

CENTRAL BANK OF IRAQ  
DEPARTMENT OF MONETARY  
FINANCIAL STABILITY



# FINANCIAL STABILITY REPORT

# 2021

**Central Bank of Iraq**  
**Department of Monetary &**  
**Financial Stability**

# **Financial Stability Report**

## **2021**

[www.cbi.iq](http://www.cbi.iq)

**Arabic Edition/Central Bank of Iraq 2022**

**Cover and Design: Monetary and Financial Stability Department/Central Bank of Iraq.**

**Name: (Financial Stability Report 2021)/Issue XII.**

**Description: Capital Baghdad - Central Bank of Iraq/Issued once a year/Launched in 2010.**

**Address: Central Bank of Iraq, Rasheed Street, Baghdad, Iraq.**

**Phone 8165171:**

**p. B: 64**

**Fax: 0096418166802**

**Financial Stability Report: An annual analysis study prepared by the Monetary and Financial Stability Department of the Central Bank of Iraq is carried out by the method of preparing the necessary indicators to diagnose and analyze the financial risks that may harm Iraq's financial sector in accordance with domestic and international scientific practices.**

**You can quote from the report as follows:**

Central Bank of Iraq, Financial Stability Report 2021, Baghdad, 2022.

**\* Requests for this number shall be sent electronically to the following address:**

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## Introduction

Stability of the financial system is one of the main objectives to be achieved and maintained by central banks along with stability of the overall price and exchange rate level to ensure effective performance of all economic units towards sustainable economic development. This prompted central banks around the world to pay greater attention in ensuring the integrity, durability and stability of their financial systems, by making the Central Bank of Iraq to place the first goal of financial stability within the stated strategy for 2021-2023.

The release of the Financial Stability Report 2021 comes in the light of the ongoing efforts of the Central Bank of Iraq to enhance the stability of the financial and banking sector and provide the necessary information and data on the Iraqi financial sector that helps decision makers and investors in various economic sectors in making the right decisions. The Central Bank of Iraq issues a number of periodic reports on the economic and financial developments reached by the Iraqi economy. Recognizing the importance of financial stability for economic development, the Central Bank of Iraq has devoted a regular issue to the subject of financial stability in the Republic of Iraq.

The Financial Stability Report aims to examine the stability of the financial system, convey a forward-looking picture of the direction of the financial and banking realities in the Republic of Iraq and provides a compendium of the Central Bank of Iraq's activities in supporting financial and banking stability, developing financial infrastructure and establishing economic growth in a transparent manner. The report contains several chapters.

Climate change has also been of paramount importance in the Central Bank's studies and reports. The 2021 Financial Stability Report added a chapter on climate change and its impact on financial stability. The importance and significant impact of this issue on the financial and banking sector economic policy-makers have therefore taken real and effective steps to support a green economy and environmentally friendly enterprises, the most recent was the Central Bank's energy support initiative, involving the banking sector in providing concessional loans to environmentally friendly enterprises and supporting Iraq's electricity sector by providing loans for solar systems.

**May God Grant Us Success**

**Mustafa Ghaleb Mukheef**  
**Governor**  
**Central Bank of Iraq**

## Summary

The CBI seeks to play a greater role in Iraq's financial stability, economic stability and the promotion of development Monetary policymakers have directed the Bank's efforts towards achieving financial stability in Iraq as part of the Central Bank's strategy 2021-2023. Iraq's economy is expected to be subject to significant and influential shocks that impede growth-oriented efforts unless swift action is taken and forward-looking plans are in place to draw the fisheries needed to cross crises in the future. Through the use of possible powers and coordination with other financial and non-financial institutions, climate change has become a topic of great interest to decision makers, as this issue has a significant impact on the economic realities of Iraq and the world. The Bank's efforts in combating the climate crisis and analyzing its impact on financial stability and the economy were summarized by a separate chapter on climate change in the 2021 Financial Stability Report, as well as several other chapters outlining the central bank's efforts in supporting the financial and banking sector, as well as the non-banking financial sector, agencies:

### Climate Change

Human activity has led to environmental changes on a global and even geological scale, This activity is not the chemical composition of the oceans and the atmosphere in general Consequently, excessive greenhouse gas emissions have increased, and rising temperatures and water shortages are among the most prominent indicators of Iraq's climate change. It necessarily means adding new and significant challenges in the future that limit the financial institutions' work directly through their exposure to companies and the individual sector. Credit portfolios and financial and economic risks. Iraq is therefore preparing the National Adaptation Plan (NAP) with funding from the Green Climate Fund (GCF) in collaboration with the United Nations Environment Programme (UNEP), which will be one of the country's main plans for implementing this policy to ensure flexibility for all vulnerable national priority sectors over the next three years to reduce potential risks and find successful ways to sustain water sources, treat acute water scarcity and deteriorate their quality.

Climate changes also have a significant impact on Iraq's energy sector creating pressure on the national economy and threatening the country's future stability and thus achieving sustainable development Therefore, efforts are based on rapid intervention and sound solutions to address these impacts. First, the Central Bank of Iraq sought to initiate a trillion dinars equivalent to more than \$600 million in

interest-free loans and a five-year repayment by banks to individuals in order to finance the purchase of renewable-powered electricity systems. In addition, business, agricultural, industrial and domestic sectors have benefited from this initiative, contributing to the reduction of carbon emissions and the improvement of the climate through the use of clean energy.

## Developments in the Banking sector

During 2021, the Iraqi banking sector showed several changes in its indicators in the light of domestic and regional economic challenges, as the banking sector continued to enhance bank solvency, increasing bank capital by 5.3%. At a value of 17.8 trillion dinars in 2021 compared to 2020 (16.9) trillion dinars in compliance with the minimum capital of local banks (250) billion dinars for the local bank and a minimum for the foreign bank which has reached US \$50 million imposed by the Central Bank of Iraq (CBI) to reflect the monetary authority's trend of increasing trust in banks as well as the establishment of a bank protection barrier towards economic shocks. The banking sector's assets increased by 15.08% (159.5 trillion IQD for 2021) and total deposits increased to 96 trillion dinars for 2021.

Total credit to the public and private sector grew by 7.1% to 80.62 trillion dinars for 2021. The Central Bank measured weaknesses within the banking system by analyzing the credit gap to GDP in the long run in order to meet any cyclical fluctuations in the future.

While the non-banking sector has made remarkable progress in a number of its institutions at the level of finance institutions, SME Finance has been able to increase its capital to 16.46 billion dinars with the participation of 9 private banks. The volume of loans has been distributed to a group of grants across Iraq's governorates and the number of loans granted (5,831) to loans worth US \$89.6 million. At the level of exchange companies, the number of exchange companies has decreased to (778) companies in 2021 distributed between (66) companies in the category (A) and (44) B-class companies, while the number of banking companies was in the category (C) (666) companies distributed in various governorates of Iraq, while the number of financial investment companies reached (7) Companies, and for electronic payment companies, their number has reached (17) With total capital (183) billion dinars and its assets have risen to reach (1102) billion dinars (68.6%) growth for 2021 for 2020 with assets (653.6 billion dinars), This increase is due to the increased use of electronic payment in payments. The activity of the Housing Fund has also increased after the allocation of the Central Bank of Iraq's Housing

Fund initiatives reached a proportion (42.9%) IQD 4,484 billion to 2021, and the number of beneficiaries of its loans reached (19,125) beneficiaries until the end of 2021, to help reduce the housing crisis by providing housing loans to build new housing units and thus facilitate access to housing units by citizens.

## Financial Soundness Indicators

The banking system serves as a key and important element for building the economy. Enhancing the financial integrity of the banking sector reinforces the importance of its banks' role as depository institutions and intermediaries between deficit and surplus units, as the capital adequacy index of the banking sector has fallen to (243%) at a rate of (32.1%) in 2021, this decrease does not significantly affect the fact that the ratio is still much higher than the benchmark ratios of Basel and the Central Bank of Iraq, and the liquidity coverage index rose in April by as much as (260%), the highest rate, and the ratio of net stable funding also recorded a rise of up to (240%) During the fourth quarter of 2021, which is high relative to Basel's Grassroots, this indicates that banks have more available financing than required, as well as the positive pattern in the proportion of both (Liquid assets to short-term liabilities, liquid assets/total deposits, liquid assets/total assets) The banking sector generally. (92.15%), (67.41%) and (40.62%) respectively in 2021 compared with 2020, while the banking sector's cash-to-deposit credit ratio recorded a modest decline at a rate (6.1-%) to reach (55.1%) in 2021, but this decrease falls within the CBI's established benchmark ratio that must not exceed (75%). On the other hand, asset quality indicators, the ratio of outstanding debt/gross cash credit decreased by (8.81%) in 2021 compared to 2020 which has a positive impact on Iraq's financial stability index, reflecting the large assets of the Iraqi banking system in 2021, as well as the ratio of outstanding debt/total capital for the banking sector decreased slightly in 2021 to (26.16%) Compared to 2020, the profitability index recorded a decrease in the return on assets ratio to (0.57%) in 2021.

## Household Sector Indebtedness

The Central Bank is working to direct credit in a proportion commensurate with the size of the Household sector, to determine the size of the potential risks of the sector, by monitoring a number of indicators of its own, as the credit granted to the Household sector in Iraq remains low relative to the income of individuals by 0.015%. For 2021, the ratio to GDP of 7.4% credit to the private sector, of which Household credit is a part, as well as the proportion of credit granted to the private



sector to (GDP) rate (13.4%) for the same year, as the decline in the indebtedness of the Household sector is due to several reasons, the most important of which is the slow development of financial inclusion in Iraq, especially since the volume of Household credit has a direct correlation with the size of financial inclusion in any economy, as the number of adult individuals with bank accounts constitutes a percentage of only 20% of the population, which will necessarily be reflected in non-oil GDP growth.

## Cumulative measure of financial stability

The financial stability index rose during 2021 to 0.656 compared to 2020, as a result of the central bank's policies in promoting stability and ensuring the growth trajectories of the financial and banking sector. In addition to a series of financing initiatives geared towards supporting the economic sectors of high relative importance in the economy, the most important of which are the housing, agriculture and industry sectors. This reflected the upward trend in financial stability indicators during 2021, with the macroeconomic index rising by 0.225. (45.1%) while the capital market index rose to 0.099 (23.75%) as well as a slightly higher fiscal cycle index of 0.080, a growth rate (26.9%), the banking sector index fell to (0.253) by a decline of (-12.4%) as the weights of banking sector indicators remained high.

## MACRO-STRESS TESTING

The baseline scenario forecast showed a fluctuating decrease in the ratio of non-performing loans to total cash credit from 8.6618% for the first quarter to 8.5676% for the second and third quarters and then increased in the fourth quarter to 8.6268% for 2022. If the independent variables in the test face negative shocks in the future that may deviate from their growth trajectory, the non-performing loan rate, the dependent variable, will rise during the fourth quarter of 2022 from (8.627%) to (9.043%) and (9.459%) for base, medium-intensity and high-intensity scenarios respectively.

As a result of the negative shock in global oil prices and according to the scenarios prepared, the ratio of non-performing loans in the fourth quarter of 2022 decreased from 9.220% to 8.891% and 8.561% to base, medium-intensity and high-intensity scenarios respectively.

As shown by the negative shock in government spending and according to the prepared scenarios, the ratio of non-performing loans in the fourth quarter of 2022

rose from 8.830% to 9.000% and 9.171% to baseline, medium and high-intensity scenarios respectively.

## Developments in the financial infrastructure

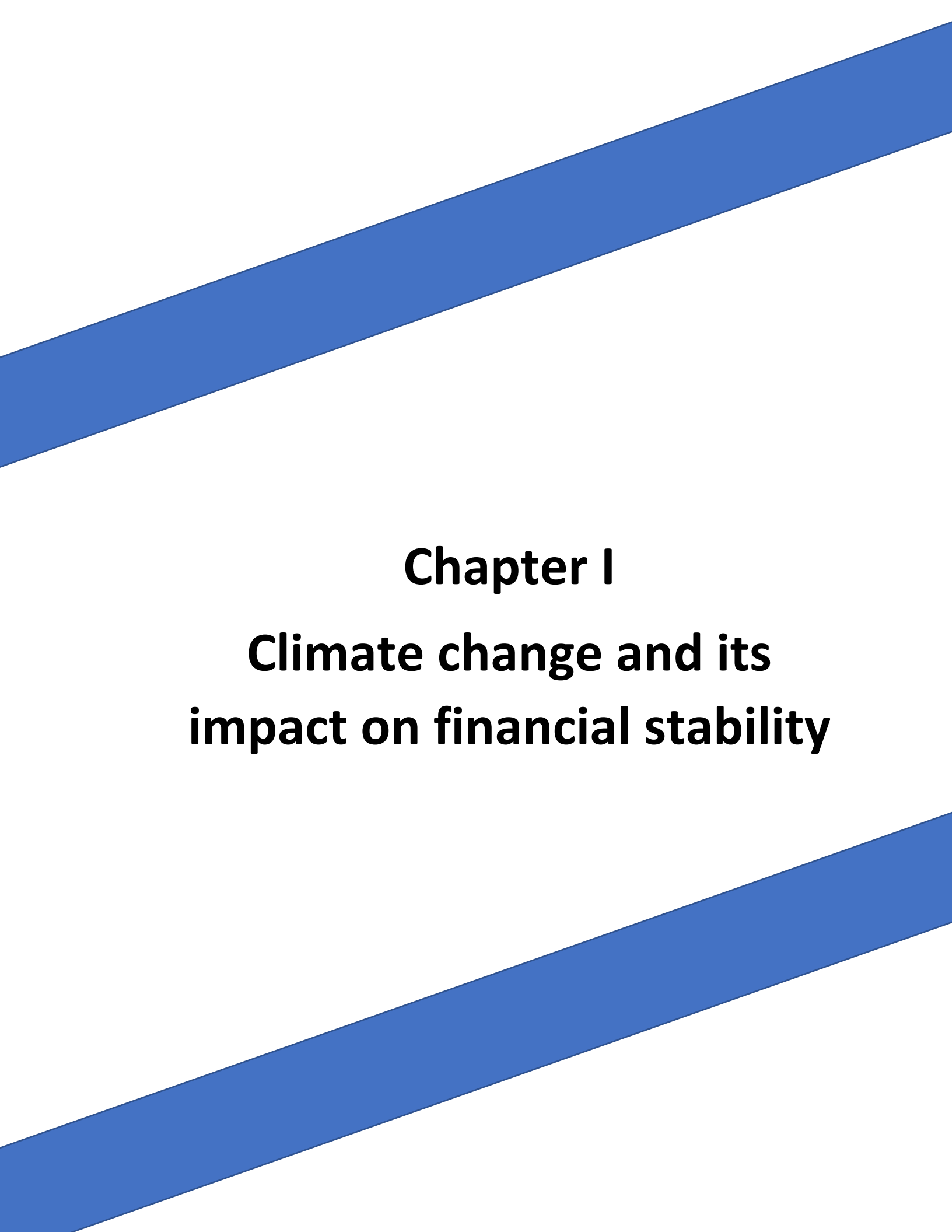
The Central Bank of Iraq seeks to continuously address and develop the infrastructure of financial institutions, since infrastructure developments form the basis for economic growth, the Central Bank of Iraq has issued controls on key and secondary agents of foreign transfer service providers for the purpose of strengthening the supervisory and regulatory role throughout Iraq. New paragraphs have been added on controls in 2021 aimed at maintaining the robustness and stability of the financial system in general and the banking system in particular. For the purpose of achieving the Central Bank's objectives in enhancing the role of the banking system and non-bank financial institutions in securing foreign currency to beneficiaries in order to maintain the stability of that currency's exchange rates, Streamlining procedures for their sale, it has been decided to adopt several regulatory instructions that contribute to financial stability directly or indirectly. The Central Bank also seeks to adopt standards compliance controls under governance and data security, as it carries out follow-up operations for banks and companies providing electronic payment services. The Digital Identity Guiding Principles and Know Your Customer Rules have been issued (E-KYC) in the Arab countries launched by the Arab Monetary Fund in the framework of the work of the Regional Working Group on Modern Financial Technologies. In the field of cybersecurity, the Central Bank of Iraq directed all banks and electronic payment service companies to disseminate knowledge, training and dissemination of malicious patterns and methods of electronic threats.

The Central Bank of Iraq has also enhanced the efficiency of payments systems through the establishment of the electronic platform for letters of guarantee and AML, which monitors the movement of accounts and gives alerts to suspicious and questionable movements and additional features to include WORLD CHECK, The rapid payment system has also been established to increase the speed and ease of sending and receiving transfers between banks and immediately. In addition to the development of the total settlement system and the operation of the Arab Regional Payment System platform (BUNA), adding many systems that the Central Bank seeks to develop and establish to serve financial institutions in all their joints.

## Financial Inclusion

One of the most important topics that central banks seek to promote is financial inclusion. The Central Bank of Iraq has worked through its future strategy to achieve the objectives of financial inclusion by raising its level within the Iraqi economy by increasing the number of bank accounts and electronic cards for individuals and companies. The Salary Settlement Project in 2016 was the basis for individuals' entry into the financial system and the use of banking services. Through the opening of bank accounts to settle their salaries electronically, which contributed to an increase in the number of open accounts at a growth rate of (9%) 2021 compared to the previous year, and the increase in the number of electronic cards with a growth rate of 26% from 2021 compared to the previous year.

The Central Bank of Iraq has also worked to grant business licenses to mobile companies that have contributed to the process of enhancing financial inclusion by providing financial services electronically to the public, to contribute to the increase in the number of electronic portfolios, with a growth rate (71%) in 2021 compared to 2020, demonstrating the CBI's serious steps in promoting financial inclusion that will directly contribute to enhancing financial stability.

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# **Chapter I**

## **Climate change and its impact on financial stability**

## 1- Climate change and its impact on financial stability

### 1-1 Climate changes and their implications:

Many countries achieved frequent increases in per capita income in the twentieth century, which contributed significantly to lifting millions out of poverty and improved average age for decades. But despite these achievements, the twentieth century's economic growth model is not sustainable. Human activity left a large environmental footprint, resulting in environmental change as described in box No. (1) On a global and even geological scale, human activity is other than the chemical composition of the oceans and atmosphere and the impact on wildlife declines at an alarming rate, Environmental indicators foreshadow irreversible flaws in major planetary systems essential for human development and due to excessive greenhouse gas emissions in the atmosphere, The average global temperature has risen by more than 1 ° C since the nineteenth century. Recorded in (9) years of (10) warmest years since 2005 global warming has caused sea level rise, increased frequency and severity of natural disasters and increased pressure on ecosystems to cause severe social and economic damage, particularly to the poor, and an unintelligent opportunity for catastrophic climate scenarios that threaten the planet's viability, so a fair transition to a low-carbon economy is the only viable way, The world needs comprehensive and coordinated climate action that drives the transformation of major economic systems. (transition to clean energy systems), smart urban development, sustainable land use and water management, and a circular industrial economy, implementation of these policies is not easy. It involves global cooperation, addressing multiple market failures and ensuring social justice.

If achieved, not only will climate stability be maintained, but societies will be more prosperous and inclusive in the long term. **The key policies under the policy required for a successful and comprehensive transition are defined as:**

1. Put a price on carbon (through carbon tax or ETS).
2. Regulate and define efficiency and emissions standards and align the financial system with climate objectives.
3. Promote public spending on sustainable infrastructure and systematically integrate climate change into public finance management.
4. Deploy low-carbon innovation policies and provide and regulate information on climate change risks and low-carbon opportunities.

5. making transition inclusive by ensuring socially equitable outcomes.

### **Framework (1) What is climate change?**

Climate change is not limited to global warming but is a combination of two main factors (the impact of global warming and increased greenhouse gas emissions due to economic activity) and the result of these two climate change factors is that the planet is warming. The average global temperature has already risen by more than 1 ° C since the end of the nineteenth century, if greenhouse gas emissions continue in their current direction, and the expected temperature change is between (4-6) ° C by 2100, with a high chance of rising to 10 ° C by (IPCC), and this projected 4-6 ° C change is unprecedented for millions of years.

✓ **Greenhouse effect:** a property of certain gases (greenhouse gases - greenhouse gases) Due to the capture of solar heat in the atmosphere and the reversal of part of it on the Earth's surface, which includes the main greenhouse gases in the atmosphere (water vapor, methane, nitrous oxide and carbon dioxide), the product of which is due to burning fossil fuels and breathing, Plants and phytoplankton absorb part of the carbon dioxide or dissolve in the ocean and thus the additional substance not absorbed, once released, remains in the atmosphere for centuries, In addition, increased solar heat trapped leads to a higher concentration of carbon dioxide and other greenhouse gases and that the planet is getting warmer and is a strong relationship created using nearly a million years of data.

✓ **Increased greenhouse gas emissions due to economic activity:** World GDP has increased on average by about 3.5 per cent annually since 1960. Carbon dioxide emissions followed at a slightly slower pace of 2.5 per cent. Increased emissions combined with the planet's limited absorptive capacity led to an unprecedented concentration of carbon dioxide in the atmosphere - as much as 410 (ppm) in 2019 versus 278 ppm before the industrial revolution (in 1750), according to the World Meteorological Organization. The concentration of 410 ppm is the level last seen about 3.2 million years ago, when global temperatures were 2 ° C warmer and sea level was 20 meters higher than now.

## 1-2 Risks of Climate Change:

Climate change causes significant social and economic damage and impacts, which can be summarized as follows:

### 1-2-1 Low agricultural output and labor productivity:

Historical evidence at the micro level suggests that agricultural production and labor productivity will be negatively affected by climate change. Although there is no immune country, damage is greater in poor countries because they have fewer resources to adapt and tend to reside in hotter areas, where the impact of additional warming is greater. Climate change has already increased global inequality between countries by 25 per cent over the past half century<sup>1</sup> within countries, with climate change disproportionately affecting the poor, as they tend to work abroad and in agriculture. By 2030, climate change could push more than 100 million people into extreme poverty, due to disrupted food production, low labour productivity due to deteriorating health and natural disasters.

### 1-2-2 Increased damage from natural disasters:

every year, natural disasters claim thousands of lives and billions of United States dollars' worth of losses and no country is immune from disaster risk, but low-income countries suffer further damage to their economy and mortality to their populations poor people are more vulnerable to natural disasters, because they live in low-quality housing and their sources of income are weak and usually dependent on agriculture or ecosystems.<sup>2</sup>

**1-2-3 Sea level rise:** Sea level rise is expected to displace 630 million people by 2100<sup>3</sup> the majority of displaced persons in developing Southeast Asia, exacerbating global inequality.

<sup>1</sup> [Noah S. Diffenbaugh](https://www.pnas.org/doi/10.1073/pnas.1816020116) & [Marshall Burke](https://www.pnas.org/doi/10.1073/pnas.1816020116), Global Warming has Increased Global Economic Inequality, Edited by Ottmar Edenhofer, Potsdam Institute for Climate Impact Research, Potsdam, Germany, April 22, 2019. <https://www.pnas.org/doi/10.1073/pnas.1816020116>.

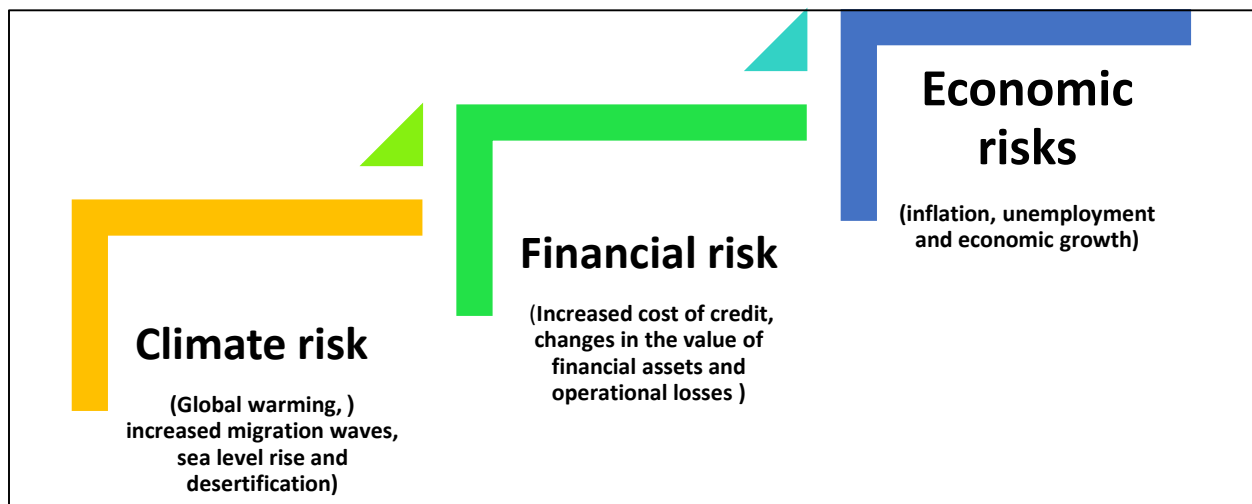
<sup>2</sup> World Bank Group, 2020, "Poverty and Shared Prosperity 2020," [https://openknowledge.worldbank.org/bitstream/handle/10986/34496/9781464816024\\_Ch1.pdf](https://openknowledge.worldbank.org/bitstream/handle/10986/34496/9781464816024_Ch1.pdf).

<sup>3</sup> Kulp, S.A., Strauss, B.H. New elevation data triple estimates of global vulnerability to sea-level rise and coastal flooding. *Nat Commun* 10, 4844 (2019). <https://doi.org/10.1038/s41467-019-12808-z>.

### 1-3 impact of climate changes on financial stability:

Climate change is likely to reveal the previously hidden interconnectedness between the economy and natural systems, revealing new disruptions and social costs, significant losses in production from climate change for several decades in the future are likely to occur through channels other than short-term temperature changes. Channels include ecosystems collapse, mass migration and conflict. It is therefore important to reduce the extent of climate change to reduce the risk of unpredictable catastrophic damage to the economy and well-being and climate risks can add significant challenges to financial institutions directly through their exposure to companies, the household sector and countries experiencing climate shocks, or indirectly through the impact of climate change on the macroeconomic and financial system's implications financial distress risks in loan portfolios and/or asset depreciation, The consequent tightening of financial conditions in the event that banks reduce lending, especially when climate shocks affect many institutions simultaneously<sup>1</sup> and outline No. 1 illustrates the impact of climate risks through two main channels:

**Scheme (1) Relationships between climate, economic and financial risks**



Source :Diana Hancock and Elizabeth K. Kiser, Climate Change and Financial Stability, Board of Governors of the Federal Reserve System, March 19, 2021. <https://www.federalreserve.gov/econres/notes/feds-notes/climate-change-and-financial-stability>

•**Financial risks:** as a result of damage to changes in the value of financial assets and the availability of credit as well as operational losses.

<sup>1</sup> United Nations Office for Disaster Risk Reduction, Regional Assessment Report for Disaster Risk Reduction in the Arab Region, 2021



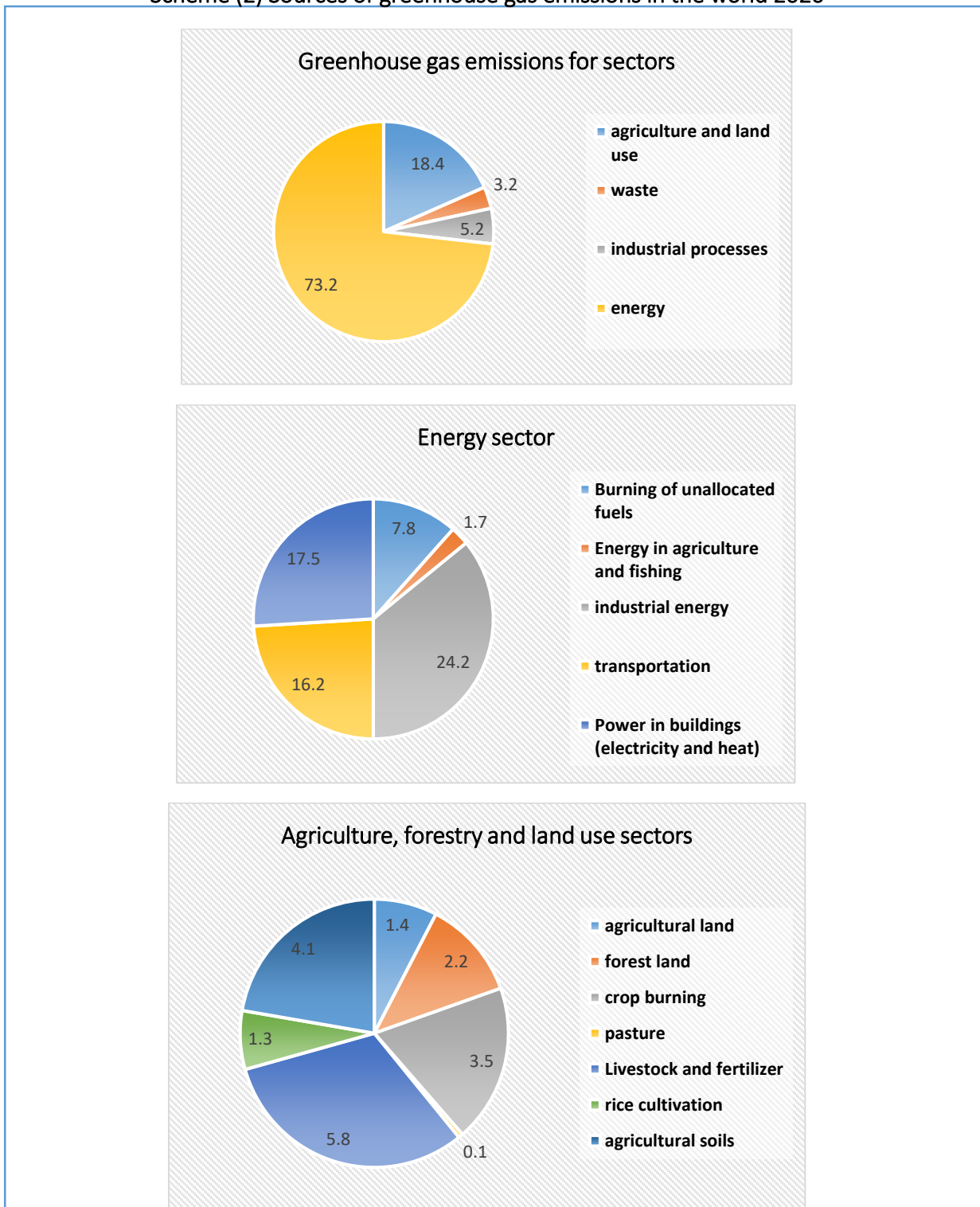
•**Economic risks:** They arise from climate policies aimed at reducing thermal emissions and adapting to a low-carbon economy by relying on environmentally friendly, demand-driven technologies in markets financial stability concerns arise when asset prices change rapidly as a result of unexpected transitional or financial risks. There is some evidence that recent markets have taken climate change risks into account, albeit in part, in price determination, but asset prices may not fully reflect the potential damage to the financial sector from climate change risks.

#### **1-4 Economic activities leading to greenhouse gas emissions:**

The energy sector accounts for nearly three quarters of global emissions due to fossil fuel combustion of electricity, heating and transportation, as well as methane emissions leaked from oil and natural gas extraction, and more than 5% of greenhouse gases are released due to industrial processes in steel, cement, plastic and other production.

Agriculture, forestry and land use are responsible for more than (18%) of emissions, mainly due to deforestation, crop burning, livestock operations, chemical fertilizer use, and (3%) From emissions, mostly methane gas, comes from landfills and wastewater treatment as well as the agriculture and forestry sector due to emissions from livestock and fertilizer (5.8%) Followed by agro-soil contamination by 4.1% emissions resulting from the use of various industrial chemical fertilizers and fuel on the soil and misuse by burning agricultural residues resulting in carbon dioxide and greenhouse gas emissions by 3.5% The total energy collapse, which represents three quarters of carbon emissions, represents 73.2%, as shown in chart 2.

Scheme (2) Sources of greenhouse gas emissions in the world 2020



Source: Adapted from [Our World in Data](#), data from Climate Watch, World Resources Institute, as of 2020.

## 1- 5 Risks of climate change in Iraq:

Iraq ranked among the world's five most vulnerable countries to climate change according to the sixth State of the World Environment Outlook report for West Asia (GEO-6) for 2021, as the impacts of climate change on Iraq's various sectors are known to all, Having overshadowed Iraq's living standards, particularly in the light of the fragile conditions of the country and the dilapidated infrastructure, The consequences of these impacts on sectors with direct impact on citizens' lives and economic, water and food security were clear s economic, health and life in general, and can be summarized as follows:

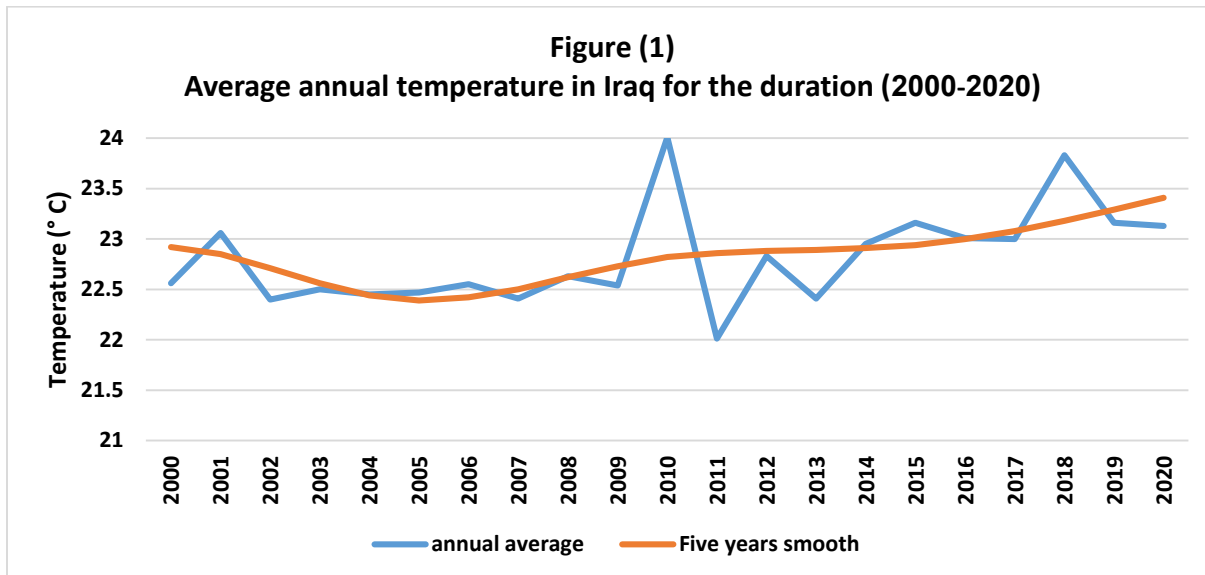
### 1-5.1 Temperature Rise Index:

Iraq is ranked among the countries most at risk of an environmental catastrophe due to rising temperatures, as stated in the World Environmental Report 2015, which rated the temperature anomaly index between 1.5 mo too high and smaller than 0. 9) Mo was very low and the temperature anomaly in Iraq (5) Mo is very high<sup>1</sup>, with projections based on national numerical climatic models indicating a steady increase in temperature between (0.9) mO since 2007 may reach (3.5) mO at 2100 according to the forecast, increasing the rise in critical temperatures that reached above the (50) Mo on a number of summer days of the year Iraq's high temperatures in the central and southern regions in particular and the general public, This requires understanding its current and future environmental, political, economic, social and health impacts to access successful means of reducing the negative effects of rising temperatures. and Iraq has been severely affected by climate change, particularly in recent years, owing to the increasing frequency of heatwaves above 50 degrees Celsius, as the country's temperature has increased by some (0.7) ° C over 100 years ago, and depending on how the world responds to climate change, average temperatures can rise by (2-3) A degree of Celsius in Iraq over the next 100 years, which has devastating effects, including a decrease in rainfall levels, and consequently water resources are severely affected by these temperature changes.<sup>2</sup>

<sup>1</sup> Institute of Economics and Peace. Environmental Threat Report 2021: Understanding Environmental Threats, ResilienceandPeace, Sydney,October2021.P.29-94  
<http://visionofhumanity.org/resources>

<sup>2</sup> Iraq's Climate Change Response: The Private Sector and Civil Society  
<https://timep.org/commentary/analysis/iraqs-climate-change-response-the-private>

From figure 1 there is a rise in average temperatures after 2014 (22.95 ° C) to reach (23.13) ° C during 2020, average annual temperature is projected to increase by 2 ° C by 2050 and annual rainfall decreases by (9%), with average annual rainfall (178.72) millimeters, climate changes such as high temperatures and low rainfall affect Iraq's water resources, agriculture, health and biodiversity.<sup>1</sup>



Source :Climate Change Knowledge Portal, Climate change in Iraq ,World bank <https://climateknowledgeportal.worldbank.org/country/iraq/climate-data-historical>

### 1-5.2 Rainfall rates:

as well as the apparent decrease in annual rainfall rates, the quantities of which are expected to see a significant and sustained decline, which in 2100 could reach a decrease of more than (30%) over the  $\tau$  period (1938-1978)<sup>2</sup>, which is a clear indication of the reasons for the apparent increase in extreme situations such as heat waves, Drought, abrupt rainfall and climate change have exacerbated the problem of water scarcity in the Tigris and Euphrates rivers and their tributaries. The World Bank's 2011 estimates indicated a significant shortage and scarcity of renewable water sources for Iraq compared to actual needs during the period from 2000 to 2009, while this percentage is expected to reach 37% during the period from 2020 to 2030, which will increase to 51% during the period from 2040 to 2050. This explains the

<sup>1</sup> Climate Change Knowledge Portal , Climate change in Iraq, World Bank

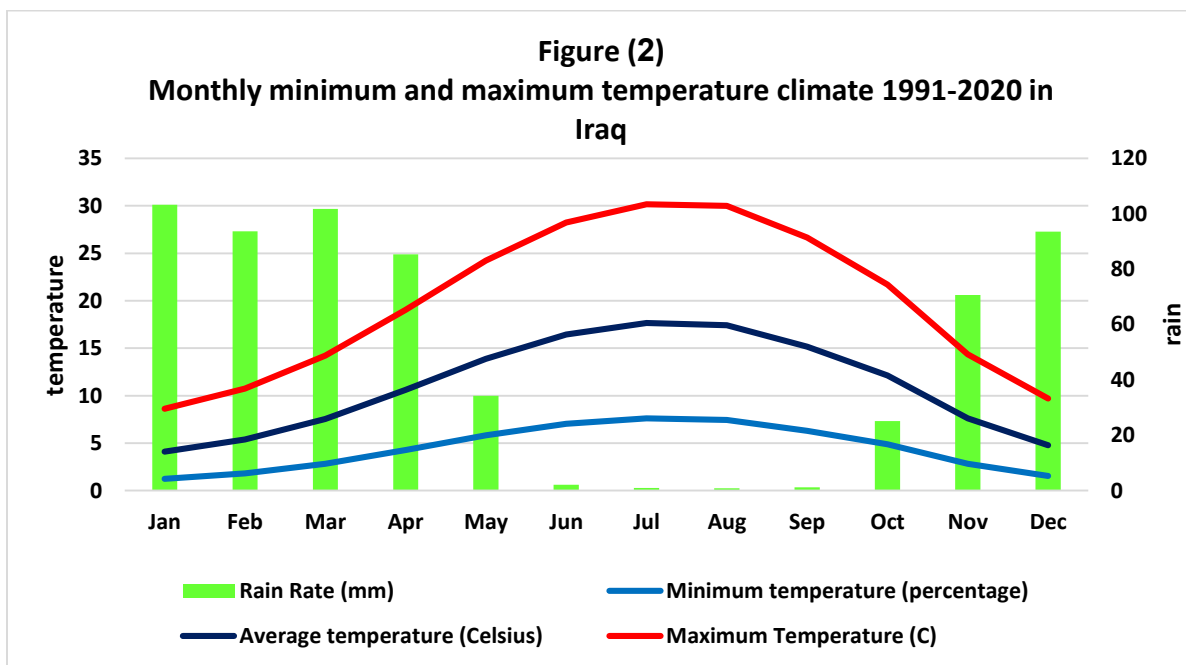
<https://climateknowledgeportal.worldbank.org/country/iraq/climate-data-historical>

<sup>2</sup> According to the predictions of the General Authority for Aerospace and Seismic Observation of Iraq "

<http://meteoseism.gov.iq/index.php?name=Pages&op=page&pid=166>

significant collapse in agriculture, which has had a clear impact on agricultural production, Iraq's economy, natural systems and biodiversity.

As can be seen from figure (2), extreme temperatures fall within the months. (June, July, AP, September) to reach the maximum rate (43.01) ° C within the upper limits, while at the middle limits (34.46) ° C, while the minimum temperature reached (26.05) ° C of each year. In contrast, rainfall rates are limited in months. (October-October-December-January-February-Azerbaijan-Nissan-May) To reach maximum in January and March at rates (30.11) and (29.69) millimetres, respectively, note that when temperatures rise on the one hand, the rainfall rates decrease on the other hand. This affects the agricultural and other economic sectors, exacerbating rapid climate change and the reduction of freshwater quantities, posing a real threat to economic growth and financial stability.



Source : Climate Change Knowledge Portal , Climate change in Iraq, World Bank  
<https://climateknowledgeportal.worldbank.org/country/iraq/climate-data-historical>.

### 1-5.3 Water scarcity and salt tongue extension to the Shatt al-Arab:

Increasing extreme weather events have led to environmental fragility and water scarcity. River water levels have decreased owing to a decrease in rainfall as well as the construction of dams in downstream and upstream countries, which have caused water flows to the Tigris and Euphrates rivers in Iraq to decrease by 29% (and 73%), respectively. More than (50%) of the water used in Iraq originates from Turkey, Iran

and Syria and regional water management policies have affected less water access to Iraq and therefore the greatest affected is southern Iraq<sup>1</sup>, Water scarcity has increased annual rainfall fluctuations on the agricultural sector mainly, which in turn has reflected food security and domestic peace nationwide. s Water Risk Index, which determines between greater than (3) Very high and less than (1.25) very low and Iraq was at a 5 A high-risk average indicator of wate<sup>2</sup>r, fluctuations in water flow and declining quantities of quality water make Iraq vulnerable to climate changes that contribute to increasing areas of desertification and dust storms. Recently, sandstorms have increased in frequency due to low vegetation, water scarcity and soil degradation.

The extension of the saline tongue to the Shatt al-Arab, which in turn poses a threat to the marine coastal areas bordering the Arabian Gulf, particularly in the southern Iraqi governorate of Basra, owing to sea level rise, water warming, the impact on coral reefs and biodiversity on the marine environment and the loss of areas of coastal land.

Iraq is preparing the National Adaptation Plan (NAP) with funding from the Green Climate Fund (GCF) in collaboration with the United Nations Environment Programme (UNEP), which will be one of the core plans on which it will rely The country is implementing this policy to ensure flexibility for all vulnerable national priority sectors over the next three years, to reduce potential risks and to find successful ways to sustain water sources, treat acute water scarcity and degrade their quality. The fact that Iraq's political and economic challenges are significant will require regional cooperation and international support to enable it to establish robust and resilient health systems to protect human health, protect natural systems and biodiversity, enhance resilience to impacts and disaster risks associated with local climate change scenarios and promote adaptation in vulnerable sectors<sup>3</sup>.

<sup>1</sup> Iraq's accession to the Paris Agreement, the United Nations' <https://iraq.un.org/en/161240-iraq-joins-paris-agreement-un-calls-further-support-help-country-adapt>

<sup>2</sup> Institute of Economics and Peace. Environmental Threat Report 2021: Understanding Environmental Threats, Resilience and Peace, Sydney, October 2021. P. 29-94<http://visionofhumanity.org/resources>

<sup>3</sup> Iraqi Ministry of Environment, Iraq's NDC Document on Climate Change, 2020.

## **1-6 Iraq's motives for acceding to the Paris Agreement on Climate Change<sup>1</sup>:**

### **1-6.1 Climate changes in Iraq:**

Rising temperatures and declining water levels on rivers and lakes are among the most significant impacts of climate change in Iraq, especially as most river sources are from outside borders, and these are subject to neighbouring countries' water policies (Turkey and Iran), which is arbitrary, has left significant traces on Iraq's agricultural and green areas. In addition to the dramatic decline in rainy day rates, this is reflected in the increase in desertification, the decline in arable areas and the extension of the salt tongue to the Shatt al-Arab. This has been accompanied by a decrease in rainfall rates, leaving Iraq in the face of severe and severe climate changes, namely the transformation of Iraqi agricultural land into fur and increasing soil salts.

### **1-6.2 Policy Decision Direction of Climate Change:**

Decision makers were obliged to take effective action to address climate change and implement adaptation and mitigation actions. This was addressed through initiatives by the States concerned, since Iraq's accession to the Paris Convention and any other climate conventions would positively reflect Iraq's environmental realities; The Iraqi Government has begun to seriously search for major climate change projects, such as the creation of green belts in Iraq's Western Island and Badia and around large cities, as well as the possibility of obtaining diplomatic and moral support from the Convention in pressuring Turkey and Iran to ensure Iraq's water quotas. All this will help as measures to mitigate the effects of climate change on Iraq and make it easier to adapt to the effects of these climate changes.

### **1-6.3 Binding challenges towards the Paris Agreement:**

Iraq's commitment or non-compliance with the provisions of the Convention does not change anything. The fact that Iraq is not an industrial State and the pollutants exported from Iraq are from the oil sector that pollutes the air, soil and surface and groundwater of the producing area, As well as the vast number of compounds that produce monocarbon gases, carbon dioxide, nitrate and hydrogen sulfate and these contaminants are localized and do not significantly affect areas farther from the source of pollution, However, Iraq's accession to this Agreement enables it to benefit

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from the experience and expertise of major industrialized countries in this field. In addition to guarantees of financial support for areas affected by climate change and other forms of support and assistance by developed States participating in this Convention, Iraq had a number of commitments made at the UNFCCC Conference (UNFCCC), attended by Iraq, is a binding challenge, as follows<sup>1</sup>:

a. Launch of the Adaptation Fund initiative: An additional US \$356 million has been launched by the Adaptation Fund to increase the resilience of vulnerable communities on the front line of climate change. This commitment paves the way for greater resources to avoid, minimize and address losses and damage in Iraq.

b. Approve the Breakthrough Agenda: an international strategy to deliver clean and affordable technology everywhere by 2030, signed by more than 40 world leaders, this commitment is critical to helping Iraq's gradual clean energy transition and accelerate low-carbon solutions.

c. Approve the Global Forest Financing Pledge: a commitment to end deforestation by 2030, as Iraq pledged to expand its efforts to conserve forests, facilitate trade to promote sustainable development and increase rural employment.

d. Commitment to improving transparency and environmental integrity: implementation of article 6 of the Paris Agreement on International Emissions Trading, i.e. management of stocks of endangered species of wild fauna and flora, and Iraq fully supports the establishment of an independent mechanism to address potential harms and support the establishment of new markets for carbon units trade by both the public and private sectors.

### **1-7 Annual CO<sub>2</sub> emissions in Iraq<sup>2</sup>:**

Moving to a net zero-emission world is one of humanity's biggest challenges and this will be achieved only with a complete shift in how production, consumption and energy use, which is the source of about three quarters of today's greenhouse gas emissions, is the key to avoiding the worst impacts of climate change, It would replace polluting energy from coal, gas and oil with environmentally friendly energy

<sup>1</sup> United Nations Framework Convention on Climate Change Conference (UNFCCC), Negotiations of the 26th United Nations Climate Change Conference Climate change (COP26).

<sup>2</sup> <https://iraq.un.org/en/158447-cop26-negotiations-conclude-call-urgent-climate-action-iraq-louder-ever>



from renewable sources such as wind or sun, and this would significantly reduce carbon emissions.

### **1-7.1 Consumption-based CO2 emissions<sup>1</sup>:**

Several studies have emphasized the need to adopt a new means of reducing carbon dioxide emissions by controlling food consumption and means of disposal. Consumers in cities can contribute significantly to reducing their cities' carbon footprint by two main things:

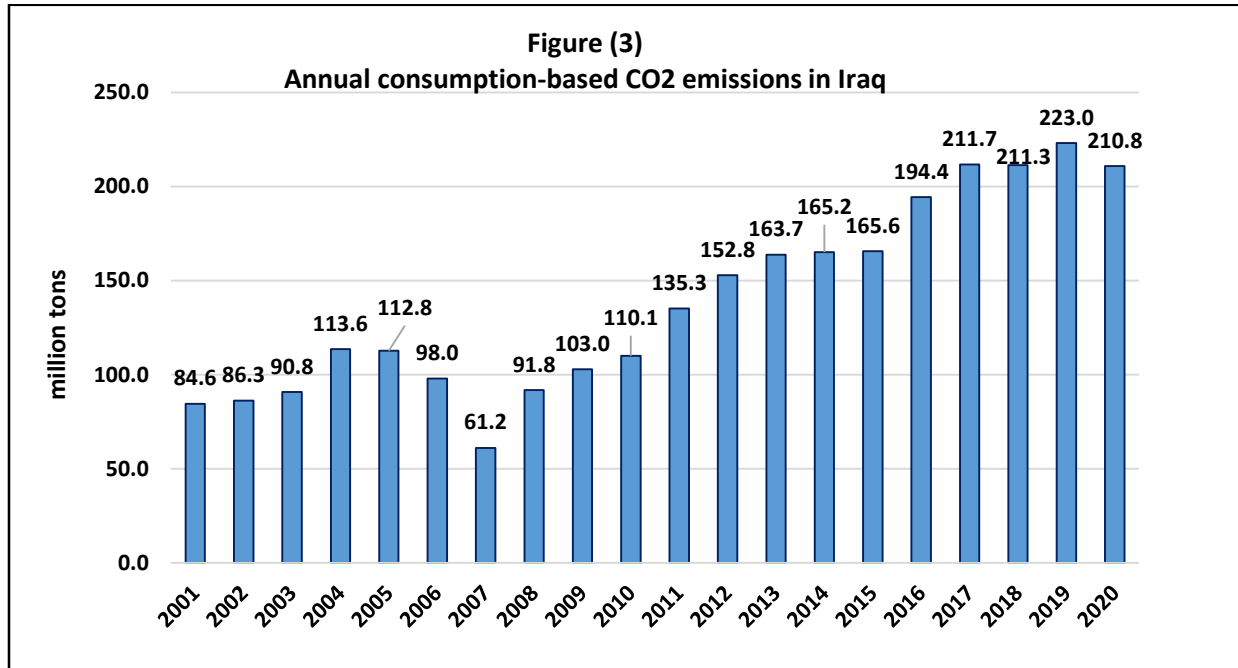
The first is to reduce meat production and consumption; Because 80% of farm-related emissions relate to animal products, and if the energy requirements for refrigeration and preparation are added to them, a good percentage of carbon emissions can be saved, so poultry replaces meat.

Second: by rationalizing urban dwellers' consumption of food; To avoid food residues, especially for food that requires intensive carbon production, such as animal products ", nutrition of urban populations - from food production, transportation, freezing and meal cooking, to waste disposal - represents between 20 and 30% of global greenhouse emissions. Controlling the diet is therefore among researchers' and policymakers' priorities to reduce the carbon footprint of cities. In Iraq, the overall annual consumption-based emissions rate (CO<sub>2</sub>) was 139.3 million tons, with the highest share in 2019 at 223 million tons, while the lowest share was during 2007.

With 61.2 million tons, this share can be reduced by increasing the agricultural area to half the area of empty land in cities, Because this will reduce food-related emissions, as well as the transition from fossil fuel-dependent electricity to carbon-neutral energy sources that will reduce emissions, Reducing food residues at retailers' and consumers' levels will limit emissions and replacing poultry with meat consumption reduces emissions.

<sup>1</sup> CO<sub>2</sub> emissions dataset ,Our World in Data <https://ourworldindata.org/co2-dataset-sources>

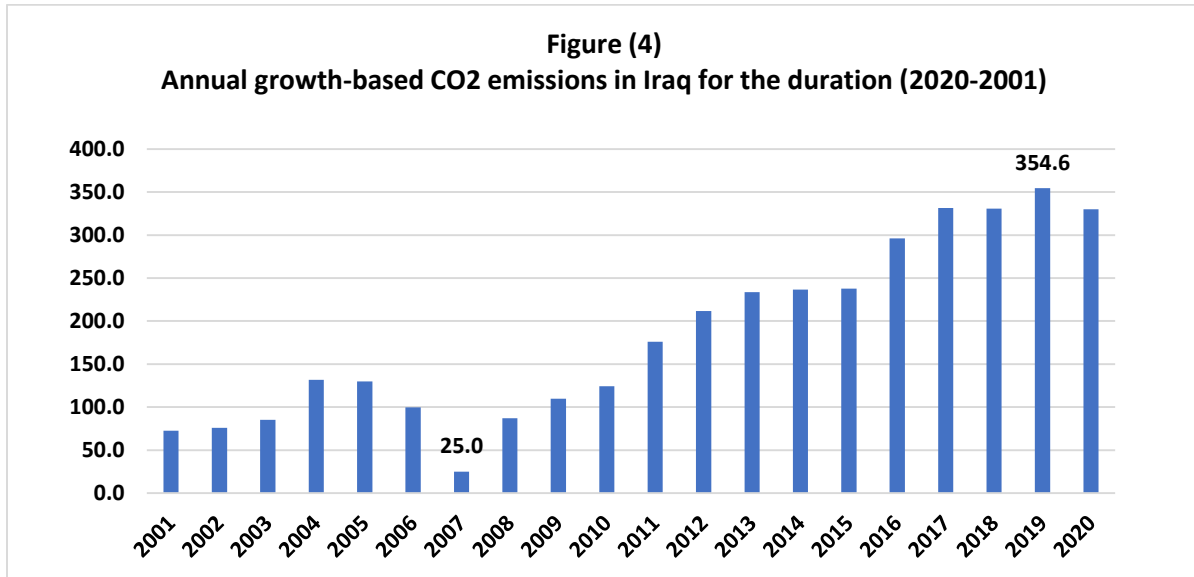
<sup>15</sup> Eugene Moharb from the Faculty of Construction and Engineering Management at Reading University in Britain and principal researcher of the study, in statements to "Science."



Source: Our World in Data based on the Global Carbon Project OurWorldInData.org/co2-and-other-greenhouse-gas-emissions <https://ourworldindata.org/co2/country/iraq>.

### 1-7.2 Production-based CO2 emissions:

The industry sector is accountable for a large proportion of total CO2 emissions. industrial development processes in many regions of the world, This development is needed to meet the requirements of sectors such as aviation, long-haul cargo shipping, cement manufacturing and iron As in the areas of electric vehicles, solar power generation and wind energy, Iraq notes the way of the figure. (4) The overall annual production-based emission rate (CO2) has reached (183.9) million tons, the highest in 2019 with a share of (354.6) million tons, while the lowest share was during 2007 (25) million tons, and in order to reduce those emissions from production, new fuels should be used to help reduce emissions significantly, such as manufacturing hydrogen using surplus solar energy during the day and converting it into electricity within fuel cells after sunset and the capture and storage of carbon dioxide from the production of iron and cement, which depend on limestone or coal for their manufacture "Coke", known to contain large amounts of fossil carbon, substances whose heating leads to carbon infiltration of the atmosphere.

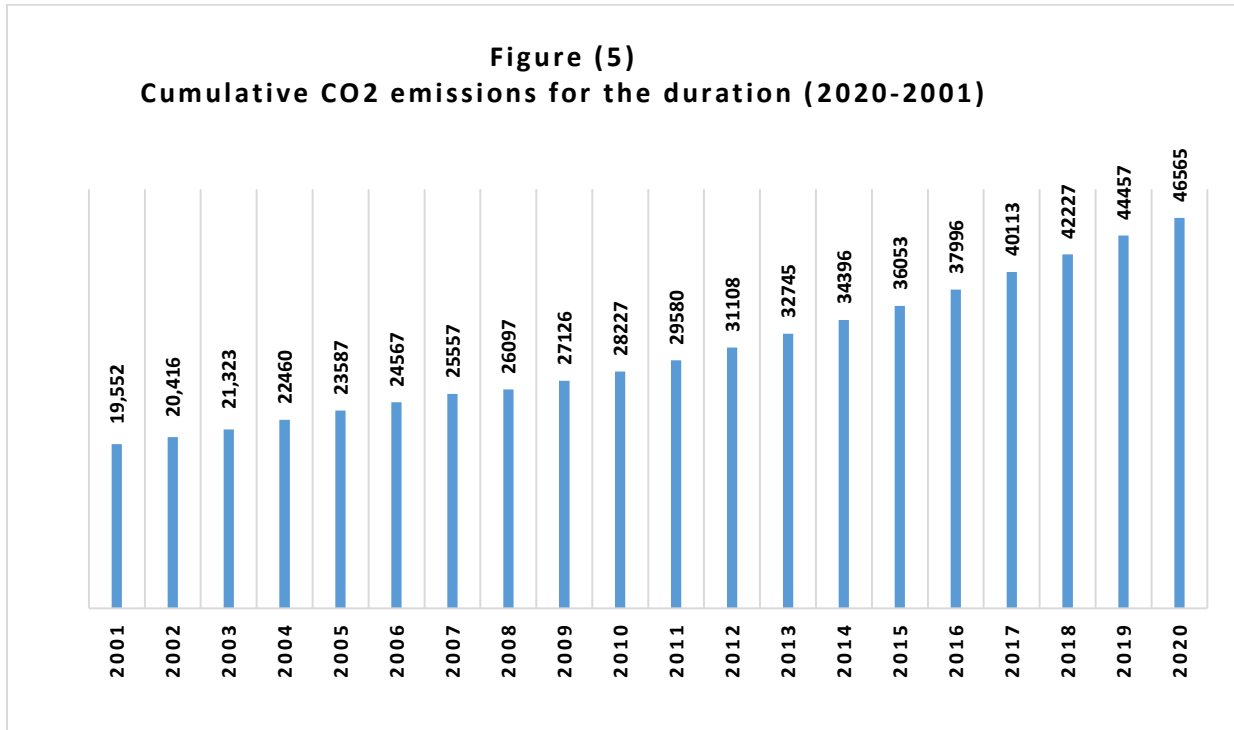


Source: Our World in Data based on the Global Carbon Project [OurWorldInData.org/co2-and-other-greenhouse-gas-emissions](https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions) <https://ourworldindata.org/co2/country/iraq>

### 1- 8 Cumulative CO2 emissions<sup>1</sup>:

Today's emissions from fossil fuel combustion, cement production, deforestation and other land-use change have led to a rise in atmospheric carbon dioxide concentrations and some may fail to recognize historical responsibility for emissions in recent decades or centuries because they are constantly increasing. This allows us to understand how much total cumulative CO2 emissions have been so far, and is observed from the figure. (5) Cumulative CO2 emissions have been increasing since 2001, when they reached (1.955) billion tons and this increase has continued over the said period to reach 2020 (4.657) billion tons.

<sup>1</sup> CO<sub>2</sub> emissions dataset ,Our World in Data <https://ourworldindata.org/co2-dataset-sources>



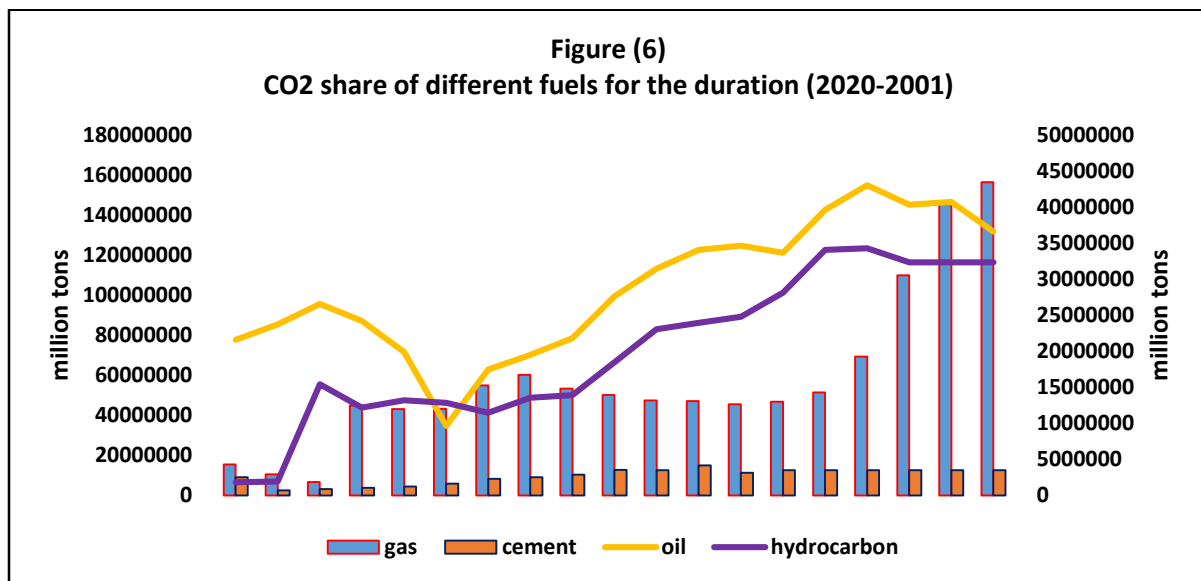
Source: Our World in Data based on the Global Carbon Project [OurWorldInData.org/co2-and-other-greenhouse-gas-emissions](https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions) <https://ourworldindata.org/co2/country/iraq>

### 1-9 Share of CO2 emissions produced from different fuels.

Carbon dioxide dominates emissions from fossil fuel burning for energy production, industrial production of materials such as cement, and the figure shows (6) Distribution of annual CO2 emissions in Iraq by energy source, such as oil, gas, combustion or cement production, and notes the high share of CO2 emissions in oil production at a share of (131.6) million tons followed by gas production with a share of (43.4) million tons and then burning with a share (32.3) million tons during 2020, hence the oil and gas sector is the main contributor to Iraq's greenhouse gas emissions. Emissions from this sector alone represent more than (40%) of the country's total emissions, largely due to high levels of accompanying gas burning (Iraq ranks second in the world in total burning after Russia) energy efficiency in the oil and gas sector, which has a positive impact on reducing emission levels and increasing government revenues, thereby increasing economic growth and achieving financial stability<sup>1</sup> While carbon dioxide is not the only gas driving global climate change, there are a number of other gases such as methane, nitrous oxide and a group

<sup>1</sup> Rafidain Recovery Project to Address Climate Change in Iraq, 2021/10/17, Presidency of the <https://presidency.iq/Details.aspx?id=10239> Republic of Iraq.

of "Trace gases", which have contributed significantly to global warming to date, and each sector's contribution to the emission of greenhouse gases.



Source: Our World in Data based on the Global Carbon Project OurWorldInData.org/co2-and-other-greenhouse-gas-emissions <https://ourworldindata.org/co2/country/iraq>

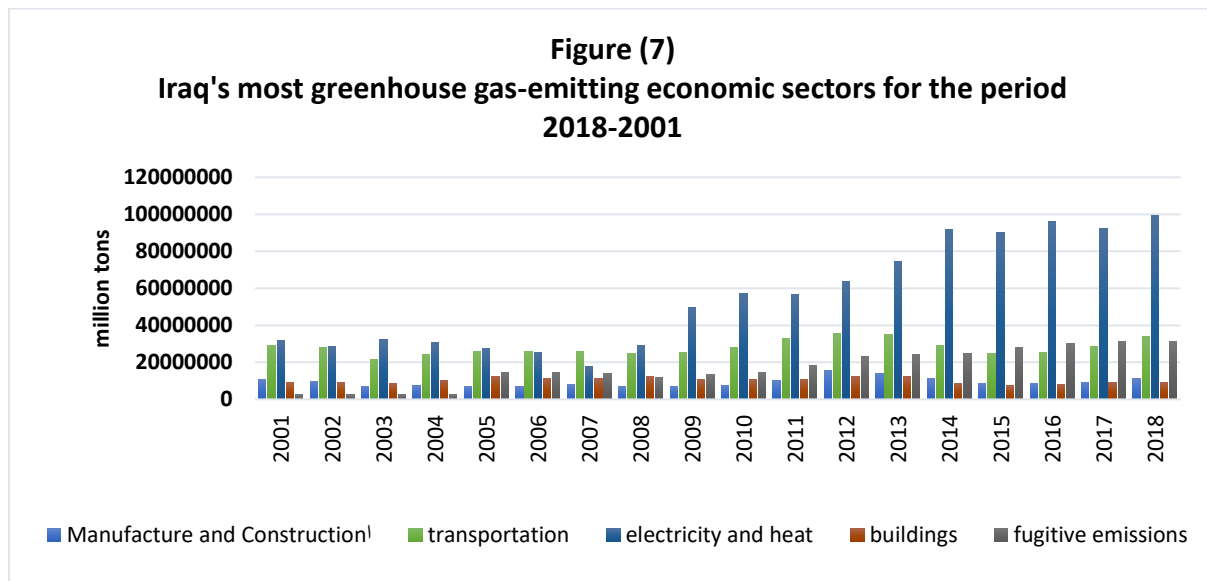
## 1-10 Greenhouse gas emissions by economic sectors in Iraq:

The greenhouse gases referred to are nitrous oxide (N<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>), all of which contribute to climate change and global warming and thus have a profound impact on the sustainability of economic sectors.

### 1-10.1 Iraq's most greenhouse gas-emitting economic sectors:

Greenhouse gas emissions pose the greatest long-term threat to economic sectors and, what's more, their repercussions are rapidly emerging, as Governments need widespread adoption of a low-carbon economy as fossil fuel-dependent economic progress exacerbated the climate change crisis, which will negatively affect progress and economic growth at some point. and thus highlight the importance of accelerating the use of clean energy and reducing carbon emissions, as seen in the format (7) The electricity and heat sector is most affected by greenhouse gases at a rate of (55.3) million tons, with the highest value in 2018 (99.6) million tons, and the lowest value in 2007, with a value of (17.9) million tons followed by transport, fugitive emissions and buildings at overall rates (27.9), (16.9) and (10.2) million tons, respectively, while the manufacturing and construction sector received the lowest rate among the above sectors at a value of (9.3) million tons. In order to

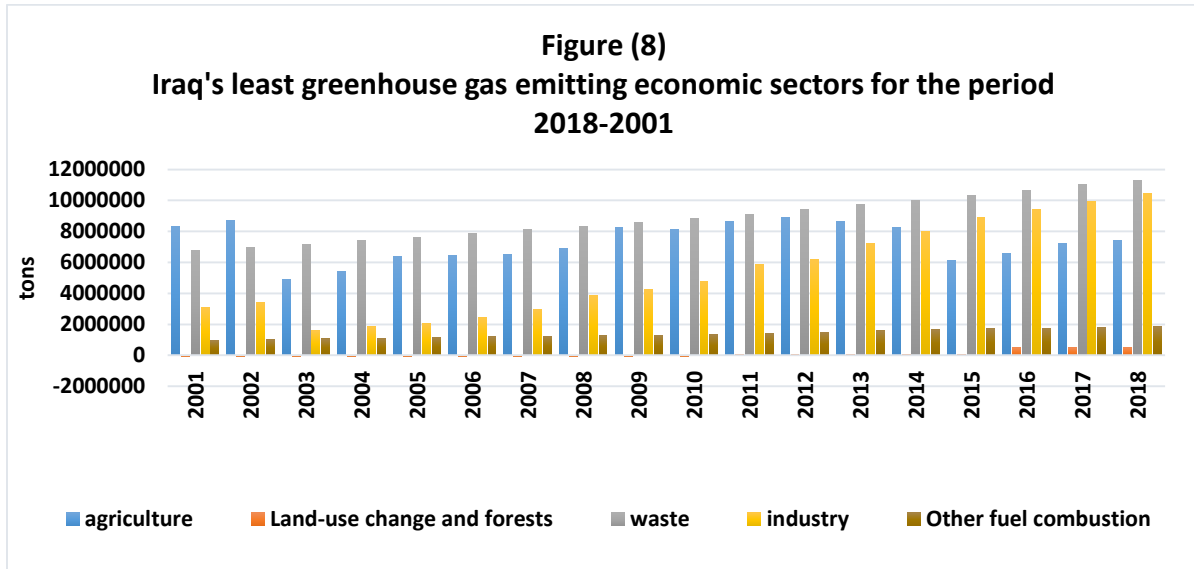
reduce those greenhouse gas emissions, the Iraqi Government must, Using composite cycles to increase power production, change liquid fuel type to gas fuel in electric power plants and improve the quality of fuel used to reduce carbon emissions by adopting mechanisms to improve energy efficiency and rationalize energy consumption, thereby converting heavy fuel power plants into LPG and dry gas fuels that can be provided by catching companion gas and mitigating LPG and dry gas emissions CCS or CCUS to reduce carbon emissions and utilization in industrial processes; and the localization of renewable energy technology, especially with regard to solar energy. This is because of Iraq's strategic position, which is a promising area for the settlement of this type of technology and the use of sophisticated and sustainable public transport and environmentally friendly technologies such as the establishment of the suspension train project and the gradual shift towards sustainable transport, The gradual shift towards hybrid and environmentally friendly vehicles, the use of more fuel-efficient motor aircraft and a more efficient operating system, Review and update existing laws and identify the need for new laws regarding trade and industrial investment laws and customs tariffs and the production of wind electricity in promising areas, especially in the Kurdistan region, and support for the private sector's participation in the development of the public transport system according to participatory mechanisms with the public sector.



Source: Our World in Data based on the Global Carbon Project [OurWorldInData.org/co2-and-other-greenhouse-gas-emissions](https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions) <https://ourworldindata.org/co2/country/iraq>

### **1-10.2 Iraq's least greenhouse gas emitting economic sectors:**

Iraq is one of the countries least able to withstand climate change, as it is a fragile and conflict-affected State under the stress of exposure and vulnerability to climate risk, and is seen from the figure (8) The least affected sectors of the economy by greenhouse gases are the waste sector at a rate (8.9) million tons to reduce that rate. The Government must support integrated waste management and promote and improve its management and recycling of solid waste energy production and environmental conservation, improve the quality of treated water and reduce energy consumption as part of the achievement of sustainable development goals, followed by agriculture, industry and other fuel combustion at rates of (7.3), (5.3) and (1.4) million tons, respectively, in order to advance the agricultural sector, work should be undertaken to increase the resilience of the agricultural sector to climate change to protect and enhance the country's food security, reduce land degradation, increase agricultural revenues to achieve economic diversification, reduce poverty and support rural women through the use of modern technologies and techniques as part of the achievement of sustainable development goals, For industry, industrial processes should be developed and rehabilitated in projects that introduce low-carbon technologies. (Developing and qualifying industrial processes in existing projects) as in the cement, brick, fertilizer and petrochemical industry, recycling and waste management (Recycling and waste management), such as heat and gas recycling projects from industrial ovens and plastic and tyre recycling, and supporting the private industrial sector in reducing emissions through the application of mechanisms mentioned in the industrial strategy, such as SMEs, to support technological development, innovation and transfer of environmentally friendly industrial technologies.

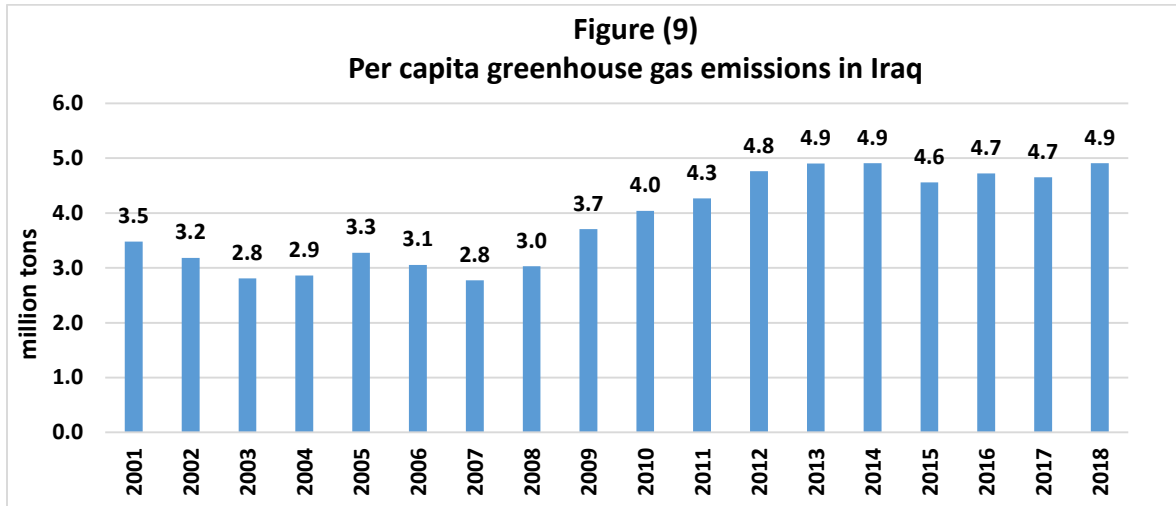


Source: Our World in Data based on the Global Carbon Project [OurWorldInData.org/co2-and-other-greenhouse-gas-emissions](https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions) <https://ourworldindata.org/co2/country/iraq>.

### 1-10.3 Per capita greenhouse gas emissions in Iraq:

At the level of per capita annual emissions per person in Iraq, this percentage recorded an average rate of 3.9 million tons for the period 2001-2018 with the highest rates being approximately 4.9 million tons for 2013, 2014 and 2018, compared to previous years with the lowest rates of 2.8 million tons for 2003 and 2007, as shown in figure 9. This proportion increases annually with increased economic activity with rational energy use and increased burning. (i.e. emissions from burning fossil fuels, or production of cement within a country's borders). It does not consider emissions of traded goods (consumption-based emissions).

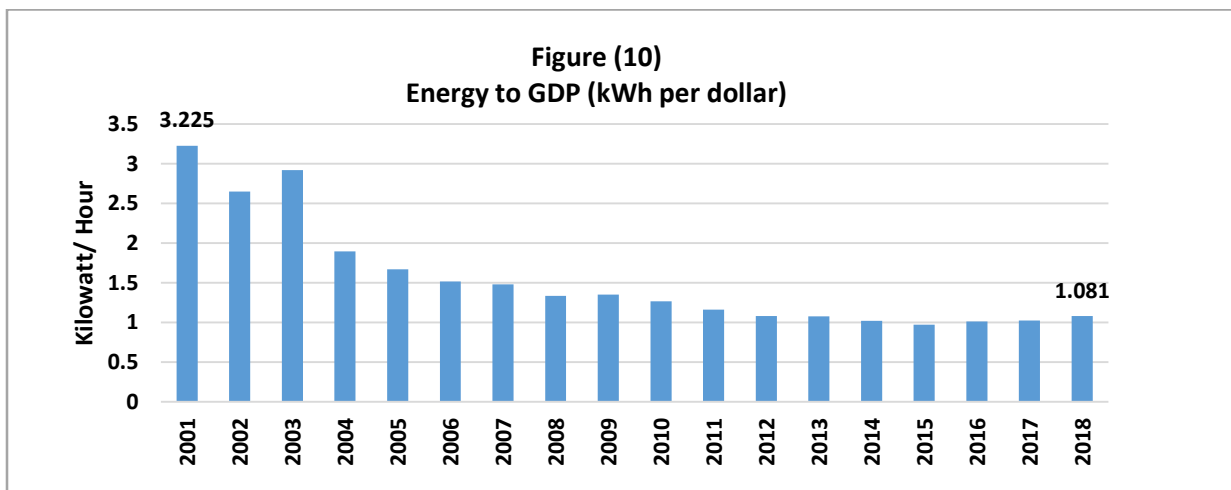




Source: Our World in Data based on the Global Carbon Project OurWorldInData.org/co2-and-other-greenhouse-gas-emissions <https://ourworldindata.org/co2/country/iraq>.

### 1-11 Carbon and energy efficiency

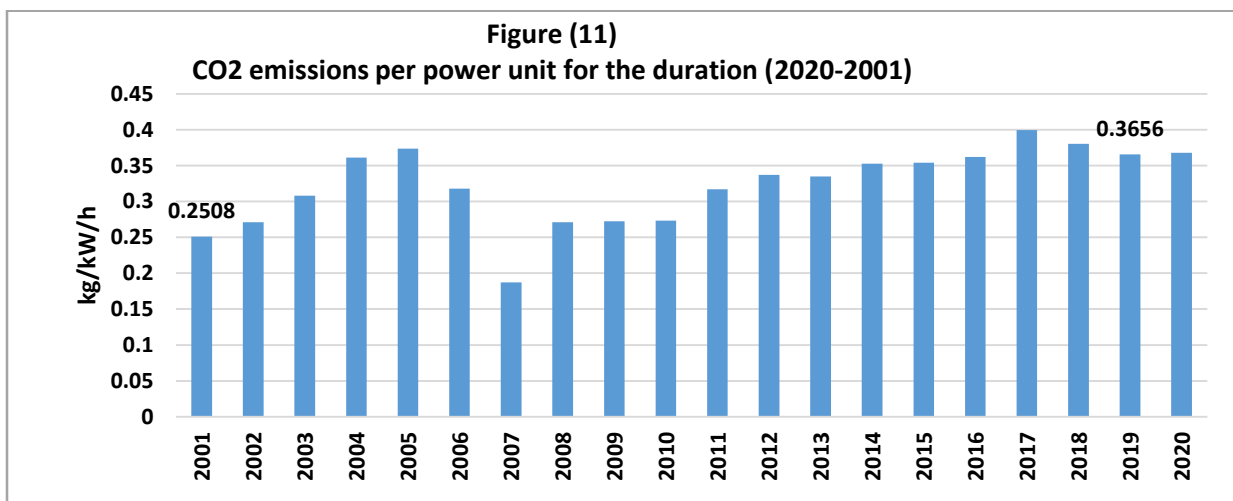
Energy efficiency, the amount of energy used per unit of GDP, energy contributes significantly to carbon monoxide. Energy reduction can help reduce emissions, however some energy consumption is essential for human well-being and high standards of living. Energy density measures the amount of energy consumed per unit of GDP and effectively measures a country's efficient use of energy to produce a certain amount of economic output. Low energy intensity means that it needs less energy per unit of GDP, as seen from the figure (10). Reduced energy per GDP from (3.22%) for 2001 to (1.08%) for 2018.



Source: Our World in Data based on the Global Carbon Project OurWorldInData.org/co2-and-other-greenhouse-gas-emissions <https://ourworldindata.org/co2/country/iraq>.

## 1-12 Carbon intensity: amount of carbon emitted per unit of energy

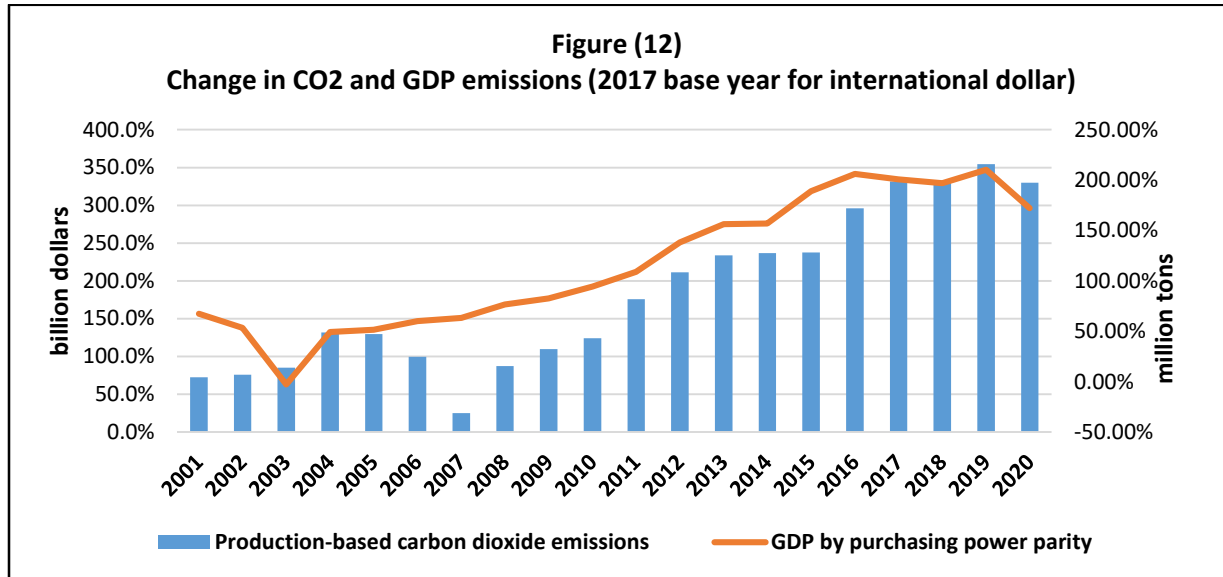
Energy intensity is an important measure to monitor whether countries are making progress in reducing emissions, and the other key part of this equation is carbon intensity: The amount of carbon dioxide emitted per unit of energy that is, emissions can be reduced by (Use less energy, use low carbon energy) and that this scale monitors the use of low carbon energy i.e. transfer of our energy mix towards low carbon sources such as (renewable energy sources or nuclear energy), the amount of carbon emitted per unit of energy must decrease, the figure shows (11) Carbon density measured in kilograms per kW per hour of CO<sub>2</sub> emitted per kilogram of oil equivalent consumed.



Source: Our World in Data based on the Global Carbon Project [OurWorldInData.org/co2-and-other-greenhouse-gas-emissions](https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions) <https://ourworldindata.org/co2/country/iraq>

## 1-13 Decoupling economic growth from CO<sub>2</sub> emissions

According to the report of the United Nations Conference on Trade and Development (UNCTAD), called for by the world's countries to separate economic progress from carbon emissions while accelerating the reduction of developed countries' per capita and contributing to the technology and financial support needed to move towards green development pathways, especially in developing countries economic growth must be separated from carbon dioxide emissions, Several countries have achieved this in recent years, illustrating the figure. (12) whether that country has achieved this by showing a change in per capita GDP and annual per capita CO<sub>2</sub> emissions over time.



Source: Our World in Data based on the Global Carbon Project [OurWorldInData.org/co2-and-other-greenhouse-gas-emissions](https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions) <https://ourworldindata.org/co2/country/iraq>

### 1- 14 Actions and policies to address climate change in Iraq.

The NDC is one of the most important documents aimed at guiding the world's economic transformation by incorporating the concept of a green economy, focusing on renewable energies and clean mechanisms and trying not to exceed the average global temperature of 1.5 degrees Celsius, The document will attract new investment opportunities in Iraq and provide greater involvement of the private sector in the area of climate change And there is a great trend by some ministries and financial services, In addition, climate impacts have significantly affected the energy sector, creating pressure on the national economy and threatening the country's stability and making it difficult to achieve sustainable development in all its vital sectors. The endeavours are based on rapid intervention and well-founded solutions to address these impacts. The first was the Central Bank of Iraq's attempt to initiate the diagnosis of a trillion dinars equivalent to more than \$600 million in interest-free loans and low commission. and with a five-year repayment period granted by banks to individuals to finance the purchase of renewable energy electricity systems, as well as commercial, agricultural, industrial and domestic sectors benefiting from this initiative, thereby contributing to the reduction of carbon emissions and the improvement of the climate through the use of clean energy, This was in order to

reduce carbon emissions and transition to clean energy and one of the most important actions taken by the Iraqi Government to address climate change is the coming<sup>1</sup>.

**1-14.1 Greenhouse gas emissions reduction:** Iraq is taking steps to move towards a greener economy by promoting investment in natural gases and allocating 12 gigawatts of renewable energy.

**1-14.2 NDR: The Government of Iraq:** with support from UNDP, finalized the NDR (NDC), which addresses climate change mitigation and adaptation, whereby action is being taken on climate change in the country - to mitigate Iraq's greenhouse gas emissions and its commitment to implement its nationally determined contributions from 2021 to 2030, which leads to a reduction of a percentage (1-2%) of CO<sub>2</sub> emissions and the opening of a US \$ 100 billion investment window in the green economy, from both the private and public sectors over the next 10 years, Iraq focused on nationally determined contributions to promote sustainable development and ensure environmental integrity and transparency.

**1-14.3 Designing sustainable projects:** These projects focus on livelihoods creation and medium- and long-term development, which promote investments in efficient water and sanitation infrastructure, irrigation and water consumption management, as well as the use of renewable energy such as solar energy. The United Nations is also working with the Government on training, skills development and capacity-building to address climate change, and advocacy efforts are working to raise public awareness of water consumption and sustainable water management<sup>2</sup>.

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Presidency of the Republic of Iraq, Project for the Rehabilitation of Mesopotamia to Address <sup>1</sup> Climate Change in Iraq, 2021/10/17. <https://presidency.iq/Details.aspx?id=10239>

<sup>2</sup> Iraq's accession to the Paris Agreement, the United Nations: <https://iraq.un.org/en/161240-iraq-joins-paris-agreement-un-calls-further-support-help-country-adapt>



# **Chapter II**

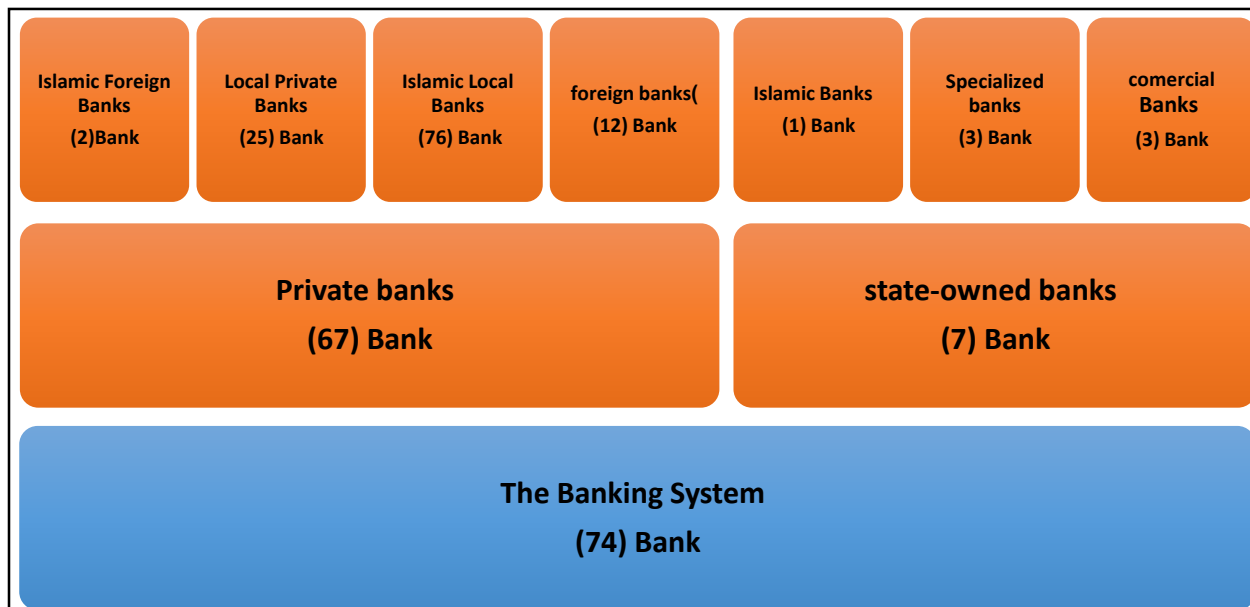
## **Developments in Iraq's financial sector**

## 2-Developments in Iraq's financial sector

### 2-1 Evolution of Iraq's banking sector:

Changes in the structure of the banking system occurred during 2021, owing to the entry of some local banks and the exit of some foreign banks from the banking sector, in particular Lebanese banks investing in Iraq, as a result of the economic crisis in Lebanon, which led to the withdrawal of Lebanese banks from some countries, including Iraq, and the number of banks operating (74) of which (7) are State-owned banks and (3) are competent banks (3) are commercial banks and an Islamic bank, while the number of private banks is (67) bank with (25) local commercial bank, (28) local Islamic bank and (14) foreign bank spread between (2) Islamic banks and (12) commercial bank, as shown in the chart, (3), thus private banks occupied the largest share in terms of the number of banks. (90.5%) Compared to the State-owned banks that constituted the (9.5%) ratio, and in terms of classifying banks into commercial, Islamic and specialized, commercial banks make up the proportion (54%) Islamic banks (41.8%) and competent banks (4%) of the total banks operating in Iraq.

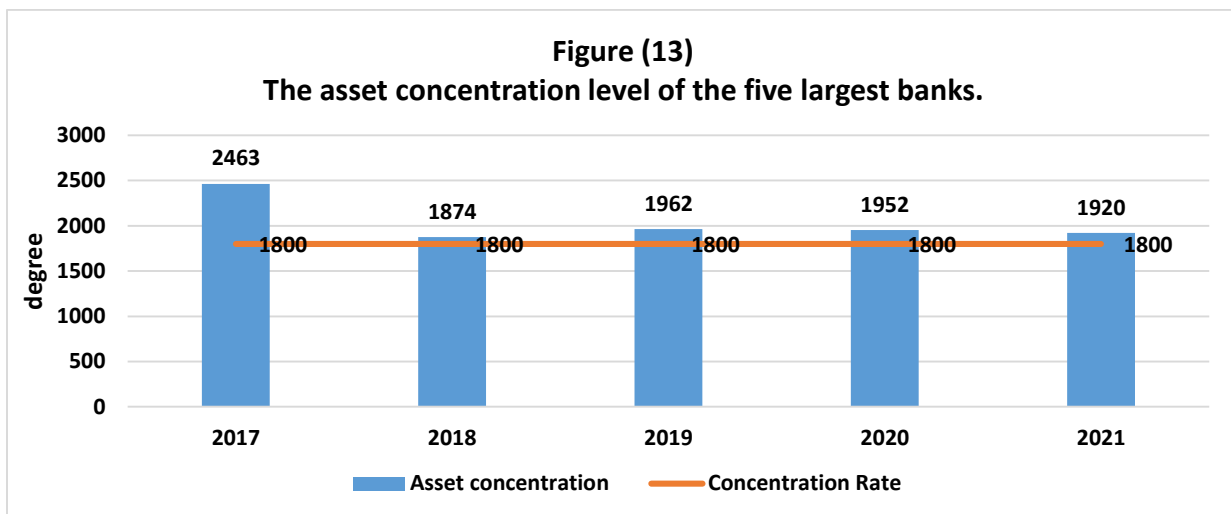
**Scheme (3)The structure of the Iraqi banking system as in 2022**



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

### 2-1-1 Banking sector assets:

Global economic conditions in general and locally began to return to normal gradually after the coronavirus pandemic eased, especially in Iraq, where banking assets increased significantly, reaching 2021. (159.5) Trillion IQD (15.08%) Growth for 2020 (138.6) trillion IQD, as a result of an increase in State-owned banks' assets at a rate (15.3%) that is, by (16.7) trillion dinars, as well as increasing the value of foreign assets of the banking sector from (26.7) trillion dinars in 2020 to (28.9) trillion IQD, due to the difference in the exchange rate of the Iraqi dinar against the United States dollar, as well as the increase in the value of the other assets of (2.5) trillion IQD as a result of the high level of banking activity, we find through the figure (13) The level of concentration of assets of the five largest banks by (Herfindahl-Hirschman) <sup>1</sup>index is (1920) point year's 2021 with a high concentration level relative to the high standard value (1800), when compared to the previous year, its value has begun to decline, as the low level of concentration means a trend towards higher level of competition between banks and the provision of new financial services as well as greater use of financial technology instruments and higher level of banking awareness.

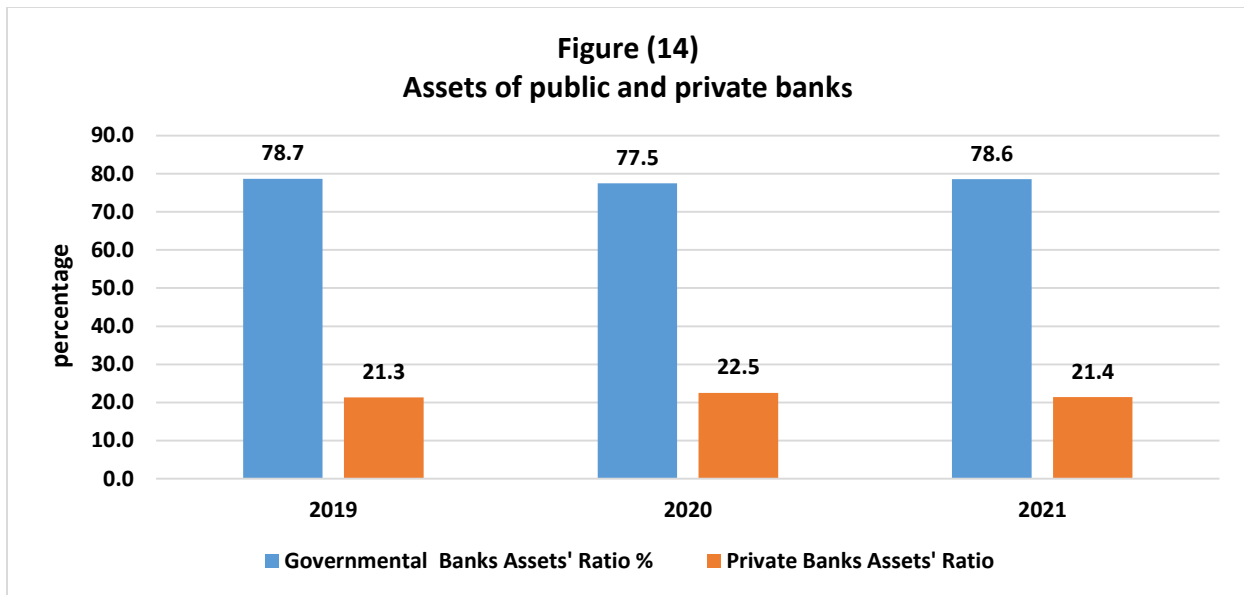


Source: Central Bank of Iraq, Department Monetary and Financial Stabilization estimates

Through figure (14), we note that the ratio of public banks' assets to the total assets of the banking system has increased slightly, reaching their value. (78.6%) after

<sup>1</sup> The value of (Herfindahl-Hirschman) ranged between (0-10000) and if the value was less than (1000) this indicated that there were no concentrations and if the value was between (1800-1000) it indicated moderate concentrations and if the value was greater than (1800) it indicated to high concentrations, the indicator is measured according to the following formula ( $HHI=\sum si^2$ ), as (si) represents the relative importance of the variable.

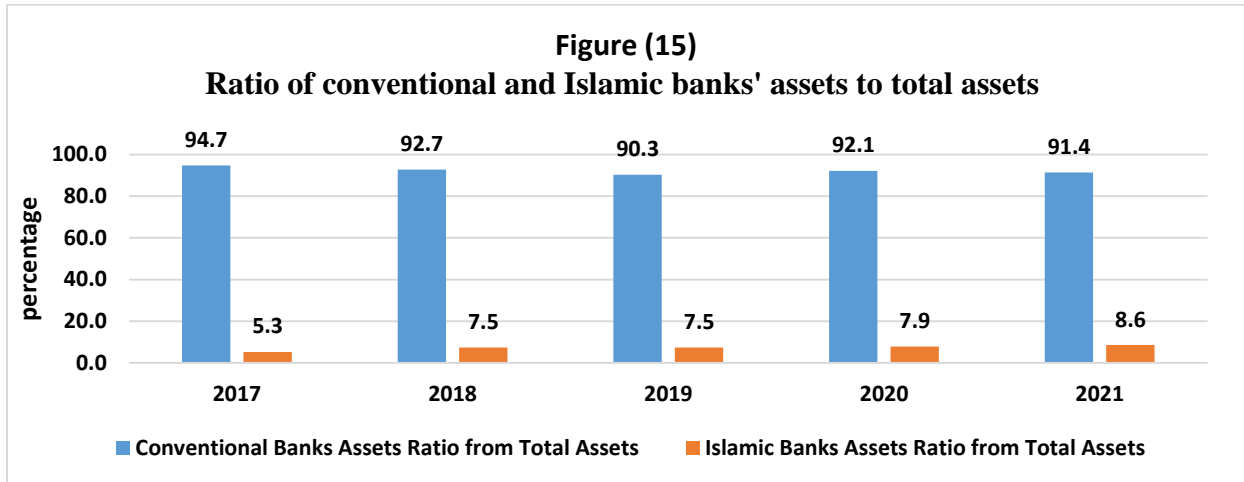
2020 (77.5%) to increase the value of its assets as a result of the difference between the Iraqi dinar exchange rate and the US dollar, and the proportion of private banks' assets decreased for 2021 (21.4%), while 2020 was (22.5%), a change of (-5.1%) This is the result of the departure of some foreign private banks from the banking sector as this indicator reflects the level of crowding between the public sector and the private sector.



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

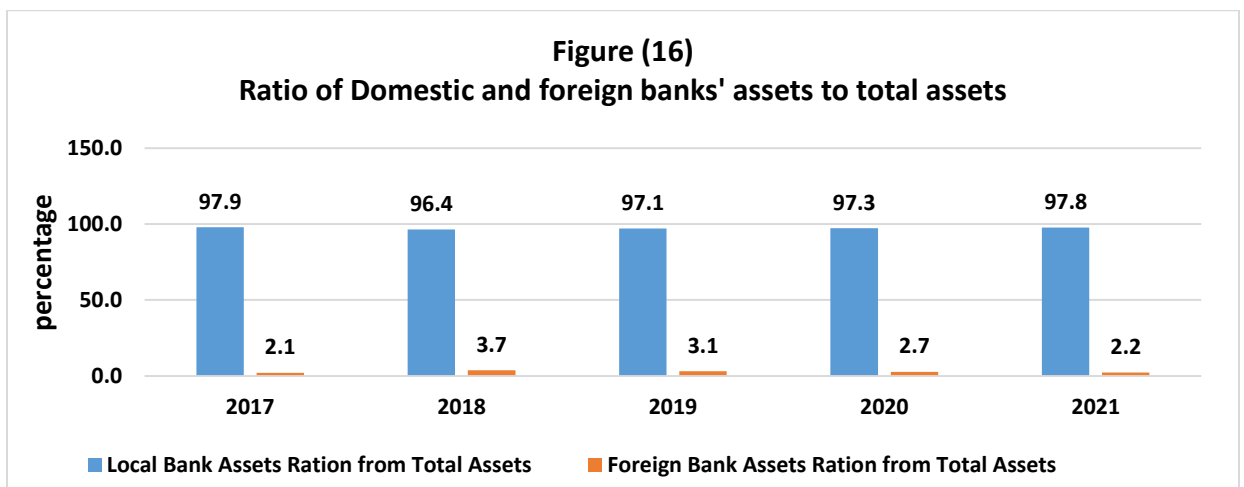
With respect to traditional and Islamic banks' assets to the total assets of the banking system, traditional banks had the largest share, their proportion falling slightly to (91.4%) during 2021 after being (92.1%) during 2020 of the total assets of the banking system and the ratio of Islamic banks' assets increased to (8.6%) During 2021 it was (7.9%) during 2020 and this is illustrated by the figure (15), we note that the difference between traditional and Islamic banks' assets is significant, as compared to newly established Islamic banks, but Islamic banks' assets have increased as a result of the increase in the number of Islamic banks to (31) Bank during 2021 after being (30) Bank of 2020 as well as increasing the assets of some Islamic banks for the same year.





Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

The share of foreign banks' assets decreased in 2021 to (2.2%). at (2.7%) during 2020, while the largest share of local banks' assets during the same year reached (97.8%) after being (97.3%) during 2020 as a result of the withdrawal of some foreign banks (Lebanon) as a result of the deteriorating economic situation in Lebanon, as illustrated in figure (16).

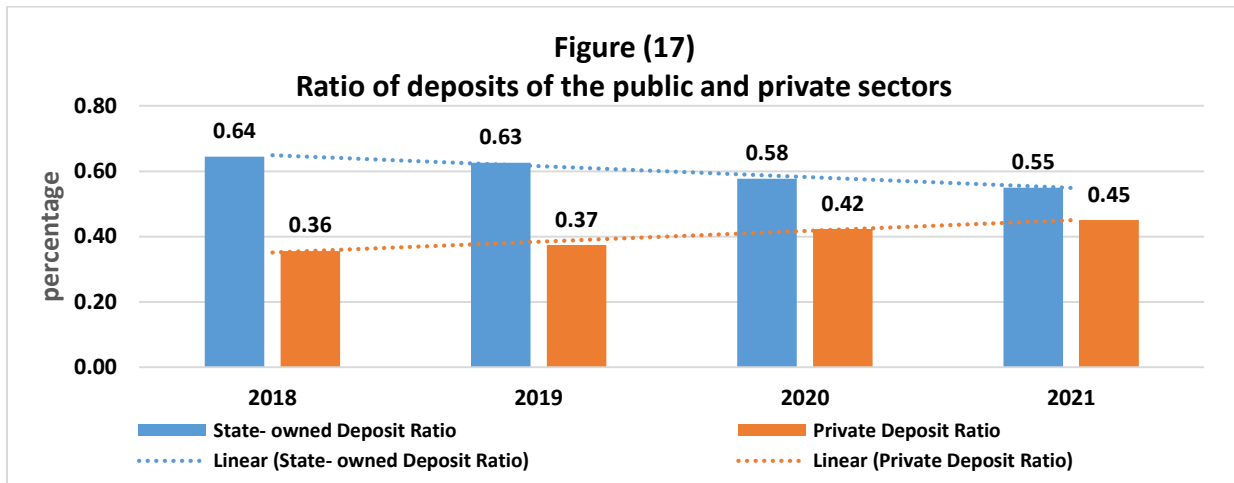


Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

### 2-1-2 Banking sector deposits:

The deposit balance of the banking sector increased from (85) trillion dinars in 2020 to (96) trillion dinars in 2021 (13.1%), owing to higher private sector deposits (20.4%) Public sector deposits increase by (7.8%), indicating that deposits are

generally good, as they constitute private sector deposits (45%) of total bank deposits in 2021, amounting to (43) trillion dinars compared to 2020 (36) trillion dinars, as well as increased public sector deposits (55%) of total deposits in banks in 2021 to about (53) trillion dinars compared to (49)trillion dinars in 2020, as shown in figure (17).



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

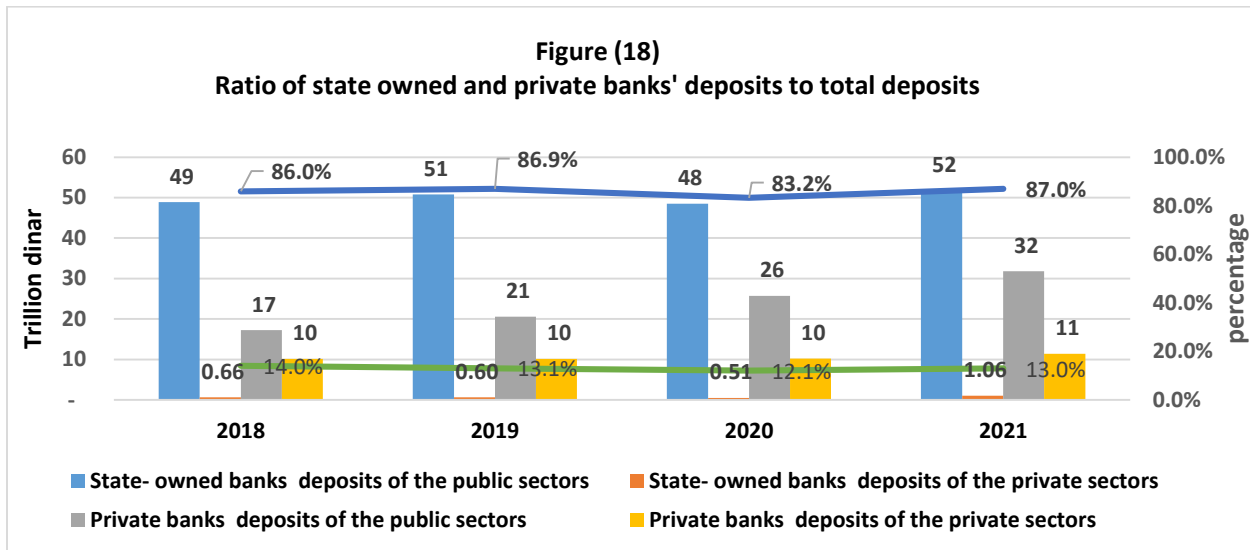
If banks are classified by type into three different groups, including the first State-owned and private banks, the second includes traditional and Islamic banks, and the third includes local and foreign banks, the distribution of deposits between them will be as follows:

For the **first group**, the ratio of **State-owned banks'** deposits accounted for the highest ratio to total deposits, reaching (87%) 2021, as public sector deposits (central State-owned and public institutions) The largest share is (52) trillion dinars or 61.9% of the total deposits of State-owned banks and the remaining (38.1%) for private sector deposits of (32) trillion dinars for 2021, although the number of State-owned banks represents (9.4%) of the total number of banks.

The share of **private bank** deposits accounted for (13%) of total deposits for 2021, with public sector deposits (State-owned and public institutions) amounting to (1.06) trillion dinars or (8.8%) of total private bank deposits and the largest share of private sector deposits amounting to (11) trillion dinars (91.2%) for 2021.

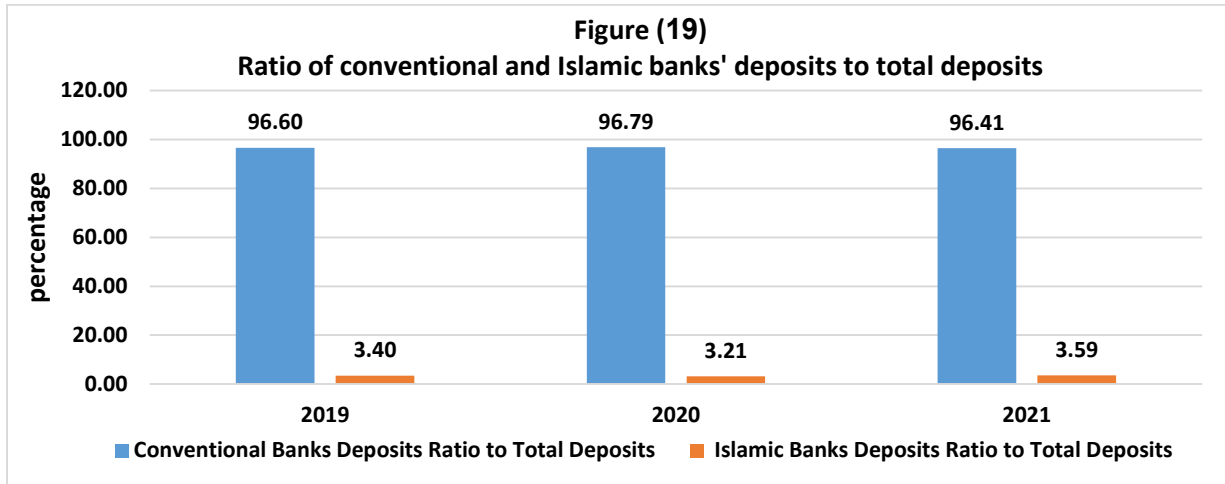
However, the rise in State-owned banks' deposits to total deposits reflects the high public confidence in State-owned banks; As it is guaranteed by the State-owned and

subject to the guarantee of the Deposit Guarantee Corporation, as well as having a wide network of branches spread throughout Iraq. The share of State-owned banks is from the number of branches to the total number (46%), while the share of private bank branches is (54%) for 2021, and figure (18) shows the deposit ratios of State-owned and private banks for the period (2018-2021).



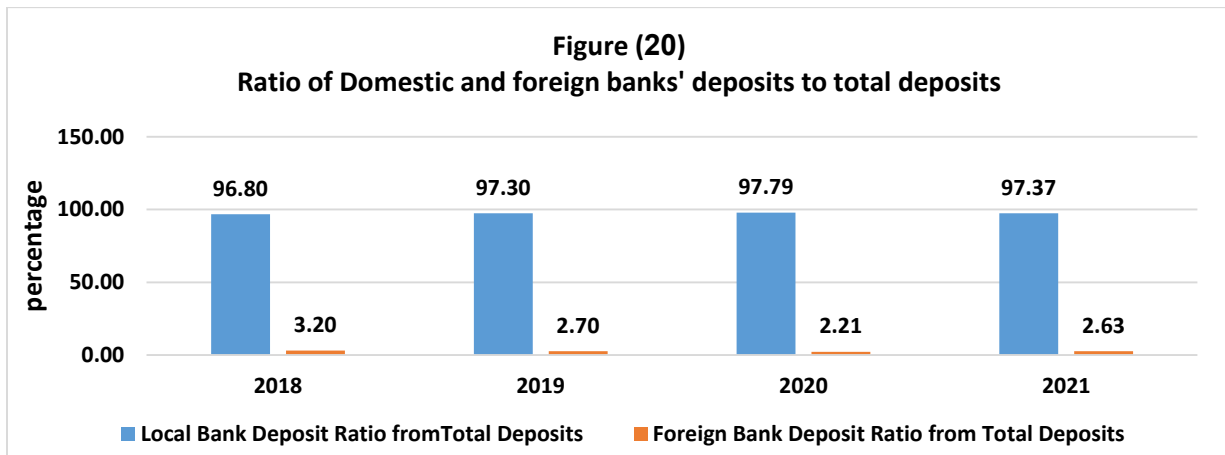
Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

**The second group**, the share of deposits for traditional and Islamic banks separately to total deposits, accounted for the highest proportion by traditional banks. (96.41%) in 2021, while the share of Islamic banks (3.59%) for the same year, this reflects the limited role of Islamic banks in attracting deposits compared to traditional banks because they constitute (21.1%) of the total number of banks, while traditional banks constitute (78.9%) of the total number of branches of banks operating in Iraq, the reason for the limited deposits in Islamic banks is that most of them are newly established and in the context of political and economic volatility that affected their performance, as shown in figure (19):



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

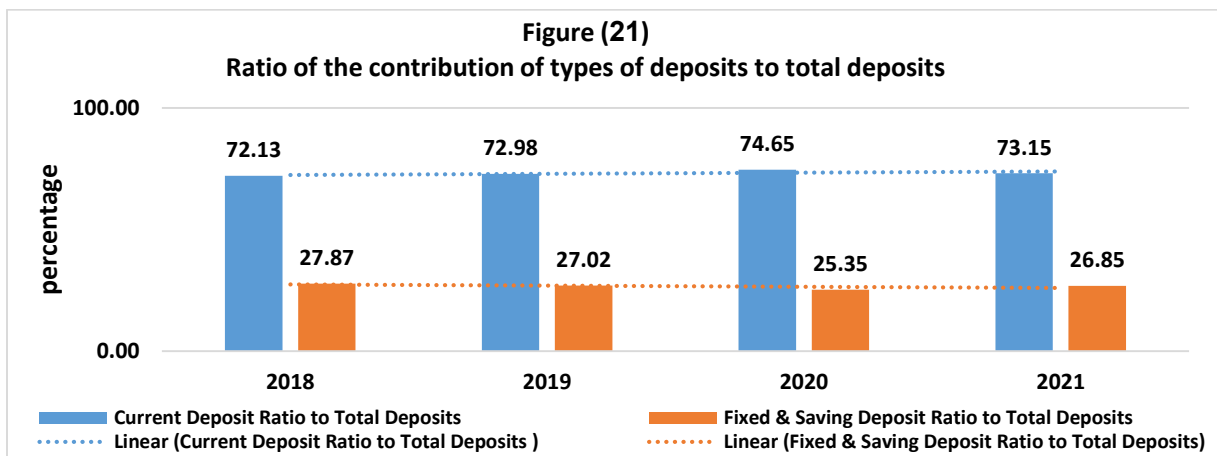
**The third group**, the share of deposits to local and foreign banks separately to total deposits, accounted for the largest share of total deposits by local banks. (97.37%) while the share of foreign bank deposits to total bank deposits (2.63%) For 2021, the number of foreign banks represents (18.9%) of the total number of banks operating in Iraq and (20.9%) of the number of private banks. Figure (20) shows these ratios.



Source: Central Bank of Iraq, Department of Statistics and Research.

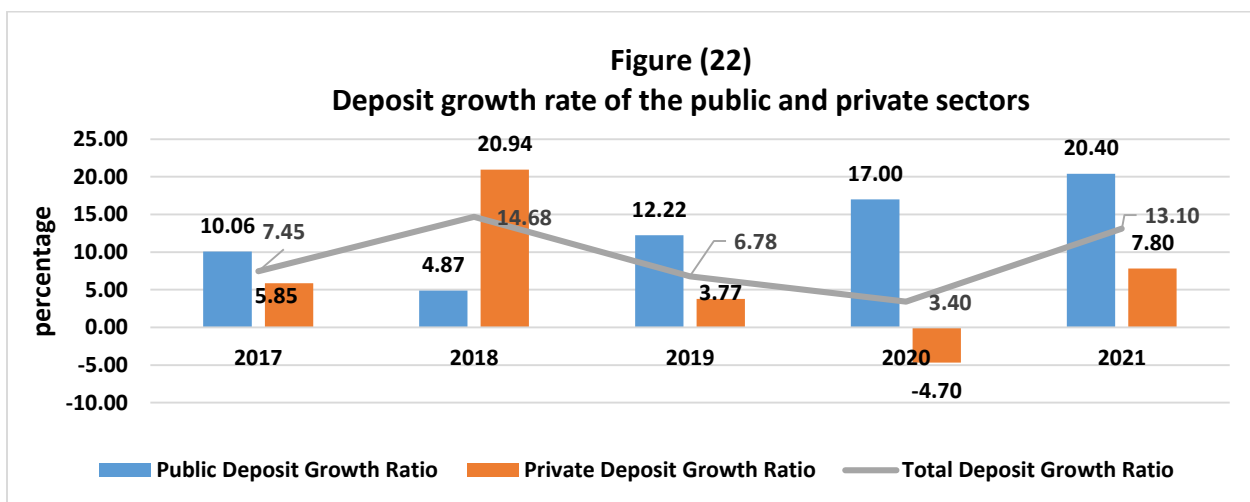
For the division of deposits by type (current deposits, savings deposits and fixed deposits) Current deposits continued to occupy the bulk of total deposits, but decreased by (2%) over the previous year, at (73.15%) during 2021 (74.65%) 2020, while the contribution of fixed deposits and savings deposits increased from (25.35%) 2020 reaches (26.85%) for 2021. Although the current deposit contribution to total deposits has decreased, the gap between current deposits on the one hand and

savings and fixed deposits on the other tends to be reduced by the high volume of savings and fixed deposits as shown in figure (21).



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

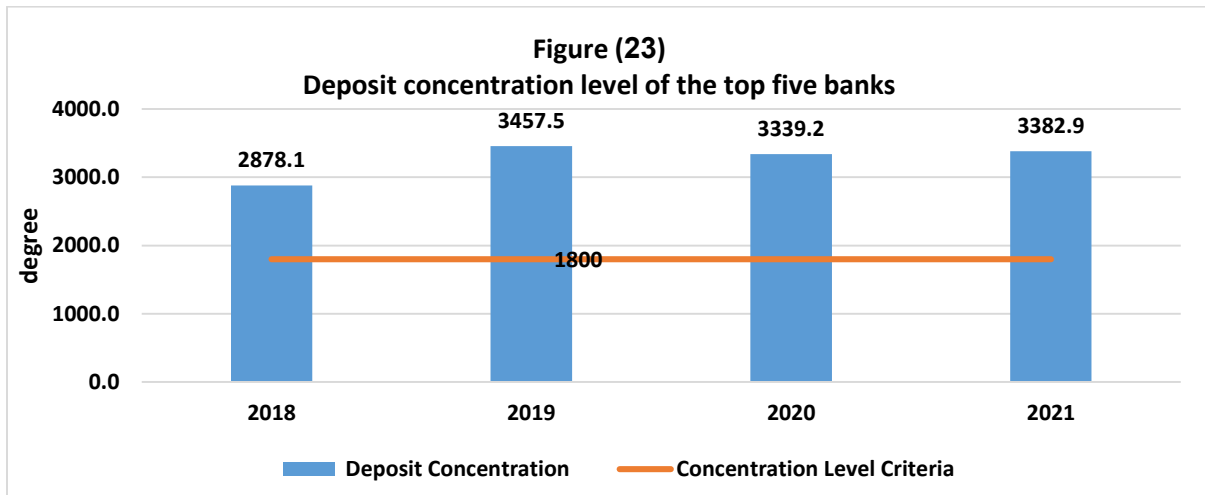
As for deposit growth, public sector deposits grew by (20.4%) Private sector deposits rose by (7.8%) as a result of higher public revenues. Total deposits grew by (13.1%) Figure (22) shows growth rates for public sector deposits and total deposits.



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

The concentration of deposits for the largest five banks by (Hirfendel-Hirschmann) index was (3383.0) points in 2021 and this indicates a high concentration level compared to the 2020 concentration level of (3339.2) points, up from 2020 by (1.3%) We find that the index is above the criterion of the level of extreme concentration. (1800) points and continues to reflect the high concentration of deposits for the five

largest banks, which is clear evidence of public confidence in those banks; Because most of them are public and therefore State-guaranteed, their high concentrations do not pose a real risk; These banks are unlikely to refrain from fulfilling their obligations if depositors' withdrawals of their deposits are increased, and figure (23) shows the concentration of deposits for the five largest banks.

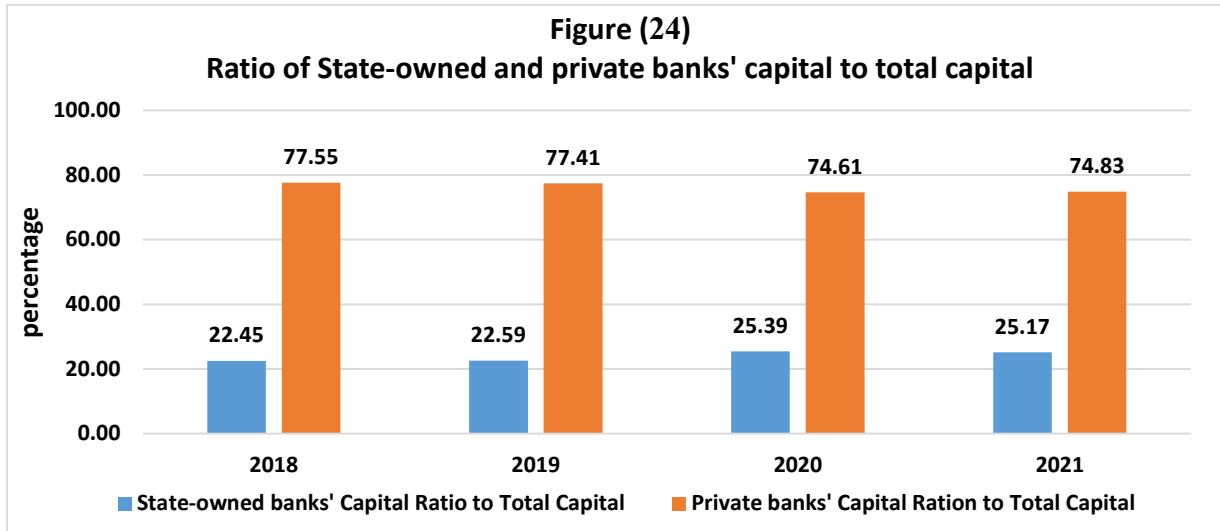


Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

### 2-1-3 Banking Sector Capital:

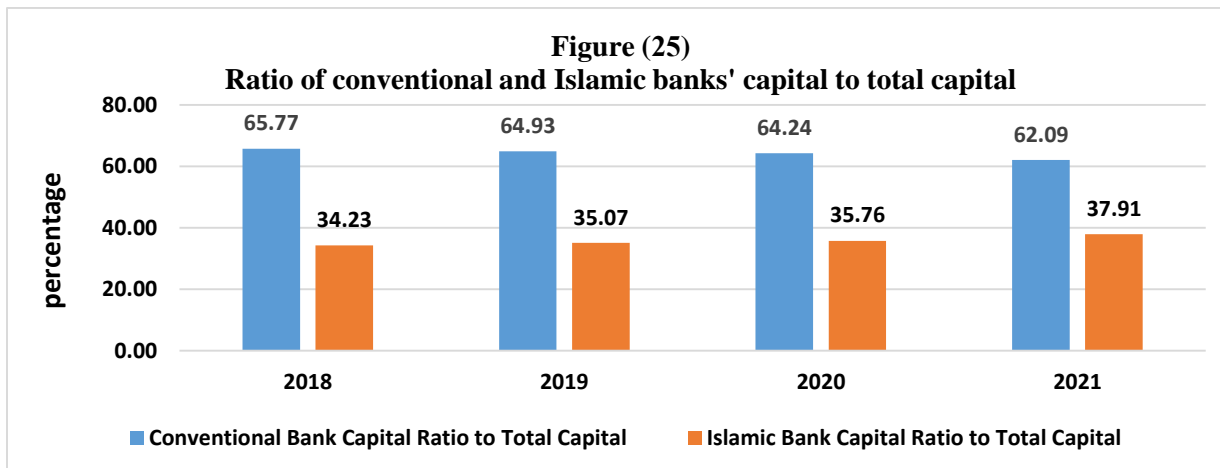
Bank capital increased at a rate of (5.3%) in 2021 to (17.8) trillion dinars from (16.9) trillion dinars in 2020. If banks are classified by type into three different groups, including the first State and private banks, the second includes traditional and Islamic banks, and the third includes local and foreign banks, the distribution of capital among them will be as follows:

For **the first group**, private banks' capital ratio accounted for the highest ratio to total capital, reaching (74.83%) in 2021, while Statebanks' contribution was (25.17%) for the same year, as a result of the high number of private banks compared to Statebanks, as well as the compliance of private banks with the Central Bank's instructions to raise capital to (250) billion dinars. Figure (24) shows the contribution ratios of the two types of banks.



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

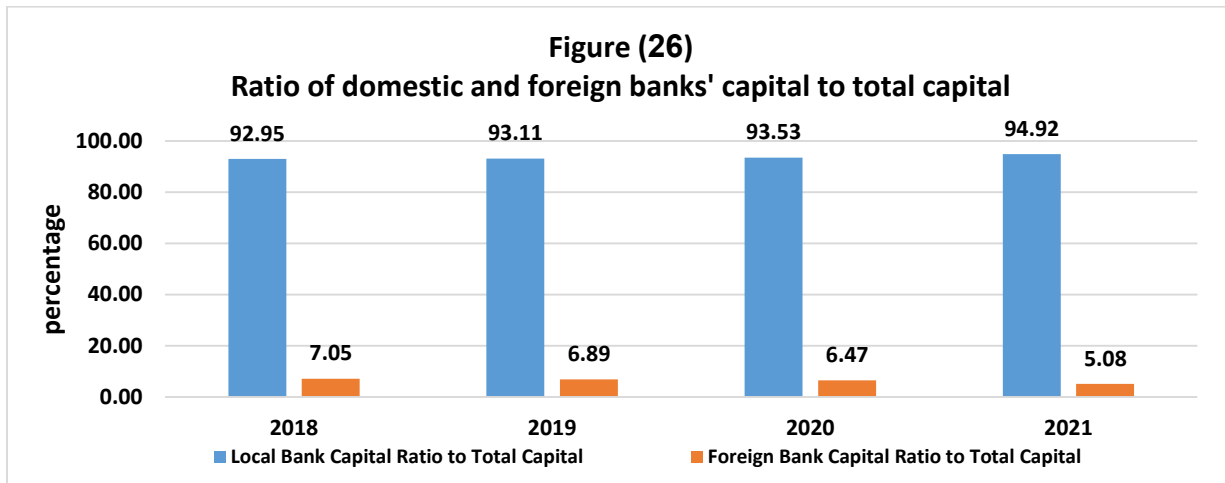
**The second group**, which represents the ratio of traditional and Islamic banks' capital to total capital, accounted for the highest share of traditional banks. (62.09%) in 2021, while the share of Islamic banks (%37.91) for the same year is commensurate with their number in the banking system, representing the number of traditional banks (58.1%) of the total number of banks, while the number of Islamic banks (41.9%) constitutes of the total banks operating in Iraq. Figure (25) shows the contribution ratios for this category.



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

**The third group**, the capital ratio of both domestic and foreign banks to total capital, accounted for the highest share of capital in 2021 (94.92%), while foreign banks'

capital (5.08%); This is because of the small number of foreign banks compared to domestic banks, as well as the fact that foreign banks' capital requirements are lower than domestic banks and as shown in figure (26) The minimum capital requirement for the local private bank is (250) billion dinars, while the foreign bank's capital requirement is (50) million dollars, equivalent to (73) billion Iraqi dinars.



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

## 2-1-4 Bank Credit:

### 2-1-4-1 Evolution of bank credit:

Bank credit to the public and private sector (cash and pledge credit) increased by 7.1% in 2021 to reach (80.62) trillion IQD from 75.26 trillion IQD in 2020.

This rise has occurred in cash credit, which has risen to reach (52.97) Trillion dinars in 2021 after (49.81) trillion dinars in 2020 and at a growth rate of (6.4%) in contrast its relative importance decreased to total credit from (66.2%) 2020 to (65.7%) 2021, with growth rates of central government, public institutions and the private sector rising at a rate (4.0%), (56.3%) and (40%) each, respectively, during 2021, as shown in table (1).

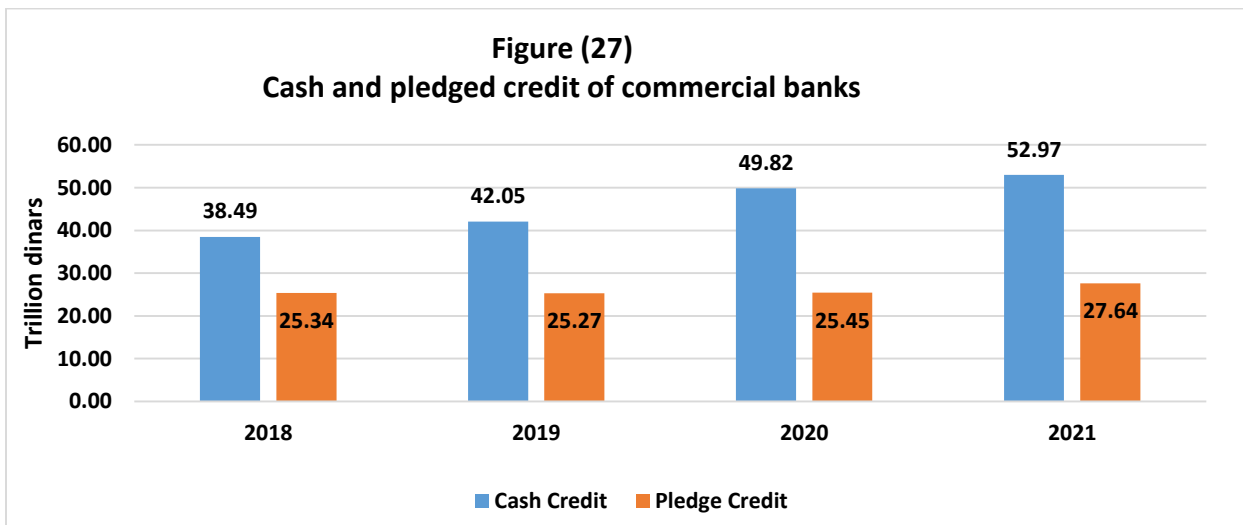


**Table (1) Cash and pledge credit to commercial banks for the period (2017-2021)**  
(Trillion Dinars, Growth Rate, Percentage)

year	Total Credit	The Overall Credit Growth Rate%	Cash Credit	Growth Rate %	Relative Importance%	Pledge Credit	Growth Rate %	Relative Importance%
2017	65.60	-6.9	37.95	2.1	57.9	27.65	-16.9	42.1
2018	63.82	-2.7	38.48	1.4	60.3	25.33	-8.4	39.7
2019	67.32	5.5	42.05	9.3	62.5	25.26	-0.3	37.5
2020	75.26	11.8	49.81	18.5	66.2	25.45	0.7	33.8
2021	80.62	7.1	52.97	6.4	65.7	27.64	8.6	34.3

Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

Pledging credit increased from (25.45) trillion dinars in 2020 to (27.64) trillion dinars in 2021, with a growth rate of 8.6%, all of the central government's pledged credit to the private sector increased by (9.3%) (and (20%) each, respectively, while the pledged credit to public institutions saw a slight decline in the proportion (-0.4%), and Form (27) shows the cash and pledge credit provided by commercial banks.

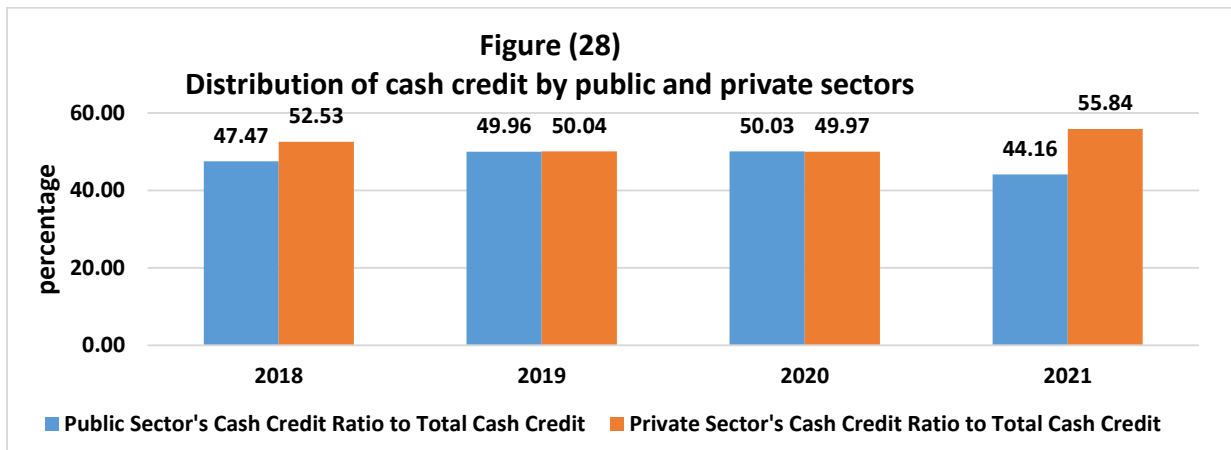


Source: Data in Table (1).

#### 2-1-4-2 Sectoral distribution of Cash credit:

The share of private sector cash credit increased from (49.97%) in 2020 to (55.84%) in 2021, while the share of public sector cash credit fell from (50.03%) in 2020 to

(44.16%) in 2021, as the central government's cash credit cut by (9.4-%), as shown in figure (28).



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

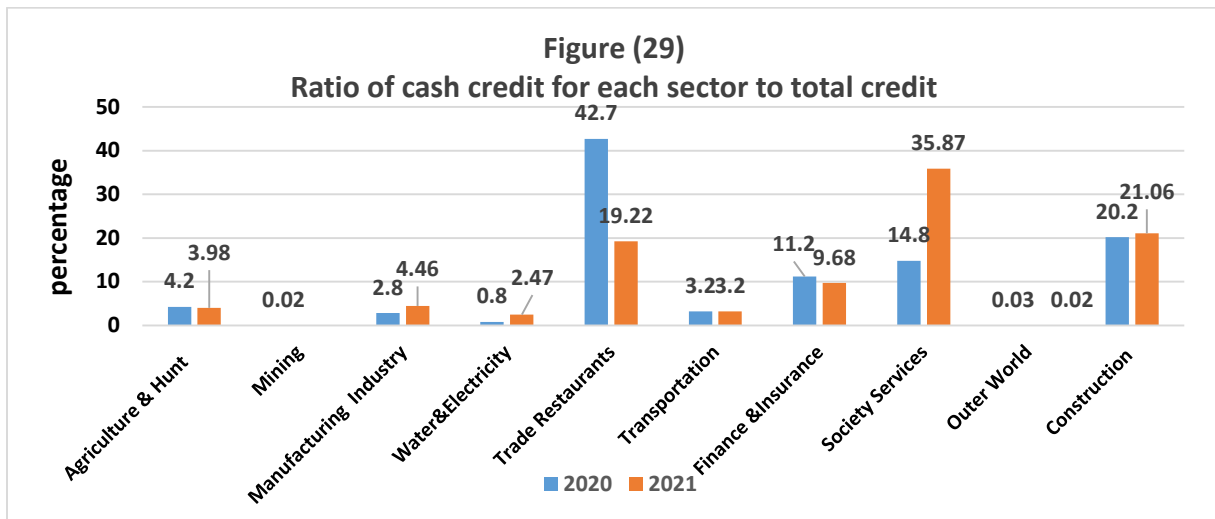
**Table (2) Sectoral Distribution of Cash Credit by Sector Type for the Period (2017 - 2021)**  
**(Percentage)**

Years	Agriculture hunting	Mining	Manufacturing industry	Water, electricity & gas	Trade, restaurants hotels	Transportation storage & transportation	Finance & insurance	Community services	Outside world	Construction	Total
2017	4.59	0	4.56	6.04	16.07	6.96	2.76	38.19	0	20.78	100%
2018	5.10	0.23	4.64	5.20	15.51	4.99	3.00	35.89	0.10	25.34	100%
2019	5.2	0	5.6	3.6	18	4.9	2	36.9	0	23.8	100%
2020	4.2	0.02	2.8	0.8	42.7	3.2	11.2	14.8	0.03	20.2	100%
2021	3.98	0	4.46	2.47	19.22	3.24	9.68	35.87	0.02	21.06	100%

Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

The gap between private monetary credit and public monetary credit in favor of the former continues to grow, a good indication of the low impact of public sector crowding in the private sector's access to monetary credit. On the other hand, the community services sector controlled the largest proportion of total cash credit

granted by banks, rising from (14.8%) in 2020 to (35.87%) in 2021 as shown in Table (2) and Figure (29).



Source: Data in Table (2).

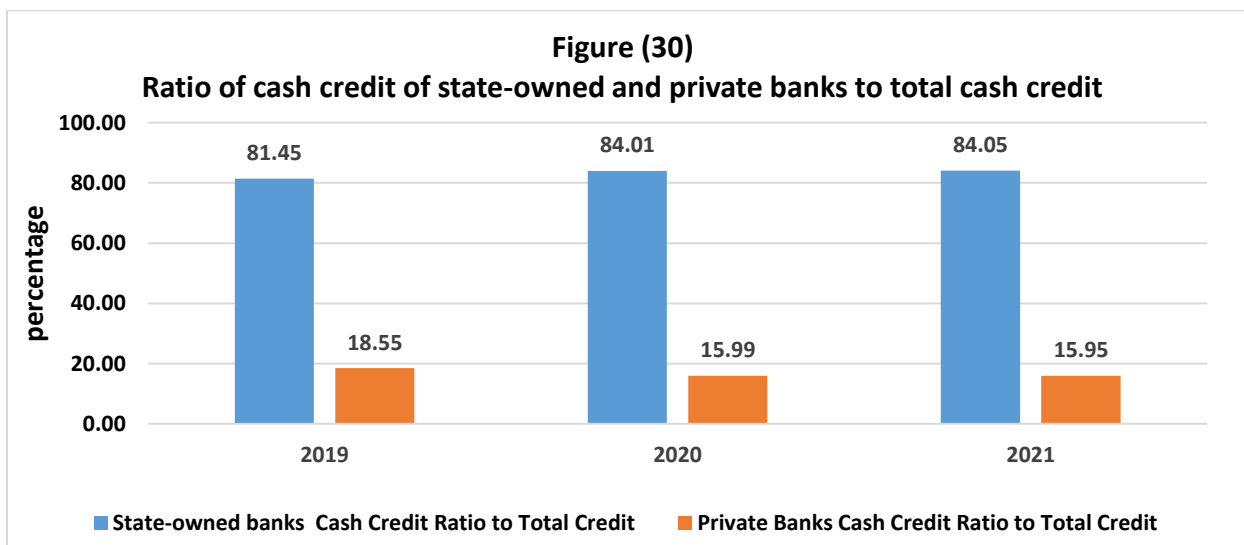
The community services sector accounted for the largest proportion of the volume of cash credit, and the sector's non-performing credit ratio fell to the total cash credit provided to the sector itself, reaching (2.7%) 2021 after what was (13.2%) in 2020, which means that there is a reduction in the risk to the banking system, with the ratio of the sector's Non-Performing Loans debt to total Non-Performing Loans debt (11%) for 2021 down from 2020 (22%) reflecting the sector's lower risk to the banking system, as previously indicated.

The community services sector is followed by the construction and construction sector in proportion (21.06%), while cash credit to trade, restaurants and hotels fell to (19.22%) compared to (42.7%) in 2020, other sectors such as manufacturing, agriculture, fishing, etc., received lower ratios of gross credit, indicating that Iraqi banks rely heavily on commercial loans, construction and construction due to collateral (Collateral) that they can provide compared to other sectors. On the other hand, the nature of the real economic activity dominated by these activities (community services, construction, construction, restaurants, hotels and commerce) and the limitations of other activities (industrial, agricultural, etc.) contributed to the shaping of the bank credit sectoral distribution map.

Given that banks are classified by type into three different groups, including the first State and private banks, the second includes traditional and Islamic banks, and the

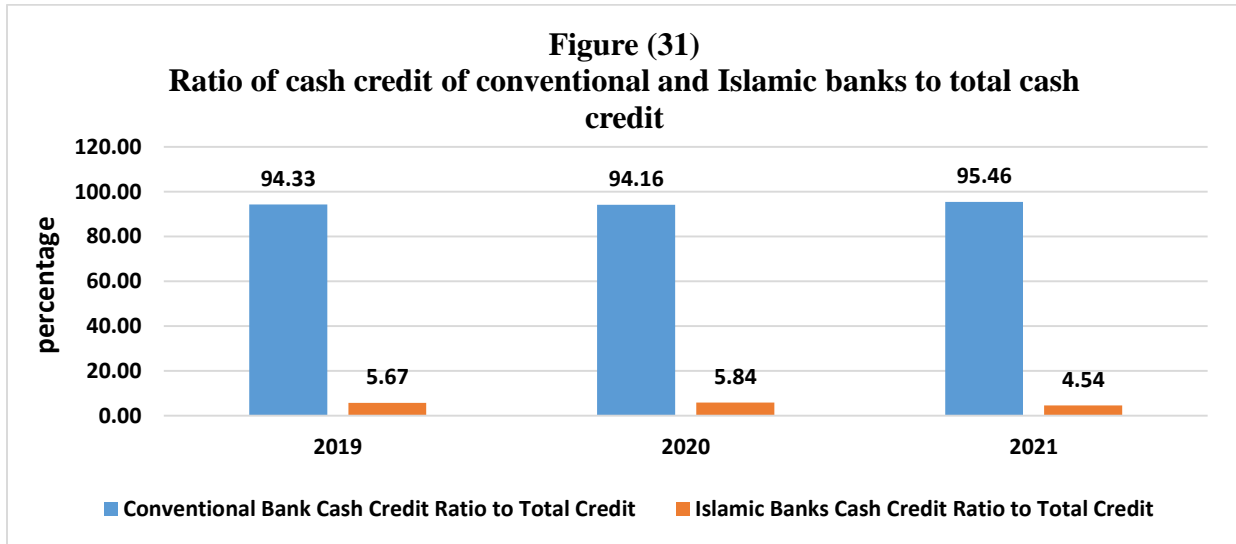
third includes local and foreign banks, the distribution of cash credit among them will be as follows:

For **the first group**, State banks accounted for the largest proportion of cash credit relative to total cash credit, which amounted to (84.05%) 2021, while private banks' contribution was (15.95%) for the same year, although the number of Statebanks (9.4%) Only out of the total number of banks, their acquisition of (78%) of the total deposits as a result of the public's trust in them has led them to acquire the largest proportion of cash credit, and figure (30) shows the contribution ratios of State and private banks.



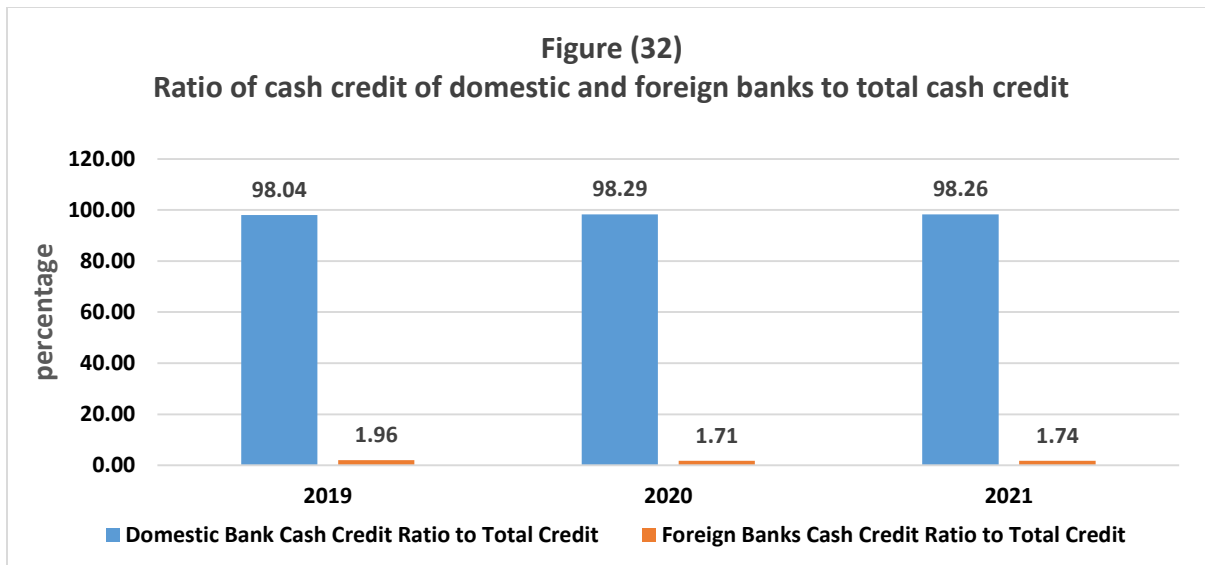
Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

**The second group**, the share of monetary credit for traditional and Islamic banks, was held separately to total monetary credit. Traditional banks accounted for the higher share, accounting for (95.46%) of their contribution in 2021, while Islamic banks accounted for (4.54%) for the same year. Figure (31) shows this percentage.



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

While **the third group**, the share of cash credit to domestic and foreign banks, was limited to total cash credit, it was (98.26%) local banks and (1.74%) foreign banks in 2021, showing the limited contribution of foreign banks to support the national economy, although their number (18.9%) constitutes the total number of banks operating in Iraq, showing the figure (32).

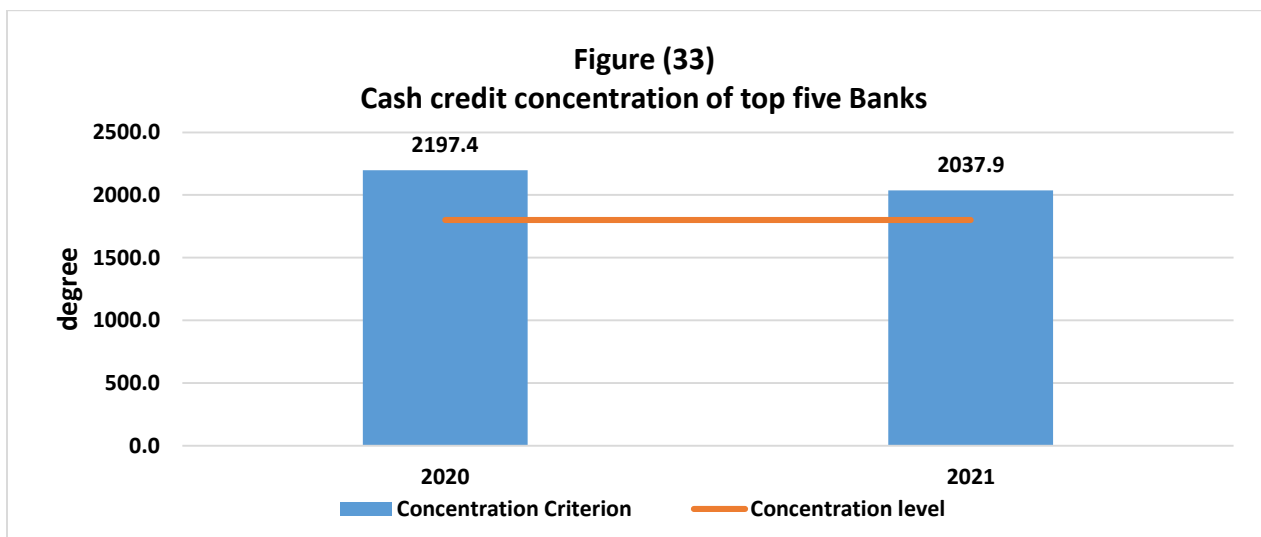


Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

### 2-1-4-3 Bank credit concentrations:

State banks continued to control the large proportion of credit provided by the banking sector. The percentage of credit provided by the top five Statebanks (82.6%) of total cash credit was high in Statebanks. The credit concentration rate for the top five banks in 2021 was (2037.9) points lower than 2020 (2,197.4) points.

Statebanks' concentration of credit reveals impact on control of the banking sector and this is a natural consequence of its network of branches throughout Iraq, the ease of access to its services and its apparent developmental role in increasing its credit in comparison with private sector banks, as well as banking outreach to Statebanks through various visual and audiovisual means of communication and services even provided to retirees by granting them advance, as shown in figure (33).



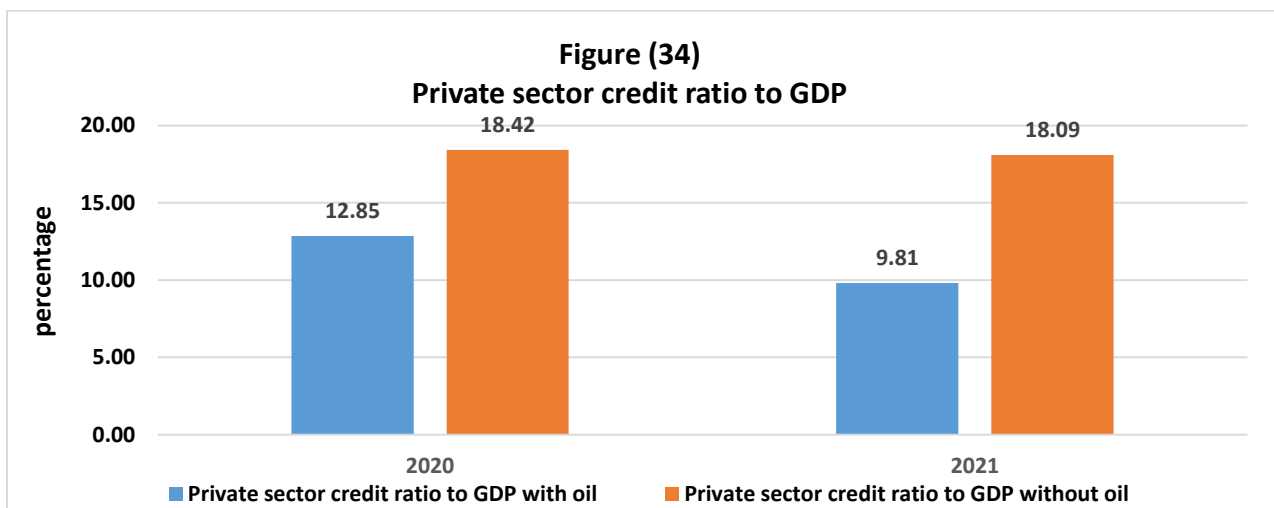
Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

### 2-1-4-4 Credit to GDP Gap Analysis:

The gap between the credit-to-GDP ratio and its long-term countercyclical trend, and the credit-to-GDP gap is a strong indicator of weaknesses within the banking system, the positive gap indicates accelerated growth across its historical trend and it is therefore necessary to build Buffers' bumps. (from reserve capital) to protect the banking system from potential risks, if the value of the gap exceeds the value of the upper limit: (10) This suggests that there is a risk of an increase in the granting of credit by a greater proportion than the GDP growth rate, requiring the building of a

greater amount of additional capital reserves to meet expected losses to the financial system in order to remain able to continue to perform its core functions.

Bank depth remains low, whether measured by GDP with or without oil, in 2021 (9.81%) With oil GDP and (18.09%) with non-oil GDP as in shape (34) Although the credit ratio was high in 2020 if it reached (12.85%), (18.42%) with and without oil, respectively, and this decrease is the result of higher GDP due to higher global oil prices and the low banking depth is a negative indicator of the extent to which the banking sector contributes to financing real activity, The only positive resulting from this is its impact on the low volume of risk generated by Iraq's likely accelerated rate of growth of bank credit.

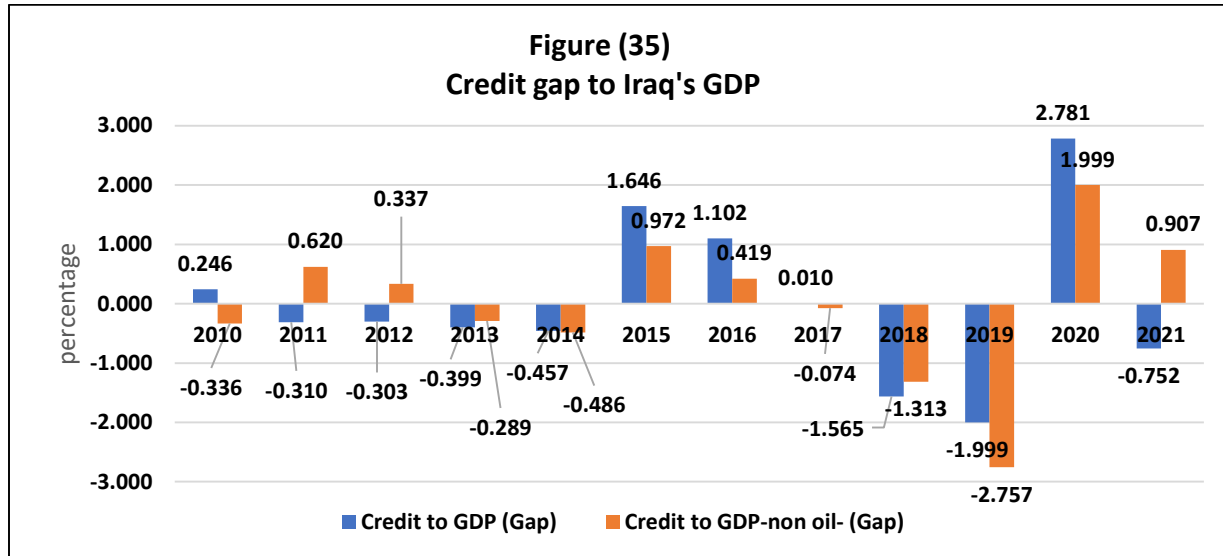


Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

The Hodrick - Prescott (HP) Filter method proposed by the Commission was used (BCBS) in the credit<sup>1</sup> gap calculation to GDP Credit to GDP Gap in Iraq, and the results shown in the figure (35) Indicating that this gap falls below the minimum, it showed a negative gap with the adoption of GDP data with oil at a ratio of (0.752%) to increase Iraq's GDP as a result of higher global oil prices, as well as a positive gap in the adoption of GDP data below oil (0.907%) In order to increase credit to the private sector by (14.3%) in 2021, this indicates that bank credit can increase without affecting stability within Iraq's financial system, taking into account the criteria and foundations<sup>2</sup> to be available when granting credit to different economic sectors.

<sup>1</sup> Includes credit to the private sector only.

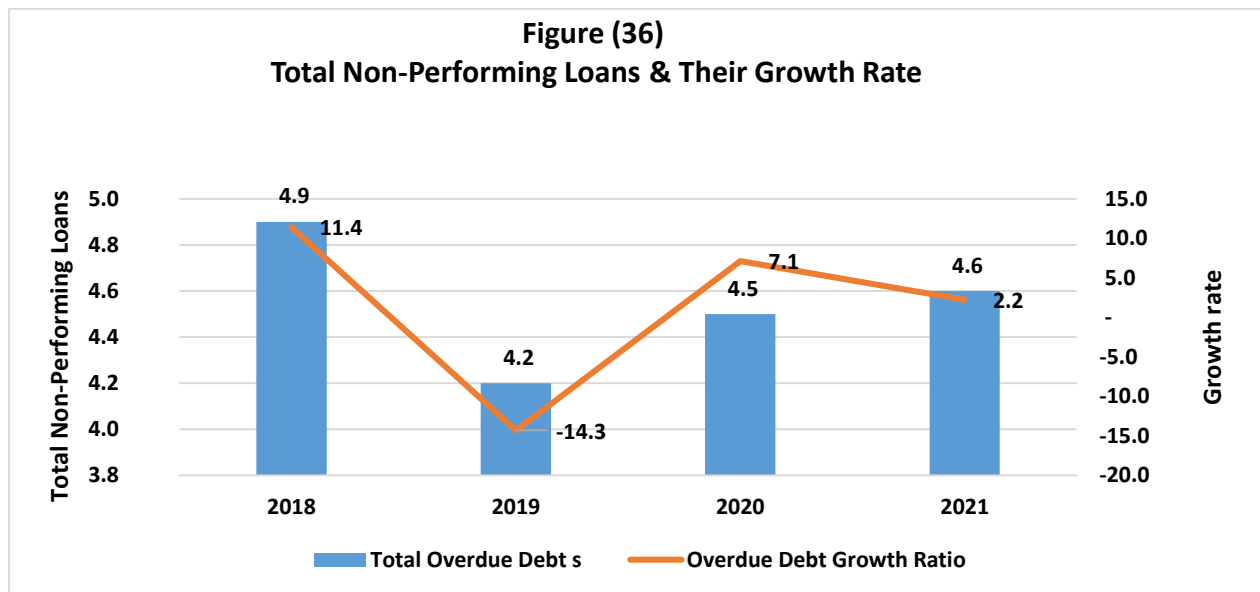
<sup>2</sup> For example, 5Cs standards that include Character, Capability, Capital, Collateral, Ambient Conditions.



Source: Central Bank of Iraq, Department Monetary and Financial Stabilization estimates

#### 2-1-4-5 Non-Performing Loans:

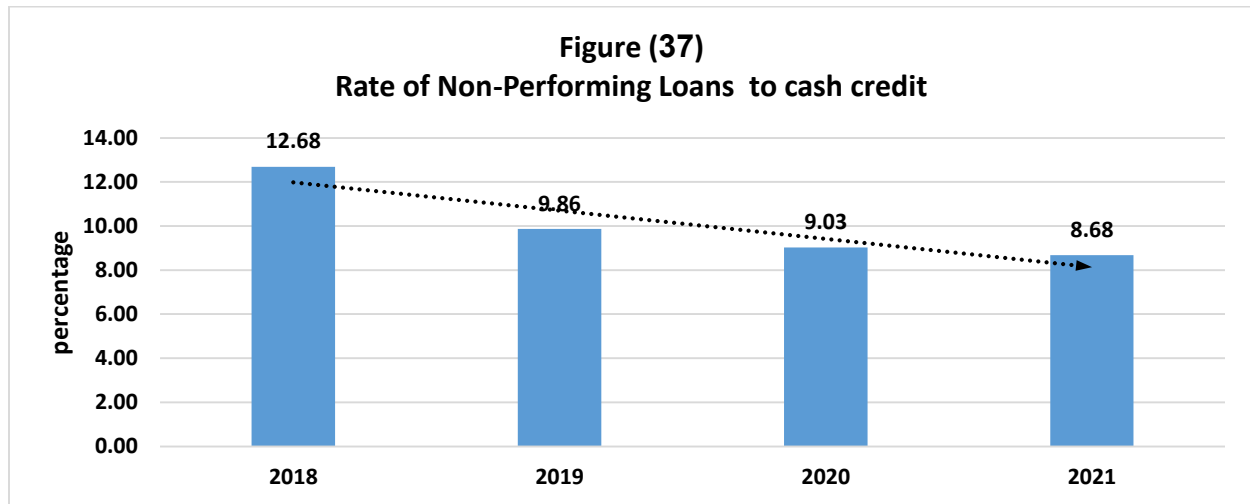
The volume of outstanding debt increased from (4.5) trillion in 2020 to (4.6) trillion dinars in 2021 with a growth rate of (2.2%) of the total outstanding debt after its growth rate (7.1%) for the year 2020, this reflects an increase in the commitment ratio in the repayment of loans due for 2021, as well as that the growth rate of Non-Performing Loans varied during the period (2018 - 2021) as shown in figure (36).



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

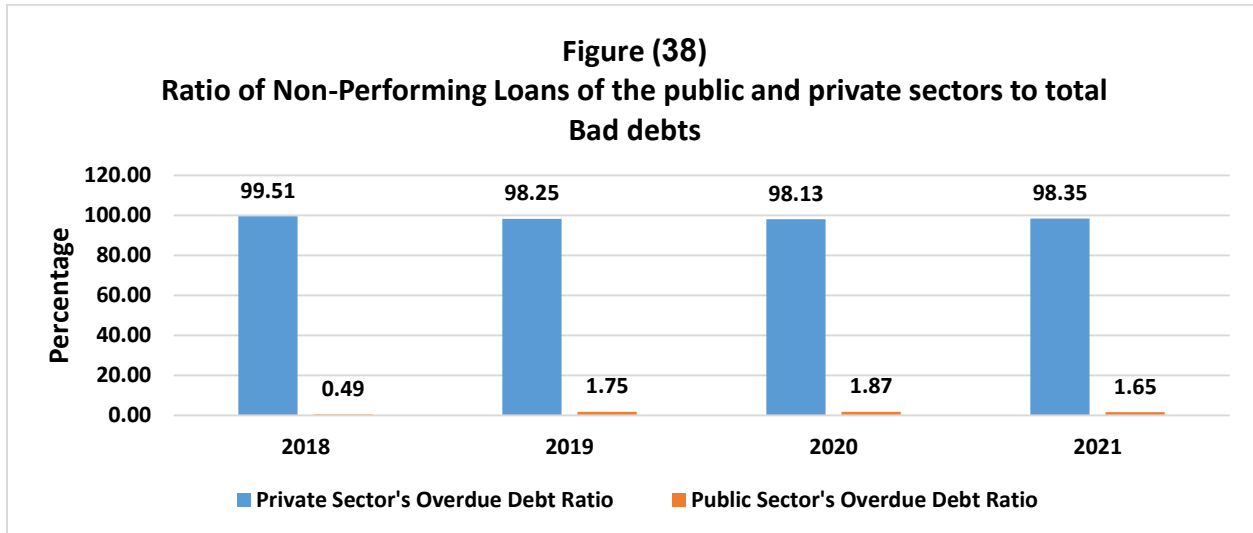


The ratio of total Non-Performing Loans to total cash credit also declined during 2021 to (8.68%) from (9.3%) during 2020, reflecting a downturn in the risks facing the banking system, in particular the risks from private sector activity, whose Non-Performing Loans constitute the largest proportion, as shown in figure (37).



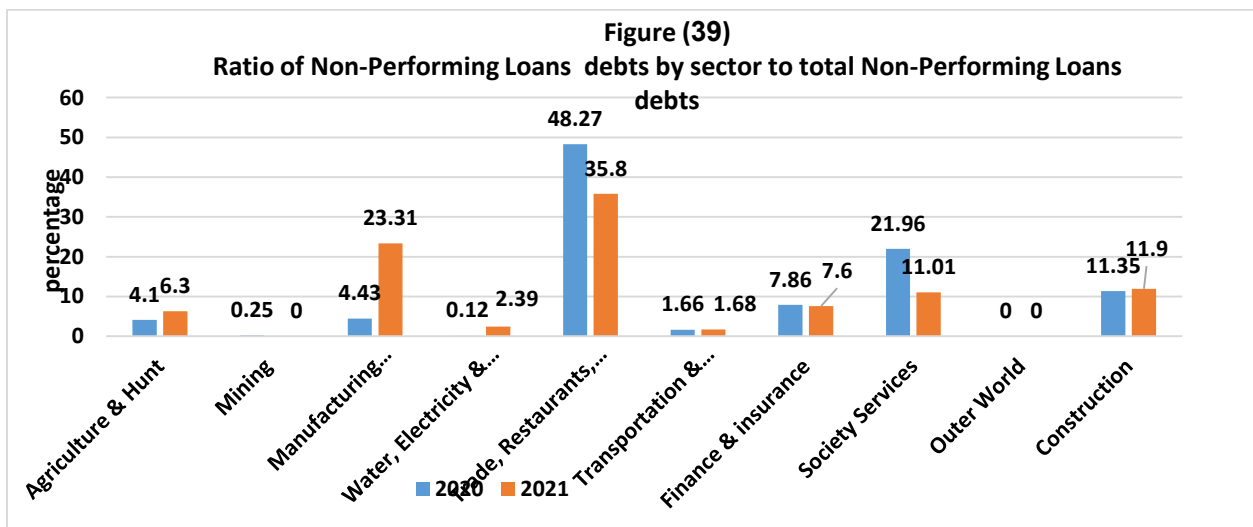
Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

Figure 38 shows that the private sector continued to receive the largest proportion of outstanding debt during the period. (2017-2021), which reached (98.35%) during 2021, requires more attention than the regulatory authorities to the issue of credit provided to the private sector. (12.84%) of loans provided by State-owned banks to the private sector and (22.23%) of loans provided by private banks to the private sector are outstanding debts. These ratios are lower than in 2020 for State-owned banks, which were (13.73%). This proportion of private banks is also lower than in 2021 (24.01%). This reflects the higher efficiency of Statebanks in collecting their outstanding debts and the same trend for private banks to collect their outstanding debts. This requires banks to study the customer's creditworthiness well, in particular the five main components of credit grants and to develop a robust plan to collect their outstanding debts.



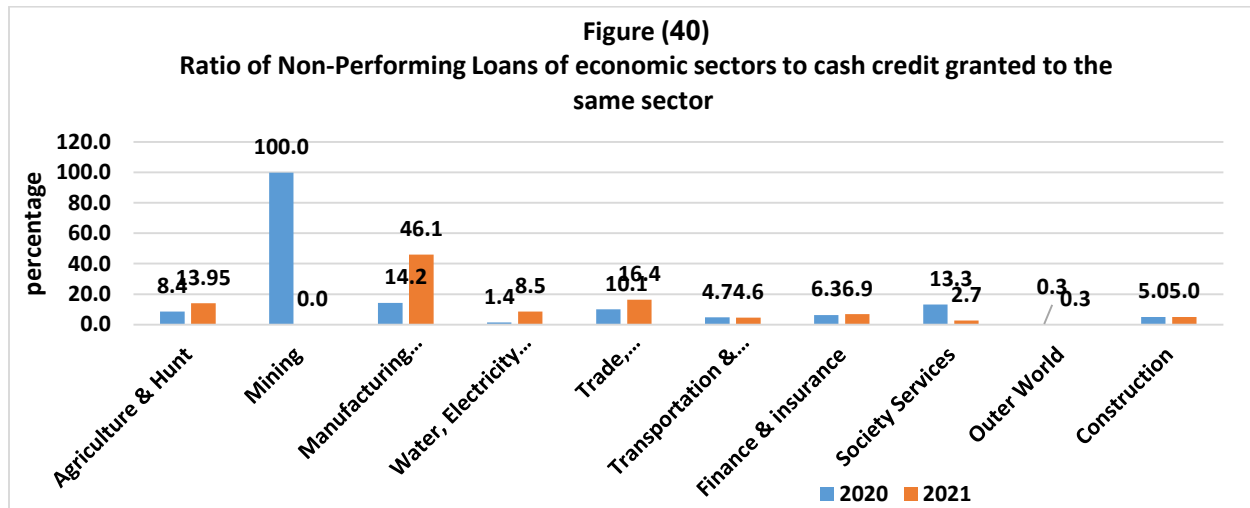
Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

Figure (39) shows the proportions of distressed debt of the economic sectors. The proportions have varied for each sector. The trade sector, restaurants and hotels, ranked first in 2021 and with a ratio of distressed debt. (35.80%), after which both the manufacturing, construction and construction sector were resolved with distressed debts amounting to (23.31%) and (11.90%) respectively for 2021, compared to 2020 (4.43%) and (11.35%) respectively, these ratios reflect the total disruption of the economic sectors.



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

The ratio of delinquent debt to total cash credit granted to the same sector showed a high risk of disruption in both the manufacturing sector, which amounted to (46.07%) followed by trade, restaurants and hotels (16.41%), followed by agriculture and fishing by (13.95%), while the percentage in the mining sector was lower at 0.0% as shown in figure (40).



Source: Central Bank of Iraq, Department of Statistics and Research, Department of Monetary and Financial Statistics.

## 2-2 Iraq Stock Exchange:

The Iraqi Securities Market is an independent financial institution whose business is based on regulating the trading of stocks and government bonds within the market. By analyzing the data contained in the Iraq Stock Market Report 2021, we find that there is a rise in some annual indicators, this improvement was the result of the country's openness, the easing of coronavirus restrictions and the increase in the vaccination rate among Iraqi citizens, as the market index (ISX60) has increased to (569) points at its last session for 2021, up by (12%) for 2020 which reached 508 points during (226) trading sessions.

80 of the 105 companies registered were traded and the number of companies suspended (22) companies during the same year an increase from 2020 as the number of companies traded 75 companies grew (6.7%) and traded shares increased (131%) with shares (930) billion shares and a value (812) billion IQD with growth (146%) for 2021, the number of contracts executed (114,467) increased (56.1%) for 2020, with 56.1% of contracts executed, the increase in contracts executed indicates the role played by the stock market in supporting economic activity within the country.

### 2-2-1 Ratio of sectoral distribution of companies, shares, value in circulation and contracts performed:

Total companies traded in Iraq's securities market (80) of the total (105) companies were concentrated most of the companies in the banking sector, as the number of companies traded reached (32) out of (44) companies and (40%) of the total traded companies followed by each of the industrial sector in proportion (20%), hotels, tourism (10%), services (8.75%) and the rest of the sectors (6.25%), and below succession, while for traded shares, the majority of trades in the banking sector were concentrated by the percentage (95.90%) of the total traded shares followed by all industrial sector (2.7%) In other sectors, trading ratios fell below (0.54%). The bulk of the contracts performed were in the banking sector at a rate (35.70%) and subsequent sectors were industrial, services, telecommunications and agricultural sector in proportions (31%, 13.20%, 9.40% and 7%) respectively for the rest of the sectors, their ratio ranged between (0.14% - 3.10%). These are small ratios compared to the rest of the sectors and as shown in table (3). The results of the table below show that the banking sector had the largest proportion in Iraq's stock market because it has an important role to play in stimulating and supporting the economic process in the future.

**Table (3) Ratio of sectoral distribution of companies, shares, traded value and executed contracts for the year 2021**

Sectors	Number of Co.	Traded Company	Traded Company Ratio to total traded company	Traded Shares ratio to total shares	Traded value ratio to total value	Performed contract ratio To total contracts
<b>Banks</b>	<b>44</b>	<b>32</b>	<b>40%</b>	<b>95.90%</b>	<b>82%</b>	<b>35.70%</b>
<b>Telecoms</b>	<b>2</b>	<b>3</b>	<b>2.5%</b>	<b>04%</b>	<b>3.70%</b>	<b>9.40%</b>
<b>Industry</b>	<b>21</b>	<b>16</b>	<b>10%</b>	<b>2.7%</b>	<b>10.30%</b>	<b>31%</b>
<b>Hotels &amp; Tourism</b>	<b>10</b>	<b>8</b>	<b>20%</b>	<b>0.05%</b>	<b>0.84%</b>	<b>3.10%</b>
<b>Services</b>	<b>10</b>	<b>7</b>	<b>8.57%</b>	<b>0.54%</b>	<b>1.70%</b>	<b>13.20%</b>
<b>Agriculture</b>	<b>7</b>	<b>5</b>	<b>6.25%</b>	<b>0.1%</b>	<b>0.40%</b>	<b>7%</b>
<b>Financial Investment</b>	<b>6</b>	<b>5</b>	<b>6.25%</b>	<b>0.25%</b>	<b>0.07%</b>	<b>0.26%</b>
<b>Insurance</b>	<b>5</b>		<b>6.25%</b>	<b>0.02%</b>	<b>0.02%</b>	<b>0.14%</b>

Source: Iraq Stock Exchange Annual Report 2021.

### 2-2-2 Trading in the Formal market:

After the spread of coronavirus during 2019, the global economy was overshadowed by the economic sectors, particularly the global financial markets. and has led to the interruption of most exchanges and contracts carried out and the rise of the economic recession, Iraq is not far from these problems and constraints. That had a significant impact on Iraq's stock market in 2020. However, after the decline in the embargo measures and the spread of vaccines against the virus and the gradual normalization of the economic situation, the financial market recovered in 2021, with some indications changing in the formal market and the number of contracts implemented during 2021 rising by a percentage (52%) by (107840) contracts compared to 2020 's total contracts (70945) contracts distributed during the same year to the banking sector at a growth rate (128%) followed by agriculture, services, hotels, tourism, telecommunications and industry in proportions (62%, 58%, 30%, 19% and 16%) respectively, the insurance sector has decreased by (75%).

The value of trades has increased by (189%), reaching the total value of trades for 2021 (236818.3) million IQD for 2020 by (683335.4) million IQD. This increase was concentrated in the banking sector and increased by (425%) followed by all sectors (Industry, Agriculture, Services, Hotels and Tourism) (95%, 68%, 49% and 42%) respectively have declined in both sectors (insurance and communications) (79%, 59%) respectively.

The rise is not limited to the previous two indices. In the case of traded shares, it rose in 2021 by (198%) The largest share of the banking sector was at a growth rate (226%) followed by each sector (Industry, Agriculture and Services) Rates (43%, 9%, 7%) (Insurance, Telecommunications, Hotels and Tourism) was 80%, 63% and 56%, respectively.) Table (4) shows that the banking sector had the highest growth rates among the sectors in the Iraqi stock market.

**Table (4) Number of shares, executed contracts and value of shares traded in the regular market for the years (2020-2021) (Million IQD, Percent)**

Sectors	Number of shares traded (million shares)			Trading value (million dinars)			The number of executed contracts		
	2020	2021	Growth Rate	2020	2021	Growth Rate	2020	2021	Growth Rate
The banking sector	17176	39078	128%	103854	545583.3	425%	229721.5	748921.5	226%
communications sector	8989	10689	19%	73068.3	29752.6	-59%	9703.3	3548.5	-63%
The insurance sector	263	65	-75%	342.3	73	-79%	616.3	124.7	-80%
Services sector	8421	13299	58%	8209.3	12253.3	49%	3617.9	3853.7	7%
Industry sector	28336	33009	16%	39942.2	77736	95%	17056.9	24344.1	43%
The hotel & tourism sector	2747	3575	30%	8419	6859.9	42%	1153.7	511.6	-56%
Agriculture sector	5013	8125	62%	6583	11077.3	68%	1041.9	1137.5	9%
<b>Total</b>	<b>70945</b>	<b>107840</b>	<b>52%</b>	<b>236818.4</b>	<b>683335.4</b>	<b>189%</b>	<b>262911.5</b>	<b>782441.6</b>	<b>198%</b>
Number of sessions	183	226		183	226		183	226	

Source: Iraq Stock Exchange Annual Report 2020, 2021

Net foreign investment in the official market amounted to (420.1)IQD million for 2021, up from (1)IQD million (16005.9) IQD million in 2020. This change was the result of the convergence between the value of buying and selling foreigners. The industry sector was the bulk followed by services, hotels and tourism. The investors' sectors are insurance, telecommunications and banks, as shown in table 5.

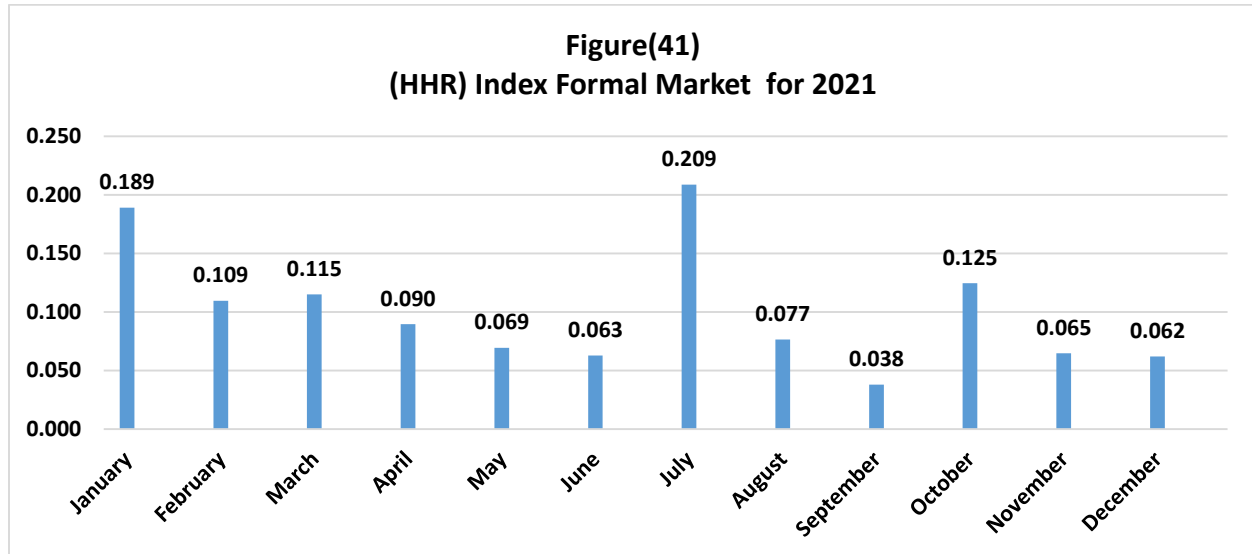
**Table (5) The value of foreigners trading in the regular market for the year 2021**

Sectors	Foreign Trading Value (million dinars)					
	2020			2021		
	foreign buy	foreign sell	Net foreign investment	foreign buy	foreign sell	Net foreign investment
The banking sector	23618.4	5126.8	18491.6	32284.8	34345.6	2060.8-
communications sector	1207	7140.2	-5933.2	5799.2	7214.8	1415.6-
The insurance sector	1846	0.412	1845.588	0.209	0.268	0.059-
Services sector	693.9	111	582.9	1934.8	506	1428.8
Industry sector	6620	6212	408	8401.2	6744.2	1657
The hotel and tourism sector	700.9	92.2	608.7	1037.2	236.9	800.3
Agriculture sector	2.4	0	2.4	21.2	10.7	10.5
<b>Total</b>	<b>34688.6</b>	<b>18682.612</b>	<b>16005.988</b>	<b>49478.8</b>	<b>49058.7</b>	<b>420.1</b>

Source: Iraq Stock Exchange Annual Report 2020, 2021

### 2-2-2-1 Financial depth in the formal market:

The depth and flexibility of the Iraq Stock Exchange is measured by the (Hui-Hubel Ratio HHR), with results indicating that Iraq's stock market is experiencing a clear depth in the formal market, the (HHR) recorded low rates in 2021, reaching its highest value in July (0.209) and the lowest value recorded in September (0.038). The rest of the months experienced a low volatility ranging from higher to lower, as this decrease indicates an increase in turnover during the year Having reached a turnover rate for the month of September (1.88) as a result of the rise in the total number and value of shares traded in the economic sectors involved in the trading of the Iraqi securities market, this reflects the depth and flexibility of the formal market during the year, as shown in figure (41).



Source: Central Bank of Iraq, Department Monetary and Financial Stabilization estimates

### 2-2-3 Trading in the second market:

The second market saw a rise in its indices for 2021 as the number of shares increased at a rate (6%) The number of shares rose from (140,405) million shares in 2020 to (148,155) million shares in 2021 and the value of trading has increased at a rate (38%) up from 93,567 million IQD to (129362.5) million IQD. For executed contracts, it had the largest share of the increase at a rate (182%) up from (2,346 )contracts to (6,627) contracts in 2021 As a result of the mitigation of the effects of the coronavirus pandemic, openness and increased trading rates within Iraq's stock market, The services and investment sector had the largest increase in the growth rate of contracts executed trade growth ", while the value of the services sector was higher and the increase in the number of shares traded in the investment sector as shown in table (6).



**Table (6) Number of shares, contracts deals and value of shares traded in the second market for the years (2020-2021) (Million IQD, Percent)**

Sectors	Number of performed contracts			Trading value (million dinars)			The number of traded shares		
	2020	2021	Growth Rate	2020	2021	Growth Rate	2020	2021	Growth Rate
The banking sector	1619	1778	10%	89773	120990.4	35%	138739	143889.8	4%
communications sector	421	83	-80%	112	533	-52%	45	22.4	-50%
The insurance sector	103	97	-6%	607	69.6	-89%	1313	81.9	-94%
Investment sector	5	300	5900%	108	559.9	418%	144	2310.5	1505%
Services sector	41	1804	4300%	69	1716.8	238%	97	1157.9	1094%
Industry sector	157	2565	1534%	2898	5972.5	106%	67	692.5	934%
<b>Total</b>	<b>2346</b>	<b>6627</b>	<b>182%</b>	<b>93567</b>	<b>129362.5</b>	<b>38%</b>	<b>76</b>	<b>148155</b>	<b>6%</b>
Number of sessions	179	220		179	220.0			220	

**Source: Iraq Stock Exchange Annual Report 2020, 2021**

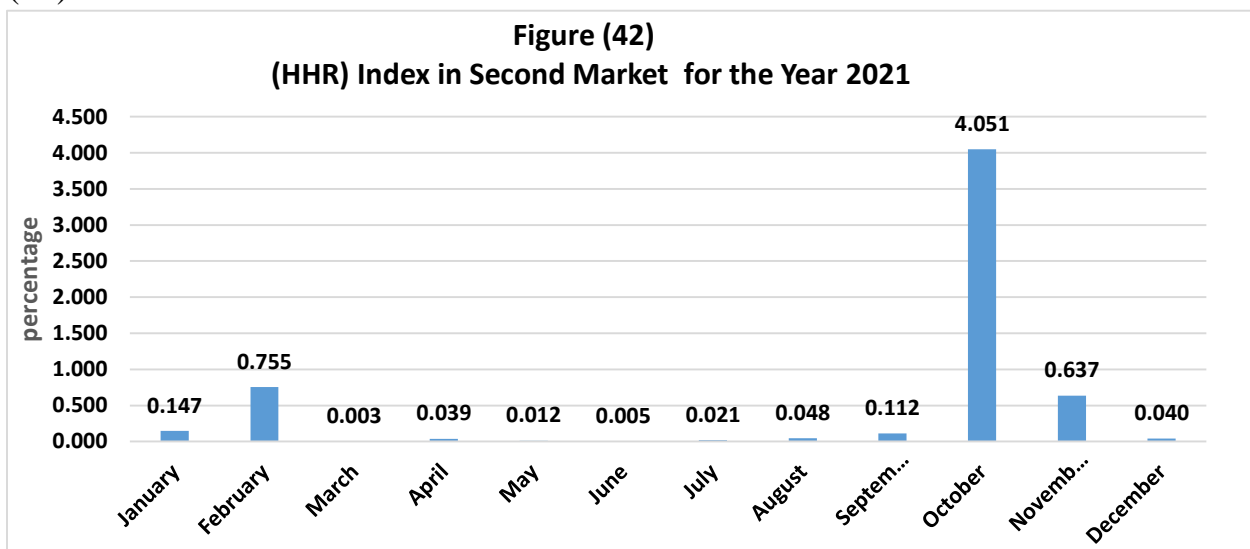
The year 2021 marked a rise in the trading of shares sold and purchased to foreigners in the second market, with the number of non-Iraqi traded shares purchased in 2021 (52.1) billion shares with a growth rate (30.25%) with a trading value (49.6) billion dinars by (49.60%) performed under (8,285) contracts at an increase rate (25.08%) due to (44) companies on the second market, while the number of shares traded (40) billion shares worth trading (33.2) billion dinars under (6624) contracts dating back to (37) A second market trader in 2020, this increase was the result of the lifting of the pandemic's embargo.

Traded shares sold by non-Iraqis during 2021 reached (60.8) billion shares at a rate of change (52.7%), with a trading value of (49.2) billion dinars at a rate (78.1%)

executed under (8141) contracts with a growth rate (33.9%) due to (42) companies on the second market.

### 2-2-3-1 Financial depth in the second market:

The (HHR) Index to measure the depth and resilience of Iraq's stock market recorded a fluctuation in the second market for 2021, reaching its highest in October (4.051). This rise was the result of a low turnover rate (0.001) The index's lowest value for March (0.003) was higher than the stock turnover rate (2.330). For the other months, the index ratios were low and ranged from (0.012) to (0.755), i.e. less than the correct one, indicating the depth and resilience of the second market, as illustrated in figure (42).



Source: Central Bank of Iraq, Department Monetary and Financial Stabilization estimates

### 2-3 Iraq's non-banking financial sector:

The non-bank financial sector is represented by non-bank financial institutions that have an essential role to play in achieving growth and financial and economic stability financial and non-financial assets, to play an active role in lending to individuals and/or companies, as well as to the Government by investing in treasury bonds and authorizations, some of these institutions are under the supervision of the Central Bank of Iraq and others are outside its supervision, as follows:

### **2-3-1 Non-bank financial institutions under the supervision of the Central Bank:**

**2-3-1-1 Small and Medium Enterprises Finance Company (SME)<sup>1</sup>** is a SME Finance Corporation that operates as a financial broker to manage and direct the funds it receives from the sponsors of the SME Lending Programmed of the Iraqi Company, which is composed of international or governmental organizations, as well as its financing role for the participating banks in the Company's programmer, by providing loans to the beneficiaries (SME E Owners) in order to develop the economic situation in Iraq.

The SME Finance Company's capital in 2009 amounted to 270 million IQD and gradually increased to 16.46 billion IQD in 2020 with the participation of 9 private banks.

The size of the cumulative loan portfolio registered and provided by the SME Finance Company is as high as (\$89.6 million), while participating banks (\$19.5 million) contributed to the latter's portfolio by providing (5831) loans distributed throughout Iraq's governorates, as the Iraqi Small and Medium Enterprises Finance Company manages grant programmers provided by the participating banks. The loans have been distributed to (4) Grants were the bulk of the Economic Development Trade Grant in all of Iraq's governorates with loans (2457) loans worth \$50.3 million, followed by a grant to support Iraq's disadvantaged totals by a number of loans (2923) loans worth (33.5) million dollars, as well as an empowerment grant (242) loans distributed between Nineveh governorate (226) loans worth (860) thousand dollars and Muthanna governorate (16) A loan in the value of (425) thousand dollars, and the last grade is a development grant to finance agricultural lending in the number of (209) loans in the amount of (4.5) million dollars as shown in table (7):

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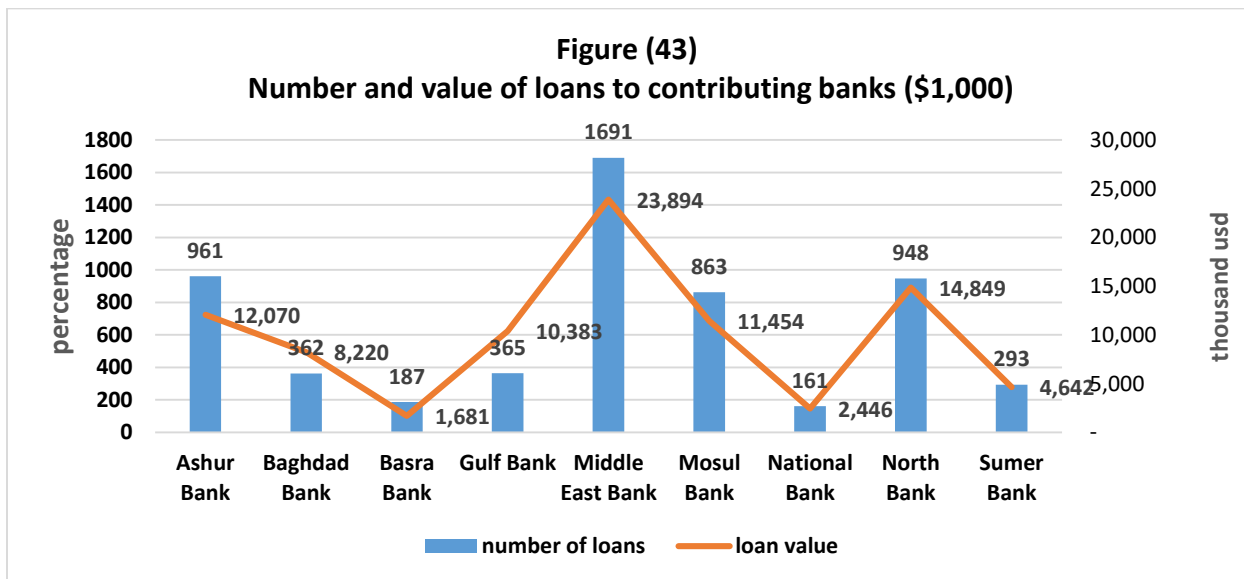
<sup>1</sup> The company was established with the approval of the Central Bank of Iraq on the basis of the registration certificate issued by the Department of Corporate Registration of the Ministry of Commerce numbered on 18/5/2019, in order to finance SMEs.

Table (7) Loans granted by type of allocation to the year 2020 (USD)

Grant	Number of loans granted	Loans Value
Iraq Disadvantaged Groups Support Grant (VGSP)	2923	33,507,354
Trade Grant for Provincial Economic Development	2459	50,304,697
Development Grant for Agricultural Credit Financing	209	4,545,288
Empowerment Fund Scholarship		
Empowerment Nineveh	226	860,814
Empowerment Samawah	16	425,170
<b>Total</b>	<b>5831</b>	<b>89,643,323</b>

Source: Iraqi SME Finance Company, Annual Report 2020.

The Middle East Bank had the largest share of the number of loans, amounting to 1,691 loans with a value of \$23.8 million. The second ranking was the North Bank (948) with a value of (\$14.8) million. Ashore Bank had 961 loans with a value of (\$12) million. The remainder was distributed to contributing banks as shown in Figure (43).



Source: Iraqi SME Finance Company, Annual Report 2020.

### 2-3-1-2 Exchange and brokerage companies in the sale and purchase of foreign currencies:

Exchange companies are one of the non-bank financial institutions used by the central bank to formulate its monetary policy and measure its impact on the economic situation. They play an important role in meeting the local needs of various

foreign exchange transactions such as travel, education, health or tourism, as well as remittances from residents to their families and friends abroad.

As of 2021, (778) cashier companies have been classified as follows:

- The number of tellers is 66, spread between Baghdad, Najaf, Karbala, Walout and HLA, with a capital of at least 5 billion dinars.
- 2. A total of 44 B-class exchange companies were distributed between Baghdad, Najaf, Misan, Muthanna and Karbala with a capital of at least 2.5 billion dinars.
- 3.666 companies spread across 15 governorates with a capital of at least 500 million dinars.

### **2-3-1-3 Financial Investment Companies: -**

They are non-banking financial institutions subject to the control of the Central Bank of Iraq and are competent in the field of investment in securities. They form and manage the portfolios of securities by moving frozen capital towards investment channels and thereby revitalizing and developing the role of the national economy. (7) companies in 2021, with a minimum capital of (10) billion dinars.

### **2-3-1-4 Electronic Payment Service Providers: -**

E-payment companies are financial institutions that provide e-payment services to users. They have been developed in the light of developments in the modalities for the payment of trade. which has seen remarkable growth as a result of the fact that the significant development in Iraq's payments system has contributed to the implementation of financial and banking operations easily and safely, more quickly, and at lower cost, this has helped leapfrog the use of e-payment services for individuals and companies across the Internet.

The number of electronic payment companies (17) has reached the minimum capital of the company in 2021. (10) billion dinars, the total capital of the companies has reached (183) billion dinars and their volume of liabilities (548.3) billion dinars, their assets have risen to reach (1102) billion dinars in 2021, up from (653.6) billion dinars during 2020 and at a growth rate (68.6%), this increase is due to the gradual shift towards the use of electronic payment in payments rather than the use of cash.

### 2-3-1-5 Kafalat Banking Co., Ltd<sup>1</sup>: -

The capital of Kafalat Banking Limited (9.6) was (1) IQD billion in 2020, with a number of shareholders (16) as a private Iraqi bank by 99.61% and a financial brokerage company by (0.24%), and (15) as a personal shareholder by (0.15%).

The company's main objective is to encourage private banks to grant loans secured by the Iraqi company, to increase the activity of SMEs, by providing guarantees for such loans by 75%) Of the value of the loans granted by the participating banks, the limits of these loans shall be from (5) to (250) A thousand United States dollars or its equivalent in Iraqi dinars. The loan period is for a maximum of five years and a minimum year. The company receives the revenue of the current (operational) activity and the investment income of the loans with a guarantee commission estimated as follows:

- (2%) of the guaranteed portion of the credits granted by private banks and financing of the funds owned by the bank.
- (0.6-1.5%) for loans granted through CBI initiatives.
- Investment revenues derived from the investment of their capital as deposits by participating banks, which are used as financing to achieve the main objective of facilitating the task of SMEs in obtaining loans to finance private sector enterprises to create new jobs that contribute to the country's economic growth. The number of guarantees issued by the Iraqi Limited Banking Guarantees Company during the period reached (2007-2020) (16,413) guarantees, the commercial sector has ranked first with a number of (6610), followed by both service sector (5822), industrial (1468) and residential (1077), construction (820), tourism (286), health (216), agriculture (114)<sup>2</sup>, see table (8) assets rose by (2.43%) as well as reserves increased by (6.63%) Shareholders' equity increased by (3.03), while both guarantees issued and investment revenue decreased by (-33.05%), (-11.97%), respectively, due to the interruption of some economic sectors due to the spread of the coronavirus during 2020.

<sup>1</sup> Established since March 2006, as a limited liability company and launched in 2007, the Public Authority approved its transformation into a private equity company and an increase in its capital and entry of new shareholders under the approval of the Central Bank of Iraq on 7/5/2009, the approval of the Ministry of Commerce/Corporate Registrar's Department on 11/9/2009, and the provisions of the Companies Act No. (21) of 1997.

<sup>2</sup> Report of Iraqi Banking Guarantee Company Limited (Private Shareholding Company), final statements and accounts for the fiscal year ended 2020.

**Table (8) Financial Indicators of the Banking Guarantee Company Limited for the years 2019-2020**

	2019	2020	Change rate
<b>Assets</b>	18850110	19308709	2.43
<b>Reserves</b>	328504	350274	6.63
<b>guarantees issued</b>	702	470	33.05-
<b>investment revenue</b>	745657	656400	11.97-
<b>Shareholders' Equity</b>	10894743	11224712	3.03

Source: Al Kafala Banking Limited, Annual Report 2020-2019.

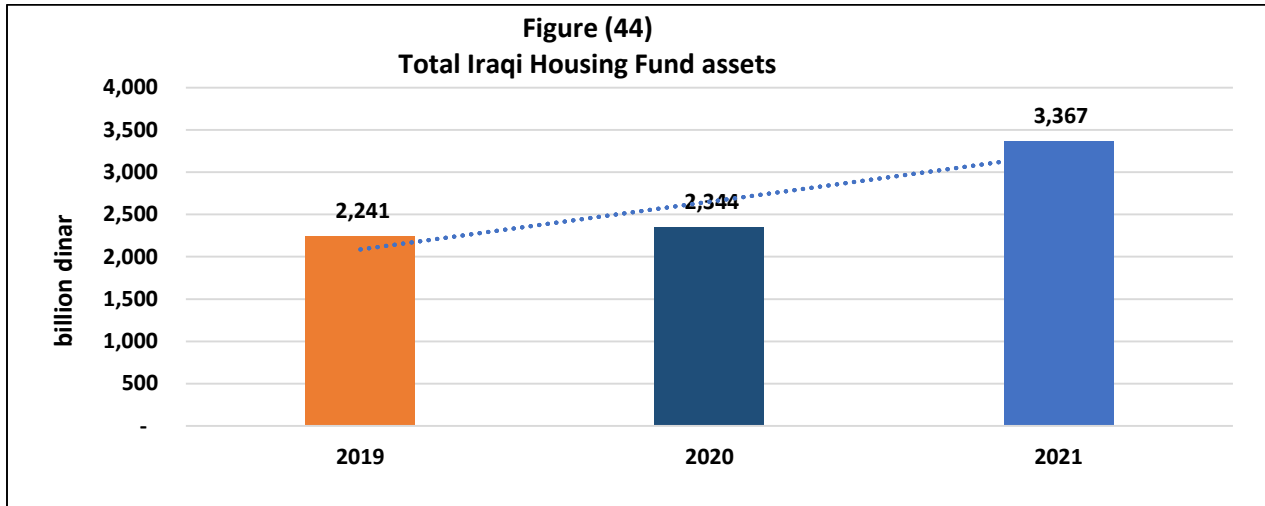
## **2-3-2 Non-bank financial institutions outside the supervision of the Central Bank:**

### **2-3-2-1 Iraqi Housing Fund: -**

The Iraqi Housing Fund was established in 2004, under the formations of the Ministry of Reconstruction and Housing for the purpose of granting loans to employees and retirees. Its branches are spread throughout Iraq's governorates. (except Kurdistan Region) with 18 branches, the Fund's law was amended in 2012 with a capital of 1 trillion IQD to cover all citizens. The objective is to provide housing for the largest number of beneficiaries, as well as to support the construction sector in view of the increase in population and the growing need for housing units to reduce Iraq's housing crisis. With the start of the CBI initiative in 2016, the Fund has shown an active and positive role, The total amount allocated to it by the Central Bank of Iraq initiative amounted to (42.9%) (4484) billion IQD n, the number of borrowers has increased from (12035) beneficiaries in 2019 to (19125) beneficiaries in 2021 to show the high turnout of Iraqi Housing Fund loans. The highlights of the Housing Fund can be explained as follows: -

#### **a. Total assets of Housing Fund: -**

Figure 44 notes that the volume of assets increased between 2020-2021 from 2.344 billion IQD to 3.367 billion IQD in 2021 (43.6%) as a result of the increase in allocation from the Central Bank of Iraq initiative, in support of the Fund's great importance in building and restoring citizens' housing units.

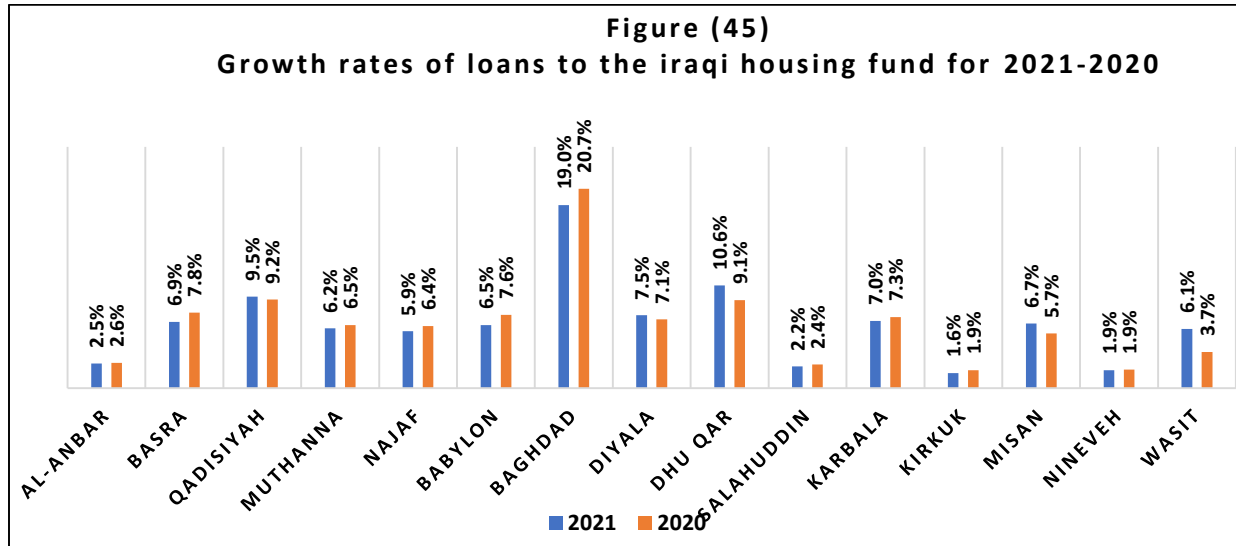


Source: Ministry of Reconstruction and Housing, Iraqi Housing Fund.

#### **b. Volume of loans granted: -**

Total loans granted by the Housing Fund to Iraqi governorates (except Kurdistan Region) (848.1) billion IQD at the end of 2021 (486.8) billion IQD for 2020 amounting to (361.3) billion IQD. These loans were distributed according to the governorates, registering both (Wasit, Misan and Dhi Qar), which increased (6.1%, 6.7% and 10.6%) respectively for 2021 compared to 2020, when the ratios were (3.7%, 5.7% and 9.1%) respectively for governorates where the loan ratio decreased for 2021 (Baghdad, Babylon and Basra) (19%, 6.5% and 6.9%) respectively compared to 2020 (20.7%, 7.6% and 7.8%) respectively. This decrease is due to routine auditing procedures to ensure borrowers' ability to pay. In contrast, total loans have increased significantly, especially in 2021 to show the extent to which grants and housing loans have been expanded and as shown (45).



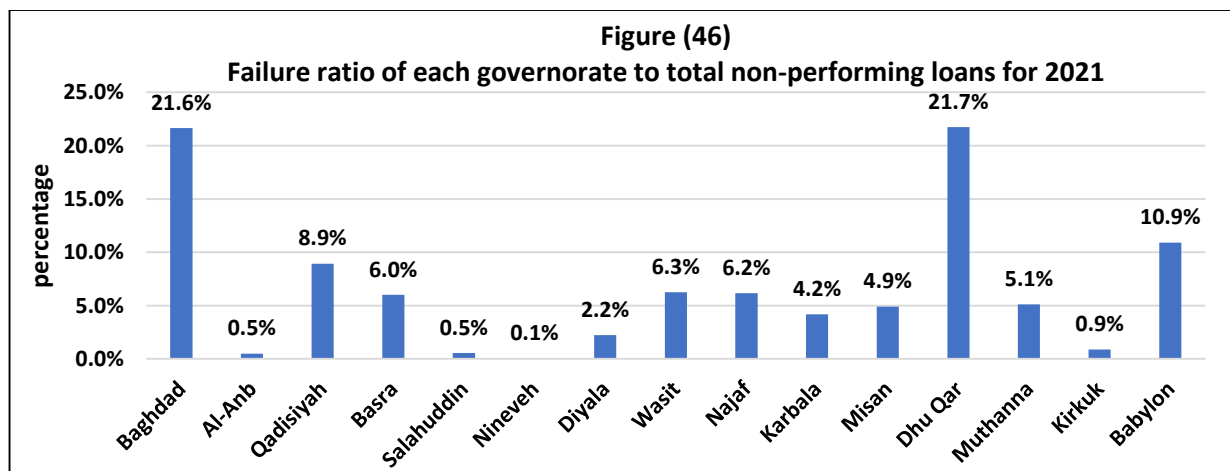


Source: Ministry of Reconstruction and Housing, Iraqi Housing Fund.

### C - The Volume of Non-Performing Loans:

#### •Ratio of non-performing loans per governorate to total non-performing loans:

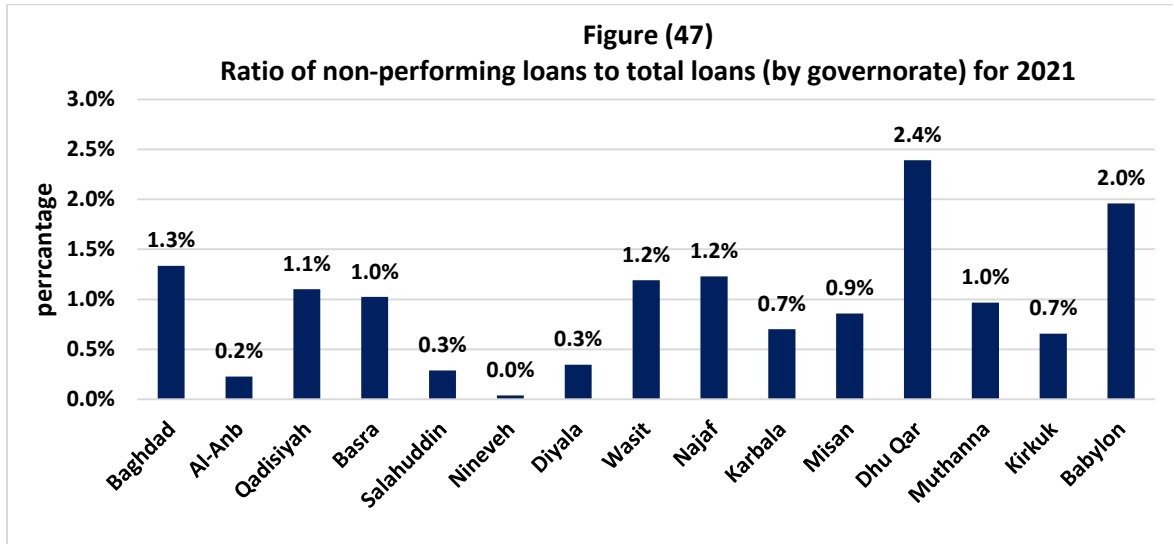
This indicator shows the size of non-performing loans per governorate relative to total non-performing loans, and we note from the figure (46) Higher stumbling ratios of governorates' quota (Baghdad, Dhi Qar, Babylon and Qadisiyah) 21% (6%, 21.7%, 10.9% and 8.9%) respectively for 2021, while the rest of the governorates have ranged from (6.3%) to (0.1%) during 2021, the ratio of non-performing loans to total loans reached (1.16%), which is minimal and does not significantly affect the Fund's ability to grant loans.



Source: Ministry of Reconstruction and Housing, Iraqi Housing Fund.

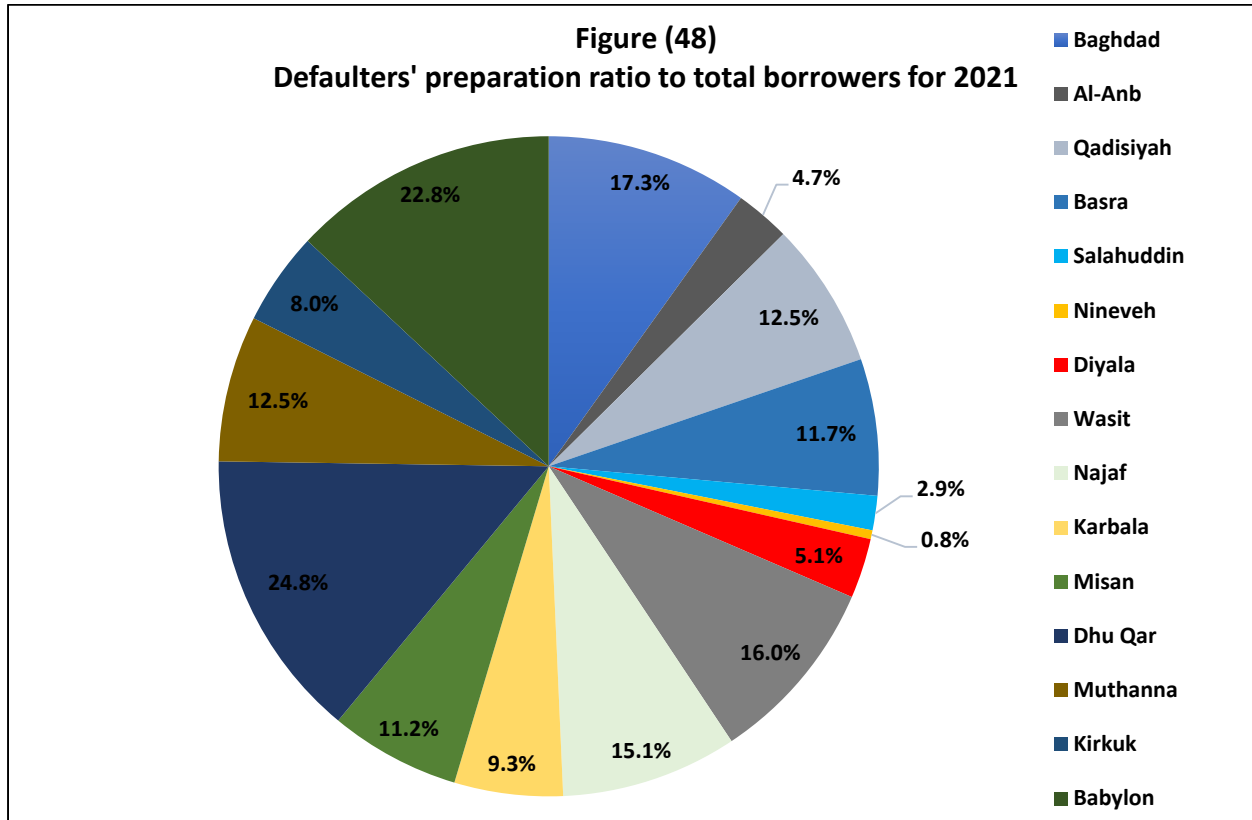
**•Ratio of non-performing loans per governorate to total loans per governorate:**

This indicator measures the level of distress that determines credit risk and undermines the Housing Fund's work in granting advances to citizens, and the figure (47) We note that the largest ratios were in Dhi Qar governorate, where they were 2.4%. During 2021, followed by Babylon, Baghdad, Najaf and Wasit The ratios (2.0%, 1.3%, 1.2%, 1.2%) respectively for the same year are minimal and do not significantly affect the work of the Iraqi Housing Fund.



Source: Ministry of Reconstruction and Housing, Iraqi Housing Fund.

**•Preparation of defaulters to total borrowers:** Note from figure (48) that the total number of borrowers has increased in 2021 to reach (19125) beneficiaries compared to 2020 (12,035) beneficiaries, an increase (68.3%) for 2021, with the highest percentage of defaulters to borrowers in the governorates concentrated in (Baghdad, Dhi Qar, Babil and Wasit, Najaf) (15.1%) to (24.8%) in 2021, while for the remaining governorates, the ratio of defaulters to borrowers has fluctuated between (0.8%) (12.5%) for the same year, the increase in the preparation of defaulters was the result of the effects of the coronavirus pandemic and the difficulty for borrowers to meet their obligations.



Source: Ministry of Reconstruction and Housing, Iraqi Housing Fund.

### 2-3-2-2 National Pension Fund: -

The National Pension Fund is a non-bank financial institution with a high impact on Iraq's financial stability. Because it affects the lives of retired citizens, it collects its revenues from several sources of (Collection of contributions from State-owned affiliates, financial investments and grants), hence the investment of part of its funds, and the number of contributions to companies (44) Joint Stock Company in accordance with Law No. (27) in 2006, amended by Law No. (69) In (2007), thus reducing part of the budget, there are sections of the Department in (14) governorates, and pension rights for those covered by the latter Act are calculated and distributed.

### 2-3-2-3 Social Security Fund: -

This fund is one of the departments of the Ministry of Labor and Social Affairs, established in accordance with the Workers' Retirement and Social Security Act No. (39) 1971, which is self-financed by sources of financing derived from employers' monthly social security contributions and corporate debt of the Department revenue

from the investment of the Fund's funds, real state-owned income and delayed interest arising from escrow contributions, The Fund seeks to address the lack of security of individual income by attempting to reduce poverty, provide all health services to individuals, ensure adequate living and working conditions as well as reduce inequality among individuals, provide assistance to individuals who need it as a legal right, promote sustainability, efficiency and meet individuals' tax obligations. The number of guarantees to the end of 2021 was approximately (600) thousand.

<b>Table (9) Financial Indicators of the banking sector for the years (2020-2021)</b>			
<b>Variable</b>	<b>2020</b>	<b>2021</b>	<b>Variable ratio</b>
<b>Total assets</b>	<b>138.6</b>	<b>159.5</b>	<b>%15.08</b>
<b>Total deposits</b>	<b>85</b>	<b>96</b>	<b>%13.1</b>
<b>Capital</b>	<b>16.9</b>	<b>17.8</b>	<b>5.3%</b>
<b>Total credit (cash and pledge)</b>	<b>75.28</b>	<b>80.62</b>	<b>7.1%</b>
<b>Ratio of credit to the private sector to GDP excluding oil</b>	<b>18.42%</b>	<b>18.09%</b>	<b>-</b>
<b>The ratio of cash credit provided to the private sector to GDP with oil</b>	<b>12.85%</b>	<b>9.81%</b>	<b>-</b>
<b>Total Non-Performing Loans</b>	<b>4.5</b>	<b>4.6</b>	<b>2.2%</b>



# **Chapter III**

## **Financial Soundness Indicators**

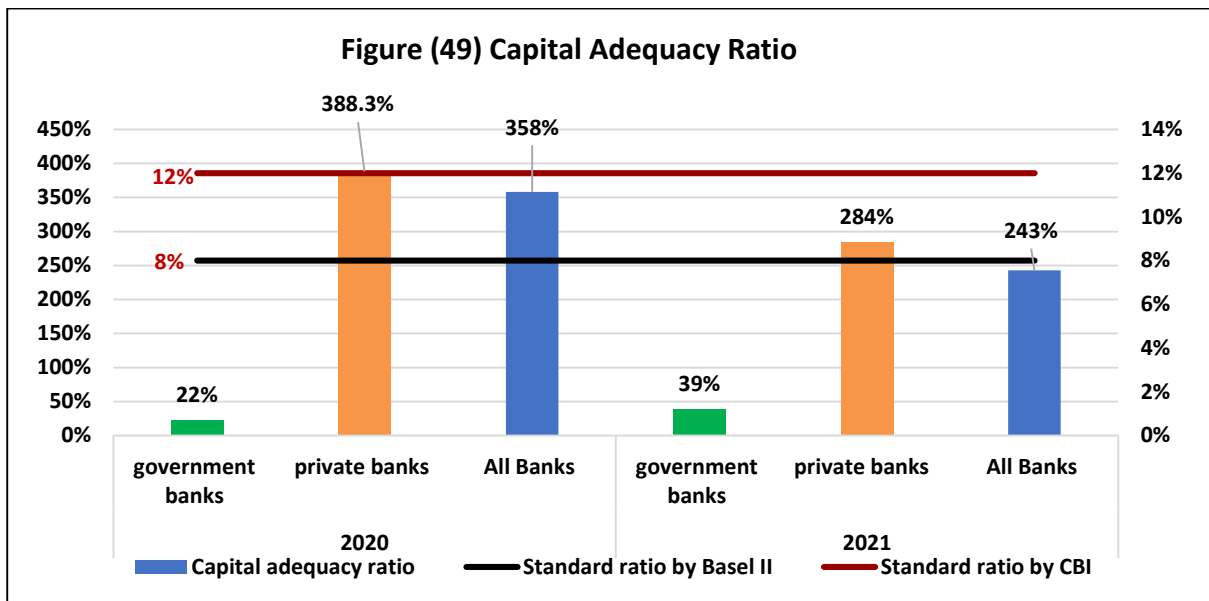
### 3-Financial Soundness Indicators

#### 3-1 Capital Adequacy Ratio Index:

The Capital Adequacy Index is one of the most important indicators of financial soundness that aims to achieve financial stability at the level of the banking sector and enhance the solvency of banks and their ability to withstand the absorption of shocks and losses, which reflects positively on the soundness and robustness of the financial situation of the banking sector, and the Central Bank of Iraq has paid attention to increasing the capital of banks in order to strengthen their financial position, as one of the main lines of defense to overcome potential risks, and has adopted Basel II standard to measure the adequacy of capital determined according to market risks. and operation, as well as the determination by the Central Bank of Iraq of a standard ratio of capital adequacy.

The capital adequacy ratio of the banking system decreased completely from (%358) in 2020 to (%243) and at a rate of decrease of (%-32.1) for 2021, despite the increase in the capital of banks completely from (16.9) trillion dinars in 2020 to (17.7) trillion dinars in 2021 and the fact that this decrease reflects an increase in the value of risk-weighted assets at a higher rate than the capital rise of the banking system, despite this, the capital adequacy ratio in 2021 is higher than the ratio The standard set by the Central Bank of (%12) is therefore very high to reflect the efficiency of the banking system and its ability to face risks and unforeseen problems to which it may be exposed, and banks have maintained such a high level of solvency as a result of capital components, most of which are from the first tranche of capital and consist of the base capital.

The capital adequacy ratio of government banks according to Basel II standard reached (%39) for 2021, up by (%77.3) from (%22) in 2020, as shown in Figure (49), due to the increase in the capital of government banks from (4.3) trillion in 2020 to (4.5) trillion for 2021, as a result of the increase in the capital of both the Agricultural Cooperative Bank by (%19.65) and the Industrial Bank, which also increased its capital by (%99.48), which indicates a decrease in assets. This ratio reflects the efficiency and good financial ability of government banks to help them face potential risks, as this percentage is greater than the standard ratio set by the Central Bank of Iraq, which is (%12).



Source: Central Bank of Iraq, Department of Statistics and Research, Monetary and Financial Statistics Section.

The capital adequacy ratio of private banks according to Basel II standard reached (%284) in 2021 at a rate of (% -26.9) compared to 2020, in which it reached (%388.3) despite the increase in their capital from (12.6) trillion dinars in 2020 to (13.4) trillion dinars in 2021, although the capital adequacy ratio still reflects a significant decrease in the risks faced by banks operating in Iraq, and that this ratio is very high and far exceeds the ratio. Determined by Basel II standards of (%8), as well as the standard percentage set by the Central Bank of Iraq (%12).

The capital adequacy ratio of private banks according to Basel II standard reached (%284) in 2021 at a rate of (% -26.9) compared to 2020, in which it reached (%388.3) despite the increase in their capital from (12.6) trillion dinars in 2020 to (13.4) trillion dinars in 2021, although the capital adequacy ratio still reflects a significant decrease in the risks faced by banks operating in Iraq, and that this ratio is very high and far exceeds the ratio. Determined by Basel II standards of (%8), as well as the standard percentage set by the Central Bank of Iraq (%12).

There is a gap between the capital adequacy ratio of government banks and private banks in favor of the latter, and this difference reflects that the total capital of private banks is high compared to government banks, due to three factors:

**The first factor: the number of banks:** the number of private banks is (67) banks while the number of government banks (7) banks until 2021.

**The second factor: capital:** We find an increase in the capital of private banks as a result of their response to the directives of the Central Bank to increase the capital, with a minimum of (250) billion dinars per bank.

**The third factor:** which is the most important is the high volume of risk-weighted assets of government banks compared to private banks, as the percentage of the contribution of government banks to both total assets, cash credit and pledge credit is (78.6%), (84.1%) and (62.2%) in 2021 for each of them respectively, that is, government banks, despite their low number, their banking activity is much greater than that of all private banks, due to the age of their establishment, as well as the wide spread of their branch network throughout. Iraq.

### 3-2 Liquidity indicators:

Basel III introduced a new liquidity regulatory framework, focusing on high-quality capital (ordinary shares), the new liquidity criterion consists of the liquidity coverage ratio (LCR), which requires banks to retain a sufficient quantity of high-quality liquid assets to enable them to cope with compression situations for at least a period of time (30) days, as well as from the ratio of net stable financing (NSFR), which is a structural control tool in measuring liquidity level.

#### 3-2-1 Liquidity Coverage Ratio (LCR )<sup>1</sup>:-

The Central Bank of Iraq has started to apply the liquidity coverage ratio starting from 2017 by (80%), and is carried out gradually until it reaches (100%) for 2021, and must not be less than this ratio, as shown in Table (10).

<b>Ratio</b>	<b>Year</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>Liquidity Coverage Ratio (LCR)</b>		<b>80%</b>	<b>90%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Net Stable Financing Ratio (NSFR)</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

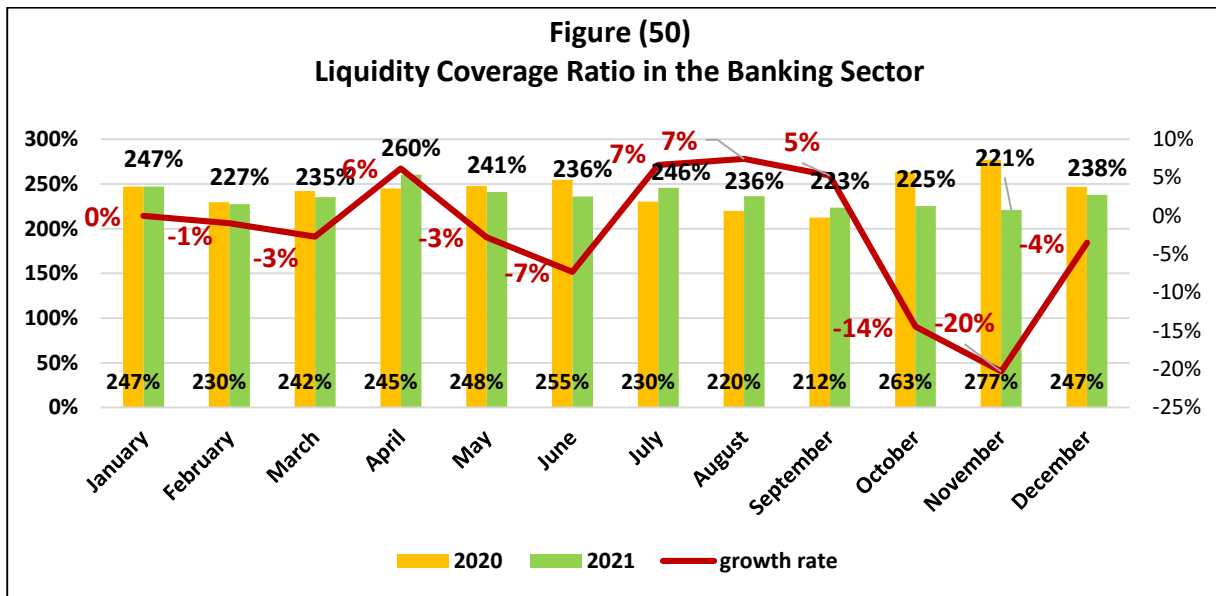
Source: Central Bank of Iraq, Department of Financial Operations and Debt Management.

Banks operating in Iraq have achieved a high liquidity rate for the liquidity coverage ratio, as the monthly rate of this percentage did not fall below the minimum rate set during 2021, so the liquidity coverage ratio recorded its highest rate in April, which reached (260%), while the lowest rate of liquidity coverage in November was (221%), and the latter is much higher than the minimum percentage Liquidity coverage of (100%), as Iraqi banks succeeded in applying the liquidity coverage ratio as a full banking sector, while as individual banks there are some banks that did not meet the required percentage in 2021 and the

<sup>1</sup>) The ratio rate (LCR) and (NSFR) was calculated using the geometric average while previously it was calculated using the simple average.

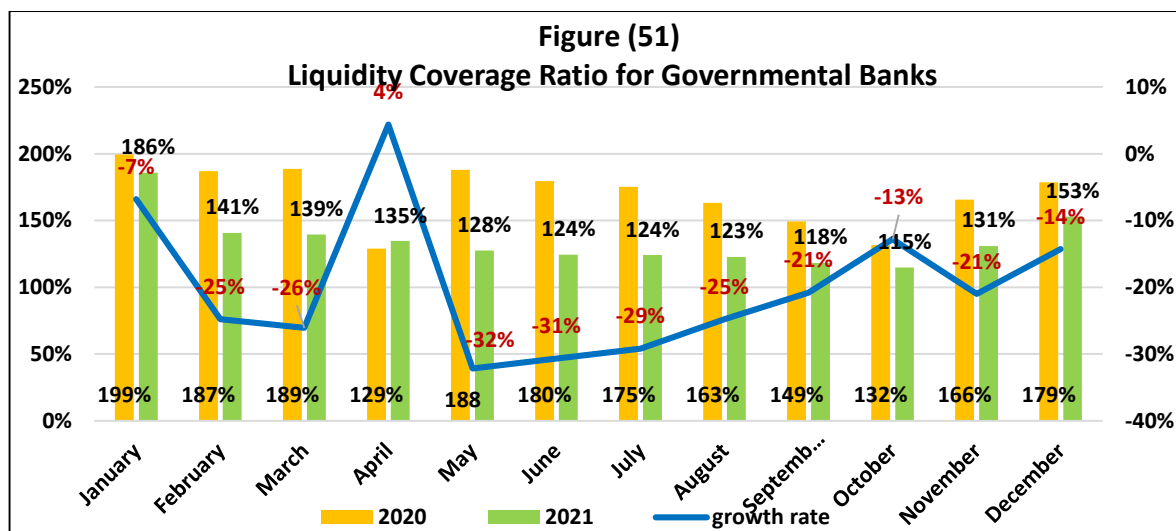


number of banks that do not meet the liquidity ratio has reached (16) banks, while some banks have reached high percentages that have reached high limits, and these percentages reflect their ability to face liquidity during (30) days, and the figure shows (50) ) The monthly rate of liquidity coverage ratio for banks operating in Iraq and the growth rate between the ratio of the months of 2020 and the ratio of the months of 2021.



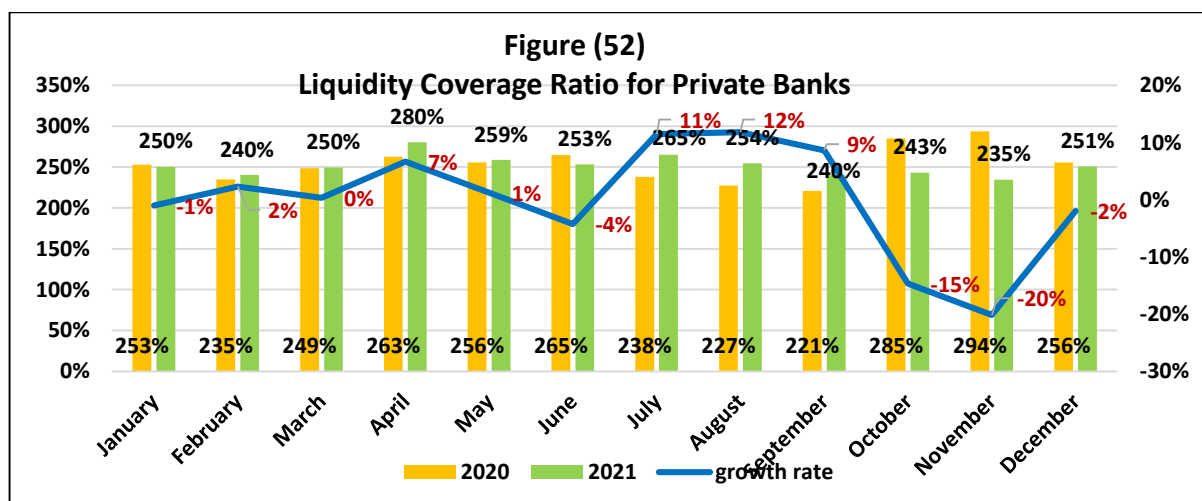
Source: Central Bank of Iraq: Banking Control Department.

It is possible to classify the liquidity coverage ratios by type of banks (government and private), we find that the liquidity coverage ratio of government banks did not decrease in 2021 from the minimum prescribed by the Central Bank of Iraq, it reached the highest percentage in January (186%) and the lowest percentage (115%) in October of 2021, and this is shown in Figure (51), where growth recorded a negative rate for all months of the year except April, when growth was recorded. A slight positive:



Source: Central Bank of Iraq: Banking Control Department.

Liquidity coverage ratio for private banks in 2021 Its value ranged from the highest percentage (280%) in April and the lowest percentage (235%), which was recorded during the month of November, while the growth rate fluctuated between the months of 2020 and 2021 in achieving positive or negative rates, as shown in Figure (52) :



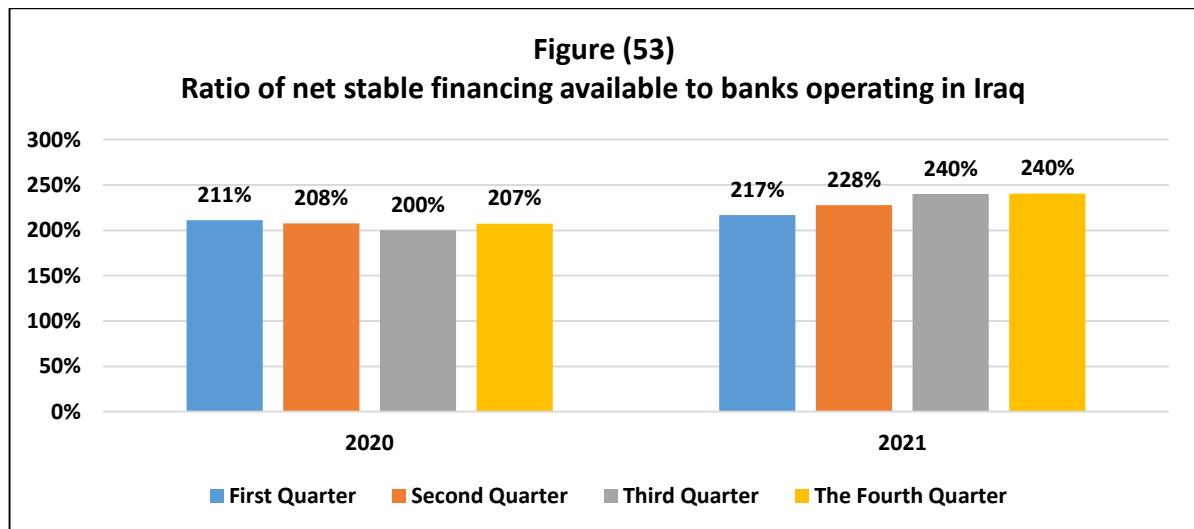
Source: Central Bank of Iraq: Banking Control Department.

### 3-2-2 Percentage OF Net Stable Financing Available (NSFR) :-

This ratio reflects the Bank's ability to provide the liquidity necessary to meet its obligations in the medium term, as the Basel Committee has set this ratio at least (100%), which represents the Bank's sources of financing (liabilities) relative to the uses of these sources (assets).

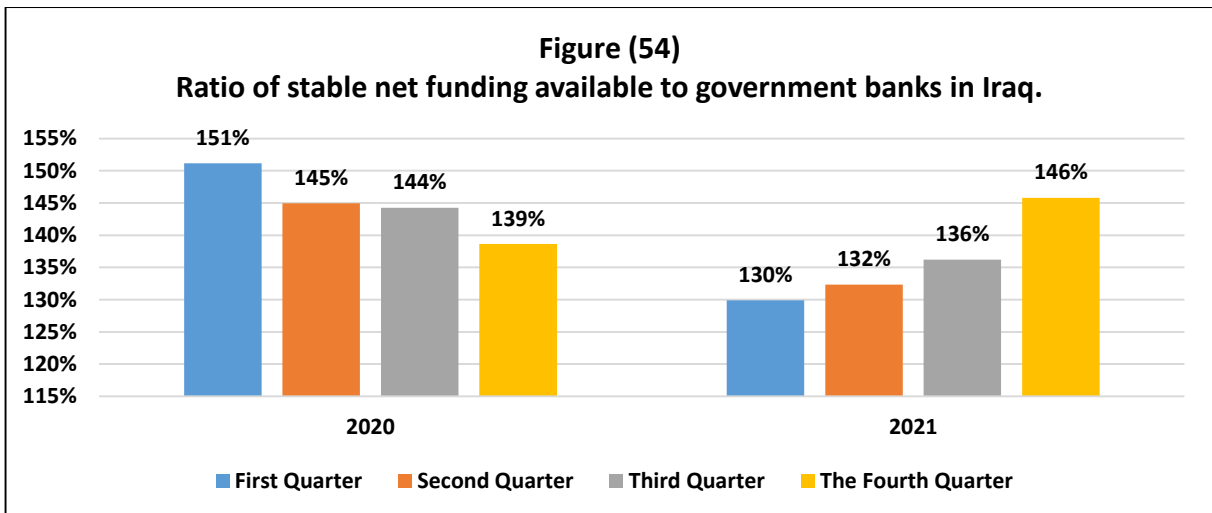
The percentage of stable net financing of the banking system in Iraq achieved a high percentage in all quarters of 2021 amounting to (217%), (228%), (240%),

and (240%) respectively for each quarter, which is high compared to the specified ratio of Basel III, and this indicates that banks have more available financing than the required financing, that is, banks are able to finance the asset side according to what the sources of funds on the liabilities side allow, this is at the macro level and at the micro level. This ratio was lower than the ratio for (8) banks, and Figure (53) shows the percentage of stable financing available for the 2019 and 2020 seasons.



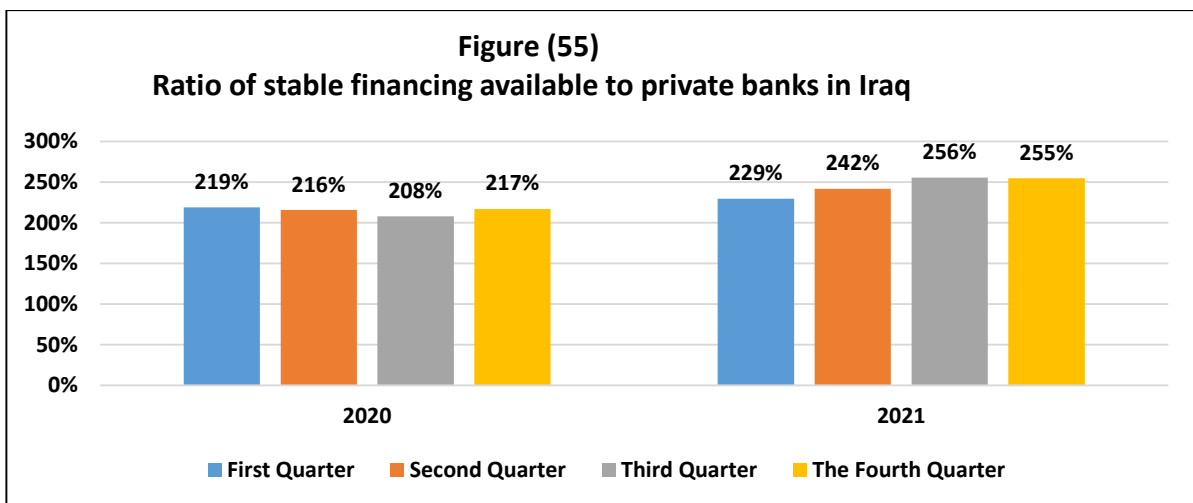
Source: Central Bank of Iraq: Banking Control Department.

In terms of classifying the ratio of net stable financing available by type of banks (government and private), the liquidity coverage ratio of government banks did not decrease in 2021 at the minimum prescribed by the Central Bank of Iraq and reached the highest percentage in the fourth quarter (146%) and the lowest percentage (130%) in the first quarter, and Figure (54) shows the evolution of the ratio of net stable financing available to government banks for the quarters of 2020 and 2021.



Source: Central Bank of Iraq: Banking Control Department.

As for Ratio of net stable financing available to private banks in 2021, Its value ranged from its highest rate recorded in the third quarter (256%) and its lowest rate recorded in the first quarter (229%). which is higher than the minimum ratio of (100%), and Figure (55) shows the evolution of the ratio of net stable financing available in private banks for the quarters of 2020 and 2021.



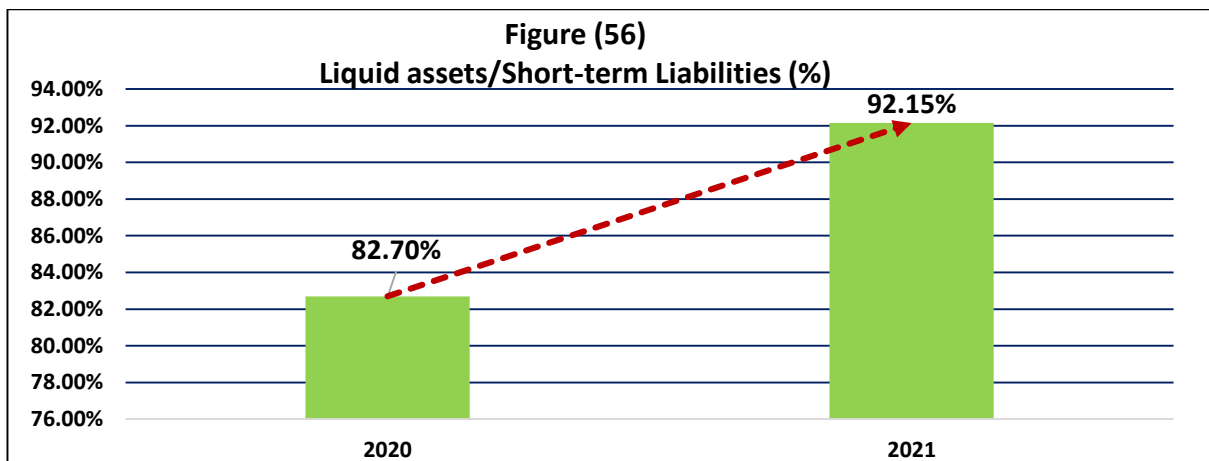
Source: Central Bank of Iraq: Banking Control Department.

The bank's possession of an adequate level of liquidity remains a major challenge for the management of banks, because it is faced with a trade-off between profitability and liquidity, in the event of low liquidity levels, the bank is exposed to significant financial risks that may lead to its failure (BANKRUPTCY) on the one hand, and on the other hand, its much higher than planned causes a decrease in the profitability of the bank, and liquidity indicators can be measured according to four indicators, as well as the previous two indicators are liquid assets to short-

term liabilities, liquid assets to total deposits, Liquid assets to total assets and cash credit to deposits, and by calculating the ratios of these indicators it can determine whether the banking system has a high liquidity ratio that gives it a shield and a repellent against crises resulting from withdrawals to which it may be exposed, and therefore the degree of risk is as low as possible, and it can avoid it through the liquid balances available to it, although it affects the profitability goal of banks, moreover, banks have the ability to expand the granting of credit Banking, according to the following:

### 3-2-3 Liquid Assets / Short-Term Liabilities <sup>1</sup>: -

The ratio of the index of liquid assets to short-term liabilities of the banking system in general increased, reaching (92.15%) in 2021 compared to its ratio in 2020 of (82.7%), and this increase is a result of the increase in the value of current deposits of a current nature from (63.4) trillion dinars in 2020 to (70.3) trillion dinars in 2021 and at a growth rate of (10.85%), which is lower than the growth rate of liquid assets, which increased at a rate of (23.52%) for the same period. Although liquid assets now cover short-term liabilities by (92.15%), this does not pose a risk to financial stability, because the ratio is high and reflects the great financial strength of all banks (governmental and private) despite being lower than the specified ratio, the last ratio of liquid assets to short-term liabilities confirms that banks maintain high liquidity in the event of facing emergency depositors' withdrawals and the provision of loans, and thus to reflect positively on the financial stability of the At the same time, hedging and not resorting to the Central Bank to request liquidity, Figure (56) shows this ratio for the years 2019, 2020 and 2021.

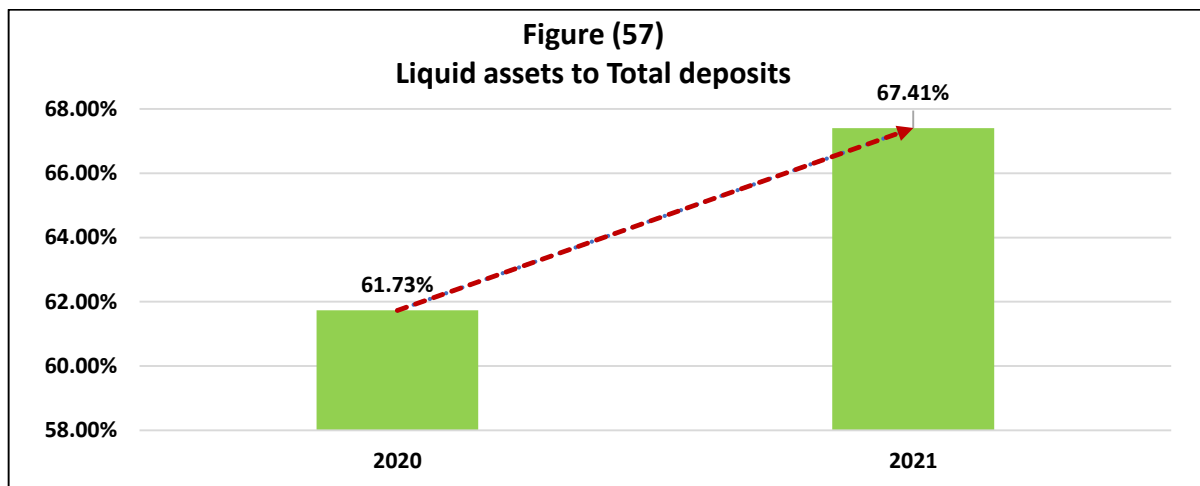


Source: Central Bank of Iraq, Department of Statistics and Research.

<sup>1</sup>) Short-term liabilities include (current deposits and deposits of a current nature)

### 3-2-4 Liquid Assets / Total Deposits :

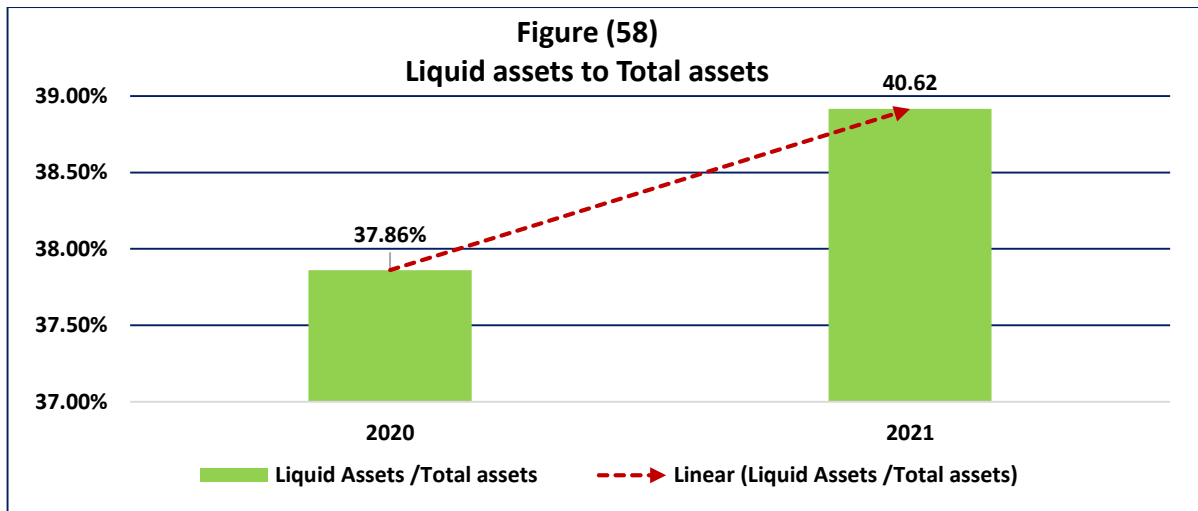
This indicator expresses the amount of liquid assets held by the bank, including (cash with the Central Bank, as well as cash in the fund, and other liquid balances), and the extent to which it invests in the granting of loans of various kinds, and the banking system in general recorded a percentage of (67.41%) in 2021, which is higher than in 2020 of (61.73%), meaning that the banking system is unlikely to be exposed to liquidity risks in the short term, but maintaining this percentage is not likely to be exposed to liquidity risks in the short term, but maintaining this percentage of High reflects negatively on the return and profitability of banks, as the liquidity target will conflict with the goal of profitability; because these liquid funds are not used in investments that can generate large financial returns on the bank, and therefore their decline reflects a clear trend towards the employment of loanable funds, as the increase in the percentage was the result of the rise in deposits at a growth rate (13.13%) compared to the growth rate of liquid assets ( 23.52%), and Figure 57 reflects the ratio of liquid assets to total deposits of the banking sector.



Source: Central Bank of Iraq, Department of Statistics and Research.

### 3-2-5 Liquid Assets / Total Assets:

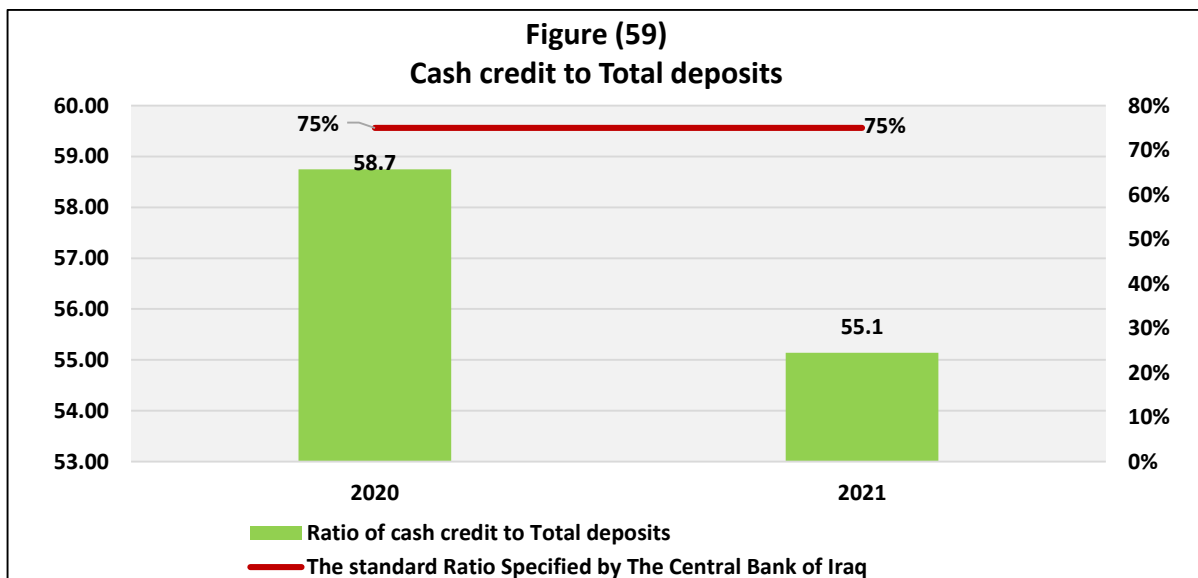
This ratio shows the extent to which the bank maintains fully liquid assets to face depositors' withdrawals relative to the total assets of the banking system in general, the percentage increased from (37.86%) in 2020 to (40.62%) in 2021, and this increase in the index occurred as a result of the increase in total assets from (138.4) trillion dinars in 2020 to (159.4) trillion dinars in 2021 and at a growth rate (15.13%), compared to the growth rate of liquid assets of (23.52%) for the same period, The high percentage reflects the precautionary trend of the banking system against sudden withdrawals by depositors and Figure (58) shows the ratio of liquid assets to the total assets of banks operating in Iraq.



Source: Central Bank of Iraq, Department of Statistics and Research

### 3-2-6 Cash Credit/Total Deposits:

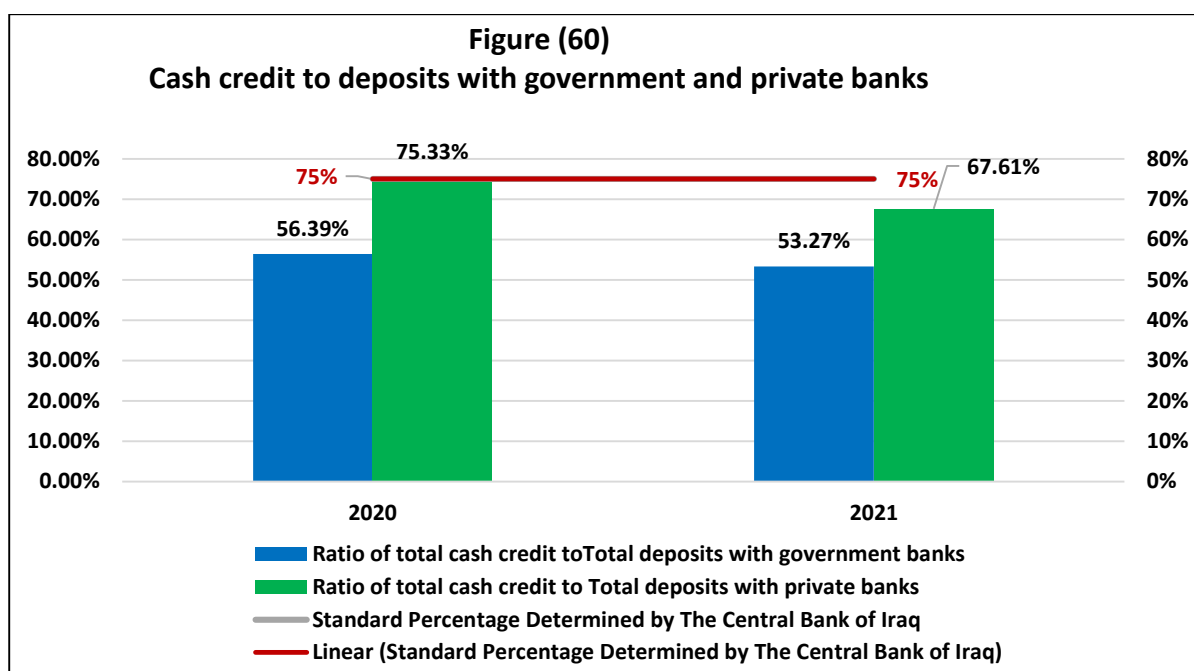
The ratio of cash credit to deposits with the banking system recorded a decrease of (-6.1%) to reach (55.1%) in 2021 compared to the 2020 rate of (58.7%) and this decrease falls within the standard ratio specified by the Central Bank of Iraq, which should not exceed (75%) as shown in Figure (59), and thus to reflect the ability of banks to employ the funds available to them and derived from deposits to meet the demand for credit.



Source: Central Bank of Iraq, Department of Statistics and Research.

The same percentage among government banks (53.3%) in 2021 was lower at a rate of (-5.5%) compared to 2020 of (56.4%), as a result of the increase in the growth of deposits with government banks at a rate of (12.6%) higher than the growth rate of credit provided by government banks of (6.4%), and therefore the higher growth rate of deposits is greater than the rate of credit growth, as a result

of the increase in deposits for the central government, public institutions and the private sector by (8.8%), (4.6%) and (23.6%) respectively in the year 2021 for 2020, as shown in Figure (60).



Source: Central Bank of Iraq, Department of Statistics and Research.

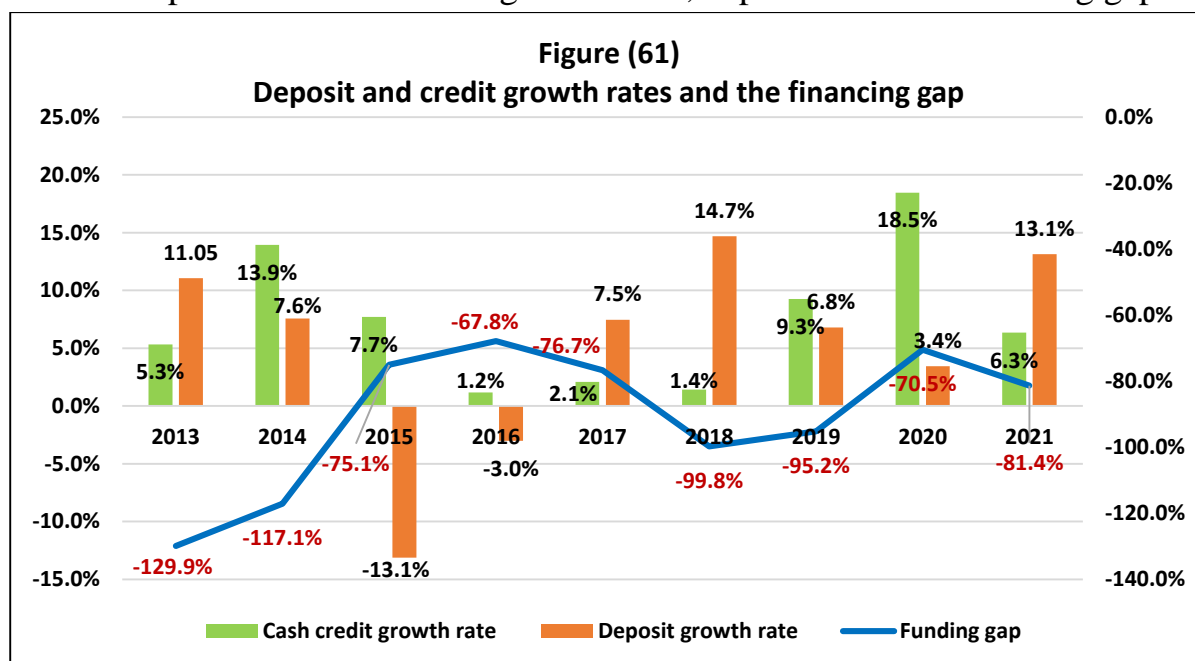
As for the level of private banks<sup>1</sup>, the percentage reached (67.6%) in 2021, which is low from 2020 of (75.32%), as a result of the high growth of deposits with private banks at a rate of (16.7%) higher than the growth rate of credit provided by private banks of (6.1%), and therefore the high rate of growth of deposits is greater than the growth rate of credit to private banks, as private banks are ahead of government banks to invest their deposits, we find that government banks retain more liquidity than planned and make With low employment of deposits, as public sector deposits (central government and public institutions) constitute (61.9%) of the total deposits of government banks, in addition to the fact that government banks are of low employment of deposits because their interest rates are low on deposits against interest on loans, and this is embodied in the margin of credit and debit interest (Spread) at the Iraqi banking system, where the margin of difference between interest received and paid at the rate of (10.54%) and (10.62%) in Iraqi dinars in 2020 and 2021 respectively, but In foreign currencies it has reached (10.25%) and (10.2%) for the same period, While the set and standard interest margin rate is (4%).

<sup>1</sup>) Ratio of cash credit to private banks to their total deposits.



### 3-2-7 Funding gap:

It means the funds allocated for the granting of cash credit derived from deposits, as we find that this gap has widened in 2021 by (81.4 - %) compared to 2020, where the gap reached (-70.5%), and this is due to the high growth rate of deposits by a greater percentage than the growth rate of cash credit, where the growth rate of cash credit in 2021 (6.3%) compared to 2020, followed by the increase in total deposits by (96.1) trillion dinars and a growth rate of (13.1%) in 2021 compared to 2020 The volume of deposits in which the volume of deposits reached (84.9) trillion dinars, this led to an increase in the gap and despite that it remains high and covered by much more than its value of deposits, which obliges banks to monitor their levels of liquidity and lending, and create a balanced growth between the demand for loans and the attraction of new deposits, that is, wise management of assets and liabilities and in the end the reduction of risks to which the banking system may be exposed, the high gap means that the risks related to confidence in the banking system are low, and Figure (61) shows The relationship between cash credit growth rates, deposits and the financing gap.



Source: Central Bank of Iraq, Department of Statistics and Research.

### 3-3 Asset Quality Indicators :

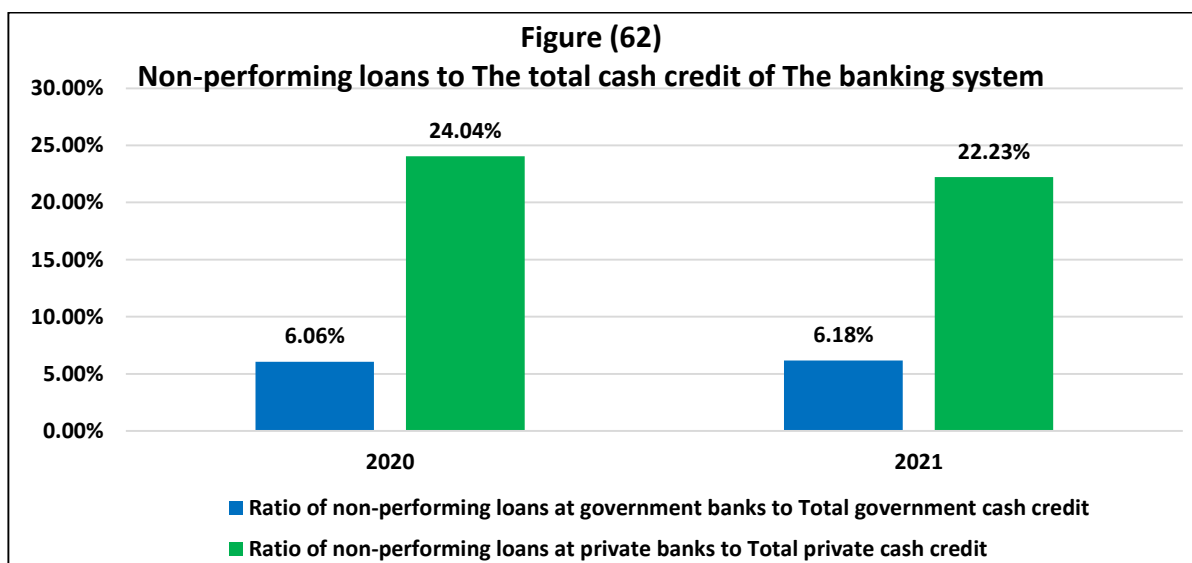
The quality and quality of assets form the cornerstone of the level of credibility of capital rates, since most of the risks of financial insolvency in financial institutions often result from the quality of assets or difficulties in converting them into liquidity when they are needed.

### 3-3-1 Non-performing Loans / Total Cash Credit:

Non-performing loans with Iraqi banks recorded (4.6) trillion dinars in 2021, up by (2.2%) from 2020, which amounted to (4.5) trillion dinars, although the ratio of non-performing loans to cash credit decreased from (8.93%) in 2020 to (8.81%) in 2021, which positively affects the financial stability index in Iraq, the non-performing loan ratio is one of the variables involved in calculating it.

Non-performing loans for 2021 were distributed by (2.7) trillion dinars to government banks and by (6.1%) of the total cash credit of government banks compared to 2020 in the same proportion, which is a good indicator that supports the stability of the financial sector.

As for private banks, non-performing loans amounted to (1.8) trillion dinars for 2021 and (22%) of cash credit with private banks is lower than in 2020, when it reached (24%), and this indicates that private banks are more vulnerable to the risk of non-payment compared to government banks, due to the high ratio of their non-performing loans to cash credit compared to government banks, and Figure (62) shows the ratio of non-performing loans to banks to total cash credit.

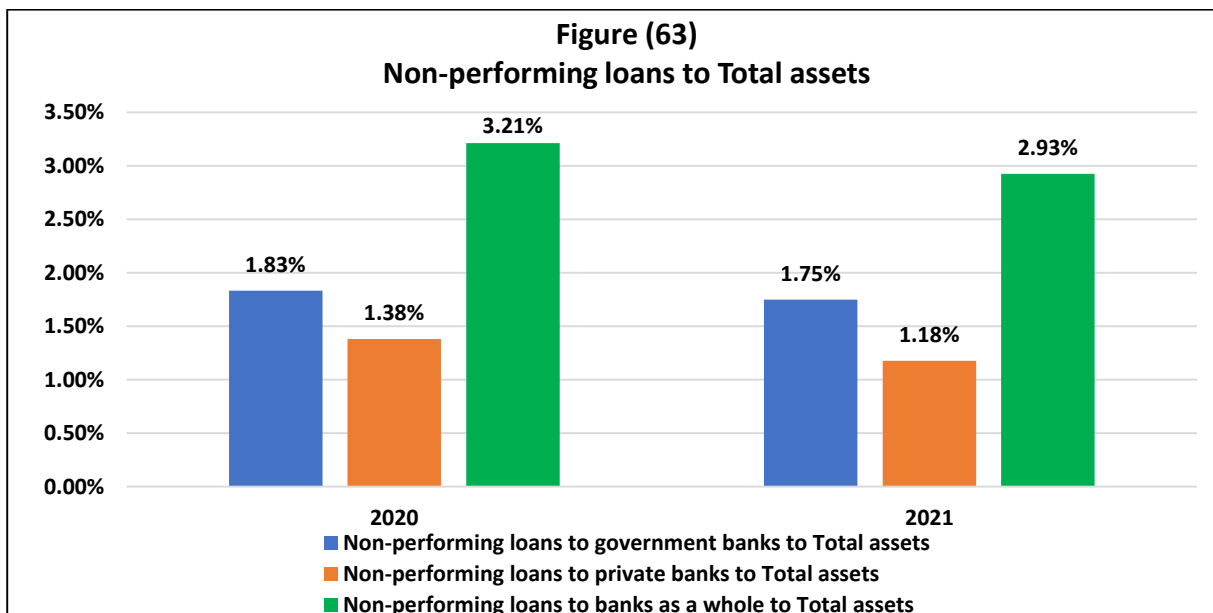


Source: Central Bank of Iraq, Department of Statistics and Research.

### 3-3-2 Non-performing Loans / Total Assets:

The ratio of non-performing loans to total assets of the banking system in general decreased during 2021, reaching (2.93%) compared to (3.21%) in 2020, so this ratio reflects the huge assets of the banking system in 2021, and the decrease in the ratio is due to the increase in total assets by (15.3%) between 2021 and 2020, as the volume of non-performing loans increased from (4.5) trillion dinars in 2020 to (4.6) trillion dinars in 2021, as well as the increase in total assets from (138.5) trillion dinars for 2020. To (159.6) trillion dinars in 2021 and then

the increase in total assets exceeds the increase in the volume of non-performing loans, and this reflects a good and sound position of banks operating in Iraq in terms of the volume of assets in 2021, as the literature and international experience indicate that exceeding this percentage (10%) portends an expected banking crisis, but in Iraq this percentage is still within the acceptable standards, and that its reduction reflects a good performance of banks, while government banks have decreased the percentage of their non-performing loans to total assets from (1.83%) in 2020 to (1.75%) in 2021. Despite the slight increase in the volume of non-performing loans to government banks by (9.97%), which is lower than the rate of increase in assets of (15.5%), while private banks recorded a decrease in the ratio of their non-performing loans to total assets by (1.81%) in 2021 compared to 2020 as a result of the decline in their non-performing loans by (-1.9%) and the increase in the growth of their assets by (14.4%) for 2021, which shows a downward trend for non-performing loans for private banks, and Figure (63) shows the aforementioned ratios.

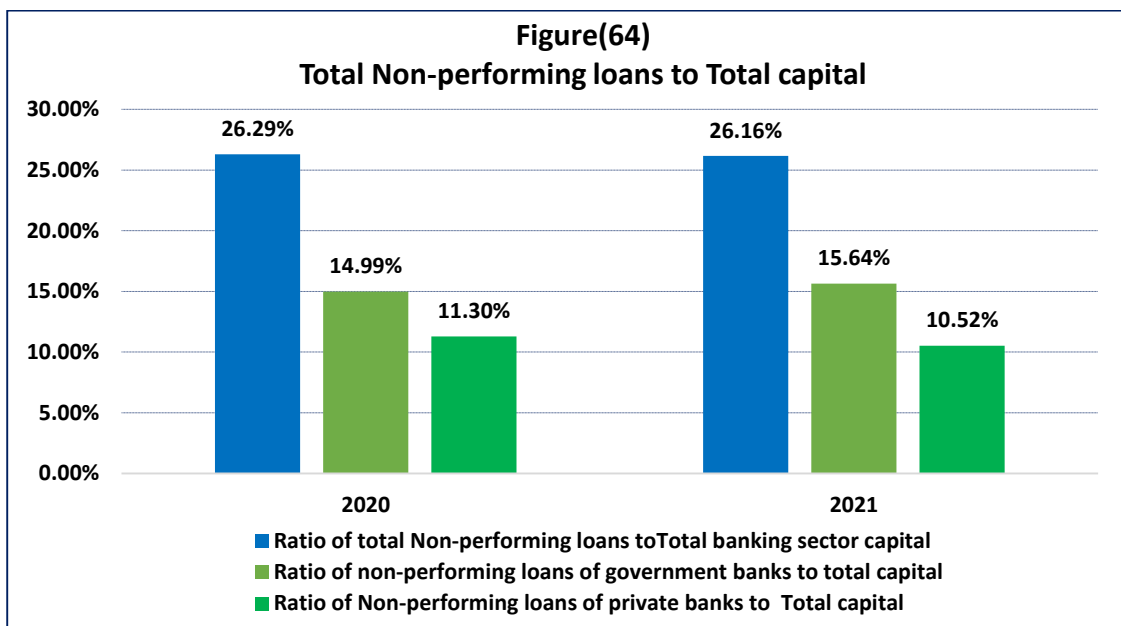


Source: Central Bank of Iraq, Department of Statistics and Research.

### 3-3-3 Non-performing Loans / Capital:

The high ratio of non-performing loans to capital gives a clear indication of the seriousness of the financial situation of banking institutions and thus affects the financial stability index in Iraq, which has been evident among government banks as a result of the large size of their loans and the small size of their capital. However, the increase in the balance sheets of banks has given an indication that there are financial risks in them beyond doubt, which requires regulators to give this a high degree of importance to avoid any possible defaults that may occur in the future.

The ratio of non-performing loans to capital of the banking sector decreased slightly in 2021 to (26.16%) compared to 2020 of (26.29%), and this decrease is due to the increase in the total capital of the banking system by (5.4%) for 2021, despite the increase in total non-performing loans (4.8%), and Figure (64) shows the ratio of the contribution of non-performing loans of government and private banks to the total capital of the banking sector in total, and this ratio reached in 2021 (15.64%) For government banks and (10.52%) for private banks, as a result of the low capital of government banks compared to private banks.



Source: Central Bank of Iraq, Department of Statistics and Research.

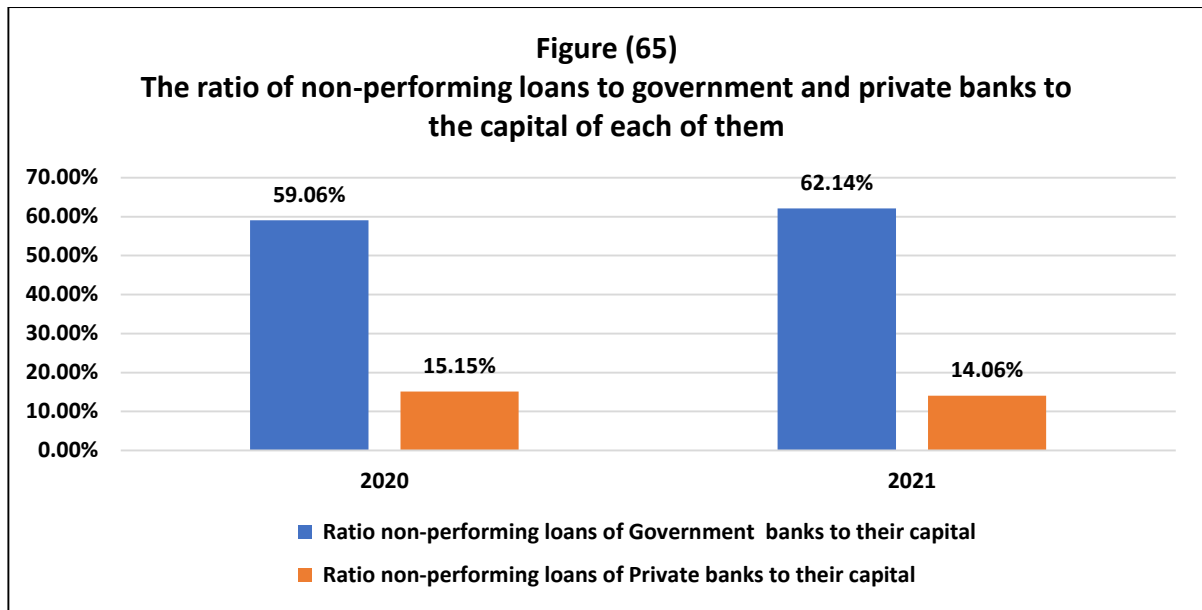
As for the ratio of non-performing loans for both government banks and private banks to their total capital separately, it showed that the ratio of non-performing loans of government banks to their capital is (59.06%) and (62.14%) for the years 2020 and 2021 respectively, which is a high percentage due to the decrease in the size of the capital of most government banks, as the capital of (5) government banks has not increased, because the increase in their capital is legally approved by the allocation to them from the general budget of the state and shown in Table No. ( 11), with the exception of the Agricultural Cooperative Bank and the Industrial Bank, where the capital of the Agricultural Cooperative Bank increased by (19.65%), i.e. its capital increased from (100) billion dinars in 2020 to (120) billion dinars in 2021 and the industrial bank, which also raised its capital from (175) billion dinars in 2020 to (349) billion dinars in 2021, i.e. at a rate of (99.48%) in application of the capital increase requirements imposed by the

Central Bank of a minimum of (250) billion dinars, While keeping the share of the largest shareholder in the capital of government banks in favor of the Commercial Bank of Iraq by (79%) The shareholder is less than the share of both the Rashid and Real Estate Bankers by (1.11%) each, but this does not pose a risk to the banking system, because these banks are guaranteed by the Iraqi Ministry of Finance, but this does not prevent finding appropriate ways to reduce this percentage to hedge against potential risks.

<b>Table (11) Capital of government banks</b>								
<b>(Billion IQD)</b>								
<b>Bank</b>	<b>Capital</b>					<b>Contribution from the total capital of government banks</b>		
	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Growth Ratio</b>	<b>Growth Ratio</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>Al-Rafidain</b>	226	226	226	%0	%0	%6.50	5.30%	5%
<b>Al-Rasheed</b>	50	50	50	%0	%0	%1.40	1.20%	1.11%
<b>Agricultural Cooperative</b>	100	100	120	%0	%19.65	%2.90	2.30%	2.67%
<b>Industrial</b>	175	175	349	%0	%99.48	%5.00	4.10%	7.77%
<b>Real Estate</b>	50	50	50	%0	0%	%1.40	1.20%	1.11%
<b>Iraqi Trade</b>	2750	3546	3546	%28.90	0%	%78.50	82.50%	79%
<b>Islamic Rivers</b>	150	150	150	%0	%0	%4.30	3.50%	3.34%
<b>Total</b>	<b>3501</b>	<b>4297</b>	<b>4491</b>	<b>119.13</b>	<b>22.70%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

Source: Central Bank of Iraq, Department of Statistics and Research.

As for Private banks have reached the ratio of their non-performing debts to their total capital (15.15%) and (14.06%) for the years 2020 and 2021, respectively, as shown in Figure (65).

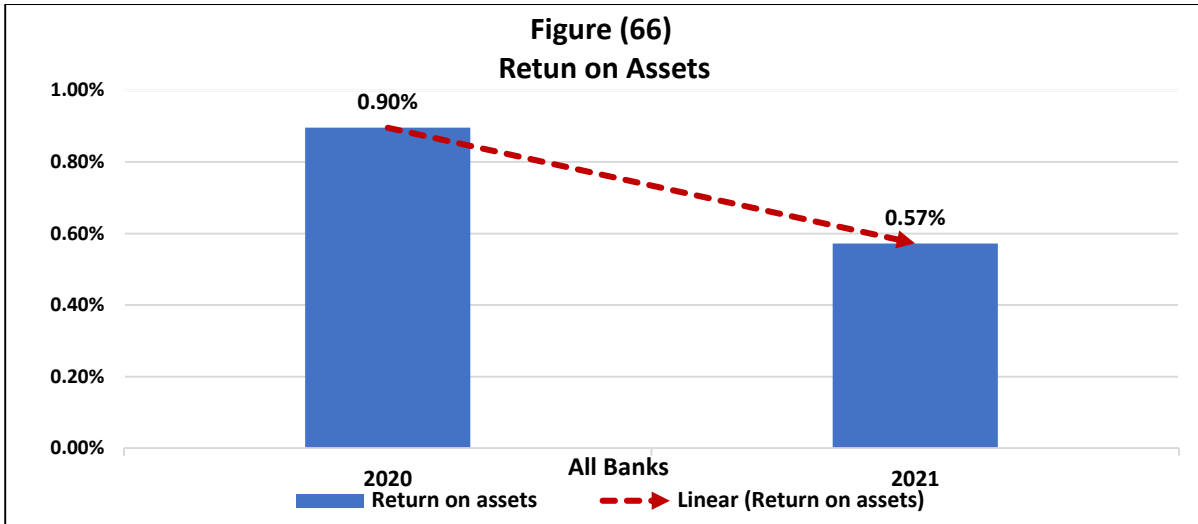


Source: Central Bank of Iraq, Department of Statistics and Research.

### 3-4 Revenue and profitability indicators:

#### 3-4-1 Return on assets :

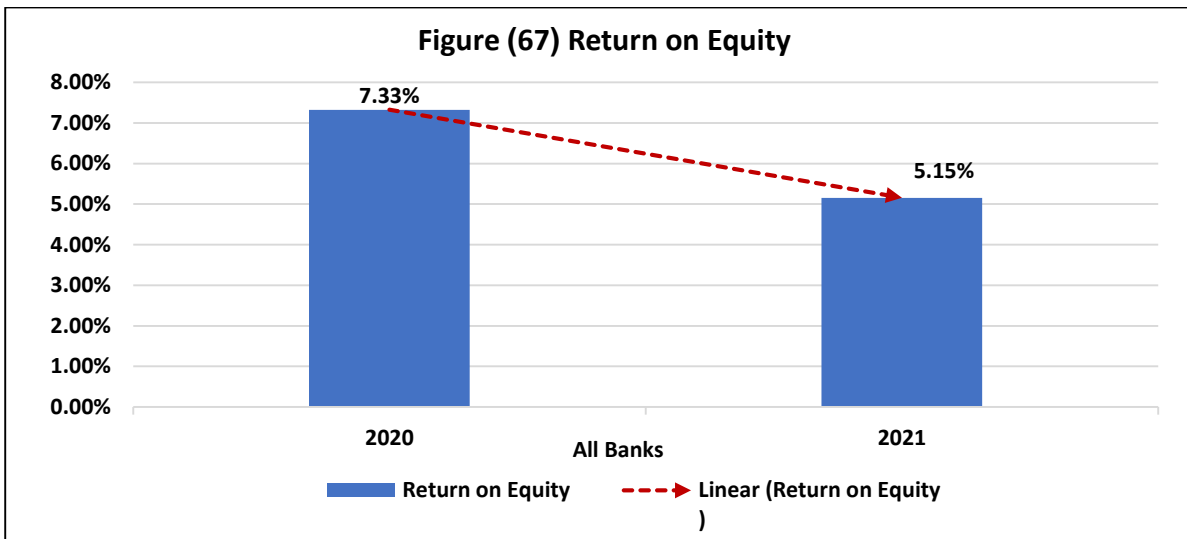
The rate of return on assets decreased from (%0.90) in 2020 to (%0.57) in 2021 for banks in general, and that this decrease came due to the increase in the growth of total assets (%15.13) compared to the rate of growth of return of (-%26.5), as well as the decrease in bank profits, as net income bearing interest decreased from (1.5) trillion dinars in 2020 to (1.4) trillion dinars in 2021 and at a negative growth rate of (% -10.78) and also decreased income that carries no interest from ( 2.4) trillion dinars in 2020 to (1.3) trillion dinars for 2021 and at a rate of (% -44.09) The bulk of this decline is due to the increase in the value of assets in foreign currency as a result of the change in the exchange rate of the Iraqi currency against the US dollar, and Figure (66) shows the ratio of return to assets.



Source: Central Bank of Iraq, Department of Statistics and Research.

### 3-4-2 Return on equity:

The rate of return on equity of owners decreased from (%7.33) in 2020 to (%5.15) in 2021 and for all banks, government and private, and this percentage reflects the rate of return obtained by investors with capital in the financial institution and the efficiency of the institution and the extent to which it succeeds in generating profits from each unit of equity, and the main reasons for the decrease in this ratio are the decrease in the value of income and the rise in the value of assets as shown in the previous paragraph, as shown in Figure (67).



Source: Central Bank of Iraq, Department of Statistics and Research.

### **3-5 Risk Map (Health Assessment Tool Map): (Heat Map) :**

The risk map is one of the latest tools that are used to notify decision makers in the financial system of the inherent threats and weaknesses that will face the financial and banking system and consequently financial stability. It is also a tool to monitor weaknesses in the financial system (Financial System Vulnerabilities Monitor), as there were many systems used to monitor financial systems and diagnose weaknesses after the global financial crisis in 2008, as it is possible through the risk map to diagnose any of the indicators used need more attention and follow-up, and thus conduct additional tests Such as (stress tests) that can help more in identifying weaknesses in the indicators used in the test. A risk map can also be used to show how a financial shock could affect financial stability and, in turn, the real economy. By evaluating the different stages of financial shocks, it is possible to clarify how the shock affects financial markets, financial institutions, financial infrastructure and the real economy, and thus obtain a clear picture of the seriousness of the consequences of these imbalances. The colors were used in the risk map to reflect the state the indicator under study is going through, as shown in Figure (63), as follows:

**A)** The green color indicates the absence of any weaknesses, and therefore the indicator under study is in a positive state and is not a source of concern.

**B)** The orange color will have the indicator between the first cases (the positive condition) and the second (the source of concern), which requires the decision-maker to follow up on this indicator and not be given the opportunity to reach the red color.

**C)** The red color reflects the weaknesses that lead to the possibility of a crisis in the banking system.

The Arab Monetary Fund has emphasized the importance of the Heat Map Tool, expressing it as one of the important tools for identifying and monitoring weaknesses and strengths in the banking sector by displaying it in the form of a risk map, in which the gradation of the colors shown above is used to indicate the extent of the quality or weakness of the indicators. Finance used for each bank<sup>1</sup>.

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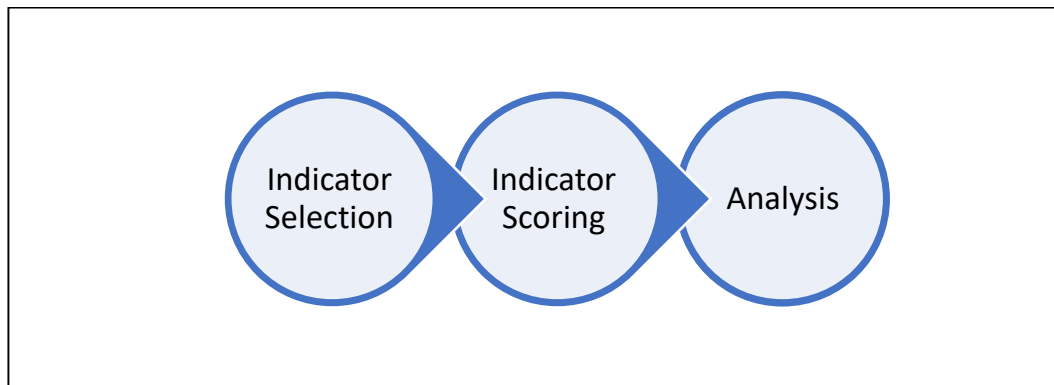
<sup>1</sup>) Ramy Youssef Obaid, Study of the Experiences of Early Warning Systems in Central Banks and Arab Monetary Institutions, Arab Monetary Fund, 2019, p. 8.



**3-5-1 Steps to prepare a risk map for the Iraqi banking sector:** Three steps are followed in preparing a risk map, which are<sup>1</sup>

- 1- Indicator Selection.
- 2- Indicator Scoring.
- 3- Analysis.

**Schemes (4) Steps to Prepare A Risk Map**



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<sup>1</sup> ) Joe McLaughlin & at all, The OFR Financial System Vulnerabilities Monitor, Office of Financial Research, 2018, p6.

## Framework (2) steps to prepare a risk map for the Iraqi banking sector

### 1) Indicator selection

The indicators were selected by reviewing international reports and scientific studies and taking into consideration the nature of the Iraqi financial system. On the basis of that, the indicators were selected through which weaknesses in the financial sector in Iraq could be diagnosed, which may be negatively reflected on all economic sectors, which are the indicators of financial safety. As financial stability is one of the priorities of central banks' goals, because of its importance in strengthening the financial centers of banks operating in the country, and the main objective of the financial stability report is to diagnose and analyze the risks that may be exposed to the stability of the financial system in Iraq, and the risk map came to be an indicator A complement to the indicators of risks that the financial system may be exposed to <sup>(1)</sup>, as many studies and financial stability reports depend on the indicators of financial safety (CAMELS) in preparing the risk map <sup>(2)</sup>, and thus the same indicators can be measured within the annual financial stability report in Iraq.

### 2) Indicator Scoring:

The indicators are monitored quarterly, and colors are given to each indicator according to the quarterly results and its position in the standard degree for that indicator, as the risk map depends on the standard values of each indicator entered into the map. If the indicator exceeds the standard value, it will be within the red color, and if it is the opposite, it will be within the green color.

The risks of each indicator are calculated by normalizing the data for each financial indicator used in calculating the risk map by adopting the following equation <sup>(3)</sup>:

$$Z_{i,t} = \frac{(X - \min)}{(\max - \min)}$$

$Z_{i,t}$ : Standard scores for the financial indicator in the period  $t$

Observations of the financial indicator.

$\min$ : is the smallest value.

$\max$ : the maximum value.

The results are compared with the standard scores of the risk map (0,1).

The capital adequacy is one of the most important indicators that are used to identify the solvency of the bank and its ability to withstand potential losses or insolvency. The existence of cash assets in the fund or assets that can be converted into cash easily and at low costs to meet the bank's obligations, but it does not have the opportunity to grant sound credit, or cash credit.

While the profitability index is one of the indicators of high importance in measuring the extent to which banking institutions achieve profits or losses, which depends mainly on the rise or decline of their investments and the contraction of their financial investments during that period as a result, which depends in Iraq on the political situation and security events in the country, as well as What results from the state of the budget in terms of deficit or surplus, which depends on oil prices, and the consequences and repercussions of all of this that are reflected in one way or another on the results of the work of all economic sectors, especially the financial and banking institutions alike.

As for the quality of assets, it is included in its calculation (Non-performing loans / total assets) and (Non-performing loans / total credit, as this indicator measures the volume of non-performing loans in the banking system, and the increase in its value indicates the high risks that banks suffer and their low financial soundness, where the non-performing loans affect the lending portfolio of the bank and then the position of cash flows and net income, as well as the degree of financial insolvency therein. cash credit.

1) Central Bank of Iraq, Financial Stability Report 2016, 2017, p. 1

2) Li Lian Ong, at el, HEAT! A Bank Health Assessment Tool, Working Paper, International Monetary Fund, 2013, p6.

3) Li Lian Ong, at el, HEAT! A Bank Health Assessment Tool, Working Paper, International Monetary Fund, 2013, p5.

### **3) Analysis of The risk map of Financial Soundness indicators:**

A risk map of basic financial safety indicators can be measured to monitor the nature of the financial and banking sector, its stability, and its impact on financial and economic crises. These indicators serve as an early warning tool and are one of the direct control means. The main indicators are classified as follows:

1. Capital adequacy indicators.
2. Profitability indicators.
3. Asset quality indicators.
4. Liquidity indicators.

We note through the risk map of Financial Soundness indicators that the green color is the most prevalent on the map, which indicates the stability of most financial Soundness indicators and this will be reflected on banking stability and then financial stability in Iraq, as the capital adequacy index for the year 2021 recorded low risk ratios of the green color will be the most general during the year 2021, meaning that the capital adequacy of the banking sector is very good, and it exceeds the standard ratio set by the Central Bank of Iraq, amounting to (12%), as for profitability indicators, it was less stable during the period (2019-2021), as The risk ratio increased in the return on assets in the first quarter of 2021 and then decreased at the end of the fourth quarter of the same year, and this is indicated by the contrast of colors over the course of the period, while the green color was the most prevalent in the indicator of the return on equity in the year 2021, as according to this indicator it is noted The path of the volume of profits achieved by banks operating in Iraq, and the indicators of liquidity quality, it witnessed more stability in the ratio of liquid assets to total assets and the ratio of liquid assets to short-term liabilities and a decrease In the risks during the period (2019-2021), and therefore the green color is dominant on the map, that is, the ratios of liquidity quality are higher than the ratio specified by the Central Bank of (%30), The indicators of asset quality also witnessed a difference in color gradation, as non-performing loans to total assets witnessed an increase in risk during the period (2019-2021) and this is indicated by the orange color, to decrease the risk ratio during 2021 to take yellow in the fourth quarter of 2021, which is very low compared to 2020, as the ratio of late debt to total cash credit decreased in the fourth quarter (8.8%) for 2021 compared to 2020, in which the ratio reached (9%) While the ratio of non-performing loans to total cash credit was more stable during 2021 compared to previous years when the risk score was high, the risk gradually decreased to make green the most prevalent, as shown in Table 12.

Table (12) Risk Map for Financial Soundness Indicators

Indicators		2017				2018				2019				2020				2021			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Adequacy	Capital adequacy	0.941	0.865	0.918	0.359	0.620	0.477	0.552	0.000	0.429	0.229	0.418	0.659	0.388	0.388	0.453	0.859	0.560	0.498	0.407	0.373
Profitability	Return / assets %	0.923	0.821	0.603	0.603	0.859	0.679	0.436	0.436	0.949	0.667	0.308	0.103	0.795	0.577	0.372	0.000	0.872	0.551	0.013	0.385
	Return/equity %	0.102	0.251	0.432	0.432	0.041	0.245	0.329	0.331	0.000	0.148	0.459	0.653	0.026	0.190	0.340	0.695	-0.033	0.247	-0.005	0.430
Liquidity quality	Liquid assets / total assets %	0.055	0.000	0.005	0.473	0.424	0.374	0.310	0.262	0.299	0.416	0.276	0.150	0.076	0.101	0.096	0.061	0.068	0.111	0.133	0.126
	Liquid assets/Short Term liabilities %	0.086	0.069	0.075	0.080	0.080	0.072	0.013	0.000	0.031	0.020	0.015	0.028	0.029	0.025	0.086	0.089	0.016	0.031	0.041	0.040
Asset quality	Non-performing loans/total assets	0.030	0.035	0.159	0.504	0.568	0.606	0.934	0.935	1.000	0.694	0.602	0.637	0.939	0.954	0.637	0.671	0.744	0.667	0.629	0.552
	Non-performing loans/total cash credit	0.114	0.119	0.023	0.649	0.750	0.887	0.872	0.872	1.000	0.497	0.209	0.403	0.115	0.125	0.127	0.343	0.185	0.113	0.065	0.017

Source: Central Bank of Iraq, Financial and Monetary Stability Department Estimate

**Chapter IV**  
**Household Sector**  
**Indebtedness**

## 4-Household Sector Indebtedness

Credit to the household sector a very important part of the credit extended to the private sector, and it is one of the most important tools used to stimulate aggregate demand, and maintaining it at a level appropriate to the economic conditions and contributing significantly to maintaining financial stability, which is one of the most important objectives pursued by central banks for this purpose, household credit must be monitored and determined in a thoughtful manner in line with the actual need of the economy, and the appropriate decision must be taken to increase this credit, or reserve it according to scientific and banking indicators that adequately reflect the size and quantity of this credit, and this is done through several policies that are followed according to the economic conditions of the country. Among these policies related to credit, it is either expansionary or conservative and according to the needs of the economy, because the excessive granting of credit has very negative effects in the economy, and may lead to major financial crises, and from this point of view, the Central Bank of Iraq, represented by the Department of Monetary and Financial Stability, emphasized On measuring the indebtedness of the family sector as a tool through which monetary and credit policy can be drawn, in order to know the size of the growth reached by the indebtedness of the household sector by measuring it according to global indicators that correspond to the requirements of the available data on the indebtedness of the household sector in Iraq, in order to encourage banks to increase credit provided to the household sector in the event that the indicators used to measure it confirm its decline, or reservation in the event of the opposite. Taman, which is presented to the household sector, contributes greatly to stimulating growth within the real sector and increasing activity in it. Therefore, indicators of the indebtedness of the household sector will determine whether there is a decrease in this credit or an increase that should be wary of.

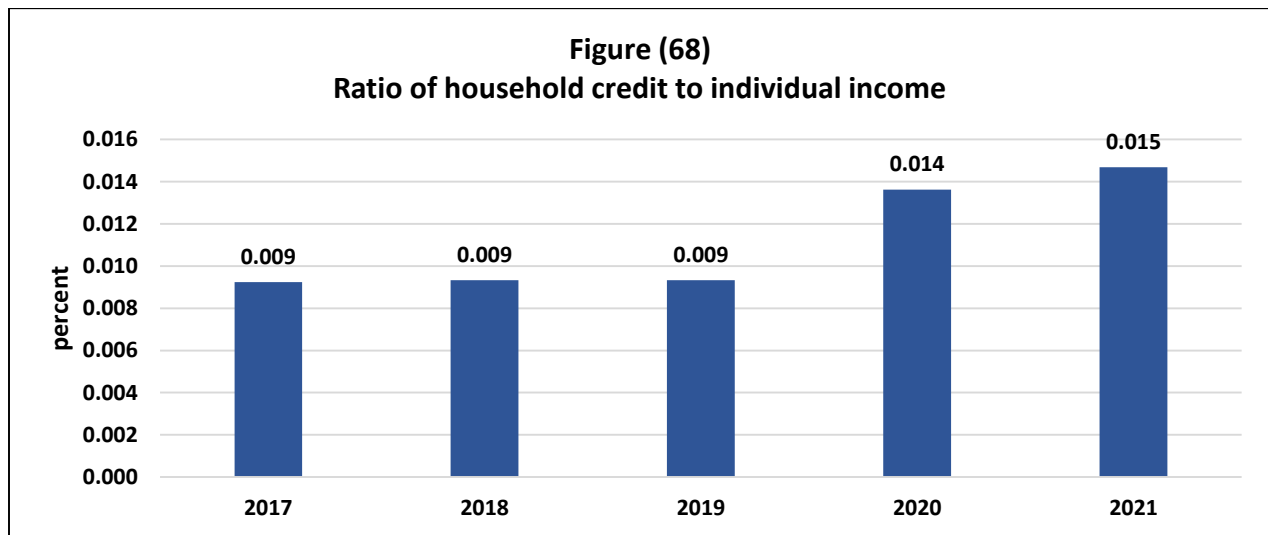
### 4-1. The ratio of credit to household to income of individuals<sup>1</sup>:

The income owned by individuals represents the ability to meet their daily needs and requirements, including the loans owed by them. Hence, this indicator measures the ability of individuals to repay the loans they owe. It is worth mentioning that loans granted to individuals by the banking system without Estimation of informal loans that are between families and friends because there are no estimates for them. The

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<sup>1</sup> For the purpose of knowing more about ways to measure family sector indebtedness, see the Central Bank of Iraq, Financial Stability Report 2020, Issue Eleven, p. 91.

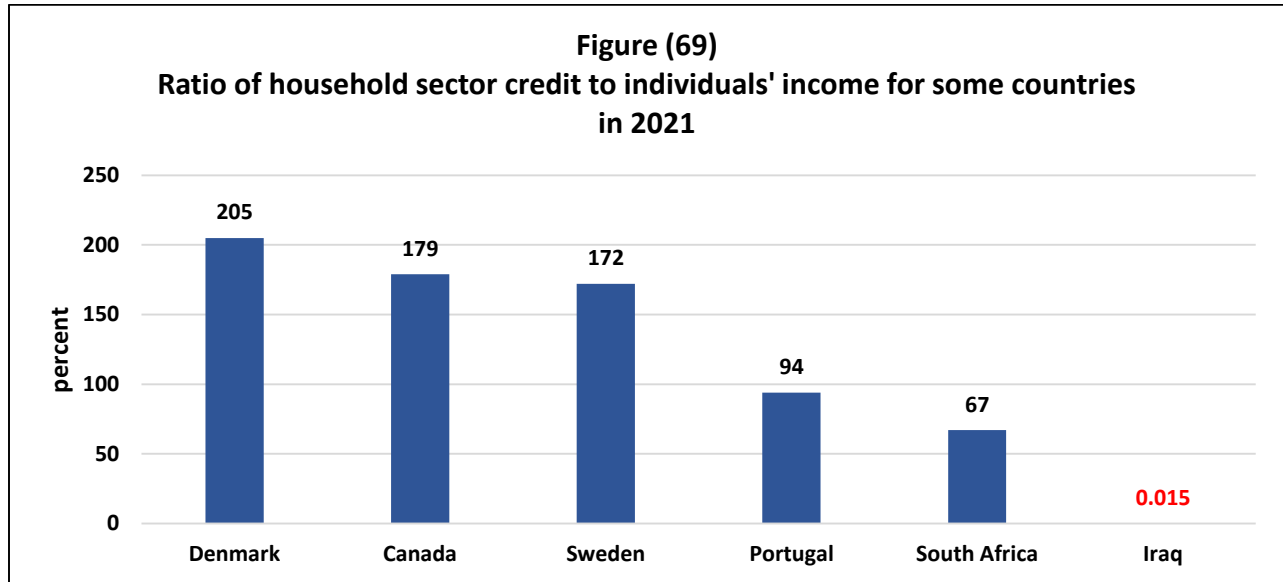
income of individuals was calculated in an estimated manner by relying on the data of the Ministry of Planning and the data of the Central Bank of Iraq, and from Figure (68) it is clear that the ratio of the household sector indebtedness to their income did not exceed the correct one, that is, it is very low despite its slight increase from (0.009%) in 2017 to (0.015%) in 2021, Therefore, the indebtedness of the household sector in Iraq does not affect the stability of economic conditions much, and it does not pose a real threat to financial stability or lead to a financial crisis that may occur if it is relatively high, which is a positive indicator in terms of the risks of household sector indebtedness.



Source: -Central Bank of Iraq, Department of Statistics and Research.

- Ministry of Planning, Statistical Group 2017.

When comparing Iraq with some international countries, we find that it occupies a late rank in the ratio of the household sector credit to the income of individuals, and figure (69) shows that Iraq occupies the last rank among these countries:



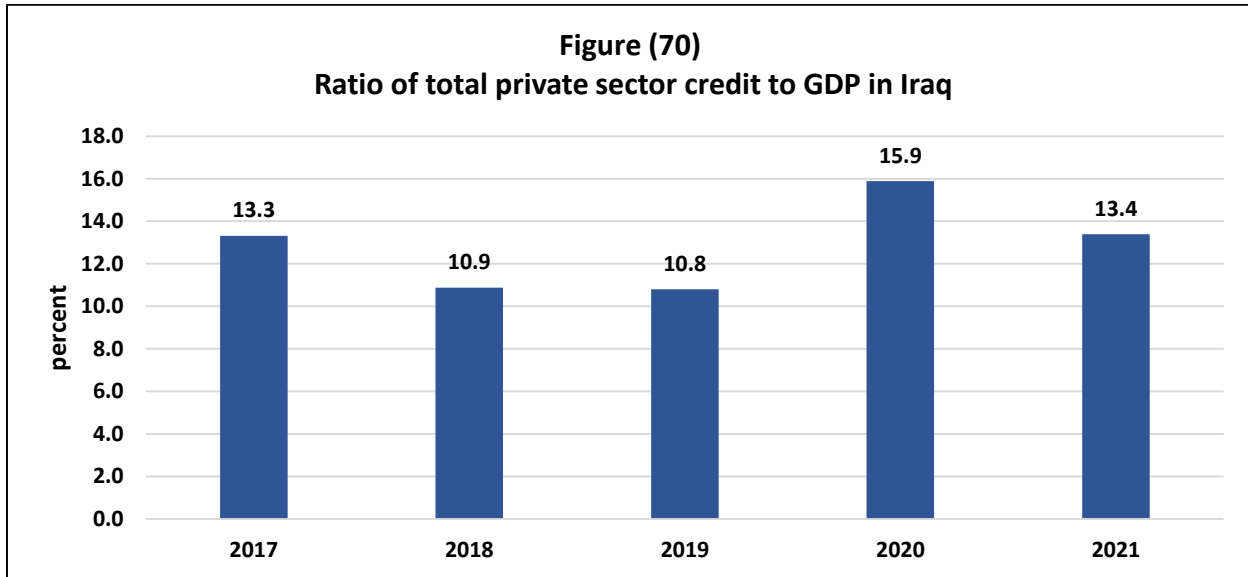
Source: TRADING ECONOMIC <https://tradingeconomics.com/country-list/households-debt-to-income>

#### 4-2. The ratio of credit to the private sector to GDP in Iraq:

The purpose of measuring this indicator is to know the total amount of credit provided by the banking system to the private sector, Because the credit provided to the household sector is a part of it, studies have shown that the ratio of credit provided to the private sector to GDP if it reaches (80%-100%) leads to large fluctuations in the economic cycle and may affect financial stability<sup>1</sup>, and Figure (70) It shows the ratio of credit provided to the private sector to the gross domestic product in Iraq, which confirms that there is a very slight increase in this ratio from (13.3 %) in 2017 to (13.4%) in 2021, meaning that in terms of financial stability, there are no high risks for credit provided by the private sector on financial stability.

<sup>1</sup> Ratna Sahay and others, Rethinking Financial Deepening: Stability and Growth in Emerging Markets, I M F, 2015.



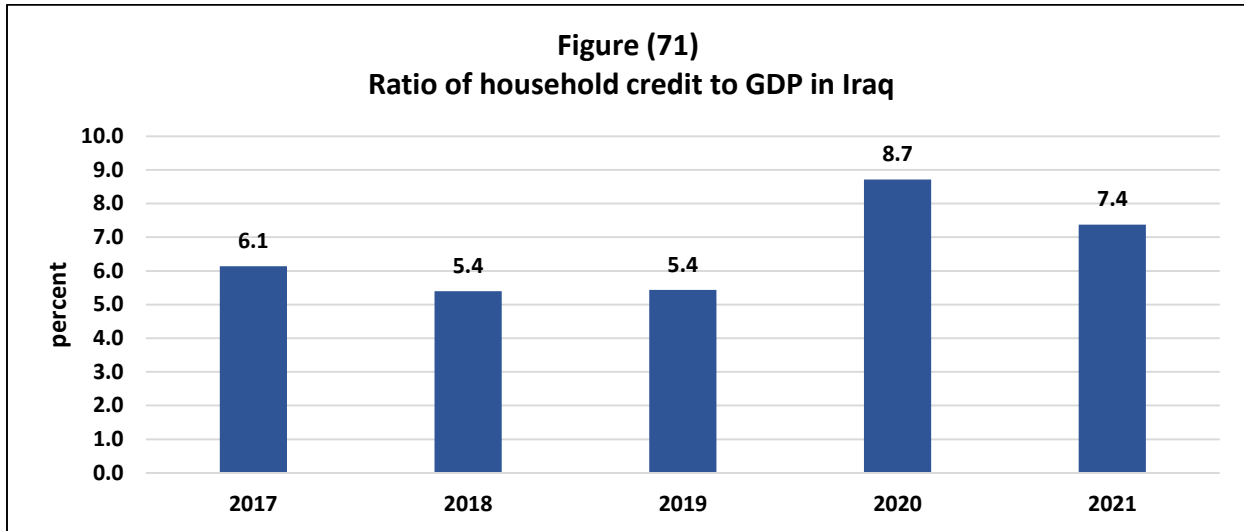


Source: Central Bank of Iraq, statistical website.

#### **4-3. The Ratio of Credit to The Household Sector to GDP in Iraq:**

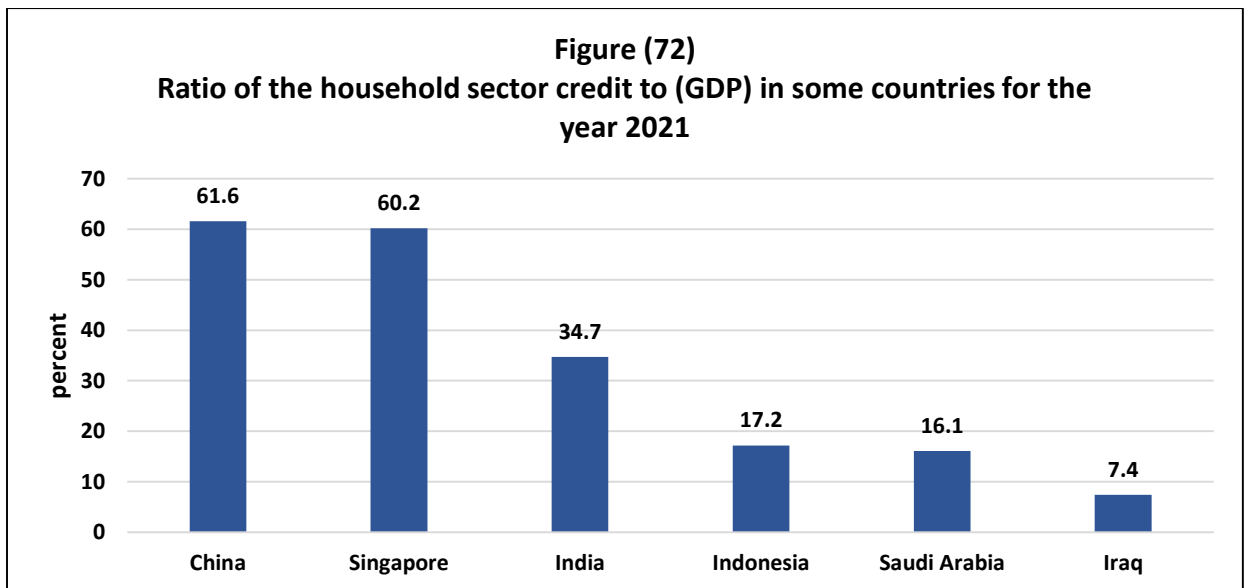
This indicator measures the amount of credit provided to the Household sector relative to the gross domestic product, and it is considered part of the credit provided to the private sector, so it is natural that its ratio to (GDP) is less than the ratio of total credit provided to the private sector. The International Monetary Fund 2017, that the credit provided to the Household sector can lead to a banking crisis if its percentage exceeds (65%) of the GDP, and is weak if the percentage is less than (10%)<sup>1</sup>, and Figure (71) shows the percentage of credit provided to the sector Household to (GDP) in Iraq, It is noted where the Household sector indebtedness to GDP increased from (6.1%) in 2017 to (7.4%) in 2021, meaning that this percentage is less than (10%), which confirms the decline in credit provided to the Household sector in Iraq, This requires the development of detailed and scientific policies aimed at raising the percentage of this indicator, which will have a positive impact on the Iraqi economy.

<sup>1</sup> Financial Stability Report in the Arab Countries, 2019, p. 150.



Source: Central Bank of Iraq, Department of Statistics and Research, Monetary and Financial Statistics.

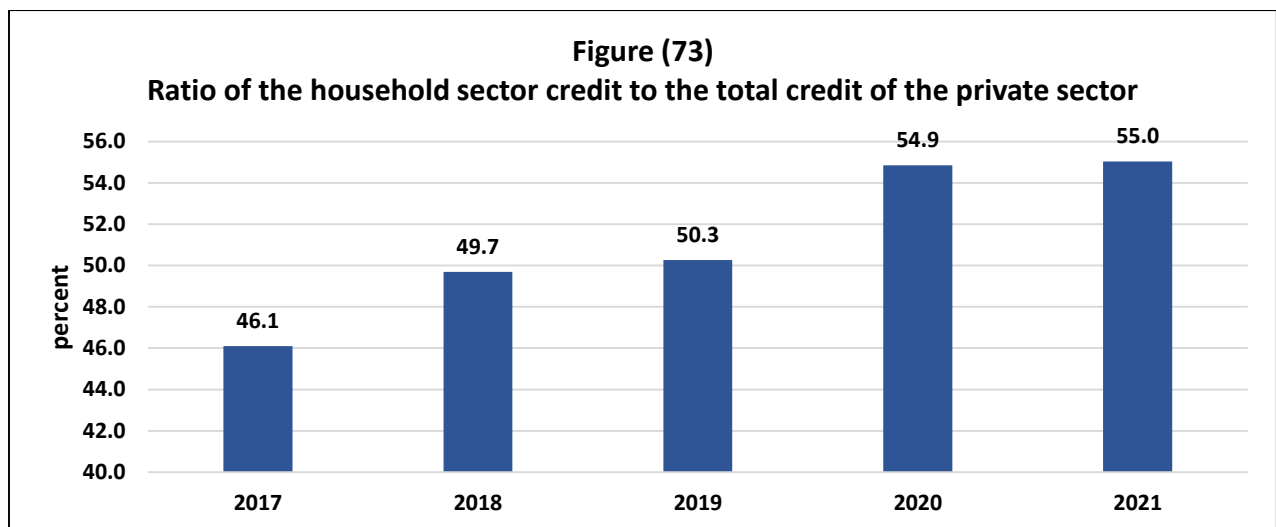
In general, the credit provided to the family sector in Iraq is weak if compared with some countries, and Figure (72) shows in terms of the ratio of credit provided to the Household sector to (GDP) that Iraq occupies the last rank among the comparison countries, and the impact of credit provided to the Household sector It can increase without worrying that it will affect financial stability, taking into account the conditions and criteria for granting credit.



Source: TRADING ECONOMIC <https://tradingeconomics.com/country-list/households-debt-to-gdp?continent=asia>

#### 4-4. The ratio of credit to the household sector to total credit to the private sector:

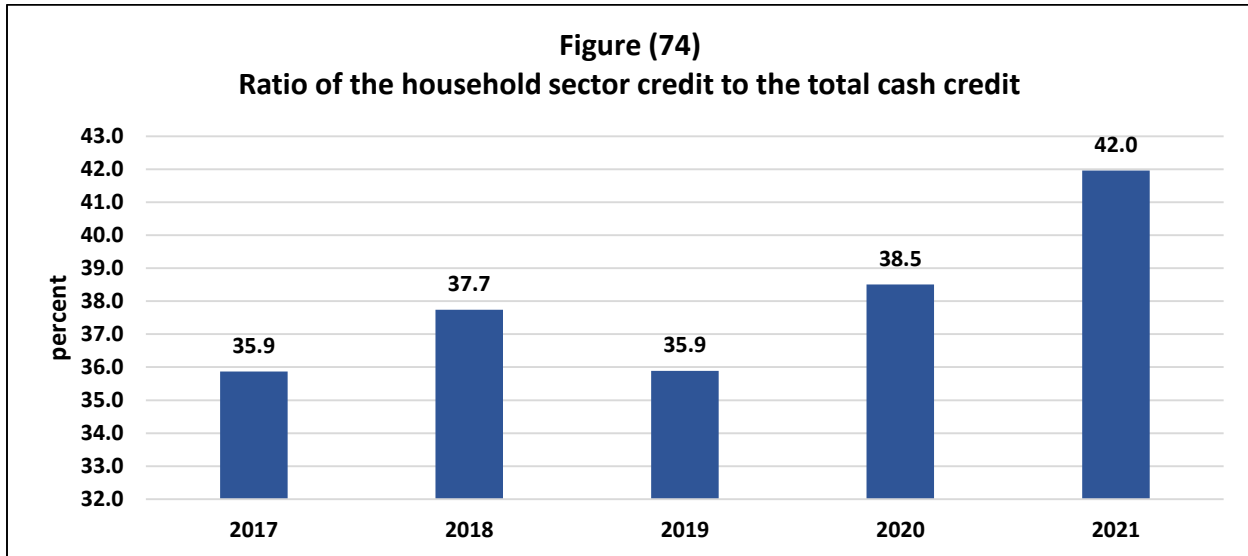
Where this indicator measures the ratio of credit provided to the household sector to the total credit provided to the private sector to know the volume of household credit from the credit provided to the private sector, and Figure (73) shows that the ratio of credit provided to the household sector increased from (46.1%) in 2017 to (55%) in 2021, and this rise is due to the positive growth in household credit, which is greater than the growth of total private credit, as the growth of household credit reached (63%), while there was less growth in total private credit with a growth rate of 36%. During the period (2017-2021), the credit provided to the household sector constitutes an important part of the credit provided to the private sector in Iraq.



Source: Central Bank of Iraq, Department of Statistics and Research, Monetary and Financial Statistics.

#### 4-5. The ratio of household sector credit to total cash credit:

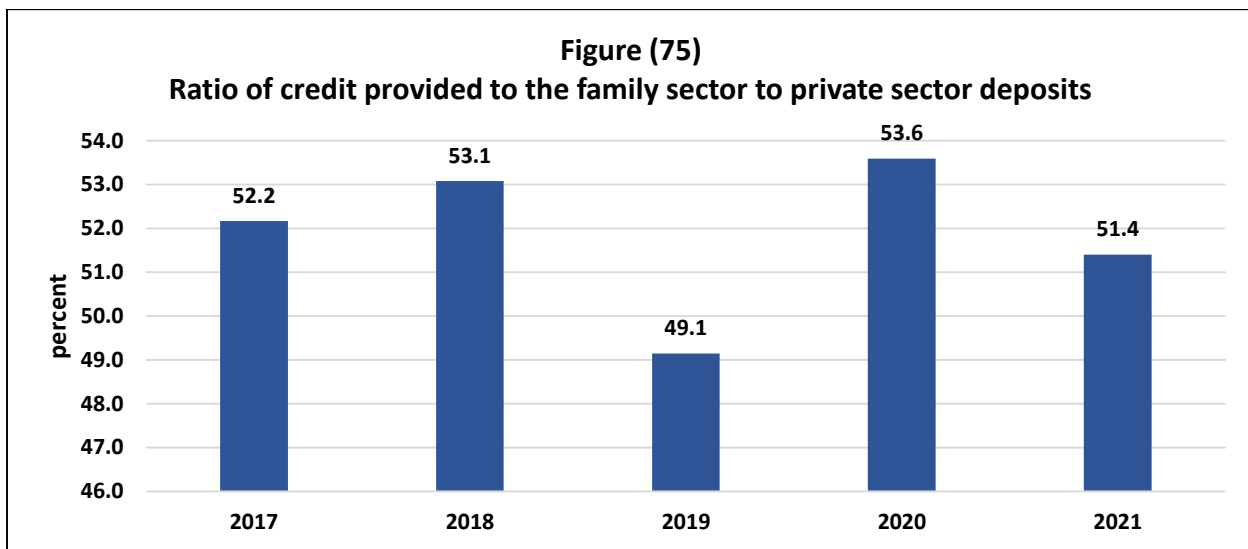
This indicator is measured by calculating the credit facilities granted to the household sector in relation to the total cash credit, whether it is provided to the private or public sector. This indicator shows the amount of credit provided to the household sector out of the total cash credit, and Figure (74) shows that the ratio of credit granted to the household sector to the total cash credit increased from (35.9%) in 2017 to (42%) in 2021 at an increasing pace.



Source: Central Bank of Iraq, Department of Statistics and Research.

#### 4-6. The ratio of household credit to private sector deposits:

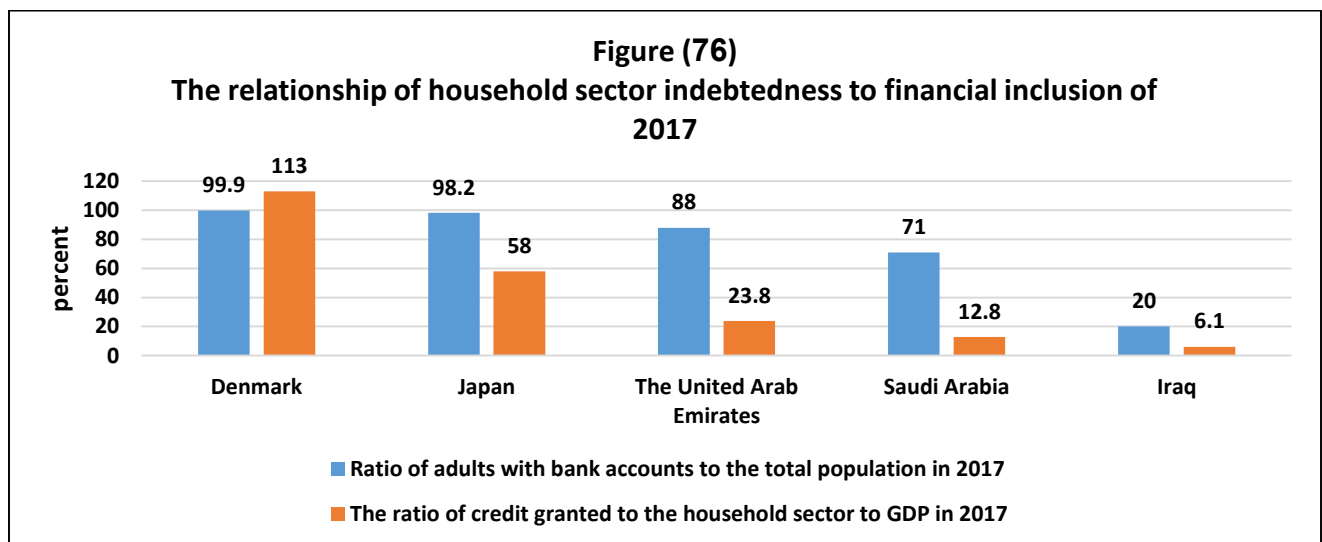
This indicator shows the extent to which banks are able to cover the debts granted to the household sector through private sector deposits only. It appears that the ratio of household sector credit to private sector deposits amounted to (52.2%) during 2017, then this ratio decreased to (51.4%) by the end of 2021, meaning that deposits cover all credit provided to households. Hence, the credit granted to the household sector can be increased, taking into consideration the conditions, procedures, and guarantees that must be available when providing credit from banks.



Source: Central Bank of Iraq, Department of Statistics and Research.

#### 4-7. The relationship of household sector debt to financial inclusion:

Since the volume of credit granted to the household sector is directly related to the volume of bank accounts owned by individuals, the greater the number of bank accounts for the number of adults in the country, the greater the volume of credit granted to the individual. household sector. Accordingly, the volume of loans granted to the household sector is higher in developed countries than in developing countries, due to the great development of banking services and their rapid delivery to the public, due to the presence of high financial inclusion, access to credit has become easier. Figure (76) shows the ratio of credit granted to the family sector to the GDP of some countries with different financial inclusion. It is clear that the percentage of credit granted to the household sector increases with the increase in the level of financial inclusion, and therefore the financial development and ease of access to banking services are directly affected by the credit granted to the household sector, as Denmark has the largest percentage of adults who own bank accounts (99.9%), It has the highest percentage in the volume of credit granted to the household sector to (113%) in 2017, while Iraq has the lowest percentage in the number of adults with bank accounts. This amounted to (20%), and also has the lowest credit ratio granted to the household sector to (GDP) at a rate of (6.1) in 2017, and this confirms that the high level of financial development leads to an increase in credit granted to the household sector, and from the above considered the sector The household is an important sector in the economy of any country, regardless of its development, and it is considered very influential in its degree of stability.




Source: -Global Economy [https://www.theglobaleconomy.com/rankings/household\\_debt\\_gdp/](https://www.theglobaleconomy.com/rankings/household_debt_gdp/)

- IMF. [https://www.imf.org/external/datamapper/HH\\_LS@GDD/CAN/GBR/USA/DEU/ITA/FRA/JPN](https://www.imf.org/external/datamapper/HH_LS@GDD/CAN/GBR/USA/DEU/ITA/FRA/JPN)

**Table (13) Indicators for Separating Household Sector Indebtedness**

<b>Indicator name</b>	<b>Value indicator 2020</b>	<b>Value indicator 2021</b>	<b>rate of change</b>
<b>The household credit ratio to individual income</b>	<b>0.014</b>	<b>0.015</b>	<b>0.07</b>
<b>The private sector ratio credit to (GDP) in Iraq</b>	<b>15.9</b>	<b>13.4</b>	<b>-0.16</b>
<b>The household sector credit ratio to (GDP) in Iraq</b>	<b>8.7</b>	<b>17.4</b>	<b>-0.15</b>
<b>The household sector credit ratio to total private sector credit</b>	<b>54.9</b>	<b>55.0</b>	<b>0.00</b>
<b>The household sector credit ratio to the total cash credit</b>	<b>38.5</b>	<b>42.0</b>	<b>0.09</b>
<b>Private sector deposits ratio to household sector credit</b>	<b>186.6</b>	<b>194.6</b>	<b>0.04</b>



**Chapter V**

**Measurement of Iraq's  
cumulative financial stability  
index**

## 5. Measurement of Iraq's cumulative financial stability index:

Policymakers at the Central Bank of Iraq have taken a number of extraordinary measures to protect Iraq's individuals, economy and financial system from the effects of shocks in previous years. These actions helped to contain financial stability risks. Financing the economy with a package of financing initiatives will support the Iraqi economy, especially as it faced serious challenges, reflected a significant decline in growth. In addition to rising government revenues as a result of higher oil prices, the Central Bank continued to support the economy through its initiative of specialized banks to reach (IQD 10,435) billion by 2021, thus reflecting on Iraq's GDP growth, but these recovery indicators remain fraught with considerable uncertainty and will depend on the price trajectory of global markets and the quantities produced and exported from Iraqi oil. Weaknesses in Iraq's economy and its near-total dependence on oil continue to accumulate, constituting adverse currents for recovery in the coming periods, as cracks in previous years will continue for longer. They need additional action as early support to stabilize the economy and promote growth. Thus, financial stability indicators quantify the level of financial stability and serve as a tool for guidance and early warning, alerting decision makers and policymakers that the financial system may be exposed to a financial crisis before it occurs, to take the necessary preventive and proactive policies and actions. The process of assessing the integrity of the financial system is based on quantitative and objective measures, And as it solidifies the principle of transparency and disclosure, making various information available to the market and those dealing with the financial system, drawing attention to the systemic risks to the financial system as a whole, the Central Bank of Iraq, represented by the Monetary and Financial Stability Division, has sought to develop the Financial Stability Index to become a holistic state of stability of the financial system and not only banking stability By relying on a set of indicators for both the banking system, the macro sector, the capital market and the financial cycle, these sub-indicators also depend on other sub-ratios shown in table 14.



**Table 14 Variables in the composition of the financial stability index and the relative weights of each indicator**

The axes	Variables	Sub Variables	The relationship between variables and the financial stability index	The weight after eliminating the minimum and maximum values	Weight of the main index
Banking sector index BI	Capital adequacy	Capital adequacy ratio	Expel	13%	53%
	Asset quality	Non-performing debt / total debt	Reverse	5%	
		Net non-performing debt after deduction of provisions / capital base	Reverse	5%	
		Coverage Ratio (Provisions / Non-performing Debts)	Expel	5%	
	Liquidity	The liquid assets ratio / short-term liabilities	Expel	6%	
		Ratio of total debt / total deposits	Reverse	6%	
	Profitability	Return on Assets Ratio (ROA)	Expel	6%	
		Return on Equity Ratio (ROE)	Expel	3%	
		Total non-interest expenses / total income	Reverse	4%	
		Interest margin to total income	Expel	3%	
Macroeconomic Index	GDP growth rate	Expel	6%	24%	
	Current account deficit / GDP ratio	Reverse	6%		
	Inflation rate	Reverse	6%		
	The foreign reserves ratio / gross domestic product	Expel	6%		
Capital Market Index	Iraq Stock Exchange Index	Expel	7.50%	15%	
	Stock market value / GDP	Expel	7.50%		
Financial Cycle Index		The credit gap (the difference between the ratio of credit granted to the private sector to GDP and the trend of the long-term ratio) <sup>1</sup>	Reverse	8%	8%
Total				100%	100%

<sup>1</sup>The direction of this ratio is calculated using The Hodrick-Prescott filter and the gap for this ratio.

### **5-1. Variables used to calculate the financial stability index:**

The financial stability index consists of four main indicators as follows:

- a. The banking sector index consists of 10 sub-indicators: capital adequacy ratio and ratio of inactive debt to total debt Net inactive debt-to-capital ratio and allocation coverage ratio and the ratio of liquid assets to liquid liabilities, and the ratio of total debt to total customer deposits and the ratio of return on assets, the ratio of return on equity, the ratio of gross non-interest expenses to gross income and the ratio of interest margin to gross income.
- b. The macroeconomic index consists of four sub-indicators: GDP growth rate, current account deficit/GDP ratio, inflation rate and foreign reserves/GDP ratio.
- c. Capital Market Index (CMI): consists of two sub-indicators: the Iraq Stock Market Index and the ratio of equity market value to GDP.
- d. FCI: Consists of a single indicator that measures the credit gap, i.e. the difference between the credit ratio of the private sector to GDP and the long-term ratio trend using The Hodrick-Prescott filter.

The previous table shows the variables used in the composition of the financial stability index and the relationship between these variables and the financial stability index. The variables that have a reverse relationship will be given a negative signal before the normalization of the data and the manner in which they will be explained in the indicator's methodology:

### Framework (3) Steps to measure the aggregated indicator of financial stability in Iraq.

The aggregate indicator is a composite indicator and is calculated according to the following steps:

1- Transforming the variables data into standard values according to the experimental method:

(**Empirical Normalization**) by the following equation<sup>1</sup>:

$$d = \frac{x - \text{Min}}{\text{Max} - \text{Min}}$$

Since:

X = the value of the variable in the current year.

Min = the lowest value of the variable during the calculation period.

Max = the largest value of the variable during the calculation period.

The value of the index ranges between (0 - 100), whenever the value is close to zero, it indicates that banking stability faces risks with a greater degree of stability, while the further away the value is from zero, it is an indication that the aggregate index is stable and the size of risks is less, the closer the value of the index is. The indicator from one indicates a decrease in risks and thus an increase in the level of financial stability.

2- Determining weights: Different weights have been determined for the variables related to the indicators mentioned in Table (11) which is the method of expert estimation, and there are other methods for granting weights such as<sup>2</sup>:

- Expert Judgment.
- Principal Components Analysis
- Factor Analysis

3- Collecting the weighted standard values to obtain the values of the sub-indicators.

$$+\sum_{j=1}^4 \omega_j EI \left[ \frac{x_{jt}-\text{Min}_j}{\text{Max}_j-\text{Min}_j} \right] + \sum_{j=1}^2 \omega_j CI \left[ \frac{x_{jt}-\text{Min}_j}{\text{Max}_j-\text{Min}_j} \right] + FSI = \sum_{j=1}^{10} \omega_j BI \left[ \frac{x_{jt}-\text{Min}_j}{\text{Max}_j-\text{Min}_j} \right]$$

$$\omega_j FI \left[ \frac{x_{jt}-\text{Min}_j}{\text{Max}_j-\text{Min}_j} \right]$$

Since:

FSI: Financial Stability Index.

w<sub>j</sub> :weights.

BI: Banking Sector Index.

EI: Aggregate Sector Index.

CI: Capital Market Index.

FI: Fiscal Cycle Index.

t: the calculation year.

1 There are a number of methods for converting data into standardization values, and each method has its advantages and disadvantages, but using the above-mentioned method is one of the best methods based on Rabi Mishra and others, for more see:

Rabi Mishra, Puneet Verma, and Sanket Bose (2015), Operationalising Financial Inclusion Index as a Policy Lever: Uttar Pradesh (in India)- A Case Study, Journal of Mathematics and Statistical Science, Vol. 1, Issue 4, pp 149-165.

I OECD, (2008), Handbook on Constructing Composite Indicators Methodology and User Guide, Organization for Economic Cooperation and Development, pp31-33. Available at: [www.oecd.org/publishing/corrigenda](http://www.oecd.org/publishing/corrigenda).

## 5-2. Practical aspect of Iraq's financial stability index:

### 5-2-1. Analysis of the cumulative financial stability index and stability map:

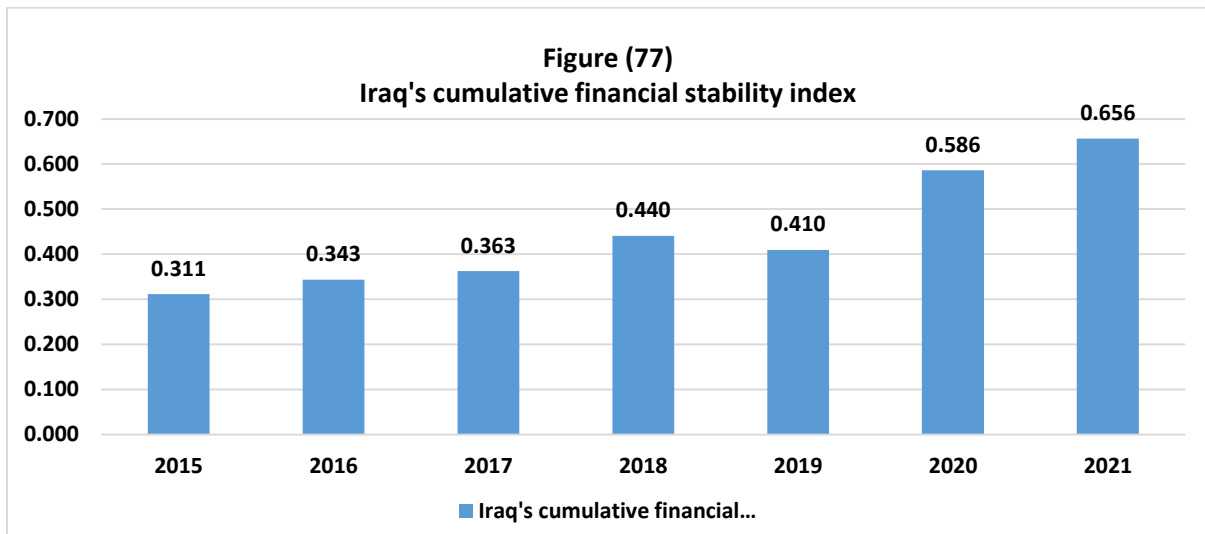
The level of financial stability can be assessed by the cumulative indicator of financial stability cumulative indicators, based primarily on the components and trends of the cumulative index, have seen an increase over the period from 2015 to 2021, with the exception of 2019, which fell to 0.410 from 2018 (0.440), The value of the long-term index increased from (0.311) in 2015 to (0.656) in 2021 as shown in Table No. (15) Reflecting the general orientation of the Central Bank of Iraq to adopt and strengthen financial stabilization policies by applying Basel III requirements and IFRS No. (9) as well as other CBI requirements for the banking sector in Iraq (domestic and foreign).

**Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates.**

Table 15 Cumulative indicator of financial stability and its constituent sub-indicators							
	2015	2016	2017	2018	2019	2020	2021
Aggregate Index of Financial Stability	0.311	0.343	0.363	0.440	0.410	0.586	0.656
Banking Sector Index	0.205	0.181	0.181	0.194	0.190	0.289	0.253
Macroeconomic Index	0.031	0.087	0.121	0.162	0.133	0.155	0.225
Capital Market Index	0.000	0.049	0.005	0.005	0.008	0.080	0.099
Financial Cycle Index	0.000	0.025	0.055	0.079	0.080	0.063	0.080

In the light of the economic effects of the coronavirus pandemic, the Central Bank of Iraq (CBI) has embarked on a series of swift and effective measures that will ease the shock on financial stability. In addition to improving global oil prices during 2021 These measures and conditions were positively reflected in the fiscal stabilization cumulative index, which rose to 0.656 in 2021, compared with 0.586 in the end of 2020, and the package was distributed during the crisis and beyond into the first two parts in the form of instructions and controls. (such as deferral of payment of instalments and non-performing credit penalties and reduction of the legal reserve ratio to provide liquidity to banks) and second, support to economic sectors by increasing bank grants (Industrial, Agricultural, Real Estate and Housing Fund) launched by the Central Bank of Iraq for lending to economic sectors, reaching about 2021 Of the total amount of IQD 4679.7 billion awarded, IQD 2,609 billion brought Iraq's economy to recovery and cohesion and created a strong and

stable financial and monetary sector through the adoption of an initiative to empower the digital economy and increase financial inclusion. As shown in figure 77.

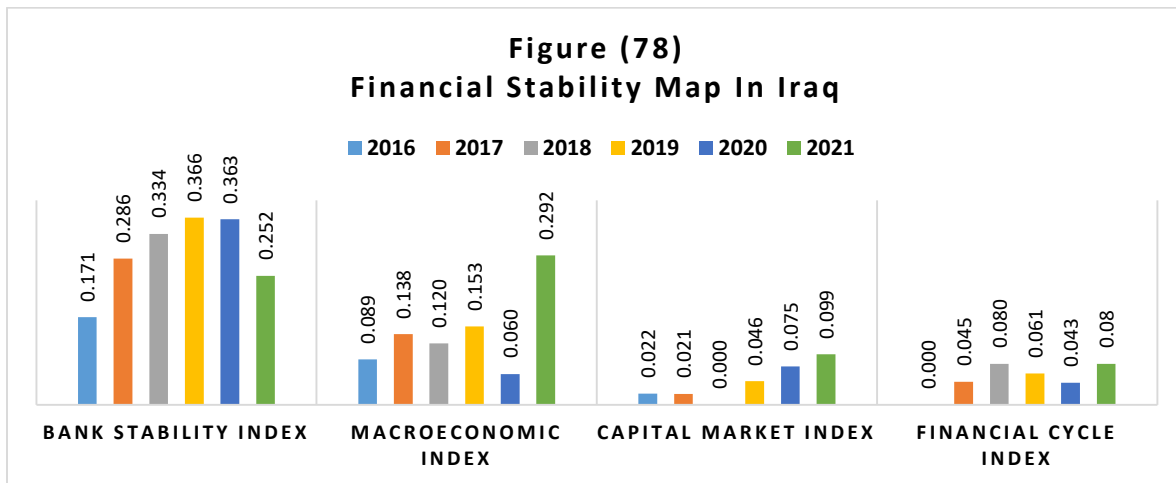


Source: Table data (15).

### 5-2-2. Financial Stability Map:

The financial stability map shows an analysis of the direction of sub-indicators compiled based on data each year, as the aggregate index has improved over the period from 2015 to 2021. Both the capital market index and the macroeconomic index as well as the fiscal cycle index rose in 2021, while the banking sector index declined. The overall impact of the change in these indicators was the rise in the fiscal stability index from 0.586 in 2020 to 0.656 in 2021, reflecting the relative stability of Iraq's fiscal stability index. Figure 78 shows that the higher macroeconomic index has had an impact on the higher fiscal stability index owing to the growth of both (GDP growth rate and current account deficit/GDP ratio) These two variables have had an impact on the rise in the macroeconomic index as a result of the increase in global oil prices, reflected in GDP growth, although their weighting is (24%) of the total weighting weight of the fiscal stability index, in addition to the banking sector index has the largest percentage of weighting weight, which represents a percentage (53%) of the total weighting weight of the fiscal stability index despite its decline during 2021 is due to two reasons: The first is the high weighting ratio of the banking sector index compared with the rest of the indicators The second is the increase in the number of sub-indicators in its composition, and the quality of assets and profitability has had the greatest impact on bank stability and hence financial stability in Iraq, reflecting the robustness and resilience of Iraq's

banking sector, which has experienced good profitability, good liquidity coverage and reliance on the basic business of banks.



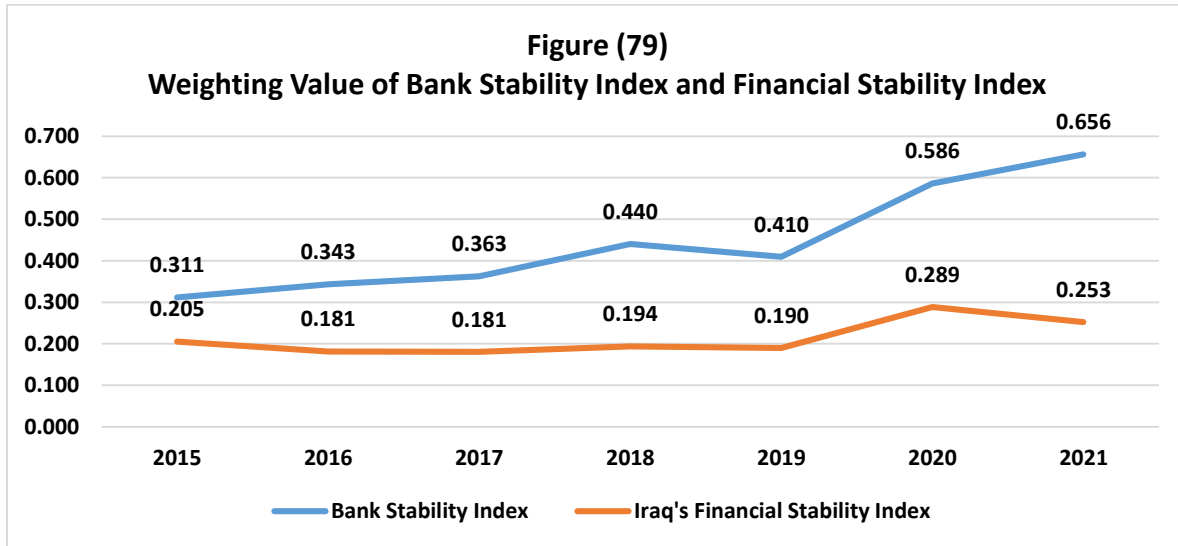
Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates.

### 5-3. Relationship between the cumulative financial stability index and its constituent sub-indicators:

The cumulative indicator of financial stability consists of several sub-indicators, all of which affect the final outcome of the indicator's value as follows:

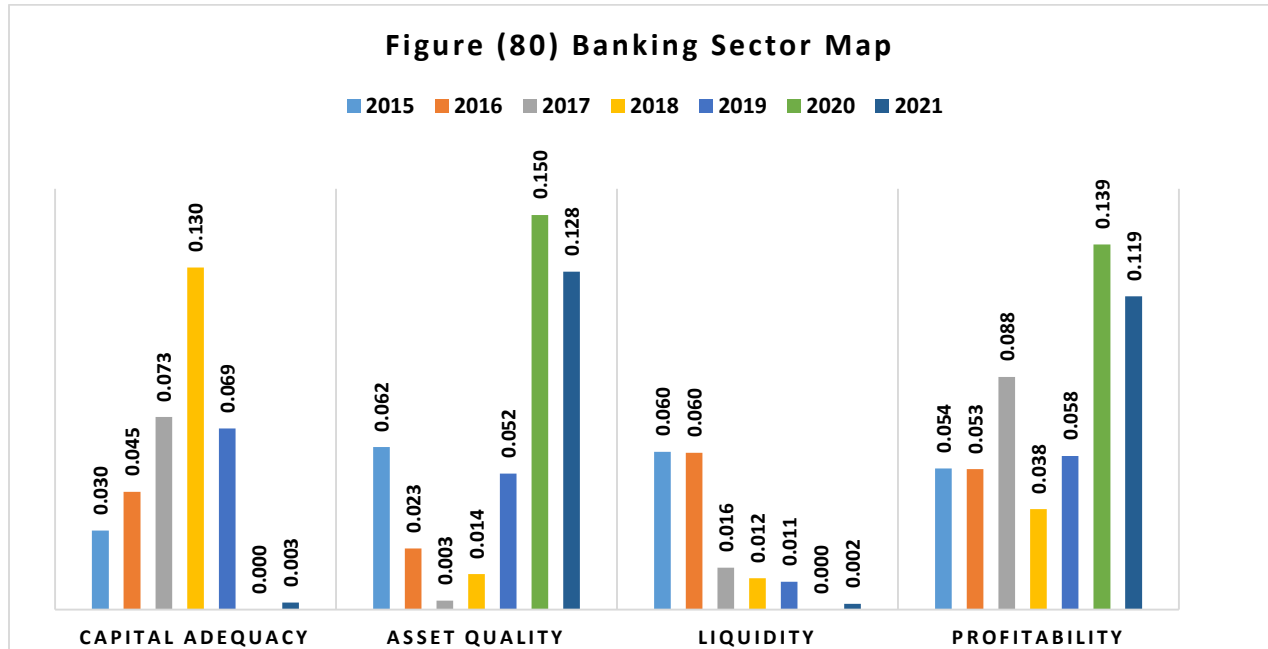
#### 5-3-1. Banking Indicator:

It consists of four main components (capital adequacy ratio, asset quality, liquidity and profitability) These variables include a number of secondary variables that impact positively or negatively on Iraq's financial stability. The Banking Stability Index fluctuated during 2015-2021. The Bank Stability Index weighted to 0.253 during 2021 from 0.289 during 2020, as shown in Figure (79).



Source: Table data (15).

The weighted value of the Capital Adequacy Index during the 2021 year recorded a rate of (0.003) after (0.000) during 2020, and we note that the banking stability map shows that the weighted value of both the Asset Quality Index and the Profitability Index decreased from (0.150) and (0.139) in 2020 respectively to (0.128) and (0.119) in 2021, respectively. Reflecting the decline in the banking stability index, while the liquidity quality index rose from 0.000 in 2020 to 0.002 in 2021, this decline in the asset quality index and the profitability index did not affect Iraq's financial stability index from 0.586 in 2020 to 0.656 in 2021, as shown in figure (80).

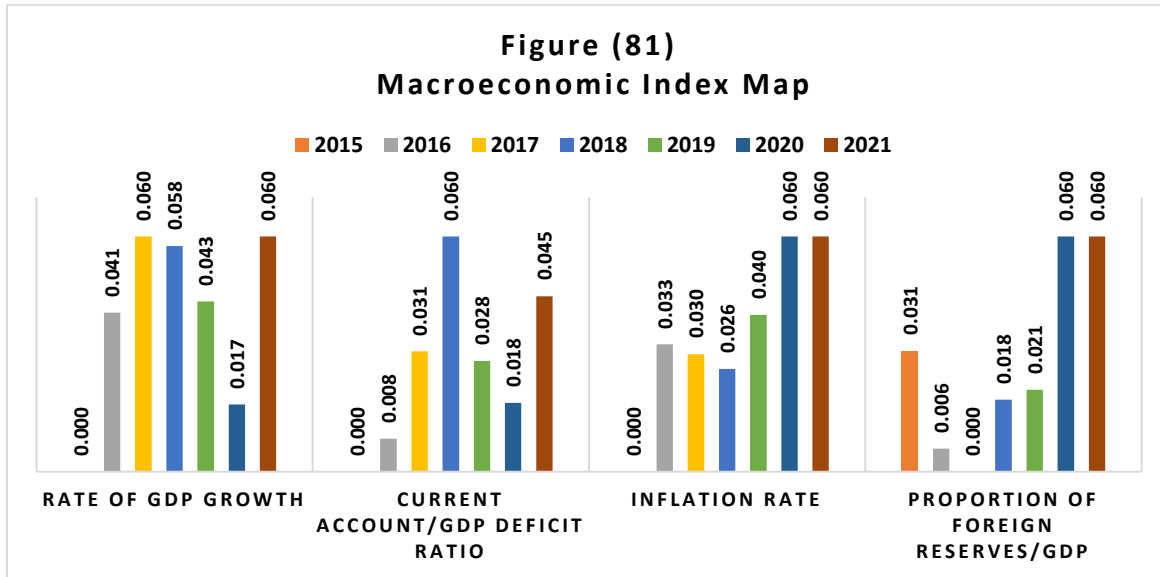


Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates.

### 5-3-2. Macroeconomic indicator:

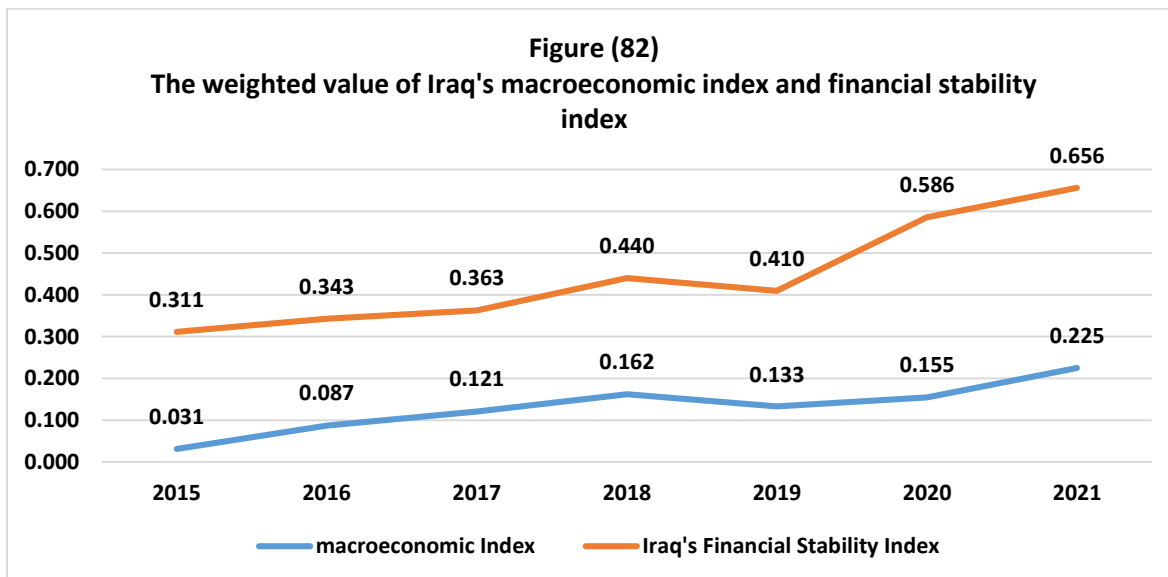
The macroeconomic index expresses a set of statistics or data reflecting the country's economic conditions, which are used by analysts and Governments to assess the current and future situation of the economy and financial markets, and measures the impact of macroeconomic variables on financial stability, consisting of four sub-indicators: (GDP growth rate, foreign reserves/GDP ratio, current account deficit/GDP, inflation rate) The impact of the first and second ratios is steady in financial stability. The impact of the third and fourth ratios is reverse, as higher macroeconomic indicators will have a positive impact on financial stability and if the bottom line is positive, the financial stability index will rise. We note from the macroeconomic stabilization map that the GDP growth rate, foreign reserves/GDP ratio and inflation rate have had a positive impact on macroeconomic stability and hence the financial stability in Iraq for each of them to register a percentage (0.060) and the current account deficit/GDP ratio rose to 0.045 during 2021, as shown in figure (81):





<sup>2</sup>Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates.

In figure (82), the end result of the macroeconomic index was positive, rising from 0.155 in 2020 to 0.225 in 2021, contributing to an overall increase in Iraq's financial stability index in 2021 compared to 2020.



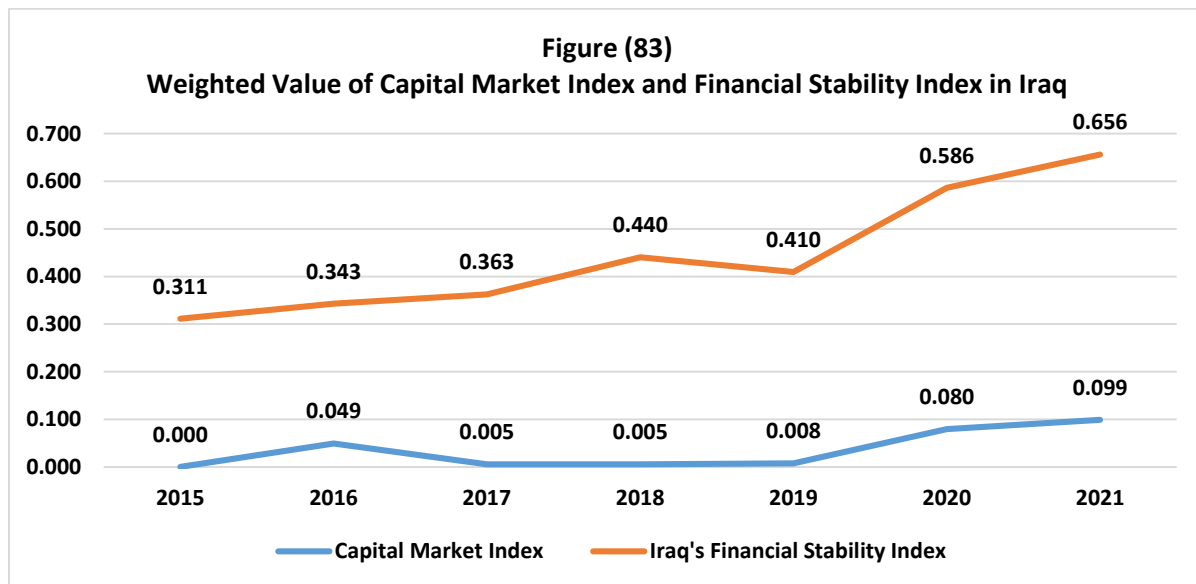
Source: Table data (15).

### 5-3-3. Capital Market Index:

This index measures the impact of capital markets on financial stability using the first two indicators (Iraqi Financial Market Index), which measures the performance

1 For more information on the mechanism of impact of each ratio in the financial stability index review theoretical aspect, table (11), p. 107.

of the Iraqi securities market, and the second (Market value of stocks/GDP) This is one of the most important indicators taken into account in the cumulative index, as it has a significant impact on Iraq's financial stability and a weighted weight. (15.1%) of the total weights of indicators in the calculation of financial stability in Iraq. These indicators have a correlation with the financial stability index. Therefore, the increase in the weighted value of such indicators from 0.080 in 2020 to 0.099 in 2021 affected Iraq's financial stability index during the period 2015-2021, as shown in figure (83).

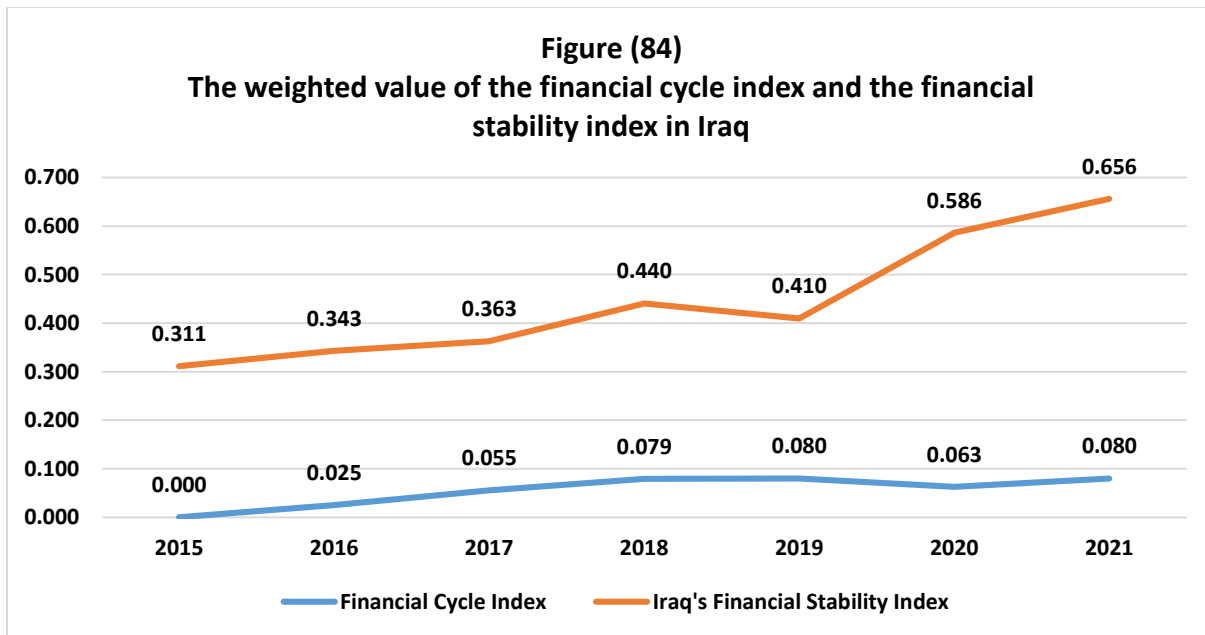


Source: Table data (15).

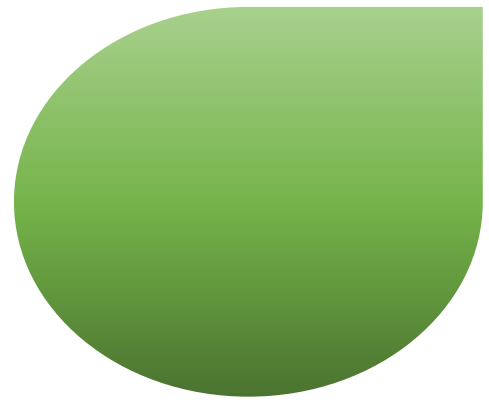
#### 5-3-4. Financial cycle indicator:

The index measures deviations in the level of credit provided to the private sector to GDP and shows the stages of expansion and contraction of the financial sector in each period. The positive gap indicates an acceleration in the growth of the private sector's credit rate, which may not correspond to the growth rate of GDP at the same pace. The negative gap indicates that credit prices are widening below the GDP growth rate, which usually occurs after financial crises, as the gap widens reflects the state of financial instability, and we note from the figure (84) that the weighted value of the gap has declined since 2019, but that decline has not significantly affected financial stability because the weight of the financial cycle within the fiscal stability index is only (12%) hence their impact is slight compared to the banking stability index or macroeconomic stability index. The weighted value of the fiscal cycle index (0.080) was recorded during 2021, and the average ratio of the credit

gap in Iraq was for the duration (2015-2021) (0.055) This indicates the weak contribution of the banking sector in Iraq to financing real activity despite the Central Bank's efforts to promote financial inclusion and initiatives to accelerate the development process and sustain economic growth in Iraq, but at the same time represents a reduction in the volume of risks realized from the likelihood of accelerated growth of bank credit in Iraq.

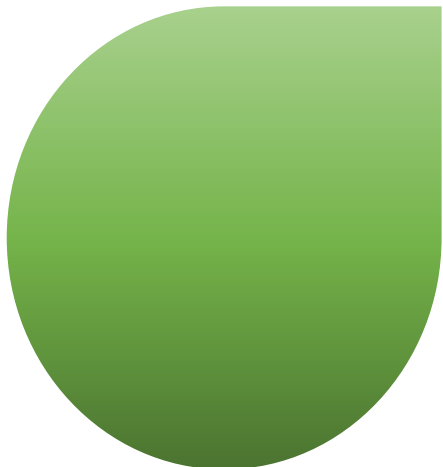


Source: Table data (15).



# **Chapter VI**

## **Total Stress Tests**



## 6. MACRO-STRESS TESTING

The integrity of the banking sector's operations and the health of its policies are key factors in the development and growth of the financial sector, maintaining its stability and achieving its objectives of economic growth and providing capital to the real sector. Several factors affect the banking sector's performance and effectiveness in mobilizing savings and providing credit to different economic sectors s banking system ", it is therefore necessary to follow up on the performance of the Iraqi banking system and to identify the most significant factors that are a source of threat that could impede growth and stability in the economic sectors in general and in the financial and banking sectors in particular, What are the expected and negatively or positively impacted shocks from avoiding negatives, enhancing positives and identifying deficiencies in the variables studied in this chapter that have a systemic impact on Iraq's banking sector.

There is also no doubt about the importance of banks in the economy through their intermediary role between surplus units and fiscal deficits, which has been demonstrated by economic theories and practical experiences of different countries of the world. Attention to the safety of the financial sector is an urgent need to ensure the continuation, support, revitalization and expansion of economic activities, pressure tests are one of the financial system's risk management tools, and pressure tests are an OFF-SITE SUPERVISION tool for banks' performance.

The nature and degree of interdependence between the real and financial sectors make it necessary to examine developments and changes in one or both sectors and their impact on the other; Because any risks or shocks to the real sector may be sources of risk to the financial sector and vice versa.

Predicting the banking sector's capacity to absorb external shocks requires analysis and control of developments in the real economy by building appropriate scenarios, and in this regard a set of macro-scenarios that are divided into the baseline, medium-intensity and most severe scenario have been assumed; For the purpose of assessing the ability of the banking system (the underlying component of Iraq's financial sector) to withstand such shocks and to continue to perform its basic functions without prejudice to the rights of depositors.

### **6-1. What are pressure tests:**

The pressure test is the "what if" analysis of what if generally takes the situation, but it presupposes fundamental changes in one or more variables for the purpose of knowing their impact on other variables, and it is also a tool to measure the safety and resilience of a particular financial institution or the financial system in general under different harsh scenarios and events, it is a quantitative exercise of the concept (what if? Estimate: What will happen in the capital, profits and cash flow of financial institutions individually, or to the system in aggregate if some risks are realized.

The emergence of pressure tests as a tool was not in the field of finance, but in technical science, in the broad sense, pressure tests are a technique or method for measuring the stability of an enterprise or system under different circumstances undesirable in the field of finance. Pressure tests are used to evaluate an enterprise's investment portfolio, or to measure the stability of a particular enterprise, called partial pressure tests. (MICRO-STRESS TESTS), later this method was used to test the stability of a group of financial institutions together, or the financial system in general, which may affect the overall economy, called MACRO-STRESS TESTS, which will be used in this report.

### **6-2. The importance of total pressure tests in:**

- a. Measuring the banking system's ability to withstand external shocks.
- b. Detection of imbalances and weaknesses.
- c. Identification of acceptable risk margins and required flexibility.
- d. Measuring the financial and banking sector's sensitivity to changes in financial markets and in the macroeconomic environment.
- e. Measurement and assessment of unexpected potential losses that may result from rare events that do not occur under normal circumstances.

### **6-3. Total scenarios: For the purpose of using total pressure tests, three scenarios are usually assumed, as follows:**

- **Baseline Scenario:**

In this scenario, the future values of the variables in the model are predicted.

- **Medium Stress Scenario:**

This scenario determines the moderate-intensity trauma of each variable.

- **The most severe scenario** (Seven Stress Scenario):

This scenario identifies a more severe shock than moderate-intensity trauma and is suitable for each variable.

Given the nature of Iraq's economy, some macroeconomic variables were selected international oil prices for their apparent impact on all of Iraq's financial conditions, and in economic growth, hence in the banking sector, and the rate of economic growth reflecting all macroeconomic developments and its impact on banking activity, particularly non-performing loans, as well as the Government's expenditure variable, which is an indicator with a clear impact on total consumption and investment, It is valuable that enterprises and individuals are able to commit to their financial transactions with banks.

In this context, the flexibility of the Iraqi banking system and its ability to withstand negative shocks to the overall tracking level was tested by modelling according to the VAR Autoregressive Model. This is due to the availability of data on a quarterly basis, and how long it allows pressure tests.

The model aims to assess the relationship between banks' financial distress and any related shocks to macroeconomic changes, in particular those referred to above; To measure its impact on the growth rate of non-performing loans for the period (2012 Q1) to (2021 Q4), the model has taken the following form:

$$\text{GNPL} = F(\text{GRGDP}, \text{GOILP}, \text{GEG})$$

The following are:

GNPL: Rate of growth of the ratio of non-performing loans to total credit.

GRGDP: Real GDP growth rate.

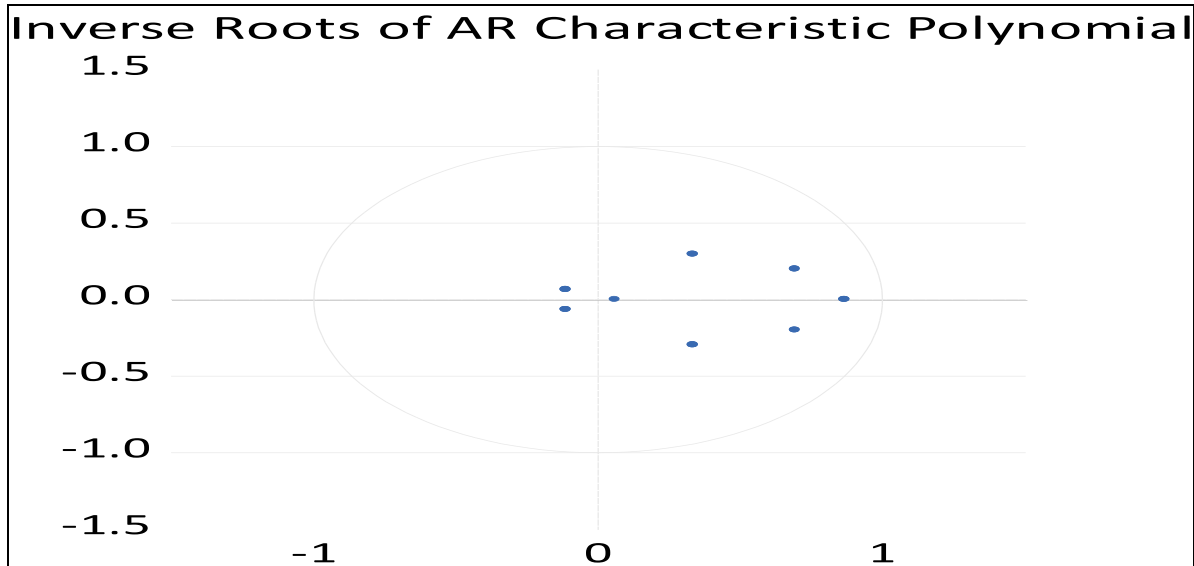
GOILP: Global oil price growth rate.

GEG: Government expenditure growth rate.

The test was conducted according to three scenarios, the first being the baseline scenario, The values of variables in the model, estimated during the period from Chapter I 2022 to Chapter IV 2022, were predicted in its mediation. The other two scenarios are the medium-intensity scenario, the high-intensity scenario. Each variant has been tested separately, assuming the other variables are stable, After a

stabilization test of the estimated VAR model, it was found to be statistically stable and fit for forecasting, as explained in form (85):

Figure (85) Estimated VAR model stability



Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates.

Table 16 shows hypothetical scenarios that reflect shocks to Iraq's economy, as there will be a decrease in all variables at different rates depending on the scenarios assumed.

Table (16) shock scenarios adopted in the (VAR) model			
Variables	G-RGDP%	GOIL P %	GGE %
<b>Scenarios</b>			
<b>The medium stress scenario</b>	<b>-9</b>	<b>-46.7</b>	<b>-20.5</b>
<b>The high stress scenario</b>	<b>-18</b>	<b>-93.4</b>	<b>-41</b>

Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates

Scenarios were assumed according to the following methodology:

- Average intensity scenario: estimated by calculating the variable growth rate of the base scenario, minus one standard deviation of the variable growth chain during the duration (Q12022 Q4-2022).



•The most severe scenario: estimated by calculating the variable growth rate of the projected base scenario, minus two standard deviations of the variable growth chain during the duration (Q12022 Q4-2022).

#### **6-4. The impact of the negative shock on real GDP growth in the ratio of non-performing loans to gross credit:**

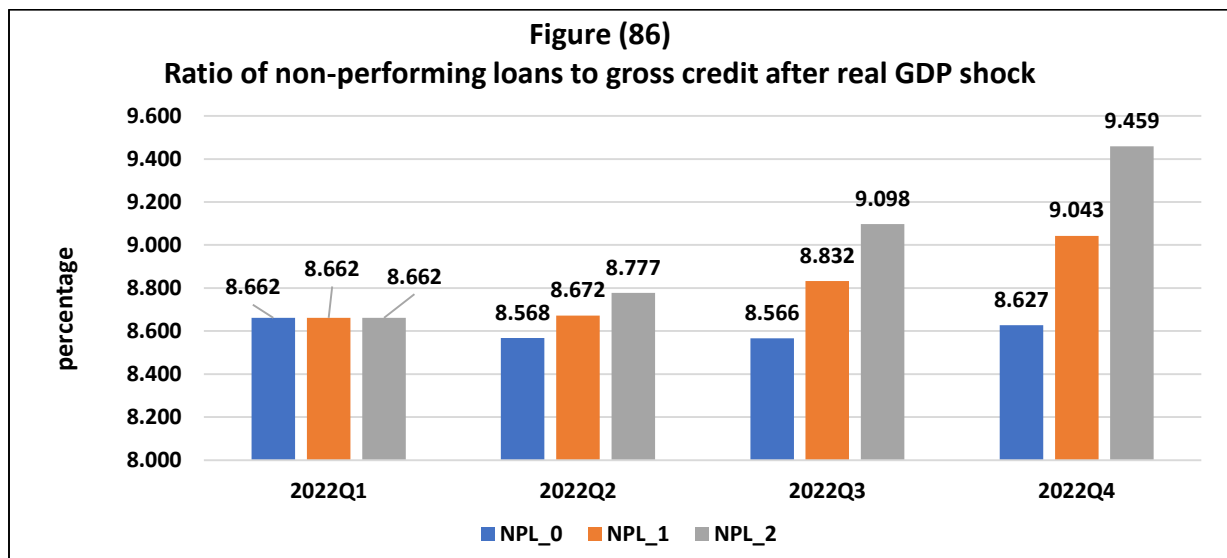
There have been economic developments in Iraq and the world after the coronavirus pandemic. The Central Bank of Iraq has supported the economy through a series of financing initiatives for the economic sectors as well as improved global oil prices, which has been positively reflected in a 2.78% rise in real GDP. In 2021, which in turn results in lower growth in the ratio of non-performing loans to gross credit. By increasing real gross domestic product (GDP), borrowers' incomes will rise and their ability to repay loan receivables will therefore improve, which means a decline in defaulting loan repayments and a decrease in their proportion.

The model has already shown this relationship, which was statistically moral, and table (17) shows that the baseline scenario forecast showed a fluctuating decrease in the ratio of non-performing loans to total cash credit from (8.662%) for chapters I to (8.568%), (8.568%) and (8.627%) for chapters II, III and IV respectively for 2022. As a result of the negative shock in the real GDP growth rate according to the scenarios prepared, the percentage of non-performing loans increased from (8.568%) in the base scenario to (8.672%) in the medium intensity scenario and (8.777%) In a high-intensity scenario for the second chapter of the ranking for 2202, the same percentage of (8.568%) to (8.832%) and (9.098%) for base, medium and high-intensity scenarios respectively for the third quarter of 2022.

Table (17) scenarios for forecasting the ratio of non-performing loans to total credit after the real GDP shock				
Years	2022			
	Season 1 %	Season 2 %	Season 3%	Season 4 %
Scenarios				
Baseline scenario	<b>8.662</b>	<b>8.568</b>	<b>8.568</b>	<b>8.627</b>
Medium stress scenario	<b>8.662</b>	<b>8.672</b>	<b>8.832</b>	<b>9.043</b>
High stress scenario	<b>8.662</b>	<b>8.777</b>	<b>9.098</b>	<b>9.459</b>

Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates

The fourth quarter of 2022 raised the percentage of non-performing loans as a result of the negative shock in real GDP growth rate from 8.627%. To (9.043%) and (9.459%) for base, medium-intensity and high-intensity scenarios respectively s real GDP growth rate in the ratio of non-performing loans to gross credit underscores the weak relationship between them, This is evidenced by the low banking depth in Iraq's economy. credit to the private sector to real GDP increased from 9.2% 2016 to (15%) 2021, while private sector deposits divided by real GDP increased from (12%) to (21%) during the period (2016 - 2021). Figure 86 shows that the negative shock in the real GDP growth rate will result in a very low ratio of non-performing loans for the medium-intensity (NPL\_1) and the most severe (NPL\_2) base-scenario (NPL\_0) loans for all chapters of 2022.



Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates

### 6-5. Impact of the negative shock to global oil prices on the ratio of non-performing loans:

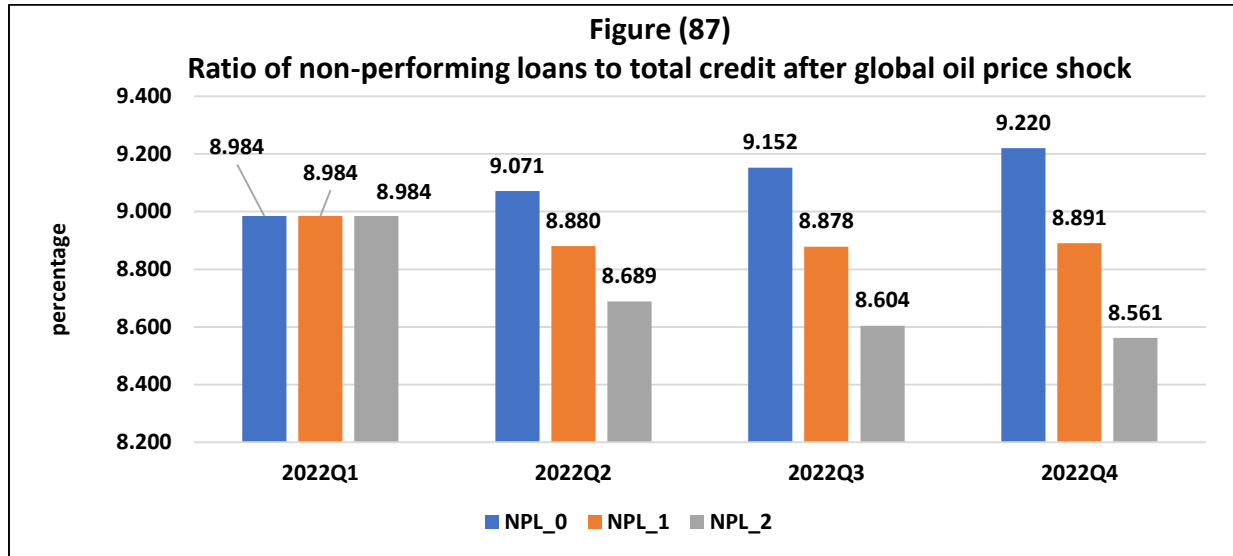
Table 18 shows the reverse relationship between global oil prices and the ratio of non-performing loans in Iraq's banking system. The results demonstrated a statistically reverse and moral relationship between the two variables, This reflects the strong relationship between global oil prices and Iraq's financial sector during this period. international oil prices can significantly affect Iraq's per capita disposable income, especially since the majority of government expenditures (more than (90%) oil revenues would be affected by global oil prices, which would mean lower incomes and then higher defaulting on loan receivables. The Government's

ability to cope with the shock would be limited for a certain period, after which the current and investment expenditure dues would be difficult to pay, with the 2021 year witnessing a significant increase in the volume of public expenditure and a proportion of (24.6%) compared to the volume of public expenditure during 2020 due to higher oil prices (74.7%) for the same period, reflecting the volume of real general revenues positively, rising by 51.5% during 2021 compared to 2020. This led to a surplus in the general budget of 15.3 trillion dinars during 2021 compared to the 2020 deficit of 12.9 trillion dinars.

<b>Table (18) Scenarios for Forecasting the Rate of Non-Performing Loans after the Global Oil Price Shock</b>				
Years	2022			
	Season 1 %	Season 2 %	Season 3%	Season 4 %
Scenarios				
Baseline scenario	<b>8.984</b>	<b>9.071</b>	<b>9.152</b>	<b>9.220</b>
Medium stress scenario	<b>8.984</b>	<b>8.880</b>	<b>8.878</b>	<b>8.891</b>
High stress scenario	<b>8.984</b>	<b>8.689</b>	<b>8.604</b>	<b>8.561</b>

**Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates**

The baseline scenario forecast showed an increasing ratio of non-performing loans to total cash credit from (8.984%) for chapters I, (9.071%), (9.152%) and (9.220%) for chapters II, III and IV respectively for 2022. As a result of the negative shock in global oil prices and according to the scenarios prepared, the percentage of non-performing loans from (9.071%) in the base scenario to (8.880%) in the medium intensity scenario and (8.689%) In a high-intensity scenario for the second chapter of the ranking for 2202, the same percentage of (9.152%) to (8.878%) and (8.604%) for base, medium and high-intensity scenarios in order for chapter III of 2220, as illustrated in figure (87).



Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates

In the fourth quarter of 2022, the ratio of non-performing loans decreased as a result of the negative shock in global oil prices from 9.220% to (8.891%) and (8.561%) for base, medium-intensity and high-intensity scenarios respectively, and the impact of the negative shock on global oil prices will result in a lower ratio of non-performing loans for the medium-intensity scenario and (NPL\_1) the most severe scenario (NPL\_2) for the base scenario (NPL\_0) in very small proportions, and for all chapters of 2022.

### **6-6 impact of the negative shock of government expenditure on the ratio of non-performing loans:**

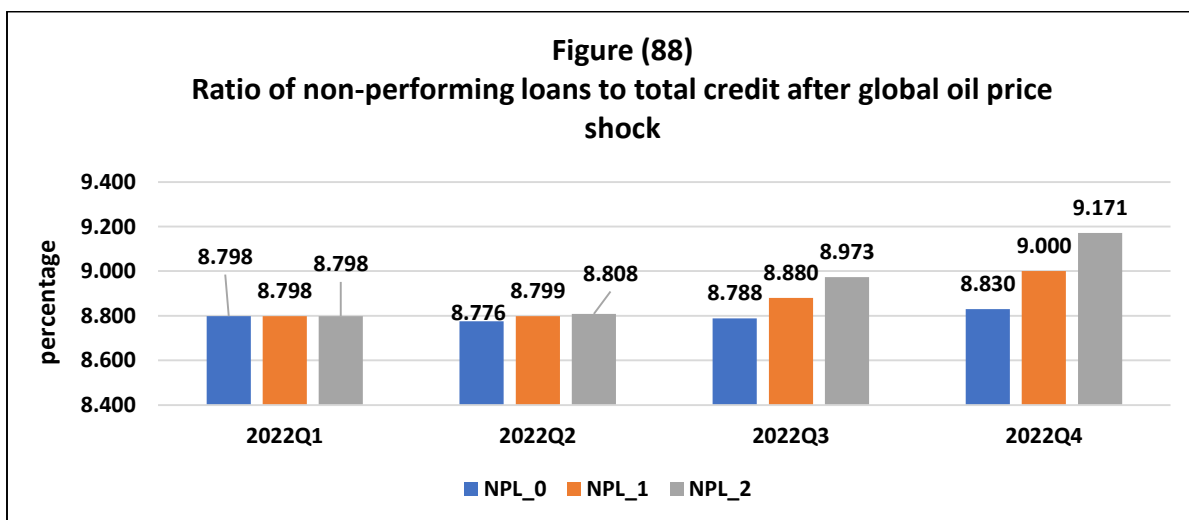
Results showed the impact of the Government's growth rate on the ratio of non-performing loans to total cash credit in Iraq's expenditure growth rate is expected to lead to a higher ratio of non-performing loans. This was demonstrated by statistical tests of the relationship that was reverse and moral. The low rate of growth of government expenditure may increase the growth rate of non-performing loans in the four quarters of 2022, and the trend in this relationship may be due to the strong impact of government spending on Iraq's economic crises. In particular, current expenditure, since the Government often maintains the level of current expenditure and creates alternative sources of funding in the event of a decline in core sources (oil revenue), the baseline scenario forecast showed a fluctuation in the ratio of non-performing loans to total cash credit, up from 8.798% for chapter I, to chapter IV (8.830%), respectively, for 2022. As a result of the negative shock in government

spending and according to the scenarios prepared, the percentage of non-performing loans increased from (8.776%) in the base scenario to (8.799%) in the medium intensity scenario and (8.808%) In a high-intensity scenario for the second chapter of the ranking for 2202, the same percentage of (8.788%) to (8.880%) and (8.973%) for base, medium and high-intensity scenarios in order for chapter III of 2220, as shown in the table (19) and (88), and in the fourth quarter of 2022, the percentage of non-performing loans increased as a result of the negative shock in government spending from (8.830%) to (9.000%) and (9.171%) for base, medium-intensity and high-intensity scenarios respectively, and the impact of the negative shock on government spending will lead to an upturn Ratio of non-performing loans for the medium-intensity scenario (NPL\_1) and the most severe scenario (NPL\_2) for the base scenario (NPL\_0), and for all chapters of 2022.

**Table (19) Scenarios for forecasting the rate of non-performing loans as a result of the negative shock in the growth rate of government spending.**

Years	2022			
	Season 1 %	Season 2 %	Season 3%	Season 4 %
Scenarios				
Baseline scenario	8.798	8.776	8.788	8.830
Medium stress scenario	8.798	8.799	8.880	9.000
High stress scenario	8.798	8.808	8.973	9.171

Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates



Source: Central Bank of Iraq, Monetary and Financial Stabilization Section estimates

The economy's vulnerability to a protracted crisis could lead to the depletion of alternative sources of financing, which could hinder fiscal policy from financial or banking stability efforts, so additional fisheries must be built to cope with crises as they occur that help reduce the channel for the transition of fiscal policy effects to fiscal stability, including the rationalization of public spending and the strengthening of other domestic public revenue sources. (Customs duties in addition to serious work on the project of establishing the Generations Fund and creating an environment attractive to domestic and foreign investment).



**CHAPTER VII**  
**Financial infrastructure**  
**developments2021**

## 7. Financial infrastructure developments

Where developments in infrastructure are the basis on which economic growth is based, as the Central Bank of Iraq seeks to achieve continuous treatment and development of the infrastructure of financial institutions, because of their significant role in stability in Iraq, especially that the goal of financial stability is one of the main objectives it has adopted The Bank is the goal of the Central Bank of Iraq in its law and the strategic plan of the Central Bank of Iraq 2021-2023, and where to achieve these goals requires establishing a sophisticated financial infrastructure and keeping pace with global developments, as the infrastructure is defined as a group of institutions, laws and payment systems that work to provide services and financial information provided at the lowest cost and quickly High, in a safe manner and meets the requirements of all customers, the most important steps accomplished by the Central Bank in 2021, which will strengthen the infrastructure, can be explained through the following paragraphs:

### **7-1 Regulating the work of agents of foreign remittance service providers in Iraq**

The Central Bank of Iraq issued controls for the main and secondary agents of foreign transfer service providers for the purpose of enhancing the supervisory and regulatory role throughout Iraq. New paragraphs were added in 2021 aimed at maintaining the strength and stability of the financial system in general and the banking system in particular, as follows:

1- Entities licensed by the Central Bank of Iraq have the right to act as a main or secondary agent for the foreign remittance service provider after the approval of the Central Bank and as shown below:

A. Main agents:

- Banks.
- Class A money exchange companies.
- Providers of electronic payment services licensed to work as a (processor or payment through the mobile phone).

B. Secondary agents:

- Banks.
- Class A, B. Exchange companies



2- The relationship between the main agent and his second agents is regulated under a contract that includes the obligations and rights of both parties, and the main agent has the right to appoint other agents to provide external transfer services on his behalf after obtaining the approval of the foreign remittance service provider and the Central Bank in advance, and the main and second agent must provide the Central Bank of Iraq with information All required periodically and as agreed upon or upon request, and the principal agent ensures his compliance and that of his secondary agents' compliance with the Anti-Money Laundering and Terrorist Financing Law,

And any instructions or controls issued in this regard and related laws and taking precautions against fraud operations. The principal agent is responsible before the Central Bank of Iraq for anything issued by the second agent that causes financial risks or harms the reputation of compliance with laws and regulations, and the principal agent has the right to suspend the work of the second agents affiliated with him or his termination of work in the event of failure or inability to fulfill the services related to the money transfer or any behavior that contradicts the electronic payment services system and any instructions or controls issued by the bank in this regard and inform the Central Bank of that, as well as obligating the main agent to install programs and systems in each of his second agent locations after training the second agent and his employees to work on providing money transfer services. A special record for its second agents is prepared and updated periodically, the confidentiality of information is maintained, personal information belonging to customers is not disclosed except in accordance with the cases specified by law, and the authorities have not given permission to enter the system to those who are not authorized to do so, and the obligation of an electronic payment service provider (**processor or payment through a mobile phone**) acting as a principal agent for foreign remittance service providers to:

A- Completing direct technical linking between its system and the foreign remittance service provider's system for the purpose of transferring remittances through it exclusively.

B - The service is provided through the systems and software of the payment service provider in accordance with procedures and mechanismst to be submitted to the Central Bank of Iraq for its approval prior to its adoption.

C- The money is sent through the systems and software of the payment service provider, and the electronic payment service providers inform the customer of the transfer details and the value of the amount deducted from the card/wallet) and the commissions deducted to be approved by the customer before implementation.

D- Submit a table that includes at least (the agent's name, activity, geographical location) before starting the process of expanding the provision of services and obtaining the bank's approval on the number of seconds to be contracted with.

E- Receipt of funds shall be either in cash through authorized agents of foreign remittance service providers (Western Union, Money Cram) or through the payment provider's deposit of funds in the electronic payment tools belonging to the customer.

## **7-2 Digital Appendix Services :**

Digital annexation is an integrated digital financial system that enhances independence and financial freedom from traditional financial systems, as it works to transform Iraq into a cash-less country, enabling the state to fight corruption, evasion and bureaucracy in financial transactions within banks operating in Iraq. This service is a modern and different trend due to the many advantages it achieves, including conducting financial operations in a modern digital electronic way, which shortens time and geographical distances and lifts traditional barriers in the Iraqi banking sector.

In line with the objectives of the Central Bank of Iraq for digital transformation aimed at achieving financial inclusion by providing digital financial and banking services to customers, and based on the provisions of Article 39 of the amended Central Bank of Iraq Law No. 56 of 2004, taking into account the implementation of the system for electronic payment of funds services No. (3) of (2014), the Central Bank issued the following decisions:

### **1- Approval of the digital services platform in accordance with the following conditions:**

A- The bank will launch an integrated digital services platform that introduces customers to the available banking services in accordance with the laws and instructions issued by the Central Bank of Iraq, provided that the platform is owned by the bank.

B- Providing an advertising window to inform customers of the services provided by the bank, including the commissions deducted for each product provided in the event the bank desires to announce it.

C- The availability of the electronic digital services platform for customers and the public can communicate with the Bank's Banking and Public Protection Department to answer queries and provide them with the necessary support.

D- The platform is designed in accordance with standards, frameworks, security and information controls, and global cybersecurity standards (ISO, NIST, PCI) to prevent platform penetration, tampering, changing customer data, impersonation and other fraud, and it is evaluated by the Central Bank of Iraq appointed or through certified certificates from an accredited body.

2- The bank chooses the best international companies in the field of digital appendix and obtains the approval of this bank to contract with them, provided that the bank provides the central bank with a certified certificate for one of the internationally accredited companies to provide the (Know Your Customer) (EKYC) service that shows the bank's completion of the requirements for verification operations All customers' information to open a digital account and the procedures to be carried out electronically without human intervention.

3- The bank's adoption of due diligence procedures to the customer and verification of his identity with the aim of performing the digital appendix and opening the account according to specific conditions and controls.

4- Other mandatory procedures carried out by the bank related to continuous updating and follow-up and control of financial and banking operations on the client. The bank provides the Central Bank with a database of clients' information in order to ensure the preservation of banking confidentiality of data, and provide procedures for risk management, compliance, behavior, internal audit and business continuity, and identifying Risk models for the digital onboarding service and reassessed on a regular basis,

The integrated electronic services platform for banks must be directly linked with the banking system (Core Banking), the Anti-Money Laundering, Anti-Terrorist Financing, Anti-fraud and other systems.

5- The Central Bank will reconsider these controls after six months have passed from the date of their approval, and the number of accounts allowed to be opened for each

citizen using Digital Appendix services is determined, as well as the limits of daily operations and their number for each customer and the limits of the balance allowed for customers to keep with each bank.

### **7-3 Management of foreign exchange centers allowed by banks:**

The control of foreign exchange centers has been activated according to Article (53) of Instructions No. (4) of 2010, with the amendment of the upper limit of the total cash center to become (20%) of the capital and sound reserves instead of (40%) of the total private funds, and that Banks should apply the controls of the foreign exchange centers' instructions and gradually reduce their open position (creditor or debit) from (40%) to (20%), banks exceeding the upper limit of the debited foreign exchange position will be suspended from entering the foreign currency sale window, as soon as they liquidate these debited positions.

### **7-4 Limits and Caps of Mobile Phone Wallets:**

Caps and limits for electronic wallets according to their types:

A- The documented and active portfolio: The transfer limits in this portfolio are a maximum of (2.5) million Iraqi dinars per month, while the total amounts of cash withdrawals are a maximum of (10) million Iraqi dinars per month, and an upper limit for the portfolio's absorption is (10) million Iraqi dinars.

B- Initial Portfolio: Maximum Portfolio Absorption Limit (IQD 1 million), which can be used for low value, single, one-time and regular payments not exceeding time limits (12) months taking into account that they are not used to distribute salaries in government institutions. If the wallet is register online and is not used for more than 12 months, the wallet is suspended until its data is updated.

C-Corporate Portfolio (Private Sector): The cash deposit through the agents shall be up to 10 million IQD and more through the bank account, and shall be used for salary and other company expenses. All due diligence shall be taken when transfers are made.

D- Merchant Portfolio: The limit of transfers shall be up to IQD 500 million per month. The cash deposit through agents shall be up to IQD 10 million. The excess shall be through bank account. The cash withdrawal cap shall be up to IQD 2,500,000. And that the cash withdrawal ceiling is a maximum of (2,500,000) two

and a half million Iraqi dinars per day, and what is more than that is through the bank account.

E - Agents' portfolio: The transfer limits shall be a maximum of (500) five hundred million Iraqi dinars per month to the second agent's portfolio.

/ The Wallet Linked Card (M-Card) is subject to the limits and ceilings of prepaid reloadable cards set in advance by this bank.

/ Transfers for purchases are excluded from the above-mentioned limits and ceilings for all wallets

### **7-5 Foreign Currency Sale and Purchase Instructions for 2021:**

Based on the amended Central Bank of Iraq Law No. (56) of 2004, and for the purpose of achieving the objectives of the Central Bank in strengthening the role of the banking system and non-bank financial institutions in securing foreign currency to the beneficiaries, in order to achieve maintaining the stability of the exchange rates of that currency on the one hand, and simplifying the procedures for selling it on the other hand, the mechanisms of control and verification of daily sales operations, on the other hand, with the need to comply with the requirements of the Anti-Money Laundering and Terrorist Financing Law No. (39) of 2015, it was decided to adopt several instructions, which are necessarily organizational instructions that can contribute to achieving financial stability directly or indirectly, including:

#### **7-5-1 Procedures for subscribing to a foreign exchange sale and purchase window:**

A- Applications for the purchase of dollars for the purpose of enhancing the balances of the bank's accounts abroad are submitted to the Department of Financial Operations and Debt Management, including information relating to all parties involved in transfers, including the beneficiary.

B- The bank reinforces the request to participate in the window with electronic statements with the names of exchange companies that wish to buy the dollar in cash through the private bank with the data of the exchange and mediation companies participating in the window, with the bank's pledge to verify the integrity and legality of the sources of funds of its importing customers and to comply with the requirements of the Anti-Money Laundering and Terrorist Financing Law No. 39 of 2015, otherwise, the bank shall bear the legal consequences arising from this, in

addition to that undertaking from the safety of the final beneficiary in accordance with the local and international sanctions lists, especially (OFAC) and the lists of freezing terrorist funds, before submitting an application for participation in the foreign currency sale and purchase window.

The deposit is made through the Real-Time Gross Settlement System (RTGS) in Iraqi dinars deposited in the account designated for foreign currency purchases, provided that it is five working days before the date of the sale process or as determined by the Central Bank to clarify the date and type of participation.

#### **7-5-2 Obligations of banks and exchange companies participating in the window:**

A- Banks are obligated to submit an electronic statement to the General Authority for Taxes and the General Authority for Customs, as well as the Central Bank of Iraq, that includes details of the amounts sold for the purposes of external reinforcement, provided that it is submitted within a period of ten working days of each month after the end of the relevant month.

B- Banks are obligated to apply the requirements of disclosing the sources of customers' funds and applying the principle of (know your customer), verifying and documenting them in accordance with what is stipulated in the Anti-Money Laundering and Terrorism Law No. 39 of 2015 by identifying the client's identity, legal status and financial solvency reinforced by the bank's opinion therein. Before allowing his customer to be involved in the foreign currency buying and selling window and the latest audited financial statements, with the disclosure of his activities, the purpose and nature of the business relationship, and the continuous follow-up in everything related to the bank's relationship with the customer (due diligence or strict due diligence) based on the last law and relevant compliance controls, with taking measures to verify the validity of the data and information obtained by the bank from the client about the uses of the enhanced funds, and in the event of any suspicion that it is incorrect, the bank informs the Anti-Money Laundering and Terrorist Financing Office, in addition to the banks keeping statements of their accounts opened with correspondent banks, including account movement details, which discloses the uses of the enhanced amounts by the Central Bank.

C- As for the purposes of documentary credits and foreign transfers used to finance the import of goods or services, the banks shall provide what supports the purchase of the goods or the provision of the service or shipping documents, customs permits and official supporting documents to the customer, what supports the transfer of the amount from the account of the bank opened with the correspondent bank to the account of the beneficiary (the supplier of goods or service exclusively), whether the beneficiary's account is in the same correspondent bank or in another bank, in addition to the bank conducting searches, investigations and verification of all parties related to transfers, banks are obligated to transfer the amounts (which they purchased from the Central Bank for the benefit of their customers and with which they consolidated their balances with their correspondents abroad) directly to the beneficiaries' accounts opened with foreign banks, with the obligation to disclose that, supported by the required documents, provided that the account number of the beneficiary who is equipped with the goods or service provider imported and entered into Iraq is mentioned in the SWIFT system message.

D- Banks are obligated to obtain an undertaking from the managing director of the commercial company before participating in the window for the purposes of external reinforcement, Whereby the company pledges not to participate in the window through more than one bank with the same date. In the event that there are justifications for the participation of the commercial company through more than one bank on the same date, the Central Bank shall be notified in advance of that with a statement of the compelling reasons so that this bank can consider them for the purpose of granting approval in the event that there is a reason to do so or rejecting the request. The window conducts the credit inquiry through the (CBS) system for bank customers who want to participate in the window, while keeping a copy of the credit inquiry report within the client's file, provided that the report is updated monthly.

E- The banks or exchange companies participating in the window keep a detailed statement showing the aspects of cash payment, while keeping an electronic copy of the customers' priorities, specifying the purpose of the exchange, ensuring that there is no similarity in names and complying with the relevant standards not to sell cash to the entities and persons included in the lists of penalties. In addition to freezing terrorist funds, banks must deliver cash from foreign currency to exchange companies immediately upon receipt from the Central Bank, according to the

sequences of banknotes for each company in order to deliver the prescribed share for each receivable, as well as the commitment of banks and exchange companies not to submit more than one application to participate in The window is for cash sale purposes during the same week.

### **7-5-3 Banking transactions that are legally permitted to be financed in foreign currency:**

A- Importing goods and merchandise that are allowed to be imported in accordance with what is authorized by the concerned authorities (**the Ministry of Commerce and the General Authority for Customs**), and the purchase and processing of legally permitted services, as well as the due payments related to banking and credit facilities that the customer has associated with banks outside Iraq (**origin of commitment or interest due on it**) and this requires the bank to keep a documented declaration from the customer that includes (**the loan contract signed between the customer and the bank**) who granted him credit banking facilities outside Iraq with details and the reason for the loan, (**providing proof of the entry of the origin of the banking and credit facilities into Iraq**) through the banking system in Iraq and the aim of obtaining and using it for the same purpose.

B - Transfers related to foreign investments in Iraq that include transfers due on foreign investments in Iraq after submitting supporting documents to settle the investor's obligations with the Iraqi government and the rest of the parties related to the payments due (the National Investment Commission, the auditor, the General Tax Authority, the Department of Labor and Social Security, As well as transferring the proceeds from the sale of Iraqi shares residing abroad or foreign (the original value plus the proceeds, if any) in the event of their sale, provided that an endorsement is submitted by the Iraqi Stock Exchange.

C- Transfers to secure family living expenses for Iraqis residing abroad permanently after submitting a proof of this and a statement of the relationship of the person who transferred the funds and the source of those funds, up to (5,000) dollars per month (five thousand dollars), provided that these transfers are made through agents of foreign remittance companies Licensed persons from this bank, as well as transfers from fundamental transactions for the sale of real estate registered in Iraq, whose value is supported by a citation from the Real Estate Registration Department or



judicial bodies for Iraqis residing abroad permanently under the endorsement of the competent authorities, provided that the ownership of the property belongs to the owner of the transaction or the heir before obtaining the permanent residence outside Iraq, or the acquisition of the property after the citizen obtained the permanent residence outside Iraq was made from a legitimate source of money that the bank and the central bank are convinced of (selling real estate acquired before residency, etc.), and foreign residents in Iraq who are covered by the Investment Law are entitled to sell and transfer real estate amounts as long as it was purchased from their own savings, as well as compensation decided or approved by Iraqi official bodies for foreigners or Iraqis residing abroad.

D- Transfer of income earned in Iraq to non-Iraqis and deposited in banks licensed in Iraq. The bank maintains a file that includes a statement of the applicant's account, the source of those funds (deposits and savings) he deposited in the bank and the rate of return calculated on it or its basis, as well as requests received from the Central Bank from institutions Governmental, public and self-financed entities for their needs that do not have a dollar allocation within the state's general federal budget, supported by official documents that support these requests, provided that each case is studied in its own case to obtain the approval of the governor, and the dollar is not sold at the official selling price approved to the public itself.

E - Transfers or purchases in cash through the window for the purposes of medical treatment outside Iraq, backed by evidence from the Ministry of Health and the competent committees, provided that the purchase is pure within the cash sale specified for the bank or the exchange company, as well as the transfer of the expenses and salaries of scholarships at private expense according to the requests of their relatives to Licensed banks or their branches to transfer their dues to the required addresses and specify the name of the bank and the address of the student coupled with an endorsement from the Ministry of Higher Education and Scientific Research that includes the cost of the study and opening a file for it. The endorsement includes the student's monthly expenses and the cost of housing. The bank keeps a file that includes details of the amounts transferred or paid (**at the set price**) and the names of the students, the cash sale includes covering travel expenses, and the wages of the traveling citizen or the delegated employee. The purchase of an amount of (3000) dollars or what the Central Bank decides upon each trip or delegation (and no more than once a month) or as determined by the Central Bank

and the citizen submits a pledge to the company or bank Not to buy foreign exchange from more than one destination.

F- Strengthening the balances of banks and electronic payment companies that have a main membership of the main or subsidiary settlement accounts with the Bank (JP Morgan), to settle their obligations with international card companies (Visa and MasterCard) by submitting a single request by the bank or electronic payment company to enhance the balance allocated for this purpose specifically.

#### **7-5-4 Other provisions of the foreign currency sale and purchase window:**

The Central Bank works to control the exchange rate in the market by issuing instructions that are in line with the exchange system followed in Iraq, which is managed by the Central Bank of Iraq (fixed de facto managed), and it is in fact a management of the exchange rate that changes according to the economic reality of the country, as the Central Bank issued rulings that work as a window of sale The currency in the Central Bank of Iraq is in accordance with it in order to organize more sales operations and for the purpose of controlling foreign exchange in Iraq, as the Central Bank sells foreign currency for the purposes of external promotion and cash sale according to the official price announced by the Central Bank, provided that the margin for selling the dollar from the bank to its customer does not exceed ten dinars for each dollar. The Central Bank, through the Accounting Department, purchases foreign currency in dollars from the Ministry of Finance, banks and any other entities authorized to sell at the price it has set, and also buys other foreign exchangeable currencies in accordance with what the Investments and External Transfers Department proposes and at the rate determined by the bank.

Foreign currency purchase requests are submitted five working days prior to the date of the sale process or as determined by the Central Bank, then foreign currency purchase requests for the purposes of external reinforcement and cash sales are sent to the Financial Operations and Debt Management Department of the Window Department via the official e-mail concerned for that, at That the commitment to send requests during the official working time of the Central Bank, and in the event that the bank desires to cancel the foreign currency purchase request that it made to the Central Bank, whether for the purposes of external reinforcement or cash sales, the bank must commit to submitting the cancellation request within three working

days after submitting the purchase request, It excludes any purchase and sale of foreign currency that does not meet the controls contained in these operations, and the Central Bank has the right to meet foreign currency purchase requests for the purposes of strengthening balances abroad in accordance with the evaluation criteria approved by it, which are reviewed periodically.

The cash sales scheduled for banks and exchange companies are subject to the estimation of the Central Bank in a manner that meets the citizens' need for foreign currency for the purposes permitted by law to be financed as specified in these instructions, the concerned departments in the Central Bank shall follow up on the banks' compliance with these instructions. In the event of any violations, the bank shall be subject to the penalties stipulated in the laws and instructions in force.

In the event that it is proven that the bank or the exchange company has transferred or paid to any person or entity subject to local or international sanctions, they will be permanently deprived of participating in the foreign currency sale window, as banks and non-bank financial institutions provide data and documents related to the subscription process in a sale window. The foreign currency to the Central Bank and its receipt by it does not constitute an automatic acceptance of those documents and statements or certification of their validity; As these documents and data are subject to auditing in the manner, mechanism and time determined by the Central Bank, the Financial Operations and Debt Management Department studies the cases that are not mentioned in the transactions that are legally allowed to be financed in foreign currency, and each case is presented in its case to the Central Bank management for a decision.

#### **7-6 Information & Communication Technology:**

The Central Bank of Iraq, with hard and diligent work, seeks to develop the technical and information infrastructure and information security for the banking system in a totality, and according to the approved controls, the most important of which is compliance with standard standards in light of governance and data security, as it undertakes follow-up operations for banks and companies providing electronic payment services, with regard to their compliance with the instructions Issued by this bank regarding the establishment of data centers and disaster recovery centers, through inspection bodies, and provision of support, support, maintenance and

operation services for banks and companies for the optical link network, which is the main gateway through which payment systems work, and this can be summarized as follows:

#### **7-6-1 Technical & Information Audits:**

A- Auditing and complying with standard standards by assigning specialized and accredited international auditing and consulting firms to audit information technology systems and their cyber security to comply with the requirements of governance controls and institutional management of information and communication technology in the financial and banking sector, as well as compliance with standards Payment Card Industry Data Security (PCI - DSS). For all banks that issue or accept cards, deal, store, process or send information related to payment cards, apply the procedures and implement the necessary requirements for obtaining the above standard certificate within a specified period, while carrying out evaluation, review, annual auditing and conducting related examinations.

B- Issuing the document guiding principles for digital identity and electronic know-your-customer (E-KYC) rules in the Arab countries launched by the Arab Monetary Fund within the framework of the work of the Regional Working Group for Modern Financial Technologies and a study on digital identity and know your customer electronically about the Financial Technologies Working Group in the Central Bank of Iraq , to be approved as references in the application of the digital identity project and the electronic know-your-customer rules.-

#### **7-6-2 Cyber Security:**

One of the positive points that emerged during the Corona pandemic is the importance of digital communication in the daily life of families and companies in general, but this communication is not immune from the risks of cyber-attacks and their effects in disrupting the financial and banking sector in Iraq, as according to a study by the International Monetary Fund, the number of Cyber-attacks have tripled over the past decade and with the rise of digital financial services. Hence, cyber security has become a source of threat to financial stability<sup>1</sup>. This is what prompted the Central Bank of Iraq to develop a strategic plan that will be implemented in stages, including several projects, the aim of which is to continue developing the infrastructure for cybersecurity and data protection at all levels according to the latest technologies and advanced technology approved in this framework. The most

prominent steps taken by the Central Bank of Iraq in this field can be explained According to the following:

A- Banks and payment service providers have been directed to disseminate knowledge, train their affiliates, and educate all their customers by informing them of malicious patterns and methods of electronic threats and fraud attacks and ways to avoid, detect and report them through reliable means of communication, publications, text-awareness means or the websites of official institutions.

B- Forming a cybersecurity incident response team in banks and electronic payment service providers, with the aim of complying with the basic concepts of information security governance, cyber resilience and optimal application of standards for information security risk management, digital protection and technical infrastructure in accordance with the best standard practices in the framework.

C- Establishing continuous cooperation mechanisms between the Central Bank of Iraq and banks and financial institutions to evaluate and implement the cybersecurity strategy, and the requirements for data and cyber security, according to the following scopes<sup>1</sup>:

- Filling out a questionnaire on data security, cyber security, systems, applications and data centers for the purpose of evaluating and auditing procedures to achieve strategic and organizational goals for developing technical and information security infrastructures in banks and electronic payment service providers.
- Filling out a questionnaire for the cybersecurity index that includes all axes (administrative, legal, technical, internal and external cooperation, organizational, regulation and capacity building) with the aim of evaluating security measures and protection of data and security and information infrastructures and examining areas for their development, and adherence to methodologies and security and proactive solutions.

The Central Bank of Iraq issued a set of circulars, brochures, and awareness courses aimed at enhancing the level of knowledge in the field of information and data security and confidentiality and the application of their standards, with an indication of the need for their commitment to the instructions to be followed to avoid

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<sup>1</sup> Jennifer Elliott and Nigel Jenkinson, Cyber Risk is the New Threat to Financial Stability, IMF,2020. <https://www.imf.org/ar/News/Articles/2020>

violations, threats, unauthorized access, prevention of malicious programs and viruses, and protection of data from leakage or theft Or loss and work to determine the powers of users according to the scope of their work. This bank conducts follow-up operations for banks and companies providing electronic payment services regarding their compliance with the instructions issued by this bank regarding the establishment of data centers and disaster recovery centers through inspection bodies, which is the main gate through which the payment systems are working.

D- Types, numbers and attacks of cybersecurity (identity theft, phishing and social engineering attacks, malware, unsafe third-party services and a denial-of-service attack), as institutions and entities in general are exposed, and financial and banking institutions in particular, due to many cyber-attacks and threats of all kinds, and work continues to develop the information security infrastructure with multi-level and multi-layer procedures, policies and controls, and on all aspects of the technical infrastructure and end users, it works to prevent, avoid and repel various cyber-attacks.

### **7-6-3 Compliance:**

The Central Bank of Iraq has continuously supported the Executive Management in developing compliance standards and addressing the negative repercussions of the risks of non-compliance, and maintaining a lower level of these risks by ensuring the compliance of departments and sections with the internal policies of the Central Bank of Iraq and all laws, regulations, instructions and good practices issued by international bodies Conducting a permanent and comprehensive assessment of the risks of non-compliance, with the aim of achieving full and integrated internal compliance, and then immunizing the banking sector and protecting it from engaging in suspicious transactions of entities and individuals on international sanctions lists, and strengthening the relationship with international partners and global financial institutions through a number of actions it has taken The Central Bank of Iraq, the most important of which are summarized in the following:

A- Assessing the appropriateness of internal procedures and directives, as well as immediately following up on any shortcomings that are discovered in the policies and procedures to improve them in coordination with the Quality and Institutional Development Department of the Central Bank of Iraq.

B- Conducting a permanent and comprehensive assessment of the risks of non-compliance and ensuring compliance with the established compliance policy through the tests conducted by the Central Bank of Iraq.

C- Achieving the highest possible standards of quality, credibility and openness by motivating and encouraging the reporting of any risks or violations, and assuring them that doing this is safe, acceptable and does not involve responsibility, by adopting the policy of sounding the alarm and the approved reporting form within this bank.

D- Act as an inquiry center to comply with international and local instructions, laws and standards and in line with the visions of the management of this bank and its strategic objectives to ensure the stability of the financial infrastructure of the financial sector in general.

#### **7-6-4 Procedures to correct the course of lagging banks:**

In achieving sobriety for the banking sector, the Central Bank of Iraq adopts a set of laws, regulations and instructions that allow the bank a solid legal base to move in correcting the path of lagging banks, including the Iraqi Banking Law No. 94 of 2004, as the Central Bank works to supervise lagging banks, periodically for the purpose of correcting the course of these institutions, as well as the law authorized the imposition of guardianship for banks that suffer from financial and administrative crises. Its financial performance, and then the bank's liquidation procedures were started due to its inclusion in the second international sanctions.

#### **7-7 Evolution of the Iraqi payment systems:**

The Central Bank of Iraq seeks to raise the efficiency of its direct and indirect monetary tools by bringing about the development and modernization of payment systems in accordance with the best international practices, as the payment systems and the degree of their development contribute significantly to the direct impact on the monetary market to be of good performance that contributes to the transmission of monetary policy signals to achieve efforts The Central Bank of Iraq continues to enhance the stability of the financial and banking sector. The most prominent developments in the Iraqi payment system can be summarized as follows:

##### **7-7-1 Establishing the electronic platform for letters of guarantee:**

The electronic platform for registering letters of guarantee issued by licensed banks for the benefit of government and private sectors was established on 18/10/2020,

With the aim of regulating the mechanism of issuing and renewing letters of guarantee and not issuing them without financial cover to be obtained from individuals and companies. It also aims to issue letters of guarantee according to price ceilings for each according to the credit rating of the issuing banks. This initiative came from the Central Bank of Iraq to reduce fraud and forgery.

More than 30,000 letters of guarantee have been included on the electronic platform, with a value exceeding (9) trillion dinars since the start of its work and until the end of 2021, which confirms the success of the Central Bank's strategy in organizing the issuance of letters of guarantee, and the electronic platform has enhanced the confidence of the beneficiaries of letters issued by banks. The mechanism of issuing letters of guarantee through the electronic platform contributes to increasing the seriousness of contractors and contractors in implementing projects and excluding fictitious companies and limiting their ability to contract with government agencies.

Among the positives achieved is also that it canceled the issuance of letters of guarantee outside the bank records, which is one of the main causes of the failure of some banks, and then building a central database on the activity of letters of guarantee issued by the Iraqi banking sector, as well as constantly making adjustments and updates to ensure the safety of operations Inserting letters of guarantee and providing detailed information about each letter that is listed through the electronic platform and in coordination with the Information Technology Department. The most important procedures are as follows:

/ Adding additional options within the list of beneficiaries (names of governorates, public companies, agencies, the General Secretariat of the Council of Ministers, the Baghdad Municipality, security services, Iraqi Airways, religious endowments, government funds).

/ The platform does not accept any letters of guarantee issued with less than 15% cash security unless they are external letters of guarantee (Back to Back), and adding the option of letters of guarantee issued on behalf of foreign banks (Back to Back), as well as adding the details of foreign banks commanding letters The Back to Back



(the name of the foreign bank, the classification of the foreign bank, the country of the foreign bank), and the platform not accepting any letter of guarantee issued with cash insurances exceeding 150% (typographical errors), and then notifying the banks about the expired letters of guarantee.

#### **7-7-2 Establishing the Fast Payment System:**

The system increases the speed and ease of sending and receiving financial transfers between banks, instantly, as well as ensuring one of the most important strategic projects of the payments system.

#### **7-7-3 Development of the Real-time gross settlement (RTGS)**

Development of the Total Settlement System (RTGS): It is a real-time total settlement system through which this system provides a mechanism through which all final processing of high-value payment orders exchanged between participants continuously during the working day, the actual operation of the system began in 2006, The direct participants in the system are the Ministry of Finance and the 70 banks, as well as the Department for the Care of Minors and the General Pension Agency, for settlement purposes through their participation in the central depository system for depositing government bonds, and it has been developed to work within 24 hours, seven days a week, within a development plan. In terms of joint coordination between a number of Central Bank of Iraq departments and the work of UAT tests before the actual launch.

#### **7-7-4 AML System:**

The system monitors the movement of accounts and gives alerts of suspicious and suspicious movements, as well as the system classifies customers according to the degree of risk and puts the customer under surveillance, and this includes the (WORLD CHECK) system, which is a system for searching, investigating and verifying the integrity of the position of individuals and entities in terms of inclusion on the sanctions lists International. And the Global List Checking System (OFAC-UN Sanctions List), and the system also has local checklists issued by regulators and law enforcement agencies.

#### **7-7-5 Credit Bureau Systems (CBS):**

This system was launched in order for the banks and the Housing Fund to conduct the credit inquiry process directly on the system, and to enter all the credit data of their customers and their guarantors and update them continuously on the system on a monthly basis during the first ten days of each month that follows, to enable them to assess credit risks and help them make a sound credit decision. The system is updated and maintained in an instant and continuous, and the number of transactions executed through the system for the year 2021 reached (297653) transactions.

#### **7-7-6 CASH SYSTEM:**

It is a system to follow up the status of companies and banks that includes (imposing lifting of penalties imposed on them, as no entity not included on the main list (MASTER LIST) is allowed to participate in the foreign currency sale and purchase window, as well as amending their names and changing their status from to (under establishment, operating), closed, rescinded, consolidated, under probate and under liquidation).

#### **7-7-7 Cash Sales System:**

In this system, the data relating to the requests of banks and their customers (mediation companies and brokerage firms) are entered into the cash sales system for the purpose of automating and auditing them and making sure that there is nothing preventing them from entering the foreign currency sale window, as well as making sure that the bank balance covers the amount requested by it.

#### **7-7-8 Cash Series System:**

In this system, cash amounts of foreign currency purchased by banks and their customers are distributed according to the foreign currency monetary sequences.

#### **7-7-9 FINSCAN SYSTEM:**

This system is used to check the parties participating in the window, to ensure that they are not subject to international and governmental sanctions.

#### **7-7-10 System (CBI Backlist):**

Through this system, the names of customers are added and removed from the local deprivation list of this bank.

#### **7-7-11 Trade Ministry Database:**

Through this system, the data of Iraqi and foreign commercial companies is inquired to ensure that they are registered with the Companies Registrar Department.

#### **7-7-12 Customer Security Program with Iraqi Banks (CSP):**

To be an integrated program launched by SWIFT in 2018, and containing ideal standards for banks to comply with, the 27 security standard.

#### **7-7-13 Completion of SWFIT SCOPE's new project:**

It is a project that links Iraqi banks with the Central Bank for the arrival of what is transferred from type (103) messages to the Central Bank.

#### **7-7-14 Updating the (KYC) platform on the (SWFIT) system:**

To include a (Profile) for the Central Bank of Iraq, which is one of the requirements of the (SWFIT) company, which was established in 2017, it contains all the information related to the Central Bank of Iraq and the central banks in the world such as (annual financial report, central bank departments and organizational structure), and other information Special that requires giving (Permission) to banks that require a vision of (Profile) term establishing banking relationships with financial institutions in the world.

#### **7-7-15 Banking Reporting Monitoring System (BSRS):**

This system includes sending monthly mandatory reserve reports electronically through the aforementioned system, as well as conducting some investigations on the incoming reports and extracting a set of monthly reports required for the work of the department, as well as creating an integrated database on banks operating in Iraq, as the first and second phases were completed. From the system, and currently the third phase has started, as a series of workshops were held for banks that included a review of the system's interfaces, as well as an explanation of the system's working mechanism and a review of the mandatory reserve forms that will be approved by the system. It was agreed with the company that designed the Central Securities Depository System (CSD) to add a new unit in the system for discounted remittances with the Central Bank, which will handle the processes of issuing remittances, calculating interest on them, and paying them on the due date. The objective of the Central Bank's introduction of the Banking Supervision Reporting System (BSRS):

- Standardizing the supervisory reporting processes for financial institutions using international standards and simplifying their obligations by providing the institutions subject to supervision with a single interface for submitting reports.

- Increasing the quality of data and the validity of reports by using advanced calculation methods, formulas and verification mechanisms.
- Increase the speed, efficiency and quality of reporting processing.
- Quick and easy access to reliable and appropriate data for the purposes of financial and monetary control, risk control, analysis, decision-making and policy formulation.
- Configure a traceable database.
- Creating a permanent file for each bank and company that includes all the information related to the financial institutions, with the addition of the ability to correspond and attach information and reports to and from the financial institutions.
- Using feedback mechanisms constantly and at high speed and keeping all notes.
- By creating a database of financial reports, it is possible to conduct analytical calculations and measure the impact of each institution in the sector in full, as well as benefit from them in the future forecasts of the sector.

#### **7-7-16 Arab Regional Payment System (BUNA):**

This system is a platform that provides real-time clearing and settlement services for cross-border money transfers and in Arab and international currencies.

As the participating banks will be able to send and receive payments among themselves in a safe and reliable manner, and reduce the recourse to global centers from correspondent banks in clearing and settling Arab payments, which contributes to shortening the time and costs associated with banks and their visits, the full operation of the Buna platform has been started in cooperation with the Arab Monetary Fund for Iraq and making payments. This achievement is a new stage for developing electronic payments, and directing all banks to encourage them to participate in the platform due to the speed and safety of making transfers and enhancing banking services that meet the needs of local and future customers. 13 banks have participated in the platform.

#### **7-7-17 Systems for the Issuance Department and Treasuries:**

The Department of Issuance and Treasury continues to supply the local currency smoothly by securing the needs of the banking system and the public from local and foreign exchange on a regular basis, taking into account, cleaning the issued

currency from the damaged currency and replacing the damaged and worn out currency.

A- The system of sequences for banknotes in US dollars and the system of payments and receipts of the Iraqi dinar and the US dollar, which is divided into:

/ Creation of a database of damaged, invalid and burned banknotes.

/ Organizing a database of counterfeit banknotes to provide the required information faster and provide the bank's departments and department's departments with daily, weekly, monthly and annual reports.

B - Introducing a system for counting and sorting bank deposits in Iraqi dinars to control the daily movement of bank deposits in the counting and sorting departments and the fund with the Accounting Department, in addition to archiving reports through the functions provided by the system, and work is still in progress.

C- Establishing a laboratory affiliated to the Currency Examination and Counterfeiting Monitoring Department, consisting of six specialized devices for examining banknotes in terms of the type of paper and security marks used, and extracting a detailed report on that, and work is still in progress.

### **7-8 Strategic Plan for the Central Bank of Iraq:**

The Central Bank of Iraq has developed an ambitious and comprehensive plan by setting strategic priorities for the Central Bank and in agreement with the vision, mission and objectives of the Central Bank since its launch in the first phase and defining them for years (2016-2020) and measuring the extent to which these strategic goals are achieved by the Central Bank in the medium and long term, then preparing and determining the second phase For years (2021-2023) and counting the achievement of the sub-goals for each strategic goal of the Central Bank's strategic plan and following up on the continuity of achieving the desired goals, clearly and at high rates, in accordance with the requirements of international standards.

Thus, it generally includes achieving financial stability at local prices and working to maintain stable financial stability based on competition in the market, promoting sustainable development, providing job opportunities and achieving prosperity in Iraq, Article (3) of the Central Bank Law.

### **7-8-1 The Second Strategic Plan (2021-2023):**

After benefiting from the previous experience in achieving the previous strategy (2016 - 2020), and after identifying strengths and weaknesses, as well as opportunities and challenges, according to the interactive participation of all central bank formations and senior management in the preparation stages, new sub-goals based on general frameworks were set. The Constitution in general and the Central Bank Law based on building a free market economy based on competition and enabling the private sector to play a key role in economic development as well as achieving price stability, enhancing the financial system's durability and achieving economic prosperity. These goals are summarized as (supporting and achieving monetary stability and financial, strengthening and strengthening the banking sector and financial institutions, promoting digital transformation in the central bank and the banking sector, developing the organizational structure and human resources of the central bank, and activating and integrating the internal and external relations of the central bank).

### **7-9 The Iraqi Company to Guarantee Bank Deposits:**

The Central Bank works in cooperation with the Deposit Insurance Company to exchange information and data that would solve crises and reduce risks that may befall the banking sector, as the company enjoys complete operational independence without the interference of any external parties. It was established in 2020 under the Iraqi Companies Law No. (21) of 1997 and the Central Bank of Iraq Law No. (56) of 2004, as the Central Bank of Iraq supervises its activities and performance, and its records and final accounts are subject to audit by the Federal Financial Supervision Bureau, and because the institution is newly established and because Its services are in the interest of the Iraqi society. The first challenge is to spread the comprehensive awareness culture and define the importance and necessity of subjecting the public's deposits to the security system. Its organizational structure is a mixed sector company, shares of the public and private sectors, with a capital of (100) billion Iraqi dinars, which is equivalent to (68.5) million US dollars, according to the official exchange rate announced by the Central Bank (1460USD/IQD), as the contribution amounted to the following:

/ Public sector contribution percentage: (48.3%).

/ Ratio of private sector contribution: (51.7%)

On 3/1/2022, the Central Bank issued a circular to authorized banks, foreign banks, and troubled banks stating that they must contribute to the capital of the Iraqi Company to Guarantee Bank Deposits in accordance with Article (3/first) of the Bank Deposit Law No. 3 of 2016.

### **7-9-1 Objectives of the Bank Deposit Insurance Company:**

The Iraqi Bank Deposit Insurance Company works to enhance financial stability in Iraq by following several procedures to achieve the following objectives:

A- Providing a cover to guarantee the public's deposits with Iraqi banks approved by the Central Bank of Iraq inside Iraq, especially small depositors.

B - Eliminating the phenomenon of financial hoarding among the public by converting it to investment and development banking sources.

C - Enhancing confidence in the banking sector by raising banking awareness among the public, and this would have a positive impact on economic development.

D- Contribute to achieving financial stability in partnership with other parties in the financial safety net.

E - Managing the process of compensating depositors efficiently and effectively within (30) days from the date of the issuance of a decision by the Central Bank of Iraq approved by the Financial Services Court of final degree declaring the bank bankrupt.

### **7-9-2 Indicators and disclosures issued by the Deposit Insurance Corporation:**

The company issues, through its website ([www.icd.iq](http://www.icd.iq)), a set of information and disclosures of its own and the laws in which the company was founded, and that it monitors the level of growth of bank deposits in light of the work of the security system, as it notes the high growth rate of deposit operations to (14%). Since the company started practicing its activities on October 17, 2020, the company has published a wide media and cultural campaign for public awareness, as well as directing banks to work to educate customers about the company's tasks and objectives in protecting depositors' funds, using all available awareness and information tools, as an independent budget has been allocated to it in order to achieve a broader Advertising and introductory coverage for the public at the level of the Republic of Iraq.

### **7-9-3 The Institution's Actions Against Risks:**

Among the measures taken by the Deposit Insurance Corporation that ensure early detection and intervention to solve challenges when there is a high risk in a bank, there is high cooperation and coordination with the Central Bank of Iraq to exchange information and data received by the institution and match it with the bank's database,

As well as the conformity of the institution through the risk department and compliance with its level of performance through changes to the standard indicators approved by the Central Bank and through the results of the annual statements of banks to verify the integrity of the financial position as well as the degree of compliance of the member bank in the security system by monitoring its performance in implementing His monthly obligations to pay the insurance allowance on time. The Iraqi company to guarantee bank deposits contributes to achieving financial stability, as the measures taken lie in forming an appropriate reserve allocation for the possibilities of exposure of the guarantee system to potential compensation that is greater than the size of the guarantee cover specified for normal cases. It is also worth studying the possibility of the company resorting to additional funding sources that enhance its liquidity capabilities to face such a crisis. What would help the government and the supervisory authorities to overcome these potential crises to contribute to the efforts of the parties to the financial safety network.

### **7-9-4 Governance system of the Bank Deposit Insurance Corporation:**

The company's system No. (3) of 2016 was defined as the general lines of corporate governance through the controls and the company's work mechanism, as well as the duties of the company's board of directors and its executive departments, as well as the systems of deduction rates and the type of accounts subject to guarantee, in addition to the mechanism for payment of insurance fees and everything related to the investment of the company's funds and procedures Compensation and control of company accounts and other controls.



**7-9-5 Investments by the Banking Deposit Insurance Corporation:**

Company Regulation No. (3) of (2016) Article (6/Second) defines the tools for investing the company's funds by a decision of the company's board of directors in fixed deposits and in the purchase of securities issued by the Iraqi Ministry of Finance and the Central Bank of Iraq, provided that they are purchased from the secondary market.



# **Chapter VIII**

## **Financial inclusion**

## 8. Financial inclusion

Given the critical importance of financial inclusion in enhancing financial stability, so it is one of the main goals that countries set in their calculations for the purpose of increasing financial depth, because of its positive effects and great importance in economic growth, income distribution, and reducing unemployment and poverty, and this care for financial inclusion increased with the increase in technological development. And digital transactions have become a large part of transactions, so financial inclusion is linked to a direct relationship with technological development, and the Central Bank of Iraq seeks to increase the level of financial inclusion within the country, through a set of measures it has taken for that goal, and among these measures The Central Bank of Iraq represented by the Payments Department has adopted the (Financial Inclusion for a New Economic Beginning) project, which aims to improve financial inclusion in a sustainable manner in partnership with the Ministry of Planning, and in cooperation with the Arab Monetary Fund to enhance financial inclusion in the Arab countries for the purpose of benefiting from the expertise provided by them and their strategic partners ( The World Bank, the Global Alliance for Financial Inclusion (AFI) and the German Agency for International Development (GIZ), in order to develop the financial sector Improve and increase financial services provided to the public, attract the largest number of individuals and savings into the banking sector, reduce the volume of currency in circulation and increase the number of individuals within the banking system, as well as the initiatives launched by the Central Bank (the initiative of large, medium and small projects since 2015 and subsequent years), which contributed In increasing the number of accounts and loans, as well as the process of settling salaries launched since 2016, which stipulates that all state employees be within the Iraqi banking system, in order for there to be a greater number of the public within the financial system, to activate the monetary policy decisions represented by the Central Bank of Iraq more It achieves its goals quickly and more accurately, and the trend towards electronic exchange instead of monetary exchange within the economy, and that the increase in technological development leads to an increase in financial inclusion, the spread of advanced technology, the expansion of the use of the Internet, and the increase in the use of the mobile phone, among the important elements in increasing financial inclusion; Therefore, achieving a high rate of financial inclusion requires

the provision of an infrastructure of advanced and rapidly spreading information technology.

### **8-1 Initiatives of the Central Bank of Iraq in support of financial inclusion:**

The Central Bank of Iraq has undertaken a series of initiatives launched since 2015, mainly aiming to move the economy towards growth and support financial stability on the one hand, and develop the payments system and enhance financial inclusion on the other hand, as well as a range of other benefits, including reducing unemployment and providing job opportunities. As well as reducing poverty rates, etc.

These initiatives covered all aspects of the economy; Because it included small and medium projects represented by the Small and Medium Enterprises Financing Initiative launched in 2015, as well as the Large Projects Financing Initiative launched in the same year, and then another initiative launched by the Central Bank devoted to long-term banks to purchase ATMs, in order to support, develop and assist financial services. In promoting financial inclusion, as well as in the year and then 2020 a new initiative allocated to specialized banks, while in the year 2021 it launched an initiative to support renewable energy.

These initiatives have greatly contributed to enhancing financial inclusion in Iraq, because they require the beneficiary of this initiative to have a bank account in order to complete dealing with it, whether he is a small or medium project owner or one of the owners of large projects, which helped banks open many accounts For individuals to complete the benefit transaction from these loans, which contributed to an increase in the number of bank accounts and an increase in the number of electronic cards issued, which will be mentioned later, in order to expand the volume of digital transactions within the economy. Moreover, there is a special initiative launched to banks to purchase ATMs, this initiative was aimed at improving the quality of financial services provided by banks to individuals in order to attract the largest possible number of the public into the financial sector, and thus enhance indicators of financial inclusion.

### **8-2 The project of settlement of salaries of state employees:**

The project to settle the salaries of state employees was started based on a decision issued by the General Secretariat of the Council of Ministers in 2016. The aim of the

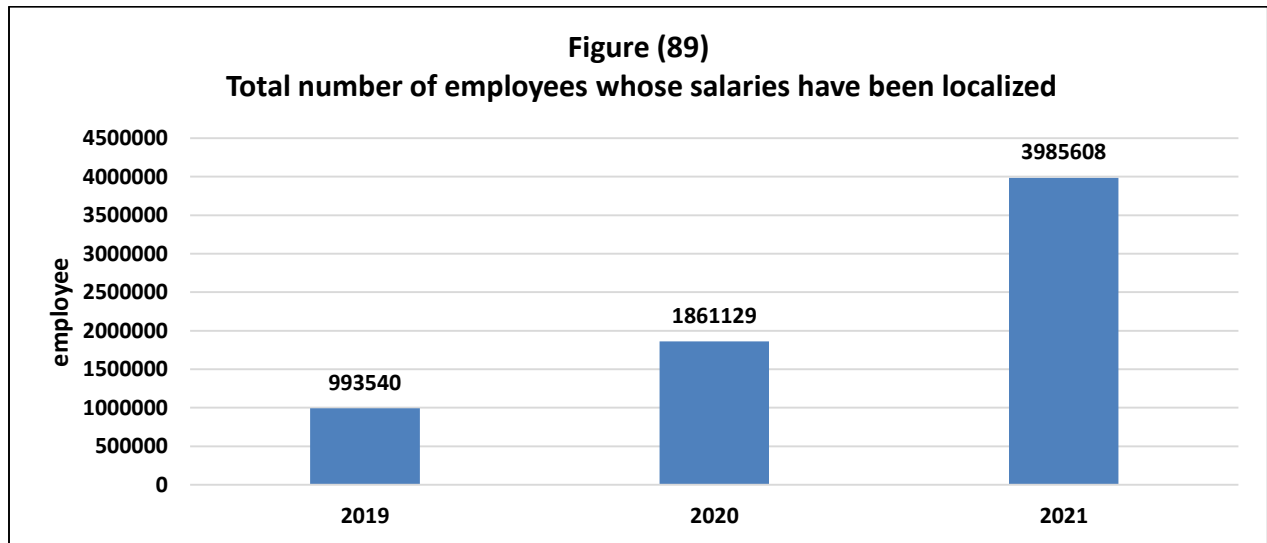
project was to pay salaries to state employees through cards issued by banks operating in Iraq in cooperation with financial payment companies that supply these cards to banks. The project aims to reduce the total cost of the process of paying salaries and keeping cash within the banking system, the benefit that accrues to workers by obtaining a bank account from them is from dealing with all ATMs and points of sale inside and outside the country, as well as benefiting from all other banking services offered by banks, such as obtaining loans and others, in addition to the security provided by the use of cards. Instead of holding cash, the central bank's strategy is to create a safe competitive environment for banks to present their offers, the employee has the right to choose the bank according to the best financial and banking services and the most appropriate prices<sup>1</sup>. This project is an important step towards expanding financial inclusion within the country, especially since its stated goal is to reduce the financial costs of the salary payment process, increase bank accounts opened with banks, and increase the number of participating individuals in the financial system, which will necessarily increase, as well as creating an atmosphere of competition between them in order to provide the best offers in order to obtain the largest number of employees who will localize their salaries, and (37) bankers have contributed to this project, in order to receive employees wishing to settle their salaries, and the Central Bank established the national resident system (It is a system of electronic money transfer between banks and electronic payment service providers through points of sale and ATMs. A credit card holder can perform financial withdrawals and purchases from vending machines and points affiliated with other banks throughout the country, without the need to rely on bank branches. in which her money was deposited)<sup>2</sup>, this system works to reduce the cost of withdrawal for local individuals in the event that their money is withdrawn from other bank branches, in order to reduce the costs of financial services provided by banks to the maximum extent possible and make them suitable for all members of society, and Figure (89) shows the number of employees who settled their salaries inside the banks Since the launch of the project until the end of 2021 (3,985,608) employees, and the number continues to increase until all employees are resettled in the country, following the process of localizing salaries,

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<sup>1</sup> Central Bank of Iraq, website. 611/ <https://cbi.iq/news/view>

<sup>2</sup> Central Bank of Iraq, website. 611/ <https://cbi.iq/news/view>

which greatly contributed to enhancing financial inclusion within the country by increasing the number of bank accounts created for employees and increasing the number of cards. The electronic services that were granted to them, as well as increasing the financial services provided by banks in order to attract their employees, and increase banking awareness among the public.



Source: Central Bank of Iraq, Department of Payments.

### 8-3 Indicators of Financial Inclusion:

The Central Bank of Iraq measures the level of financial inclusion in the country using two main indicators: ACCESS and USAGE, and each of these indicators includes a set of sub-indicators as follows:

#### 8-3-1 Access to Financial Services Indicator: ACCESS

This dimension depends on a number of indicators, as follows:

##### 8-3-1-1 The Bank Density Index & The Banking Spread:

The indicator of banking density and banking spread is one of the important indicators in measuring and determining the level of financial inclusion in the country, as it depends mainly on bank branches that are spread throughout the country, in order to deliver financial services to the public. Therefore, this indicator is concerned with the number of bank branches within the economy. The data showed the banking spread and the banking density in Iraq is still below the required

level, despite the Iraqi Central Bank encouraging banks to open branches in all parts of Iraq, but the increase in bank branches was not very large, and the year 2021 witnessed a slight increase in the number of Bank branches, which amounted to (905) branches, while in 2020 there was (891) a difference, as this increase was reflected in the rise in the banking density index, as it reached (45.51) in 2021 after it was (45.06) in 2020, accompanied by a decrease in banking spread , as it reached (2.19) in 2021 after it was (2.21) in 2020, and this is a result of population growth at a rate greater than the growth of the number of bank branches in Iraq, and table No. (20) illustrates this:

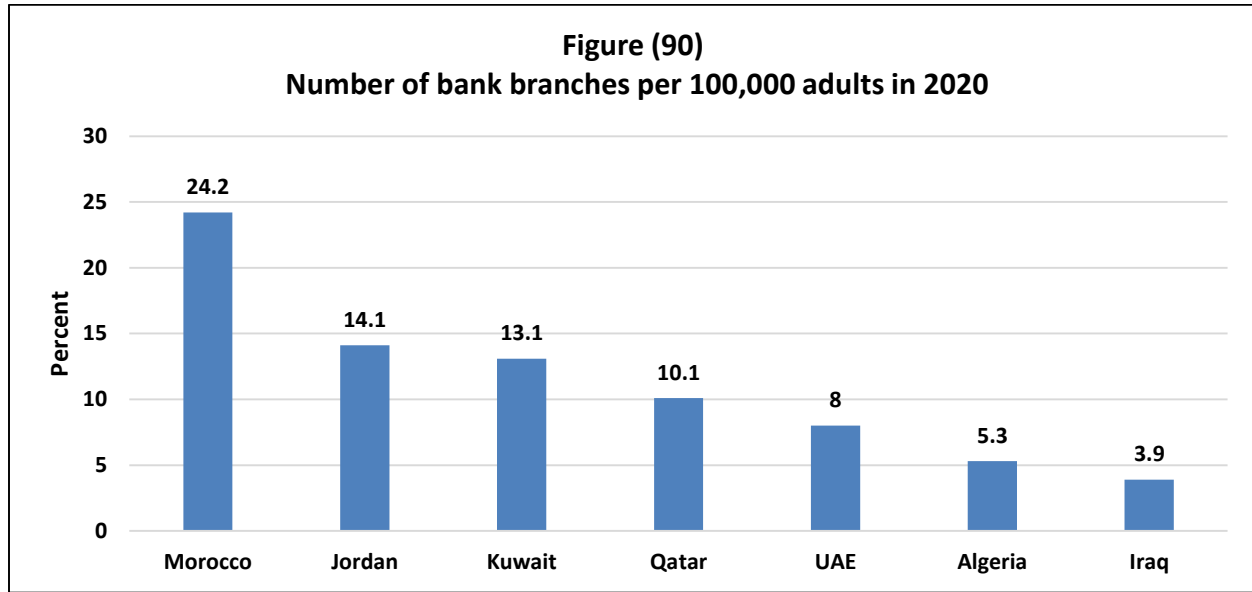
**Table (20) Banking proliferation and Banking Density in Iraq**

Year	Population (1,000)	Number of bank branches	Banking density	Banking spread
2017	37.140	843	44.05	2.27
2018	38.200	865	44.16	2.26
2019	39.300	888	44.25	2.25
2020	40.150	891	45.06	2.21
2021	41.190	905	45.51	2.2

Source: Central Bank of Iraq, 2020, Statistical Bulletin.

- Ministry of Planning, website, 508 = <https://mop.gov.iq/news/view/details?id>

When comparing Iraq with some Arab countries, we find that Iraq occupies a late rank in the spread of the number of branches, and Figure (90) shows that Iraq's percentage in the indicator of the number of bank branches per 100 thousand adults amounted to (3.9%), which is the lowest among the comparison countries for the year 2020, which It means the low level of banking penetration in Iraq.

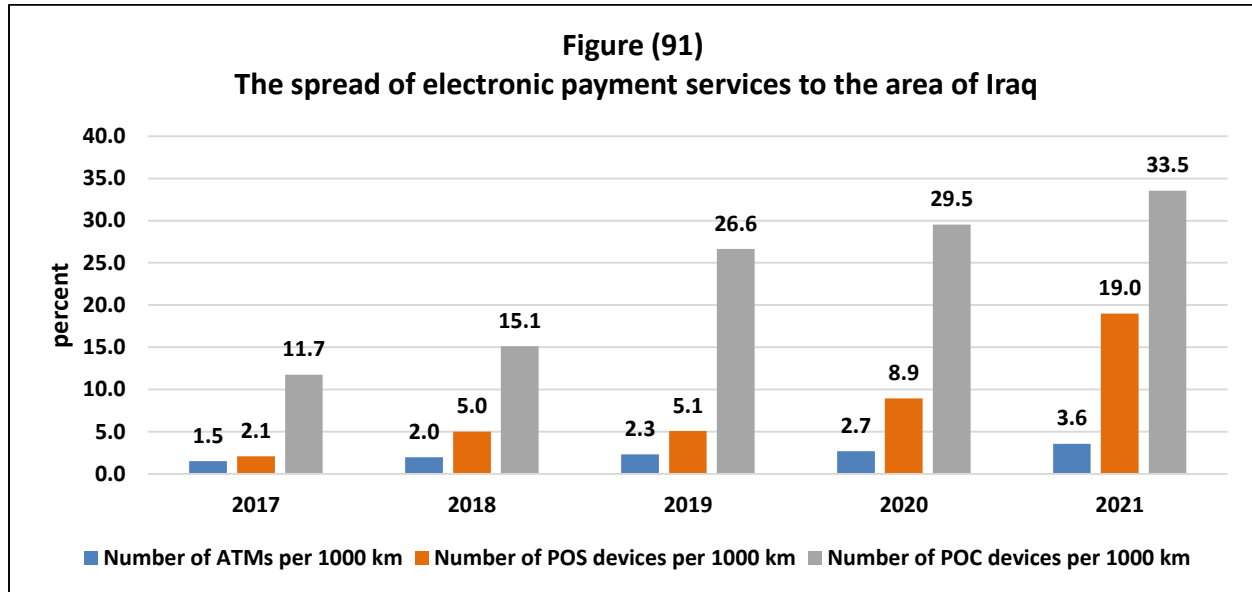


Source: World Bank data: <https://data.worldbank.org/indicator/FB.ATM.TOTL.P5?view=chart>

### 8-3-1-2 The Proliferation of Electronic Payment Services (ATM), (POS) and (POC):

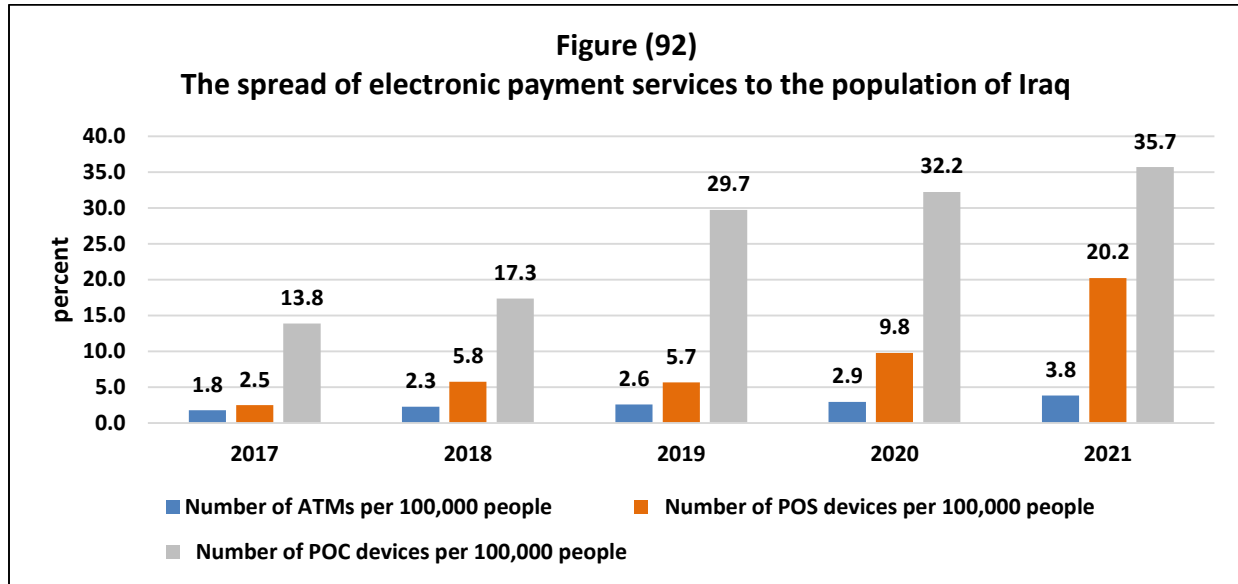
Term Attracting a larger number of the public into the banking system and trying to increase operations within the financial system and use electronic payment tools, and gradually get rid of dealing with cash, it is necessary to increase electronic payment services, which is one of the main goals that the Central Bank of Iraq seeks to achieve, as this indicator by measuring the level of penetration of electronic payment services. Figure (91) shows the number of (POS), (POC) and (ATM) per 1000 km, as it is clear that there is an increase in the percentage of the number of (ATM), (POS) and (POC) devices throughout Iraq, as it is noted that the number of ATMs has increased To the area of Iraq from (1.5%) in 2017 to 3.6%) in 2021, as for (POS) devices, their spread to the area of Iraq increased from (2.1%) in 2017 to (19%) in 2021, while (POC) it increased Its numbers ranged from (11.7%) in 2017 to (33.5%) in 2021, and it is expected that these percentages will increase in the future in line with the directions of the Central Bank of Iraq in this regard.





Source: Central Bank of Iraq, Statistical website

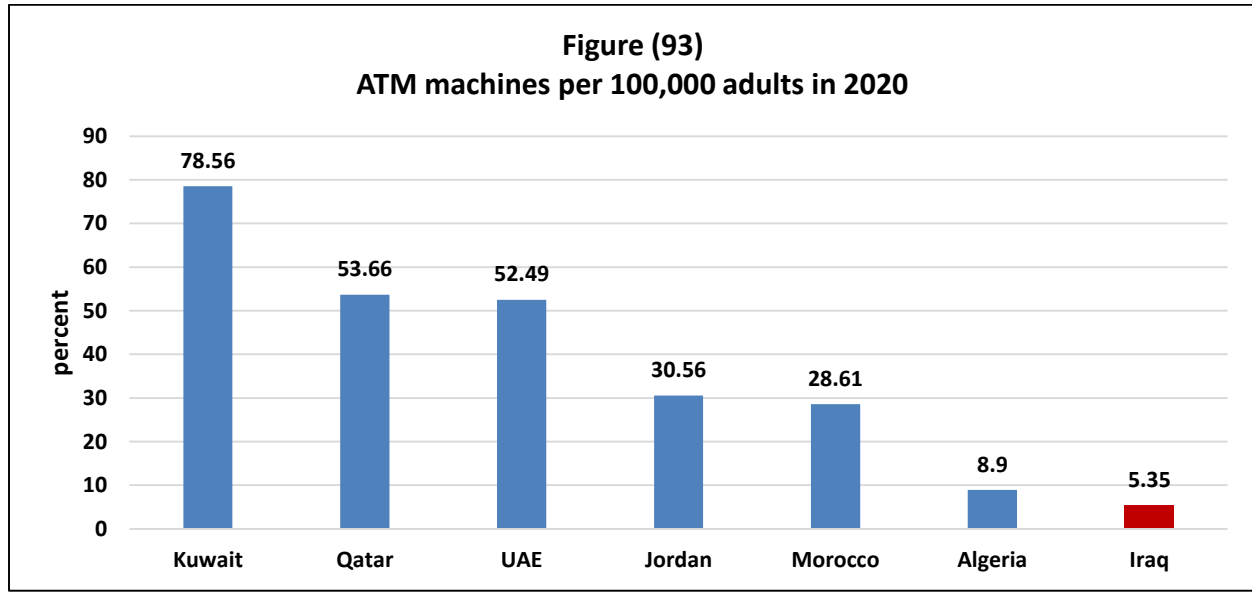
Likewise, with regard to the spread of electronic payment services to the population of Iraq per 100,000 people, it is still low, and the reason for this is cash dealing and the completion of financial transactions between individuals and merchants manually, due to the non-proliferation of this culture, and this process is still ambiguous to most shop owners. Especially in popular and remote areas, so most commercial markets and stores deal with cash and not POS devices. As for ATM devices, due to their spread, they are limited to malls, commercial centers, some government departments and bank branch headquarters, and there are no devices spread in public areas, and Figure (92) shows that There is a slight increase in electronic payment services in 2021, in which the ratio of the number of ATMs to the population of 100,000 people (3.8%) after it was (2.9%) in 2020, and POC devices reached (35.7%) in 2021 after it was (32.2%) in 2020, while POS devices increased to (20.2%) in 2021 after it was (9.8%) in 2020.



Source: Central Bank of Iraq, statistical website.

The percentage of ATM numbers in Iraq is low if this percentage is compared to the percentages of countries close to Iraq, and Figure (93) shows the percentage of ATM numbers per 100,000 adults in a group of Arab countries, as it is clear that Iraq has the lowest percentage in the number of ATMs. It is worth noting that the average ratio of the number of ATMs per 100,000 adults in the countries of the Middle East and North Africa (26.1) in 2020<sup>1</sup>, which requires banks to increase the number of these machines in order to provide the best services to the public, which helps in increasing the number of people entering the financial system, and increasing the level of financial inclusion that the Central Bank aims to achieve.

<sup>1</sup> World Bank data: <https://data.worldbank.org/indicator/FB.ATM.TOTL.P5?view=chart>



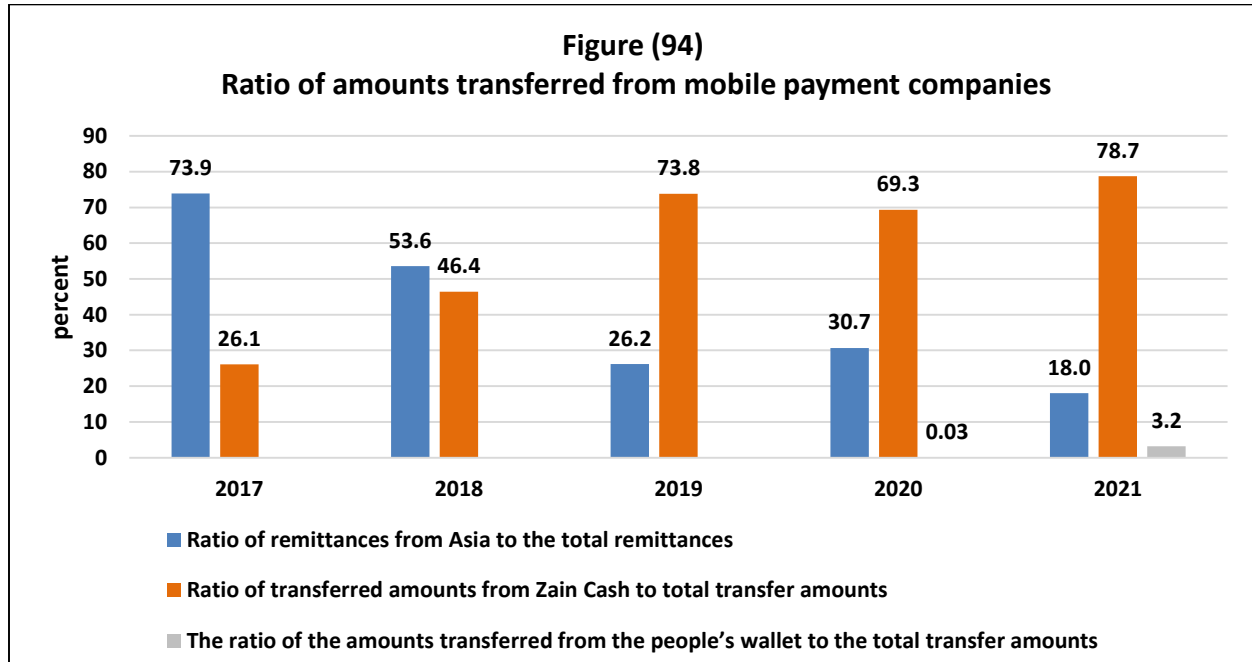
Source: World Bank data: <https://data.worldbank.org/indicator/FB.ATM.TOTL.P5?view=chart>

## 8-3-2 Financial Services Utilization Indicator: USAGE

### 8-3-2-1 The proliferation of mobile payment services

The development of the payment system is one of the most important methods through which financial inclusion can be enhanced in any economy, and mobile payments are one of these methods, as they facilitate many financial operations, and help in completing them quickly and accurately. The mobile phone and the completion of other financial transactions represents a very advanced picture of financial development, so the Central Bank of Iraq has granted permission for mobile companies to contribute to the electronic payment process via mobile, and to provide services such as money transfer, bill payment, purchase of electronic cards, mobilization of prepaid lines, and the process Depositing and withdrawing cash to and from the wallet, through the approved centers, and Figure (94) shows the financial activity of each company, which was measured by the amounts transferred through it. Amounts transferred through mobile payment companies (46.4%) in 2018 to (78.7%) in 2021, while Asia Transfer Company's percentage decreased from (53.6%) in 2018 to (18%) in 2021, and People's Wallet Company has It started its work in 2020, and the percentage of the amounts transferred to it to the total amounts was low due to the newness of its work, but it rose from (0.03%) in 2020 to (3.2%) in 2021, due to the increase in competition between companies, which reflects

positively on financial development, and helps more in developing services Financial provided by companies:

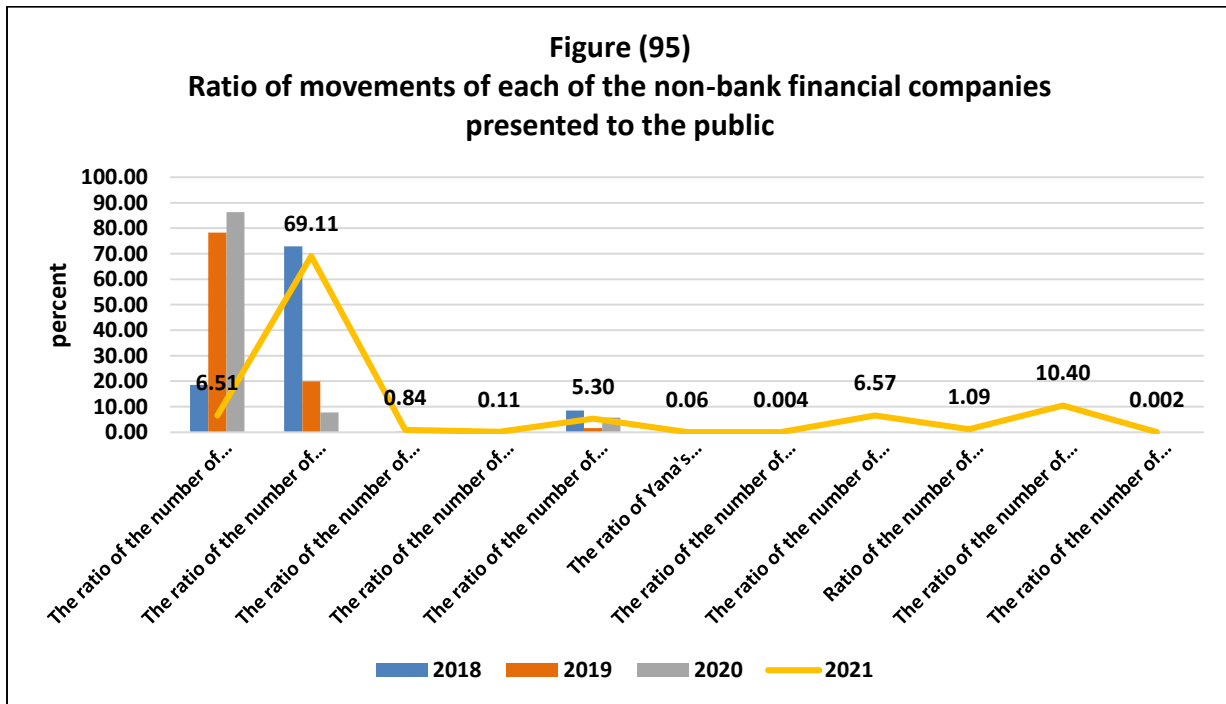


Source: Central Bank of Iraq, Payments Department.

### 8-3-2-2. The contribution of financial firms (processing, issuing and collection companies) to financial inclusion:

The role of these companies is very important in the financial system within the country, as they work to issue cards to banks, process operations and provide other services. The number of these companies increased within the financial system in Iraq to reach (11) companies, and their performance within the system varied according to the activity of each company. And it is clear from Figure (95) a Iraq Gate Company that it has the largest percentage in the number of financial transactions provided as financial services, whether they are issued, processed or as collection, with a rate of (69.1%) of the total transactions of financial service providers at the end of 2021, while A (GPS) company owns (10.4%) of the total movements of service providers at the end of 2021, and it started its work in 2021, and this indicates the control of Iraq Gate Company on the financial services market, and back in 2018, the Iraq Gate Company was in control The largest on the financial services market with a percentage of (72.9%) to the total transactions of service providers, while the Arab Company owns (18.6%) of the total transactions of service

providers, which indicates the existence of competition between financial companies by entering new competitors, and with reference to other companies, they are Weak competitor in the financial services market For the period (2018-2021), while (5) companies started their work in 2021, the services provided by non-bank financial companies are among the most important steps towards developing financial inclusion, due to the ease in completing transactions and shifting towards digital achievement, which It helps in saving effort and time, which is a good attraction for the public to enter the financial system.

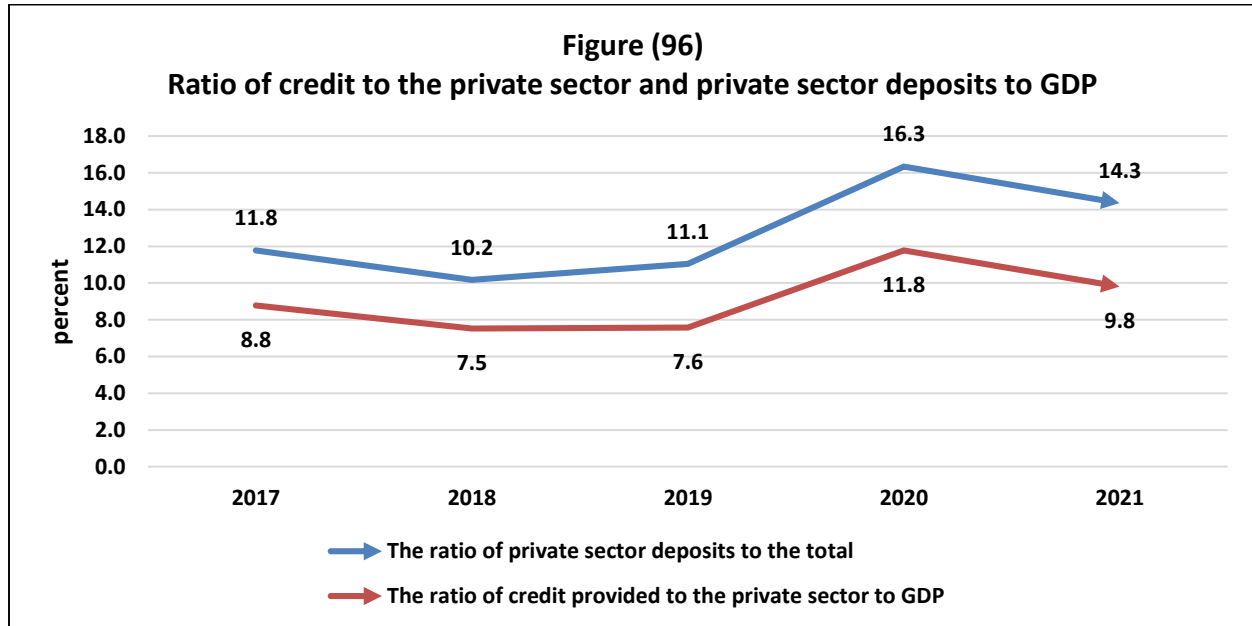


Source: Central Bank of Iraq, Payments Department

**8-4. Bank Depth Indicator:**

This indicator was measured using two variables, the first is the ratio of credit to the private sector to GDP. The second: the ratio of private sector deposits to GDP. The Banking Depth indicator shows the level of development of banking intermediation through easy access to banking services, their low cost, and the expansion of various banking institutions and tools, which contribute to supporting the investment process and economic development, and figure (96) explains these two ratios, and it becomes clear that the ratio of credit provided to the private sector to GDP increased from (8.8%) in 2017 to (9.8%) in 2021, and this increase is due to the increase in the volume of credit provided to the private sector, as it rose The volume of credit

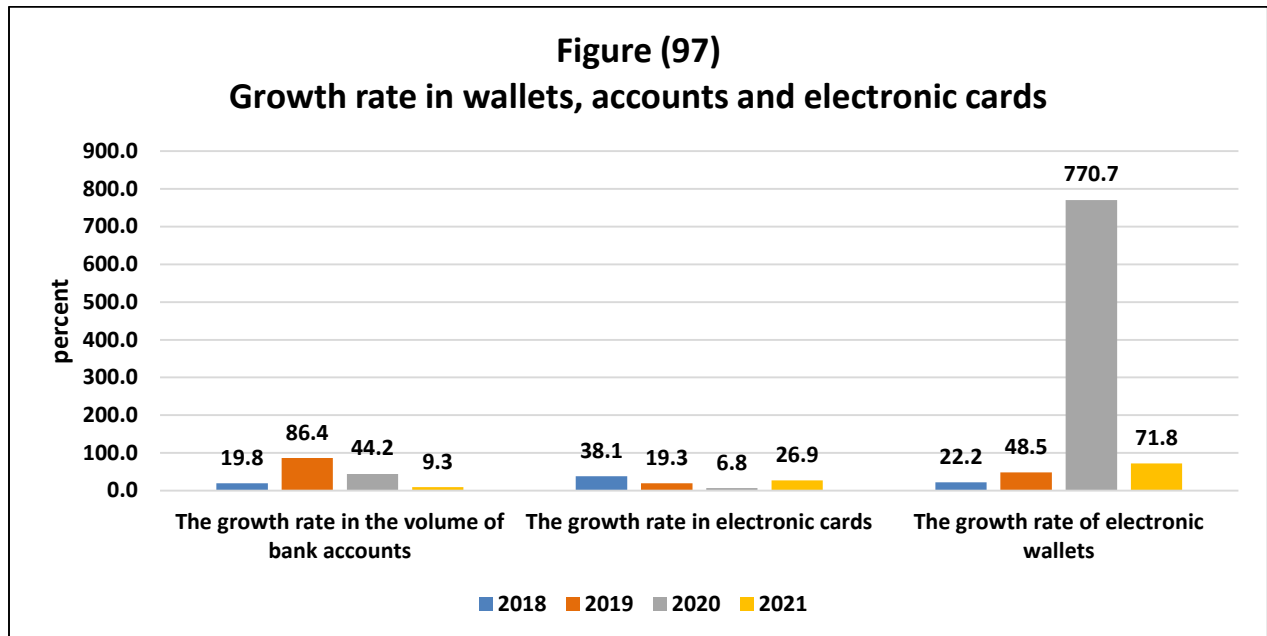
provided to the private sector increased by (52%) during the period (2017-2021), while the ratio of private sector deposits to GDP increased from (11.8%) in 2017 to (14.3%) in 2021, as the volume of credit extended to the private sector increased by (11.8%) in 2021, deposits increased at a rate of (65%) during the period (2017 - 2021).



Source: Central Bank of Iraq, Department of Statistics and Research

### 8-5. Electronic Cards, Bank Accounts, Electronic Wallets:

The first step towards financial inclusion is to open a bank account, and therefore the increase in the number of bank accounts is the inclusion of a greater number of individuals in the financial system, as well as with regard to electronic wallets and electronic cards, the increase that occurs in the number of electronic cards or bank accounts or Electronic wallets falter in the development and expansion of the volume of financial inclusion, because when the individual obtains any of them, he becomes within the financial system. Figure (97) shows the growth rate in the number of bank accounts, electronic wallets and electronic cards. The growth rate in the volume of electronic wallets reached (71%) in in 2021 compared to 2020, there was an increase in the growth rate of electronic cards amounting to (26%) in 2021 compared to 2020, and the same with regard to the increase in bank accounts, which increased by (9.3%) in 2021 compared to 2020. Accordingly, there is an expansion in financial inclusion, and there is a greater demand from individuals to enter the financial system.

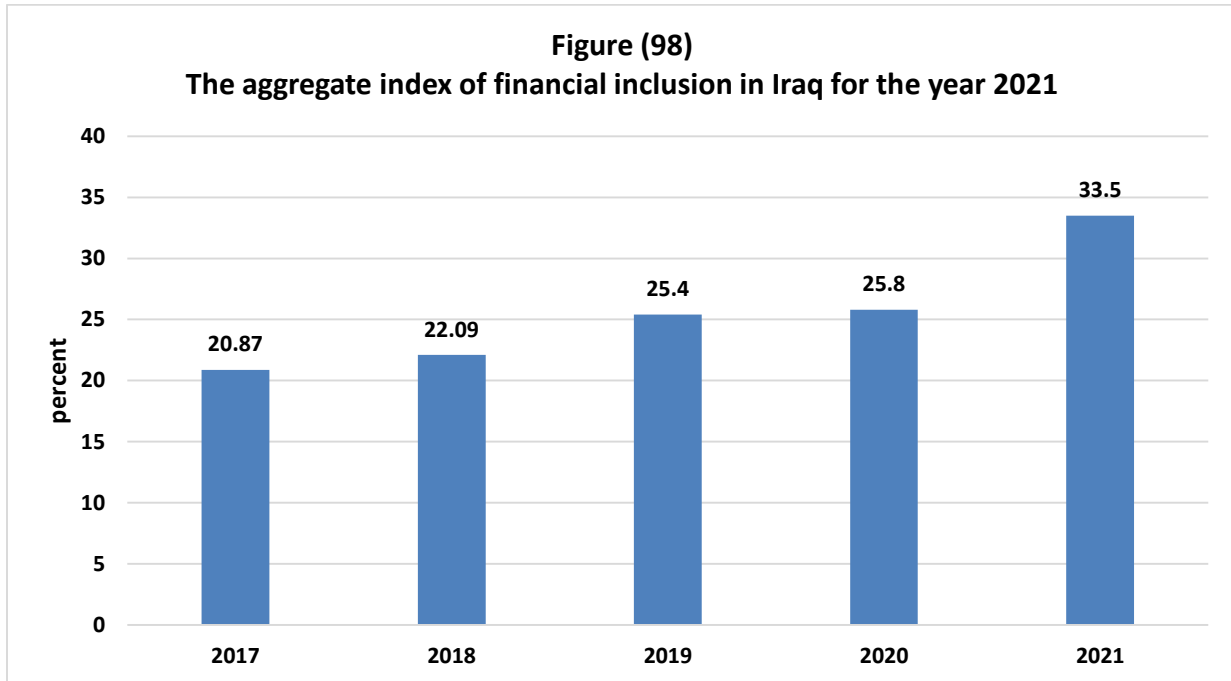


Source: Central Bank of Iraq, Payments Department

### 8-6. Measuring the aggregate indicator of financial inclusion in Iraq:

The financial inclusion aggregate index depends on two main indicators (access and use) to know the progress made in the level of financial inclusion, which is a reflection of the extent of progress made in the level of financial inclusion <sup>1</sup>, and the results in Figure (98) indicate an increase in the value of the aggregate index of financial inclusion From (20.8%) in 2017 to (33.5%) in 2021, this increase in the value of the aggregate index of financial inclusion reflects the success of the policies of the Central Bank of Iraq in encouraging financial inclusion, and increasing the confidence of individuals in their dealings with the formal financial sector. It is due to the noticeable increase in the number of bank accounts as a result of the salary settlement policy, as well as the noticeable increase in the number of ATMs and points of sale, which increased in the last period.

<sup>1</sup> For more, see the steps to measure the aggregate index of financial inclusion, Financial Stability Report in Iraq, 2016.



Source: Central Bank of Iraq, prepared by Department of Monetary and Financial Stability



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