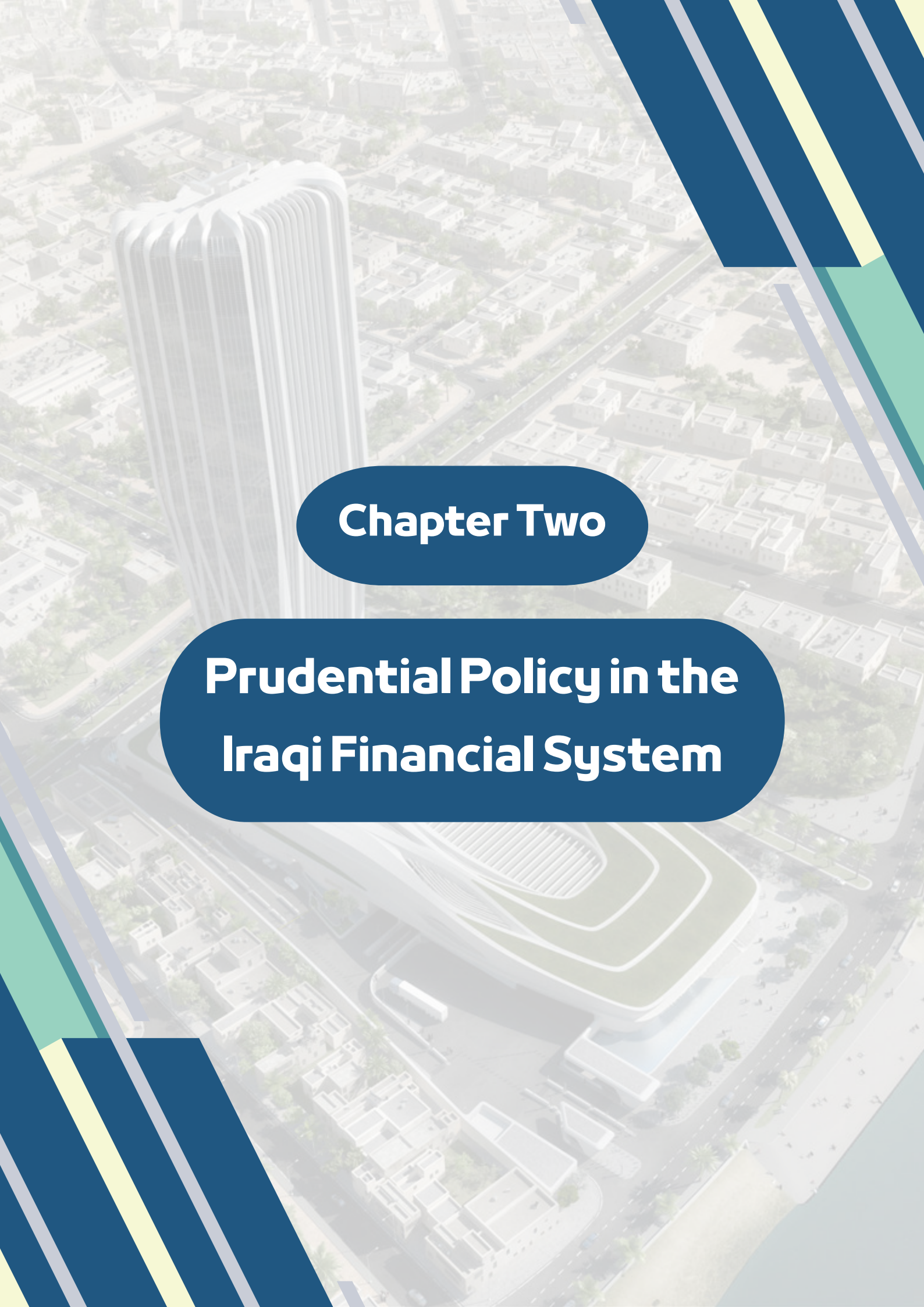
While the volume of prescribed premiums for insurance companies recorded an increase to reach IQD (0.418) trillion in 2023, compared to IQD (0.364) trillion in 2022 with a growth rate of (14.9%), As shown in Figure (1-28).



Regarding the depth of insurance, it increased according to its contribution to the gross domestic product (GDP) at current prices with oil by (0.13%) in 2023 compared to (0.09%) in 2022. While it decreased slightly in GDP at current prices without oil to reach (0.20%) in 2023 after it was (0.21%) in 2022, as shown in Figure (1-29).



(3) Ministry of Finance, Insurance Dewan, Financial Statement 2022.



Chapter Two

Prudential Policy in the Iraqi Financial System

2- Prudential Policy in the Iraqi Financial System:

2-1 Definition of Macroprudential Policy:

Macroprudential policy is one of the basic instruments adopted by central banks and monetary authorities to enhance financial stability at the level of the financial system, and not just at the level of individual financial institutions. This policy aims to address systemic risks [1] that may affect the stability of the financial system and the national economy.

The prominence of macroprudential policies became evident after the 2008 Global Financial Crisis, as it was realized that focusing solely on micro-prudential policies was insufficient to prevent crises. Consequently, many countries began adopting macroprudential tools and measures in addition to micro-prudential ones, aiming to enhance the resilience of the financial system as a whole and mitigate the impact of economic and financial cycles. Macroprudential policies use a variety of tools, such as additional capital requirements, credit limits, liquidity requirements, loan controls, and others. These instruments aim to build buffers and contain vulnerabilities that make the financial system susceptible to shocks. This reduces the probability of shocks leading to disruptions in the provision of financial services and the negative consequences they cause for the economy. Macroprudential policy aims to contain risks in the financial system. Since banks are a major source of credit, macroprudential policy applies its instruments to the banking system. With the expansion of capital market activity and market-based finance, macroprudential policymakers need to be able to monitor systemic risks arising from activities outside the banking system, in addition to developing and implementing policy responses to contain those risks[2]. Micro-prudential aims to maintain the financial suitability of the individual bank. Hence, the Central Bank of Iraq has circulated a framework for the prudential policy to the banks operating in Iraq.

2-2 Types of Macroprudential Policy Instruments :

According to the classification of the Basel Committee on Banking Supervision, an affiliate of the Bank for International Settlements, macroprudential policy instruments include three main types:

2-2-1 Capital-based Instruments:

To ensure the soundness and resilience of the banking sector, prudential policy relies in one of its aspects on ensuring the integrity of capital and its adequate provision to achieve financial stability.

2-2-2 Liquidity-based Instruments :

These instruments enhance liquidity requirements, which leads to increasing banks' ability to face liquidity crises and reduces the

(1) IMF-FSB-BIS – Elements of Effective Macroprudential Policies https://www.imf.org/external/np/g20/pdf/2016/083116.pdf

(2) https://www.bookstore.imf.org/images/IMF_FSB_BIS_2016.pdf

probability of crisis contagion between banks by increasing reliance on long-term liabilities to increase the volume of high-quality liquid assets, thereby strengthening the bank's capacity to face short-term cash flows.

2-2-3 Asset-side Instruments:

These instruments target the sectors borrowing from banks by enhancing the sectors' ability to meet their obligations and reducing the probability of default.

2-3 Scope of Application of Prudential Policy Instruments in the Iraqi Financial System[3]:

The scope of application includes two types of instruments: those previously used through a set of circulars issued by this bank and a second set of instruments to be applied no later than 30/6/2024, as follows:

2-3-1 Used Instruments:

a. Liquidity Coverage Ratio (LCR).
b. Net Stable Funding Ratio (NSFR).
c. Capital Conservation Buffer (CCoB).
d. Risk Weighted Assets (RWA).
e. Dividend Distribution Restrictions.
f. Limits on credit concentrations for a single client or a group of related clients.
g. Limits on capital adequacy ratios.
h. Limits on open positions in foreign currency.
i. Identification of Domestic Systemically Important Banks.

2-3-2 Unused Instruments:

a. Countercyclical capital buffer.
b. Loan-to-value (LTV) Ratio.
c. Debt-to-Income (DTI) Ratio.
d. Debt Service Ratio (DSR).

2-4 Liquidity Coverage Ratio (LCR):

It is an important financial measure for banks and other financial institutions. It reflects the institution's ability to cover its short-term obligations for a 30-day period under stressed market conditions.

It is calculated by dividing High-Quality Liquid Assets (HQLA) by the total net cash outflows expected over the 30-day period. This ratio must be at least 100%.

The banks operating in Iraq achieved a high rate for the Liquidity Coverage Ratio, as the annual average of this ratio did not fall below its prescribed minimum during 2024. The LCR recorded a decline from (131.39%) in 2023 to (121.16%) in 2024. This ratio is higher than the minimum benchmark set by the Central Bank of Iraq (CBI), which is (100%). The reason for this decline is attributed to a decrease in High-Quality Liquid Assets (HQLA) during the same period. Despite this drop, the banks still have liquidity that exceeds their net cash outflows over the (30) days.

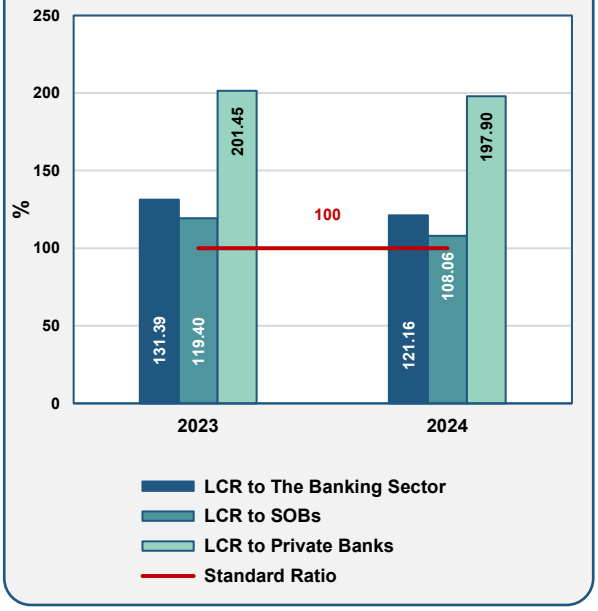
Liquidity Coverage Ratios (LCR) can be classified according to the type of banks (Government and Private). The LCR for State-

(3) For more information, refer to the circular issued by the Central Bank of Iraq (CBI) from the Department of Banking Supervision.

Owned Banks (SOBs) did not fall below the minimum set by the Central Bank of Iraq in 2024, as it decreased from (119.4%) in 2023 to (108.06%) in 2024, due to the decline in High-Quality Liquid Assets (HQLA) during the same period. Despite this decline, the government sector is capable of facing financial crises.

As for the liquidity coverage ratio for private banks, it decreased from (201.45%) in 2023 to (197.9%) in 2024. We find that the liquidity coverage ratio for private banks did not fall below the minimum limit set by the Central Bank of Iraq in 2024. This indicates the caution of private banks, demonstrating the high volume of liquidity in private banks and their maintenance of good levels of financial stability. Figure (2-1) shows the liquidity coverage ratio (LCR) for the banking sector, SOBs, and private banks for the period (2023-2024).

Figure (2-1) Liquidity Coverage Ratio (LCR)



2-5 Net Stable Funding Ratio (NSFR):

It is the ratio of the Available Stable Funding (ASF) to the Required Stable Funding (RSF). This ratio must be at least 100%, which indicates that the bank has sufficient stable funding to meet its long-term funding needs.

The banking sector maintained the NSFR above the minimum limit of (100%). This indicates that the banking sector retains long-term funding that exceeds the needs of its assets requirements. While this points to high financial stability and high liquidity, it raises the overall cost of funding, which reduces the profit margin and results in excessive financial caution (conservatism).

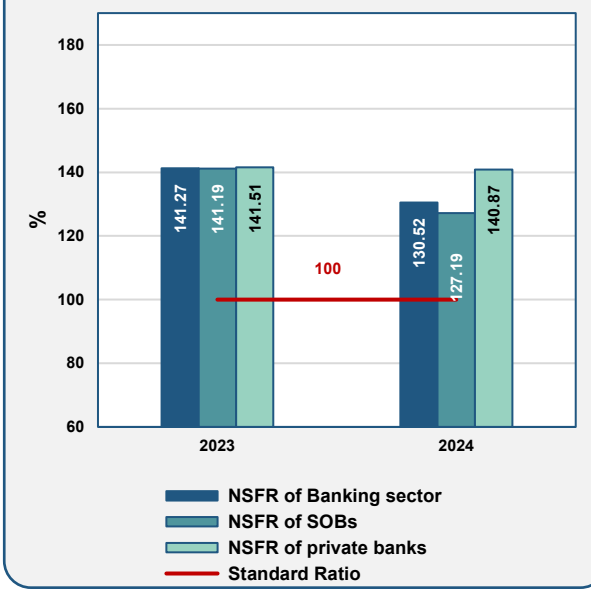
The Net Stable Funding Ratio for the banking sector in Iraq decreased from (141.27%) in 2023 to (130.52%) in 2024. These ratios are higher than the minimum of 100%, which indicates that banks have more available financing than required. This means that the banks are capable of funding their assets according to the sources of funds available on the liabilities side.

Regarding the classification of the net stable financing ratio according to bank ownership (government and private), the ratio for SOBs decreased from (141.19%) in 2023 to (127.19%) in 2024, and it did not decrease below the minimum limit set by the Central Bank of Iraq, which is (100%).

The net stable financing ratio for private banks decreased from (141.51%) in 2023 to (140.87%) in 2024. Figure (2-2) illustrates the

Net Stable Funding Ratio for the period (2023-2024).

Figure (2-2) Net Stable Funding Ratio (NSFR)



2-6 Capital Adequacy Ratio (CAR):

The Capital Adequacy Ratio (CAR) is a measure used in the banking sector to determine a bank's ability to withstand financial risks, particularly those related to loans and potential losses. This concept is essential to ensuring the stability of financial institutions and protecting depositors and the financial system from collapse. Basel III regulations have been adopted to measure capital adequacy based on market and operational risks. Furthermore, the Central Bank of Iraq has set a benchmark capital adequacy ratio for the Central Bank of Iraq of (12.5%), compared to a benchmark ratio set under Basel III regulations of (8%).

The overall Capital Adequacy Ratio (CAR) of the banking sector decreased to (39.35%) for the year 2024 after it was (41.89%) for 2023. This decrease is due to the increase in the value of Risk-Weight Assets (RWAs) by a rate of (22%), compared to a slight increase in regulatory capital by a rate of (15%). Notably, the Capital Adequacy Ratio for 2024 is higher than the benchmark ratio set by the Central Bank of Iraq, and it is a reassuring ratio that reflects the banking sector's efficiency and its ability to confront risks and increase levels of financial stability due to its capacity to absorb losses without affecting depositors.

As for the Capital Adequacy Ratio (CAR) for SOBs, it increased from (23.03%) for 2023 to (23.54%) for 2024, as shown in Figure (2-3). This ratio is higher than the benchmark ratio set by the Central Bank of Iraq. The increase in this ratio gives the government bank flexibility in confronting crises or absorbing economic shocks without the need to curtail its operations.

Regarding the Capital Adequacy Ratio (CAR) for private banks, it decreased from (82.56%) in 2023 to (74.16%) in 2024. This decrease is attributed to a (21%) increase in RWAs, offset by an (8%) increase in Regulatory Capital. This ratio, however, remains higher than the benchmark ratio and is sufficient from the perspective of financial stability.

Figure (2-3) Capital Adequacy Ratio (CAR)

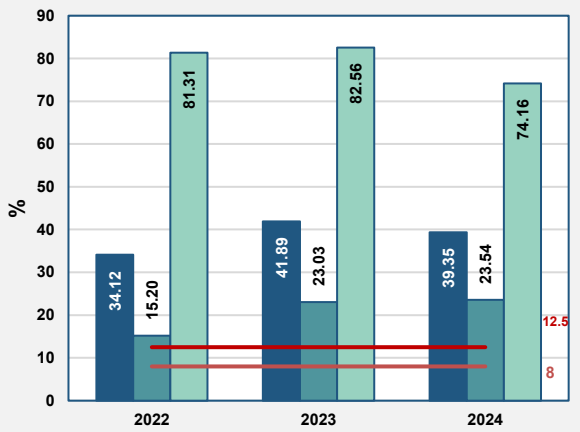
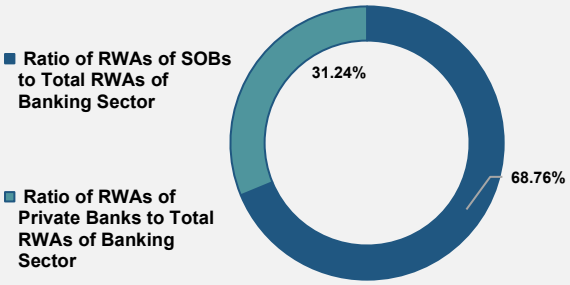


Figure (2-4) Risk-weighted Assets (RWAs) of SOBs and Private Banks



2-7 Risk-Weighted Assets (RWAs):

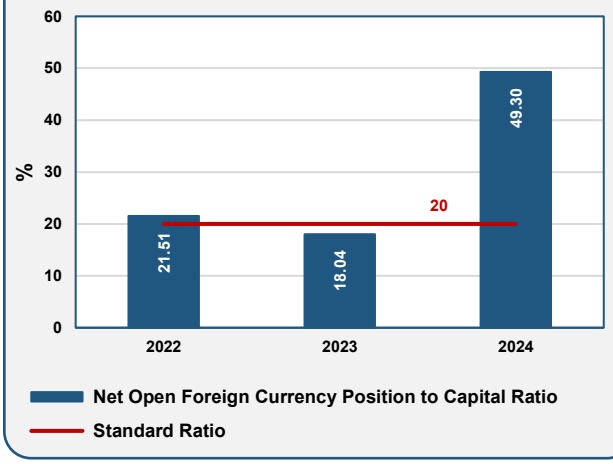
Risk-Weighted Assets (RWAs) is a measure used in the banking sector to assess the level of risk associated with the assets held by a bank. Risk-Weighted Assets also represent the denominator of the Capital Adequacy Ratio (CAR); meaning it is a measure used to determine the minimum amount of capital that a bank must hold to counter the risks associated with its assets.

Asset risks include three main types: credit risk, market risk, and operational risk. Figure (2-4) shows the risk-weighted assets of SOBs, which amounted to (51.55%) of the total RWAs of the banking sector, amounting to IQD (52) trillion. As for the percentage of private banks, it reached (48.45%) of the total RWA for the banking sector, amounting to IQD (49) trillion.

2-8 Net Open Foreign Currency Position to Capital Ratio:

This ratio increased from (18.04%) in 2023 to (49.3%) in 2024 because of a (219.14%) increase in net open positions in foreign currencies, offset by a (16.76%) increase in capital. This means an increase in the volume of foreign currency held by banks and an increase in their balances thereof. Notably, the ratio set by the Central Bank of Iraq is (20%).

Figure (2-5) Net Open Foreign Currency Position to Capital Ratio



Chapter Three

Domestic Systemically Important Banks

3- Domestic Systemically Important Banks:

3-1 Definition of Systemically Important Banks:

Systemic banks are defined as financial institutions whose failure or collapse could significantly impact financial stability at the domestic or global level. This is due to their large size, the complexity of their operations, and their interconnectedness with other components of the financial system. These banks are collectively abbreviated as Systemically Important Banks (SIBs) and are divided into:

- Domestic Systemically Important Banks (D-SIBs).
- Global Systemically Important Banks (G-SIBs).

3-2 Methodology for Applying Domestic Systemically Important Banks (D-SIBs):

The methodology adopted for identifying systemically important banks at the local level is based on the approach adopted by the Basel Committee on Banking Supervision (BCBS). It relies on four basic indicators in the classification process, as shown in Table No. (3-1).

Table No. (3-1) Quantitative Indicators Adopted in Identifying Systemically Important Banks

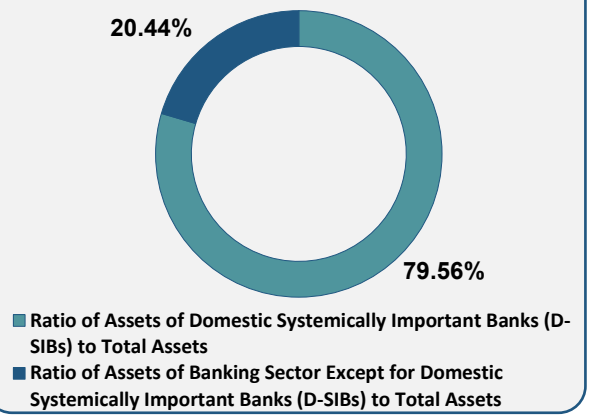
Indicator	Relative importance	Measurement tool
Volume	40%	Total assets inside and outside Iraq.
		Volume of committed credit for the bank's branches inside Iraq.
Interconnectedness	25%	Total employment with banking institutions and other financial companies.
		Deposits and funds attracted from banking institutions and other financial companies
Substitutability	25%	Total facilities and financing granted.
		Volume of transactions issued via the RTGS payments system.
Complexity	**10%**	Total assets of the bank's branches outside Iraq
		The volume of committed credit for the bank's branches outside Iraq
		Financial assets are of fair value through income statements and other comprehensive income.

3-3 Assets of Domestic Systemically Important Banks (D-SIBs):

The banks operating in the banking sector were classified, and (9) banks were identified as Domestic Systemically Important Banks (D-SIBs). Their assets accounted for (20.44%) of the total assets of all banks in the banking sector, as shown in Figure (3-1). This

percentage indicates the significance of the D-SIBs within the Iraqi financial system.

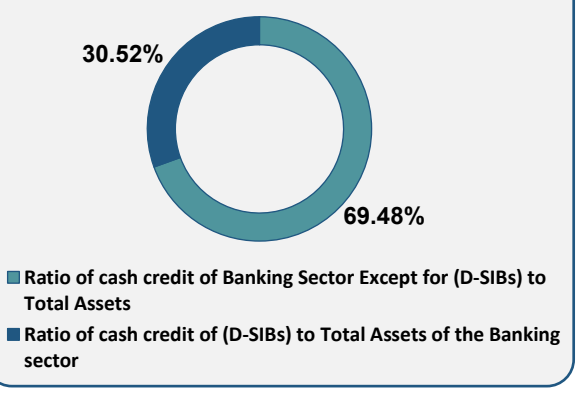
Figure (3-1) Ratio of Assets of D-SIBs to Total Assets



3-4 Cash Credit for Domestic Systemically Important Banks (D-SIBs):

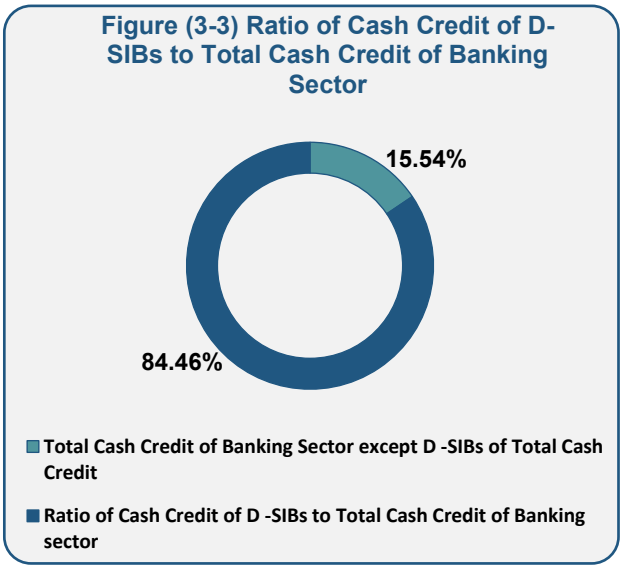
Cash credit for D-SIBs constituted (30.52%) of the total banking sector assets, as shown in Figure (3-2). This percentage is considered high because they represent a large segment of the banking sector's total assets. Although these banks are performing well in terms of profits, attention must be paid to the quality of their credit portfolios because this affects liquidity and future financial stability. For this reason, they have been classified as systemically important.

Figure (3-2) Ratio of Cash Credit of D-SIBs to Total Assets of Banking Sector



The cash credit of D-SIBs constituted (84.46%) of the total cash credit of the banking sector, as shown in Figure (3-3). This explains the significant role D-SIBs have played in financing, as they Extended the largest share of financing operations to stimulate economic activity by supporting small and medium-sized enterprises (SMEs) and the real estate sector.

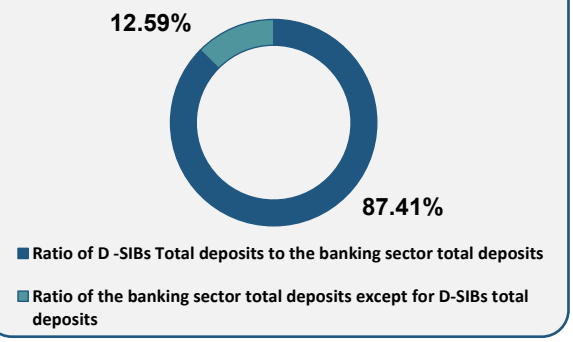
Figure (3-3) Ratio of Cash Credit of D-SIBs to Total Cash Credit of Banking Sector



3-5 Deposits of Domestic Systemically Important Banks (D-SIBs):

The deposits of D-SIBs constituted (87.41%) of the total deposits of the banking sector, as shown in Figure (3-4). This percentage is considered good, given that some of these banks are specialized banks, whose business models differ in terms of deposit acceptance. The remaining banks, however, enjoy the trust of the public, which encourages deposits. As these banks rely heavily on their deposits to grant credit, they must pay close attention to the Deposit and Credit maturity gap. This is crucial for ensuring sufficient liquidity to meet depositor withdrawals.

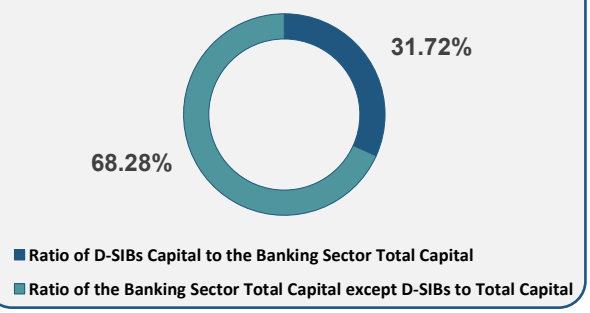
Figure (3-4) Ratio of D-SIBs Deposits to The Banking Sector Total Deposits



3-6 Capital of Domestic Systemically Important Banks (D-SIBs):

The capital of D-SIBs constituted (31.72%) of the total capital of the banking sector, as shown in Figure (3-5). This ratio is considered good, given the limited number of D-SIBs relative to the total of (72) banks in the financial system. This gives D-SIBs financial strength in their financial position, in addition to their ability to confront crises.

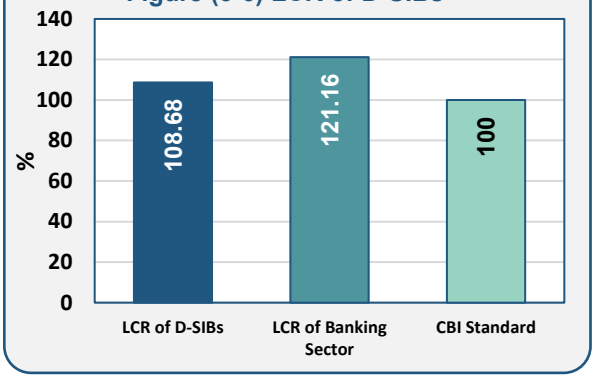
Figure (3-5) Ratio of D-SIBs Capital to The Banking Sector Total Capital



3-7 Liquidity Coverage Ratio (LCR) of Domestic Systemically Important Banks (D-SIBs):

The Liquidity Coverage Ratio (LCR) for D-SIBs reached (108.68%), as shown in Figure (3-6). This ratio is considered good, as it is higher than the minimum Basel III requirement of 100%. This indicates that D-SIBs have high-quality liquid assets sufficient to cover their short-term obligations for 30 days. In other words, they have safe liquidity (low short-term liquidity risk).

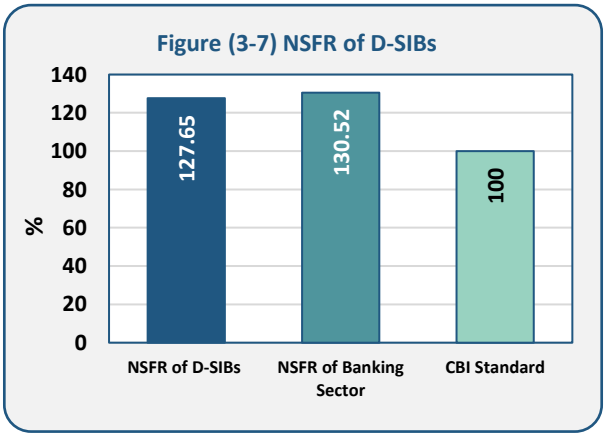
Figure (3-6) LCR of D-SIBs



3-8 Net Stable Funding Ratio (NSFR) of Domestic Systemically Important Banks (D-SIBs):

The Net Stable Funding Ratio (NSFR) of D-SIBs amounted to (127.65%) of the total NSFR for the banking sector, as shown in Figure (3-7). This ratio is strong, significantly exceeding the minimum regulatory requirement of 100% set by Basel III. This indicates that D-SIBs have stable funding sources (deposits) that exceed their long-term funding needs by (27%). Consequently, D-SIBs demonstrate the capacity to mitigate sudden liquidity risks and enjoy robust confidence from depositors and investors.

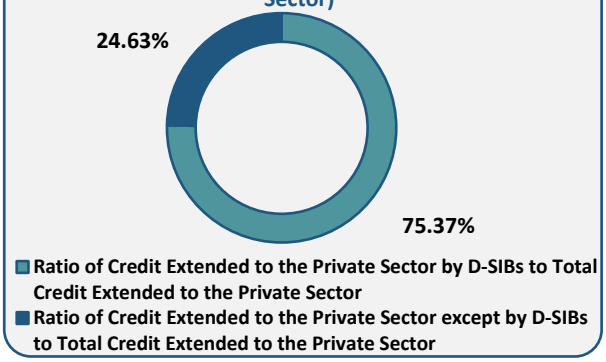
Figure (3-7) NSFR of D-SIBs



3-9 Ratio of Credit Extended to the Private Sector by D-SIBs to Total Credit Extended to the Private Sector (Banking Sector):

This ratio is used to measure the extent of the private sector's reliance on D-SIBs compared to other banks. This ratio reached (75.37%), as shown in Figure (3-8). This high concentration indicates that D-SIBs are the primary source of financing for the private sector, likely due to their perceived safety and strong financial solvency.

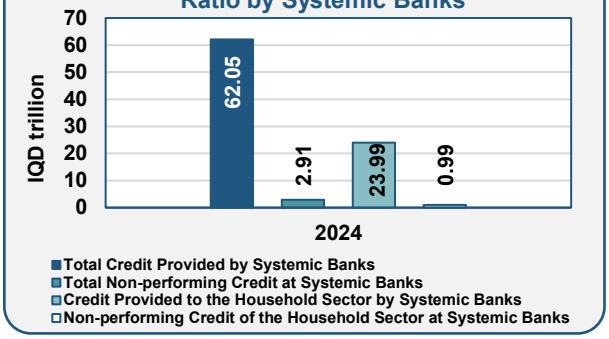
Figure (3-8) Ratio of Credit Extended to the Private Sector by D-SIBs to Total Credit Extended to the Private Sector (Banking Sector)



3-10 Credit Extended to the Household Sector by Domestic Systemically Important Banks (D-SIBs):

Household sector's indebtedness is considered one of the pivotal factors in private sector financing, and it also significantly affects financial stability, particularly if lending standards are lax. Conversely, high household debt levels may also suggest a substantial contribution by D-SIBs to economic development and the stimulation of the real sector. Figures (3-9) illustrate the household sector's indebtedness and the non-performing loans ratio on credit extended by the systemic banks.

Figure (3-9) Credit Extended to the Household Sector and Associated NPLs Ratio by Systemic Banks



Household credit at systemic banks constitutes (38.7%) of their total credit portfolio, which is a relatively modest percentage. Nevertheless, the necessity of adhering to safe limits for macroprudential policy tools, liquidity, and capital requirements remains paramount.

3-11 Non-performing Credit of the Household sector at D-SIBs:

The total non-performing credit ratio for the household sector at the systemic banks reached (4.12%).

Figure (3-10) Household Sector Credit and Non-Performing Credit of Systemic Banks

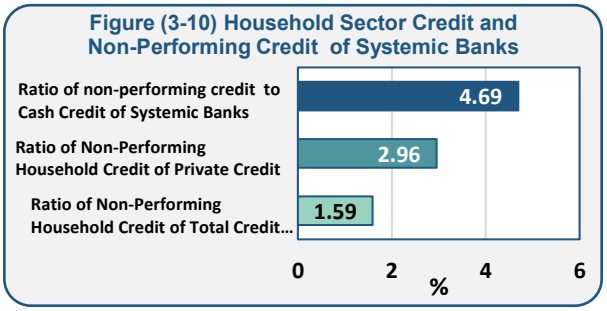


Figure (3-10) shows that the overall Non-Performing Loan (NPL) ratio on cash credit at systemic banks reached (4.69%). This reflects the total non-performing credit compared to the total credit Extended. The ratio of non-performing household credit to private credit reached (2.96%). On the other hand, the ratio of non-performing household credit of total credit at the systemic banks recorded (1.59%). This ratio is considered low compared to the credit granted.

Chapter Four

Household and Corporate Sector Indebtedness

4- Household and Corporate Sector Indebtedness:

Excessive credit extended to the household sector can trigger financial crises, such as the 2008 crisis, which severely impacted global financial stability. Consequently, macroprudential instruments have been developed to mitigate the risks associated with excessive household and corporate credit.

Credit risks (both household and corporate) are measured against total credit, to assess the effectiveness of activating or tightening these macroprudential policy instruments. The purpose of this credit monitoring is to identify risks arising from excessive leverage, determine appropriate mitigation strategies, and assess the impact on bank efficiency, including returns, asset size, and default risk.

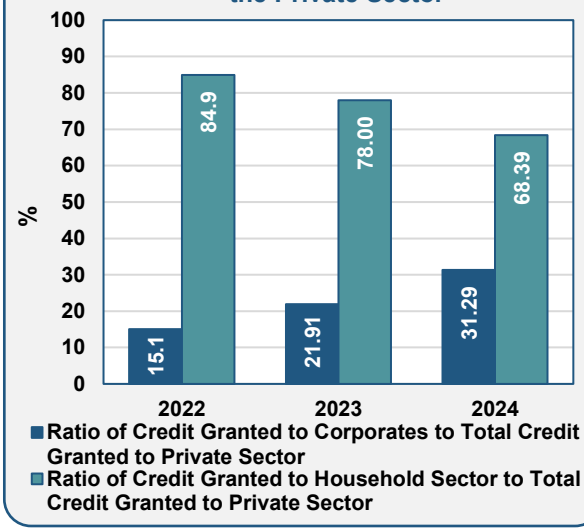
Note that the credit extended to the private sector discussed in this chapter is limited to cash credit and excludes commitment credit.

4-1 Ratio of Credit Granted to Household and Corporate Sectors to Total Cash Credit Extended to Private Sector:

Credit granted to the private sector is one of the most prominent instruments for stimulating economic activity and driving growth. From this perspective, it is necessary to analyze this credit based on its beneficiary: either the household sector or the corporate sector.

As shown in Figure (4-1), the largest proportion of credit granted to the private sector flows to the household sector, reaching (68.39%) by the end of 2024, compared to (31.29%) for the corporate sector during the same period. The household sector's acquisition of the largest share is primarily attributed to initiatives launched by the Central Bank of Iraq and personal loans granted by banks, particularly to individuals whose salaries have been automated (or transferred) to the institution.

Figure (4-1) Ratio of Credit Granted to the Private Sector



4-2 Ratio of Credit Granted to Private Sector to GDP in Iraq:

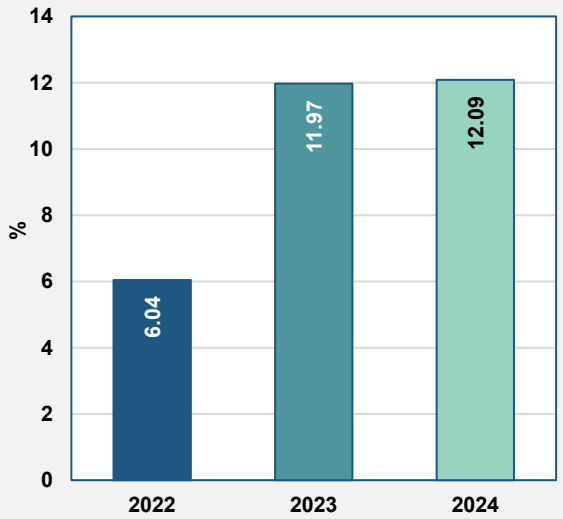
Studies have shown that when the ratio of private sector credit to GDP ranges between (80% - 100%), it can lead to sharp fluctuations in the economic cycle, potentially threatening financial stability [1].

(1) Ratna Sahay and others, Rethinking Financial Deepening: Stability and Growth in Emerging Markets, I M F, 2015.

Accordingly, this ratio will be measured based on total cash credit extended to the private sector, disaggregated into corporate and household credit. Figure (4-2) shows the ratio of cash credit to the private sector to GDP in Iraq increased from (6.04%) in 2022 to (12.09%) in 2024.

Based on these figures, the current level of credit to the private sector does not pose a significant risk to financial stability.

Figure (4-2) Ratio of Credit Granted to Private Sector to GDP



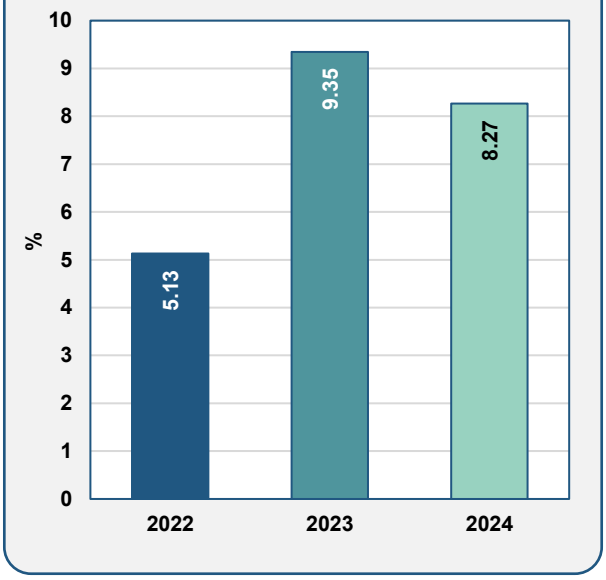
4-3 Ratio of Credit Granted to Household Sector to GDP:

Studies have shown that credit extended to the household sector may contribute to a banking crisis if it exceeds (65%) of GDP, while its impact is weak if the ratio is less than 10%[(2)].

Figure (4-3) shows that the ratio of credit granted to the household sector to GDP in Iraq increased from (5.13%) in 2022 to (8.27%) in 2024. Although this ratio remains safely below the (10%) threshold, the upward trend reflects a movement toward supporting real economic growth, particularly through financing the housing sector.

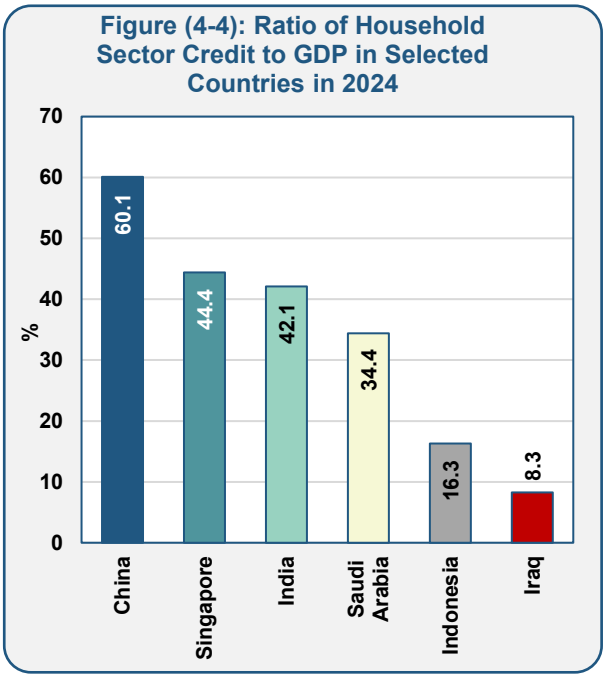
Therefore, a gradual, controlled expansion of this type of credit by banks can be considered.

Figure (4-3) Ratio of Credit Granted to Household Sector to GDP



In general, the credit extended to the household sector in Iraq is low when compared to that of select Asian economies. Figure (4-4) shows that Iraq's ratio of household credit to Gross Domestic Product (GDP) is ranked among the lowest of the compared countries. The volume of household credit can be cautiously increased and rigorously monitored, given its potential impact on financial stability and the necessary adherence to strict lending criteria.

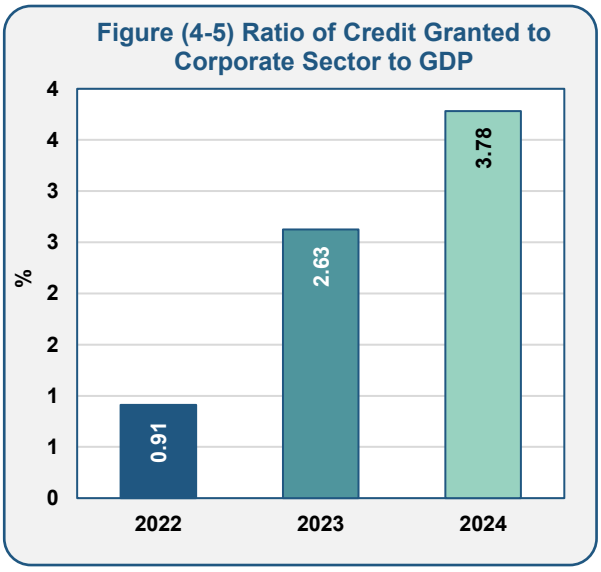
(2) Financial Stability Report in Arab Countries, 2019, p. 150.



source: TRADINGECONOMIC
https://tradingeconomics.com/country-list/households-debt-to-gdp?continent=asia

4-4 Ratio of Credit Granted to Corporate Sector to GDP:

Regarding the corporate sector, Figure (4-5) shows that the ratio for the corporate sector reached (3.78%) in 2024, after it was (0.91) in 2022. Despite the increase, the strongest impact is on the household sector, not the corporate sector.

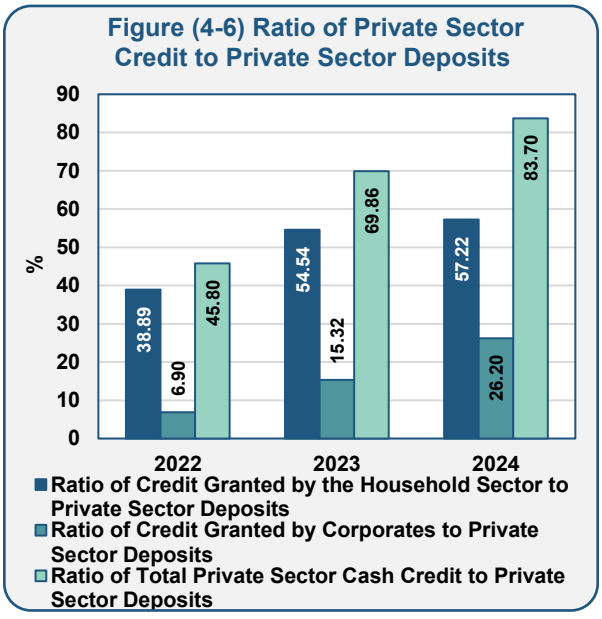


4-5 Ratio of Private Sector (Households and Corporates) Credit to Private Sector Deposits:

This indicator measures banks' capacity to fund credit extended to the private sector solely using private sector deposits.

As shown in Figure (4-6), the ratio of credit granted to the household sector to private sector Deposits increased from (38.89%) in 2022 to (57.22%) by the end of 2024. Similarly, the corporate sector ratio rose sharply from (6.90%) to (26.20%). Consequently, the total private sector credit-to-deposit ratio increased from (45.80%) to (83.70%) over the same period.

These figures demonstrate that private sector deposits are more than sufficient to fund the current level of credit extended to the private sector. Therefore, a measured increase in private sector lending can be undertaken, extended banks adhere strictly to necessary conditions, procedures, and guarantees.

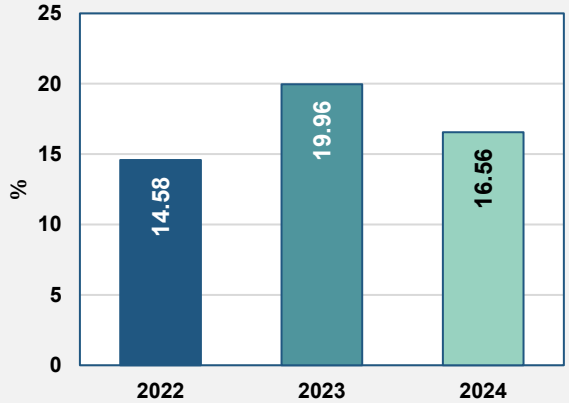


4-6 Ratio of Credit Granted to Household Sector to Income of Individuals [3]:

The Household Sector is a key driver of economic growth and accounts for the largest share of private sector credit. Disposable income is a critical indicator for measuring households' capacity to meet financial obligations, particularly loan repayment, as it reflects their purchasing power and contributes to stimulating the forces of supply and demand.

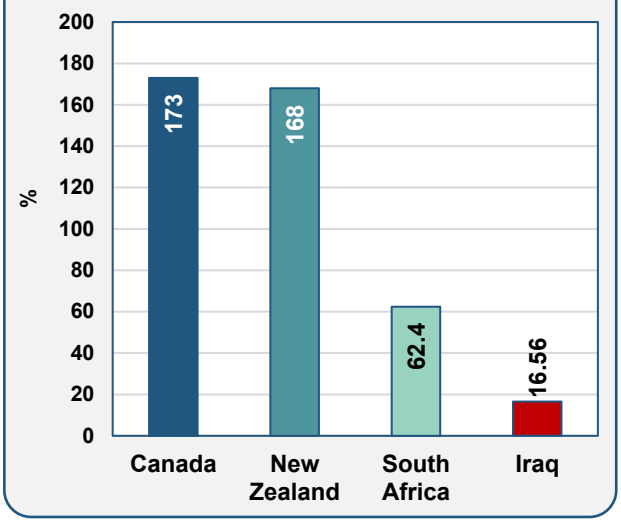
As Figure (4-7) illustrates, the household debt-to-income ratio rose from (14.58%) in 2022 to (16.56%) in 2024. This continuous growth in leverage warrants careful follow-up, as it may impact the stability of economic conditions. If this upward trend persists, it could pose a real risk to financial stability and potentially trigger a financial crisis through widespread household defaults, reflecting an escalating risk of Household sector indebtedness.

Figure (4-7) Ratio of Household Sector Credit to Individuals Income



A cross-country comparison reveals that Iraq occupies a low position in the ratio of Household sector credit to individual income, As Figure (4-8) illustrates, Iraq occupies the lowest position among the countries compared.

Figure (4-8) Ratio of Household Sector Credit to Individuals Income in Select Countries In 2024

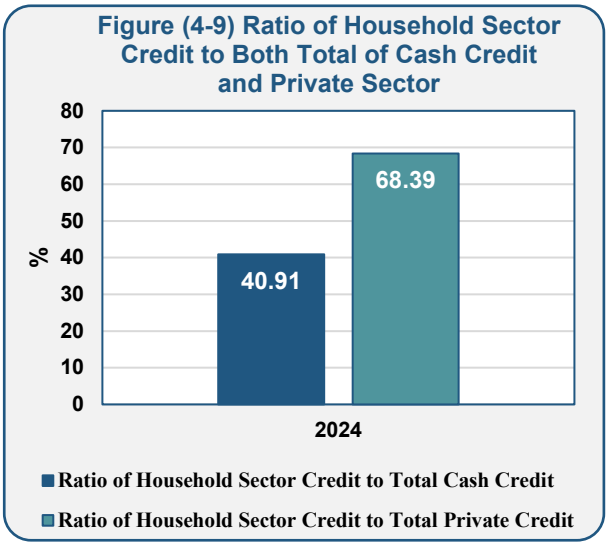


source: TRADING ECONOMICS
https://tradingeconomics.com/country-list/households-debt-to-income

4-7: Non-Performing Debts to Private Sector and Cash Credit to Household Sector:

Although Household sector indebtedness may contribute to stimulating the local economy by increasing consumption, safety conditions must be observed in granting credit to this sector to avoid any potential default. Figure (4-9) shows us the ratio of Household sector indebtedness both credit granted to the Household sector and credit granted to the private sector.

(3) For the purpose of learning more about methods for measuring Household sector debt, see the Central Bank of Iraq, Financial Stability Report 2020, Issue Eleven, p. 91.



The credit granted to the household sector represents (40.91%) of the total cash credit for the year 2024, a significant share necessitating strict adherence to safe limits for macroprudential policy tools[4], liquidity and capital requirements. Furthermore, household credit accounted for (68.39%) of the total credit to the private sector for the same year. This indicates that the household sector is the key driver of private sector credit, underscoring the necessity of rigorously monitoring household sector default risk and its potential impact on banks.

Figure (4-10) shows a slight increase in the ratio of household non-performing credit to household credit, which rose to (8.41%) in 2024 from (7.02%) in 2023. There was also a slight increase in the ratio of private sector non-performing credit to private sector credit, which reached (11.77%) in 2024, up from (10.80%) in 2023. The ratio of total non-performing credit to total cash credits also rose, reaching (7.14%) in 2024 from (6.26%) in 2023. While these percentages are not high, their upward trend warrants continuous monitoring.

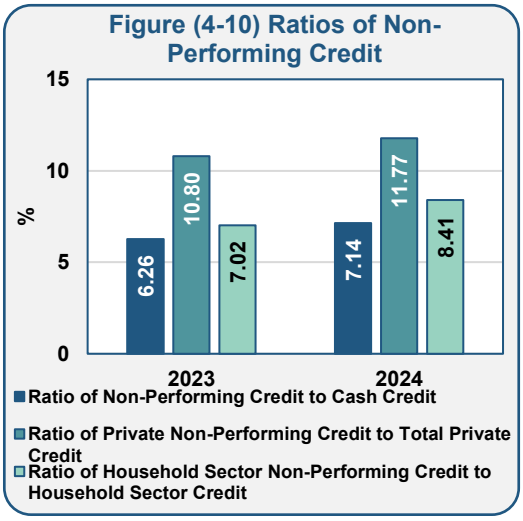
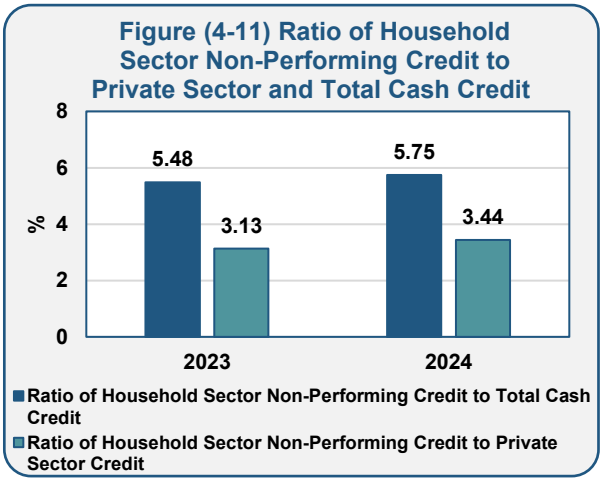
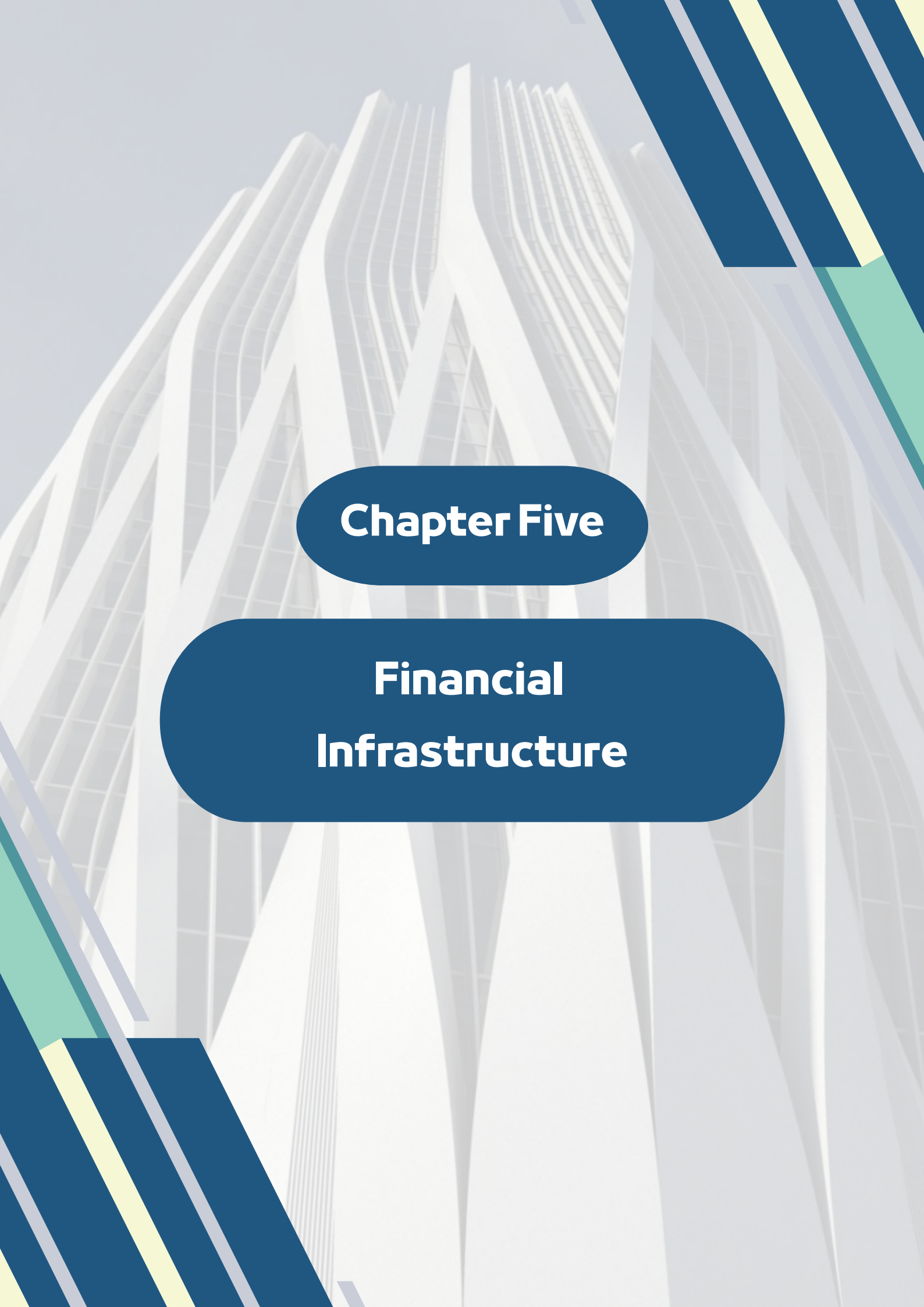


Figure (11-4) shows that the ratio of household sector non-performing credit to total credit extended to the private sector reached (5.75%) in 2024. While the ratio of household sector non-performing credit to total credit reached (3.44%) in 2024. These ratios are considered low and do not affect levels of financial stability.



(4)The Central Bank activated INSTRUMENTS within the approved policies and procedures for licensed banks up to a maximum of 6/30/2024, by circulating the general framework of the macroprudential policy (amended) in the Central Bank of Iraq in issue 9/4/230 dated 5/12/2024



Chapter Five

Financial Infrastructure

5- Financial Infrastructure:

5-1 Developments in Financial Infrastructure:

Financial infrastructure is considered one of the fundamental pillars of any country's financial system. In this context, CBI has been able to achieve a set of objectives that have contributed to its support and development. This was accomplished through the initiatives and systems it launched, which aim to enhance the financial system's efficiency, improve the quality of banking services, and ensure the stability of monetary and financial operations at both the local and international levels.

5-1-1 National Banking Lending Strategy in Iraq 2024-2029:

In May 2024, the Central Bank of Iraq, in cooperation with the German Agency for International Cooperation (GIZ), launched the National Banking Lending Strategy for the period 2024-2029. The strategy aims to strengthen the role of the private sector in the Iraqi economy by facilitating access to finance, especially for Small and Medium Enterprises (SMEs).

5-1-1-1 Strategy Objectives:

1) Increase Credit to the Private Sector: The strategy aims to raise the ratio of credit granted to the private sector by 4% of non-oil Gross Domestic Product (GDP), with 3% of this credit specifically allocated to Micro, Small, and Medium Enterprises (MSMEs).

2) Enhance Financial Inclusion: The strategy aims to expand the base of financial inclusion in Iraqi society, particularly by supporting the activities of SMEs, which are considered the backbone of the economy.

3) Reduce Oil Dependency: It seeks to achieve economic diversification and reduce reliance on oil by supporting entrepreneurial projects and creating job opportunities.

5-1-1-2 Key Implementation Pillars:

1) Development of legal and regulatory frameworks, improvement of the financial infrastructure (such as the Credit Registry), and expansion of the role of Financial Technology (FinTech)
2) Support for commercial banks in providing concessional loans (e.g., facilitated or soft loans).
3) Cooperation with governmental entities to ensure effective execution.
4) Development of innovative financing programs in partnership with the private sector.
5) Provision of financial and funding training for beneficiaries.

5-1-1-3 Potential Challenges:

- Low financial literacy among some segments of society.
- Weak capacity among some banks in risk management.
- The need for continuous coordination between regulatory bodies and banks.

5-1-1-4 Performance Indicators:

These indicators will be used to measure the strategy's success, the achievement of its objectives, and to assist in continuous evaluation and the taking of corrective actions.

These indicators include: the percentage of total lending growth, the percentage of loans to productive sectors, the volume of loans granted to Small and Medium-sized Enterprises (SMEs), the financial inclusion rate, the Non-Performing Loans (NPLs) ratio, and the speed of processing loan applications.

5-1-2 The Electronic Platform (e-Platform):

The two electronic platforms launched in 2023 are still operational:

1) The Foreign Remittance Platform: This platform facilitates the financing of foreign trade within established legal frameworks.

2) The Dollar Sale Platform for Travelers (FITR): This platform provides travelers with easy access to cash dollars, thereby reducing reliance on the parallel market.

These initiatives (the National Banking Lending Strategy and the Electronic Platform) aim to strengthen the financial system and achieve a balance between commercial openness and monetary sector stability. They also underscore the commitment to combating money laundering and terrorist financing, in accordance with Law No. 39 of 2015.

5-1-3 Issuance of Letters of Guarantee:

Instructions have been prepared that align with the Bank's objectives to regulate the process of issuing Letters of Guarantee (LGs) according to best practices and ensure the preservation of the rights of all parties involved.

The activity of issuing Letters of Guarantee is currently carried out through the electronic platform by licensed banks operating within Iraq, in accordance with applicable laws and the related instructions.

The details of the Letters of Guarantee as of December 31, 2024, are provided below.

Table (5-1) Letters of Guarantee (Number of Guarantee)

No.	Description	Number
1	Total Letters of Guarantee Issued	74573
2	Total Outstanding Letters of Guarantee	16791
3	Total invalidated Letters of Guarantee	57782

Table (5-2) Letters of Guarantee Amounts Details

No.	Description	Amounts (Billion IQD)
1	Total Amount of letters of Guarantee Issued	14974
2	Total Amount of Outstanding Letters of Guarantee	7811
3	Total Amount of invalidated Letters of Guarantee	7162

5-1-4 Supporting and Achieving Monetary and Financial Stability:

The Central Bank of Iraq has sought to achieve monetary and financial stability through the following initiatives:

1) Development of Financial Soundness Indicators (FSIs) and evaluation of bank performance according to international standards.
2) Opening of sub-accounts for electronic payment service providers at JPMorgan Bank for the settlement of electronic card transactions.

5-1-5 Strengthening the Banking Sector and Financial Institutions:

This involves enhancing institutional responsibility to ensure banking system stability, increasing competitiveness, and preparing a suitable environment for innovation.

5-1-5-1 Key Measures

1) **Activating Quality in Banks:** By establishing quality units in line with the ISO 9001:2015 standard to improve performance and increase customer satisfaction.
2) **Preparation of Guidebook:** For selecting quality consultants in the banking sector, in accordance with international standards.
3) **Classification of Banks:** Banks are classified based on the extent of their adherence to the Governance Guide issued by the Central Bank of Iraq, using an Environmental, Social, and Governance (ESG) Scorecard. This initiative is currently under completion in cooperation and coordination with experts from the International Finance Corporation (IFC) and will be published on the Central Bank of Iraq's official website upon its finalization.
4) **Liquidity Controls for Islamic Banks:** To ensure the availability of liquidity and the stability of the financial position.
5) **Calculation of Liquidity Ratios (NSFR, LCR)** according to Basel III requirements and the Islamic Financial Services Board (IFSB), to keep pace with developments in the banking system.

5-1-6 Supporting Digital Transformation:

Digital transformation aims to enhance the efficiency of banking operations, improve user experience, and expand the scope of financial services using modern technologies like data analytics and Artificial Intelligence (AI). The most prominent projects and initiatives are as follows:

1) **Enhancing Security and Infrastructure:**
- Development of security for retail payment systems.
- Verification of the Core Banking System (CBS) compliance with SWIFT standards.
- Building a banking communication network utilizing fiber optic technologies.
- Development of the Cybersecurity Management Center and establishment of a specialized division for response and analysis.

2) **Developing Systems and Platforms:**
- Launch of an electronic platform for the sale of gold bullion and coins.
- Implementation of an advanced electronic Core Banking System (CBS).

- Updating of Payment Systems (PCA) after the project is implemented and handover.

3) Governance and Compliance:

- Implementation of Information Technology (IT) governance controls within the Central Bank of Iraq and across the banking sector.
- Assessment of the readiness of banking infrastructures and information security standards such as (PCI-DSS).
- Issuing regulations for licensing Digital Banks in Iraq via circular No. 9/4/231 on May 12, 2024. Applications for establishing digital banks are currently being studied and processed.

4) Digitization and Automation:

- Automation of supervisory and regulatory operations for financial institutions through the BSRS (Banking Supervision and Regulatory System) platform.
- Development of a roadmap for adopting Central Bank Digital Currencies (CBDCs).

5-1-7 Development of Payment Systems:

The Central Bank of Iraq (CBI) is committed to updating and developing its payment systems in accordance with international best practices. The main developments in the Iraqi payment system are summarized as follows:

1) Development of the Real-Time Gross Settlement (RTGS) System:

This system facilitates the electronic exchange of financial payments between banks through a secure and efficient network. It ensures the actual and final settlement of payment orders exchanged between participants continuously throughout the business day. The advantages of this system include providing speedy transfers and final settlement of payments and significantly reducing inter-country financial settlement risk. Figure (5-1) illustrates the number of transactions and their financial value through this system during the years 2020–2024

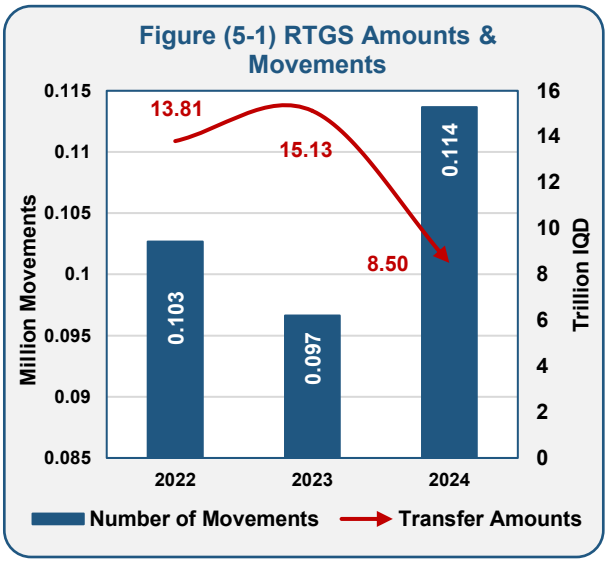


Figure (5-1) shows an increase in the number of financial transactions, in both IQD and USD, through the system from (0.097) million transactions in 2023 to (0.114) million transactions in 2024. Conversely, the financial value of the transactions decreased from IQD (15.13) trillion to IQD (8.50) trillion during the same period.

2) Iraqi Retail Payment System (IRPSI):

This system serves as a channel for domestic card transactions between the issuer and the acquirer via an electronic Payment Service Provider (PSP). The bank connects to the National Switch through the PSP (which

acts as the primary processor for card transactions). The PSP, in turn, connects directly to the National Switch via a secure and protected network for exchanging messages related to card transactions, including inquiries, purchases, and cash withdrawals.

The total financing through this system rose from IQD (9.63) trillion in 2023 to IQD (21.11) trillion in 2024, marking a significant growth rate of (119.15%), as illustrated in Figure (5-2).

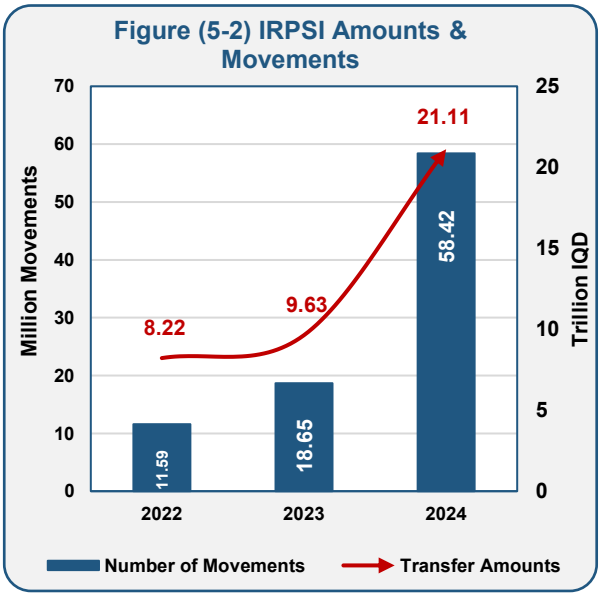


Figure (5-2) shows that the number of transactions within the IRPSI system increased from (18.65) million transactions to (58.42) million transactions, with a growth rate of (213.23%) during the same period. This marks a remarkable development in the financial infrastructure.

3) Automated Clearing House (ACH) System:

This system enables participating banks and their branches to exchange payment orders automatically. Processing is carried out, and the net final settlement is sent to the Real-Time Gross Settlement (RTGS) system. The ACH system also facilitates the exchange of electronic checks encoded with magnetic ink.

The system officially became operational on September 14, 2006, for the main branches of the following banks: Al-Rafidain, Al-Rasheed, Baghdad, Trade Bank of Iraq (TBI), and Middle East, along with two other branches for each of these banks.

The electronic clearing system was updated, and commissions were removed by separating the electronic payment orders (CT) related to the salary localization for government institutions from all other orders.

Furthermore, the systems were updated to support the project of "Automating Financial Transfers for Government Institutions," allowing government departments and spending units to access their accounts held with state-owned banks. This access is granted for the purpose of completing reconciliations and monitoring their settlements by providing them with an Electronic Authorization (E-TOKEN).

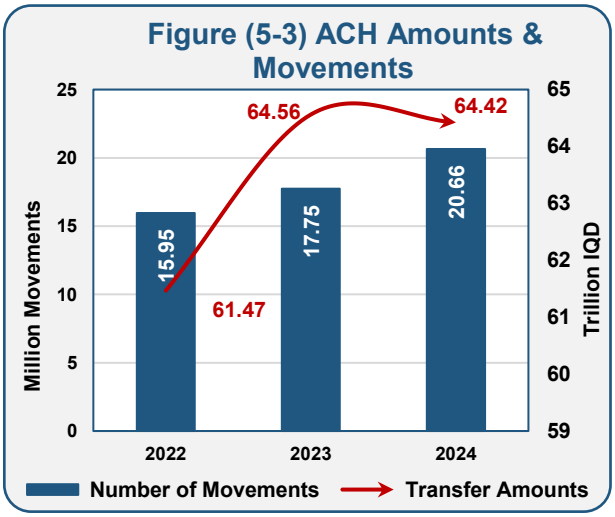


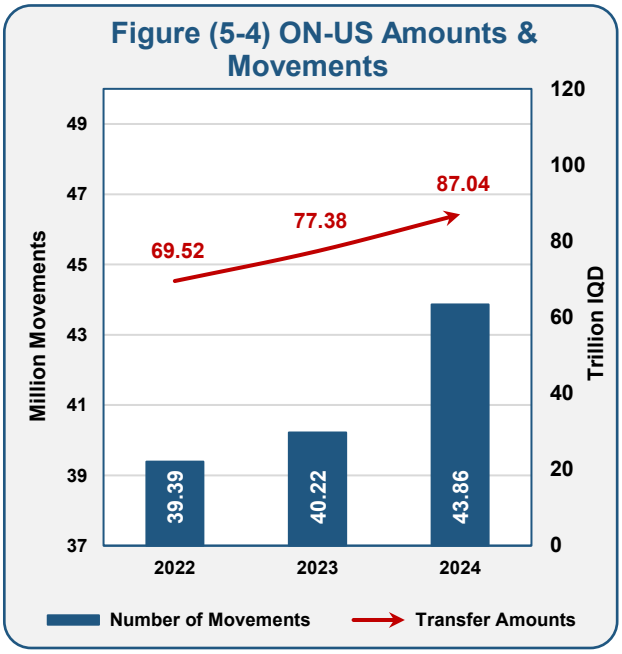
Figure (5-3) shows that the number of financial transactions in the Automated Clearing House (ACH) system increased by (16.39%) in 2024 compared to 2023. Meanwhile, the financial value transferred through this system saw a slight decrease from IQD (64.56) trillion in 2023 to IQD (64.42) trillion in 2024.

4) Internal Clearing System (ON-US):

Internal clearing operations are widely used to facilitate financial transfers between customer accounts within the same bank. As shown in Figure (5-4), the number of financial transactions increased from (40.22) million transactions in 2023 to (43.86) million transactions in 2024. This was accompanied by a rise in the value transferred, from IQD (77.38) trillion in 2023 to IQD (87.04) trillion in 2024.

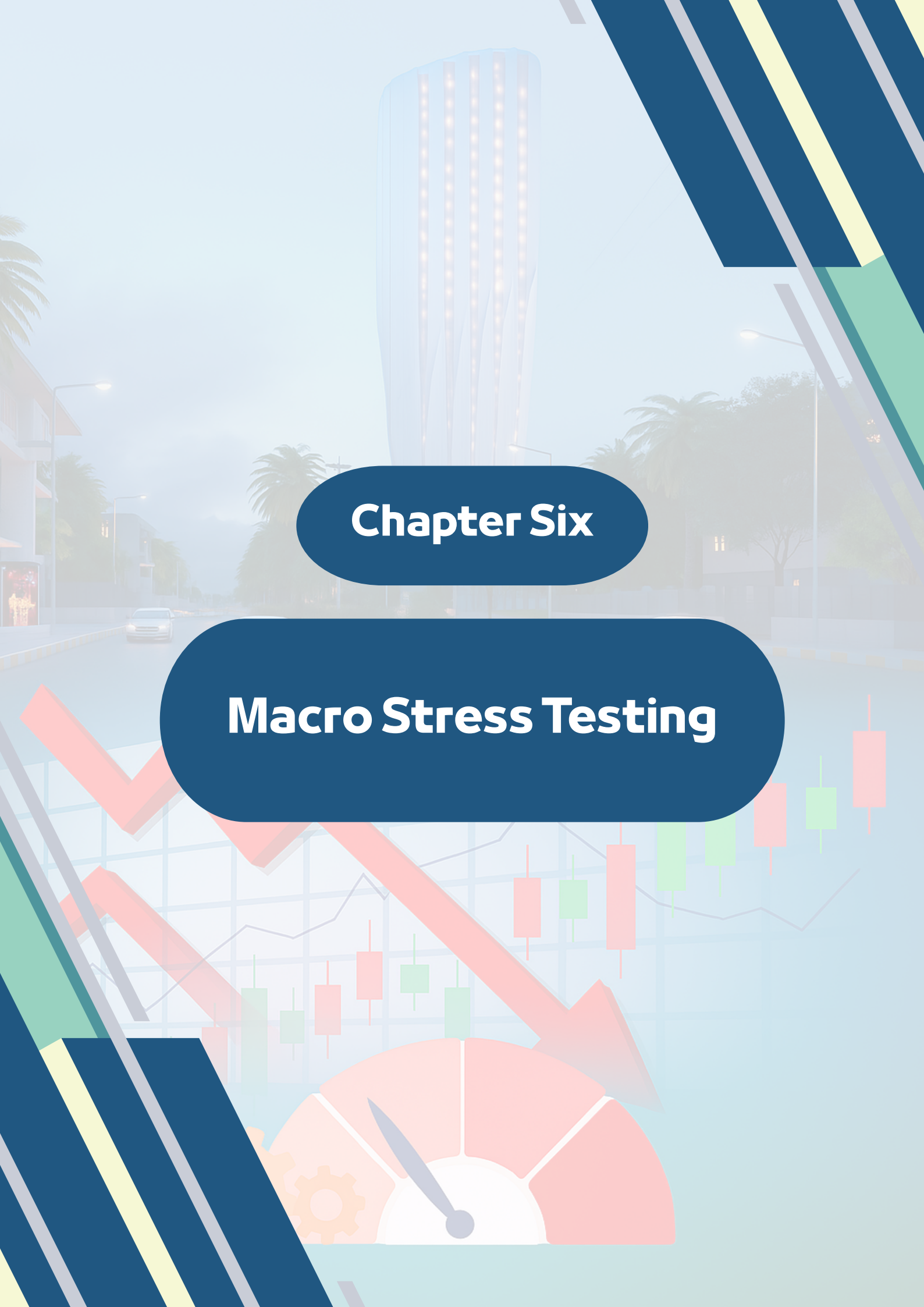
This is a positive indicator showing a continuous increase in both the number and value of financial activity, as detailed in Figure (5-4).

Figure (5-4) ON-US Amounts & Movements



Chapter Six

Macro Stress Testing



6- Macro Stress Testing:

The soundness of operations and the health of policies within the banking sector are among the most prominent factors that drive the financial sector's development, growth, and the maintenance of its stability. These factors also enable the sector to achieve its goals of reaching a high level of economic growth and providing capital directed toward the real sector. This is because a set of factors affect the banking sector's performance and its effectiveness in mobilizing savings and extending credit to various economic sectors. Therefore, it is essential to monitor the performance of the banking system and identify the main obstacles that pose a threat and could impede the process of growth and stability in economic sectors in general, and the financial and banking sector in particular.

The nature and degree of interdependence between the real and financial sectors necessitates studying the developments and changes in one or both sectors and understanding the extent of influence one has on the other. This is because any risks or shocks the real sector is exposed to can pose a source of danger to the financial sector, and vice versa. Thus, predicting the banking sector's capacity to absorb external shocks requires analyzing and monitoring developments in the real economy.

6-1 Structural Vector Autoregression (SVAR) Model:

The model used was developed from the Vector Autoregression (VAR) to a Structural Vector Autoregression (SVAR) model. This was due to the VAR model's lack of economic theory foundations, that is, its failure to incorporate the results of economic theory. Therefore, the SVAR model was adopted, as it allows for the simulation of the impact of shocks on economic variables and offers high flexibility compared to other aggregate models.

Given the nature of the Iraqi financial system, macro-stress testing relies on selecting certain macroeconomic and microeconomic variables, in addition to variables from the financial system. Consequently, two models were employed, the First Model focuses on the liquidity of the Iraqi banking sector, represented by liquid assets, and the impact of shocks from certain variables on it. These variables include non-performing loans (NPLs), risk-weighted assets, deposits, cash credit, market exchange rate, public revenues, and public expenditures. The latter two are indicators with a clear effect on aggregate consumption and aggregate investment, and thus on the ability of projects and individuals to meet their financial obligations to banks, which is directly correlated with liquid assets, the Second Model examines the impact of deposits, cash credit, public revenues, public expenditures, market exchange rate, and

inflation on the ratio of non-performing loans to total cash credit.

Stress tests are conducted according to the following steps:

- Testing the Stability of Variables (Stationarity Test).
- Determining the Optimal Lag Length for the VAR model.
- Structural Stability of the VAR model.
- Correlation Matrix.
- Estimation of the SVAR model.
- Analysis of Structural Impulse Response Functions (IRFs).
- Analysis of Structural Variance Decomposition.

6-1-1 The First Model: Testing the Impact of Certain Macro- and Micro-Economic Variables on the Liquid Assets of Banks Operating in Iraq:

The First Model aims to estimate the impact of macroeconomic variables on the liquid assets of banks operating in Iraq, as well as any shocks related to the macroeconomic and financial variables, to measure their effect on the banking sector's liquid assets over a specified future period. The model takes the following functional form:

$$Y_t = \sum_{i=1}^{m} A_i X_t + U_t$$

Y_t: The dependent variable, representing the growth rate of Liquid Assets (LAg)

$X_t = (NPLg, RWAg, DPg, CRg, EXg, RVg, EPg)$: The vector of endogenous variables, which must be mutually independent (in the structural form)

NPLg: Growth rate of Non-Performing Loans

RWAg: Growth rate of Risk-Weighted Assets

DPg: Growth rate of Deposits

CRg: Growth rate of cash Credit

EXg: Growth rate of Market Exchange Rate

RVg: Growth rate of Public Revenues

EPg: Growth rate of Public Expenditures

$U_t = (U_t^{LAg}, U_t^{NPLg}, U_t^{RWAg}, U_t^{DPg}, U_t^{CRg}, U_t^{EXg}, U_t^{RVg}, U_t^{EPg})$

The vector of white noise residuals (or legal/unstructured residuals), which are assumed to have no correlation between their values.

m: is the number of time lags in the model, which can be determined using the (AIC) criterion. This lag ensures that there is no autocorrelation among the residuals.

t: is the current time period.

A_i: is the matrix of regression coefficients, which is a square matrix of dimension (kxk)

k: is the number of variables in the model.

To identify the structural shocks, a transition matrix must be constructed(S), which satisfies the relationship ($S\ U_t=S.et$), To determine the transition matrix, the equality is first ($S\ U_t = S.\ e_t$) written in the form ($A\ U_t=B.e_t$), where ($S=A^{-1}.B$) The process then involves fixing the diagonal elements of the matrices (A) and (B) by assigning them a value of (1), The off-diagonal elements are determined based on economic rationale (significance). If a residual is assumed not to affect another within the same period (i.e. that element takes a value of 0), the element is

restricted. Conversely, if an effect is assumed, this effect must be measured to assign a value to the element(α_j^i, β_j^i), which is referred to as (economic constraints).

6-1-1-1 Correlation Matrix

The correlation matrix illustrates the correlations between every pair of variables in the dataset. It helps in determining how two or more variables are related or interdependent, as shown in Table (6-1).

Table (6-1) Correlation Matrix Between Variables

	LAg	NPLg	RWAg	DPg	CRg	EXg	RVg	EPg
LAg	1	-0.02	-0.01	0.85	0.03	0.07	0.29	0.34
NPLg	-0.02	1	0.43	-0.04	0.21	-0.15	-0.05	-0.34
RWAg	-0.01	0.43	1	0.02	0.17	-0.05	0.16	0.09
DPg	0.85	-0.04	0.02	1	0.05	0.11	0.23	0.18
CRg	0.03	0.21	0.17	0.05	1	-0.01	-0.20	-0.19
EXg	0.07	-0.15	-0.05	0.11	-0.01	1	-0.28	-0.15
RVg	0.29	-0.05	0.16	0.23	-0.20	-0.28	1	0.57
EPg	0.34	-0.34	0.09	0.18	-0.19	-0.15	0.57	1

Source: (EViews) program outputs.

A correlation matrix calculates the linear relationship between two variables, Table (6-1) shows that the variable Non-Performing Loan growth rate (NPLg) has a weak inverse correlation with the Liquid Asset growth rate (LAg), with a coefficient of (2%).The variable Risk-Weighted Asset growth rate (RWAg) has a weak inverse correlation with the Liquid Asset growth rate (LAg), with a coefficient of (1%).The variable Deposit growth rate (DPg) has a strong positive correlation with the Liquid Asset growth rate (LAg), with a coefficient of (85%), the variable Cash Credit growth rate (CRg) has a weak positive correlation with the Liquid Asset growth rate (LAg), with a coefficient of (3%).The variable Market Exchange Rate growth rate (EXg) has a weak positive correlation with the Liquid Asset growth rate (LAg), with a coefficient of (7%).The variable Public Revenue growth rate (RVg) has a moderate positive correlation with the Liquid Asset growth rate (LAg), with a coefficient of (29%).The variable Public Expenditure growth rate (EPg) has a moderate positive correlation with the Liquid Asset growth rate (LAg), with a coefficient of (34%).This reflects the nature of the financial system in Iraq, which heavily relies on public revenues and expenditures.

6-1-1-2 Estimating the (SVAR) Model

After confirming the stationarity of the variables' time series and determining the optimal lag length, the Structural Vector Autoregression (SVAR) methodology will be employed. This methodology is suitable for studying the relationships among the different variables used in the model. The SVAR model hypotheses were formulated, considering economic theory and the state of the Iraqi

financial system, based on the assumptions derived from the correlation matrix.

6-1-1-3 Analysis of Shocks Among Different Variables

* **Shocks:** are changes hypothesized by the program within the estimated model, equal to two standard deviations in one or more of the independent variables, to determine the response of the dependent variable to that shock. Shocks are of two types: positive (direct) and negative (inverse).

The shocks of the independent variables and their impact on the dependent variable will be analyzed according to the specified model.

1) Impact of the Shock on Non-Performing Loan Growth Rate (NPLg) on Liquid Asset Growth Rate (LAg):

An increase in the Non-Performing Loan growth rate leads to a decrease in asset quality and the erosion of bank capital, which negatively impacts the liquidity available to banks. The shock analysis results confirmed this relationship empirically and quantitatively over the four quarters of 2025, as illustrated in Figure (6-1).

Figure(6-1) Response of LAg to NPLg Shock

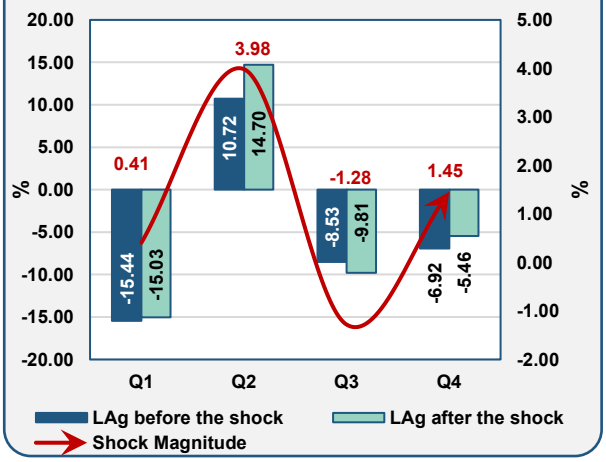


Figure (6-1) shows that the degree of response of the Liquid Asset growth rate to a random shock in the Non-Performing Loan growth rate, equivalent to two standard deviations in the fourth quarter of 2025, reached a growth rate of (1.45%). This led to a decrease in the Liquid Asset growth rate from (-6.92%) in the fourth quarter of 2024 to (-5.46%) in the same quarter of 2025. Given that the shock represents a significant rise in non-performing loans during 2025, and despite fluctuations in the shock during the initial quarters of 2025, it ultimately contributed to the decline in liquid assets.

2) Impact of the Shock on Risk-Weighted Asset Growth Rate (RWAg) on Liquid Asset Growth Rate (LAg)

The Risk-Weighted Asset (RWA) growth rate is considered one of the primary indicators for measuring a bank's exposure to credit risk, and it directly influences the bank's liquidity management behavior. When RWA increases due to banks expanding lending or increasing exposure to high-risk assets liquid assets decrease. This occurs because resources are being directed toward riskier and less liquid activities. Therefore, the relationship between the two variables is inverse and unstable. The shock analysis confirmed this relationship empirically and quantitatively over the four quarters of 2025, as illustrated in Figure (6-2).

Figure(6-2) Response of LAg to RWAg Shock

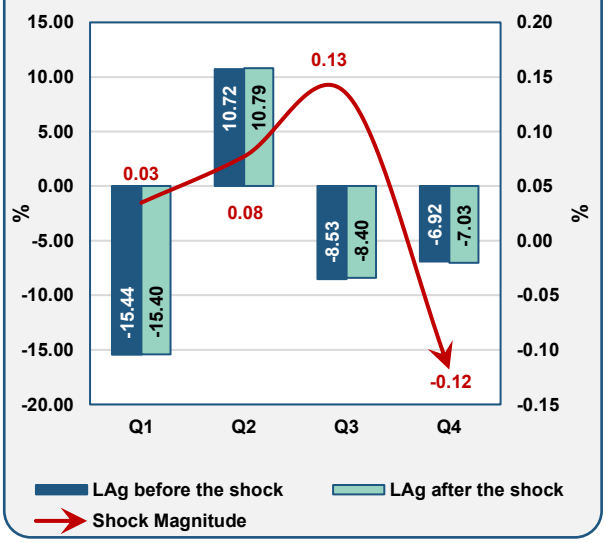


Figure (6-2) shows that the degree of response of the Liquid Asset growth rate to a random shock in the Risk-Weighted Asset growth rate, equivalent to two standard deviations in the fourth quarter of 2025, reached (-0.12%). The surge in the shock appeared during the third quarter, which led to a decrease in liquid assets in the fourth quarter, reaching (-7.03%).

3) Impact of the Shock in Deposit Growth Rate (DPg) on Liquid Asset Growth Rate (LAg)

The relationship between the Deposit growth rate and the Liquid Asset growth rate is close. When deposits experience a shock, whether an unexpected increase (deposit inflows) or a sharp decrease (deposit withdrawals), this directly affects the liquidity levels available to banks, as illustrated in Figure (6-3).

Figure(6-3) Response of LAg to DPg Shock

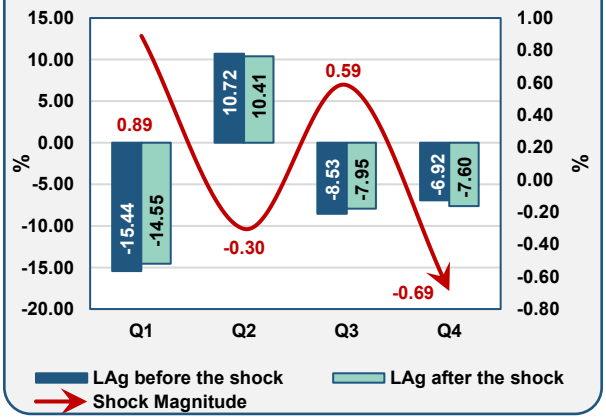
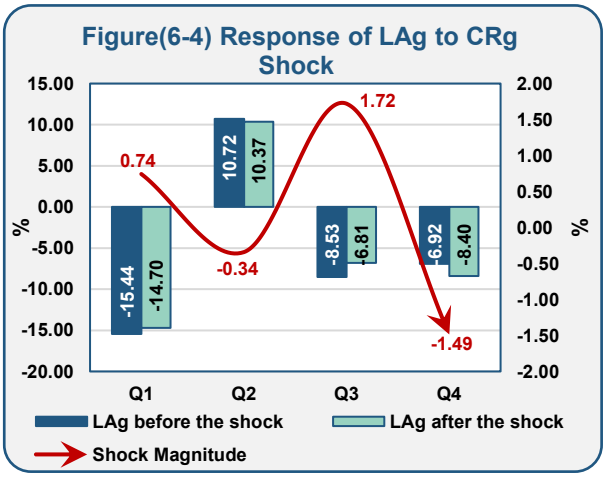


Figure (6-3) shows that the degree of response of the Liquid Asset growth rate to a random shock in the Deposit growth rate, equivalent to two standard deviations in the fourth quarter of 2025, reached (-0.69%). This effect was reflected in a decrease in the Liquid Asset growth rates from (-6.92%) in the fourth quarter of 2024 to (-7.60%) in the same quarter of 2025, as illustrated in Figure (6-3). This highlights that the banking sector relies directly on deposit growth as a main source of liquidity, emphasizing the importance of further enhancing depositor confidence and maintaining the stability of fund flows into the banking system.

4) Impact of the Shock in Cash Credit Growth Rate (CRg) on Liquid Asset Growth Rate (LAg)

The Liquid Asset growth rate usually responds inversely to the Cash Credit growth rate due to the sensitivity between credit expansion and liquidity levels within the banking system. However, the relationship between the Cash Credit growth rate and the Liquid Asset growth rate appeared weak. This

is because banks rely heavily on public funds for providing cash credit, whether through central bank of Iraq initiatives offered to private banks or from SOBS. Consequently, the relationship appeared illogical, as shown in Figure (6-4).

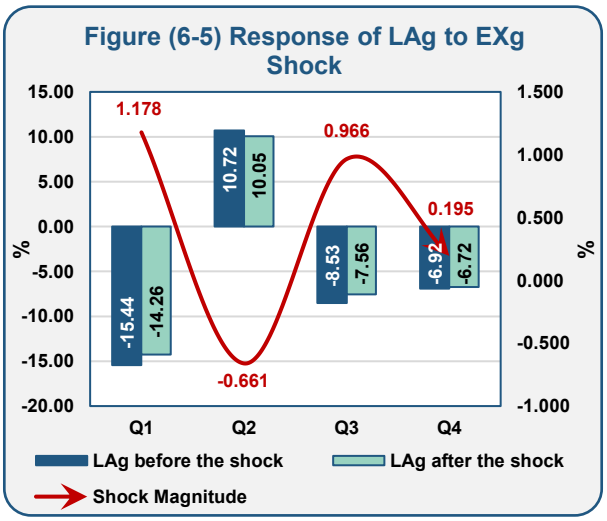


5) The Impact of the Exchange Rate Growth Rate (EXg) Shock on the Growth Rate of Liquid Assets (LAg)

The growth rate of the parallel market exchange rate has a positive correlation with the growth rate of liquid assets within Iraq's banking system. The rise in the market exchange rate (a decline in the value of the Iraqi Dinar) leads to an increase in the book value of liquid assets denominated in foreign currencies (especially the US dollar) when converted back into Iraqi Dinars, which positively affects liquidity.

On the other hand, some banks deliberately hold liquid assets denominated in foreign currency to increase their value when exchange rates rise. This practice is accompanied by exchange rate risks that affect risk-weighted assets. Consequently, CBI has mandated banks to maintain a maximum ratio of net open foreign currency position to capital (20%) as a precautionary measure.

The results of the Impulse Response Functions (IRFs) practically and quantitatively confirmed this relationship over the four quarters of 2025, as illustrated in Figure (6-5).



It is evident from Figure (6-5) that the degree of response of the Liquid Assets Growth Rate to a two-standard-deviation random shock in the Market Exchange Rate Growth Rate reached (0.195%) in the fourth quarter of 2025. This effect was reflected in the increase of liquid assets from (-6.92%) in the fourth quarter of 2024 to (-6.72%) in the same quarter of 2025. The figure above indicates that the relationship between the Exchange Rate Growth Rate and the Liquidity Growth Rate is non-linear and non-stable but tends toward a positive correlation. The observed variance across quarters suggests that the relationship is influenced by other internal factors such as the volume of foreign currency reserves, depositor behavior, and prevailing monetary policies.

6) The Impact of the Public Revenues Growth Rate (RVg) Shock on the Liquid Assets Growth Rate (LAg)

The Liquid Assets Growth Rate within the Iraqi banking system is positively correlated with the Public Revenues Growth Rate. The results showed a direct relationship between the two variables. General revenues are significantly affected by global oil prices because oil revenues constitute over (95%) of the total public revenues. Given that most government expenditures rely on these revenues, they can substantially impact per capita disposable income in Iraq. Consequently, the Liquid Assets Growth Rate is instantaneously affected by a shock in the Public Revenues Growth Rate variable, with the results of this shock shown in Figure (6-6).

Figure (6-6) Response of LAg to RVg Shock

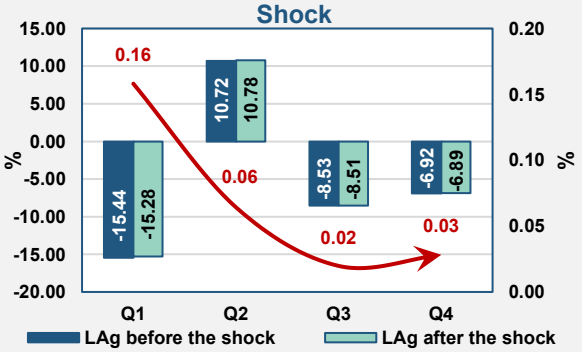


Figure (6-6) shows that the degree of response of the liquid assets growth rate to a two standard deviation random shock in the public revenue growth rate in the fourth quarter of 2025 reached about (0.03%). This led to an increase in the liquid assets growth rate from (-6.92%) in the fourth quarter of 2024 to (-6.89%) during the same quarter of 2025, which means that the shock results were consistent with the hypothesis (correlation matrix).

7) The Impact of the Shock on the Public Expenditure Growth Rate (EPg) on the Liquid Assets Growth Rate (LAg):

The liquid assets' growth rate is positively correlated with the public expenditure growth rate. The direction of this relationship may be attributed to the heightened vulnerability of government spending to economic and political crises in Iraq, especially current expenditure. The government often maintains the level of current expenditure and prepares alternative sources to finance it if the primary sources (oil revenues) decline. Thus, an increase in government spending leads to a rise in the level of economic activity and consequently an increase in individuals' ability to meet their obligations, which results in a decrease in the ratio of non-performing loans to total cash credit. This, in turn, leads to a reduction in credit risk and subsequently an increase in the liquid assets of banks operating in Iraq, particularly since most of the credit is extended to government employees.

Figure(6-7) Response of LAg to EPg Shock

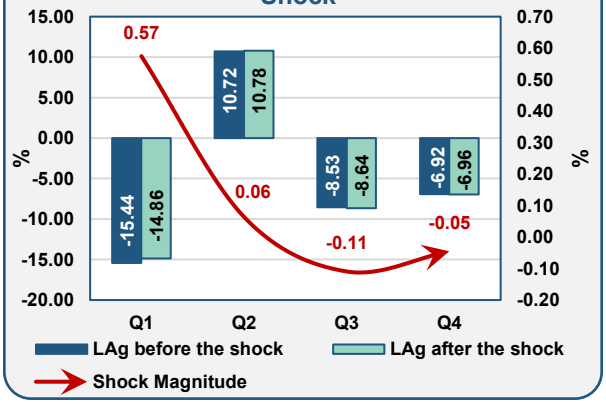


Figure (6-7) shows that the degree of response of the liquid assets growth rate to a two standard deviation random shock in the variable (public expenditure growth rate) in the fourth quarter of 2025 reached (-0.05%). This led to a decrease in the liquid assets growth rate from (-6.92%) in the fourth quarter of 2024 to (-6.96%) during the same quarter of 2025.

6-1-2 The Second Model: Testing the Impact of Certain Macroeconomic and Microeconomic Variables on the Ratio of Non-Performing Loans to Cash Credit for Banks Operating in Iraq:

This model aims to estimate the relationship between the ratio of non-performing loans to cash credit and any shocks related to macroeconomic variables. It is used to measure the impact of deposits, cash credit, public revenues, public expenditures, market exchange rate, and inflation on the non-performing loans to cash credit ratio. The functional form of the model was as follows:

$$Y_t = \sum_{i=1}^{m} A_i X_t + U_t$$

Y_t: Is the dependent variable representing the Non-Performing Loans to cash Credit Ratio (NPLr).

X_t =(Dp,CR,RV,EP,EX,INF): Is the vector of endogenous variables, which must be mutually independent.

DP: Deposits.

CR: Cash Credit.

RV: Public Revenues.

EP: Public Expenditures.

EX: Market Exchange Rate.

INF: Inflation.

6-1-2-1 Correlation Matrix

The correlation matrix illustrates the correlations between every pair of variables in the dataset. The correlation matrix helps in determining how two or more variables are related to or dependent on each other, as shown in Table (6-2).

Table (6-2) Correlation Matrix Between Variables

	NPLr	DP	CR	RV	EP	EX	INF
NPLr	1	-0.66	-0.72	-0.29	-0.33	-0.75	-0.48
DP	-0.66	1	0.96	0.57	0.50	0.84	0.62
CR	-0.72	0.96	1	0.52	0.48	0.87	0.61
RV	-0.29	0.57	0.52	1	0.94	0.41	0.33
EP	-0.33	0.50	0.48	0.94	1	0.36	0.23
EX	-0.75	0.84	0.87	0.41	0.36	1	0.84
INF	-0.48	0.62	0.61	0.33	0.23	0.84	1

Source:(EViews) program outputs

The correlation matrix measures the linear relationship between two variables. Table (6-2) indicates that: The Deposits (DP) variable is strongly and negatively correlated with the Non-Performing Loans to Cash Credit Ratio (NPLr), with a correlation coefficient of (66%).The Cash Credit (CR) variable is strongly negatively correlated with the (NPLr), with a correlation coefficient of (72%).The Public Revenues (RV) variable

shows a moderately strong negative correlation with the (NPLr), amounting (29%).The Public Expenditures (EP) variable exhibits a moderately strong negative correlation with the (NPLr), amounting (33%).The Market Exchange Rate (EX) variable is strongly and negatively correlated with the (NPLr), with a correlation coefficient of (75%).The Inflation (INF) variable demonstrate a strong negative correlation with the (NPLr), reaching (48%).

6-1-2-2 Estimation of the (SVAR) Model:

After confirming the stationarity of the variables' time series and determining the optimal lag length, the Structural Vector Autoregression (SVAR) methodology will be adopted. This choice is suitable for studying the relationships among the various variables used in the model. Hypotheses for the SVAR model were established considering economic theory and the state of the Iraqi financial system, based on the assumptions derived from the correlation matrix.

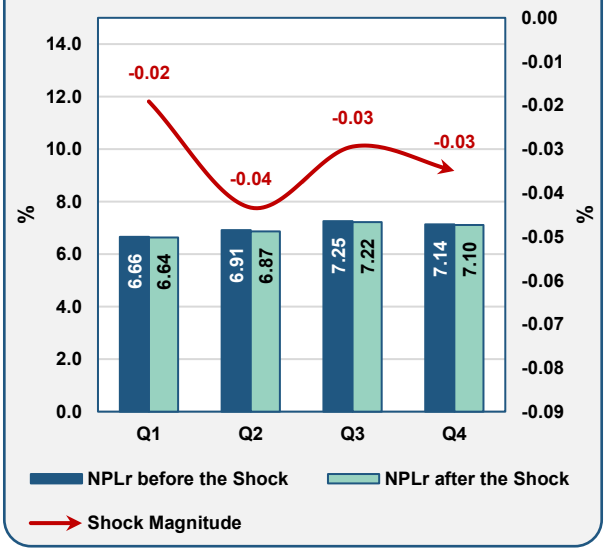
6-1-2-3 Analyzing Shocks Among Different Variables:

The shocks of the independent variables and their impact on the dependent variable will be analyzed according to the determined model.

1) Impact of the Shock in Deposits (DP) on the Non-Performing Loans to Cash Credit Ratio (NPLr):

Deposits play a significant role in influencing the Non-Performing Loans (NPLs) to total cash credit ratio in the Iraqi banking sector. This effect primarily depends on the efficiency with which banks utilize the available liquidity from these deposits. In the case where banks adhere to disciplined credit policies, an increase in deposits contributes to improving the quality of credit portfolios, thereby leading to a decrease in the NPL ratio. However, if the rise in deposits coincides with an increase in Non-Performing Loans, it is considered an indicator of weak credit management efficiency and an ineffective use of bank liquidity. This is illustrated in Figure (6-8).

Figure (6-8) Response of NPLr to DP Shock



As shown in Figure (6-8), a random shock in Deposits of two standard deviations in the fourth quarter of 2025 led to a response in the Non-Performing Loans to Cash Credit Ratio (NPLr) by (-0.03%). This resulted in a decrease in the NPLr from (7.14%) in the fourth quarter of 2024 to (7.10%) in the same quarter of 2025. This indicates that a positive shock in deposits prompts banks to adopt stricter credit-granting

standards, which in turn leads to a reduction in the number of new loans, particularly high-risk ones.

2) Impact of the Shock in Cash Credit (CR) on the Non-Performing Loans to Cash Credit Ratio (NPLr):

The inverse relationship between the volume of Cash Credit and the Non-Performing Loans to total cash credit ratio reflects the efficiency and quality of credit expansion. When banks successfully direct credit toward productive activities and creditworthy borrowers, a rise in cash credit is not necessarily matched by an increase in Non-Performing Loans; instead, it may lead to a relative decrease in it. This positive relationship is strengthened by the presence of effective bank supervision and sustainable economic growth, where credit expansion becomes a tool to stimulate economic activity rather than a source of risk, as the impulse response function estimations during the four quarters of 2025 were as shown in Figure (6-9).

Figure (6-9) Response of NPLr to CR Shock

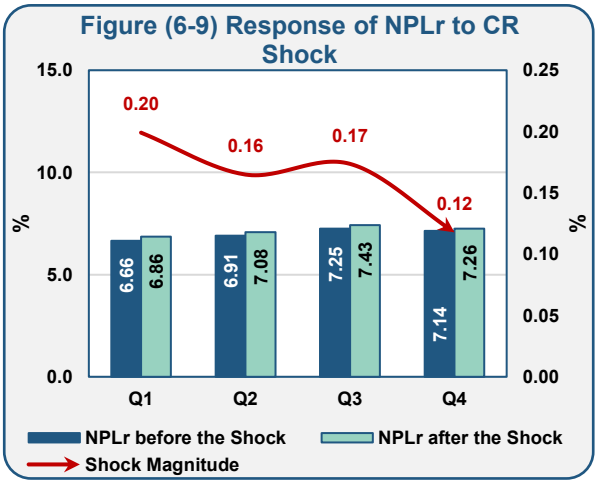


Figure (6-9) indicates that a random shock in (Cash Credit) of two standard deviations in the fourth quarter of 2025 resulted in a (0.12%) response in the Non-Performing Loans to cash Credit Ratio (NPLs). This, in turn, caused the (NPLr) to rise from (7.14%) in the fourth quarter of 2024 to (7.26%) in the same quarter of 2025. This suggests that a positive shock in cash Credit, which reflects a sudden expansion in the volume of lending, may contribute to an increase in the Non-Performing Loans Ratio. This outcome is natural, as Non-Performing Loans typically increase when cash Credit expands.

3) The Impact of the Shock in Public Revenues (RV) on the Non-Performing Loans to Cash Credit Ratio (NPLr):

Public Revenues are inversely related to the NPLs to Cash Credit Ratio. An increase in Public Revenues signifies an increase in the government's capacity for spending, which supports economic activity. This heightened economic activity subsequently improves individuals' ability to meet their obligations towards banks, thereby leading to a reduction in Non-Performing Loans, as illustrated in Figure (6-10).

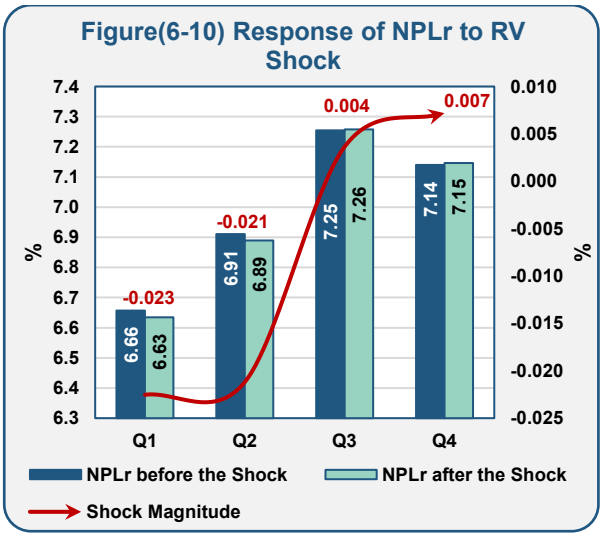


Figure (6-10) shows that a random shock in (Public Revenues) equivalent to two standard deviations in the fourth quarter of 2025 led to a response in the ratio of non-performing loans to cash credit of (0.007%). This caused the ratio of non-performing loans to cash credit to rise from (7.14%) in the fourth quarter of 2024 to (7.15%) in the same quarter of 2025. This indicates that a decrease in public revenues may contribute to a limited degree to the increase in non-performing loans. The decline in public revenues suggests a reduction in the government's capacity to spend, which, in turn, reduces the ability of individuals to meet their obligations to banks, consequently leading to a rise in non-performing loans.

4) Impact of a Shock in Public Expenditures (EP) on the NPL Ratio (NPLr)

Public expenditures are linked to the ratio of non-performing loans to cash credit by an inverse relationship. If the expenditures are productive and contribute to supporting economic activity, they lead to a decrease in the ratio of non-performing loans to cash credit by improving the borrowers' ability to repay. The opposite occurs if the expenditures are unproductive, which causes the non-performing loan ratio to rise. As the estimates of the impulse response functions during the four quarters of 2025 were as in Figure (6-11).

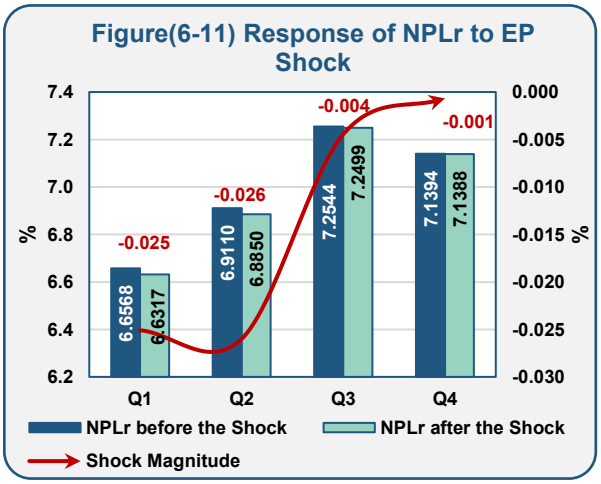


Figure (6-11) shows that a two standard deviation random shock in (Public Expenditure) in the fourth quarter of 2025 led to a response in the ratio of non-performing loans to cash credit (NPLr) by a rate of (-0.001%). This resulted in a decrease in the ratio of non-performing loans to cash credit from (7.1394%) in the fourth quarter of 2024 to (7.1388%) in the same quarter of 2025. This indicates that the shock in public expenditure contributed to reducing the ratio of non-performing loans to cash credit by supporting economic activity and improving the income of individuals and companies, thereby enhancing their ability to repay loans. This support is also reflected in the quality of the credit portfolio and reduces credit risks in the banking sector, especially if the spending is directed towards

productive projects and investments that promote sustainable economic growth.

5) The Effect of a Shock in the Market Exchange Rate (EX) on the Ratio of Non-Performing Loans to Cash Credit (NPLr):

One of the reasons for loan repayment default is the rise in the market exchange rate, which affects the ability of individuals to meet their obligations due to a decrease in purchasing power and real income. Therefore, the parallel market exchange rate is inversely related to the ratio of non-performing loans to cash credit in the Iraqi banking system. The estimates of the impulse response functions during the four quarters of 2025 were as in Figure (6-12).

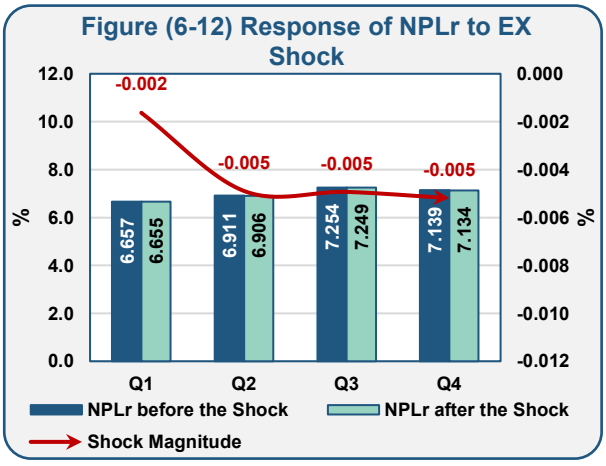


Figure (6-12) shows that a two-standard-deviation random shock in the (Market Exchange Rate) in the fourth quarter of 2025 led to a response in the Non-Performing Loan to Cash Credit Ratio (NPLr) of (-0.005%). This resulted in a decrease in the NPLr from (7.139%) in the fourth quarter of 2024 to (7.134%) in the same quarter of 2025. This indicates that the shock in the market exchange rate led to a decrease in the Non-Performing Loan to Cash Credit Ratio.

6) The Effect of the Shock in Inflation (INF) on the Non-Performing Loan to Cash Credit Ratio (NPLr):

Inflation is inversely related to the Non-Performing Loan to Cash Credit Ratio. When the inflation growth rate rises, the purchasing power of individuals and companies erodes, which weakens their ability to repay loans. The estimates of the Impulse Response Functions (IRFs) over the four quarters of 2025 were as shown in Figure (6-13).

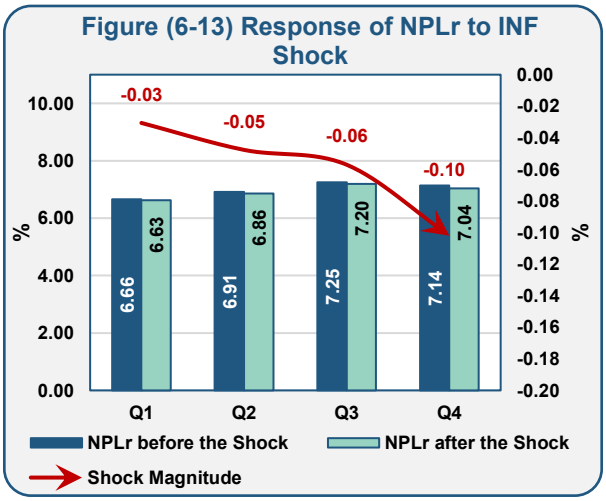


Figure (6-13) shows that a two-standard-deviation random shock in (Inflation) in the fourth quarter of 2025 led to a response in the Non-Performing Loan to Cash Credit Ratio of (-0.10%). This resulted in a decrease in the NPLr from (7.14%) in the fourth quarter of 2024 to (7.04%) in the same quarter of 2025. This indicates that the decrease in inflation resulting from the shock contributed to improving the quality of the credit portfolio and reducing the Non-Performing Loan Ratio.

Chapter Seven

Financial Stability Index

7- Financial Stability Index in Iraq:

The Central Bank of Iraq (CBI), through its measures, seeks to protect individuals, the economy, and the financial system from the impact of various shocks they are exposed to. To achieve this, the bank implemented a series of diverse financing initiatives that aim to support the Iraqi economy amidst the significant challenges it faces, even though this was not among its core mandates. This support was channelled through its initiatives directed at banks. These initiatives seek to finance the vital sectors in the Iraqi economy and enhance economic growth and financial stability. Although Iraq's GDP indicators have been affected by these policies, other official bodies must continue to undertake more measures to support the economy and achieve stability in the financial system.

In this context, the financial stability Index serves as a vital instrument that measures the level of financial stability in the country, providing early guidance for decision-makers to implement appropriate preventive measures. Central Banks are responsible for assessing the soundness of the financial system by utilizing a diverse set of quantitative and qualitative indicators. This analysis aims to evaluate the strength and resilience of the financial system and identify any potential risks it may face. The Central Bank of Iraq (CBI) promotes the principle of transparency and disclosure by providing comprehensive information to the market and participants in the financial system. This is accomplished through the publication of detailed reports and data on the status of the Iraqi financial system and its key indicators. This principle helps to build confidence and enhance the understanding of stakeholders regarding the risks and challenges facing the financial system in Iraq.

The development of the financial stability Index relies on a diverse set of metrics that encompass the banking system and the broader economic sector, the capital market, the global economic index, and the financial cycle. These sub-indicators, in turn, are based on a collection of other sub-ratios that reflect various aspects of the financial system's stability in Iraq. This multi-indicator approach allows the Central Bank of Iraq (CBI) to obtain a comprehensive picture of financial stability and identify areas that may require improvement or focused attention. By analyzing these multiple indicators and the relevant sub-ratios, the Central Bank can assess the general financial conditions and undertake the necessary measures to maintain the stability of Iraq's financial system.

7-1 The Practical Aspect of the Financial Stability Index:

The proper construction of a composite financial stability Index enables an institution to rely on it and trust its results. There are fundamental steps for building this Index, and therefore, several steps were employed to measure the Financial Stability Index (FSI), which are as follows:

7-1-1 Variables Used in Calculating the Aggregate Financial Stability Index:

The Financial Stability Index (FSI) is composed of five main sub-indicators. Before the data normalization process, variables that have an inverse relationship with the overall financial stability Index are adjusted by applying a negative sign. These sub-indicators are as follows:

7-1-1-1 Banking Sector Indicator:

The Banking Sector Indicator is considered one of the main components used to measure the Financial Stability Index, comprising four principal sub-indicators. The first sub-indicator includes the ratio of capital adequacy, while the second sub-indicator includes asset quality indicators, including: ratio of the non-performing debt to total loans and advances, ratio of the net non-performing debt after deducting provisions to capital base, ratio of the non-performing debt to total cash credit, and ratio of coverage (provisions/non-performing debts). The third sub-indicator comprises liquidity indicators, which include: ratio of liquid assets to liquid liabilities, ratio of liquid assets to total assets, ratio of liquid assets to total deposits, and ratio of cash credit to total deposits. The fourth sub-indicator, meanwhile, covers profitability Indicators, which include: ratio of return on assets, ratio of return on equity, ratio of non-interest expenses to total income, and ratio of interest margin to total income. This brings the total to (13) sub-indicators that reflect the condition of the banking sector.

7-1-1-2 Macroeconomic Indicator:

This indicator includes (8) sub-indicators, which are: gross domestic product (GDP) growth rate, ratio of current account deficit to GDP, oil breakeven price in Iraq, inflation rate, parallel exchange rate (market rate), ratio of public debt to GDP, ratio of household debt to GDP, and ratio of net foreign reserves to GDP.

7-1-1-3 Capital Market Indicator:

This indicator is composed of two sub-indicators, which are: the Iraq stock exchange (ISX) index and the ratio of market capitalization to GDP.

7-1-1-4 Global Economy Indicator:

This indicator is composed of two sub-indicators, which are: Global Economic Growth Index and Global Inflation Index.

7-1-1-5 Financial Cycle Indicator:

This indicator is composed of a single measure that quantifies the Credit Gap, which is defined as the difference between the ratio of credit granted to the private sector to GDP and the long-term trend of that same ratio, which is estimated using the Hodrick-Prescott (HP) filter.

7-1-2 Financial Stability Standard Matrix:

The Financial Stability Standard Matrix was introduced to determine the degree of stability of all variables that constitute the financial stability Index. Each variable is classified on a scale between (0) and (1). An indicator value closer to (1) signifies the

stability of the indicator's value, and the inverse holds true for values approaching (0). This classification is implemented after the stage of normalization and conversion to standardized values. Crucially, the relationship (whether direct or inverse) between the partial sub-variable and the financial stability Index is taken into account. Variables that exhibit a direct relationship are retained, and those with an inverse relationship are inverted. Colores have been used in the Financial Stability Standard Matrix to reflect the condition of the indicator under study, which is detailed as follows:

Yellow moving toward Green (Yellow to Green): This range indicates stability and the absence of any immediate weaknesses. The indicator under study is in a favourable condition and does not pose a source of concern

The Orange range indicates that the indicator lies between the first case (stability) and the second case (source of concern). This status requires active monitoring by decision-makers to prevent a deterioration into the red range.

The Red range reflects weaknesses (instability) that lead to the potential for a crisis to occur.

7-1-3 Analysis of the Financial Stability Index (FSI):

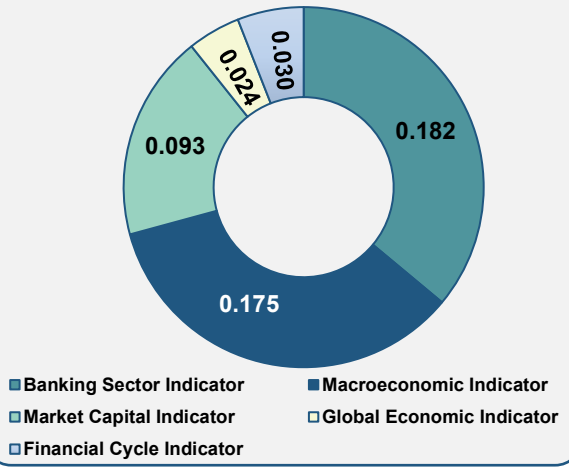
The Financial Stability Index (FSI) enables the evaluation of the level of financial stability, which primarily depends on the FSI's components and their trends. Fluctuations (increases and decreases) in the values of the composite sub-indicators for the overall financial stability Index in Iraq were evident in 2024, as shown in Table (7-1).

Table (7-1) Financial Stability Index (FSI) and its Main Sub-Indicators

Years / Indicators	2020	2021	2022	2023	2024
Banking Sector Indicator	0.266	0.215	0.279	0.301	0.182
Macroeconomic Indicator	0.144	0.119	0.156	0.121	0.175
Market Capital Indicator	0.050	0.039	0.013	0.063	0.093
Global Economic Indicator	0.020	0.035	0.014	0.020	0.024
Financial Cycle Indicator	0.014	0.011	0.000	0.016	0.030
Financial Stability Index	0.494	0.418	0.462	0.521	0.504

The overall financial stability Index shows a decline. This decline is attributable to the decrease in the banking sector indicator, which reached (0.182) in 2024. Conversely, the macroeconomic indicator, the capital market indicator, the global economic indicator, and the financial cycle indicator all recorded increases, reaching (0.175), (0.093), (0.024), and (0.030), respectively, in 2024, as illustrated in Table (7-1) and Figure (7-1).

Figure (7-1) The Main Sub-Indicators Constituting the Financial Stability Index in 2024

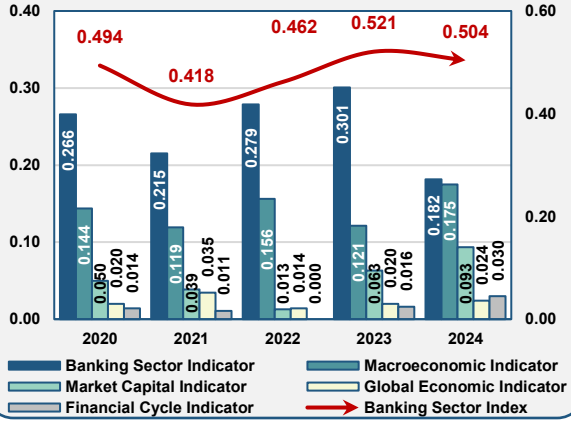


The Central Bank of Iraq (CBI) sought to mitigate the impact of local and global crises by adjusting the policy rate and the reserve requirement ratio to align with economic activity. In addition to providing financing initiatives that support economic sectors and implementing other measures that utilized macro- and micro-prudential policies to strengthen capital and liquidity in accordance with international and domestic standards, however, these actions and conditions did not have a substantial impact on the financial stability Index, which experienced a slight decline to (0.504) at the end of 2024, compared to (0.521) at the end of 2023. The financial stability Index is composed of several sub-indicators, all of which ultimately affect the indicator's final value, as illustrated in the "Financial Stability Map." This map provides an analysis of the trend of the aggregated sub-indicators based on annual data, showing that the financial stability Index witnessed fluctuations throughout the period (2020-2024). The banking sector indicator declined, while the macroeconomic indicator, the global economy indicator, the financial cycle indicator, and the capital market indicator all increased in 2024.

The net overall effect of the change in these indicators was a decline in the financial stability Index from (0.521) in 2023 to (0.504) in 2024. This change was primarily driven by the banking sector indicator, which decreased significantly from (0.301) to (0.182) during the same period. This sector includes sub-indicators that have a direct and greater impact on financial stability compared to the other indicators.

Figure (7-2) illustrates that the decline in the banking sector indicator had the largest impact, which directly led to the overall decrease in the financial stability Index. This outcome is significant given that the banking sector indicator's weighting constitutes (51%) of the total financial stability Index weighting. Consequently, the financial stability Index fell by (3.22%) in 2024 compared to 2023.

Figure (7-2) Financial Stability Map in Iraq



7-2 Relationship Between the Financial Stability Index and Its Constituent Sub-Indicators:

The financial stability Index is composed of several sub-indicators, all of which collectively affect the final overall value of the indicator. These relationships are detailed as follows:

7-2-1 Banking Sector Indicator:

The Iraqi banking sector stability Indicators are a vital part of assessing the health and strength of Iraq's financial system. This composite indicator is made up of four main metrics (capital adequacy ratio, asset quality, liquidity quality, and profitability quality).

The calculation of this indicator incorporates several sub-indicators that can positively or negatively affect Iraq's overall financial stability Index. Consequently, the banking sector indicator has been assigned a weighting of (51%), as it comprises the largest number of component indicators within the financial stability Index.

The banking stability indicator experienced fluctuations throughout the period (2020–2024). Specifically, its weighted value declined from (0.301) in 2023 to (0.182) in 2024, as illustrated in Figure (7-3).

Figure (7-3) The Weighted Value of the Banking Sector Indicator and the Financial Stability Index in Iraq

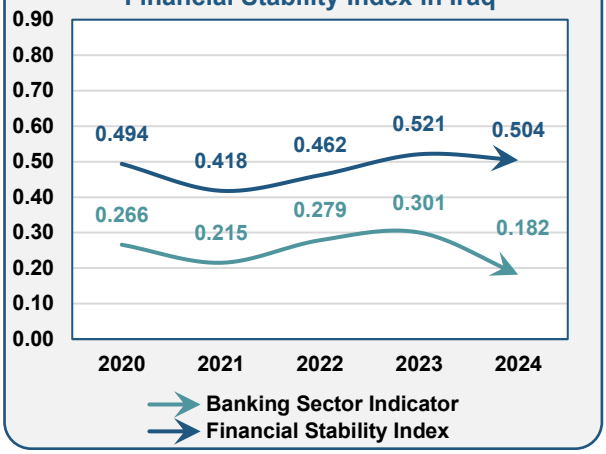
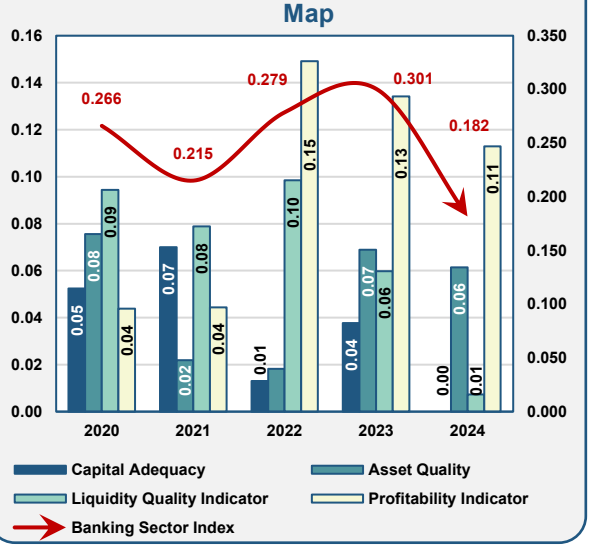


Figure (7-4) indicates the decline in the weighted value of the capital adequacy ratio indicator during 2024, reaching a rate of (0.00), down from (0.04) during 2023. This drop is attributed to the increase in risk-weighted assets (RWA) being greater than the increase in regulatory capital. This deterioration in capital adequacy, in turn, negatively reflects on the financial stability Index. It was also observed from the banking stability map that the weighted value of both the liquidity quality indicator and the asset quality indicator declined to (0.01) and (0.06) in 2024, respectively, after standing at (0.06) and (0.07) in 2023.

Furthermore, the profitability quality indicator decreased from (0.13) in 2023 to (0.11) in 2024.

Based on the aforementioned indicators, the financial stability Index for the Iraqi banking sector is shown to have decreased from (0.301) in 2023 to (0.182) in 2024.

Figure (7-4) Banking Sector Indicator Map



7-2-2 Macroeconomic Indicator:

These indicators measure the macroeconomic environment in which the financial sector operates. The financial sector fundamentally relies on the overall economic activity and performance of the state and is affected by economic variables that may periodically impact the economy.

The impact of macroeconomic variables on financial stability is thus measured. Since this indicator directly influences the overall financial stability Index, it has been assigned a weighting of (32%) and is composed of (8) sub-indicators.

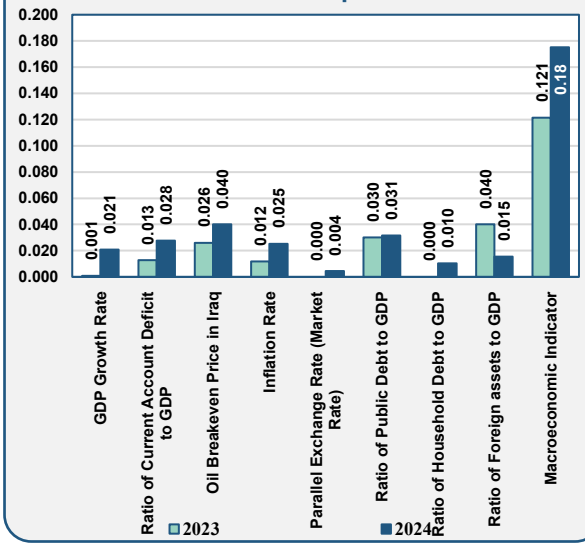
The sub-indicators with a direct relationship with the Macroeconomic Indicator are the GDP growth rate, the oil breakeven price in Iraq, and the ratio of foreign reserves to GDP.

The remaining indicators—including the ratio of current account deficit to GDP, the inflation rate, the parallel exchange rate (market rate), the ratio of public debt to GDP, and the ratio of household debt to GDP—all have an inverse relationship with the Macroeconomic Indicator.

The macroeconomic indicator, in turn, has a direct relationship with the financial stability Index. This means that an increase in the macroeconomic indicator has a positive effect on the financial stability Index, and vice versa.

The macroeconomic indicator map for (2023, 2024) is shown in Figure (7-5).

Figure (7-5) Macroeconomic Indicator Map

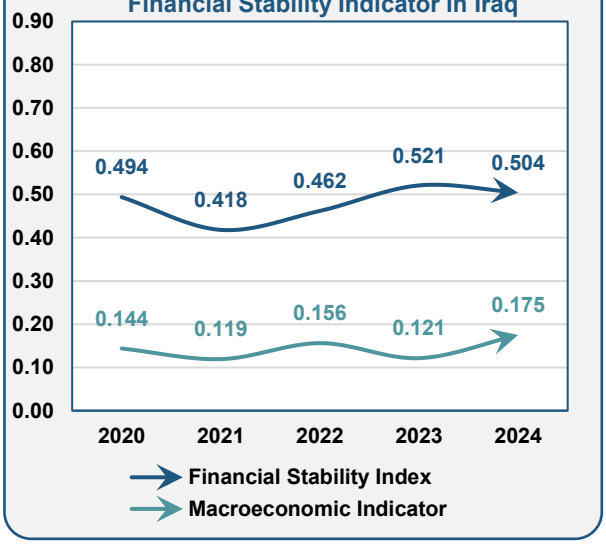


The ratio of foreign reserves to GDP negatively affected the macroeconomic indicator, as its weighted value declined from (0.040) in 2023 to (0.015) in 2024. Nevertheless, the increases in the weighted values of the oil breakeven price in Iraq (from 0.026 to 0.040), the GDP growth rate (from 0.001 to 0.021), the ratio of current account deficit to GDP (from 0.013 to 0.028), the inflation rate (from 0.012 to 0.025), the parallel (market) exchange rate (from 0.000 to 0.004),

and the ratio of household debt to GDP (from 0.000 to 0.010) all had a positive impact on the macroeconomic indicator.

The increase in the aggregate macroeconomic indicator from (0.121) in 2023 to (0.175) in 2024 was not sufficient to prevent a decline in the overall financial stability Index, despite the direct relationship between them. This is because the macroeconomic indicator's weighting constitutes only (32%) of the total financial stability Index. Consequently, the financial stability Index shows a decline to (0.504) in 2024, after being (0.521) in 2023, as illustrated in Figure (7-6).

Figure (7-6) The Weighted Value of the Macroeconomic Indicator and the Financial Stability Indicator in Iraq



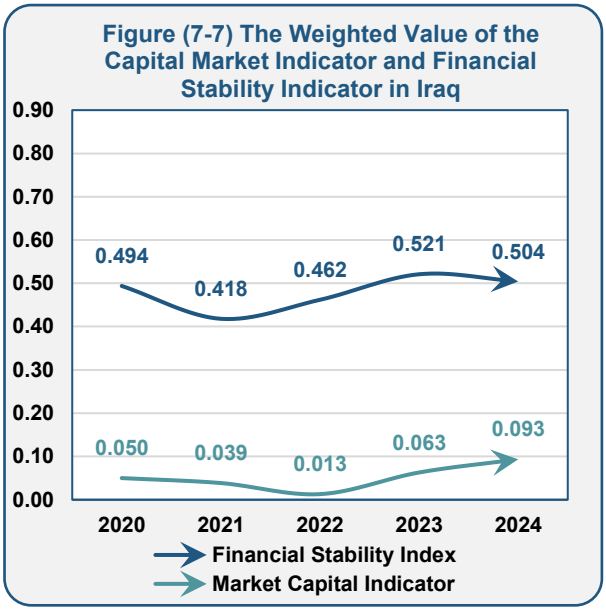
7-2-3 Capital Market Indicator:

This indicator measures the impact of capital markets on financial stability using two sub-indicators: the Iraq Stock Exchange (ISX) index, which gauges market performance, and the ratio of market capitalization to GDP.

This indicator is used to gauge the effect of developments in the financial market on financial stability. As an important component in the overall calculation, it influences Iraq's financial stability with a weighting that constitutes (10%) of the total indicator weighting.

Both of these sub-indicators have a direct relationship with the financial stability Index. Figure (7-7) shows that the weighted value of the capital market indicator increased from (0.063) in 2023 to (0.093) in 2024.

Figure (7-7) The Weighted Value of the Capital Market Indicator and Financial Stability Indicator in Iraq



7-2-4 Global Economic Indicator:

Global developments have affected most economies worldwide, particularly Iraq. In light of these ongoing global challenges, it is essential to understand their impact on financial stability in Iraq. This indicator is composed of two sub-indicators: the global economic growth indicator and the global inflation indicator. It has been assigned a weighting that totals (2%) of the overall financial stability Index weighting.

It was observed from Figure (7-8) that the indicator’s value increased from (0.020) in 2023 to (0.024) in 2024.

Figure (7-8) The Weighted Value of the Global Economic Indicator and the Financial Stability Index in Iraq

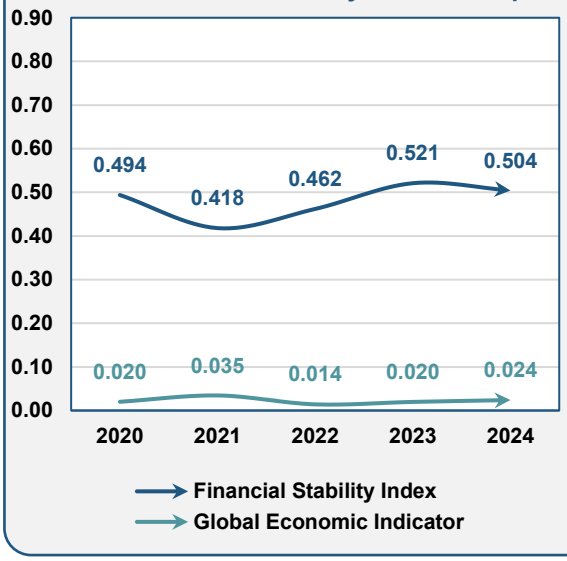
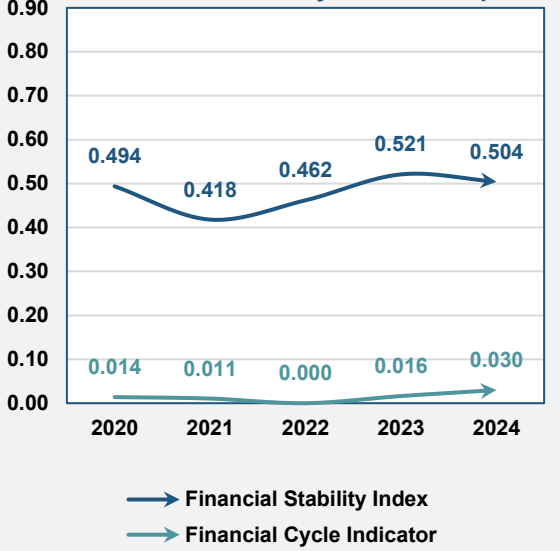


Figure (7-9) The Weighted Value of the Financial Cycle Indicator and the Financial Stability Index in Iraq



7-2-5 Financial Cycle Indicator:

The impact of the Financial Cycle on financial stability can be determined by analyzing the credit gap for credit extended to the private sector relative to non-oil GDP. This indicator reveals the phases of expansion and contraction within the financial sector during each period.

A positive gap indicates an acceleration in the growth rate of credit extended to the private sector that may not align at the same pace with the growth rate of GDP. Conversely, a negative gap suggests that the expansion of credit is occurring at a rate slower than the growth rate of GDP, which typically happens following financial crises. Ultimately, when the gap widens, it reflects a state of financial instability.

It was observed from Figure (7-9) that the weighted value of the gap increased to record (0.030) in 2024, up from (0.016) in 2023. However, this increase did not significantly impact overall financial stability, as the weighting of the financial cycle indicator constituted only (3%) of the total Financial Stability Index (FSI).

7-3 The Financial Stability Standard Matrix and its Relationship with the Financial Stability Index:

The indicator aims to assess the specific risks facing the Iraqi financial system. This assessment primarily relies on the components of the Financial Stability Index and their trends, which can play a crucial role in ensuring financial stability, as shown in Table (7-2).

7-3-1 Banking Sector Sub-Indicator:

This indicator was assigned a weighting of (51%) of the overall financial stability Index in Iraq. However, this indicator contributed only (36%) to the formation of the financial stability Index in 2024 as shown in figure (7-10), as the banking sector indicator decreased to (0.182) in 2024 compared to (0.301) in 2023. The standard stability matrix of the constituent sub-indicators shows that the following ratios were found to be highly stable: return on assets, interest margin to total income, and non-interest expenses to total income. Meanwhile, the return on equity and the ratio of non-performing loans to total Cash credit were found to be in an even higher state of stability. Consequently, these particular indicators are in a positive condition and do not pose a source of concern.

The ratio of coverage (provisions to non-performing loans) and the ratio of non-performing loans to total loans and ratio of advances are in a less stable position. Consequently, these indicators require monitoring by the decision-maker to prevent them from reaching a state of instability.

As for the capital adequacy ratio, the ratio of liquid assets to liquid liabilities, the ratio of liquid assets to total assets, the ratio of liquid assets to total deposits, the ratio of cash credit to total deposits, and the ratio of net non-performing loans (after provisioning) to the capital base, they are in a very unstable position. They constitute a source of weaknesses which lead to the potential for a crisis to occur in the banking system.

7-3-2 Macroeconomic Sub-Indicator:

this indicator was assigned a weighting of (32%) of the overall financial stability Index in Iraq, and its contribution percentage reached (35%) in 2024. The macroeconomic indicator increased to (0.175) in 2024, compared to (0.121) in 2023. The rise in this sub-indicator is attributable to the increase in most of its constituent sub-indicators, such as the growth rate of GDP, the ratio of current account deficit to GDP, the ratio of public debt to GDP, and the oil breakeven price in Iraq.

Upon analyzing the standard stability matrix of the sub-indicators that make up the indicator, it is noted that both the ratio of the break-even oil price and the ratio of parallel (market) exchange rate are in a very stable position, while the ratio of household debt-to-GDP is in a stable position. The growth rate of GDP, inflation rate, ratio of current account deficit-to-GDP, and ratio of foreign reserves-to-GDP are classified as somewhat stable, while the ratio of public debt-to-GDP appears to be in a weakly stable position.

7-3-3 Capital Market Sub-Indicator:

This indicator was assigned a weighting of (10%) of the overall financial stability Index in Iraq, and its contribution reached (18%) in 2024, with the capital market indicator increasing to (0.093) in 2024, compared to (0.063) in 2023. The rise in this indicator is

attributed to the increase in its constituent sub-indicator, the market capitalization to GDP.

upon analyzing the standard stability matrix for the sub-indicators composing this metric, both can be classified as being in a highly stable position, given their lack of exposure to major shocks and the Iraqi Stock Exchange being characterized by moderate growth free from shocks.

7-3-4 Global Economic Sub-Indicator:

This indicator was assigned a weighting of (4%) of the overall Financial Stability Index in Iraq. However, its contribution reached (5%) in 2024, as the contribution of the global economic indicator increased to (0.024) in 2024, compared to (0.020) in 2023. The rise in this indicator is attributed to the increase in its constituent sub-indicators: the global inflation index and the global economic growth index. However, when analyzing the standard map of its constituent sub-indices, we see that the global economic growth index is stable, while the inflation index is less stable.

7-3-5 Financial Cycle Sub-Indicator:

This indicator was assigned a weighting of (3%) of the overall financial stability Index in Iraq. However, its contribution reached (6%) in 2024.

The contribution of the financial cycle indicator increased to (0.030) in 2024, compared to (0.016) in 2023. This increase was influenced by the credit gap to non-oil GDP over the long term.

However, upon analyzing the standard stability map, the indicator is found to be in an unstable position. This is the result of the decline in the ratio of credit-to-GDP, which necessitates an increase in the ratio of credit to positively influence financial stability.

Figure (7-10) Contribution Ratio of the Sub-Indicators to the Financial Stability Index

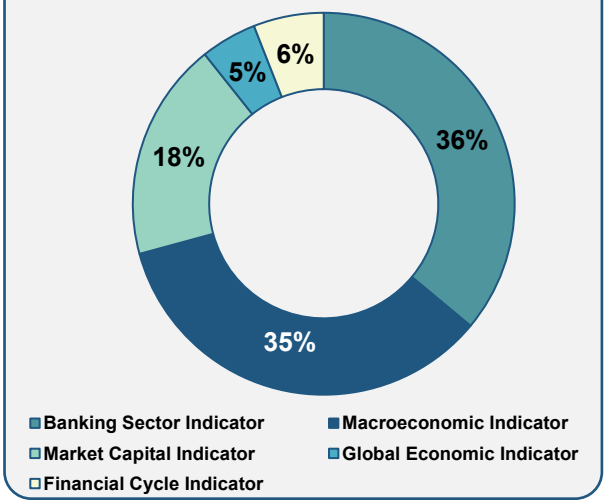


Table (7-2): The Financial Stability Standard Matrix and its Relationship with the Iraqi Financial Stability Index (FSI)

Variables with a Direct Relationship							
Axis	**Variables**	**Sub-Variable**	**2020**	**2021**	**2022**	**2023**	**2024**
Banking Sector Indicator	Capital Adequacy	Ratio of Capital Adequacy	0.75	1.00	0.19	0.54	0.00
	Asset Quality	Ratio of Coverage (Provisions/ Non-Performing Loans)	1.00	0.07	0.00	0.09	0.16
	Liquidity	Ratio of Liquid Assets to Liquid Liabilities	1.00	0.24	0.46	0.10	0.00
		Ratio of Liquid Assets to Total Assets	0.00	0.47	1.00	0.38	0.13
		Ratio of Liquid Assets to Total Deposits	0.36	0.57	1.00	0.59	0.00
		Ratio of Cash Credit to Total Deposits	1.00	0.69	0.00	0.42	0.06
	Profitability	Ratio of Return on Assets	0.59	0.00	0.83	1.00	1.00
		Ratio of Return on Equity	0.51	0.00	1.00	1.00	0.75
		Ratio of Interest Margin to Total Income	0.00	1.00	0.89	0.92	0.99
Macroeconomic Indicator		GDP Growth Rate	0.00	1.00	0.98	0.02	0.52
		Oil Breakeven Price in Iraq	0.07	0.00	0.36	0.65	1.00
		Ratio of Foreign Reserves to GDP	0.43	0.00	0.21	1.00	0.38
Capital Market Indicator		Iraq Stock Exchange Index	0.00	0.22	0.26	0.57	1.00
		Ratio of Market Capitalization to GDP	1.00	0.55	0.00	0.69	0.87
Global Economic Indicator		Global Economic Growth Index	0.00	1.00	0.70	0.66	0.67
Variables with an Inverse Relationship							
Axis	**Variables**	**Sub-Variables**	**2020**	**2021**	**2022**	**2023**	**2024**
Banking Sector Indicator	Asset Quality	Ratio of Non-Performing Loans to Total Loans and Advances	0.00	0.07	0.61	1.00	0.66
		Ratio of Net Non-Performing Loans (After Provisions) to Capital Base	0.52	0.55	0.00	0.78	1.00
		Ratio of Non-Performing Loans to Total Cash Credit	1.00	0.04	0.00	0.43	0.23
	Profitability	Ratio of Non-Interest Expenses to Total Income	0.00	0.11	1.00	0.43	0.08
Macroeconomic Indicator		Ratio of Current Account Deficit to GDP	1.00	0.78	0.00	0.32	0.69
		Inflation Rate	1.00	0.00	0.19	0.30	0.63
		Parallel (Market) Exchange Rate	1.00	0.21	0.17	0.00	0.11
		Ratio of Public Debt to GDP	0.00	0.53	1.00	0.75	0.79
		Ratio of Household Debt to GDP	0.09	0.47	1.00	0.00	0.26
Global Economic Indicator		Global Inflation Index	1.00	0.73	0.00	0.33	0.53
Financial Cycle Indicator		Credit Gap to Non-Oil GDP	0.46	0.36	0.00	0.54	1.00

REGINTRATION NUMBER 2668 (2025), HOUSE OF BOOKS AND DOCUMENTS, BAGHDAD