

Financial Stability Report

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Financial stability: Means the situation in which the financial system of all its institutions is able to continue to perform its basic functions of mobilizing savings, granting various loans and effectively settling payments, especially in times of financial crises resulting from the financial system itself or generated from the real sector.

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Introduction

The Central Bank of Iraq contributes to ensuring financial stability in Iraq by following up and stabilizing the financial system through several financial and banking indicators that act as early warning sensors in the event that the Iraqi economy is exposed to external or internal shocks that would leave systemic risks to that distribution, thereby losing confidence in the efficiency of the financial system and negatively affecting the real economy in general. The Iraqi economy continues to face a number of risks, primarily security impacts and oil price imbalances, as well as the unilateral nature of the Iraqi economy, as well as global economic growth and its implications for the oil sector, which is of high relative importance to Iraq's GDP.

The Central Bank of Iraq is pleased to present the Financial Stability Report (No.11) in order to inform the concerned authorities of the Iraqi financial system, researchers and the public in general about the conditions of the financial sector in Iraq during the year 2020. This report is a summary of the efforts of the Central Bank of Iraq to maintain financial stability in Iraq and diagnosing the risks that may befall the financial system, as well as its efforts to develop the financial infrastructure through which it can achieve its objectives by establishing financial stability, and then achieving economic growth. The Financial Stability Report for 2020 included a number of axes that simulate global developments and changes affecting the financial system in Iraq, namely:

- Iraq in some international indicators.
- Analysis of the impact of climate change on financial stability in Iraq.
- Analysis of financial sector developments.
- Analysis of indicators of the financial integrity of the banking system.
- Analysis of the Individual Indebtedness Indicator.
- Measure the aggregate indicator of financial stability.
- Analysis of the results of stress tests.
- Analysis of developments in the infrastructure of the financial system.
- Analysis of developments in financial inclusion.

The Central Bank of Iraq has given increasing attention to the issue of achieving financial stability, and this stems from its responsibility to ensure and maintain a sound and stable financial system, and to reduce potential risks after forecasting them, and this is what encouraged the Central Bank of Iraq to

make financial stability the first goal within its announced strategy for the period (2016 - 2020), Also, the first strategic objective in the strategic plan of the Central Bank of Iraq 2021-2023 is (supporting and achieving monetary and financial stability).

The fact that global oil prices have been, and continue to be, the main determinant of financial stability in Iraq at least in the short term, there are exceptional aspects that have an impact on Iraq's financial stability, the most important of which are security and policy conditions, as well as health factors. These factors have enabled the Central Bank of Iraq to deal in a timely and expeditious manner with most of these problems in order to reduce their effects, most recently the spread of the Covid-19 and its significant negative repercussions on the global economy and the Iraqi economy in particular.

The Central Bank has moved forward at an accelerated pace to lift the Iraqi economy out of its crisis during 2020 and as a new step by the Central Bank of Iraq in dealing with developments and developing appropriate solutions in accordance with transparent regulatory and supervisory frameworks, such as the launching of a number of financial initiatives as credit facilities for banks to support all economic sectors; To accelerate economic growth in Iraq, which helped to overcome the stifling crisis in the Iraqi economy following the closure of the global and domestic economy, and the repercussions of declining oil prices in the international markets.

As most of the indicators included in the Financial Stability Report for the year 2020, showed that despite the large monetary easing policies followed by the Central Bank of Iraq and the tremendous support it provided to the Iraqi economy in the framework of policies to confront the shock of the Covid-19, which helped mitigate its impact on the sectors operating in the Iraqi economy, as well as the high levels of financial leverage for families and companies that may result in financing risks and leave negative repercussions on borrowers and financiers alike, but the Central bank of Iraq is able to take the necessary measures, and reset the regulations and legal measures that will enhance the capacity of the banking sector in Iraq, in order to overcome crises, support economic growth and ensure the achievement of financial stability, along with the financial control policies pursued by the Iraqi government, diversifying sources of financing public spending, reducing dependence on oil for financing, and reducing competition in credit provided to the private sector, by activating other funding resources in the state's general budget.

The Summary

The factors of financial stability in the Iraqi economy vary according to the different circumstances surrounding that economy and at the local and external levels, as progress towards the return of economic conditions to normal requires public policies of a different nature according to the shocks that befall the Iraqi and international economy in general, and the strength of recovery is as strong as those policies, mass vaccination operations, lifting of embargoes in the world, and openness of the international economy cast a shadow over the recovery of the Iraqi economy and financial stability.

In the future, economic policies should focus on how to confront crises and escape from them, while following up on the risks of those crises on economic conditions through indicators of financial stability, and supporting economic recovery with accommodative monetary policies along with providing public finance with greater spending to support the affected sectors, as well as providing support for the efforts of institutions that advocate the environment and reduce greenhouse gas emissions, especially as the world is witnessing a shift in energy use, and provides great financial incentives for countries that follow policies to reduce those emissions. The Iraqi government is one-sided in collecting revenues, and shifting towards a diversified economy with a diversity of economic components and different resources owned by Iraq, in order to ensure the continuity of growth and make the paths of recovery more clear and improve its indicators.

It is noted in chapter 1 on **Iraq's position in some international indicators** that some indicators are moving towards improvement and correcting the path, while others do not rise to the level of ambition, and it is necessary to stand at them and diagnose the causes of the decline, as Iraq achieved its best ranking in the level of global transparency in 2020 when Ranking 160 globally out of 180 countries with a rank of (21). As for the right of expression index, Iraq ranked (107) globally among (214) countries and regions, and the eighth in the Arab world, with a degree of -0.95. As for the political stability index, Iraq ranked (207) global out of 211 Arab countries, it ranked (18) with a degree of (-2.56), which is a weak degree. Also, Iraq came in late ranks in the government effectiveness index at rank (189) among (209) global countries, while it ranked (15) in the Arab world, at a degree of (-1.34), meaning that the effectiveness of the Iraqi government is weak compared to other countries.

With regard to indicators of ease of business in Iraq, the improvement of these indicators has many advantages that benefit the Iraqi economy, as this will be reflected in better job opportunities, greater tax collections, and incomes higher. Conversely, in the event of cumbersome and long regulatory procedures, the chances of corruption to complete projects may be greater.

This is what motivates policy-makers to follow up on those indicators and evaluate the variables that affect the performance of the business environment in the Iraqi economy, as well as giving priority **to climate change and its impact on the financial system in Iraq**, and the material risks resulting from damage to the oil sector as the most important working sector in Iraq, which It is the main resource for it, in addition to correcting the biggest path growth of the agricultural sector, which is the second most important sector in the GDP, as it is also greatly affected by climate change and global warming, and the spread of a culture of coexistence with climate change, and that change is a source of opportunities and risks at the same time. The financial system can play a key role in moving towards a green economy and changing the nature of the Iraqi economy by mobilizing the necessary resources to invest in measures to mitigate climate changes and the transition to a low-carbon economy, and as a result of the increased awareness of the Central Bank of Iraq, the acceleration of the emergence of the economic effects of climate change on the Iraqi economy In general and financial stability in particular, the Central Bank has worked to integrate climate-related risks into financial stability in Iraq and allocate part of the Financial Stability Report to follow up on the impact of climate on the Iraqi economy and financial stability in Iraq.

With regard to **the development of the financial sector in Iraq**, the banking system in Iraq consists of (76) banks in 2020, including (7) government banks and (69) local and foreign private banks, and the largest number of private banks is commercial banks, and their number is (40) bank (local and foreign), followed by Islamic banks with (29) banks (local and foreign), and the volume of banking system assets increased from (133) trillion dinars in 2019 to (138.5) trillion dinars in 2020, with an increase rate of (4.13%), The level of concentration of the largest assets of the five banks according to the (Herfindahl - Hirschman) index reached (1951.6) points in 2020, and this indicates a moderate concentration level in the assets of the banking system.

While the deposits of the banking sector increased from (82) trillion dinars in 2019 to (85) trillion dinars in 2020. The capital of banks witnessed an increase of (9.2%) in 2020 to reach (16.9) trillion dinars, after it was (15.5) trillion

dinars in 2019. Cash credit also increased from (42.05) trillion dinars in 2019 to (49.81) trillion dinars in 2020, with an increase rate of 18%, while pledge credit increased by (11%) from (25.26) trillion dinars in 2019 to (25.45) trillion dinars in 2019.

As for the amount of overdue debt, it witnessed an increase from (4.2) trillion dinars in 2019 to (4.5) trillion dinars in 2020, i.e. at a rate of (7.1%) of the total cash credit after its growth rate to the total cash credit was negative at a rate of (-14.3%). for 2019.

While the data on the performance of Iraq Stock Exchange for the year 2020 indicated that the market has improved in the performance of its annual indicators, as the market index (ISX 60) closed in its last trading sessions for the year 2020 at (508) points, higher than the year 2019 at a rate of (3%), which reached at (493).

This report also contains an analysis of the non-banking financial sector (under the supervision of the Central Bank, outside the Central Bank), which plays a significant role in achieving economic growth and financial stability, some of which are lending institutions with a wide reach in the Iraqi economy. As for the financial safety indicators, the capital adequacy ratio for the banking system as a whole increased from (173%) in 2019 to (253%) in 2020, with an increase rate of (46.2%) as a result of the increase in the capital of banks as a whole from (15.1) one trillion Dinars in 2019 to (16.9) trillion dinars in 2020, and this reflects a decrease in the value of risk-weighted assets, which led to an increase in the capital adequacy ratio of the banking system, and this increase in the capital adequacy ratio in 2020 exceeds the ratio required by the Central Bank of (12%), therefore, is a very high percentage that reflects the ability and efficiency of the banking system to confront unexpected risks and problems that it may be exposed to, with regard to the second indicator of financial safety, which is the liquidity indicator. The banks operating in Iraq have achieved high rates of the liquidity coverage ratio, if The monthly rate of this ratio did not fall below the minimum set for it during the year 2020, as the liquidity coverage ratio recorded its highest rate in the month of November, when it reached (277%), while the lowest rate of the liquidity coverage ratio was in the month of September, reaching (212%), and this latter ratio is much higher than the minimum liquidity coverage ratio of (100%). 2020 amounted to (211%), (208%), (200%), (207%) respectively for each quarter, which are high percentages compared to the percentage specified by Basel III, and this indicates where banks have available financing greater

than the financing What is required, that is, banks are able to finance the assets side according to what the sources of funds provide on the liabilities side, while the ratio of (liquid assets, total deposits, liquid assets to short-term liabilities) decreased to (61.73%), (37.86%) for each of them, respectively, in 2020, after their ratios in 2019 were (70.10%) and (43.25%) for each, respectively, while the ratio of cash credit to deposits with the banking system increased by (14.53%) to reach (58.72%) in 2020 compared to 2019 (51.20%) and the financing gap decreased in 2020 by (-26.5%) compared to 2019, as the financing gap reached Funding in 2020 is (-70.5%),

This is due to the high rate of growth of cash credit at a rate greater than the growth rate of deposits, as the growth rate of cash credit in 2020 reached (18.46%) over 2019, while deposits grew at a rate of (3.5%) in 2020, higher than in 2019, which amounted to The volume of deposits in it is (84.9) trillion dinars, and with regard to the third indicator of financial safety (**asset quality**), the secondary indicators included in its calculation witnessed a discrepancy in performance, as the percentage of overdue debts, total cash credit, declined during the year 2020 to record (8.93%) for 2020 compared to (9.86%) in 2019, however, this ratio reflects the huge assets of the banking system in 2020, while the percentage of overdue debts, total assets, increased to (3.21%) in 2020 after it was (3.12%) in 2019. The ratio of outstanding debt to capital in 2020 fell to (% 26.29) compared to the same ratio in 2019 of (26.76%) for total banks.

As for the last indicator of the financial safety indicators (**indicators of revenue and profitability**), its secondary indicators also witnessed a discrepancy in performance. The return on assets increased from (0.81%) in 2019 to (0.90%) in 2020, and this increase came as a result of a trend The Central Bank urged banks to grant credit through a number of initiatives it presented to the banks, in addition to the increase in banks' profits, as net interest-bearing income rose from (1.4) trillion dinars in 2019 to (1.5) trillion dinars in 2020 with a growth rate of (2.8) The non-interest income also increased from (1.02) trillion dinars in 2019 to (2.4) trillion dinars in 2020, at a rate of (135.2%), and the return on owners' equity increased from (6.96%) in 2019 to (1%). 7.33 in 2020 and for all governmental and private banks.

While this report witnessed the addition of a new tool, which is (**Health Map): (Heat Map Assessment Tool Map)**) act as a sensor to inform decision makers of the financial risks and underlying weaknesses that will face the financial system, is also a tool for (**Financial System Vulnerabilities**

Monitor), as a risk map of the basic financial safety indicators was measured to monitor the nature of the financial and banking sector in Iraq and the extent of its stability and its impact on financial and economic crises, and the results indicated that the green color is the most prevalent on the overall risk map of financial safety indicators.

It is noted that the ratio of **the family sector indebtedness** to the GDP has continuously decreased from (6.71%) in 2015 to (5.74%) in 2019, but in 2020 it increased to (9.6%) due to the decline in the growth rate of the GDP, as well as that The credit provided to the family sector to the total credit provided to the private sector increased from (40.6%) in 2015 to (54.9%) in 2020, that this rise is due to the positive growth in family credit, which is greater than the growth of total private credit.

The financial stability index witnessed an increase to reach (0.586) in 2020 compared to (0.410) at the end of 2019, as the measures followed by the Central Bank worked to absorb the two shocks of the spread of the virus and the drop in oil prices, for example, facilitative measures such as postponing the payment of installments, fines for bad credit and reducing the legal reserve ratio to provide liquidity to banks as well as other incentive packages.

Tests of pressure on the banking sector in Iraq showed a rise in the proportion of non-performing debts predicted in the underlying scenario from 9.408% for the first chapter, to 9.902%, 10.274% and 10.513% for the second, third and fourth chapters respectively in 2021. The results also showed the inverse relationship between oil prices and the percentage of **non-performing loans** in the Iraqi banking system, and this reflects the strong relationship between international oil prices and the financial sector in Iraq during this period, and will have a negative impact significantly on the volume of **non-performing loans** in the event that oil prices are exposed to a new shock.

The same applies to the third variable involved in the equation of variables that have a high impact on **non-performing loans**, as the decrease in the growth rate of government spending may lead to an increase in the growth rate of **Non-performing loans** in the four quarters of 2020, and the trend of this relationship may be due to the strong impact of government spending on crises, the economic situation in Iraq, especially the current spending from it.

With regard to the development of the financial infrastructure as an essential element in supporting financial stability, the Central Bank issued several controls for the purpose of strengthening and regulating the supervisory and

regulatory role of agents of foreign currency exchange service providers throughout Iraq, as it identified entities licensed by the Central Bank of Iraq to act as a main agent, and they are: (Class A banks and exchange companies and companies licensed to pay electronically as a processor or payment by mobile phone; as for secondary agents, Class B exchange companies have been added to Class A banks and companies, and several provisions were contained in these controls to regulate the relationship between the Central Bank of Iraq and the main agent And the secondary agent, and the duties and rights of both the main agent and the sub-agent have been defined, as it requires the conclusion of a contract between the main and secondary agent and submitted to the Central Bank of Iraq to obtain approval before it is adopted, the controls also indicated that the Central Bank is provided with all the required information periodically, and the Main and Secondary Agents must keep complete accounting and documentary records, which are subject to audit by the Central Bank of Iraq, The main Agent shall be responsible to the Central Bank for anything issued by the Secondary Agent that causes financial risk or infamous reputations and compliance with laws and regulations. The Main Agent shall ensure its compliance and compliance with the Anti-Money Laundering and Financing of Terrorism Act by Secondary Agents, these controls also give the principal agent the right to suspend and terminate any of his secondary agents in the event of failure or failure to provide services. The Iraqi payments system is the main pillar for the development of banking in the area of electronic banking. The development of the Iraqi payments system is a priority for the Central Bank, expanding participation in the Iraqi retail payment system IRPSI, linking comprehensive banking systems, providing guarantees for transfers through the payment system, developing the (CSD) system, strengthening the role of supervision and control, modernizing systems, launching the electronic collection project).

The Central Bank of Iraq is concerned with enhancing the level of financial inclusion and raising the level of providing financial services to all segments of society, and in all governorates of Iraq, while working to raise the level of quality of services provided, as well as the work of the Central Bank of Iraq to increase citizens' awareness of financial inclusion issues by holding workshops and seminars, and using various media outlets, in addition, continued during the year 2020, the work of the Central Bank of Iraq in the

two initiatives of financing small and medium projects and financing large projects, which contributes to supporting and enhancing financial inclusion.

With regard to financial inclusion, the indicators of financial inclusion were analyzed, which are the level of access to financial services, the indicator of banking density and banking spread, as there was an increase in the banking density, reaching (45.06) thousand people per branch in 2020 after it was (44.25) thousand. population per branch in 2019, and this was accompanied by a decrease in banking spread, as it was (2.26) in 2019 and became (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 that there is an increase in the value of the aggregate index of financial inclusion from (20.8%) in 2017 to (25.8%) in 2020, but comparing 2020 with 2019, we find that the rise in the level of financial inclusion was not by a large percentage, as it rose from (25.4%) in 2019 to (25.8%) in 2020. The reason for this is due to the challenges faced by the Iraqi economy due to the Corona pandemic.

1-Iraq in Some International Indicators

1- Iraq in Some International Indicators

Many international organizations, including Transparency International and the World Bank, are developing critical indicators that have a significant impact in conveying a picture of the nature of each country's regulatory frameworks, laws and legislation and the nature of institutional work to establish a country-by-country arrangement in terms of successful development of those indicators; The Central Bank of Iraq is keen to promote transparency in dealing with the facts in its area of operation and to inform the public about the conditions governing the nature of the Iraqi economy, as well as those that in one way or another affect financial and monetary indicators, including indicators of financial stability.

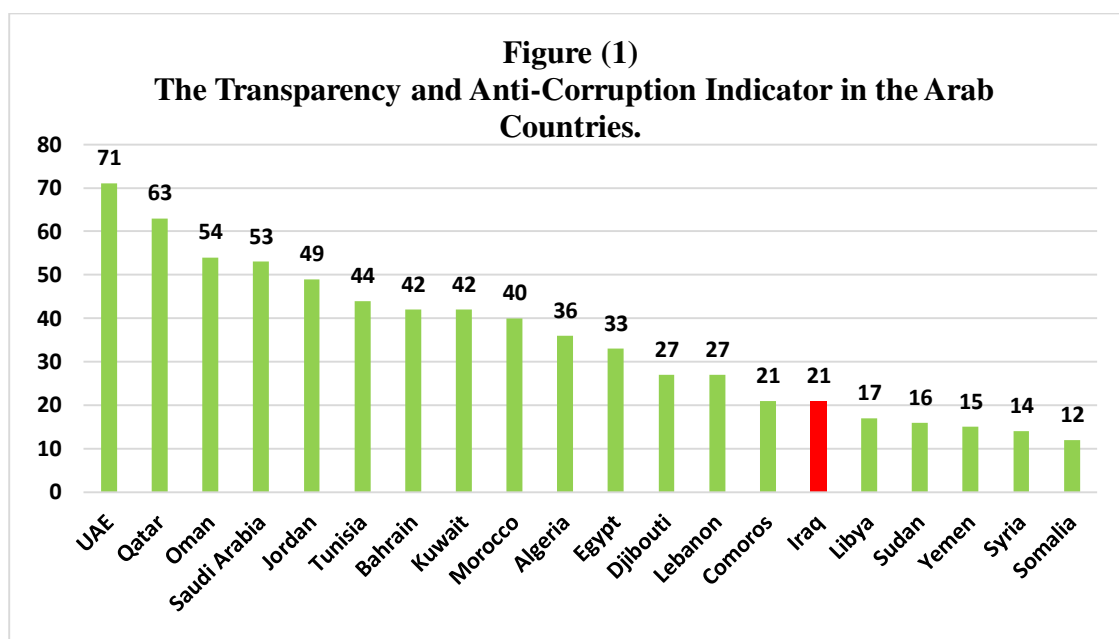
1-1 Management Indicators:

1-1-1 Transparency and Anti-Corruption Index:

Transparency International prepared this indicator, as it presents an assessment report for countries and ranks them according to the degree of corruption among officials and politicians. There are 13 assessments and surveys of business process executives. The indicator uses a scale from (0) (the most corrupt) to (100) (most impartial), and the importance of the indicator lies in determining the scores and ranks occupied by countries based on specialized surveys from various institutions that are independent of the level of public sector corruption, which means abuse of public office for personal interests.¹

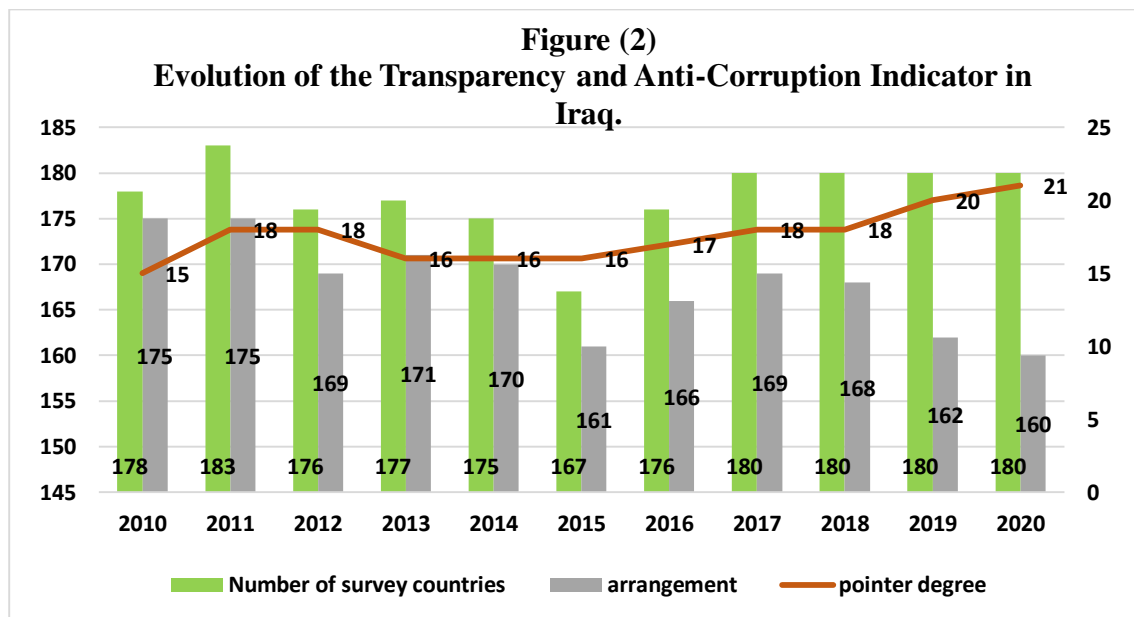
At the global level in 2020, Denmark and New Zealand led with a score of 88, while at the Arab level, the UAE and Qatar were the best performers at the regional level, ranked 21 and 31 globally, with a score of (71) and (63) degrees respectively, followed by Oman in the 3rd place in the Arab world and (49) globally with a score of (54) degrees, while Iraq ranked 15th in the Arab world and (160) globally with a score of 21 degrees, as shown in figure (1).

1. Transparency International, Corruption Perceptions Index 2020, (Berlin - Germany), January 2021.



Source: Prepared on the basis of data: Transparency International Report, Corruption Awareness Index 2020.

Since the Transparency and Anti-Corruption Index report was released in 2010, Iraq has achieved its best ranking in 2020, ranking 160th worldwide out of 180 countries with a balance of (21) degree, the remarkable progress is due to the fact that the state has strengthened the legislative and oversight system, defending democracy and supporting the existence of civilian space, disseminating relevant data and ensuring easy access. While the worst rank reached was 175 out of 178 countries with a score of (15) in 2010, as shown in figure (2), and the report directs to increasing the oversight role on the performance of governments, and increasing the activity and effectiveness of civil society organizations in monitoring governments and their accountability, and the absolute independence of official anti-corruption bodies and increase their capabilities to detect corruption and hold corrupters accountable, as well as stabilizing the security situation as solutions to improve the last indicator. Iraq is working to continue strengthening the regulatory and legislative system and applying the principle of transparency through the publicity of procedures, goals and objectives for each institution, and also works to enhance public awareness of corruption and its forms and damages, by emphasizing public awareness campaigns to confront administrative and financial corruption.



Source: Prepared on the basis of data: Transparency International Report, Corruption Awareness Index 2020.

1-1-2 Global Governance indicator¹:

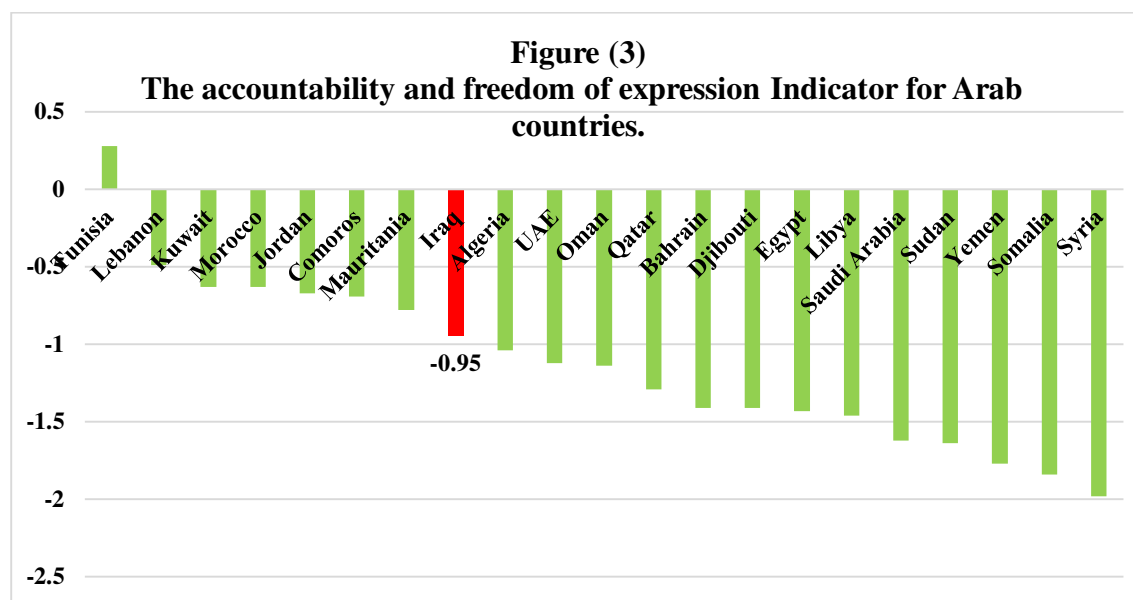
The data for this indicator is collected by the World Bank. In this regard, it proposes aggregated indicators for five broad dimensions of governance to measure good governance in a country. The dimensions of governance are as follows:

- **Voice and Accountability Index:** It gives a picture of a country's citizens' ability to participate in choosing their government, as well as freedom of expression, freedom of association, and a free media. At the global level and according to the index for the year 2020, Norway topped the ranking with a score of (1.69), followed by Sweden and Finland with a score of (1.59), both, and these scores indicate that countries exercise strong freedom in the right of expression and accountability, while in the Arab world, Tunisia, Lebanon, and Kuwait are among the best countries in the Right to Expression and Accountability Index, with a score of (0.28), (-0.49) and (-0.63) respectively, as shown in Figure (3).

while Iraq ranked 107 globally among (214) countries and territories, and 8th in the Arab world, with a score of (-0.95), which is a good degree compared to other Arab countries. A cultural awareness that emphasizes rights and freedoms

¹ The governance rating ranges from (-2.5) to reflect weak governance performance to (2.5) to reflect strong governance performance, for more see: govindicators.org.

and regulates them legally as an institutional product so that the citizen feels that the democratic system is a system of daily, social, cultural, economic and legal practice and behavior.

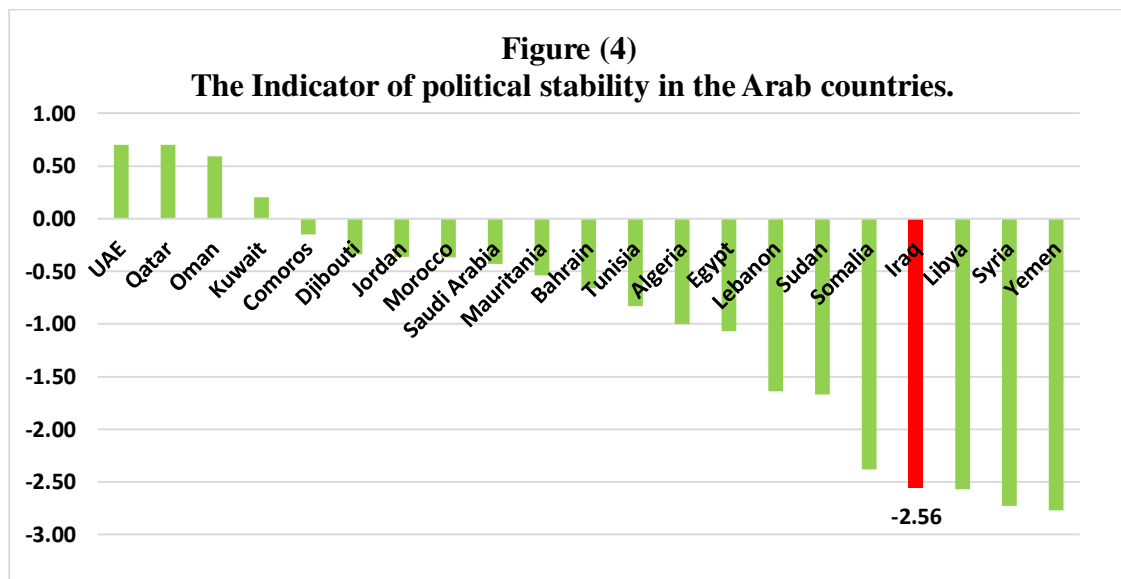


Source: govindicators.org.

▪ **Political Stability Index:** The indicator illustrates potential scenarios of instability or politically motivated violence, and also measures the stability factors of the political system in the face of internal and external threats.

Globally, Iceland topped the rankings with 1.66 followed by Andorra, Singapore and New Zealand with 1.62, 1.53 and 1.51 respectively. Qatar and the United Arab Emirates were ranked 64 and 0.70 for both, while Oman was ranked 70 and (0.59) as shown in figure (4).

While Iraq ranked (207) out of 211 countries, and in the Arab world ranked (18) with a score of (2.56), which is a very weak degree. The World Bank recommends the necessity of political stability, developing the sectors of electricity, health, education, agriculture, industry and others, and enhancing confidence citizens perform the political system, and give a greater role to express opinion in the media and social networking sites, and then this will undoubtedly have a negative impact on the financial stability in Iraq and the banking sector in particular.

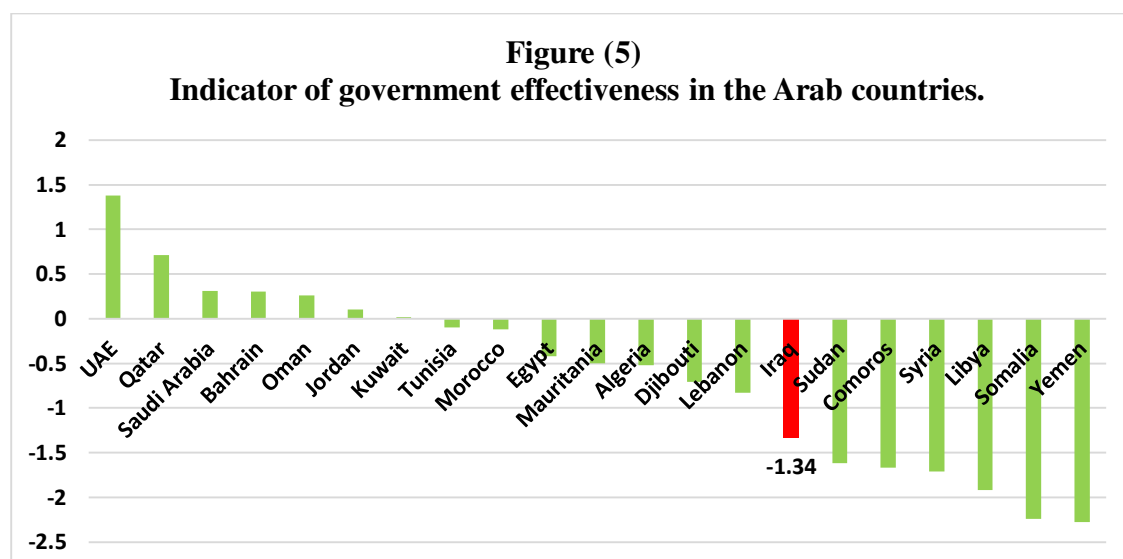


Source: Govindicators.org.

- **Government Effectiveness Indicator:** This indicator measures the quality of public services, the quality of civil services and their degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to these policies.

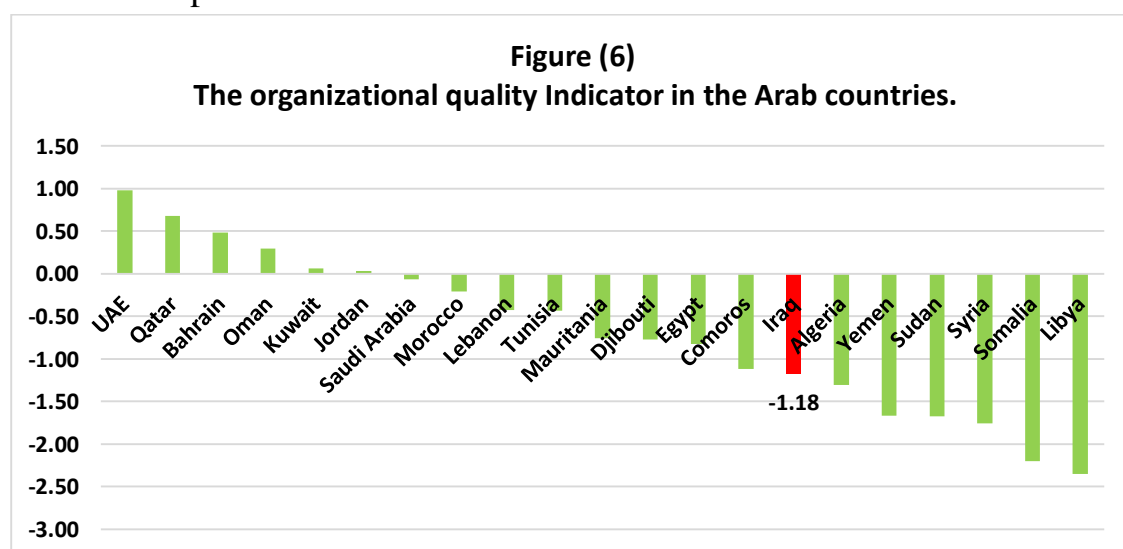
According to the 2020 report, Singapore topped the global ranking with a score of (2.22), followed by Switzerland, Denmark and Finland with a score of (1.95), (1.94) and (1.93), respectively, meaning that countries enjoy strong government effectiveness, while in the Arab world, the UAE came in 19th globally and the first in the Arab world, with a score of (1.49), followed by Qatar and Saudi Arabia, which ranked 53 and (75), respectively, globally, with a score of (0.71) and (0.31), respectively, as shown in figure (5). As for Iraq, it came in lagging ranks, as it ranked (189) among (209) global countries, while it ranked (15) in the Arab world, with a degree of (-1.34), meaning that the effectiveness of the Iraqi government is weak.

The World Bank recommends supporting the government's ability to achieve the required goals regarding the main services represented by improving health services, the level of government school education, distributing electricity, distributing services equitably between regions, improving roads and addressing unemployment.



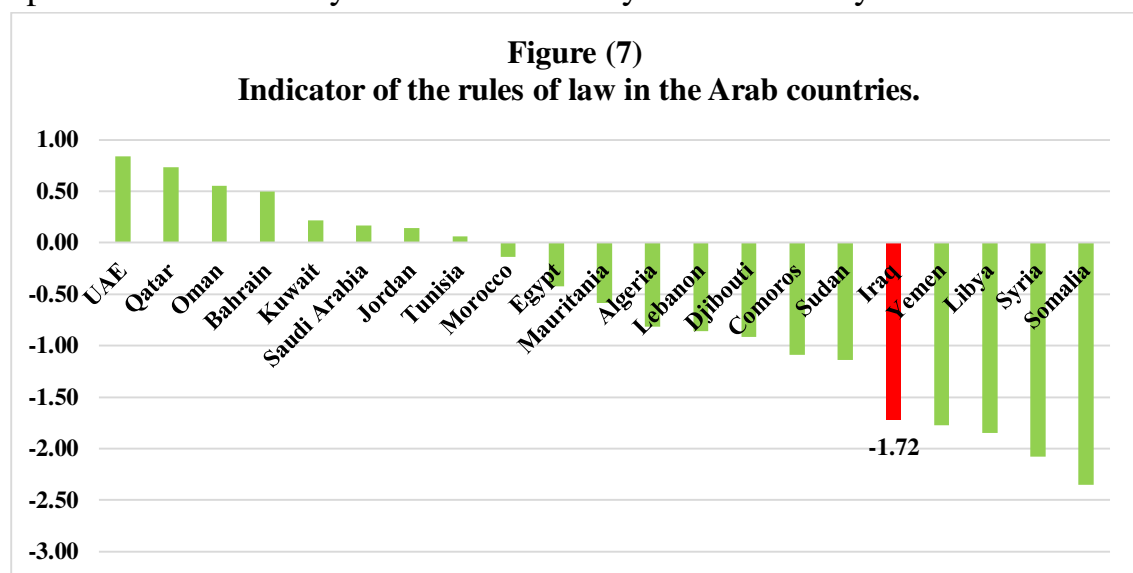
Source: Govindicators.org.

▪ **Regulatory Quality:** it measures the government's ability to formulate and implement sound policies and regulations that allow the development and strengthening of the private sector. Singapore topped the global ranking according to the 2020 report, with a score of (2.16), followed by Hong Kong, New Zealand and Australia with a score of (1.98), (1.88) and (1.87), respectively, meaning that the quality index of regulation is strong in those countries. As for the Arab world, the UAE came in It ranked (46) globally and first in the Arab world with a score of (0.98), followed by Qatar, Bahrain and Oman in (55), (68) and (75) respectively globally, with a score of (0.68), (0.49) and (0.29), respectively. As shown in Figure (6). Whereas, Iraq ranked (189) globally and ranked (15) in the Arab world, with a degree of (-1.18), which is a weak degree that needs to develop administrative systems and laws that enhance the role of the private sector.



Source: Govindicators.org.

▪ **Rule of Law Index:** measures perceptions of the extent to which people trust and abide by the rules of society, as well as the efficiency and effectiveness of legal and judicial systems and the trust of society in them (police, courts, level of crime and violence), as Finland topped the global ranking according to the 2020 report, With a score of (2.02), followed by Norway, Switzerland and Denmark with a score of (1.98), (1.91) and (1.90), respectively, meaning countries that have the strength of the rules of law. As for the Arab countries, the UAE ranked 47 globally, with a score of (0.84), followed by each of Qatar and Oman ranked (52) and (62) globally, with a score of (0.73) and (0.55), respectively, as shown in Figure (7). Iraq ranked (201) out of a total of (209) globally and (17) in the Arab world, with a score of (-1.72), which is an indication of the extent to which people trust and abide by the rules of society. individuals by law.



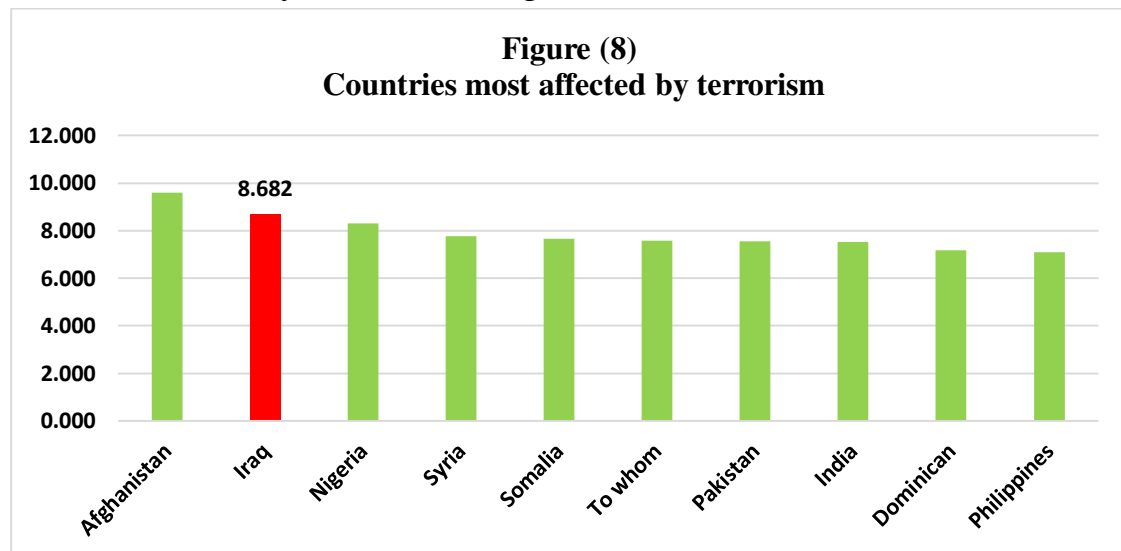
Source: Govindicators.org.

1-1-3 Global Terrorism Indicator:

It measures the direct and indirect impact of terrorism, including its effects on lives lost, injuries, property damage, and subsequent psychological effects, and ranks countries according to the impact of terrorism from 0 (no impact) to 10 (highest impact). The latest report issued in 2020 showed that the countries most affected by terrorist attacks are Afghanistan, Iraq, Nigeria, Syria, Somalia, Yemen, Pakistan, India, the Dominican Republic and the Philippines, while the least affected countries are Finland, Ghana, Kuwait and Ivory Coast. as shown in Figure (8).

Iraq ranked second with a score (8.68), despite the decrease in deaths related to terrorism, as deaths decreased from (1054) in 2018, to (564) in 2019, as well as the decrease in terrorist operations, which amounted to (1131) in 2018 to (495)

in 2019, yet Iraq still ranks second globally and with a high degree of impact. Iraq is constantly working to perpetuate the decline of terrorism by intensifying security work, increasing focus on intelligence efforts, and reducing the resources obtained by the terrorist organization, whether financial or human.



Source: Global Terrorism Index.

1-2 Economic Indicators:

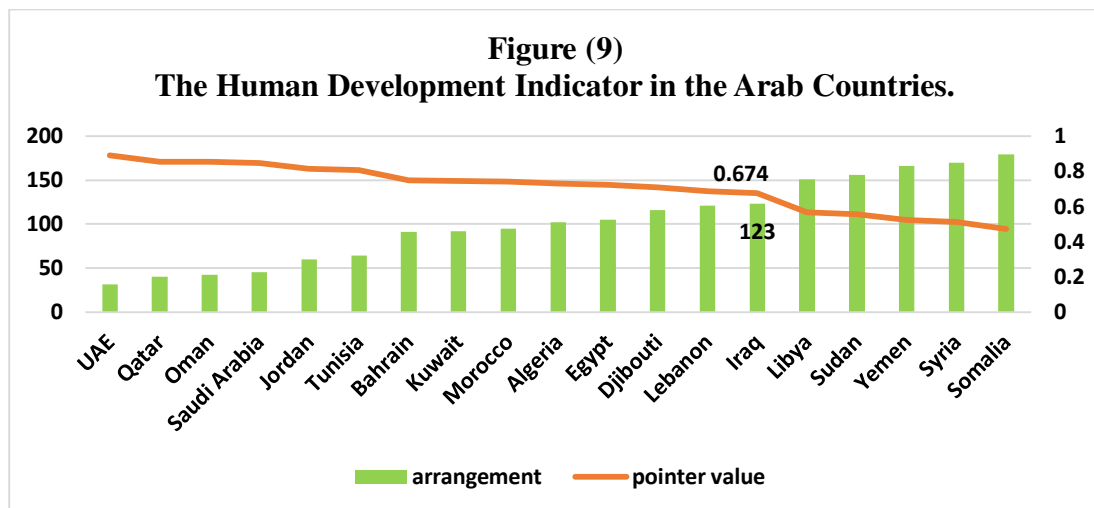
1-2-1. Human Development indicator¹:

This indicator is a reading scale to measure the country's achievements in terms of health, education and income, according to three dimensions: life expectancy at birth, expected average years of schooling, and purchasing power of the individual. This indicator ranges between one and zero, and is divided into three levels:

- Human development: very high (0.800) or more.
- High human development (0.700-0.799).
- Medium human development (0.550-0.699).
- Low human development less than (0.550).

Iraq witnessed signs of an improvement in its rank in the report from 132 out of 187 countries included in the report in 2011 to 123 out of 189 countries in 2019 with an index value of (0.674) degrees, and as shown in figure (9), but this improvement is still humble, a cause for care and development; as it is an investment in human capital, it will move the country to high levels in all aspects.

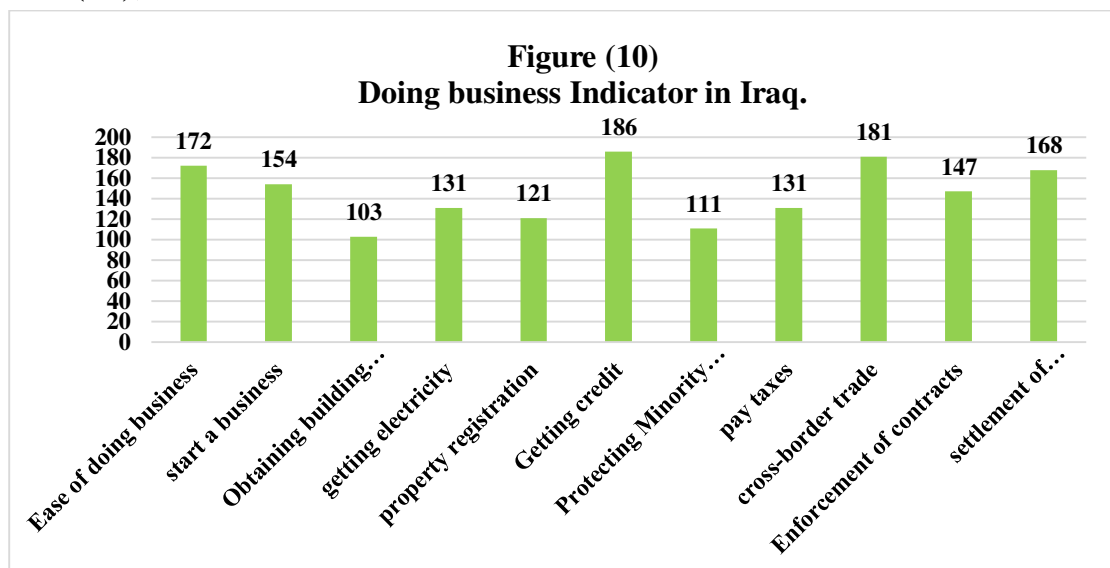
¹UNDP Human Development Report 2020, the Next Frontier Human Development and the Anthropocene 2020, New York-USA.2020.



Source: Human Development Index.

1-2-2 Doing Business Indicator¹:

It expresses the degree of ease of doing business in the economy on a scale from 0 to 100, where (0) represents the lowest level, and 100 represents the best performance, to include topics related to (starting a business, obtaining building permits, obtaining electricity, registering property, obtaining credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency (“bankruptcy”), and these indicators are summarized in Chart. (10), as follows:



Source: Human Development Index.

A- Starting a business: The Ease of Doing Business report records all the formally required procedures to start and operate an industrial or commercial

¹World Bank Group, Doing Business 2020, Comparing Business Regulation in 190 Economies.

activity, as well as the time and cost required and the minimum paid-in capital. According to the report issued by the World Bank on doing business, Iraq ranked (154) globally, in which it was noted that the total number of procedures required for men was (8) in (26) days and (34.2%) the cost of registration from the individual's income, while for women it amounted to (9) in (27) days and (34.2%) the cost of registration, and the limit the minimum paid-up capital is one million Iraqi dinars, at a rate of (14.6%) for each of the per capita income. The best performance at the global level is New Zealand; because it requires a procedure of one and a half days for men and women, while Britain, Slovenia and Rwanda rank first (0.0%) as the cost of registration for men and women, while there are (135) economies whose percentage was (0.0%) of per capita income.

B - Issuance of building permits: It records the procedures required by a company in the construction sector to construct a specific project, while calculating the time and cost required to complete all procedures. Iraq ranked (103) globally as it needs (11) procedures to extract building permits, while Denmark and the Marshall Islands, for example, need (7) procedures only, and Iraq also needs (167) days to extract them, while South Korea extracts building permits in (27.5) days, and at the level of the costs of obtaining licenses in Iraq, it cost (0.3%) of the average national income per capita, while it only cost (0.1%) in Qatar, for example. As for the building quality control index whose value ranged from (0) to the worst, and (15) for the best, and Iraq got a score of (5.5) in the index, while there are (7) economies, most notably the UAE, China and India got (15) degrees.

C - Obtaining electricity: This indicator measures the procedures, time, and cost needed from a business establishment to permanently connect electricity to a newly built warehouse, so Iraq ranked 131 globally, and access to electricity requires (5) procedures, while (12) countries require only two procedures , most notably China, Japan, the UAE and Saudi Arabia, while the number of days it takes to obtain electricity in Iraq is 51 days, while in the UAE it takes (7) days, as for the cost of obtaining it is (384.7%) of the average national income per capita in Iraq, While it is in China, the UAE and Japan (0.00%).

D- Ownership registration: The Doing Business Report records the complete sequence of necessary procedures when a business (buyer) purchases real estate from another business (seller), and the quality of the country's land management system. Iraq ranked (121) globally and needs (5) procedures to register the ownership of a project, while there are five economies that need one procedure

to register property, and Iraq needs (51) days to make the registration, while there are two economies that need to one day according to the index reading, while the percentage of the registration cost in Iraq reached (7.3%) of the property value, while there is no cost in the Kingdom of Saudi Arabia, according to the index reading. As for the quality of the land management system index, whose value ranged between (0 to the worst - and 30 for the best), as Iraq's score reached (10.5), which is a weak value that needs more facilities.

E- Obtaining credit: It measures the legal rights of lenders and borrowers. Iraq has ranked (186) globally, and includes the following:

- **The strength of legal rights indicator:** which measures the degree to which laws protect in-kind guarantees, bankruptcy and the rights of borrowers and lenders, in turn facilitating the lending process, the indicator's score ranged (0 for the worst - 12 for the best), and Iraq got a score of (0) within this indicator, despite the efforts of the Central Bank of Iraq to issue laws and instructions that guarantee the rights of lenders and borrowers, and therefore this degree needs a larger study to find out the reasons show Iraq at this low rate.
- **Depth of credit information indicator:** which measures the rules and practices that affect the availability and quality of available credit information through a public registry or a private credit information center, and ranges between (0 for worst - 8 for the best), as the value of the indicator for Iraq is (0) and this also calls for standing at this degree and knowing the reasons for the decline in Iraq's rating despite the presence of a specialized department in credit information, while there are (53) economies, including Germany, Australia, Jordan, UAE, Bahrain and Saudi Arabia, which got a value of (8).
- **Records center coverage:** It measures the number of individuals and companies registered in one of the records centers' registration databases as of the beginning of a year, because it contains information about the history of borrowing in the past five years as well as the number of individuals and companies who do not have a history of borrowing in the past five years. The index value is (100%) of adults, and Iraq got (1.3%) of adults, while five economies got (100%) included in the report, including China, Slovenia, Portugal, Uruguay and Mauritius. This indicates poor coverage in Iraq, which requires developing an integrated database for this indicator.
- **The credit information center indicator:** It shows the number of individuals and companies registered in a private credit bureau that contains information on the history of borrowing, which is 100%, Iraq obtained a rate of (0.0%),

despite the presence of a specialized department in credit information, and this indicates weakness in terms of the availability of credit information, while there are 14 economies that obtained a rate of (100%).

F- Protection of Minority Investors: It measures the strength of shareholder protection, and Iraq ranked 111 globally, as the ranking of economies on the indicator of the strength of protecting minority investors is determined by sorting the extent to which they are close to the upper limit of performance on the indicator of protecting minority investors.

G - Paying taxes: the indicator is the total tax burden borne by a small or medium-sized company, as well as the number of payments and the total time it takes to comply with tax laws during a given year. Iraq ranked 131 globally, with the number of tax payments being (15) times, while it reached in Hong Kong and Bahrain (3) once times.

H - Cross-border trade: measures the procedural requirements, including the number of documents needed to complete import and export transactions and the related time and cost (excluding customs tariffs for export and import operations by sea transport. Iraq ranked 181 globally, with a total of the cost of exporting to him is (1118) US dollars as a result of compliance with border laws, while exporting (19) economies did not cost anything, and the time required to export is (85) hours in Iraq, while it required only one hour in (19) economies within the indicator, and this will negatively reflect on attracting foreign investment or encouraging local investment in industries capable of being exported. The cost of exporting, according to compliance with the terms and documentary requirements, includes (1800) US dollars in Iraq and the time required to export is (504) hours , while it only required one hour in (26) economies were covered by the indicator, while the time required to import (compliance with border laws) is (131) hours in Iraq, while (25) economies only required one hour, and the cost of importing to comply with border laws was (644) US dollars, while it did not require anything in (28) economy. As for the time required to import (compliance with documentary conditions and requirements) (176) hours, while (30) economies only required one hour. The number of documents needed to complete the export in Iraq is (500) documents, while in (30) economies no document was required.

I - Enforcing Contracts: The Contract Enforcement Index measures the time and cost of resolving a commercial dispute through a local court of first instance. Iraq ranked 147 globally, as it needs (520) days to resolve a trade dispute, while Singapore needs (120) days. As for the cost (100% of the value of the claim), in

Iraq, it constitutes (28.1%) of the value of the claim. As for the quality of judicial procedures (0 for worst - 18 for better), Iraq ranks in this indicator (1.5), which indicates the weakness of judicial procedures in Iraq regarding the resolution of commercial disputes, which need to improve procedures in this regard.

J- Settlement of Insolvency Cases: Iraq ranks 168 out of 190 economies, while Norway and Iceland are in the first places in the global ranking, as they have not suffered from insolvency settlements; Because it works to save companies in accordance with scientific and accurate controls and standards, and accordingly, Iraq's rank in this matter indicates the difficulty of settling insolvency cases. Based on the previous indicators and as shown in table No. (1), Iraq ranks in ease of doing business activities globally at 172nd out of 190 countries.

Table (1)

Iraq's ranking within the ease of business index compared to the Arab countries for 2020

Economy	Ease of doing business	start a business	Obtaining building permits	getting electricity	property registration	Getting credit	Protecting Minority Investors	pay taxes	cross-border trade	Enforcement of contracts	settlement of insolvency cases
UAE	16	17	3	1	10	48	13	30	92	9	80
Bahrain	43	67	17	72	17	94	51	1	77	59	60
Morocco	53	43	16	34	81	119	37	24	58	60	73
Saudi Arabia	62	38	28	18	19	80	3	57	86	51	168
Oman	68	32	47	35	52	144	88	11	64	69	97
Jordan	75	120	138	69	78	4	105	62	75	110	112
Qatar	77	108	13	49	1	119	157	3	101	115	123
Tunisia	78	19	32	63	94	104	61	108	90	88	69
Kuwait	83	82	68	66	45	119	51	6	162	74	115
Djibouti	112	123	87	121	117	132	103	133	147	144	44
Egypt	114	90	74	77	130	67	57	156	171	166	104
Palestine	117	173	148	86	91	25	114	112	54	123	168
Lebanon	143	151	164	127	110	132	114	116	153	131	151
Algeria	157	152	121	102	165	181	179	158	172	113	81
Comoros	160	158	101	136	113	132	162	168	120	179	168
Sudan	171	157	124	162	95	176	153	164	185	148	152
Iraq	172	154	103	131	121	186	111	131	181	147	168
Syria	176	143	186	160	162	176	97	91	178	160	158
Yemen	187	156	186	187	86	186	162	89	188	143	159
Somalia	190	188	186	187	153	186	190	190	166	116	168

Source: World Bank Group, Doing Business 2020.

1-3 Climate change and its impact on financial stability:

The world is following multiple scenarios to limit the rise in global temperatures and global warming that our planet is witnessing, as an international team of policy makers to mitigate climate change worked to develop long- and short-term paths to reduce greenhouse gas sources or to promote their proper use and reduce emissions. Based on Article 2 of the United Nations Convention on Climate Change, which aims to stabilize greenhouse gas concentrations in the atmosphere at a level that prevents food production from being jeopardized and enables sustainable economic development to continue without affecting the climate.

Despite the growing interest in the issue of climate and the adoption of several policies to mitigate carbon dioxide emissions, these emissions increased significantly during the period 2000-2010, with a rate of increase of (2.2%) compared to the period 1974-2000, which amounted to (0.4%), while the global crisis during the period 2007-2008 had an impact on reducing those emissions, as fossil fuel burning and industrial processes contributed 78% of the increase in the process of increasing emissions during the period 2000-2010. This means that the increase in the number of the Earth's population and economic growth are the most important factors in increasing the levels of carbon dioxide emissions¹. On this basis, the world is moving towards reducing dependence on energy used at the present time and moving towards environmentally friendly energy sources.

The Network of Central Banks and Supervisors for Greening the Financial System (NGFS)² highlights the impacts of climate change on macroeconomic and financial stability. It recommended that monetary and fiscal authorities move quickly towards implementing a comprehensive framework to address climate-related risks. This framework should require disclosure of climate and other sustainability risks across the financial sector to help improve the quality of risk analyses, require financial institutions to conduct periodic tests to measure

1 Joben Skona et al., Climate Change 2014, Report to the Intergovernmental Panel on Climate Change, 2015, p 6-10.

2 (NGFS) is a group of volunteer central banks and supervisors (The Central Banks and Supervisors Network for Greening the Financial System), in exchanging experiences, sharing best practices and contributing to the development of environmental and climate risk management in the financial sector. and mobilizing mainstream financing to support the transition towards a sustainable economy. Its purpose is to identify and promote best practices that will be implemented inside and outside the NGFS membership and conduct or commission analytical work on green finance. The network consists of, as of June 30, 2021, the NGFS consists of 95 members and 15 observers.

climate resilience in various transition scenarios, and integrate climate-related financial risks into activities of precautionary control, this requires adapting prudential policies to account for systemic climate risks to financial and banking institutions, for example by requiring financial institutions to include climate risk scenarios in stress tests.

Policies such as allowing financial institutions to hold less capital in exchange for debt because they are classified as green debt may lead to adverse backlash effects, such as high leverage and financial instability, if the underlying risks of such debt are not carefully analyzed and measured. They called for the full integration of climate risks into their precautionary and monetary frameworks to reduce the increased risk of loan faltering or asset depreciation in areas directly affected by climate change.

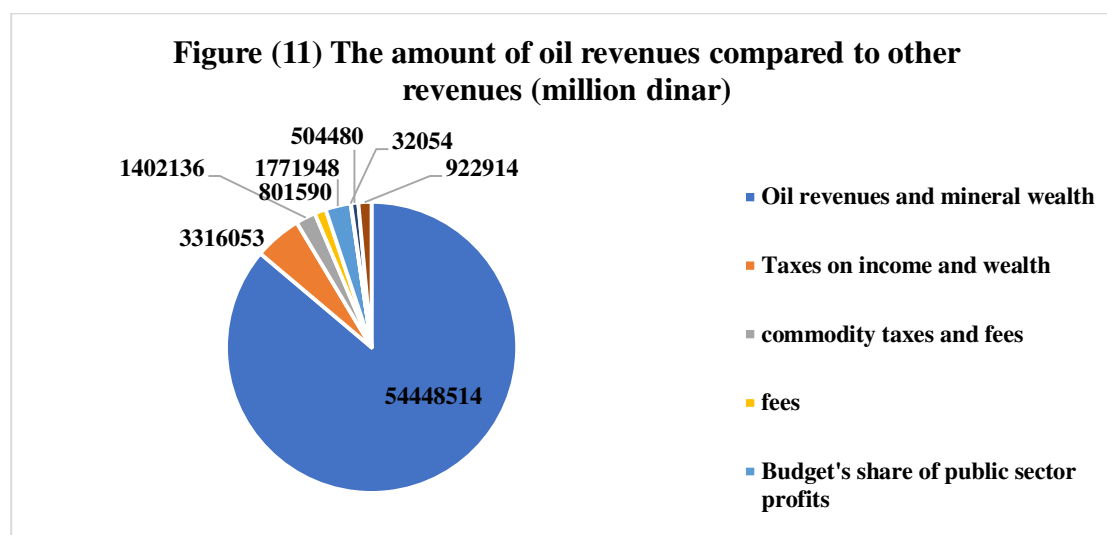
1-3-1 Climate Change: Opportunities and Challenges:

Climate change affects the financial system in Iraq through the material risks resulting from damage to the most important working sector in Iraq, which is the main resource for the Iraqi economy, which is the oil sector. The impact will also affect the second most important sector in the Iraqi economy, which is the agricultural sector.

A- Sectors emitting greenhouse gases (the oil sector):

According to the climate agreement, member states must include in their strategies the use of alternative energy for energy emitting greenhouse gases, and therefore the impact of that decision will be significant on the oil sector in Iraq, which constitutes more than (61.8%)¹ of the gross domestic product at constant prices and (86 %) The volume of actual imports of the Iraqi economy in 2020, as shown in Figure (11).

¹ Preliminary quarterly and total estimates of GDP for the year 2020, Central Statistics Organization, p. 11.



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

According to a study prepared by the Network of Central Banks and Supervisors for Greening the Financial System (NGFS), countries that have a greater share of energy exports in the economy will face greater impacts on the volume of their imports, which will be reflected on the volume of demand in general, and this will prompt the government to compensate for the negative effects on demand from by increasing spending on carbon tax revenue.

Iraq has worked on developing national plans and strategies for the development of the energy sector, by increasing the production and use of natural gas and reducing dependence on heavy fuels, as well as increasing the efficiency of operational processes that would reduce fuel use and thus reduce emissions, as well as studying the possibility of using burned gas in a number of oil production fields. Work has also been done on the use of renewable energies (wind energy, solar energy, hydroelectric energy).

B - Agriculture, Forestry and Fishing Sector:

It is expected that the demand for water shares will increase with the increase in temperatures resulting from climatic changes, as well as the decrease in rainfall, the increase in droughts and the increase in the areas of decertified lands. And other methods that enable Iraq to strengthen its food basket and its sustainability. Undoubtedly, the rise in temperatures will negatively affect the second most important sector in the Iraqi economy after the oil sector, which is the agriculture, forestry and fishing sectors, which constitute 12.5% of GDP during the year 2020.

1-3-2 The impact of the climate on Iraq's financial stability:

The awareness of the Iraqi government and the Central Bank of Iraq has increased recently about the acceleration of the emergence of the economic

effects of climate change on the Iraqi economy in general and financial stability in particular. The Central Bank of Iraq is working to integrate climate-related risks into Iraq's financial stability. Because climate change is a source of both opportunities and risks. The financial system can play a major role in moving towards a green economy and changing the nature of the Iraqi economy by mobilizing the necessary resources to invest in measures to mitigate the impact of climate change and the transition to a low-carbon economy.

Climate change can also affect the balance sheets of insurance companies, as in addition to the physical risks on the asset side, there are risks that also arise on the liabilities side of insurance companies' balance sheets, through the high demand for insurance benefits for companies and individuals affected by climate change and policies to reduce emissions.

1-3-3 The benefit of reducing emissions once applied:

Some studies indicate that the policy of mitigating emissions in the world may lead to a decrease in the asset values of fossil and conventional oil companies, and with a high degree of confidence in those studies, the revenues from the sale of both types of oil (fossil and conventional) will decrease significantly, and therefore those must countries have to be willing to transform and restructure their economies into environmentally friendly economies.¹

Estimates issued in the Fourth Assessment Report of the International Panel on Climate Change 2007, carbon prices of up to \$100 per ton of carbon dioxide equivalent. Climate finance flows to developing countries are estimated at between US\$39-120 billion annually during the period 2008-2012, and this includes both public and private sources of finance directed at mitigating emissions.

Public funding in developing countries directed to environmentally friendly projects has reached approximately 35-49 billion US dollars, and it is usually sourced in the form of loans or grants that developing countries can obtain annually from developed countries, which exceeded 10 billion dollars during the 2012- period. 2010.

While the private financing provided by developed countries to the private sector in developing countries amounted to 72 billion dollars annually during the period 2009-2010, it includes foreign direct investment and loans amounting to

¹ Yobin Skona et al., Climate Change 2014, Report to the Intergovernmental Panel on Climate Change, 2015, p. 63.

10-34 billion dollars during the period 2008-2010¹. The good and efficient use of that funding depends on the availability of an appropriate enabling environment in the country, including the effectiveness of its institutions and systems towards the private sector, the security of property rights and the credibility of the state's public policies.

Iraq can benefit from the incentive financial grants that it will receive if it works to reduce greenhouse gas emissions, which amount to (10) billion dollars annually over ten years². As well as soft loans from the International Monetary Fund and the World Bank, with simple interests, for projects that are environmentally friendly and fall into the Iraqi stock market for green bonds. There is a clear mechanism for the use of funding and grants through the establishment of a special fund for climate grants and low carbon benefits, specialized in managing funds and financing green projects, as well as working on the issuance of green bonds for environmentally friendly projects that are traded in the Iraqi Stock Exchange, as the investor in these projects can obtain soft loans with low interest from the Climate Fund as well as the carbon emission return according to the certificates of carbon emission reduction from the energy used in the project.

The smooth transformation of the Iraqi economy in the future can reflect positively on the composition of the Iraqi economy, as it is possible through the volume of investments that are available in green projects and the use of modern technologies to compensate for the shortfall in oil imports. However, this requires the existence of infrastructure that enables investors to implement their investments in the fastest time and at the lowest cost.

1-4 The impact of the Corona pandemic on the Iraqi economy:

There is a significant direct and indirect impact of the Corona virus on the Iraqi economy in general and financial stability in particular, the direct impact of the Corona virus on the Iraqi economy was represented by the oil sector, which witnessed a significant decrease in prices and exported quantities. The prices of ICE Brent crude oil reached (55) dollars per barrel in February 2020, as a result of the start of the spread of the Corona virus. Oil prices witness a significant decline in March of the year 2020, reaching (35) dollars per barrel after the failure of the agreement to reduce production and the announcement by a number of countries that they are in solution, and will increase their production

1 Yobin Skona et al., previous source, p. 107.

2 Ministry of Environment, National Center for Climate Change, Technical Department, 2021.

after its completion, to continue the decline until it reached the limits of (23) dollars per barrel.

The decline in prices and the subsequent reduction achieved by the oil-producing countries reflected negatively on Iraq's financial revenues, as Iraq's imports of crude oil exports through SOMO for the month of March 2020 amounted to (2.962 billion dollars), with a decrease of (-55%) compared to the same month of 2019. The indirect impact, this can be seen through the variables of the aggregate index of financial stability in Iraq (banking sector index, macroeconomic index, capital market index), as the banking sector index witnessed an impact on most of the variables included in its calculation, the ratio of **non-performing loans** to total loans increased during the third quarter of 2020 to reach (19%) compared to the third quarter of 2019 which amounted to (15.5%).

While the ratio of the interest margin to total income witnessed a decline during the same period to reach (55.8%) after it was (56.9%) during the third quarter of 2019, while the ratio (total non-interest expenses/total income) increased to (51.9%) during the quarter. The third quarter 2020, after it was (44%) during the third quarter 2019. The growth rate witnessed a significant decline during the third quarter 2020 compared to the same quarter of 2019 at a rate of (-15%).

The Central Bank has taken several measures at three levels to reduce the impact of the Corona pandemic, as follows:

1-4-1. Economically:

The Central Bank worked to stimulate the Iraqi economy through the one trillion initiative of the Central Bank of Iraq, which was followed by important measures, including:

1. Postponing the payment of the installments of the amounts owed by the banks, and the latter, in turn, has postponed the payment of the installments of these amounts from the borrowers, starting from 01/04/2020 until 30/09/2020.
2. Reducing the Central Bank's commission on loans granted within the one trillion initiative, as well as reducing the interest of banks and the interest of THE GUARANTOR COMPANY.
3. As for the housing initiative, the ceiling of the amount was increased from 75 million to 100 million dinars, the repayment period was extended from 10 years to 15 years, and the maximum interest was decreased from 4% to 2%.
4. Funding amounts within the One Trillion initiative became from (1) million dinars, after it started from (5) million dinars, in order to revitalize the low-

income groups affected by the pandemic, and to provide an opportunity to finance microfinance projects.

5. Enhancing the liquidity of previously funded projects, which were affected by the pandemic measures, by an amount not exceeding (5) million dinars, and with the same previous guarantees.

1-4-2 Monetary Policy

- Reducing the legal reserve ratio on current deposits in Dinar from 15% to 13% to provide liquidity to the banking sector since May-2020.
- Postponement of the payment of all fines imposed on banks and non-bank financial institutions.

1-4-3 Macro-precautionary policy:

- A. Launching a new financing package directed to the housing sector through the Real Estate Bank and the Housing Fund in the amount of (3) trillion dinars, with an installment term of 20 years. The real estate bank has a lending ceiling of 125 million dinars for units inside residential complexes (with an administrative commission of 5%) and 100 million dinars for units outside residential complexes, with an interest (2% annually). The Housing Fund has a loan ceiling of 75 million dinars to build housing units or purchase a housing unit from the housing complex of the Ministry of Construction and Housing (with an administrative commission of 4%).
- B. Coordination and dialogue are underway with international organizations, the International Labor Organization, the Islamic Development Bank, UNDP, the Korean International Cooperation Agency) in order to benefit from their offers to finance or guarantee loans granted to finance large, small and medium projects and microfinance within the initiative of the Central Bank.
- C. The Central Bank of Iraq is adopting a set of projects to enable the digital economy to create a strong and stable financial and monetary sector that will gradually reflect on economic growth, especially the post-Corona stage. Such as:
 - The project of domestication salaries, applying the electronic collection system, and enhancing financial inclusion in the economy.
 - The project of linking with the regional system for clearing and settling inter-Arab payments (Buna platform) and adopting the Iraqi dinar as one of the main currencies in this system.
- D. Continuing studies, research and follow-up on the possibility of launching and using the digital dinar, addressing the obstacles that stand in the way of this

project, and creating areas that require the use of this type of financial transactions.

The Central Bank of Iraq has taken measures in coordination with the government that will mitigate the repercussions and effects of the Corona pandemic on the economy:

1. Deducting treasury transfers by nearly (26.4) trillion dinars during 2020, to fill the budget deficit caused by low oil prices, due to the effects of the pandemic and its consequences.
2. Depreciation Iraqi dinar in order to stimulate local production and increase the competitiveness of Iraqi production.
3. Giving the opportunity to change the type of the previously funded project that was affected by the precautionary measures of the pandemic.
4. Establishing a fund to finance the Ministry of Health to confront the Corona pandemic, in which the Central Bank of Iraq deposited (30) billion dinars, as well as the donations of many banks and institutions from the public and private sectors, which amounted to approximately (17.34) billion dinars.

As for the most prominent challenges that faced the banking and non-banking sector in dealing with the Corona crisis, they are as follows:

- A. The comprehensive or partial ban decision that affected the economy in general, and the individual's income in particular, and this was reflected in the difficulty of repayment and the high volume of **non-performing loans**.
- B. The weakness of the information technology infrastructure, which led to the suspension of some work, especially in the first months of the virus's invasion of our country, due to the curfew measures imposed by the government.

- The outbreak of the Corona virus contributed to the exacerbation of the financial crisis in Iraq, as the options available to the government to get out of its distress became difficult and limited, and since the economic stagnation in Iraq is the result of a global economic recession first and a regional second on the one hand, and because of the security and political conditions of neighboring countries on the other hand, the economic risks were as follows:

Economic growth:

There is a negative impact on the economic growth of Iraq, through:

- 1- The decline in oil prices due to the decrease in demand for oil compared to the excess supply of it in the global market, especially that oil is more than (60%) of the GDP.

2- Allocating new government funds to face the crisis, which made Iraq face new financial commitments that could have been directed to different investments.

Inflation rate:

The rise in the prices of imported goods, especially that Iraq relies heavily on imports to cover its needs of goods and services and dependence on the outside world to meet the increase in the volume of aggregate demand for these goods and services, and this would keep the Iraqi economy vulnerable to negatively expected fluctuations in the world or positively.

Monetary conditions:

The increase in the amount of the deficit in the state's general budget as a result of the significant decline in the actual revenues of the state by (-41.2%) during the year 2020 compared to the actual revenues during the year 2019.

A. The volume of foreign reserves with the Central Bank of Iraq decreased by (-2%).

B. The increase in **non-performing loans**, as the ratio of **non-performing loans** to total loans increased during the third quarter of 2020 to reach (19%) compared to the third quarter of 2019 which amounted to (15.5%).

C. The interest margin to total income declined, as the interest margin to total income ratio recorded a trend during the same period to reach (55.8%) after it was (56.9%) during the third quarter of 2019.

D. An increase in the ratio of (total non-interest expenses/total income) to reach 51.9% during the third quarter of 2020 after it was (44%) during the third quarter of 2019. It is clear that the decline in oil revenues will have an impact on monetary variables as follows:

- a. The stability of the Iraqi dinar exchange rate, and this is due to the monetary policy's commitment to the stability of the exchange rate, which comes within the priority objectives of the Central Bank of Iraq.
- b. deficit in the current account, as well as a decrease in foreign reserves, due to:
 - To cover the difference and bridge the gap between his dollar sales and his purchases from the Ministry of Finance, which will decrease due to the decrease in government oil revenues, especially since the Central Bank's reserves undertake in one of its functions the financing of foreign trade for the private sector by fulfilling banks' requests for them through a sale window. It is expected that the volume of sales of the Central Bank will increase to finance these imports, in addition to maintaining the Iraqi dinar exchange rate in the parallel market soon to the official exchange rate, in order to ensure price stability.

- Indirectly supporting the financing of the public budget deficit.

Financial situation:

A noticeable decline in oil prices leads to an increase in the deficit in the public budget, which means a decrease in public revenues against public expenditures, in light of the continuation of the price of a barrel of oil estimated for the 2020 budget at more than 50 dollars per barrel, accompanied by an increase in public debt from domestic and external sources to finance the budget deficit.

External conditions:

The external economic situation of Iraq after Corona witnessed a noticeable deterioration in conjunction with the governmental measures that are being taken towards the movement of transport in general and the blocking of most border crossings with several countries, which leads to the cessation of trade exchange and the movement of tourism with those countries, as well as a decrease in Iraqi imports with most of its trading partners. In conjunction with restrictions on air traffic.

1-5 Future plans and procedures for dealing with unfavorable developments and changes?

A. The Central Bank of Iraq is currently working on implementing the requirements of the international standard ISO22301:2018 related to business continuity; This is to ensure the continuity of its critical operations during times of crisis

and emergency situations.

B. The Central Bank of Iraq always works to stabilize the banking sector and the economy in general, to support the sectors that have been greatly affected in light of the spread of the virus, and to follow a policy of total or partial ban to reduce it, as well as the case with financial policy.

C. Cooperation and coordination between monetary policy and fiscal policy to mitigate the impact of the shock to the Iraqi economy as a result of the spread of the virus and work to achieve significant and sustainable growth in the Iraqi economy.

The Central Bank of Iraq injected additional cash into the economy in the year 2021, as it launched a new financing package directed to the housing sector through the Real Estate Bank and the Housing Fund in the amount of (3) trillion dinars with a term of installments of 20 years. The real estate bank has a lending ceiling of 125 million dinars for units inside residential complexes (with an

administrative commission of 5%) and 100 million dinars for units outside residential complexes, with an interest (2% annually). The Housing Fund has a loan ceiling of 75 million dinars to build housing units or purchase a housing unit from the housing complex of the Ministry of Construction and Housing with an administrative commission (4%).

And that all these measures support achieving financial stability for Iraq, which is the main and important goal of the Central Bank of Iraq, and to reduce the impact of the Corona pandemic on the Iraqi economy and citizen.

2-Financial Sector Developments in Iraq

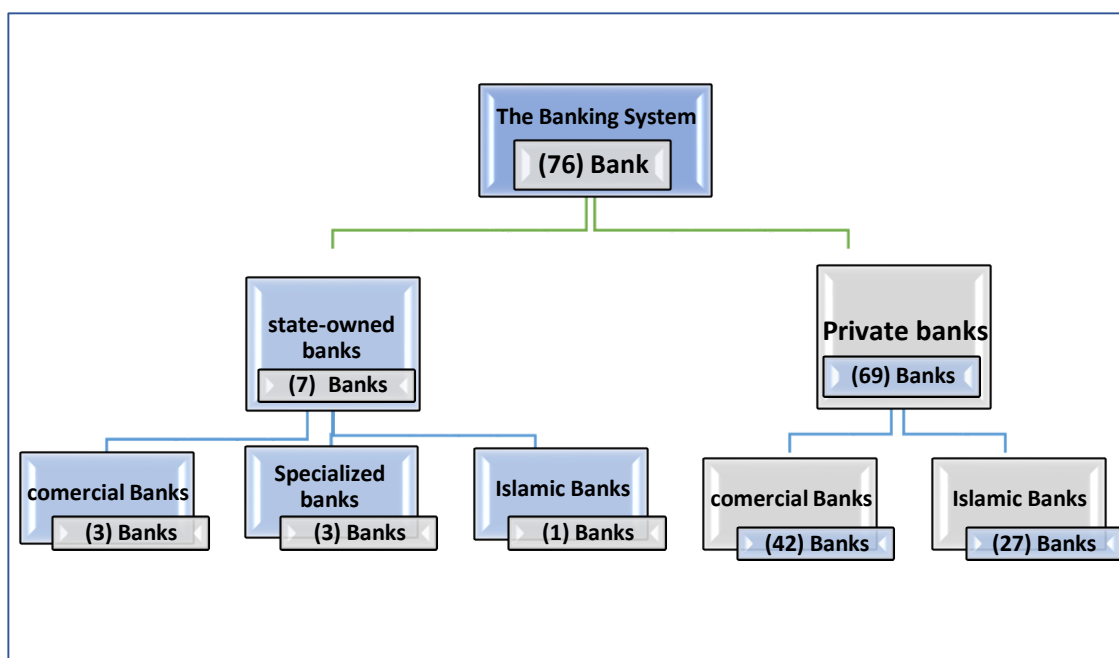
2- Financial Sector Developments in Iraq

2-1 Banking sector development in Iraq:

The structure of the Iraqi banking system changed during the year 2020, despite the world facing the virus (COVID-19) in general and Iraq in particular, However; this did not prevent the expansion of granting new bank licenses, as the number of operating banks became (76) consist, of which (7) state-owned banks, including (3) specialized banks and (3) commercial banks and an Islamic bank), while the number of private banks reached (69) banks that include (24) local commercial banks, (27) local Islamic banks, and (2) two foreign Islamic banks and (16) foreign commercial banks) as shown in Chart (1). It is noted that the largest share in terms of the number of banks is for private banks, reaching almost (90.7%) and the rest for state-owned banks (9.3%), as it constitutes a percentage of commercial banks account for (56.5%), followed by Islamic banks with a percentage of (39.5%) and then specialized banks with a percentage of (4%) of the total banks operating in Iraq.

Scheme (1)

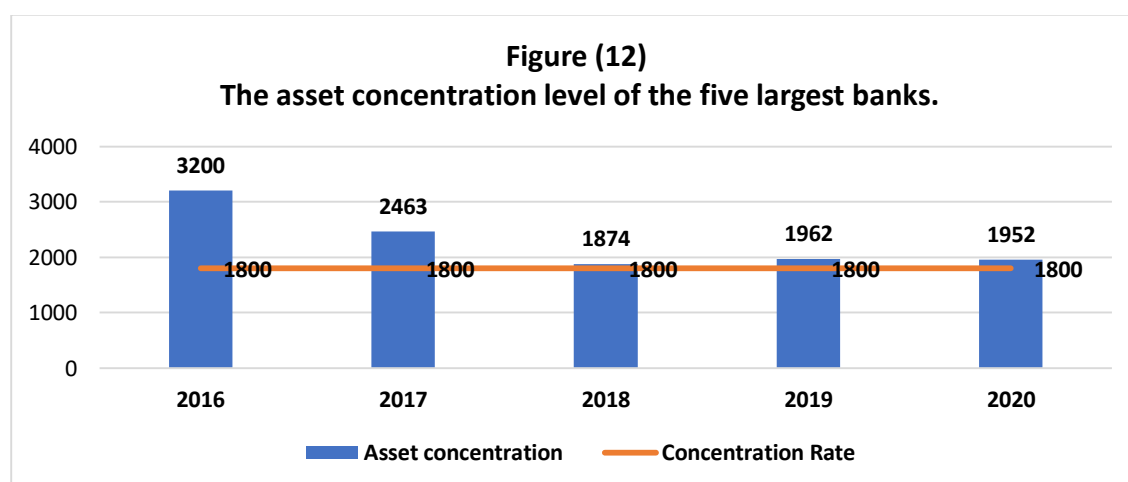
The structure of the Iraqi banking system as in 2020



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

2-1-1 The assets of the banking sector:¹

Despite the circumstances that Iraq experienced in 2020 in the face of the crisis of the Corona pandemic and its repercussions globally, regionally and locally, the banking sector's assets have developed and recorded an increase, reaching (138.5) trillion dinars in 2020, with a growth rate of (4.13%) over 2019 whose total assets were (133) trillion dinars as a result of the increase in the value of banks' assets in foreign currency, as it rose from (22.4 trillion dinars in 2019 to (26.7) trillion dinars in 2020, and this increase came due to the difference in the exchange rate of the Iraqi dinar towards the US dollar as well as the increase in the remaining assets by (1.2 trillion dinars) as a result of the increase in the volume of banking activity. The level of concentration of assets for the five largest banks according to the (Herfindahl - Hirschman) ² index reached (1952) points in 2020, as shown in Figure (12), and this indicates a high level of concentration in the assets of the banking system, as a decrease in the concentration index means a high level of competition between banks, as well as the possibility of a decrease in this level in the future if other banks adopt financial technology tools by providing financial services and products New.

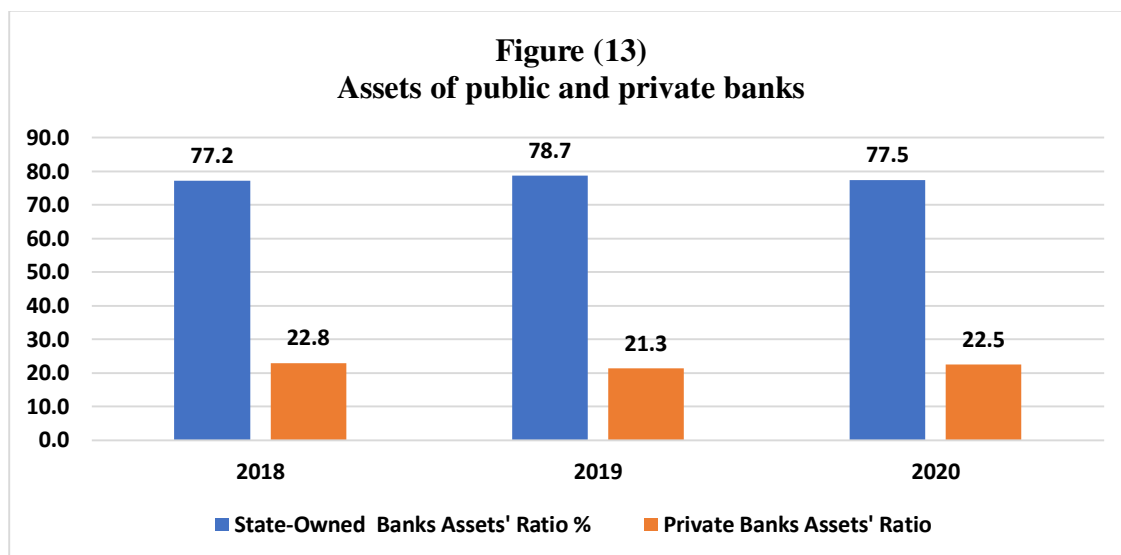


Source: Central Bank of Iraq, Department of Statistics and Research.

¹Assets have been recalculated according to new international standards starting from January 2012.

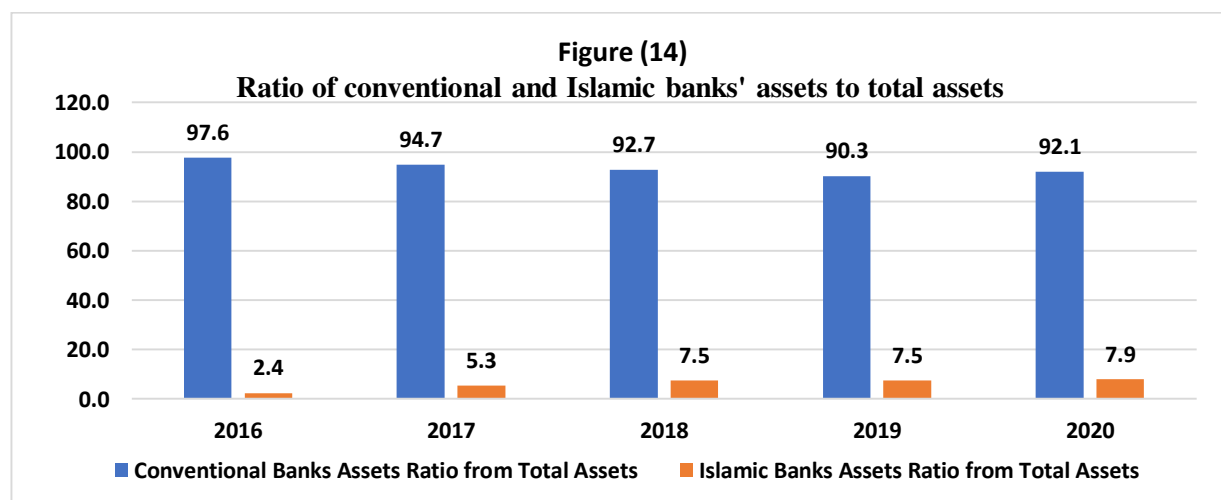
²The value of (Herfindel - Hirschmann) ranged between (0 - 10000), if the value was less than (1000) this indicated that there were no concentrations, and if the value was between (1000 - 1800) it indicated moderate concentrations, and if the value was greater than (1800) it indicated to the level of high concentrations, the indicator is measured according to the following formula: $(HH_i = Lsi^2)$ as (si) represents the relative importance (market share) of the variable.

Figure (13) shows a slight decrease in the ratio of state-owned banks' assets to total assets in 2020, and a slight increase in private banks' assets for the same year, due to the increase in the value of their foreign currency assets after the change in the Iraqi dinar exchange rate against the US dollar. It is a good indicator that reflects the continuing level of competition between private and state-owned banks.



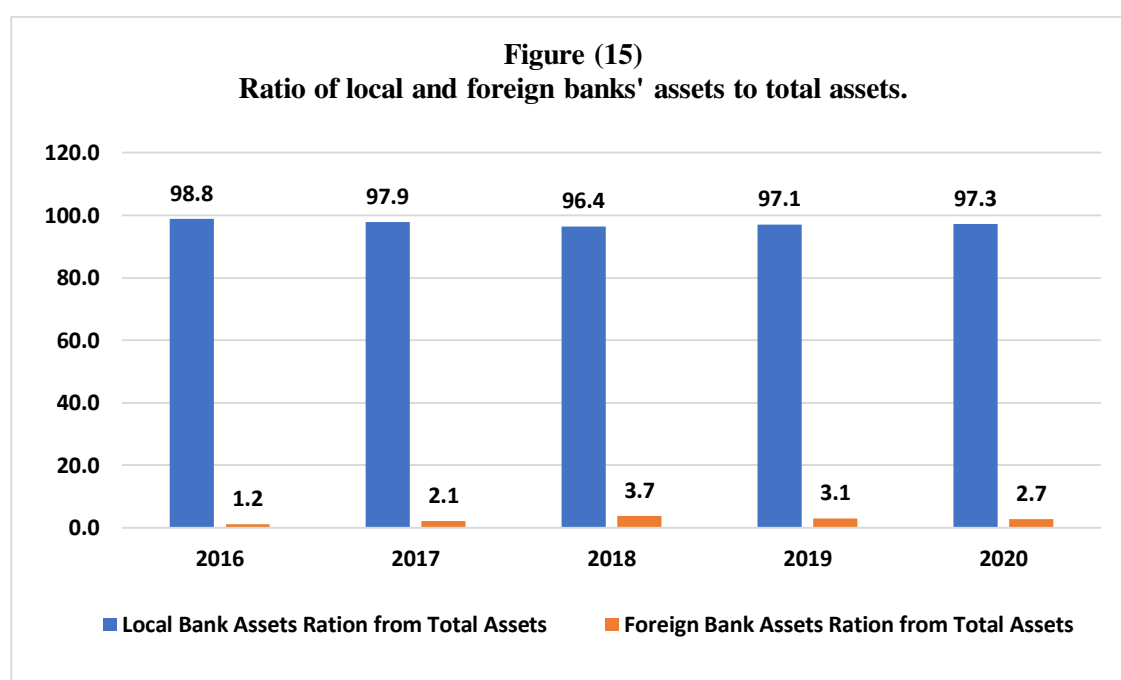
Source: Central Bank of Iraq, Department of Statistics and Research.

As for the assets in terms of the type of conventional and Islamic banks, the commercial banks acquired the largest proportion of the total assets, reaching (92.1%) in 2020, and this is the result of the old commercial banks compared to the newly established Islamic banks, while the proportion of the assets of Islamic banks rose slightly from total assets at (7.9%) for the same year compared to 2019, as shown in Figure (14).



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

The weakness of the activity of the foreign banking sector operating in Iraq continued in the year 2020, as the ratio of foreign banks' assets to total assets was recorded at 2.7%, as shown in figure (15).

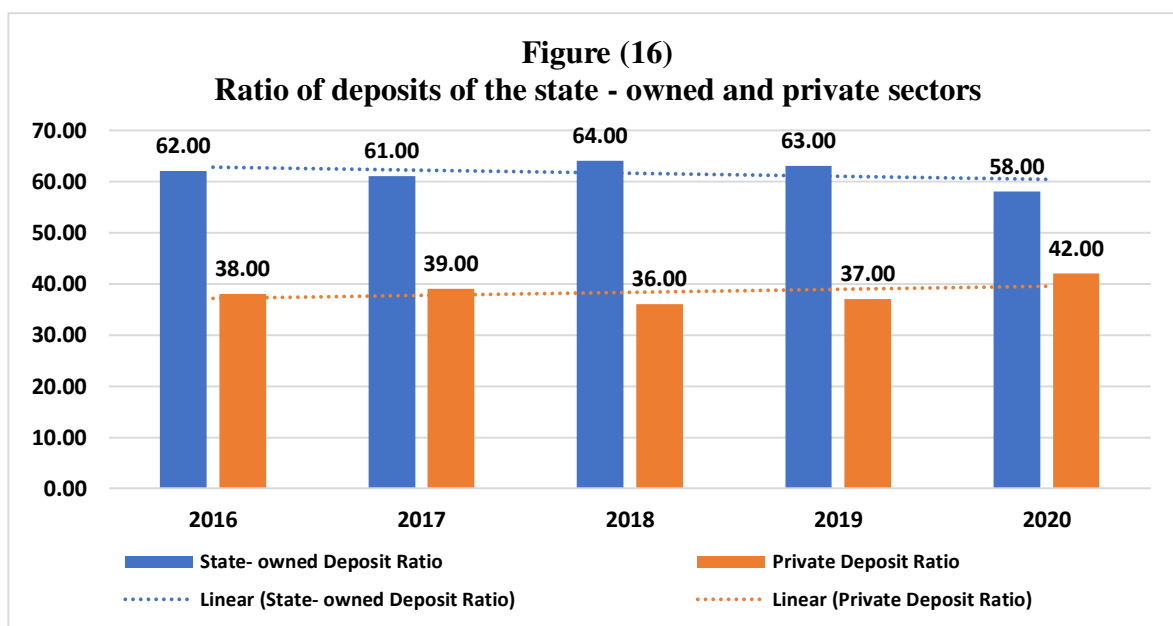


Source: Central Bank of Iraq, Department of Statistics and Research.

2-1-2 Banking Sector Deposits:

The balance of deposits in the banking sector recorded an increase from (82) trillion dinars in 2019 to (85) trillion dinars in 2020, at a rate of (3.7%). By (-0.5%) despite the conditions faced by this sector as a result of the Corona pandemic, and despite these circumstances, deposits in general are good, as private sector deposits constitute 42.3% of the total bank deposits in 2020, an amount of (36) trillion dinars in 2020 compared to 2019, which amounted to (31) trillion dinars, despite the decline in the average per capita GDP to (4.95) million dinars in 2020 compared to (7.1) million dinars in 2019. ¹ Government deposits that constitute (57.7%) of the total deposits in banks in 2020 to (49) trillion dinars, compared to (51.4) trillion dinars in 2019, as shown in figure (16).

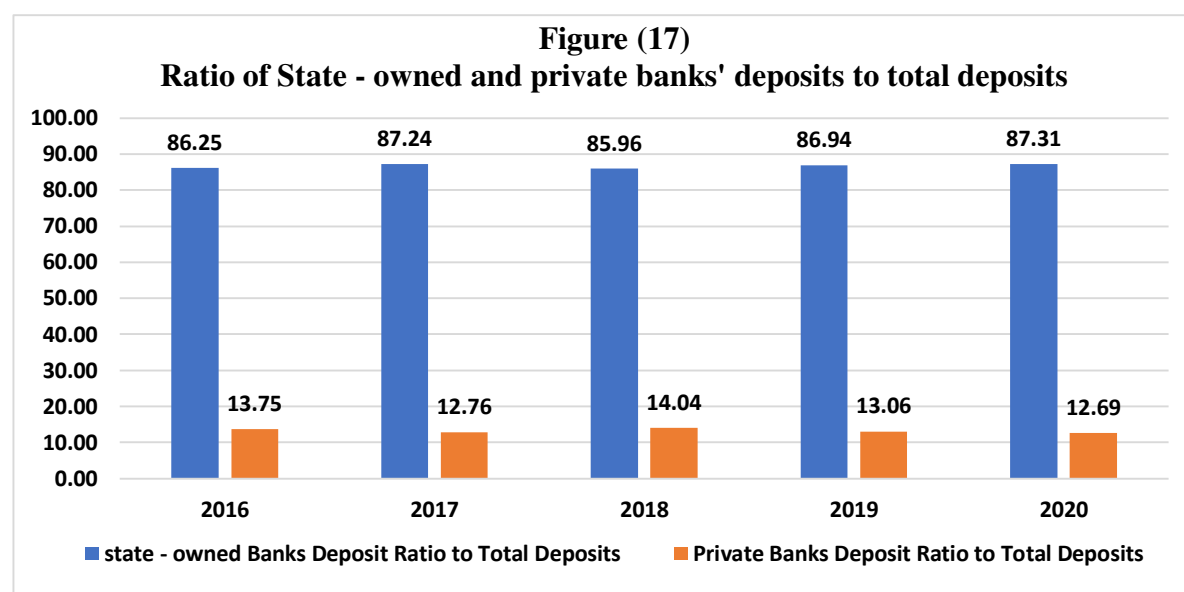
1. Ministry of Planning, Central Bureau of Statistics, Baghdad, 2020.



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

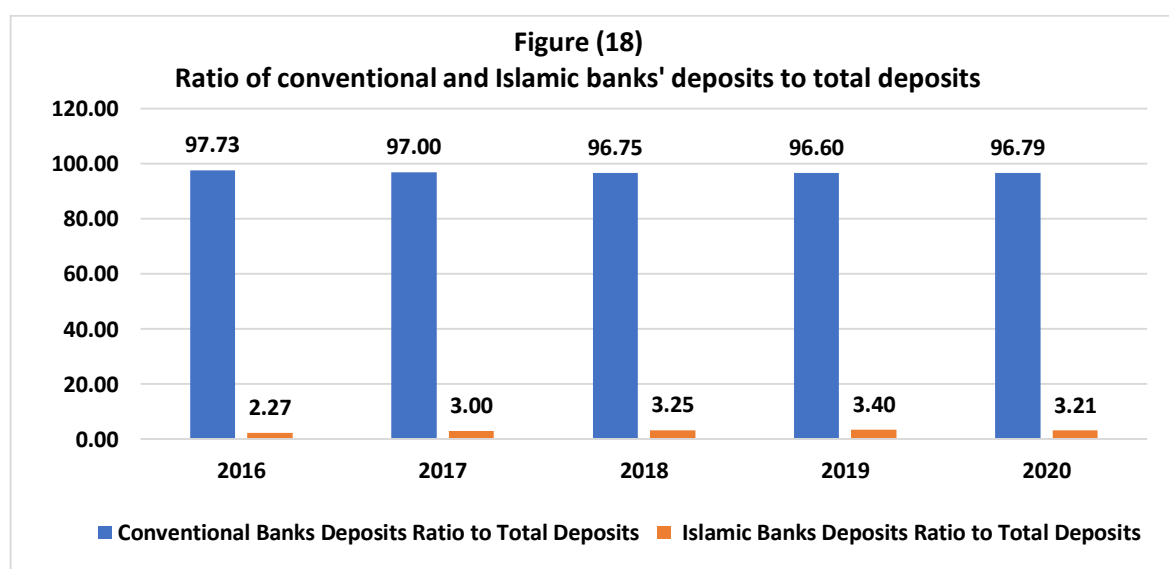
If the banks are classified according to their type into three different groups, the first includes state-owned and private banks, the second includes conventional and Islamic banks, and the third includes local and foreign banks, then the distribution of deposits among them will be according to the following:

With regard to the first group, the government bank deposits accounted for the highest percentage of total deposits, reaching (87.31%) in 2020, despite the fact that their number represented (9.2%) of the number of banks, while the share of private banks constituted (9.2%) 12.69%) of the total deposits for the year 2020, following the increase in the share of state-owned banks in the total deposits, which reflects the high confidence of the public in state-owned banks; Because it is guaranteed by the state, as well as having a wide network of branches spread throughout Iraq, as the share of state-owned banks from the number of branches to the total number is (48.93%), while the share of private bank branches is (51.07%) for the year 2020, and the figure shows (17) Deposit ratios for state-owned and private banks for the period (2017-2020).



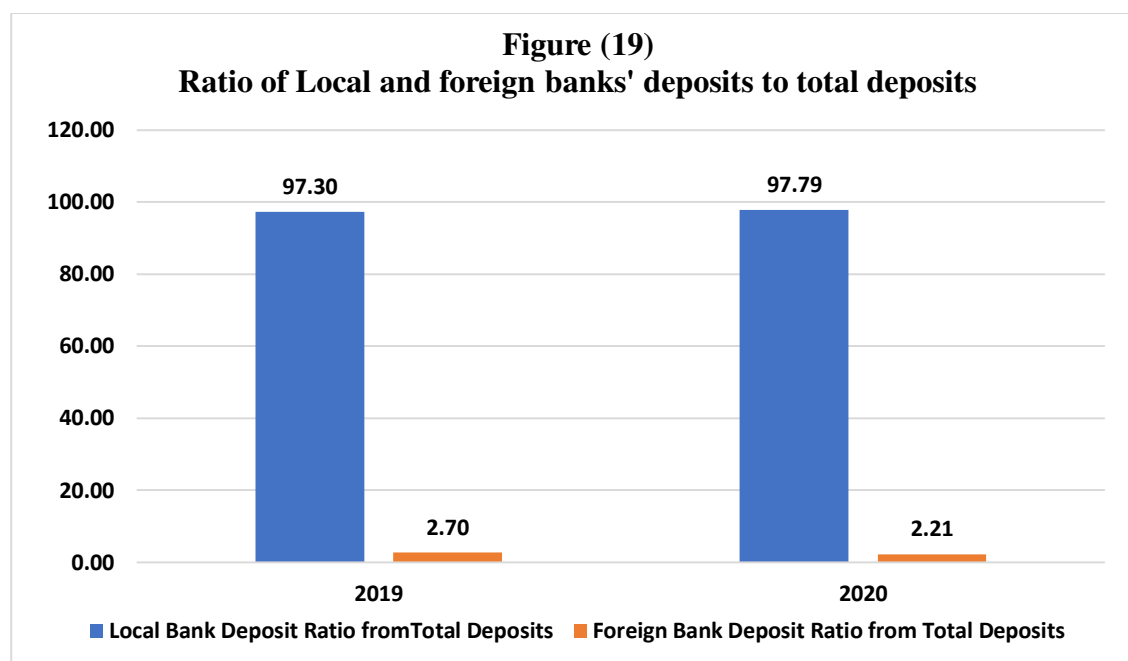
Source: Central Bank of Iraq, Department of Statistics and Research.

As for the second group represented by the share of deposits of conventional and Islamic banks separately to the total deposits, conventional banks acquired the highest percentage of them, as their share reached (96.79 percent) in 2020, while the share of Islamic banks amounted to (3.21%) for the same year, and this reflects a limited role for Islamic banks in attracting deposits compared to traditional banks because they constitute (18.2%) of the total number of banks, while conventional banks constitute (81.8%) of the total number of banks operating in Iraq. The reason for the limited deposits in Islamic banks is that most of them were newly established in light of political and economic fluctuations that affected its performance, as shown in Figure (18):



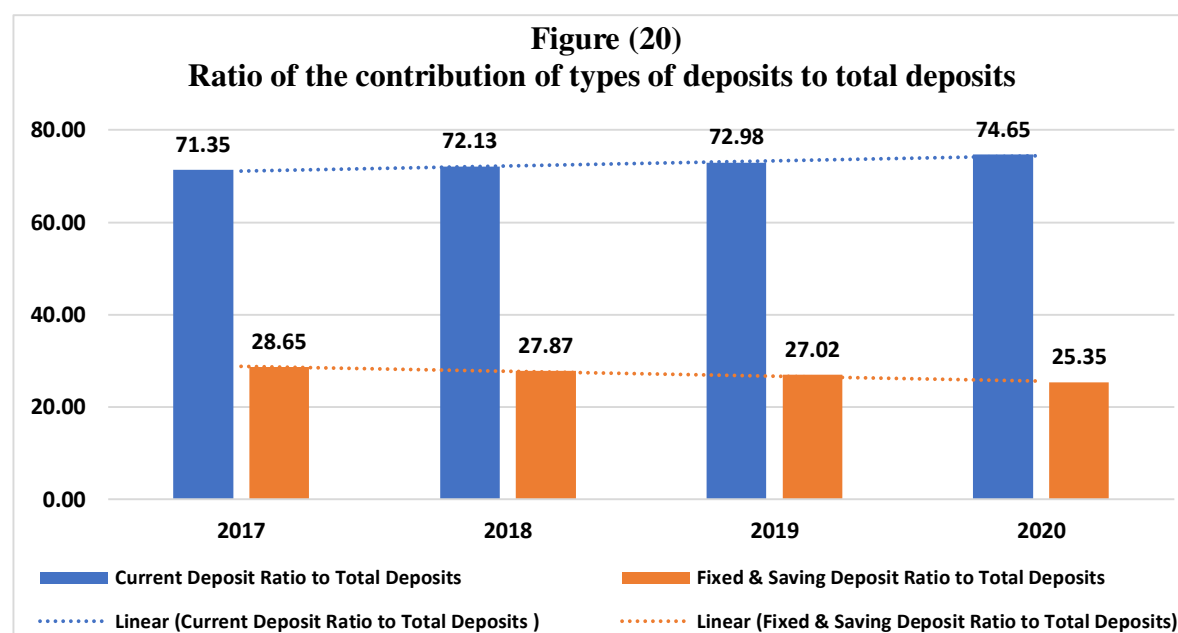
Source: Central Bank of Iraq, Department of Statistics and Research.

As for the third group represented by the share of deposits of local and foreign banks separately to the total deposits, the deposits of local banks acquired the largest share of the total deposits, reaching (97.79 percent), while the share of foreign banks' deposits to the total deposits of banks reached (2.21%) for the year 2020. The number of foreign banks represents (4.8%) of the total number of banks operating in Iraq and (9.4%) of the number of private banks. Figure (19) shows these percentages.



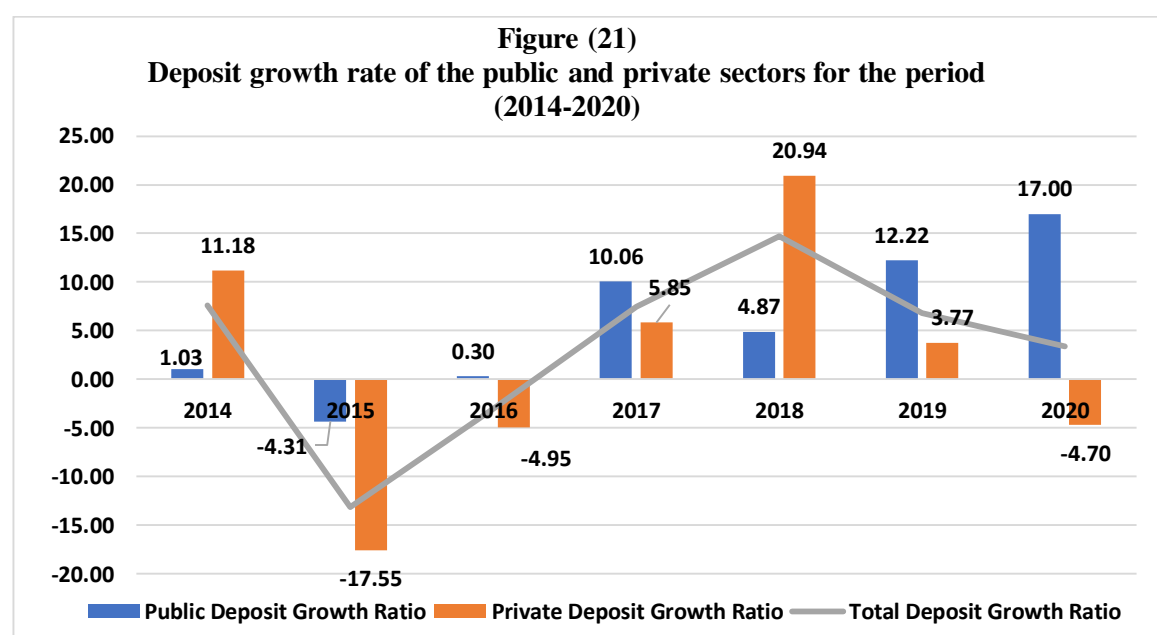
Source: Central Bank of Iraq, Department of Statistics and Research.

As for the division of deposits in terms of their type (current deposits, savings deposits and fixed deposits), current deposits continued to occupy the largest part of the total deposits, as their contribution percentage increased from (72.98%) in 2019 to (74.65%) in 2020, while it decreased the ratio of fixed deposits' contribution from (11.66%) in 2019 to (10.45%). As for the savings deposits' percentage of total deposits, it decreased to (14.90%) in 2020 after it was (15.36%) in 2019, despite the increase The ratio of the contribution of current deposits to the total deposits and their repercussions on the volume of credit. However, the gap between current deposits on the one hand and savings and fixed deposits on the other hand tends to expand with a decrease in the volume of savings and fixed deposits, as shown in Figure (20).



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

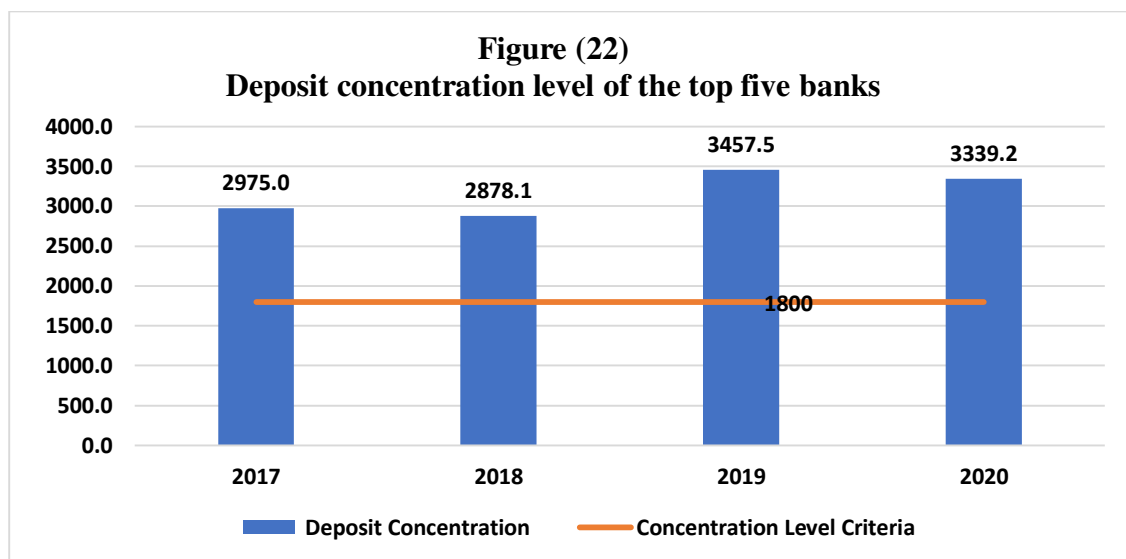
With regard to the growth rate of deposits, the public sector deposits achieved a growth rate of 17%, while the private sector deposits decreased by (-4.7%), and the total growth rate of aggregate deposits (3.4%). Figure (21) shows the growth rates of deposits of the two sectors public and private.



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

The level of deposit concentration of the five largest banks according to the (Herfindel - Hirschmann) index reached (3,339.2) points in 2020, and this indicates a low concentration level compared to the level of concentration during the year 2019 of (3457.5) points, as it decreased from 2019 by (-3.4) %, despite this, the index is higher than the standard of the concentration level of

(1800) points, as it still reflects the high concentration of deposits for the five largest banks, which is a clear evidence of the public's confidence in those banks; Because most of them are affiliated with the public sector, and therefore they are guaranteed by the state. Therefore, the effect of high concentrations in them does not pose a real danger; It is unlikely that these banks will refrain from fulfilling their obligations in the event of an increase in depositors' withdrawals for their deposits. Figure (22) shows the concentration of deposits for the five largest banks.

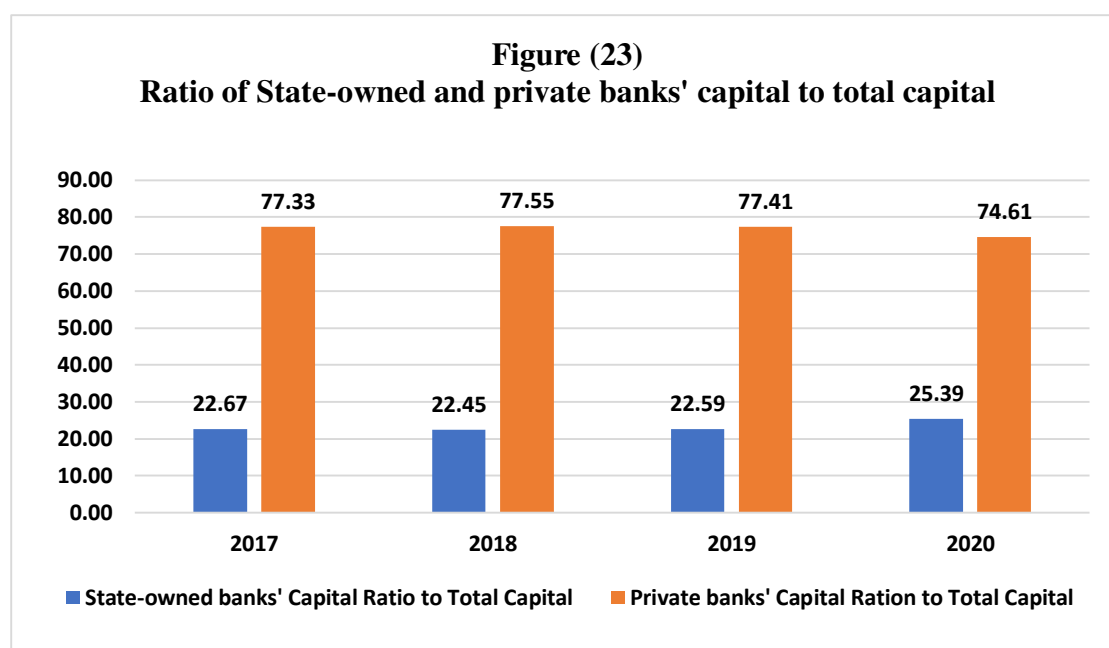


Source: Central Bank of Iraq, Department of Statistics and Research.

2-1-3 Capital of the banking sector:

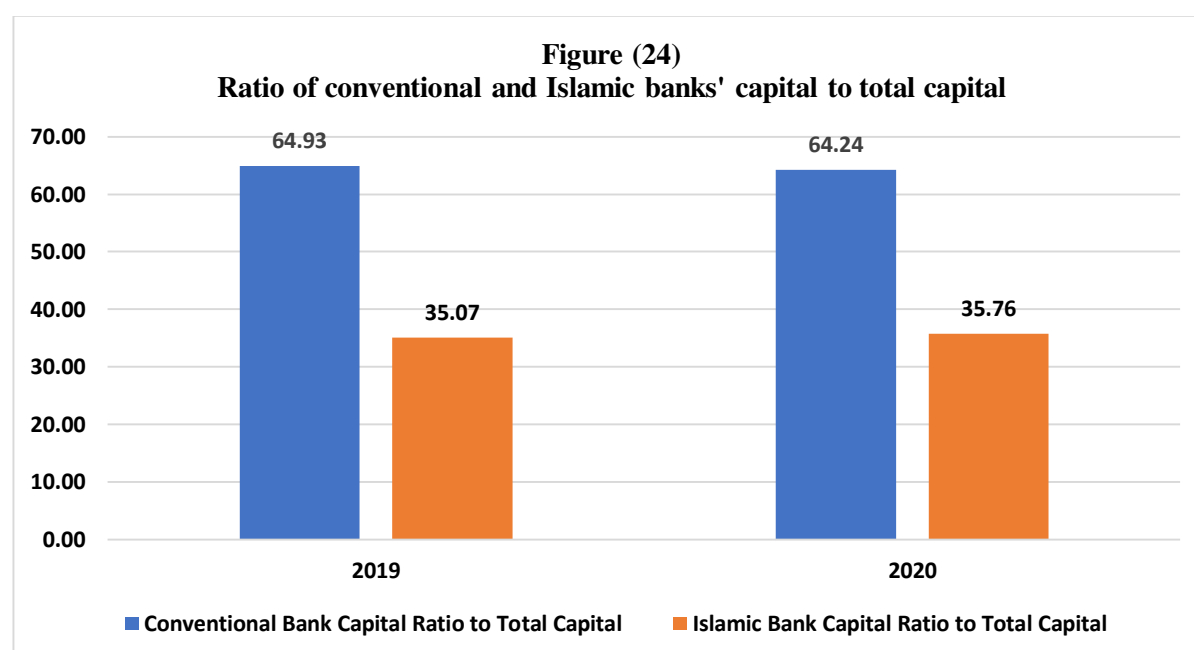
Bank capital increased by (9.2%) in 2020 to reach (16.9) trillion dinars, after it was (15.5) trillion dinars in 2019, when we divide the banks according to their type into three different groups, the first includes state-owned and private banks, the second includes conventional and Islamic banks, and the third includes local and foreign banks, then the distribution of capital among them will be as follows:

With regard to the first group, the ratio of the capital of private banks constituted the highest ratio to the total capital, reaching (74.61%) in 2020, while the contribution of state-owned banks was (25.39%), as a result of the increase in the number of private banks compared to state-owned banks, as well as the commitment of private banks to the instructions of the Central Bank of Iraq to raise the capital to (250) billion dinars, and Figure (23) shows the contribution ratios for the two types of banks.



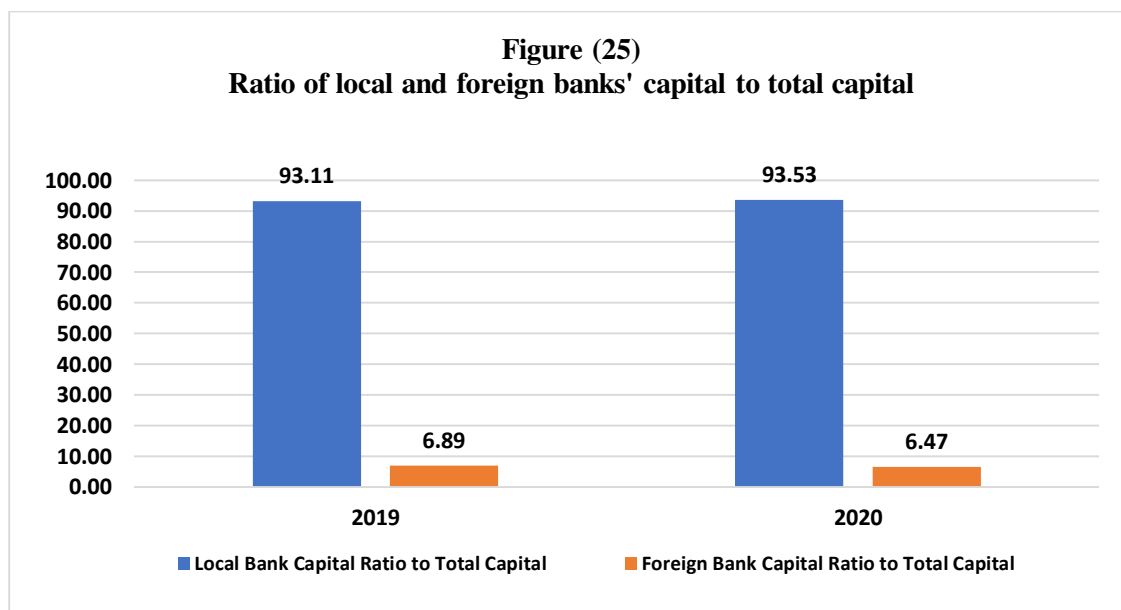
Source: Central Bank of Iraq, Department of Statistics and Research.

As for the second group represented by the ratio of capital of conventional and Islamic banks separately to the total capital, conventional banks acquired the highest percentage of it, as their share amounted to (64.24%) in 2020, while the share of Islamic banks amounted to (35.76%) for the same year, and this is in proportion to the number of each of them is in the banking system, The number of conventional banks constitutes (81.8%) of the total number of banks, while the number of Islamic banks constitutes (18.2%) of the total banks operating in Iraq. Figure (24) shows the percentage of contribution to this group.



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

The third group represented by the ratio of the capital of local and foreign banks separately to the total capital, the capital of local banks constituted the highest percentage of the capital, reaching in 2020 (93.53%), while the capital of foreign banks amounted to (6.47%); This is due to the small number of foreign banks compared to local banks, as well as the impact of the capital requirements of foreign banks is less than local banks, as shown in Figure (25). Thus the minimum capital requirement for a local private bank is (250) billion dinars, while the capital requirement for a foreign bank is (50) million dollars.



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

2-1-4 Bank Credit:

2-1-4-1 Development of Bank Credit:

The credit provided by banks to the public and private sectors (cash credit and pledge credit) increased by 11.8% in 2020 to reach (75.26) trillion dinars, after it was (67.32) trillion dinars in 2019.

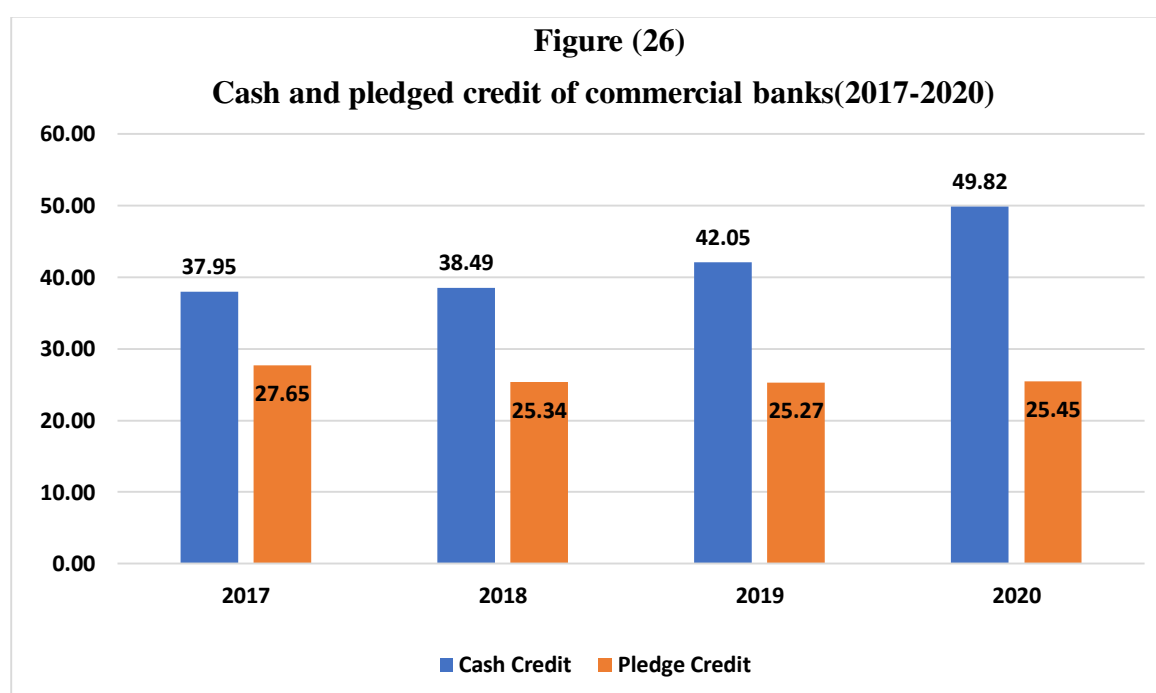
This rise has occurred in the cash credit, which rose to (49.81) trillion dinars in 2020 after it was (42.05) trillion dinars in 2019 at a rate of (18.5%) to raise its relative importance to the total credit from (62.5%) in 2019 to (66.2%) in 2020, The growth rates of cash credit granted to the central government, public institutions and the private sector increased at a rate of (0.7%), (0.5%) and (0.4%) for each of them, respectively, during the year 2020, as shown in the table (2).

Table (2)
Cash and pledge credit to commercial banks for the period (2017-2020).
(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

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

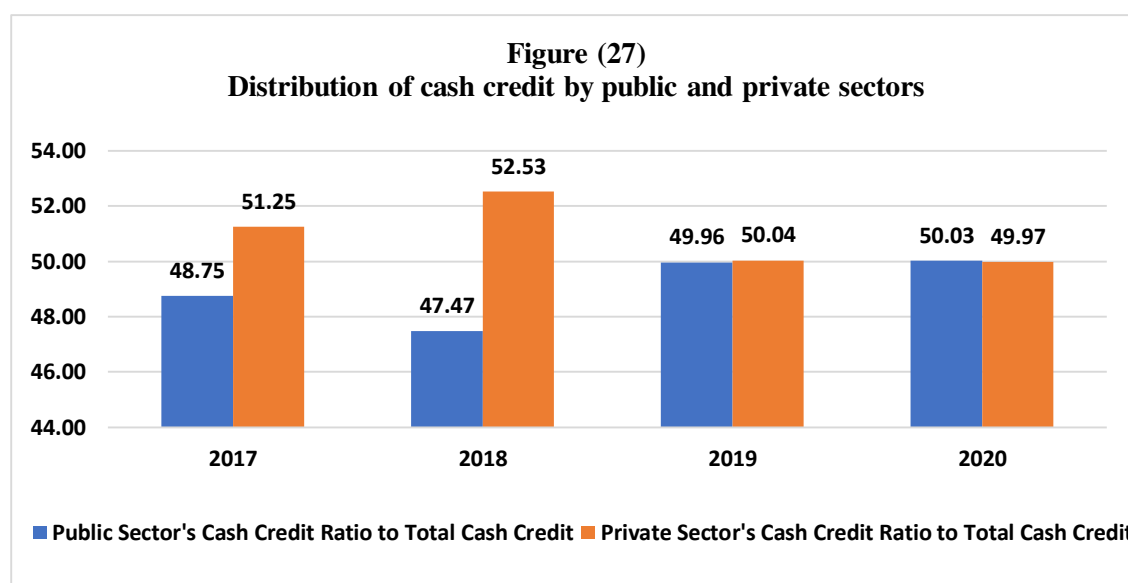
The pledge credit rose from (25.26) trillion dinars in 2019 to (25.45) trillion dinars in 2020, with a growth rate of (11%). Both the pledge credit granted to the central government and the private sector registered an increase in the growth rate by (11.4%) and (0.3%) for each, respectively, while the pledge credit granted to public institutions witnessed a slight decline by (-2.7%). The Figure (26) shows the cash and pledge credit provided by banks in favor of cash credit for the period (2017-2020).



Source: data from table (2).

2-1-4-2 Sectoral Distribution of Cash Credit:

The share of cash credit provided to the private sector decreased from (50.04%) in 2019 to (49.97%) in 2020, while the share of cash credit provided to the public sector increased from (49.96%) in 2019 to (50.03%) in 2020, as the cash credit granted to institutions increased The general public, which is financed by state-owned banks exclusively) slightly at a rate of (0.5%), and the cash credit granted to the central government increased at a rate of (0.7%), as shown in Figure (27).



Source: data from table (2).

It is evident that the gap between the private cash credit ratio and the first good public cash credit ratio continues to grow, and this is a good indicator indicating the high impact of crowding out the public sector against the private sector in obtaining cash credit.

On the other hand, the trade, restaurants and hotel sector dominated the largest proportion of the total cash credit granted by banks, as it rose from (18%) in 2019 to (42.7%) in 2020, as shown in Table (3) and Figure (28). The trade, restaurants and hotel sector's acquisition of the largest proportion of the volume of cash credit, and with the increase in the non-performing credit ratio in this sector to the total cash credit, it reached (10.08%) in 2020 after it was (9.9%) in 2019, which means where there is an increase in risks The banking system, although it does not pose a significant risk currently, but it may be of high risks to the banking system in the event that these risks are not taken care of, as the ratio of the overdue debts of this sector to the total overdue debts (42.76%) for

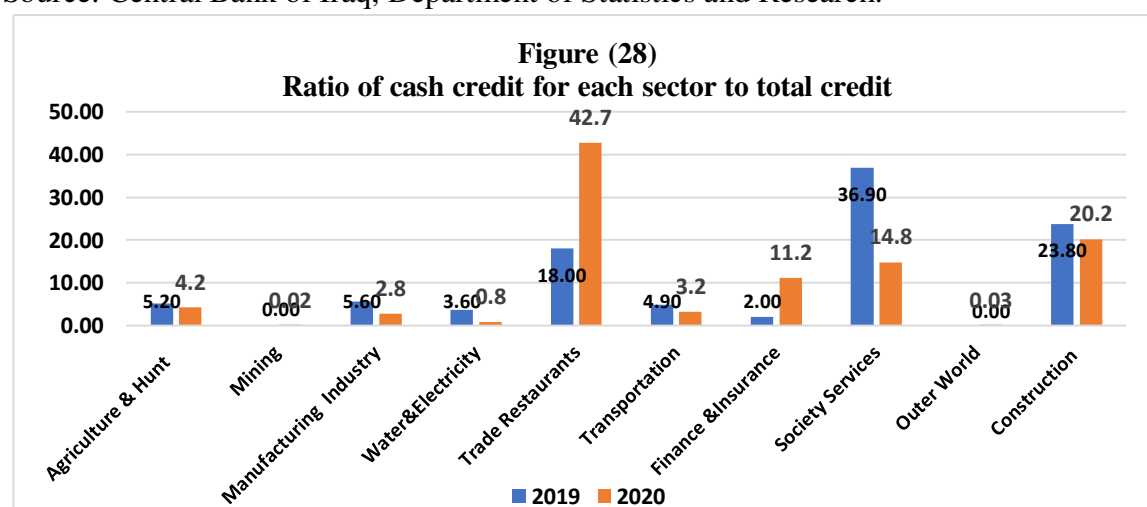
the year 2020 is higher than in the year 2019, which amounted to (36.88%), which reflects the high risks of this sector on the banking system. As we mentioned earlier, the trade, restaurants and hotels sector is followed by the construction and building sector at (20.2%), while the cash credit provided to the finance and insurance sector increased to reach (11.2%) after it was (2%) for the year 2019, While other sectors such as community services, manufacturing, agriculture, fishing and others got lower percentages of the total credit granted, and this indicates that Iraqi banks rely a lot on granting commercial loans and building and construction, given the guarantees that these sectors can provide compared to other sectors. On the other hand, the nature of the real economic activity that is dominated by these activities (building and construction, restaurants, hotels and trade) and the limited other activities (industrial, agricultural, etc.), contributed to the formation of the sectoral distribution map of bank credit.

Table (3)

The Sectoral distribution of cash credit by sector type for the period (2017-2020). (percent)

	Agriculture and hunting	Mining	Manufacturing industry	Water, electricity and gas	Trade, restaurant and hotels	Transportation, storage and transportation	Finance and insurance	Community services	Outside world	Construction
2017	4.59	0	4.56	6.04	16.07	6.96	2.76	38.19	0	20.78
2018	5.10	0.23	4.64	5.20	15.51	4.99	3.00	35.89	0.10	25.34
2019	5.2	0	5.6	3.6	18	4.9	2	36.9	0	23.8
2020	4.2	0.02	2.8	0.8	42.7	3.2	11.2	14.8	0.03	20.2

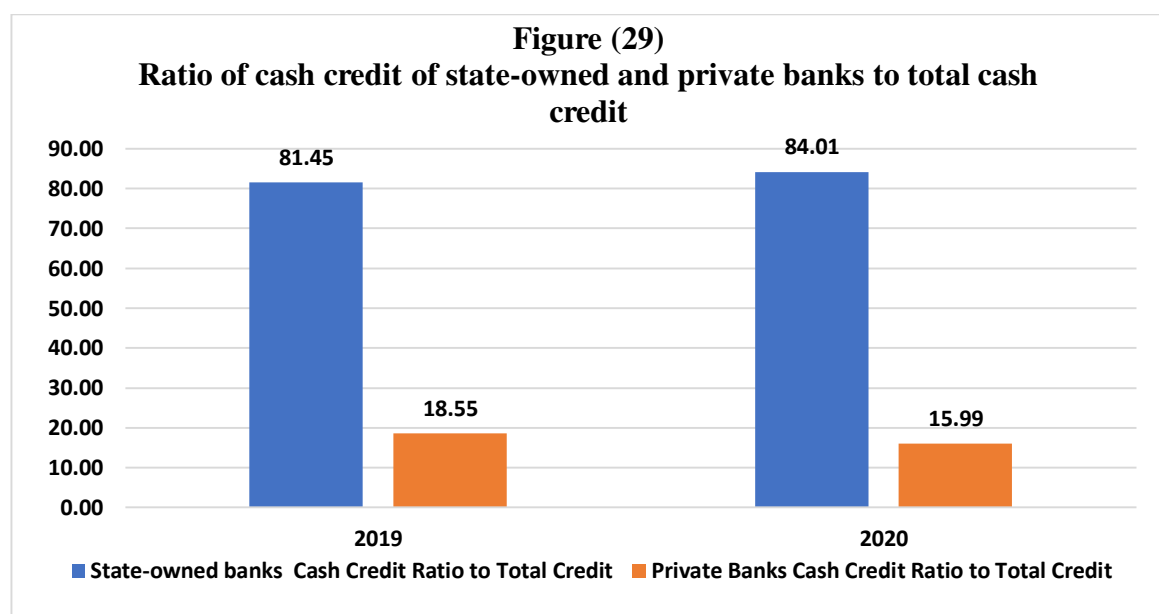
Source: Central Bank of Iraq, Department of Statistics and Research.



Source: data for table (2).

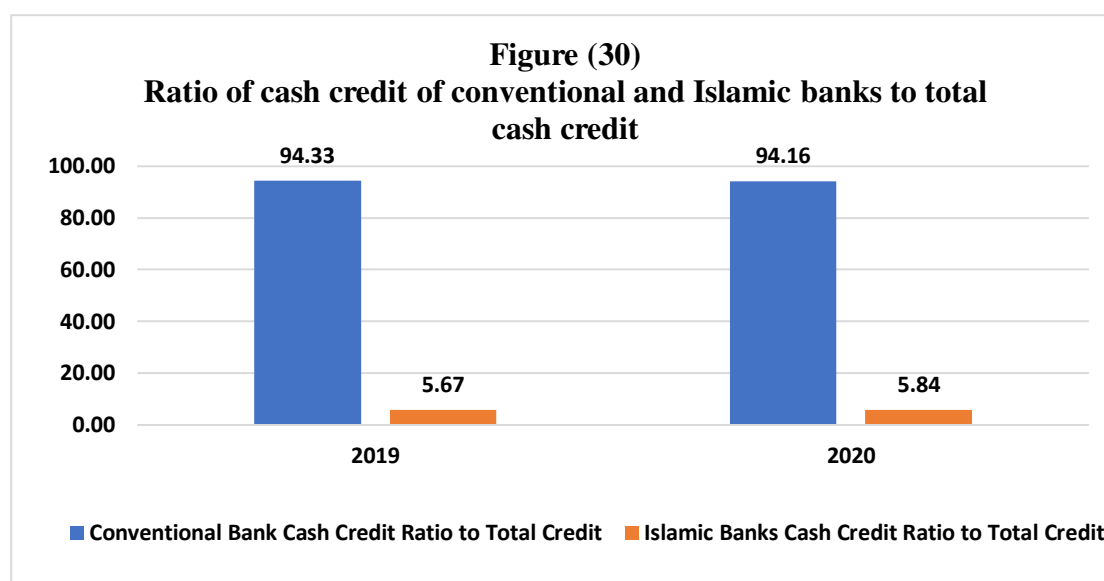
When we classify the banks in to three different groups, the first includes state-owned and private banks, the second includes conventional and Islamic banks, and the third includes local and foreign banks, then the distribution of cash credit among them will be as follows:

With regard to the first group, state-owned banks acquired the largest proportion of cash credit in relation to total cash credit, which amounted to (84.01%) in 2020, while the contribution of private banks was (15.99%) for the same year, and despite the fact that the number of state-owned banks It constitutes (9.2%) only of the total number of banks, its acquisition of (87.31%) of the total deposits as a result of the public's confidence with them, made them acquire the largest percentage of cash credit. Figure (29) shows the contribution ratios of state-owned and private banks.



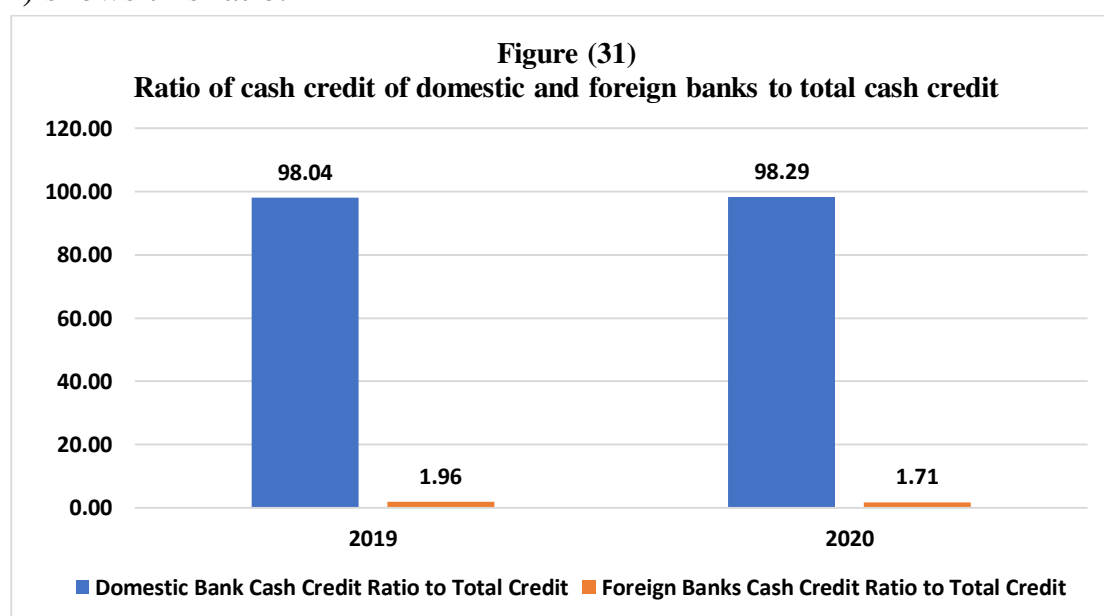
Source: Central Bank of Iraq, Department of Statistics and Research.

The second group, represented by the share of the cash credit of conventional and Islamic banks, each separately to the total cash credit, the traditional banks acquired the highest share of it, as their contribution share amounted to (94.16%) in 2020, while the share of Islamic banks amounted to (5.84%) for the same year, Figure (30) shows this ratio.



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

While the third group represented by the cash credit share of local and foreign banks separately to the total cash credit was (98.29%) for local banks and (1.71%) for foreign banks in 2020. This fact reflects the limited contribution of foreign banks in supporting the national economy, although their number constitutes (23.7%) of the total number of banks operating in Iraq, and Figure (31) shows this ratio.

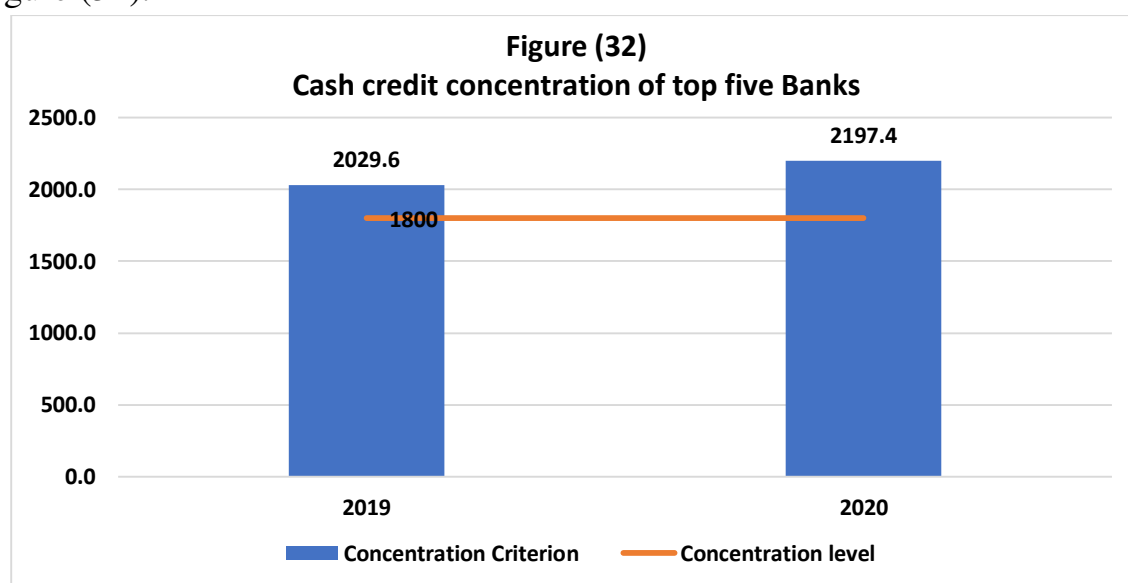


Source: Central Bank of Iraq, Department of Statistics and Research.

2-1-4-3 Concentrations of Bank Credit:

State-owned banks continued to dominate the largest proportion of the credit provided by the banking sector, as the percentage of credit provided by the five largest state-owned banks reached (82.9%) of the total cash credit, so that the

market share was high in state-owned banks, and the degree of credit concentration was recorded for the five largest banks in 2020. The concentration ratio reached (2197.4) points, an increase from 2019 (2029.6) points. The concentration of credit in state-owned banks reveals their impact on controlling the banking sector, and this is a natural result of the network of their branches spread throughout Iraq, the ease of access to their services, and their clear developmental role by increasing the credit they provide compared to private sector banks, as well as the banking awareness of banks. The state-owned through various means of communication, visual and audio, and the services it provides even to retirees by giving them in advance, as shown in Figure (32).



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

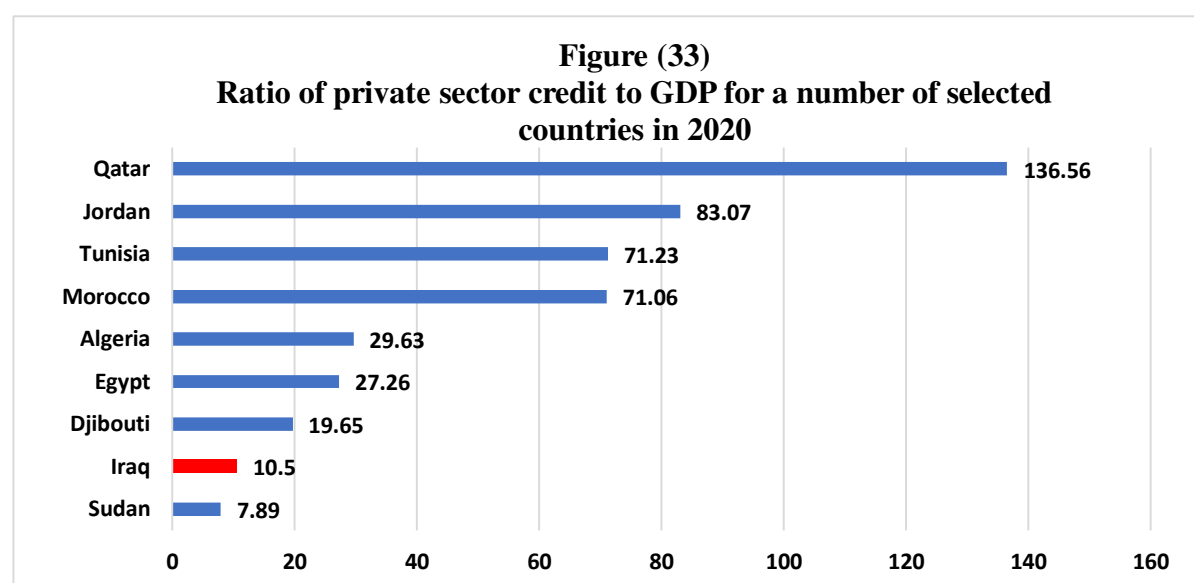
2-1-4-4. Analysis of the Credit to GDP Gap: Credit to GDP Gap.

The positive gap indicates the acceleration of the rate of growth through its historical trend, indicating the need to build buffers (from reserve capital) to protect the banking system from potential risks, If the value of the gap exceeds the value of the upper limit, which is (10)¹ this indicates that there is a risk of increasing credit grants at a rate greater than the growth rate of GDP, This case requires building a greater amount of additional capital reserves to meet the potential losses that the financial system may be exposed to in order to remain able to continue performing its basic functions ². The percentage of banking

¹ Bank for International Settlements, Guidance for National Authorities Operating the Countercyclical Capital Buffer, December 2010, p13.

² For more information, review the Financial Stability Report 2017.

depth¹ is still low in Iraq, whether it is measured in GDP with oil or without oil. It reached in 2020 (10.50%) with oil GDP and (15.04%) with non-oil GDP, which is low also, compared to a number of Arab countries, as in 2020, shown in Figure (33), as Iraq ranked penultimate, ahead of the Republic of Sudan, and Despite of the low percentage of banking depth and reflect a negative indication of the extent of the banking sector's contribution to financing real activity, The only positive effect resulting from it that its impact on the decrease in the volume of risks realized from the possibility of accelerating the growth of bank credit in Iraq.



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

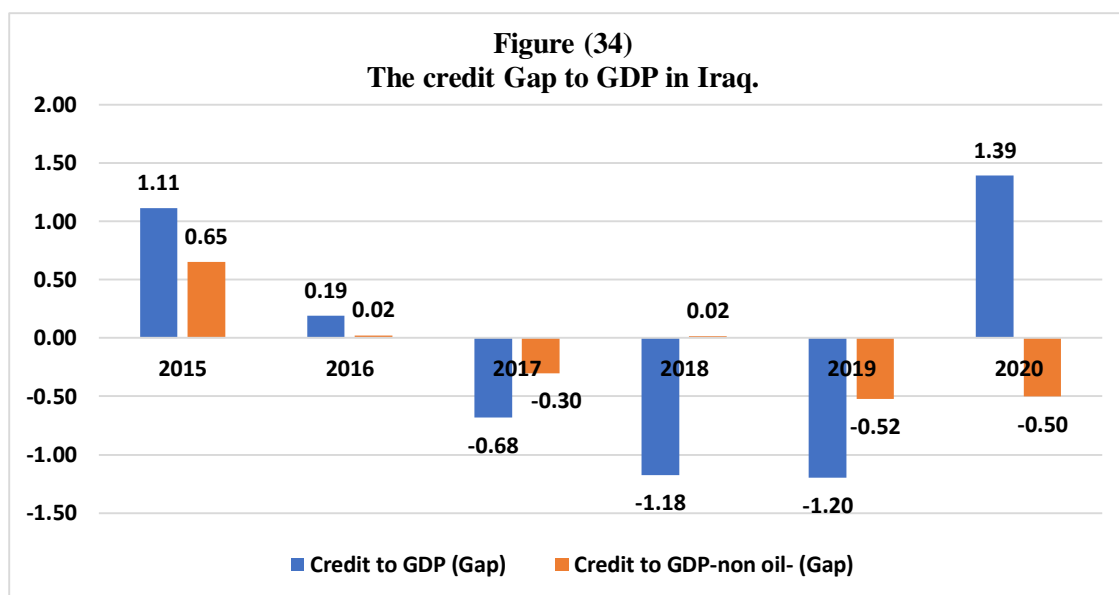
- Global Bank, Financial Sector Data: <http://data.worldbank.org/topic/financial-sector>.

The Hodrick - Prescott (HP) Filter method proposed by the (BCBS) Committee was used in calculating the Credit to GDP Gap² in Iraq, and the results shown in Figure (34) indicate that this gap is within the minimum, it showed A positive gap with the adoption of GDP data with oil at a rate of (1.39%), in addition to the appearance of a negative gap in the case of adopting GDP data without oil at a rate of (-0.5%), This indicates that bank credit can increase without creating instability in the Iraqi financial system, taking into account the criteria³ that must be met when granting credit to the various economic sectors.

¹Banking depth = Credit to the private sector / GDP.

²Includes credit to the private sector only.

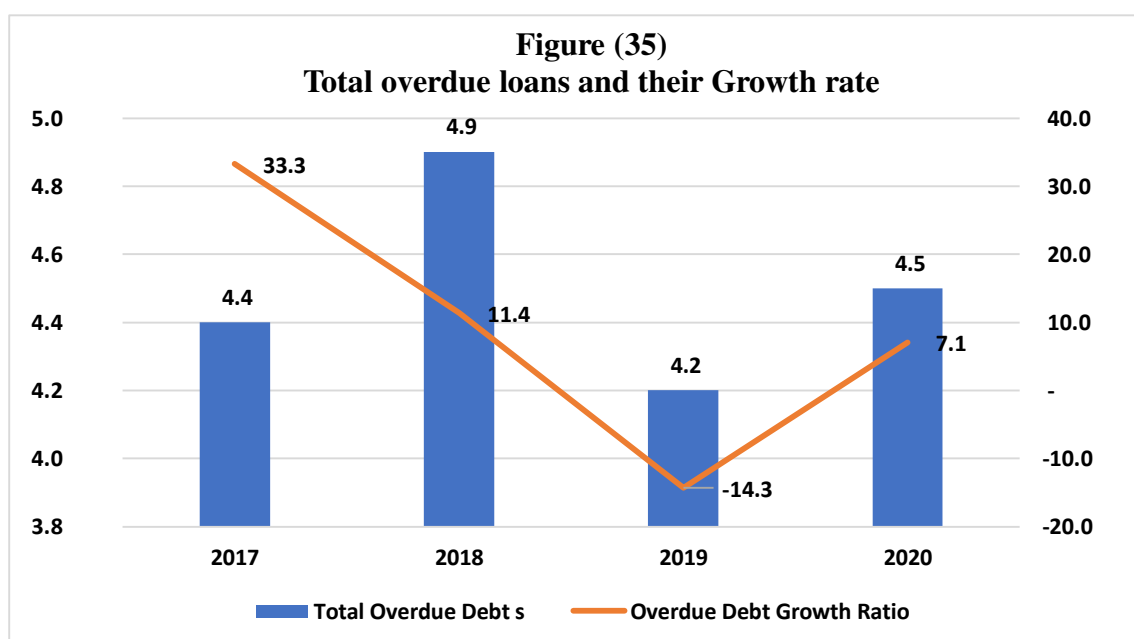
³Top for example 5Cs standards which include Character, Capacity, Capital, Collateral, Conditions.



Source: Central Bank of Iraq, Monetary and Financial Stability Department estimates, 2020.

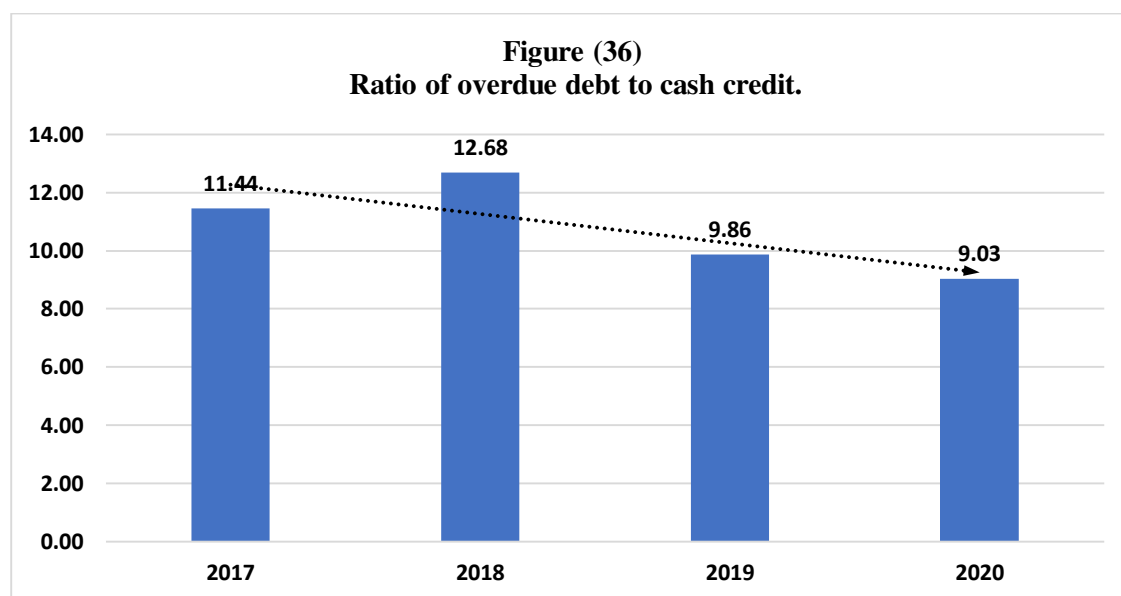
2-1-4-5 Overdue Debts:

The volume of overdue debt witnessed an increase from (4.2) trillion dinars in 2019 to (4.5) trillion dinars in 2020, i.e. (7.1%) of the total cash credit after its ratio to the total cash credit (-3.14%) for the year 2019, and this reflects a decrease in the percentage of commitment to repay loans due for the year 2020, in addition to the fact that the growth rate of overdue debt varied during the period (2017-2020), as shown in Figure (35).



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

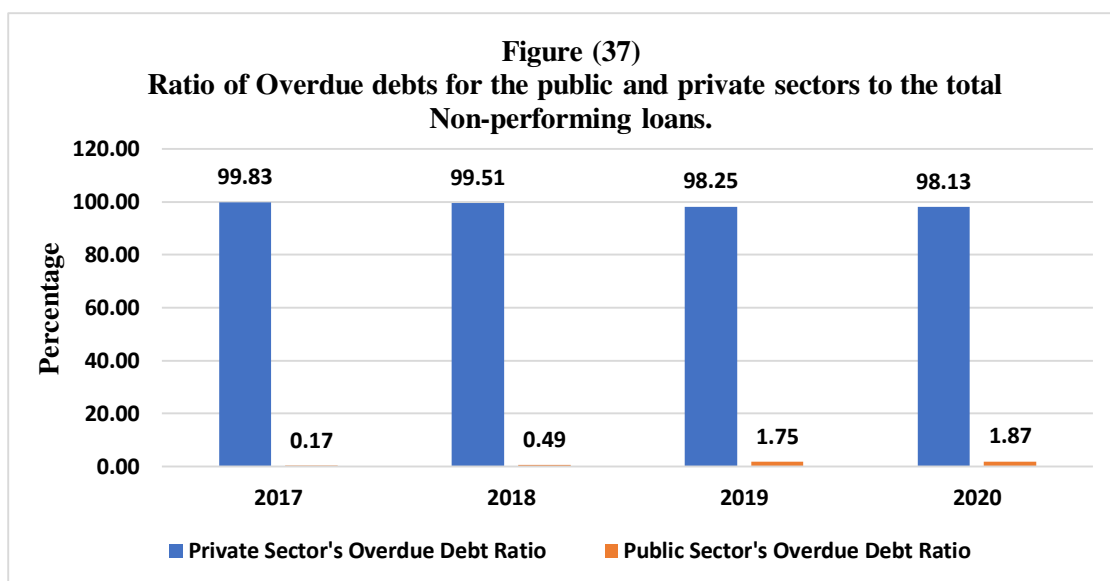
The ratio of total overdue debt to total cash credit also witnessed a decline during the year 2020 to reach (9.03%) after it was (9.86%) during the year 2019, which reflects a state of decline in the risks facing the banking system, especially the risks resulting from the activity of the private sector. whose overdue loans constitute the largest proportion, as shown in Figure (36).



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

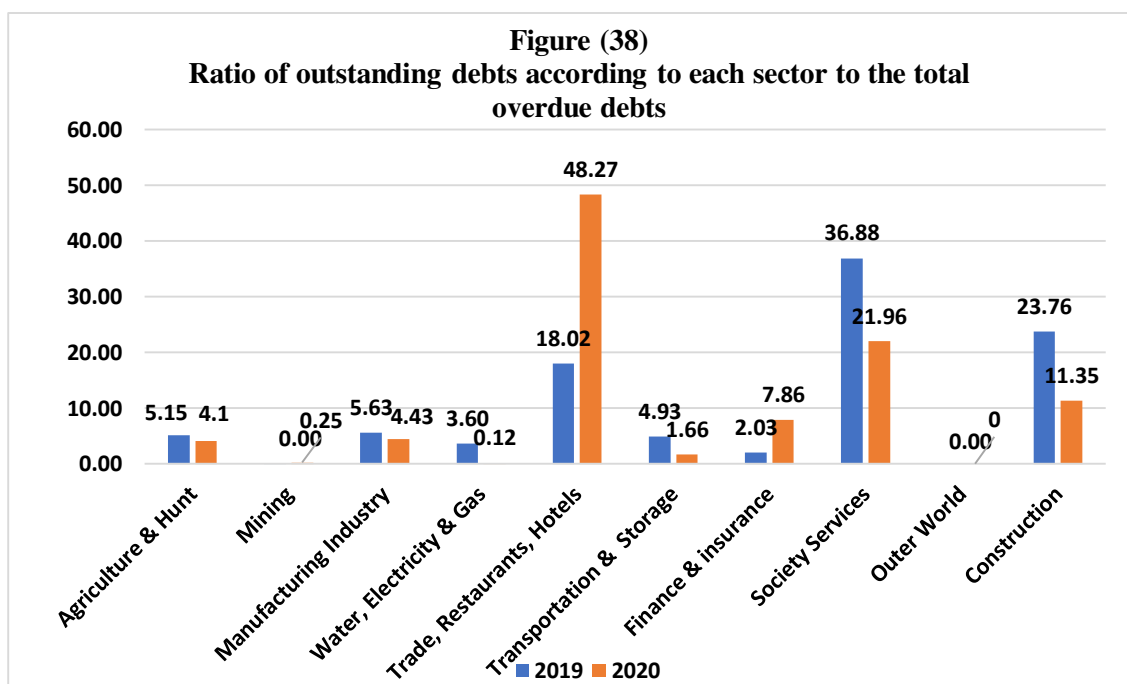
It is evident from Figure (37) that the private sector continued to obtain the largest proportion of overdue debts during the period (2017-2020), reaching (98.13 percent) during the year 2020, and this matter requires more attention from the supervisory authorities to the issue of credit provided to the sector. The private sector, as (13.73%) of the loans provided by state-owned banks to the private sector and (24.01%) of the loans provided by private banks to the private sector are overdue debts. These percentages decreased from 2019 for state-owned banks, in which they were (17.35%), and this percentage increased for private banks from 2019 in which they were (22.77%), and this reflects a higher efficiency of state-owned banks in collecting their overdue debts.

This requires the banks to study the creditworthiness of the customer well, especially the five basic components of granting credit, and to develop a solid plan to collect their overdue debts.



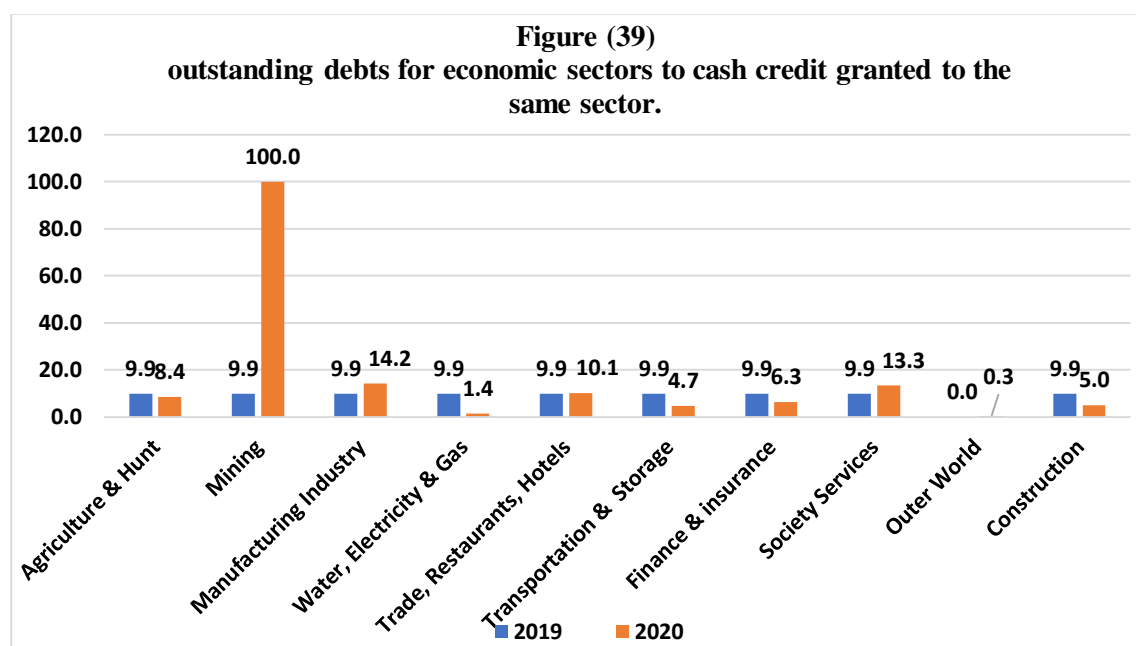
Source: Central Bank of Iraq, Department of Statistics and Research.

Figure (38) shows the **non-performing loans** ratios for the economic sectors, and the ratios were different for each sector. The trade sector, restaurants and hotels ranked first in 2020 with a **non-performing loans** ratio (48.27%), followed by the community services sector and the construction sector with a **non-performing loans** ratio. It reached (21.96%) and (11.35%) respectively for the year 2020, compared to 2019 in which it amounted to (36.88%) and (23.76%), respectively, and these percentages reflect the total failure of the economic sectors.



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

The ratio of overdue debts for each sector to the total cash credit granted to the same sector showed a high risk of default in each of the mining sector, which amounted to (99.95%), followed by the manufacturing sector by (14.19%), and then the community services sector by (13.25%). while a decrease in the percentage was observed in the external world sector, reaching (0.33%), while the other sectors recorded varying percentages, as shown in Figure (39).



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

2-2 Iraq Stock Exchange:

When analyzing the data and statistics contained in the Iraq Stock Exchange report for the year 2020, we find that the market has witnessed an improvement in the performance of its annual indicators, and this improvement is simple as a result of the Iraqi government's decisions to close the country and implement a comprehensive ban due to the Corona virus, as the market index (ISX 60) closed its indicator that depends primarily on the selection of (60) companies that achieved the highest turnover of shares for the participating companies in its last trading sessions for the year 2020 at (508) points, an increase of (3%) from its level in the last session of 2019 of (493) points. The number of listed companies increased by (2%), as well as the increase in the value of the 75 traded shares by (16%) and the value of the traded stock price index by (3%).

The prices of traded shares are affected by several factors, including the dividend divisor, as the shareholder and potential investor takes care of the company's financial position in terms of its ability to conduct the activity and achieve profits and distribution on the one hand, and the expected development plans on the other hand, and this is reflected in the number of traded shares, which decreased by (12%) and the number of contracts saved by (10%).

2-2-1 Trading in the Formal Market:

The total number of shares traded for companies listed on the Iraq Stock Exchange increased to (262.9) billion shares during 2020, an increase of (24.7%) over 2019 of (210.8) billion shares. The banking sector companies ranked first with (229.7) billion Shares increased by 32.6% over the year 2019 of (173.2) billion shares, and the trading value of all companies witnessed an increase during the year 2020 to (236.8) billion dinars, an increase of (43.9%) from their value in 2019 of (164.5) billion dinars. The trading value of the banking sector companies accounted for (103.8) billion dinars for the year 2020, which increased by (78.6%) over its value for the year 2019 which amounted to (58.1) billion dinars.

While the total number of saved contracts during 2020 decreased to (70,945) contracts for all economic sectors, decreasing by (-8%) compared to the year 2019 of (77,814) contracts, and the number of contracts for the industrial sector reached (28,336) contracts, which ranked first for the year 2019. From the rest of the participating sectors, an increase of (1.3%) over the year 2019, which amounted to (27,970) contracts. It is noted from the analysis of the regular stock market data that the banking sector is one of the most influential sectors in the work of the market, and the number of traded shares for this sector increased from (173.2) One billion shares in 2019 to (229.7) billion shares in 2020, and the value of traded shares also increased from (58.1) billion dinars to (103.9) billion dinars, while the number of rescued contracts decreased from (21619) contracts in 2019 to (17,176) contracts during the year. 2020, and that this contraction in indicators may reflect a deterioration of investment in the Iraqi banking sector, which may negatively affect financial stability in Iraq, and table (3) shows the indicators of the formal market for securities.

Table (4)

Number of shares, value of shares traded, number of contracts and meetings in the formal market for (2020-2019).

Sectors	Number of shares traded (million shares)			Trading value (million dinars)			The number of executed contracts		
	2019	2020	Growth Rate	2019	2020	Growth Rate	2019	2020	Growth Rate
The banking sector	21619	17176	-20.6	58142.2	103854	78.6	173224.4	229721.5	32.6
Telecom sector	3231	8989	178.2	43867.8	73068.3	66.6	5543.6	9703.3	75
The insurance sector	2250	263	-88.3	876.8	342.3	-61	1845	616.3	-66.6
Services sector	8382	8421	0.5	7041.6	8209.3	16.6	3847.3	3617.9	-6
Industry sector	27970	28336	1.3	38825.7	39942.2	2.9	24220.7	17056.9	-29.6
The hotel and tourism sector	7039	2747	-61	8957.1	8419	-46.2	559.1	1153.7	106.3
Agriculture sector	7323	5013	-31.5	6881.1	6583	-4.3	1600.5	1041.9	-34.9
Total	77814	70945	-8.8	164592.3	236818.4	43.9	210840.6	262911.5	24.7
Number of sessions	241	183		241	183		241	183	

Source: The annual report of the Iraq Stock Exchange for the years 2019 and 2020.

As for the net foreign investment in the regular market, it rose to (16,066) million dinars in 2020, while in 2018 it reached (-13857.5) million dinars, and the largest volume of net foreign investment was in the banking sector, followed by the insurance sector, the hotel sector, tourism and the service sector and the industrial sector, and finally the agricultural sector, while there was a large exodus of non-Iraqi investors from the telecommunications sector, as shown in Table (5).

Table (5)

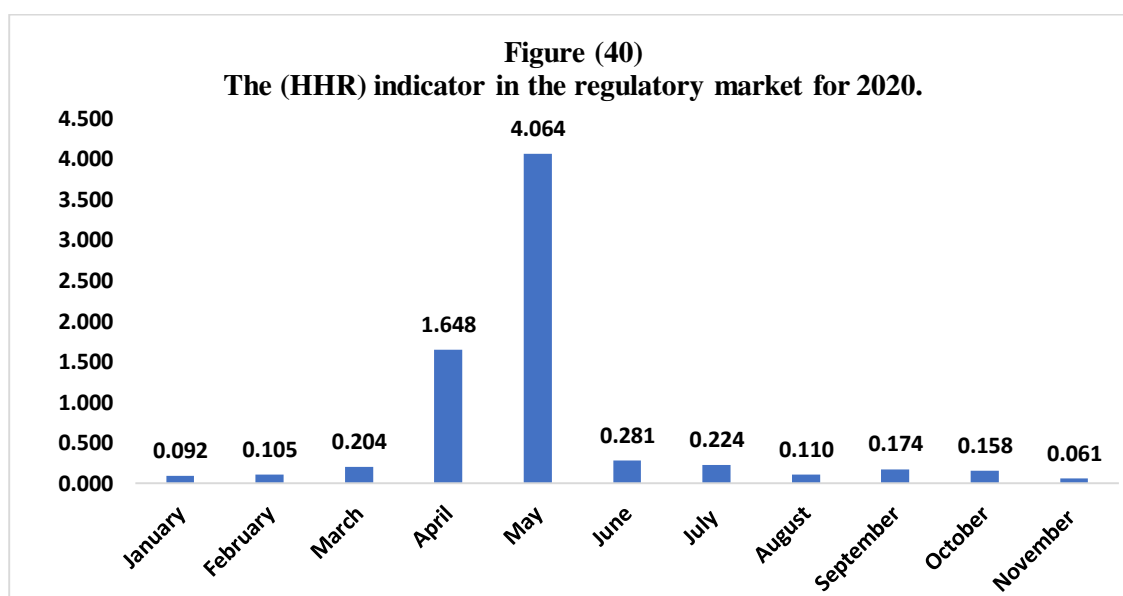
Net foreign investment in the formal market for 2019 and 2020.

Sectors	Foreign Trading Value (million dinars)					
	2019			2020		
	foreign buy	foreign sell	Net foreign investment	foreign buy	foreign sell	Net foreign investment
The banking sector	3290	2325.99	964.01	23618.4	5126.8	18491.6
Telecom sector	1665.6	4724.1	-3058.5	1207	7140.2	-5933.2
The insurance sector	0.32	116.26	-115.94	1846	0.412	1845.588
Services sector	530.3	210.25	320.05	693.9	111	582.9
Industry sector	3532.1	15686.85	-12154.75	6620	6212	408
The hotel and tourism sector	949.2	738.27	210.93	700.9	92.2	608.7
Agriculture sector	10.1	33.4	-23.3	2.4	0	2.4
Total	9977.62	23835.12	-13857.5	34688.6	18682.612	16005.988

Source: The annual report of the Iraq Stock Exchange for the years 2019 and 2020.

2-2-1-1. The Depth and Flexibility of the Formal Market:

The depth and flexibility of the depth and resilience of the Iraqi Stock Exchange can be measured through the Hui-Heubel Ratio HHR index¹. The results indicate that the Iraqi Stock Exchange in 2020 witnessed fluctuations in the depth and flexibility of the regular market. The Hue-Hippel Index (HHR) recorded a rise in the month of May of 2020, as a result of the high rate of difference between the highest and lowest price of the shares traded in that month, reaching 1.58, on the other hand, the highest difference in 2020 which led to a rise The Hue-Hippel Index (HHR) reached (4.06), as for the rest of the year, it fluctuated between rise and fall in the Hue-Hippel Index (HHR) to record its lowest level in November, which is (0.061), as well as where all months did not reach to the correct one except for the month of April, which is (1.648), and this is supposed to reflect the depth and flexibility of the regular market in these months, as shown in Figure (40).



Source: Estimates of the Central Bank of Iraq, Department of Monetary and Financial Stability, based on the monthly data of the Iraq Stock Exchange for the year 2020 published on the website: www.isx-iq.net.

¹Through the Hue-Hippel Index (HHR), it is possible to know the depth and flexibility of the stock market. Low values of this indicator indicate an increase in market depth and flexibility, while high values indicate a decrease in depth and flexibility in the market. It can be calculated through the following equation:

$$\text{HHR} = \frac{\text{Highest price} - \text{Lowest price}}{\text{Lowest price}} \times \frac{\text{Trading value}}{\text{market capitalization}}$$

2-2-2 Trading in the Second Market:

The number of shares traded in the second market witnessed a significant decline in 2020 at a rate of (-43.2%), as it decreased from (250) billion shares in 2019 to (142) billion shares in 2020, in addition to a decrease in the trading value in 2020 at a rate of (-21.8). % as a result of the market being affected by the decision of the Corona Virus Crisis Cell, represented by the closure, and its repercussions on the numbers and values of traded shares, as it decreased from (122) billion dinars in 2019 to (95.5) billion dinars in 2020, and the banking sector had the largest share in terms of the number of shares and the traded value despite its decrease from 2019, as shown in Table (6).

Table (6)

Number of shares and value of second market trading for 2019 and 2020.

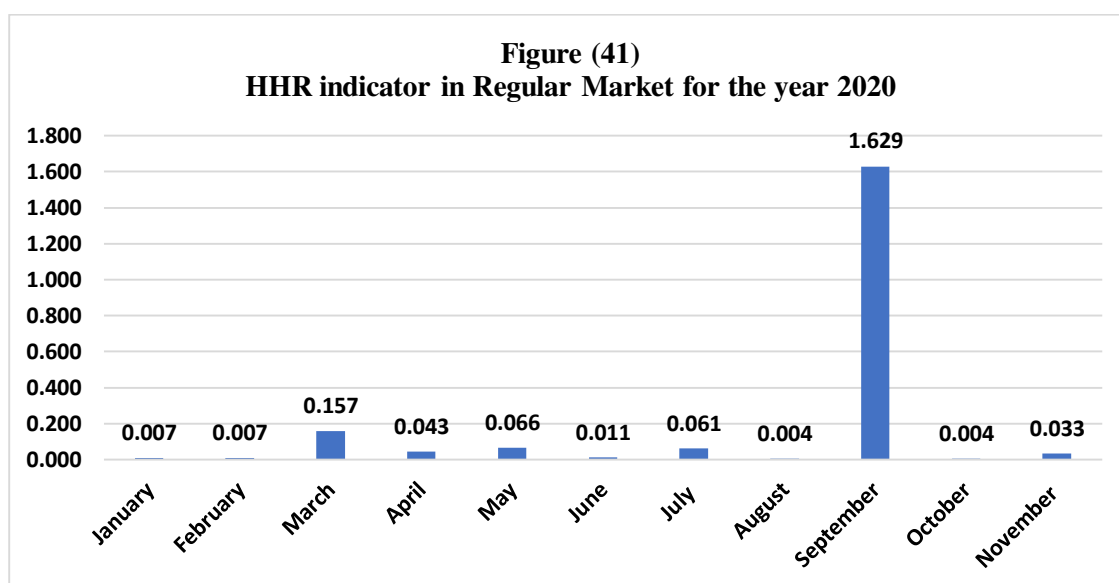
Sectors	Number of shares traded (million shares)			Trading value (million dinars)		
	2019	2020	Growth Rate	2019	2020	Growth Rate
The banking sector	246492.80	138739	-43.715	112081.90	89773	-19.904
Telecom sector	1684.40	45	-97.328	4530.50	112	-97.528
The insurance sector	441.50	1313	197.395	209.90	607	189.185
Financial investment sector	50.00	144	188.000	44.70	108	141.611
Financial transfer sector	187.10	-	-	59.80	-	-
Services sector	112.80	97	-14.007	79.50	69	-13.208
Industry sector	285.70	67	669900.000	3302.50	2898	-12.248
The hotel and tourism sector	1.70	-	-	12.50	-	-
Total	249256.00	142425	-43.255	120321.30	95587	-21.868

Source: The annual report of the Iraq Stock Exchange for the years 2019 and 2020.

And the year 2020 witnessed an increase in the number of shares purchased from foreigners than the shares sold in the second market, which indicates the desire of foreign investors to trade in the Iraqi market in securities, and the number of traded shares purchased from non-Iraqis during the year 2020 reached (39.7) billion shares with a trading value of (32.8) One billion dinars was built under (6205) contracts belonging to (31) companies out of (58) traded companies in the second market, compared to (18.4 billion shares with a trading value of (11) billion dinars executed under (1664) contracts belonging to (11) traded companies. Out of (44) companies in the second market in 2019, while the number of traded shares sold by non-Iraqis during the year 2020 recorded (16.4) billion shares, with a trading value of (18.7 billion dinars) issued under (5637) contracts belonging to (35) companies from The origin of (58) companies in the second market.

2-2-2-1 Depth and flexibility of the second market:

The Hue-Hippel Index (HHR) to measure the depth and flexibility of the second stock market recorded in 2020, reaching (1.629) in September, as this rise came as a result of the increase in the difference between the price of the highest share and the price of the lowest, as the price of the highest share reached (4.861). While the lowest share price reached (0.806), in addition to the high turnover rate during this month, which reached (3.090). The index recorded its lowest level in August and October, as the index value reached (0.004), due to the high rate of The turnover of shares to (1.050) and (0.790) respectively, and the decrease in the difference between the highest and lowest price of shares traded during that month, this is supposed to reflect the depth and flexibility of the second market in the Iraqi Stock Exchange for the year 2020, as shown in Figure (41).



Source: The monthly data of the Iraq Stock Exchange published on the website:

www.isx-iq.net

2-3 The non-Banking Financial Sector in Iraq:

The non-bank financial sector is represented by non-bank financial institutions that have a fundamental role in achieving financial and economic growth and stability, due to their investment portfolios distributed over financial and non-financial assets, to play an active role in lending to individuals and/or companies, as well as the government by investing in bills and treasury bonds, and that some of these institutions fall under the supervision of the Central Bank of Iraq, and others are outside its supervision, as follows:

2-3-1 Non-banking financial institutions under the supervision of the Central Bank.

2-3-1-1 The Small and Medium Enterprises Financing Company¹

It is an intermediary financial financing institution that works on managing and directing the funds it obtains from the sponsors of the Small and Medium Enterprises Lending Program for the Iraqi company represented by international or governmental organizations, in addition to its financing role for the banks participating in the Program the company, by providing loans to beneficiaries (owners of small and medium enterprises).

Funding provided for projects is usually in the form of long commitments, and aims to contribute to raising sustainable economic growth rates in Iraq.

The capital of the Small and Medium Enterprises Finance Company in 2009 amounted to (270) million Iraqi dinars, then it gradually increased to reach (16.5) billion Iraqi dinars in 2020 with the participation of (8) private banks.

The volume of the loan portfolio provided by the company through the participating banks reached an amount of (89.3) million dollars, by providing (5789) loans distributed over (18) Iraqi governorates, as follows:

- The commercial sector obtained the largest share (52%) of the total loans.
- The service and industrial sectors scored (29%) and (9%), respectively.
- The agricultural and health sectors got 5% and 2%, respectively.
- The construction and tourism sectors got (2%) and (1%), respectively.

The Iraqi Company for Financing Small and Medium Enterprises manages the grant programs offered by the contributing banks, which are as follows:

- 1- Trade grant for economic development in the governorates:** The total number of loans granted through this grant until 2019 reached (2427) loans worth (49.2) million US dollars, as the grant started with (6) million dollars since 2009, granted as loans in All over Iraq, the interest rate charged by the bank from loans is (10%), and the bank can guarantee these loans through the Iraqi Company for Bank Guarantees Limited, which guarantees (75%) of the loan with a commission of (2%).

1 The company was established with the approval of the Central Bank of Iraq based on the registration certificate issued by the Companies Registration Department with the Ministry of Trade, numbered on 18/5/2019, for the purpose of financing small and medium enterprises.

- 2- **Development grant to finance agricultural lending:** The total number of loans granted through this grant amounted to (208) loans worth (4.5) million dollars, and the company worked on managing the grant allocated to the agricultural sector and irrigation projects, as it started with (1) million dollars in 2010 and distributed On four banks, the Ashur International Bank for Investment, the Bank of Baghdad, the Iraqi Middle East Bank for Investment, and the North Bank for Investment and Finance) under the same conditions as the previous grant.
- 3- **Grant to support disadvantaged groups in Iraq:** The number of loans granted reached (2908) loans with a total value of \$33.3 million until 2019, as the grant started with \$ (9) million, and the company worked to manage it in 2011, as it was allocated to finance projects that Its owners were subjected to displacement due to acts of violence and disadvantaged people with limited income, and the grant was distributed to each of (Ashur International Bank for Investment, Mosul Bank for Development and Investment, Sumer Commercial Bank, The Iraqi Middle East Bank for Investment and the North Bank for Investment and Finance) at an interest rate ranging from (8-7%) as a maximum, and the number of loans granted was (2908) loans with a total value of (33.3) million dollars until the year 2019.
- 4- **Empowerment grant sponsored by the Central Bank of Iraq:** In 2019, the company began managing the initiative of the Empowerment Program to finance micro-enterprises in Nineveh Governorate, by managing the grant amount of (800) million dollars to help those affected the war by granting them bank loans at an interest rate (0%), as (200) loans were granted to employ manpower, and an amount of (500) million dollars was granted to finance industrial projects in Al-Muthanna Governorate. Through both (Ashur International Investment Bank, Middle East Iraqi Investment Bank) ¹

2-3-1-2 Exchange and Mediation Companies Selling and Buying Foreign Currency: -

Exchange companies are one of the foundations of the infrastructure of the non-bank financial system, as they exercise an important role in meeting the local needs of various foreign currencies for invisible economic transactions, such as travel, education, health or tourism, as well as remittances from residents to

¹ The annual report of the Iraqi Company for Financing Small and Medium Enterprises for the year 2019.

their families and friends abroad. The number of (1,348) exchange companies is categorized as of 2020, according to the following:

- 1- Category (A) exchange companies, numbering 54, distributed between Baghdad, Najaf, Karbala, Kut and Hilla. The minimum capital of this category is (5) billion dinars.
- 2- Class (B) exchange companies, there are (35) companies distributed between Baghdad, Najaf, Maysan, Muthanna and Karbala, with a minimum capital of (2.5) billion dinars.
- 3- Class (C) exchange companies, numbering (1259), distributed over 15 Iraqi governorates, with a minimum capital of 500 million dinars.

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

They are non-bank financial institutions that are subject to oversight by the Central Bank of Iraq and specialize in the field of investment in securities. They form and manage portfolios of securities by moving frozen capital towards investment channels and then activate and develop the role of the national economy.

Their number amounted to (7) companies in 2020, with a minimum capital of (10) billion dinars, while the volume of assets during the year 2020 reached (7.2) billion dinars, compared to 2019, when it amounted to (12.1) with a decrease rate of (-68.1%).

2-3-1-4 Providers of Electronic Payment Services: -

Electronic payment companies witnessed a remarkable growth as a result of the great development that took place in information and communication technology, as this growth relied mainly on the Iraqi payment system, which contributes to the implementation of financial and banking operations easily and securely, more quickly, and at a lower cost, and this has helped to achieve a leap in Use of electronic payment services by individuals and companies via Internet networks.

The number of electronic payment companies increased from (11) in 2019 to (17) in 2020, with an increase rate of (54.5%), as the minimum capital of the company is (10) billion dinars, and its assets have increased to reach (653.6) billion dinars. In 2020, after it was (444.7) billion dinars in 2019, this increase is due to the shift towards the use of electronic payment in payment operations instead of using cash.

2-3-1-5 Bank Guarantees Company Limited ¹: -

The capital of the Banking Guarantee Company Limited amounted to (9.6) billion Iraqi dinars in 2020, and the number of shareholders is (15) private Iraqi banks with a percentage of (99.61%) and a financial brokerage company at (0.24%), and (15) personal shareholders at (0.15%).

The company aims mainly to encourage private banks to grant secured loans from the Iraqi company, to increase the activity of Small and Medium Enterprises, by providing guarantees for these loans at a rate of (75%) of the value of loans granted by participating banks, and the limits of these loans are from (5) to (250) One thousand US dollars or its equivalent in Iraqi dinars. The company also collects revenues from current (operating) activity, and investment revenues for loans with a guarantee commission estimated as follows:

- (2%) of the secured portion of the credits granted by private banks and financed by the funds owned by the bank.
- (0.6-5.1%) for loans financed by the National Financing Program of the Central Bank of Iraq.
- Investment revenues derived from investing their capital as deposits with participating banks, which are used as financing to achieve the main objective, which is to facilitate the task of owners of medium and small projects in obtaining loans to finance private sector projects to create new job opportunities that contribute to increasing the economic growth of the country. The number of guarantees issued by the Iraqi Company for Bank Guarantees Limited amounted to (16413) Iraqi dinars, the commercial sector ranked first with (6610), followed by the service sector (5822), industrial (1468), residential (1077) and construction (820). Tourism (286), health (216) and agricultural (114)².

¹ It was established since March 2006, as a limited liability company and started its operation in 2007, after which the General Assembly approved its transformation into a private joint stock company, an increase in its capital and the entry of new shareholders under the approval of the Central Bank of Iraq on 7/5/2009, and the approval of the Ministry of Commerce / Department Companies Registrar on 11/9/2009, and in accordance with the provisions of Companies Law No. (21) of 1997.

² Report of the Iraqi Company for Bank Guarantees Limited (a private joint stock company), the final statements and accounts for the fiscal year ending in 2020.

2-3-2. Non-bank Financial Institutions outside the Supervision of the Central Bank:

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

The Ministry of Construction, Housing and Municipalities is responsible for this fund in accordance with what was approved by the House of Representatives, and the President of the Republic affixed it to it, as it is represented by the Director General of the Fund or his representative. The purpose of establishing the Fund is to provide housing and a decent housing environment for the largest proportion of families and individuals, and to expand the options of Iraqis with regard to the type and location of housing, as well as to increase the efficiency of housing production, and that the Fund's share by the initiative of the (3) trillion dinars of the Central Bank of Iraq is guaranteed sovereign from Before the Ministry of Finance, it amounted to (1.2) trillion dinars.

2-3-2-2 The National Pension Fund: -

The Fund is a guarantee for the service of retired civilians, military and security forces, to obtain their retirement rights in the shortest possible time. Investments in accordance with Law No. (27) in (2006), amended by Law No. (69) in (2007), thus reducing part of the budget's burden, and according to the pension rights of those covered by the last law and distributed.

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

This fund is one of the departments of the Ministry of Labor and Social Affairs, as it is self-financed through funding sources obtained from monthly social security contributions paid by employers, corporate debts owed by the department to others, returns from investing the fund's funds, real estate revenues, and delay interests resulting from contributions the guarantee, subsidies, donations and gifts that the board of directors decides to accept, and that the purpose of the fund lies in embodying the human value of work as a cornerstone in the process of economic and social development, as well as providing social security for all covered workers; to raise their standard of living in a way that guarantees them a comfortable and dignified life, and this is achieved through its branches represented in health insurance, work injury insurance, retirement insurance, and services guarantee).

2-3-2-4 Insurance Institutions:

These institutions are financially active and have specificity related to investment and investment of funds in accordance with contractual formulas that achieve social and economic purposes and lead to a prominent role in the

national economy of any country because of their impact on economic growth and the achievement of development programs. The repercussions of insurance on the national economy can be summarized in eliminating inflation by absorbing the surplus funds in the form of premiums, which it uses to finance economic projects. The insurance institutions in Iraq have numerous branches to include marine insurance, car insurance, fire and other accident insurance, and then life insurance.

2-3-2-4-1 The Legal Framework Regulating the Insurance Sector:

Insurance is subject to Law (10) of 2005, which states in Article (1) (The provisions of this law shall apply to insurers and reinsurers, whether they are public or private Iraqi or foreign companies that carry out in Iraq all or some of the insurance or reinsurance businesses stipulated in this the law also applies to insurance agents and brokers who carry out such business in Iraq.

2-3-2-4-2 Types and Characteristics of Insurance Institutions

- 1- Insurance Companies:** The activity of insurance companies, in some cases, achieves a kind of economic balance between supply and demand, as it contributes directly to increasing resources in the national economy by paying insurance amounts to the insured and indirectly by providing the national economy with funds through private institutions' supply operations. / or the government in goods and services and the provision of capital to be invested in other projects in addition to its main role in savings and investment operations to contribute mainly to economic development, and is divided according to the type of insurance (life insurance, life insurance and general).
- 2- Reinsurance Companies:** After the development and diversification of the insurance business and the increase in the volume of insurance coverage, which prompted insurance companies to resort to reinsurance for the need to insure risks and protect their policies from losses to increase safety and reinsurance under an agreement whereby the insurer or assignor is placed on the shoulders of a reinsurer or assignee. All or part of the insured risks, and thus recover their losses from the reinsurer in return for a premium to the reinsurer so that the relationship between the insured and the direct insurance company only, and the direct insurer remains fully responsible for the entire amount of insurance before the insured, and the insurance company assigns part of the risk to a company or Several other companies in return for waiving part of the insurance premium, and reinsurance companies bear their share of losses if they occur.

2-3-2-4-3 The Amount of The Insurance Sector Activity and its Indicators¹:

It is possible to know the amount of the insurance sector's activity through its main indicators as follows²

A- Total Assets Amount: The volume of insurance companies' assets recorded an increase from last year, reaching (788.9) billion dinars for the year 2020, after it was (753.9) in 2019. One billion dinars, with a growth rate of (4.6%), and the highest percentage of assets was recorded by the national insurance companies, the Iraqi insurance and the reinsurance company, to form (55%) of the total assets.

B - Total written premiums: The volume of premiums written by insurance companies decreased from last year, reaching (254) billion dinars, after the volume of premiums was (324) billion dinars in 2019 with a negative growth rate of (-21%), and the highest premiums were concentrated among (The Iraqi Insurance Company, the National Insurance Company and Dar Al-Thiqa Insurance Company) to constitute (71%) of the total total premiums for the year 2020.

C - Total compensation for insurance companies: Total compensation recorded an increase for the year 2020 to reach (214.4) billion dinars, after it was in 2019 (190.6) billion dinars, with a growth rate of (12%), and the highest compensation rate was recorded with (Dar Al-Thaqafa and National Insurance and Insurance of Iraq). Where it reached (14.7%) billion dinars.

D - Technical reserves for insurance of persons and fundraising operations amounted to (217) billion dinars in 2020, unlike in 2019, when they recorded (200) billion dinars, with a growth rate of (8.5%).

E - Total shareholders' equity of insurance companies: Insurance companies recorded total shareholders' equity of (449) billion dinars for the year 2020, which is much higher than for 2019 if it was (133) billion dinars, with a growth rate of (237%).

F - The volume of funds invested in the banking sector: The total volume of investments for insurance companies amounted to (400) billion dinars in 2020 after it was (373) in 2019, with a growth rate of (7.2%), and the largest share was recorded for companies (reinsurance, Iraqi insurance and the National

1 Ministry of Finance, Insurance Bureau, 2020 financial statements.

2 Republic of Iraq, Ministry of Finance, Insurance Bureau, financial data 2020.

Insurance Company), which it constitutes (65%) of the percentage of the total volume of investments, including companies that have strengthened their long-term investments, which were represented in the (Reinsurance, National Insurance, Delina Company and the Iraqi Insurance Company).

3. Financial Soundness Indictors

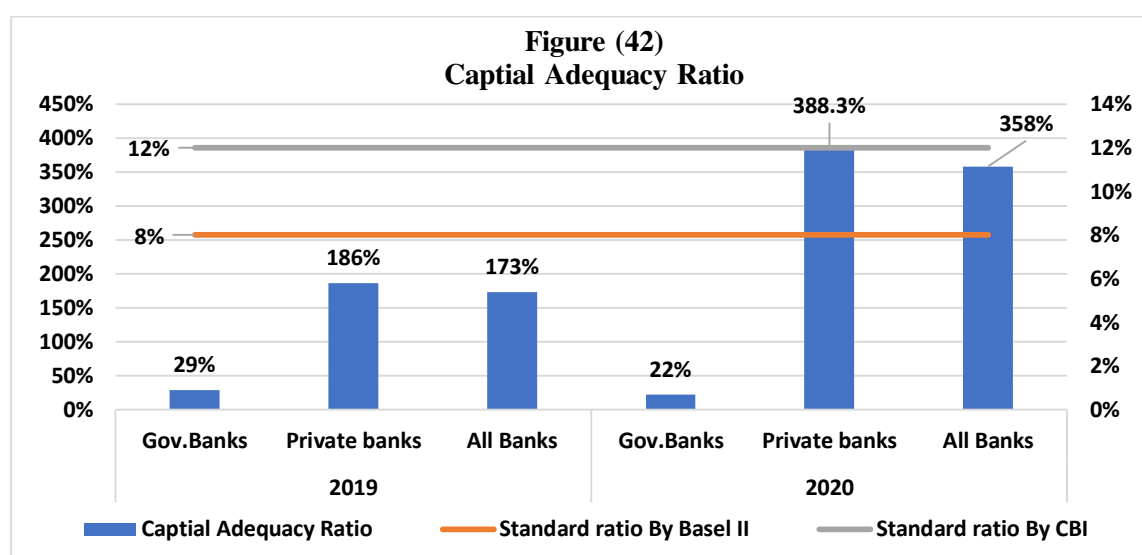
3. Financial Soundness Indicators

3-1. Capital Adequacy Ratio Indicator:

The capital adequacy ratio indicator 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 financial capital of banks by increasing their capital is given special care, as it is one of the basic lines of defense to make them more able to overcome potential risks, and the Basel II standard was used to measure capital adequacy determined according to market and operational risks, as well as to determine a standard ratio from the Central Bank of Iraq for capital adequacy the money.

The capital Adequacy Ratio of the Banking System Increased Completely from (173%) in 2019 to (253%), with an increase rate of (46.2%) as a result of the total increase in the capital of banks from (15.1) trillion dinars in 2019 to (16.9) trillion dinars in this reflects a decrease in the value of risk-weighted assets, which led to an increase in the capital adequacy ratio of the banking system, and this rise in the capital adequacy ratio in 2020 exceeds the required ratio of the Central Bank, which amounted to (12%), so it is a very high ratio that reflects the efficiency of the banking system And its ability to confront unexpected risks and problems that it may be exposed to, and banks have maintained this high level of solvency as a result of capital components, most of which are from the first tier of capital, which consists of basic capital.

As for the Capital Adequacy Ratio for Government Banks according to Basel II standard, it reached (22%) for the year 2020, at a rate of (24.1%) lower than its ratio in 2019 of (29%), as shown in Figure (42), despite the capital of government banks increased from (3.5) trillion in 2019 to (4.3) trillion in 2020, which indicates a rise in risk-weighted assets inside and outside the budget. The percentage is greater than the standard percentage set by the Central Bank of Iraq, which is (12%).



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

And the capital adequacy ratio of private banks according to Basel II standard reached (382.2%) in 2020, an increase of (105.5%) compared to 2019, in which it reached (186%), despite the increase in their capital from (11.9) trillion dinars in 2019. to (12.6) trillion dinars in 2020, to reflect a significant decrease in the risks faced by banks operating in Iraq, and that this percentage is very high and far exceeds the percentage specified according to Basel standards of (8%), as well as specified by the Central Bank of Iraq (12%).

It is noted that there is a gap between the capital adequacy ratio of government banks and the last good private banks, and this difference reflects that the total capital of private banks is high compared to government banks, and this is due to three factors:

the first factor: The number of banks: the number of private banks is (69) banks, while government banks are (7) banks until 2020.

The second factor: The capital: we find an increase in the capital of the private bank as a result of its response to the directives of the Central Bank to increase the capital, with a minimum of (250) billion dinars for each bank.

The third factor: The most important factor is the high volume of risk-weighted assets of government banks, as the proportion of government banks' contribution to the total assets, cash credit and pledge credit is (78.5%), (84.1%) and (64.9%) in 2020, for each of them, respectively, That is, the government banks, despite their low number, their banking activity is much greater than the activity of all private banks, and this is due to the antiquity of

their establishment, as well as the wide spread of their branch network throughout Iraq.

3-2. Liquidity Indicators: Basel introduced III A new framework for regulating liquidity, focusing on high-quality capital (ordinary shares), the new liquidity standard consisting of the Liquidity Coverage Ratio (LCR), which requires banks to maintain a sufficient amount of high-quality liquid assets to be able to cope with stressful situations for a period of no more than Less than (30) days, as well as from the Net Stable Funding Ratio (NSFR), which is a structural control tool in measuring the level of liquidity.

3-2-1. Liquidity Coverage Ratio (LCR)¹: The Central Bank of Iraq started applying the liquidity coverage ratio, starting in 2017, at a rate of (80%), and it is done gradually until it reaches (100%), and it must not be less than this ratio, as shown in the table (7).

Table (7)

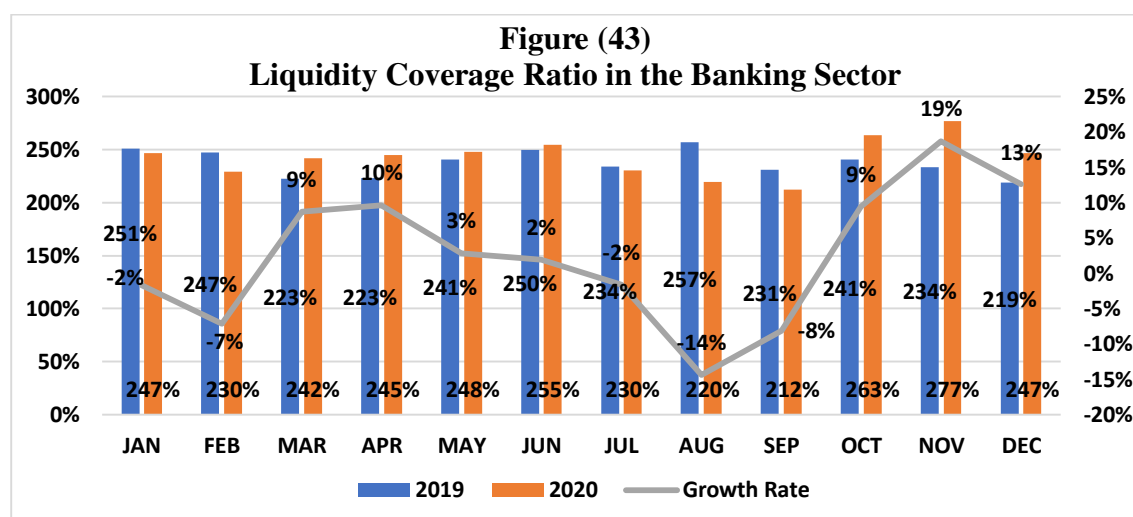
Application of liquidity coverage ratios and stable financing available by banks.

Ratio	Year	2017	2018	2019	2020
Liquidity Coverage Ratio (LCR)		80%	90%	100%	100%
Net Stable Financing Ratio (NSFR)		100%	100%	100%	100%

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

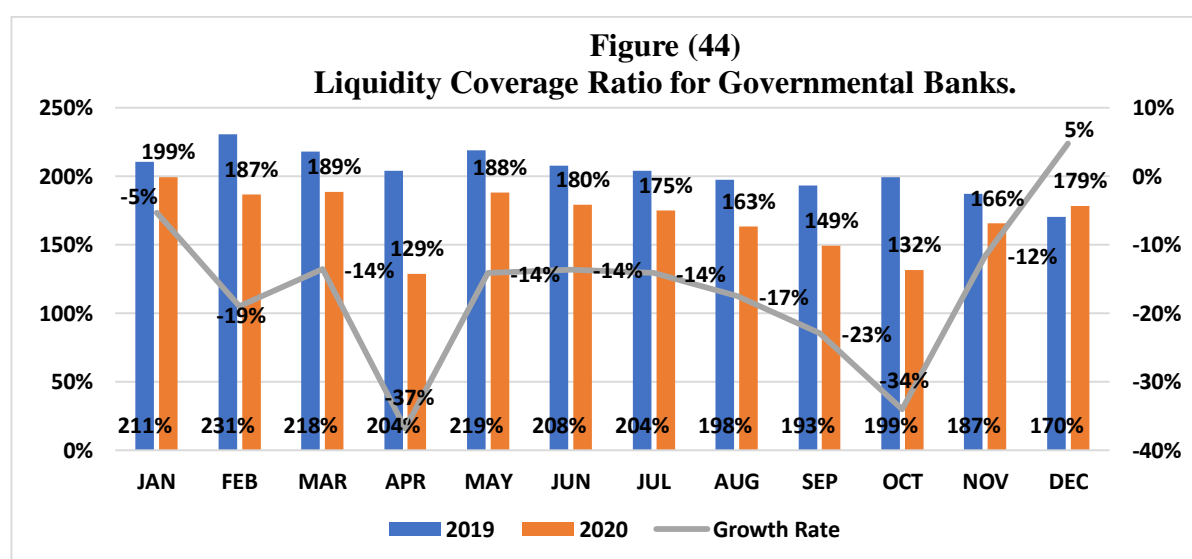
Banks operating in Iraq achieved a high liquidity ratio for the liquidity coverage ratio, as the monthly rate for this ratio did not fall below the minimum set for it during the year 2020, so the liquidity coverage ratio recorded its highest rate in the month of November, when it reached (277%), While the lowest rate of the liquidity coverage ratio was in the month of September, reaching (212%), and this latter ratio is much higher than the minimum liquidity coverage ratio of (100%), as Iraqi banks succeeded in applying the liquidity coverage ratio as an entire banking sector, as for individual banks, there are some banks that did not meet the required ratio in 2020, and the number of banks that did not meet the liquidity ratio reached (14), while some banks reached high rates and reached high limits, and these ratios reflect their ability to face liquidity during (30) days, and Figure (43) shows the monthly average of the liquidity coverage ratio for banks operating in Iraq and the growth rate between the ratio of the months of 2019 and the ratio of the months of 2020.

¹The mean ratio (LCR) and (NSFR) were calculated using the geometric mean, while it was previously calculated using the simple mean.



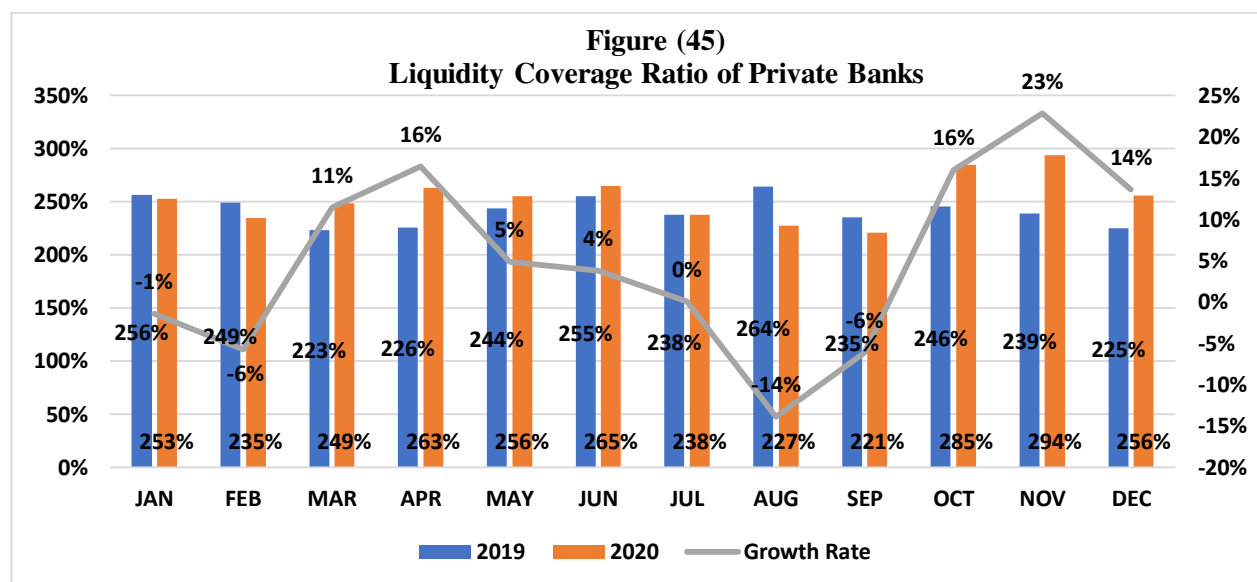
Source: Central Bank of Iraq: Banking Control Department.

It is possible to categorize the liquidity coverage ratios according to the type of government and private banks), and we find that the liquidity coverage ratio for government banks did not decrease in 2020 from the minimum set by the Central Bank of Iraq, as it reached the highest ratio in January (199%) and the lowest ratio (129%) in April of 2020, this is due to the measures taken by the Iraqi government in the face of the Corona pandemic and the accompanying disruption in most economic aspects, which led to a decrease in the liquidity coverage ratio in government banks from the ratio recorded in 2020, and this is what the figure shows (44), as the growth recorded a negative rate for all months of the year except for the month of December, which recorded a slight positive growth:



Source: Central Bank of Iraq: Banking Control Department.

As for the liquidity coverage ratio of private banks in 2020, its value ranged in September between the highest ratio of 294% in November and the lowest ratio (221%), which was recorded during the month of September, while (while the growth rate fluctuated between the months of 2019 and 2020 in achieving positive rates or Negative, as shown in Figure (45):

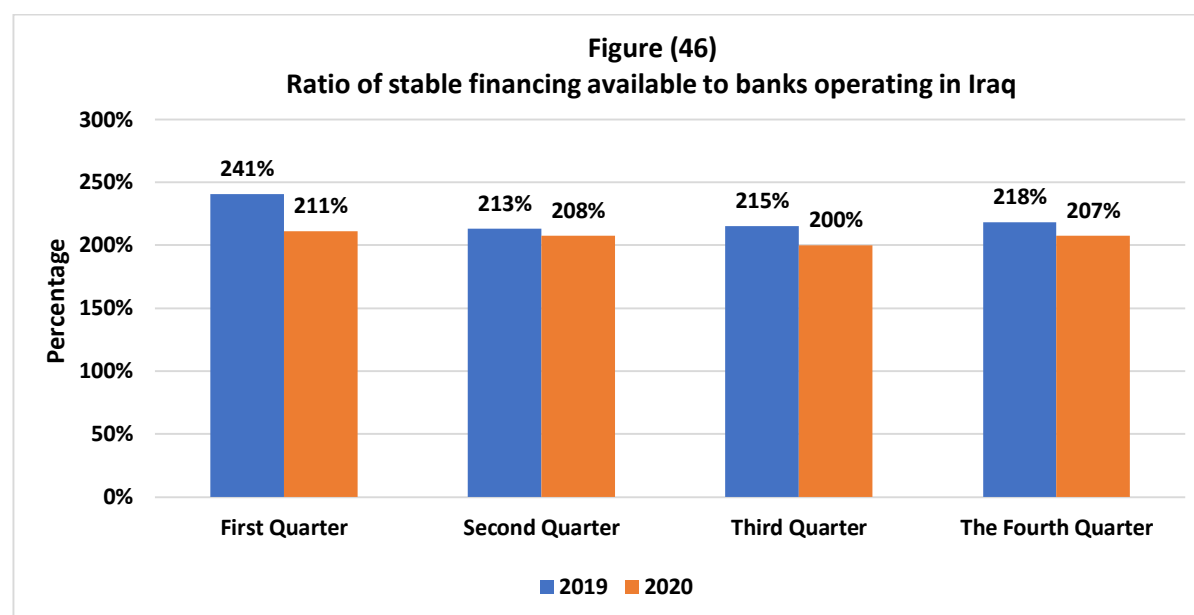


Source: Central Bank of Iraq: Banking Control Department.

3-2-2. Net Stable Financing Ratio (NSFR):

This ratio reflects the bank's ability to provide the necessary liquidity to meet its obligations in the medium term, as the Basel Committee has set this ratio to be no less than (100%), which represents the bank's funding sources (liabilities) relative to the uses of these assets sources.

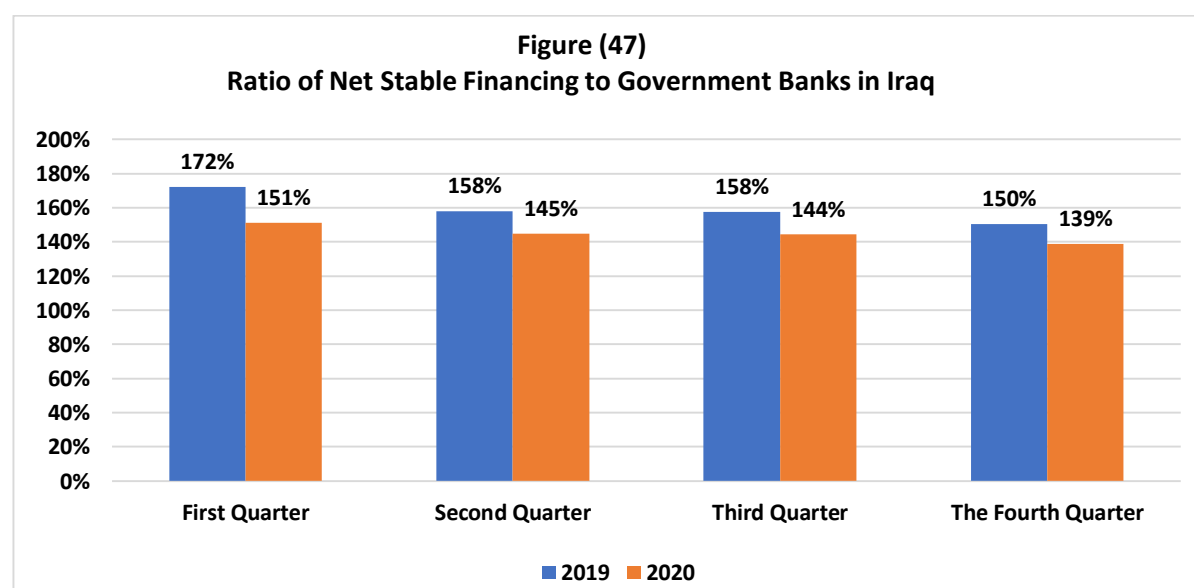
The stable net financing ratio of the banking system in Iraq achieved a high rate in all quarters of 2020, amounting to (211%), (208%), (200%), (207%) respectively for each chapter, which are high rates compared to the percentage specified by Basel III, This indicates that the banks have more available financing than the required financing, meaning that the banks are able to finance the assets side according to what the sources of funds provide on the liabilities side, this is at the macro level, but at the micro level, this ratio was lower than the prescribed ratio for (13) banks, and figure (46) shows the percentage of stable financing available for the 2019 and 2020 quarters.



Source: Central Bank of Iraq: Banking Control Department.

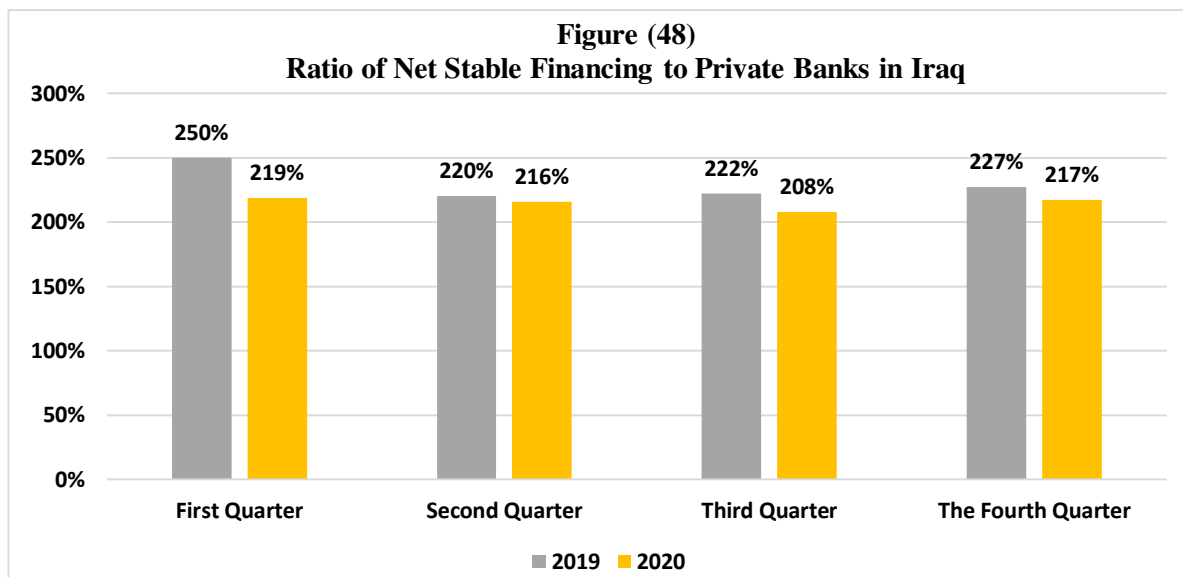
In terms of classifying the stable financing ratio available according to the (type of government and private banks), the liquidity coverage ratio for government banks did not decrease in 2020 at the minimum set by the Central Bank of Iraq, and it reached the highest ratio in the first quarter (151%) and the lowest ratio (139%). In chapter IV,

Figure (47) shows the evolution of the percentage of stable funding available to government banks for the 2019 and 2020 seasons.



Source: Central Bank of Iraq: Banking Control Department.

As for the stable financing ratio available to private banks in 2020, its value ranged between its highest rate recorded in the first quarter, which is (219%), and its lowest rate, which was included in the third quarter, which is (208%), which is higher than the minimum ratio of (100%), and Figure (48) shows the evolution of the percentage of net stable financing available in private banks for the quarters of 2019 and 2020.

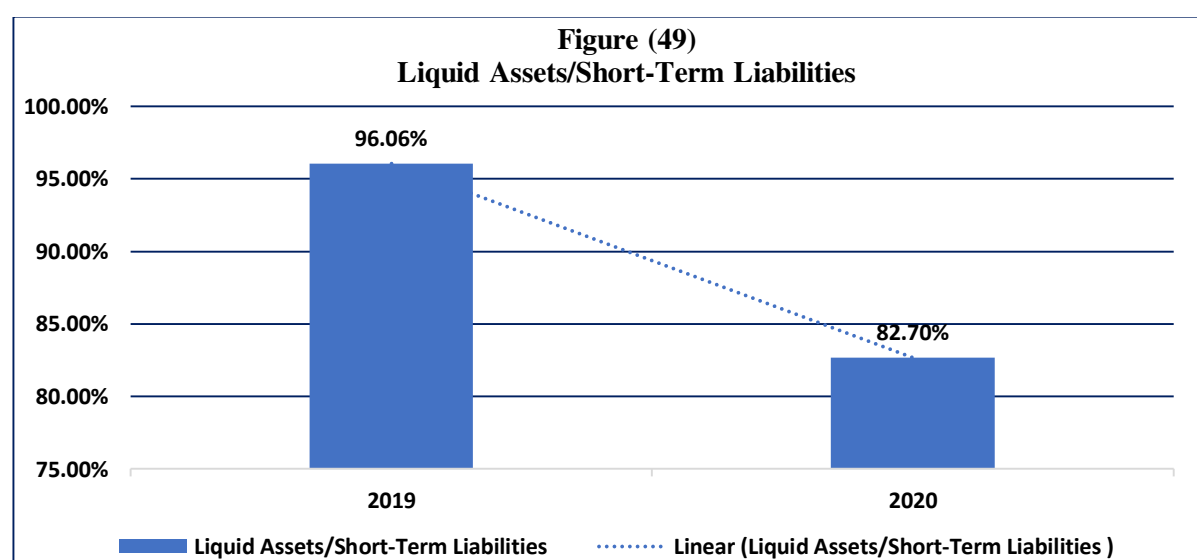


Source: Central Bank of Iraq: Banking Control Department.

The fact that the bank possesses an adequate level of liquidity remains a great challenge for the management of banks; because it has a trade-off between profitability and liquidity, in the event of a decrease in 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 what is decided causes a decrease in the bank's profitability, and liquidity indicators can be measured according to the four Indicators, in addition to 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. By calculating the ratios of these indicators, it can be determined whether the banking system possesses a high liquidity ratio that gives it a shield and a buffer against crises. resulting from the withdrawals that he may be exposed to, and therefore the degree of risk is minimal, and he can avoid it through the liquid balances available to him, even if it affects the profitability goal of banks, in addition to that, the banks have the ability to expand in granting bank credit, According to the following:

3-2-3. Liquid Assets/Short-Term Liabilities¹:

The ratio of the liquid assets index to the short-term liabilities of the banking system in general decreased, reaching (82.70%) in 2020 compared to its ratio in 2019 of (96.06%). This decrease is due to the increase in the value of current deposits of a current nature from (59.9) trillion dinars. In 2019 to (63.4) trillion dinars in 2020, with a growth rate of (5.8%), which is higher than the growth rate of liquid assets, which declined at a rate of (-8.92%) for the same period, despite the fact that liquid assets no longer cover short-term liabilities by (100%), but this does not represent a risk to financial stability; Because the ratio is considered high and reflects the great financial strength of all banks (governmental and private, despite its decline, 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 providing loans, and then to reflect positively on financial stability, at the same time hedging and not resorting to the central bank in order to request liquidity, and Figure (49) shows this ratio for the years 2018, 2019 and 2020.



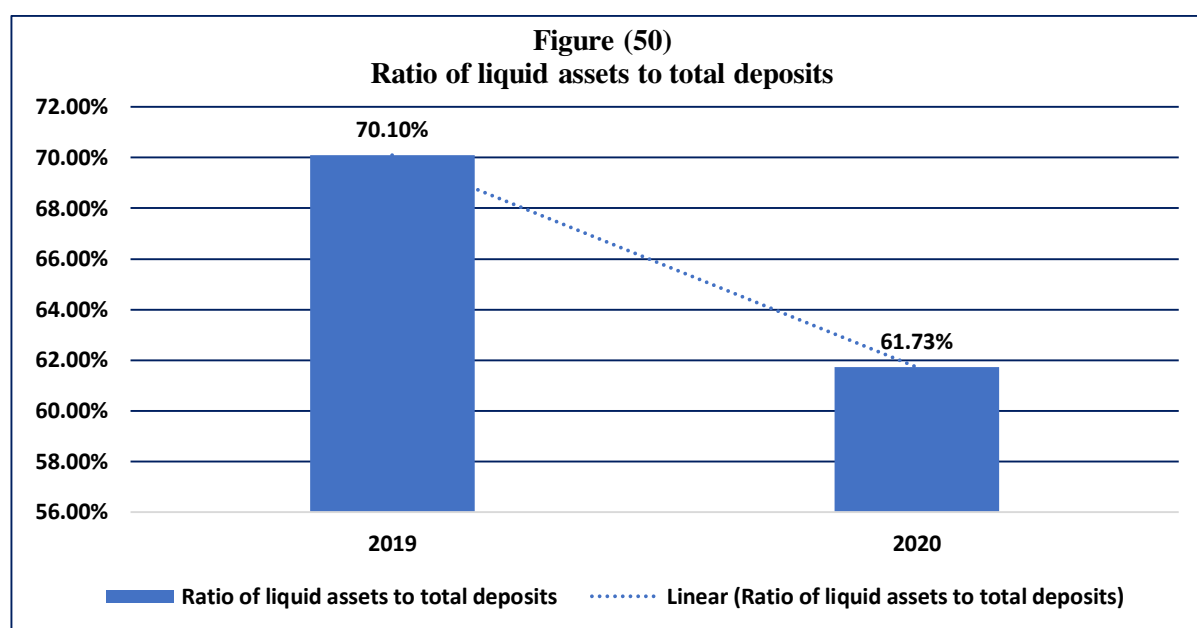
Source: Central Bank of Iraq, Department of Statistics and Research.

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

This indicator is about the amount of liquid assets that the bank maintains, including (cash with the Central Bank, as well as cash in the fund, and other liquid balances), and the extent of their investment in granting loans of various kinds. The banking system in general recorded a rate of (61.73%) In 2020, it is

¹ Short-term liabilities include (current deposits and deposits of a current nature).

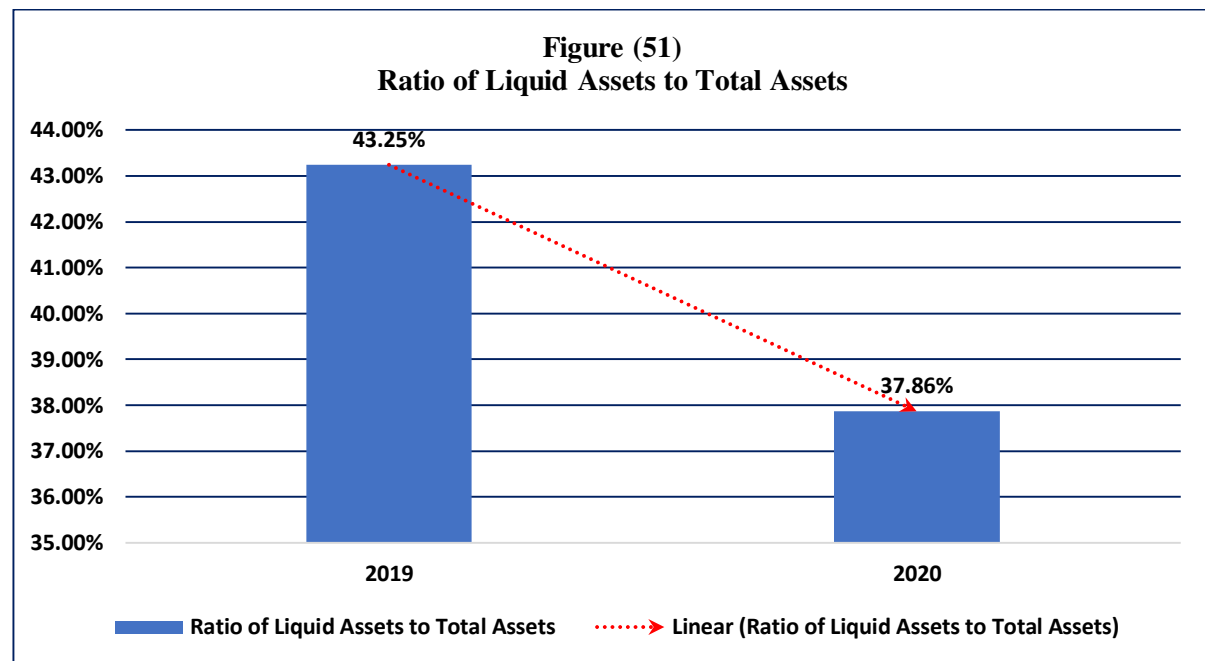
lower than the year 2019 of (70.10%), meaning that the banking system is not likely to be exposed to liquidity risks in the short term, but maintaining this high percentage negatively affects the return and profitability of banks, as the goal of liquidity will conflict with the goal of profitability. This is due to the lack of investment of these liquid funds in investments that can generate large financial returns for the bank, and therefore their decline reflects a clear trend towards the investment of loanable funds. The decrease in the percentage was due to the increase in deposits with a growth rate of (3.43%) compared to the Liquid assets growth of (-8.92%), figure (50) 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:

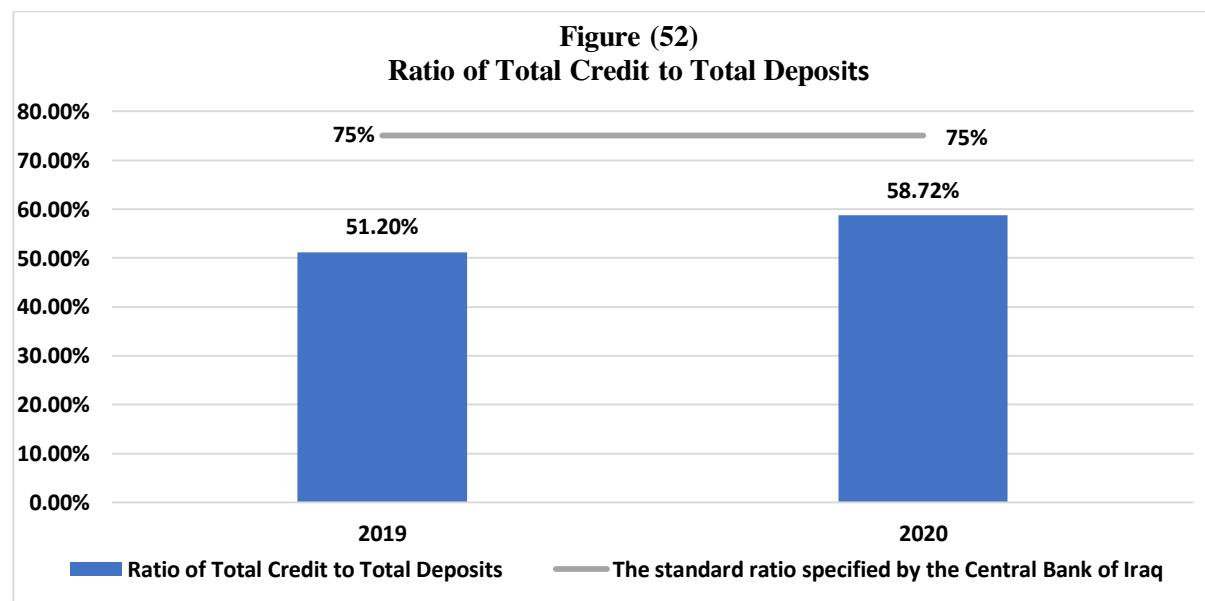
This ratio shows the extent to which the bank maintains fully liquid assets that face depositors withdrawals relative to the total assets of the banking system in general. The ratio decreased from (43.25%) in 2019 to (37.86%) in 2020, and this decrease in the index occurred as a result of the rise in total assets from (133.1 trillion dinars in 2019 to (138.4) trillion dinars in 2020 with a growth rate of (4.04%), compared to the growth rate of liquid assets of (-8.92%) for the same period, and despite its decrease, it is a high percentage, and this reflects the precautionary trend of the Authority the figure (51) 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.

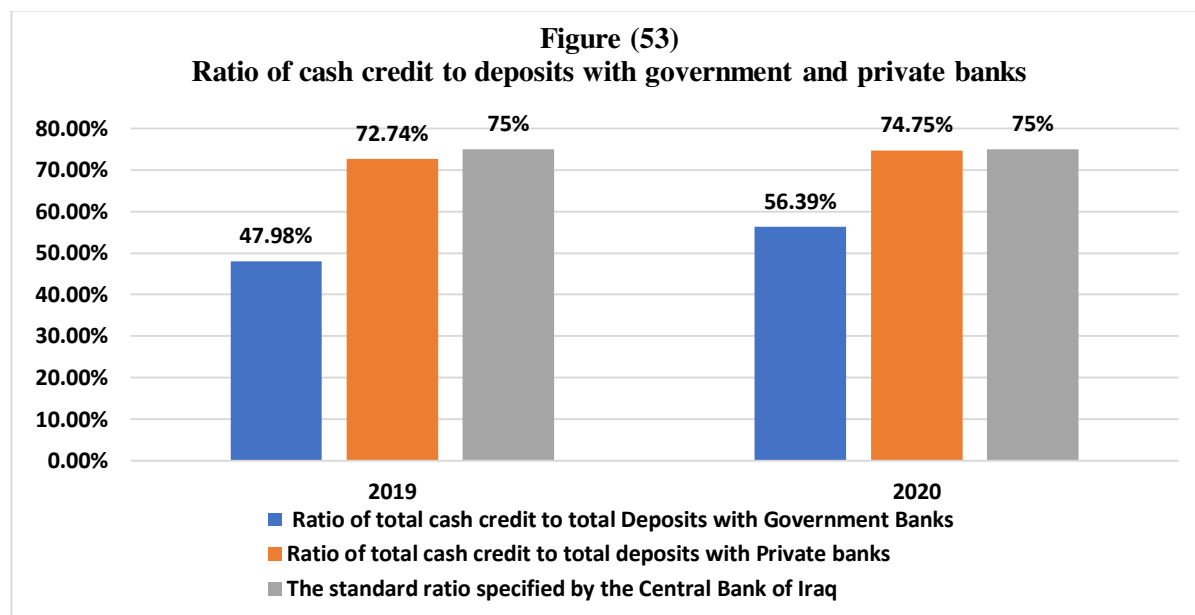
3-2-6. Cash Credit/Deposit:

The ratio of cash credit to deposits with the banking system increased at a rate of (14.53%) to reach (58.72%) in 2020 compared to the rate in 2019 of (51.20%), and that this increase falls within the standard ratio specified by the Central Bank of Iraq, which should not exceed (75%) as shown in Figure (52), and then 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 of **government banks**¹ reached (56.39%) in 2020, an increase of (17.52%) compared to 2019 of (47.98%), as a result of the credit growth of government banks at a rate of (22.19%) on the one hand, and the growth of deposits at a rate of (3.98%). On the other hand, it is noted that the rate of credit increase is greater than the rate of increase in deposits, as a result of the increase in credit provided to the public sector in 2020 at a rate of (13.9%) compared to 2019, and the increase in credit provided to the private sector at a rate of (35.2%) for the same year, as shown in Figure (53).



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

As for **private banks**², the ratio reached (74.75%) in 2020, which is higher than in 2019, which amounted to (72.74%), A result of the credit growth of private banks at a rate of (1.33 %) in one hand, and the decline in deposit growth at a rate of (-1.39%) on the other hand. as private banks are ahead of government banks in investing their deposits. we find government banks retain more liquidity than scheduled and employ low deposits. What encourages banks to employ low deposits is giving them low interest rates on deposits in exchange for loans, and this is embodied in the interest margin rate. The credit and debit (Spread) with the Iraqi banking system, as the margin of difference between the interest received and paid at a rate of (7.9%) and (8.2%) in Iraqi dinars in 2019 and 2020, respectively, while in foreign currencies it amounted to (9.1%) and

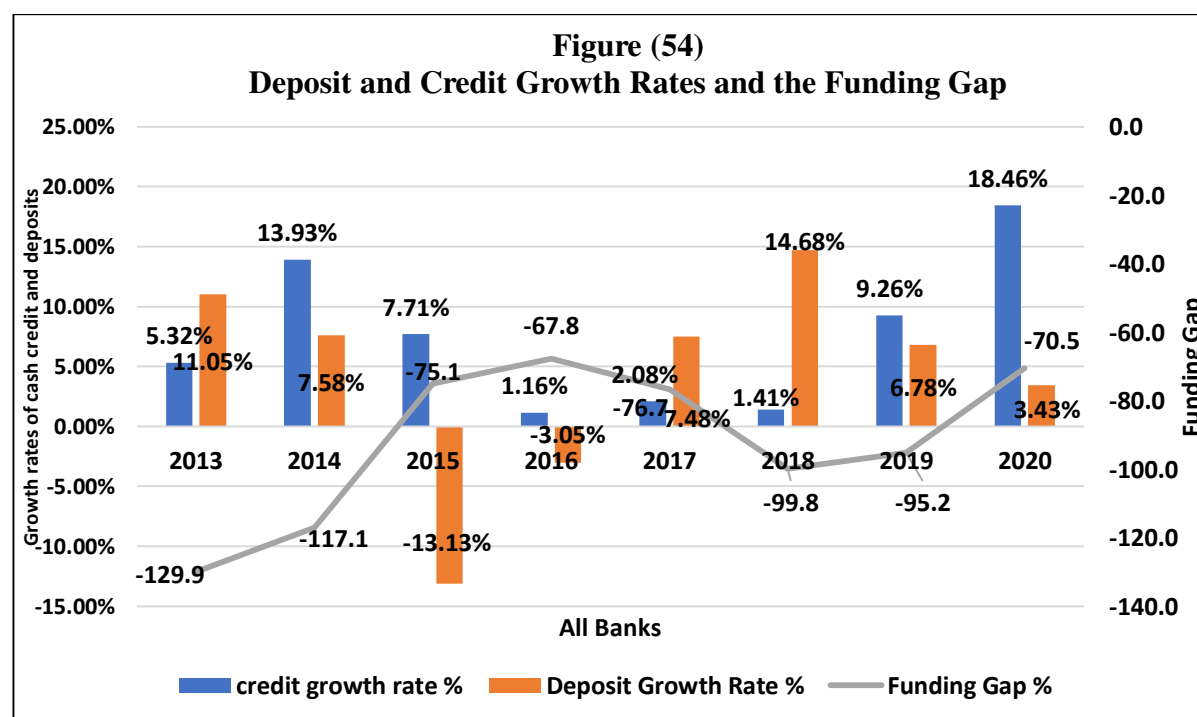
¹ The ratio of cash credit to government banks to their total deposits.

² The ratio of cash credit to private banks to their total deposits.

(9.4%) for the same period, while any specified and standard interest margin rate is (4%).

3-2-7. Funding Gap:

The financing gap means the difference between cash credit and deposits to cash credit, and this gap decreased in 2020 by (-26.5%) compared to 2019, as the gap in 2020 amounted to (-70.5%), due to the high growth rate cash credit at a rate greater than the growth rate of deposits. The cash credit growth rate in 2020 amounted to (18.46%) compared to 2019, while deposits grew at a rate of (3.43%) in 2020, higher than in 2019, in which the volume of deposits amounted to (84.4 trillion dinars), which led to a narrowing of the gap, And that the gap remains high and is covered by many deposits that are more than their value, which requires banks to monitor their levels of liquidity and lending, and to create a balanced growth between demand for loans and attracting new deposits, i.e. wise management of assets and liabilities and, in the end, a decrease in the risks that the banking system may be exposed to. The gap means that the risks related to confidence in the banking system are low. Figure (54) shows the relationship between the growth rates of monetary credit and deposits on the one hand and the financing gap on the other hand.



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

3-3 Asset Quality Indicators:

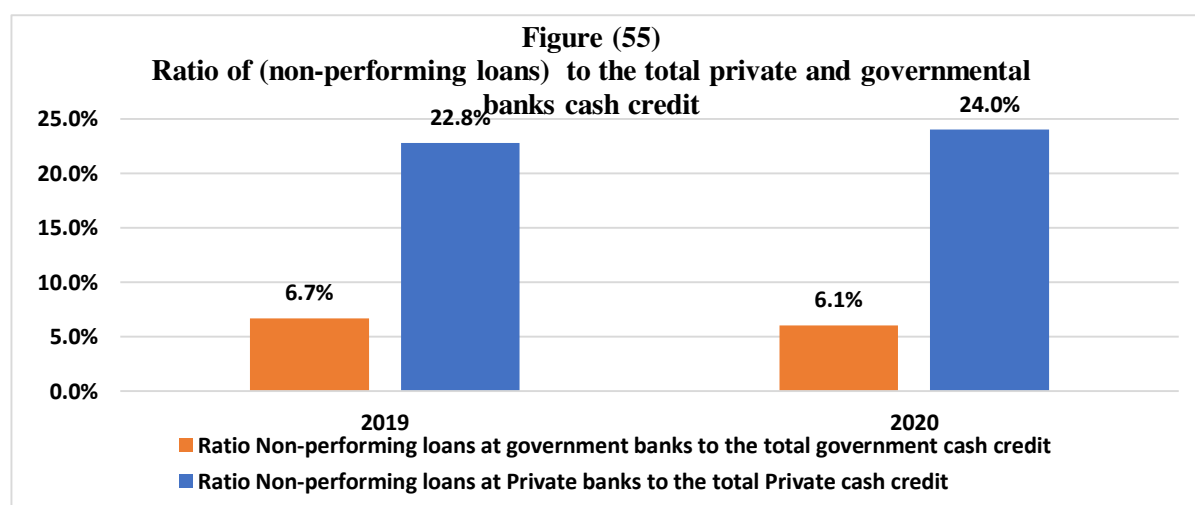
The quality and quality of assets is the cornerstone of the level of credibility of capital ratios, because most of the risks of financial insolvency in financial institutions often result from the quality of assets or the difficulties of converting them into liquidity when needed.

3-3-1 Ratio of Overdue Debt/Total Cash Credit:

Overdue debts with Iraqi banks recorded (4.5) trillion dinars in 2020, an increase of (7.3%) over 2019, in which they amounted to (41) trillion dinars, despite this, the ratio of overdue debts to cash credit was recorded from (9.86). %) in 2019 to (8.93%) in 2020, which positively affects the financial stability index in Iraq, as the non-performing debt ratio is one of the variables included in its calculation.

Overdue debts for the year 2020 were distributed at (2.54) trillion dinars to government banks and (6.1%) of the total cash credit at government banks, lower than in 2019 (6.7%), and this is a good indicator that supports the stability of the financial sector.

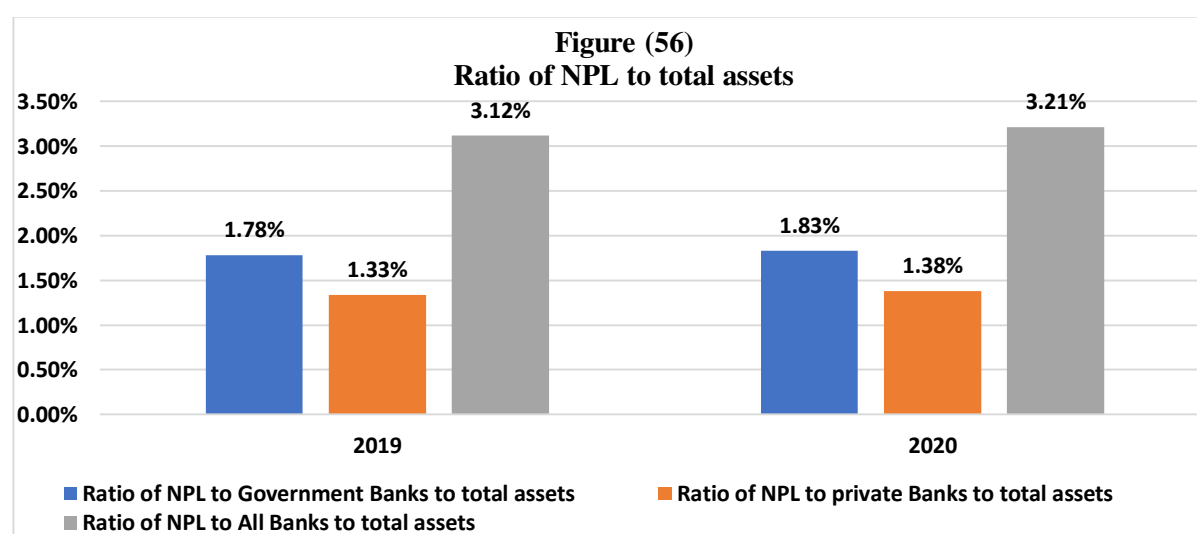
As for private banks, overdue debts amounted to (1.9) trillion dinars for the year 2020, with a rate of (24%) of cash credit with private banks, higher than in 2019, in which it amounted to (22.8%), and this indicates that private banks are more vulnerable to the risks of non-payment. Repayment compared to government banks, given the higher ratio of their **non-performing loans** to cash credit compared to government banks. Figure (55) shows the ratio of overdue debt to banks to total cash credit.



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

3-3-2. Ratio of Non-performing loans/total assets:

The ratio of overdue debts, doubtful debts to the total assets of the banking system in general during 2020, increased to (3.21%) compared to (3.12%) in 2019. The ratio reflects the huge assets of the banking system in 2020, and this ratio increased as a result of the increase in the volume of non-performing debts from (41) trillion dinars in 2019 to (4.5) trillion dinars in 2020, and where this increase occurred for each of the total assets, which increased by (4.04) %) and by (5.4) trillion dinars, as well as overdue debts increased by (7.3%) equivalent to (0.3) trillion dinars, and this reflects a good and sound position of banks operating in Iraq in terms of the amount of assets in 2020, as international literature and experiences indicate where Exceeding this percentage (10%) portends an expected banking crisis, but in Iraq, this percentage is still within acceptable standards, and reducing it is better, and reflects good performance of banks, and with regard to government banks, the ratio of their **Non-performing loans** to total assets has increased from (1.78%)) in 2019 to (1.83%) in 2020, as a result of the increase in the value of their non-performing debts at a rate of (7.05%), which is higher than the rate of increase in assets of (3.8%), while private banks recorded an increase in the ratio of their non-performing debts to total assets as a result of the growth of their non-performing debts at a rate of (7.7%) and the high rate of growth of assets for private banks at a rate of (5.02%), following the upward trend of **Non-performing loans** in private banks, makes it necessary to put in place appropriate mechanisms and solutions to ensure that they do not pose a threat to the banking system. Figure (56) shows the aforementioned ratios.

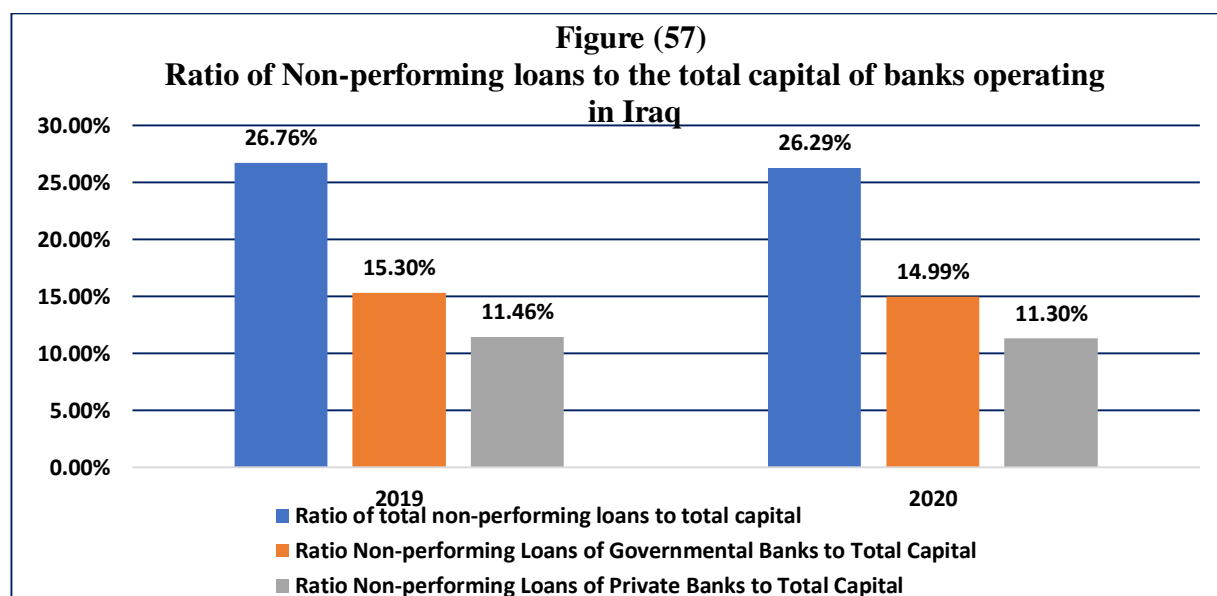


Source: Central Bank of Iraq, Department of Statistics and Research.

3-3-3. Overdue Debt/Capital Ratio:

The high ratio of overdue debt to the 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 was evident in government banks as a result of the large amount of their loans and the small amount of their capital, but the exacerbation of this ratio in the budgets of Banks have been given an indication of the existence of financial risks in them in an unquestionable manner, which requires the supervisory authorities to give this matter a high degree of importance in order to avoid any possible default situation that may occur in the future.

The ratio of overdue debt to capital decreased in 2020 to (26.29%) compared to the same percentage in 2019 of (26.76%) for all banks, and this decrease in the ratio is due to an increase in the total capital of the banking system, despite the increase in non-performing debts. For banks as a whole, and Figure (57) shows the ratio of the non-performing debt contribution of the government banking sector and the private banking sector to the total capital of the banking sector in general, and this ratio reached in 2020 (14.99%) for government banks and (11.30%) for private banks, and that as a result of the decrease in the capital of government banks compared to private banks.



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

As for the ratio of the non-performing debts of government banks and private banks to the total capital of each of them separately, it showed that the ratio of non-performing debts of government banks to their capital is (67.71%) and

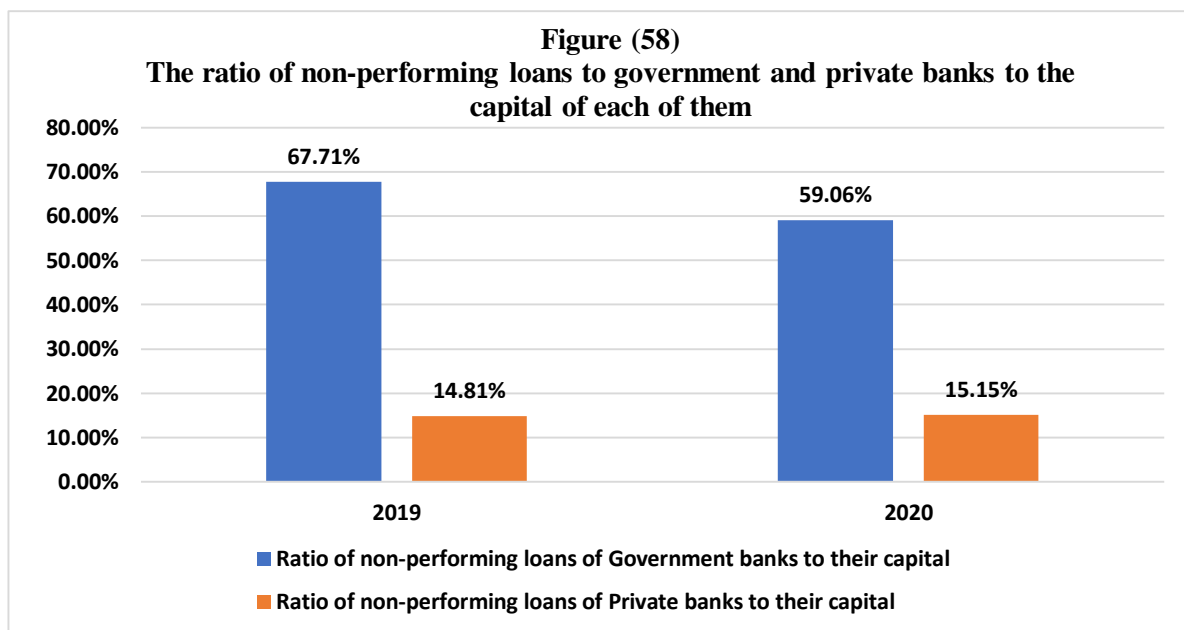
(59.06%) for the years (2019,2020) respectively, which is a very high ratio. Because of the low volume of capital of most government banks; As the capital of (6) government banks did not increase, since the increase in their capital is legally approved by the allocation to them from the state's general budget as shown in Table No. (8), except for the Iraqi Trade Bank whose law allows it to raise its capital through its profits and allocations, as the capital of the Trade Bank of Iraq increased from (2.7) trillion dinars in 2019 to (3.5) trillion dinars in 2020, and therefore it contributes to the total capital of government banks at a rate of (78.5%) in 2019 compared to a rate of (82.5%) in 2020 while keeping The capital of the remaining government banks is (0.8) trillion dinars for the year 2020, since the total capital of government banks in 2020 amounted to (4.3) trillion dinars only, and that the increase in the non-performing debt ratio of government banks between 2019 and 2020 is a result of an increase in the value of **Non-performing loans**, but this does not pose a threat 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 as a hedge against potential risks.

Table (8)
capital of government banks. (Billion IQD)

Bank	Capital			Contribution of the total capital of Government banks	
	2019	2020	Ratio	2019	2020
Al Rafidain Bank	226	226	0%	6.50%	5.30%
Al Rasheed Bank	50	50	0%	1.40%	1.20%
Cooperative Agricultural Bank	100	100	0%	2.90%	2.30%
Industrial Bank	175	175	0%	5.00%	4.10%
Real Estate Bank	50	50	0%	1.40%	1.20%
Trade Bank of Iraqi	2750	3546	28.90%	78.50%	82.50%
Al-Nahrain Islamic Bank	150	150	0%	4.30%	3.50%
Total	3501	4297	22.70%	100.00%	100.00%

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

As for private banks, the ratio of their non-performing debts to their total capital amounted to (14.81%) and (15.15%) for the years 2019 and 2020, respectively, and as shown in Figure (58).

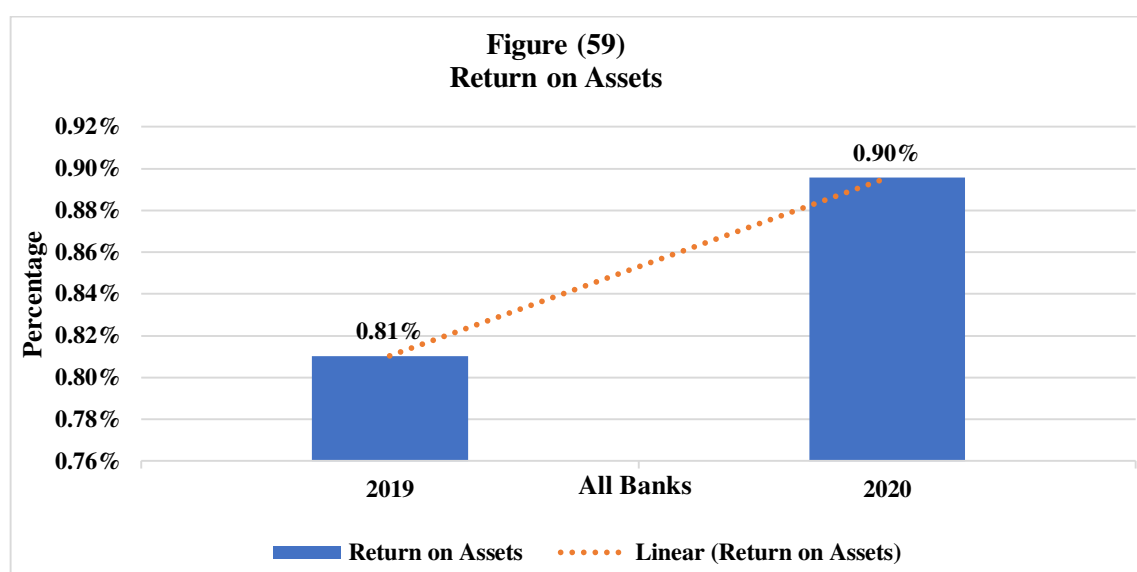


Source: Central Bank of Iraq, Department of Statistics and Research.

3-4 Revenue and Profitability Indicators:

3-4-1 Return on Assets:

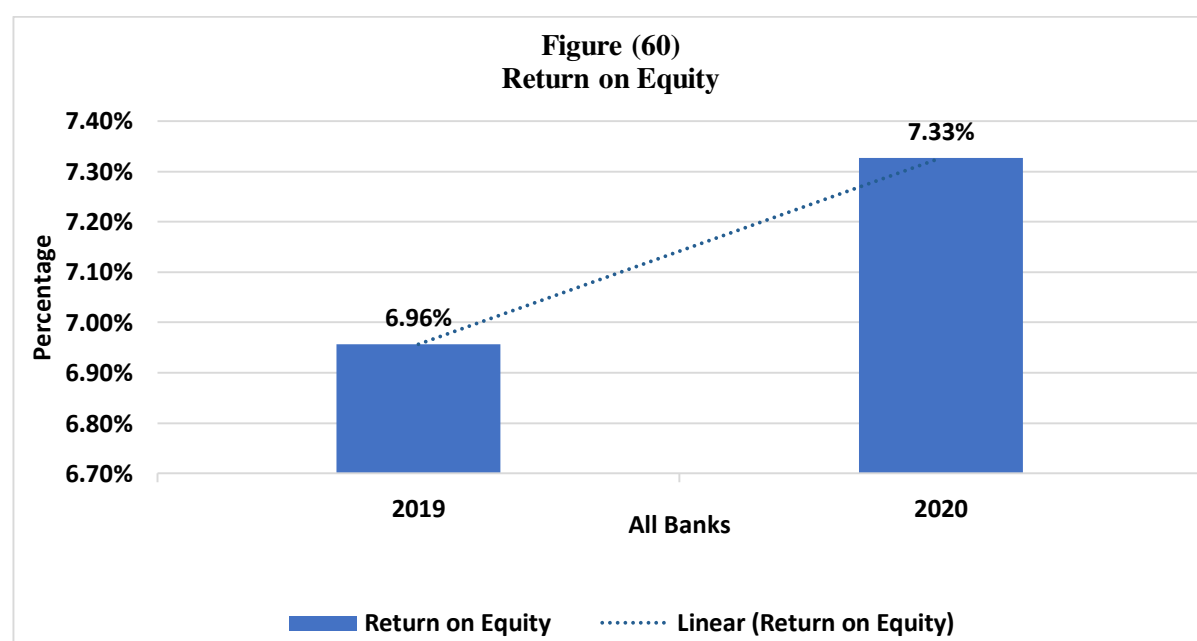
The return on assets increased from (0.81%) in 2019 to (0.90%) in 2020 with regard to banks in general, and the impact of this rise came despite the impact of Iraq and the world on the closure as a result of the Corona pandemic, and the main reason is the trend of The Central Bank urged banks to grant credit through a number of initiatives it presented to banks, as well as an increase in bank profits if the net interest-bearing income rose from (1.4) trillion dinars in 2019 to (1.5) trillion dinars in 2020 with a growth rate of (2.8%) The non-interest income also increased from (1.02) trillion dinars in 2019 to (2.4) trillion dinars for the year 2020, at a rate of (135.2%), and the bulk of this increase is due to the change in the Iraqi currency exchange rate against the US dollar, as well as an increase Total assets at a rate of (4.04%), and Figure (59) shows the ratio of return to assets.



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

3-4-2 Return on Equity Ratio:

The rate of return on owners' equity increased from (6.96%) in 2019 to (7.33%) in 2020 for all banks, governmental and private, and this ratio reflects the rate of return that investors receive capital in the financial institution, the institution's efficiency and its success in generating profits. of each unit of the owners' rights, and the main reasons for the increase in this percentage are the increase in the value of income and the increase in the value of assets, as shown in the previous paragraph, as shown in Figure (60).



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 imbalances¹. 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.

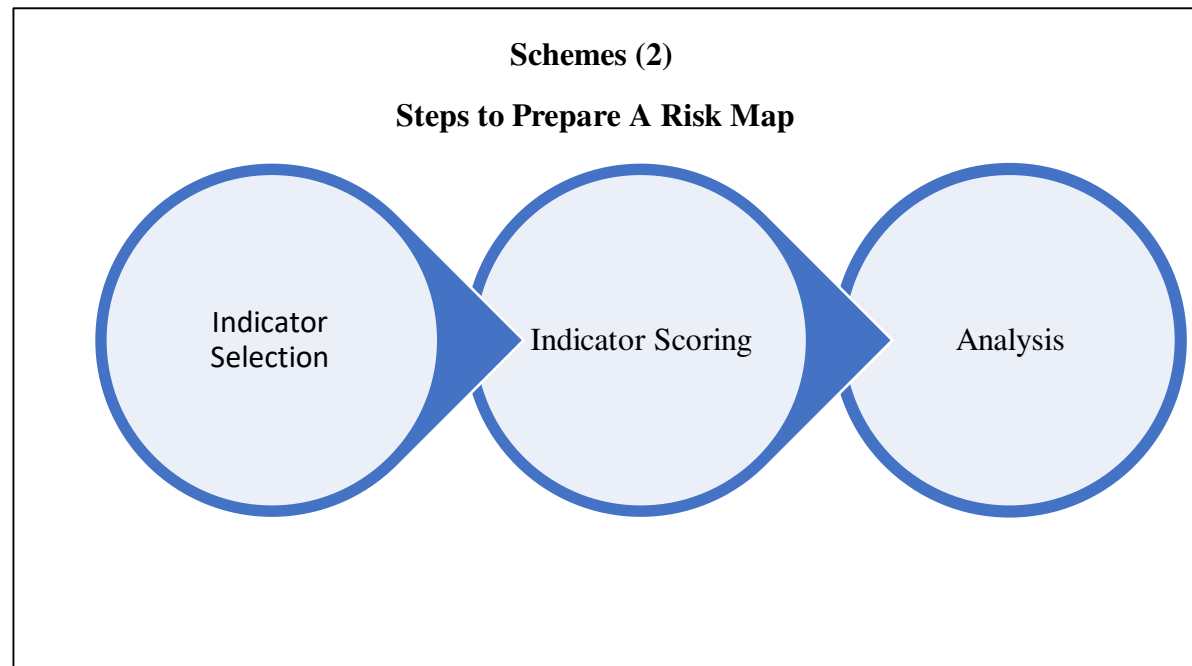
The Arab Monetary Fund has emphasized the importance of the Heat Map Tool, expressing it as one of the important tools for identifying and monitoring weaknesses and strengths in the banking sector by displaying it in the form of a risk map, in which the gradation of the colors shown above is used to indicate

¹ David Farelius, Heat Map for Analyzing the Consequences of Financial Shocks, Economic Commentaries, No. 6, 2013, pl.

the extent of the quality or weakness of the indicators. Finance used for each bank¹.

3-5-1 Steps to prepare a risk map for the Iraqi banking sector: Three steps are followed in preparing a risk map, which are²:

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



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

2 Joe McLaughlin & at all, The OFR Financial System Vulnerabilities Monitor, Office of Financial Research, 2018, p6.

Framework (1) 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 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 (1), as many studies and financial stability reports depend on the indicators of financial safety (CAMELS) in preparing the risk map (2), 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 in 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 (3):

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

$Z_{i,t}$: Standard scores for financial indicator i at period t .

X : Views of the financial indicator.

$\min$: 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.

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.

The green color is the most prevalent on the overall risk map of financial safety indicators, as the risk map indicates a high risk in the capital adequacy index during the years (2016) and (2017), and then witnessed stability during the year 2018, although this indicator recorded risks it was high according to the risk map, but it did not pose a real risk as it was higher than the standard ratio of 12%, but took the red color as a result of the equation used to measure the risk map. The profitability indicators also witnessed stability in the years 2016-2020 as a result of the high rate of return on assets. The rate of return on equity, as according to this indicator, the banks operating in Iraq perform their functions

well, since there is an increase in the volume of profits achieved during that period. As for the indicators of liquidity quality, they varied in risks, as the ratio of liquid assets to total assets witnessed a rise the risks involved during the year 2016 witnessed stability in the following years until the end of the fourth quarter of the year 2020. The ratio of liquid assets to short-term liabilities also witnessed an increase in risks during the year 2016 so that the risk ratios will decrease until the end of the year 2020, despite the red indications in the risk map of liquidity quality indicators, but it is considered reassuring as it is higher than the percentage specified by the Central Bank of (30%) and took the red color as a result of the equation used in the measurement.

Asset quality indicators also witnessed a decline in risks during the years (2016) and (2017), so the risk ratio increased during 2018 as it is very high compared to 2017, as the ratio of **non-performing loans** to total cash credit in the fourth quarter of 2018 reached (12.3%). Also in the first quarter of 2019 (12.9%), the severity of the risks decreased during the last three quarters by (-15%) to reach (10.4%) during the fourth quarter 2019 and (9.2) for the first three quarters of the year 2020, to rise slightly during the fourth quarter of the year 2020 to reach (10%), as shown in Table (9).

Table (9)
The risk map of financial Soundness indicator

Indicators		2016				2017				2018				2019				2020			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Profitability sufficiency	Capital adequacy	0.853	1.000	0.829	0.924	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
	Return on assets %	1.000	0.897	0.795	0.462	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
	Return/equity %	0.004	0.220	0.411	1.000	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
Liquidity quality	Liquid assets / total assets %	0.986	1.000	1.000	0.985	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
	Liquid Assets/Short Term Liabilities %	0.939	1.000	0.961	0.975	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
Asset quality	Bad loans/total assets	0.000	0.021	0.030	0.022	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
	Bad loans/total cash credit	0.550	0.410	0.232	0.435	0.350	0.431	0.509	0.585	0.760	1.000	0.974	0.974	1.197	0.318	0.184	0.155	0.349	0.332	0.327	0.049

4- Indebtedness of Family Sector

4. household sector indebtedness

Financial stability is one of the most important goals that central banks seek, and this is done through several policies that they follow according to the economic conditions of the country. In a thoughtful manner in line with the actual need of the economy, and taking the appropriate decision to increase this credit, or to reserve it according to scientific and banking indicators that appropriately reflect the amount and quantity of this credit, and since the household constitutes a very important part of the private sector, so the credit granted to the household is one of the most important tools that are used to stimulate aggregate demand, therefore, it has become necessary to monitor the credit granted to this sector; This is 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 Monetary and Financial Stability Department, emphasized measuring the indebtedness of the household as a tool through which monetary and credit policy can be drawn, in order to know The amount of the growth reached by the household indebtedness by measuring it according to global indicators that correspond to the requirements of the available data on the indebtedness of the household in Iraq, in order to encourage banks to increase it if the indicators used to measure it confirm its decline, or to reserve it in the event of the opposite, the credit provided to the household contributes greatly to stimulating growth within the real sector and increasing activity in it. Accordingly, the household indebtedness indicators will determine whether there is a decrease in this credit or an increase that should be wary of.

4-1. Methods for Measuring the Indebtedness of the household:

There are many indicators used to measure the indebtedness and proportion of the household. These indicators can be summarized in four main groups, as follows: the first group on indebtedness) it reflects the amount of credit provided to the household by measuring gross domestic product or measured relative to disposable income. (Income of individuals after tax deductions and disposable by the person), it is possible to identify through these indicators the volume of credit and know if it has increased or decreased in a way that calls for a decision to expand or reserve in order to create a balance in the process of granting credit. As for the second group, especially with the capital of

economic entities, it is concerned with analyzing the value of assets and the changes occurring in them. For example, if the value of assets increases with the increase in the volume of loans, then these indicators will remain constant, in the sense that these indicators take into account the developments that take place in the value of the offered guarantees, which may rise, so the amount of credit granted can increase, and the third group is related to debt service) it enables an assessment of the impact of changes in interest rates and income on financial stability, as for the fourth group (particularly wealth), it takes the individual's ability and ability to pay into account, because credit plays an important role in shaping families' wealth, and then net wealth to disposable income ratio is a combination of indebtedness and capital indicators, and the increase in debt effects on the ability of individuals to borrow and also affects the consumption pattern, and here it has an impact on the savings of individuals, that is, the amount of credit granted to the household affects the marginal propensity to consume and the marginal propensity to save¹ and through the foregoing, the indicators that are compatible with the nature of the economy are selected, and with the data that can be obtained for the application of these indicators and the follow-up and analysis of their results. Table (10) shows these indicators:

¹Jana Kask, Household Debt and Financial Stability, Kroon & Economy No 4, 2003, p37.

Table (10)

Indicators used to measure Household credit.

Group of indicators	Details of indicators
Indebtedness	Debt/GDP
	Debt/disposable income (income after deductible income taxes)
	Household loans/Gdp
	Household loans/disposable income (Income after deducting income taxes and disposable)
Capital strength of economic entities (financial lever) *	Debt/ asset value
	Household loans/ Real value of assets
Debt service	Interest paid/disposable income (Income after deducting income taxes and disposable)
	Payment of debt assets and interest/disposable income (Income after deducting income taxes and disposable)
Wealth	Net financial position/disposable income (Income after deducting income taxes and disposable)
	Net wealth/disposable income (Income after deducting income taxes and disposable)
	Deposit / debt
	Deposit/ Household loans

Source: Jana Kask, Household Debt and Financial Stability, Kroon & Economy

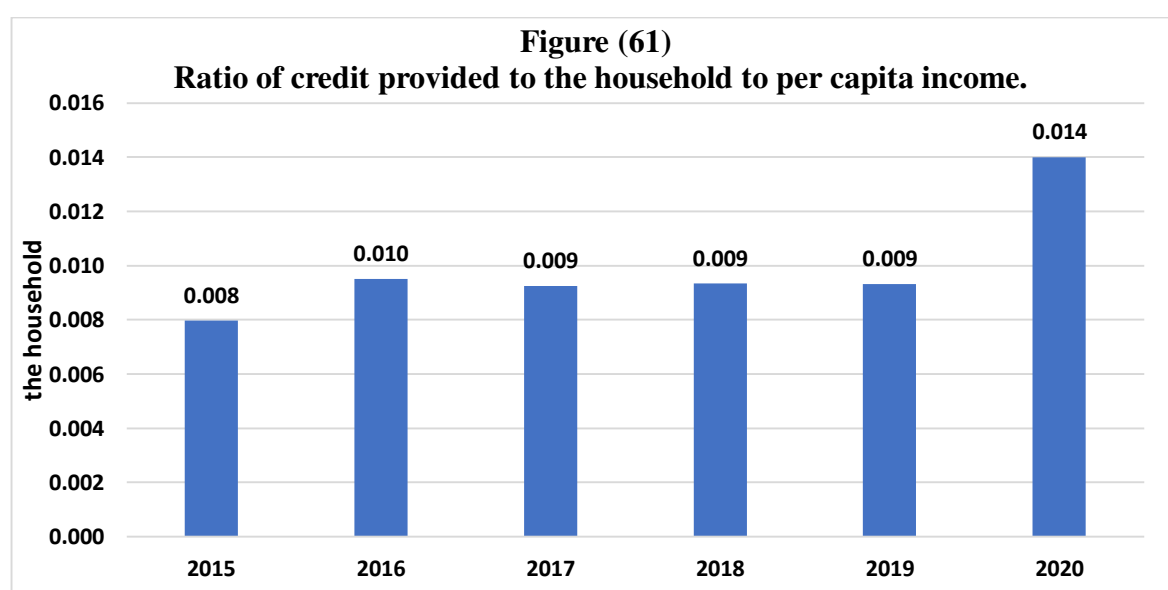
No 4, 2003, p37

* It measures the amount of debt to equity.

4-2. The Ratio of Credit Provided to the Family to Income of Individuals:

Through this indicator, it is possible to measure the extent of individuals' ability and ability to repay the loans they owe, and this is done by dividing the debt of the household by the income of individuals. The head of the financial system on the one hand and the lack of data on the other hand, while the income of individuals was calculated based on the data of the Ministry of Planning through the average income of the individual multiplied by the number of the

population, multiplied by the compensation that employees receive annually, due to the lack of data on the income of individuals during The period (2015-2020), which requires a comprehensive survey for this category, and it is worth noting that the household relies heavily on informal borrowing to obtain the necessary financing to meet its financial needs, and this type of financing is difficult to measure, and Figure (64) shows the sector's debt ratio The household indebtedness to the income of individuals does not exceed the correct one, that is, it is very low. Therefore, the indebtedness of the household in Iraq does not greatly affect the stability of the situation except an economic or financial crisis that may occur if it is relatively high, which is a positive indicator in terms of the risks of Household indebtedness, but in terms of the volume of credit granted to individuals, it is very low, and if the indebtedness of the household is compared to Iraq, which is relatively low if compared to Jordan, for example. The ratio of the household's indebtedness to income for 2016 was (69.3%) and for 2017, the ratio was (67.4%)¹.



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

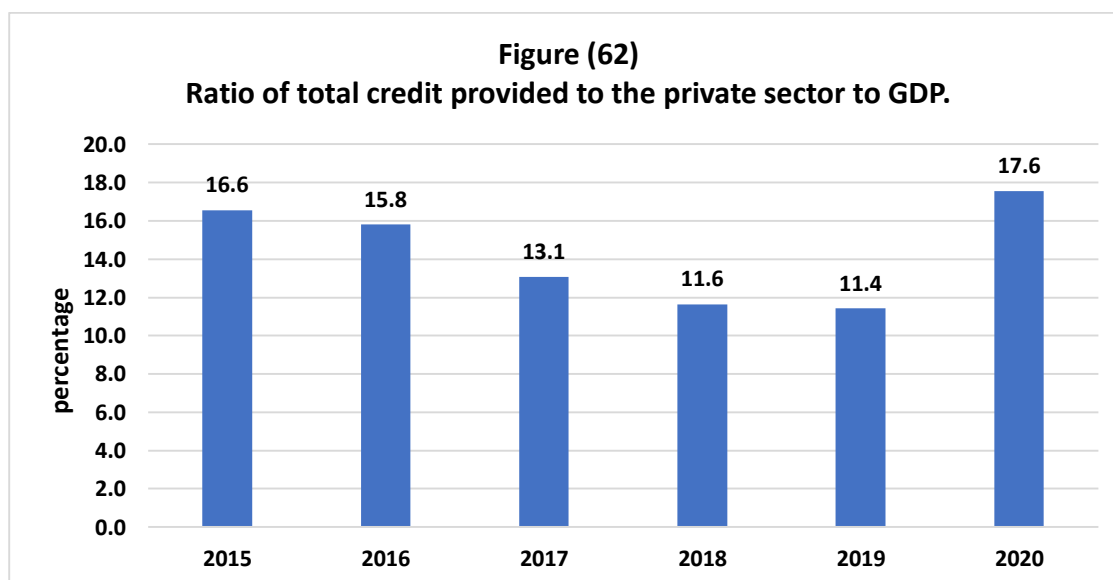
- Ministry of Planning, Statistical Group 2017.

4-3. The Ratio of Credit provided to the Private Sector to GDP in Iraq:

The credit provided to the household is considered part of the credit provided to the private sector, and the total credit provided to the private sector will be measured to the GDP to know the amount of the private credit and the extent of

¹Central Bank of Jordan, Financial Stability Report 2017, p. 54.

its growth. International studies have shown that the scientific ratio of credit provided to the private sector to the output the gross domestic product amounted to (80%-100%), which leads to large fluctuations in the economic cycle and could affect financial stability¹, and Figure (62) shows the ratio of credit provided to the private sector to the gross domestic product in Iraq, which confirms that there is a decrease in the percentage of The credit provided to the private sector to the GDP, as it decreased from (16.6%) in 2015 to (11.4%) in 2019, but in 2020 it increased to (17.6%), that this change in the percentage is due to the fact that the growth of the GDP it was greater than the growth of credit provided to the private sector until 2019, as the rate of growth in GDP from 2015 to 2019 reached 35%, While there was negative credit growth over the same period of time of -7%, in 2020 there was a decrease in GDP growth rate of -28% compared to 2019, so the ratio appeared high.

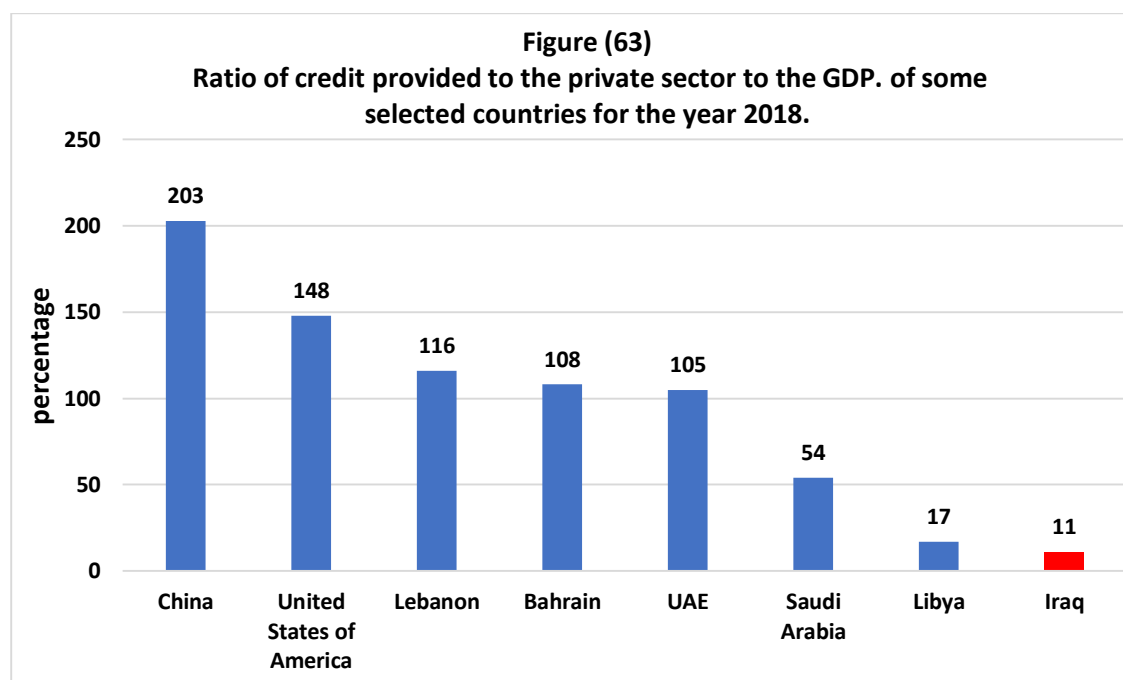


Source: Central Bank of Iraq, statistical website.

In general, the ratio of credit provided to the private sector to GDP in Iraq is very low compared to some countries for many reasons, most notably the economic effects resulting from ISIS's occupation of three Iraqi governorates in 2014, and the destruction of economic projects belonging to the private sector on which it borrowed money, as well as internal and external migration and from Then the non-payment of the loans provided and their transformation into **Non-performing loans**, and Figure (63) shows that the ratio of credit provided

¹Ratna Sahay and others, Rethinking Financial Deepening: Stability and Growth in Emerging Markets, IMF, 2015.

to the private sector to (GDP) in Iraq was the lowest among the comparison countries, meaning that the credit provided to the private sector in Iraq is weak.



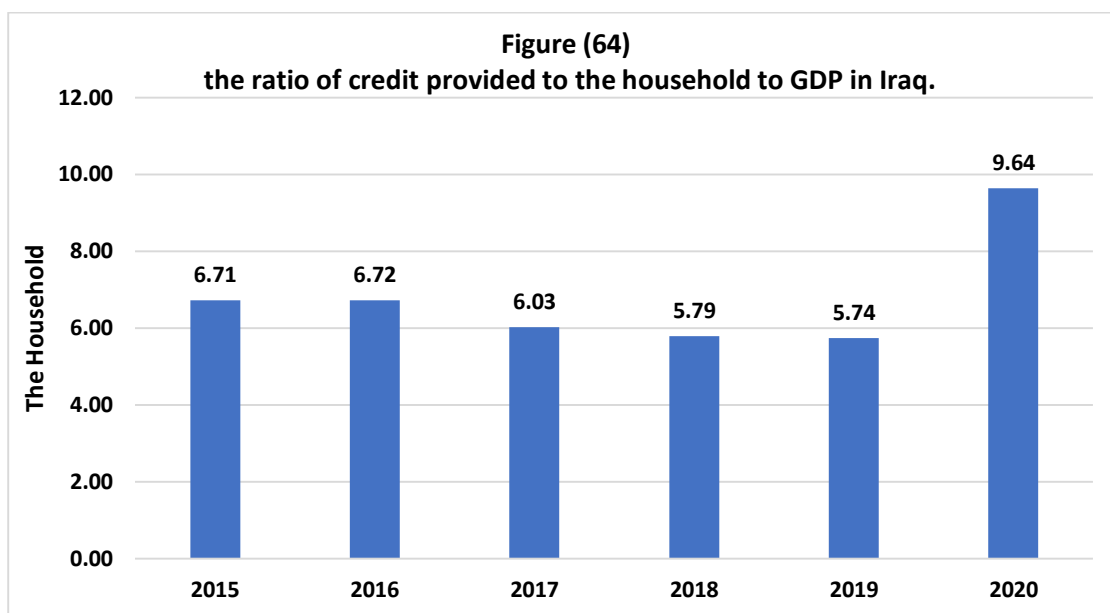
Source: - Arab Monetary Fund, Unified Arab Stability Report.

- Central Bank of Iraq, statistical website.

4-4. The Ratio of Credit Provided to the household to GDP in Iraq:

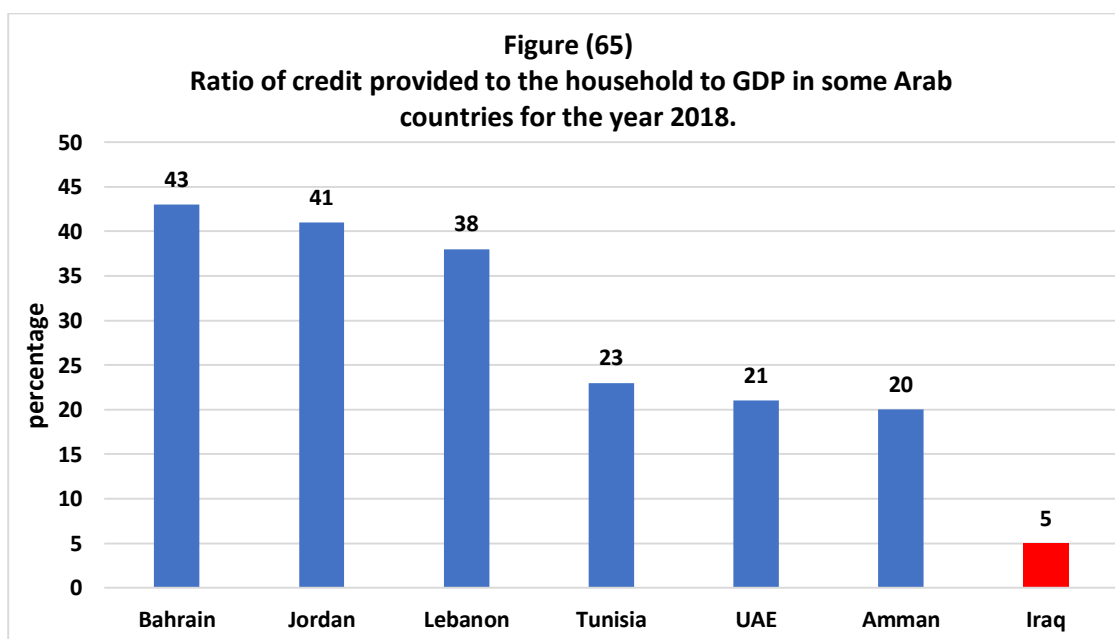
The credit provided to the household is part of the credit provided to the private sector, so it is natural that its ratio to (GDP) is less than the ratio of the total credit provided to the private sector, and a study conducted by the International Monetary Fund in 2017 showed that the credit provided to the sector the family can lead to a banking crisis if its percentage exceeds (65%) of the GDP, and is weak if the percentage is less than (10%)¹, and Figure (64) shows the ratio of credit provided to the household to (GDP) in Iraq It should be noted that the household indebtedness to GDP has continuously decreased from (6.71%) in 2015 to (5.74%) in 2019, but in 2020 it increased to (9.64) due to the decline in the growth rate of GDP.

¹Financial Stability Report in the Arab Countries, 2019, p. 150.



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

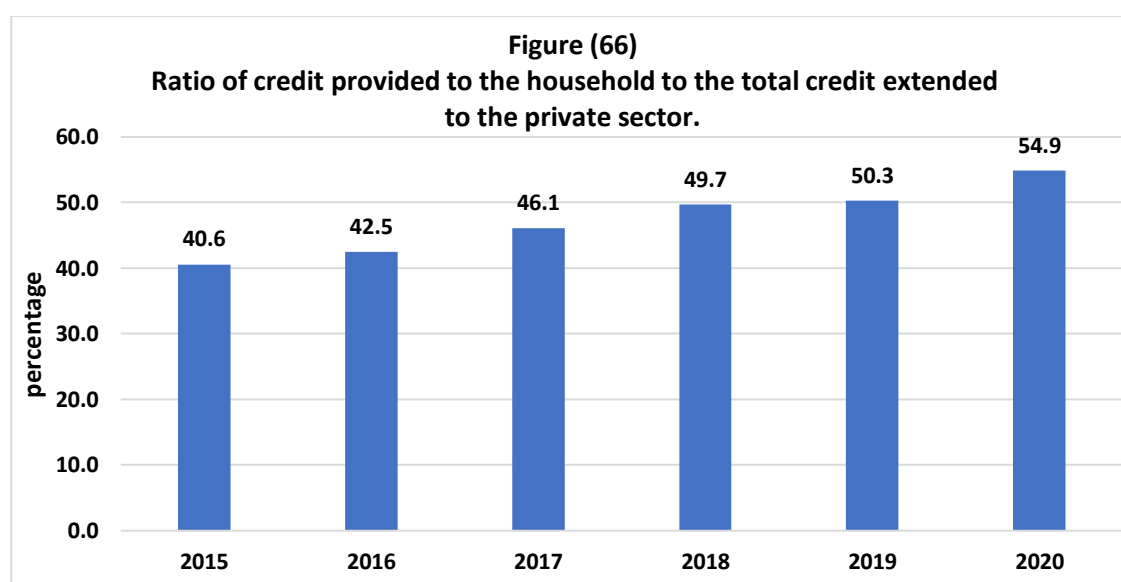
In general, the credit provided to the household in Iraq is weak if compared with some Arab countries. Figure (65) shows that the ratio of credit provided to the household to (GDP) in Iraq and a number of Arab countries, and it is noted from the Figure that Iraq ranks the latter among the comparative countries, and that the credit provided to the household can increase without worrying that it will affect financial stability, taking into account the conditions and criteria for granting credit.



Source: Arab Monetary Fund, Consolidated Arab Financial Stability Report.

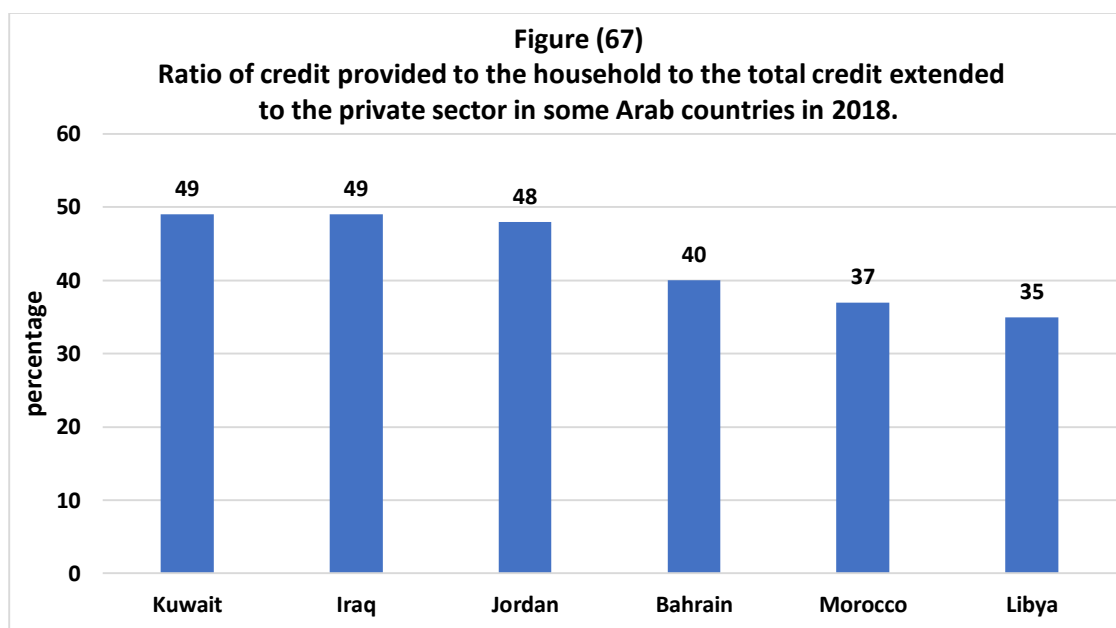
4-5. The Ratio of Credit provided to the household to Total Credit to the Private Sector:

This indicator measures the ratio of credit provided to the household to the total credit provided to the private sector to know the volume of family credit from the credit provided to the private sector. Figure (66) shows that the ratio of credit provided to the household increased from (40.6%) in 2015 to (54.9%) in 2020, that this rise is due to the positive growth in family credit, which is greater than the growth of total private credit, as the growth of family credit reached (46%), while there was less growth in total private credit, as the growth of total credit provided was to the private sector during the period to (2015-2020) with a growth rate of (8%) that the credit provided to the household 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.

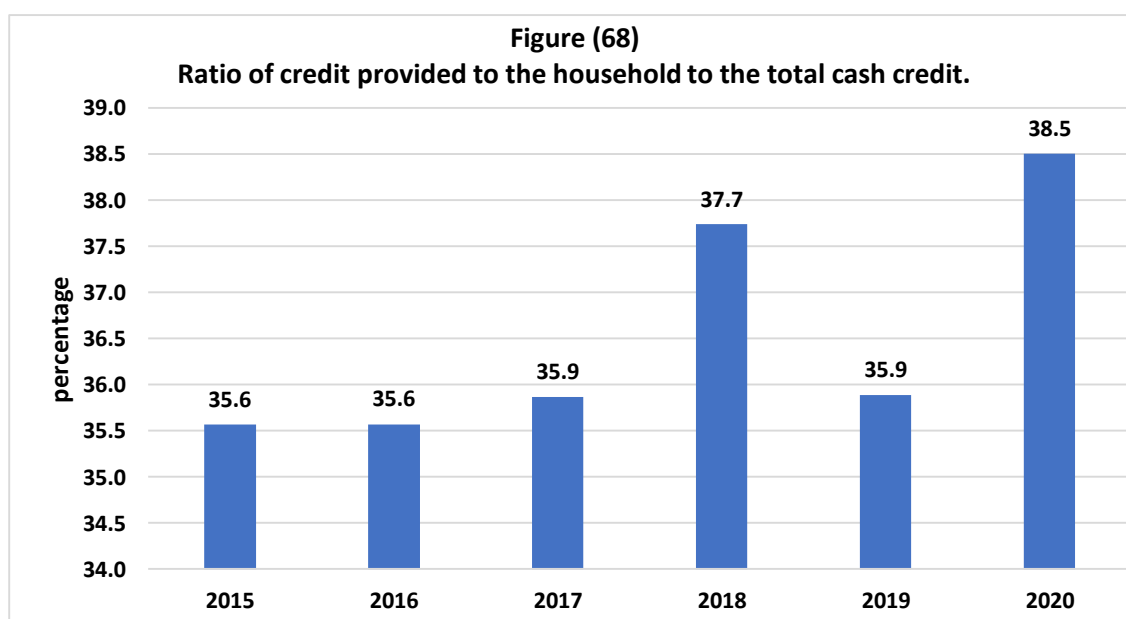
When comparing some Arab countries, we find that Iraq is in an advanced position among these countries, and one of the reasons for this is that the largest percentage of loans granted to the private sector goes to individuals, with a relative weakness in the work of companies, which made a large percentage of credit provided to the private sector heading towards the household, which is more active than the corporate sector, especially in the services and construction sector, which requires that there be a greater role for companies within the economy. Figure (67) illustrates this:



Source: Arab Monetary Fund, Consolidated Arab Financial Stability Report.

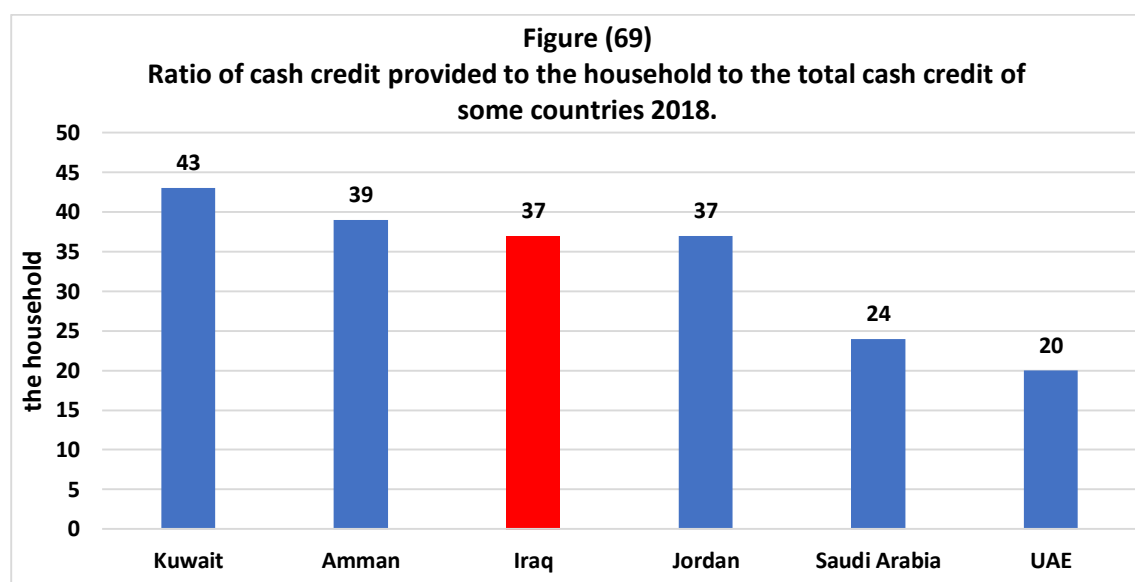
4-6. The Ratio of household Credit Provided to Total Cash Credit:

Ratio of credit provided to the household to the total cash credit: This indicator is measured by calculating the credit facilities granted to the household relative to the total cash credit, whether provided to the private or public sector. (68) shows that the ratio of credit granted to individuals to the total cash credit constitutes one third of the credit granted to the household in Iraq.



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

If Iraq is compared to some Arab countries, we note that the household credit ratio is close to these countries, and Figure (69) shows that Iraq is in a middle rank among the comparison countries in relation to the credit granted to the household relative to the total monetary credit, taking into account that Total cash credit in Iraq is considered weak for the reasons mentioned above.

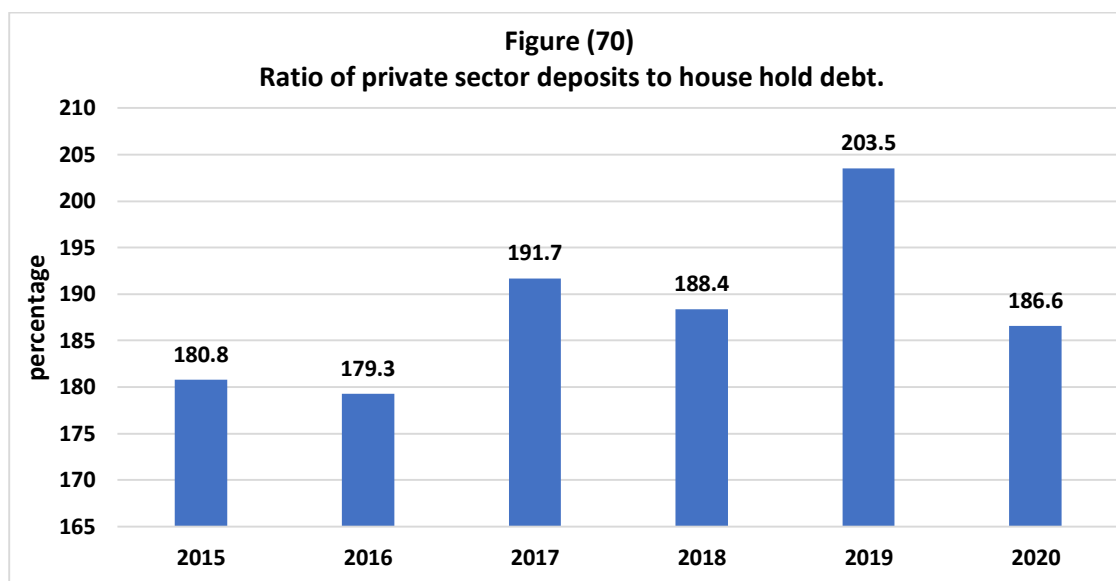


Source: - Central Bank of Iraq, Department of Statistics and Research.

- Central Bank of Jordan, Financial Stability Report, 2018.

4-7. The Ratio of Private Sector Deposits Provided to household Credit:

This indicator shows the extent to which banks are able to cover the debts provided to the household through private sector deposits only, and Figure (70) shows that private sector deposits fully cover the percentage of credit the provided to the household, as the ratio of private sector deposits to credit provided to the household (180.8%) during 2015, this percentage rose to (186.6%) by the end of 2020, which means that deposits cover all the credit provided to the household, and then the credit provided to the household can be increased taking into account the conditions and procedures and the guarantees that must be available when providing credit from banks.



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

4-8. The Precautionary Tools used to Counter the Excessive Growth in Credit Provided to the household:

the purpose is to reduce the risks resulting from the credit provided to the household, which could cause a major economic crisis, especially if it is excessive, so it is necessary to follow a precautionary policy taken by the monetary authorities represented by the Central Bank and followed by the banks in order to maintain the safety of The banking system, achieving financial stability, and optimizing the use of resources. This policy is a set of indicators used as tools to mitigate risks resulting from excessive growth in credit granted to the household. These indicators used are the following¹:

¹ Arab Monetary Fund, Consolidated Arab Financial Stability Report, 2018, p. 146.

Framework (2) Macro prudential Policy Instruments.

1- Loan-to-Value Ratio: It sets the maximum value that can be financed through bank credit when purchasing an asset (mostly real estate), as this ratio represents a mechanism to ensure that the borrower has capital as a support (Equity Buffer). In the event of a decrease in the prices of the assets that represent the security of the loan.

2- Loan-to-Income Ratio: This ratio improves the financial solvency of borrowers by ensuring that the amount of debt corresponds to the income of the borrower, which contributes to improving the quality of banking assets invested in family credit. However, this ratio does not take in mind for the sake of religion.

3- Debt Service-to-Income Ratio: This ratio improves the financial solvency of borrowers by ensuring that debt service corresponds to the income of the borrower. It compares the debt burden with income during the same period, but this tool can be circumvented. By extending the term of loans by the banks, thus widening the maturity gap and the average maturity of the assets invested in the household.

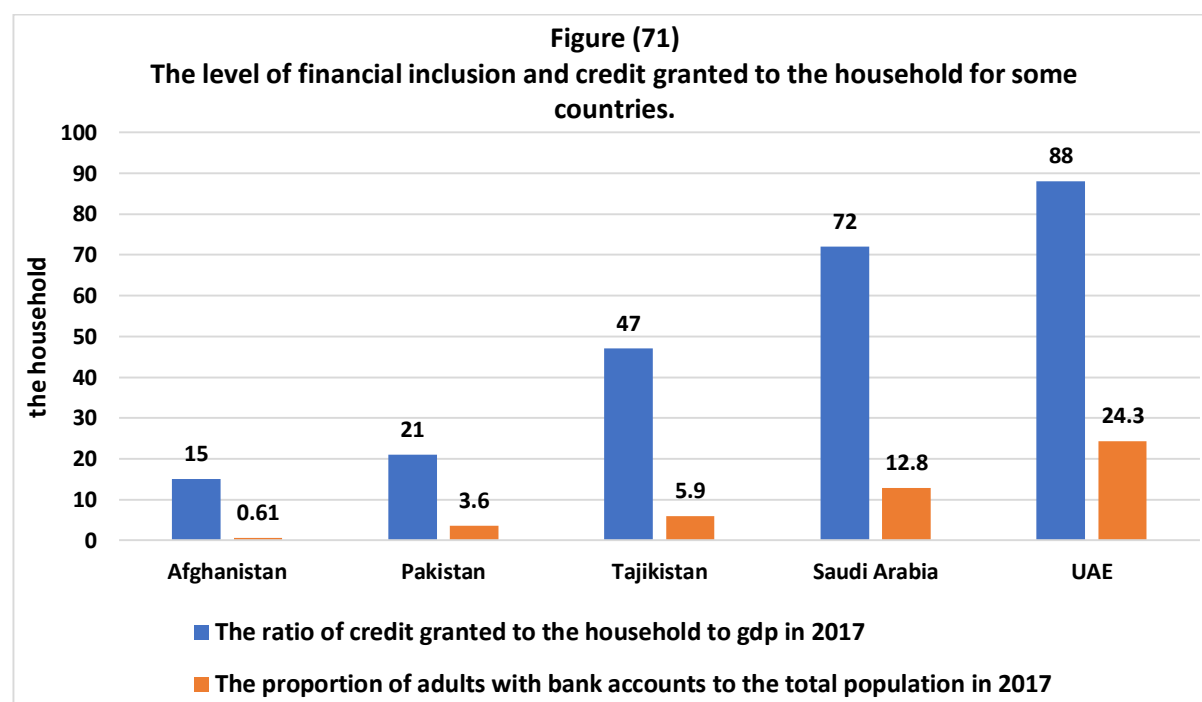
4- Setting limits on the Duration of Credit: This tool sets restrictions on the term of the loan granted to the household, which often differs between consumer loans and real estate loans. This tool mitigates the bank's exposure to interest rate risks that may result from an increase in the average maturity of assets, and often What to use as a supplement with the debt service to income ratio.

5- Sectoral Capital Requirements: It involves an increase or decrease in the case of encouraging family credit) the weight of risks used to weight family credit when calculating risk-weighted assets in the capital adequacy criterion, which makes family credit less (more attractive to the banking sector, and this ratio also works as a capital pillar that increases the solvency of the banking sector in the face of losses that may result from those assets.

6- Restrictions on the Growth of Family Credit or Concentration in Family credit: This tool places restrictions on banks so that family credit (whether consumer or real estate loans) does not exceed a specific percentage of the bank's total loan portfolio, or by increasing the weight of family credit in the case of the ratio being exceeded

4-9. Individuals' Debt Relationship to Financial Inclusion:

The impact of loans to the private sector in developed countries is greater than in developing countries because of the high development of banking services and their rapid delivery to the public. The higher the financial coverage, the easier the access to credit is, and the easier the access to credit from the public, who is more bank conscious in States with high financial development, which causes individuals to turn to banks if there is a demand for funds, Returning to the study issued by the International Monetary Fund in (2017), it confirms that the credit granted to the household is related to the level of development of financial inclusion in that economy, and Figure (71) shows the ratio of credit granted to the household to the GDP of some countries with different financial inclusion , as it becomes clear that the percentage of credit granted to the household increases with the increase in the level of financial inclusion, and therefore the financial development and ease of access to banking services is directly affected by the credit granted to the household. Population (88%) (indicator of financial inclusion) is the highest country of the comparison countries in terms of adults who own bank accounts, so it has the largest ratio of credit granted to the household to GDP amounted to (24.3%), while Afghanistan has the lowest percentage of adults They have bank accounts among the comparison countries amounting to (15%) of the total population. The percentage of credit granted to the household is (0.61%), i.e. less than the correct one to the gross domestic product. He emphasized that the high level of financial development leads to an increase in credit granted to the household, and from the foregoing, the household is one of the important sectors in the economy of any country, regardless of the extent of its development, and is very influential in its degree of stability.



Source: World Bank, <http://ufa.worldbank.org/country-progress/iraq>, International Monetary Fund,

<https://www.imf.org/external/datamapper/HHLS@GDD/CAN/GBR/USA/DEU/ITA/FRA/JPN>

5-Measurement of the Aggregate Index of Financial Stability in Iraq

5- Measurement of the aggregate index of Financial stability in Iraq:

Achieving financial stability is one of the necessities that the Central Bank of Iraq is working to maintain, as it is the starting point towards achieving economic stability, through building a developed and stable financial sector capable of directing savings towards investment and thus achieving job opportunities. It expresses the state of the financial system through a set of variables that represent the elements of this system and through which weaknesses can be identified.

Financial stability indicators are considered as an early warning system that contributes to monitoring the possibility of financial crises. Therefore, the Central Bank of Iraq, represented by the Monetary and Financial Stability Department, has sought to develop the financial stability indicator to become a comprehensive state of the stability of the financial system as a whole, and not only banking stability, by relying on a set of indicators for each of the banking system, the total sector, the capital market and the financial cycle, and these sub-indicators also depend on other sub-ratios shown in Table (11).

Table (11)

Indices for measuring the aggregate index of banking stability in Iraq

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 ratio of liquid assets / 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 ratio of foreign reserves / 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) ¹	Reverse	8%	8%
Total				100%	100%

1 The direction of this ratio is calculated using (The Hodrick-Prescott filter) and the gap for this ratio.

5-1. The 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, non-performing debt to total debt ratio, net non-performing debt to capital ratio, provision coverage ratio, liquid assets to liquid liabilities ratio, total debt to total customer deposits, return on assets ratio, return on equity ratio, ratio of total non-interest expenses to total income, and interest margin ratio to total income.

B. The macroeconomic indicator consists of four sub-indicators: The growth rate of the gross domestic product, the ratio of the current account deficit to the gross domestic product, the rate of inflation, and the ratio of foreign reserves to the gross domestic product.

C. Capital Market Index: It consists of two sub-indices, namely: The Iraq Stock Exchange Index, and the ratio of the market value of shares to the Gross Domestic Product.

D. Financial Cycle Index: Consists of a single indicator that measures the credit gap, i.e. the difference between the ratio of credit granted to the private sector to GDP and the long-term trend of the ratio using The Hodrick-Prescott filter.

Table (11) shows the variables used in the formation of the financial stability index and the relationship between these variables and the financial stability index, knowing that the variables that have an inverse relationship will be given a negative sign before the data is normalized and according to the method that will be clarified in the indicator methodology:

Framework (3): Steps to measure the aggregate index of banking stability in Iraq

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

- 1) Transforming the data of variables to normative values according to the testing method: Empirical Normalization by the following formula:

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

Where:

X: The value of variable in the current year.

Min: Minimum value of variable during calculation time

Max: Maximum value of variable during calculation time

The value of the indicator ranges between (0 - ∞), whenever the value is close to zero, it is an indication that bank stability faces risks with a greater degree of stability, whereas the value is further away from zero, it is an indication that the aggregate index is stable and a lower risk size.

- 2) Identification of weights: different weights were set to variables of the indices mentioned in Table (7), and there are other methods for granting weights such as²:

- Expert Judgment
- Principal Components Analysis
- Factor Analysis

- 3) Collection of weighted standardized values to obtain sub-indices values

- 4) Calculating the aggregate index of financial stability according to the following formula:

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

Where:

FSI: Financial Stability Index

ω_j : Weights

BI: Banking Sector Index

EI: Aggregate Sector Index

CI: Capital Market Index

FI: Financial Cycle Index

T: The year of calculation

Whenever the value of index becomes nearer to one, this indicates a decrease in the risks, and in turn an increase of financial stability level.

5-2. The Practical Aspect of the Financial Stability Indicator in Iraq.

5-2-1. Analyzing the aggregate index of financial stability and the stability map.

The level of financial stability can be assessed by the aggregate index of financial stability, which depends mainly on the components and trends of the aggregate index, the values of the sub- aggregate indicators of the aggregate index of financial stability in Iraq have witnessed an increase over the period from 2015 to 2020, it increased from (0.311) in 2015 to (0.586) in 2020 as shown in Table No. (12), which reflects the general trend The Central Bank of Iraq towards adopting and strengthening policies to achieve financial stability by applying Basel requirements ||| and International Financial Reporting Standard No. (9) as well as other requirements of the Central Bank of Iraq for the banking sector in the Iraqi domestic and foreign).

Table (12)

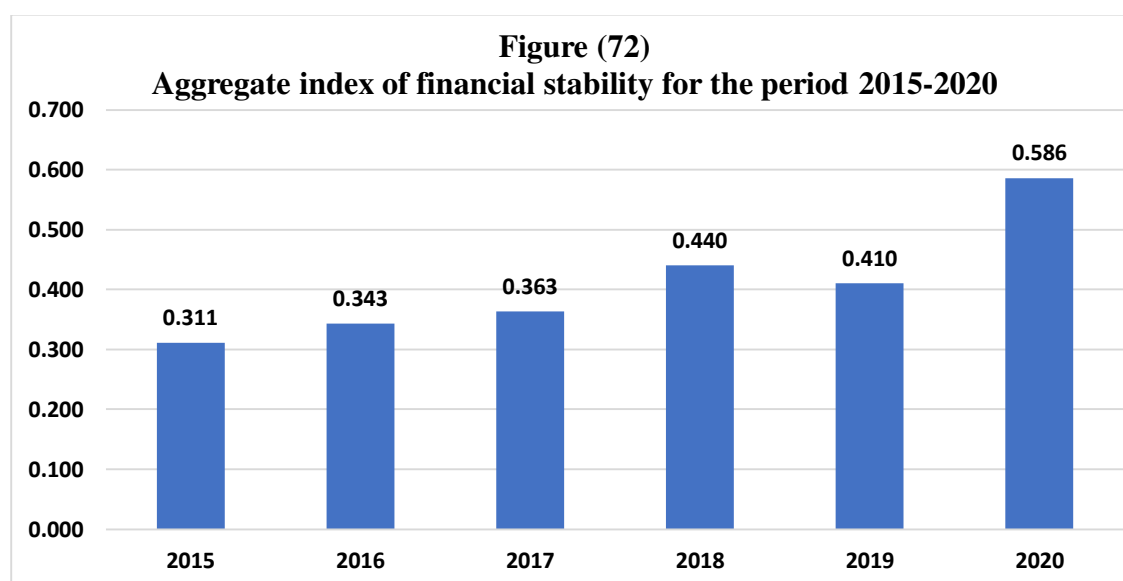
Aggregate financial stability index and its component sub-indexes

	2015	2016	2017	2018	2019	2020
Aggregate Index of Financial Stability	0.311	0.343	0.363	0.440	0.410	0.586
Banking Sector Index	0.205	0.181	0.181	0.194	0.190	0.289
Macroeconomic Index	0.031	0.087	0.121	0.162	0.133	0.155
Capital Market Index	0.000	0.049	0.005	0.005	0.008	0.080
Financial Cycle Index	0.000	0.025	0.055	0.079	0.080	0.063

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

Despite the spread of the Corona virus in 2020 and its negative effects on the global economy in general and the Iraqi economy in particular, as this crisis caused a decline in demand for global oil, including Iraqi oil, and this negatively affected the Iraqi economy of a rentier nature and ultimately on the index of financial stability in general, this is what prompted the Central Bank of Iraq to follow a set of quick and effective measures that would mitigate the shock to financial stability, which reflected positively on financial stability, which witnessed an increase to reach (0.586) in 2020 compared to (0.410) at the end of 2019, as these measures worked to absorb the two shocks of the spread of the virus and the decline in global oil prices, and among those measures were the facilitative policy during the crisis and its aftermath, such as postponing the

payment of installments and defaulting credit fines and reducing the legal reserve ratio to provide liquidity to banks, as well as other stimulus packages such as the Bank's initiatives The central bank for lending directed to the economic sectors (industrial, agricultural, housing) that brought the Iraqi economy to recovery and cohesion again, including those that started a new financing package directed to the household and the creation of a strong and stable financial and monetary sector by adopting an initiative to enable the digital economy. And as shown in Figure (72).

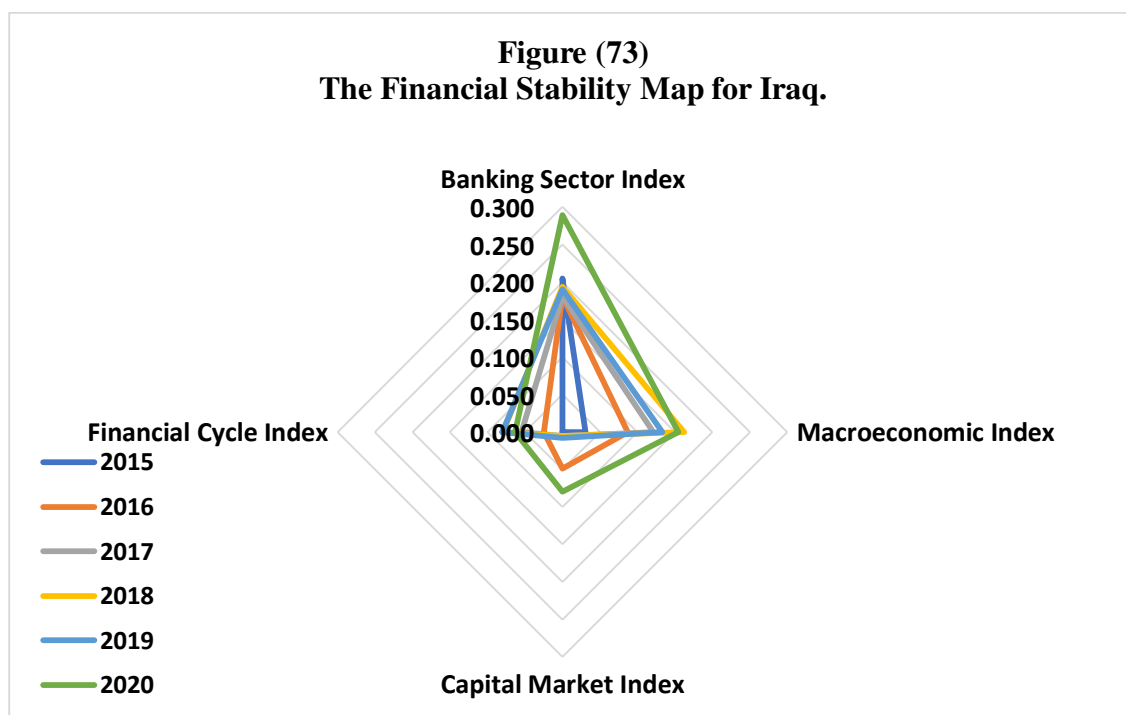


Source: Table (12) Data.

5-2-2. Financial stability Map.

The financial stability map, as shown in Figure (73), illustrates the analysis of the trend of the aggregated sub-indices based on data for each year. The aggregate index improved over the period from 2015 to 2020. In 2020, the banking sector index and the capital market index rose as well as the macroeconomic index, while the financial cycle index decreased, overall, effect of the change in these indicators was the rise in the financial stability index from (0.410) in 2019 to (0.586) in 2020, which reflects the relative stability of the financial stability index in Iraq. Figure (74) reveals that the banking sector index had the greatest impact on the rise in the financial stability index, and this is due to two reasons: The first is the high percentage of the weighting ratio of the index compared to the rest of the indicators, and the second is the high number of sub-indices that are included in its composition.

As asset quality and profitability had the greatest impact on achieving banking and then financial stability in Iraq, which is a reflection of the strength and resilience of the Iraqi banking sector, which witnessed achieving good profitability, building good liquidity coverage ratios, and relying on the basic business of banks.



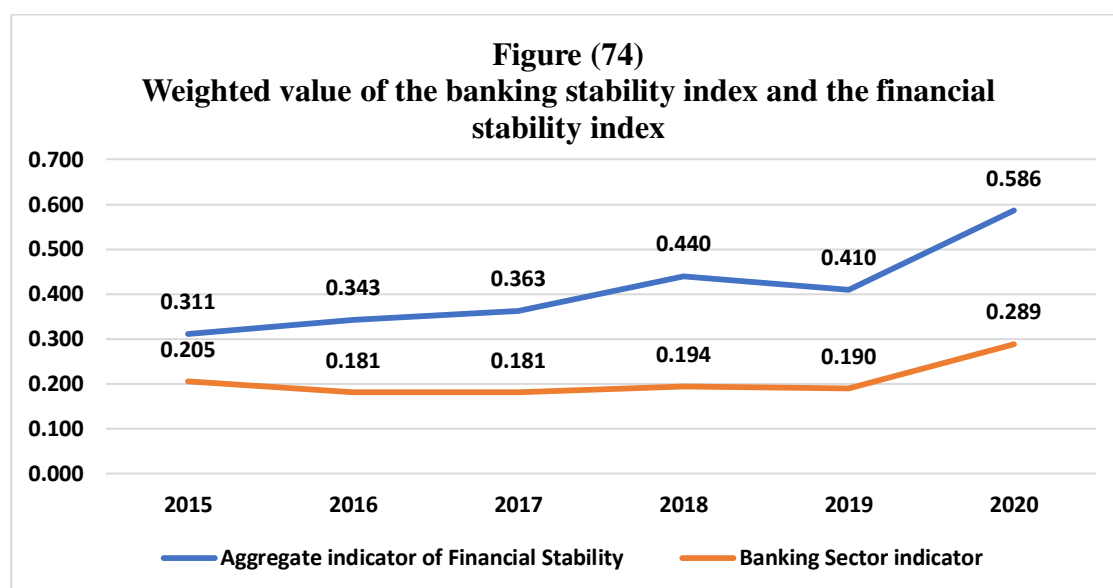
Source: Table 12 data.

5-3. Relationship between the aggregate indicator of financial stability and its constituent sub-indicators:

The aggregate financial stability index consists of several sub-indicators, all of which ultimately affect the value of the index, as follows:

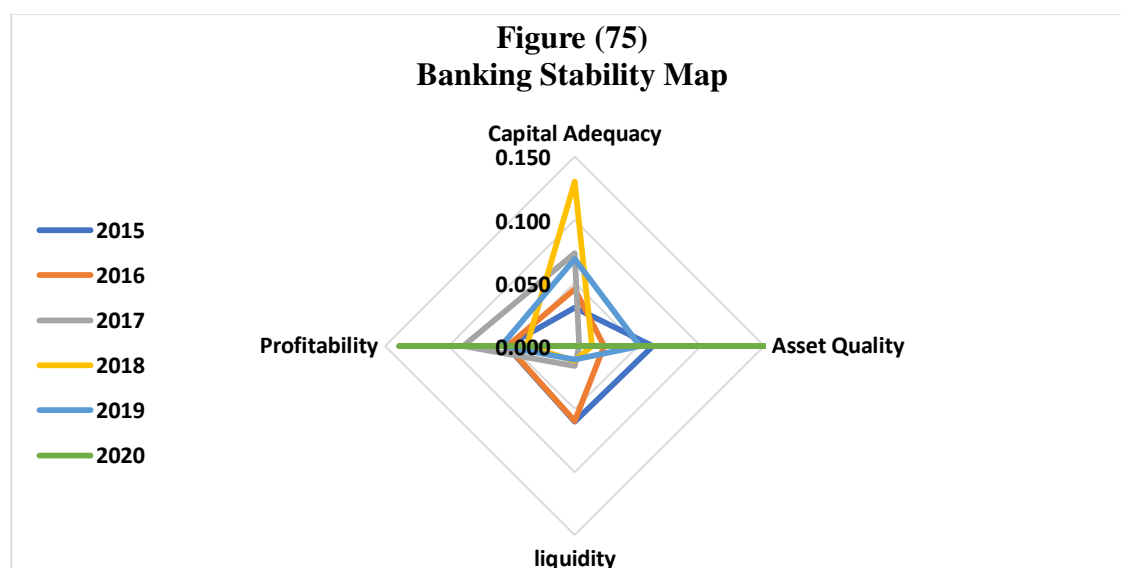
5-3-1. The Banking Sector Indicator (BI):

It consists of four main components (capital adequacy ratio, asset quality, liquidity, profitability) and these variables include a number of secondary variables that positively or negatively affect financial stability in Iraq, as the banking stability index witnessed an increase during the period 2015-2020. The weighted value of the banking stability index was recorded (0.289) during the year 2020 after it was (0.190) during the year 2019 as shown in Figure (74).



Source: Table 12 data.

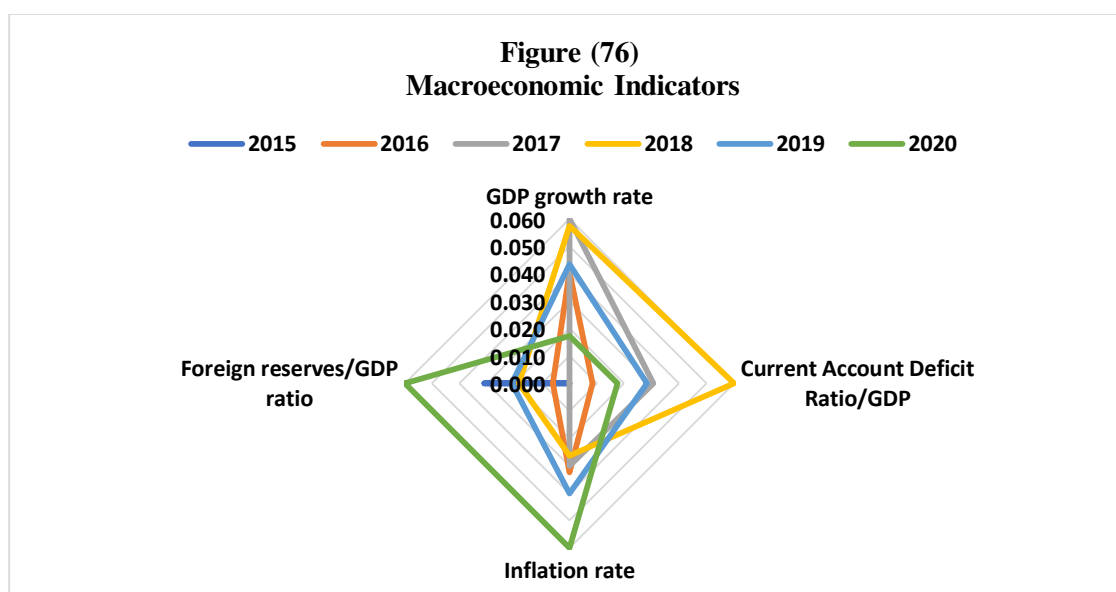
The weighted value of the capital adequacy index was recorded during the year 2020 with an amount of (0.000) after it was (0.069) during 2019. We note that the banking stability map shows that the weighted value of both the asset quality index and the profitability index has increased during 2020, whose weight constitutes (34%) of the weighting of the banking stability index of (53%), which led to an increase in the financial stability index in Iraq from (0.410) in 2019 to (0.586) in 2020, while the liquidity index did not affect banking stability and scored a percentage of (0.00) during the year 2020 compared to the same percentage in the year 2019 of (0.011), as shown in Figure (75).



Source: Central Bank of Iraq estimates, Monetary and Financial Stability Department, 2020.

5-3-2. Macroeconomic Indicator:

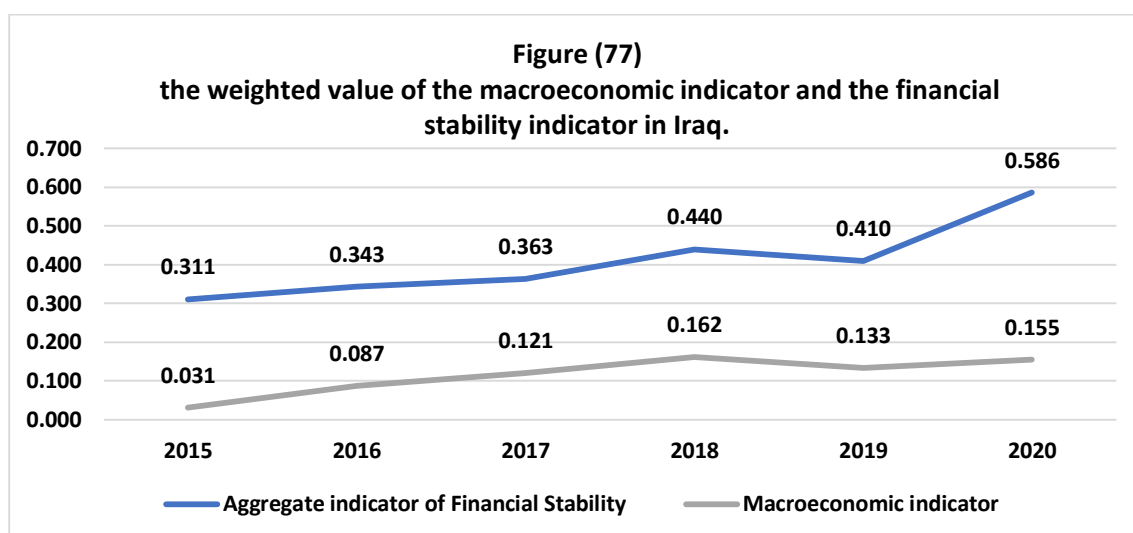
The macroeconomic indicator measures the impact of macroeconomic variables on financial stability, and this indicator consists of four sub-indicators (GDP growth rate, foreign reserves ratio of GDP, current account deficit ratio of GDP, inflation rate),¹ that the effect of the first two ratios the second is directly related to financial stability. As for the effect of the third and fourth ratios, it is inverse, as the rise in the values of macroeconomic indicators will positively affect financial stability, and if the final outcome is positive, this will lead to a rise in the financial stability index. As we note through the macroeconomic stability map that the ratio of foreign reserves to the gross domestic product and the rate of inflation had a positive impact on macroeconomic stability and then financial stability in Iraq, so that they each recorded a rate of (0.060) during 2020, as shown in Figure (76):



Source: Central Bank of Iraq estimates, Monetary and Financial Stability Department, 2020.

From Figure (77), we find that the final outcome of the macroeconomic index was positive, as it rose from (0.132) in 2019 to (0.145) in 2020, which contributed to the increase in the financial stability index in Iraq in general during 2020 compared to 2019.

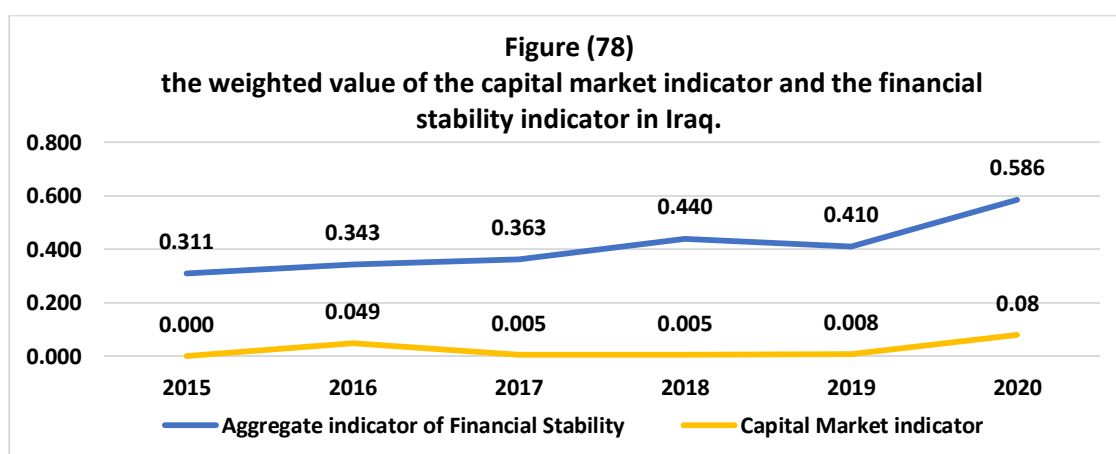
¹ For more information on the mechanism of impact of each ratio on the financial stability index, review the theoretical side, Table (11), p. 107.



Source: Table 12 data.

5-3-3. Capital market Indicator:

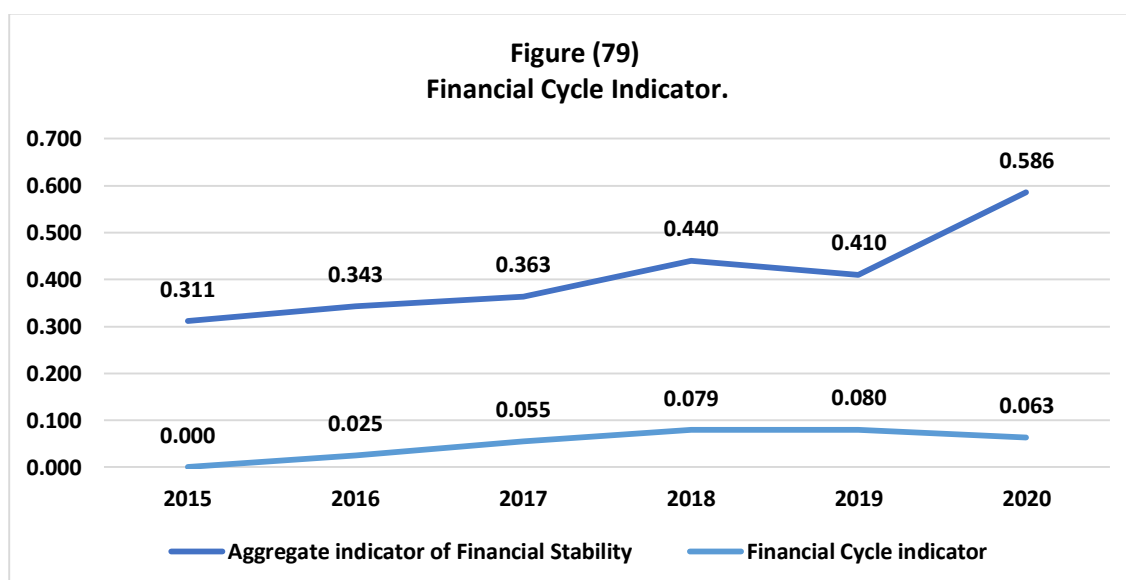
This indicator measures the impact of capital markets on financial stability by using two indicators, the first is the Iraqi capital market index, which measures the performance of the Iraqi stock market, and the second is (the market value of shares and the gross domestic product), as this ratio indicator is one of the most important indicators that are taken into consideration when the aggregate index, as it greatly affects the financial stability in Iraq and with a weight that constitutes (15%) of the total weights of the indicators included in calculating the financial stability in Iraq, and these two indicators have a direct relationship with the financial stability index, and therefore the increase in the weighted value of the index of this percentage of (0.008) in 2019 to (0.080) in 2020 significantly affected the financial stability index in Iraq during the period 2015-2020, as shown in Figure (78).



Source: Table 12 data.

5-3-4. Financial cycle Indicator:

The impact of the financial cycle in Iraq on financial stability can be known by analyzing the credit gap to GDP, which represents the ratio of the credit growth rate provided to the private sector to the growth rate of GDP, which is of course inversely related to financial stability. The credit growth rate and the GDP growth rate had a negative impact on financial stability, as the increase in the gap indicates that the credit growth rate provided to the private sector is higher than the GDP growth rate, as we note from Figure (79) that the weighted value of the gap has declined since 2019. However, this decline did not significantly affect financial stability. The impact of the weight of the financial cycle within the financial stability index is only (8%), and therefore its impact is small compared to the banking stability index or the macroeconomic stability index. The weighted value of the financial cycle indicator was recorded (0.063) during 2020, and the average credit gap ratio in Iraq for the period (2015-2020) was (0.050), and this indicates the weak contribution of the banking sector in Iraq in financing real activity, despite the efforts of the Central Bank to strengthen Financial inclusion and the initiatives launched by the acceleration of the development process and the sustainability of economic growth in Iraq, but at the same time represents a decrease in the volume of risks realized from the possibility of accelerating the rate of bank credit growth in Iraq.



Source: Table 12 data.

6- Macro-Stress Testing

6. MACRO-STRESS TESTING

The soundness of banking sector operations and the correctness of its policies are among the basic factors in the development and growth of the financial sector, maintaining its stability and the possibility of achieving its objectives in achieving economic growth and providing capital to the real sector. There are several factors that affect the performance of the banking sector and its effectiveness in mobilizing savings and providing credit to the various economic sectors. Therefore, it is necessary to monitor the performance of the Iraqi banking system and to identify the most prominent factors that are a source of threat that can impede the process of growth and stability in the economic sectors in general and the financial and banking sector on the in particular, and what are the expected shocks affecting it, negatively or positively, by avoiding the negatives, enhancing the positives, and identifying the deficiencies in the variables studied in this chapter, which are considered to have a systemic impact on the banking sector in Iraq.

There is also no doubt about the importance of banks in the economy through their mediating role between the financial surplus and deficit units, which has been proven by economic theories and practical experiences of various countries of the world. Attention to the safety of the financial sector is an urgent necessity to ensure the continuity of economic activities, but rather their support, revitalization and expansion. Stress tests are one of the risk management tools in the financial system, and conducting stress tests is one of the off-site supervision tools for banking performance.

The nature and degree of interdependence between the real and financial sectors makes it necessary to study developments and changes in one or both sectors, and their impact on the other sector. Because any risks or shocks that the real sector is exposed to may paralyze sources of danger to the financial sector and vice versa as well.

Therefore, predicting the ability of the banking sector to absorb external shocks requires analyzing and monitoring developments in the real economy, by building appropriate scenarios. In this regard, a set of macro scenarios have been assumed that are divided into the base scenario, the medium intensity and the most severe; The purpose is to assess the ability of the banking system (the main component of the Iraqi financial sector) to withstand these shocks and continue to perform its basic functions without compromising the rights of depositors.

6-1. What's a Pressure Test:

Stress testing is a "what if" analysis that takes the situation in general, but assumes significant changes in one or more variables for the purpose of knowing their effect on the other variables, and also includes a tool to measure the health and resilience of a particular financial institution or the financial system in general under scenarios and events different from the normal, it is a quantitative exercise of the concept (what if?), to estimate: what will happen to the capital, profits and cash audit of financial institutions individually, or to the system as a whole in the event that some risks are realized.

The emergence of stress tests as a tool was not in the field of finance, but in the technical sciences, in the broad sense. Stress tests are a technique or method to measure the stability of an institution or system under various undesirable conditions in the field of finance. Stress tests are used to evaluate the investment portfolio of a particular institution, or to measure the stability of a particular institution, called **micro-stress tests**, and later this method was used to test the stability of a group of financial institutions together, or for the financial system in general, which may affect the overall economy, and they are called Macro-Stress Tests, which will be used in this report.

6-2. The Importance of Total Pressure Tests:

- A- Measuring the ability of the banking system to withstand external shocks.
- B - Discovering imbalances and weaknesses.
- C- Determining the acceptable risk margins and the required degrees of flexibility.
- D- Measuring the degree of sensitivity of the financial and banking sectors to changes in financial markets and the macroeconomic environment.
- E- Measuring and estimating the potential unexpected losses that may result from rare events that do not occur under normal circumstances.

6-3. Total Scenarios:

For the purpose of using aggregate stress tests, three scenarios are usually assumed, as follows:

A- Baseline Scenario: In this scenario, it is not necessary to predict the future values of the variables included in the model.

B - Medium Stress Scenario: In this scenario, it is necessary to determine the medium shock for each variable.

C- Severe Stress Scenario: In this scenario, it is necessary to determine a shock that is more severe than a shock of moderate severity and is appropriate for each variable.

In view of the nature of the Iraqi economy, some macroeconomic variables were selected, which are international oil prices, due to their clear impact on all financial conditions in Iraq, and on economic growth, and then in the banking sector, and the rate of economic growth that reflects all developments in the macro economy, and its impact on banking activity. especially **non-performing loans**, as well as the government spending variable, Which is one of the indicators that have a clear impact on overall consumption and investment, and thus on the ability of projects and individuals to commit to their financial transactions with banks.

In this context, a test was conducted for the resilience of the Iraqi banking system and its ability to withstand negative shocks at the macroeconomic level, by building a model according to the VAR Autoregressive Model (Vector), and the **non-performing loans** ratio was used as a measure of financial default, given the to the availability of data on a quarterly basis, and for a period that allows for stress tests to be carried out.

The model aims to estimate the relationship between the financial failure of banks, and any shocks related to macroeconomic variables, especially the variables referred to above; To measure its impact on the growth rate of **non-performing loans** for the period (Q1 2010) to (Q4 2020), the model took the following form:

$$NPL = F(GGDP, GOILP, GEG)$$

Where:

NPL: **non-performing loans** ratio

GGDP: Real GDP growth rate

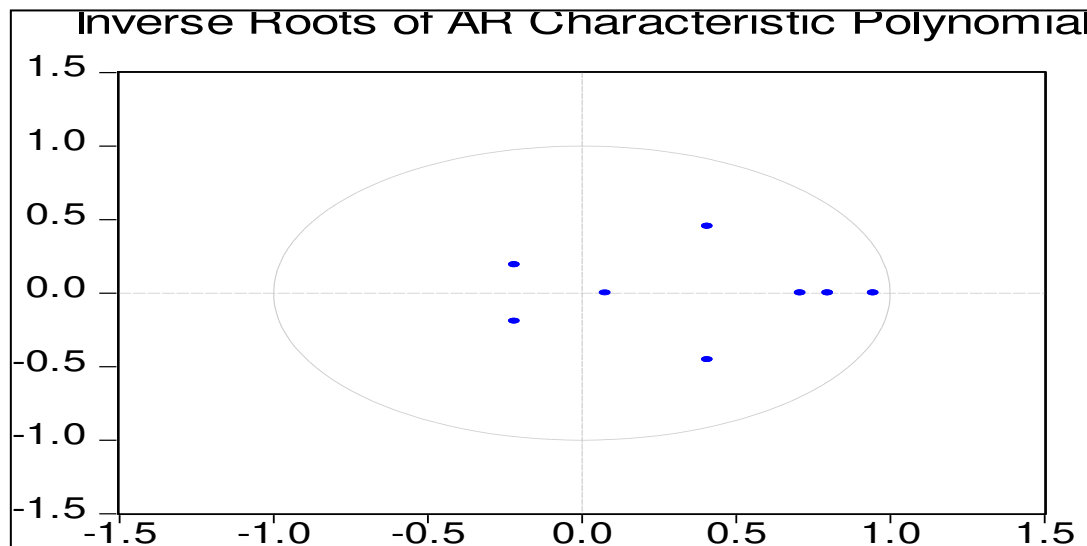
GOILP: Growth rate of oil price

GEG: Government expenditure growth rate.

The test was conducted according to three scenarios, the first represented by the base scenario, through which the values of the variables included in the model, estimated during the period from the first semester 2020 to the fourth semester 2020, were predicted. As for the other two scenarios, they are the medium intensity scenario and the high intensity scenario. Conducting tests for each variable separately, assuming the stability of the other variables, and after

testing the stability of the estimated VAR model, it was found that it is statistically stable, and valid for the prediction process, as shown in Figure (80):

Figure (80) Estimated stability of Vector Autoregressive Model



Source: Central Bank of Iraq estimates, Monetary and Financial Stability Department, 2020.

Table (13) shows the assumed scenarios that reflect the shocks that the Iraqi economy may be exposed to, as there will be a decline in all variables at different rates according to the assumed scenarios, and as shown in Table (13).

Table (13)

Approved shock scenarios in the VAR model

Variables	GGDP%	GOIL P %	GGE %
Scenarios			
The scenario is of medium intensity	-8	-35	-21
The scenario is high intensity	-16	-70	-42

Source: Central Bank of Iraq estimates, Monetary and Financial Stability Department, 2020.

The Scenarios Were Hypothesized According to the Following Methodology:

1- The medium-severity scenario: It was estimated by calculating the growth rate of the variable for the base scenario, minus one standard deviation of the variable growth rate series during the period (2010Q1- 2020Q4).

2- The most severe scenario: It was estimated by calculating the growth rate of the variable for the expected base scenario, minus two standard deviations of the variable growth rate series during the period (2010Q1 - 2020Q4).

6-4. The Impact of the Negative Shock in The GDP Growth Rate on The Non-performing loans ratio:

The economic downturn that Iraq is going through during the year 2020, which is indicated by the rate of decline in growth of real GDP by (-28.5%), is inversely reflected in the volume of **Non-performing loans**, as with the decline in real GDP, the incomes of borrowers will decline and then their ability to repay loan dues will decrease. Which means a delay in the payment of debts and a high percentage. The model actually showed this relationship, which was statistically significant. Table (14) shows a rise in the non-performing debt ratio predicted in the base scenario from (9.408%) for the First quarter, to (9.902%), (10.274%) and (10.513%). For the Second, Third and Fourth quarters, respectively, of 2021. As a result of the negative shock in the real GDP growth rate according to the prepared scenarios, the Non-performing loan ratio increased from (9.902%) to (9.934%) and (10.066%) for the base, medium and high intensity scenarios over the ranking for the second quarter of 2021, as well as increased from (10.274%) to (10.426%) and (10.578%) for the base, medium and high intensity scenarios, respectively, for the third semester of 2021.

Table (14)

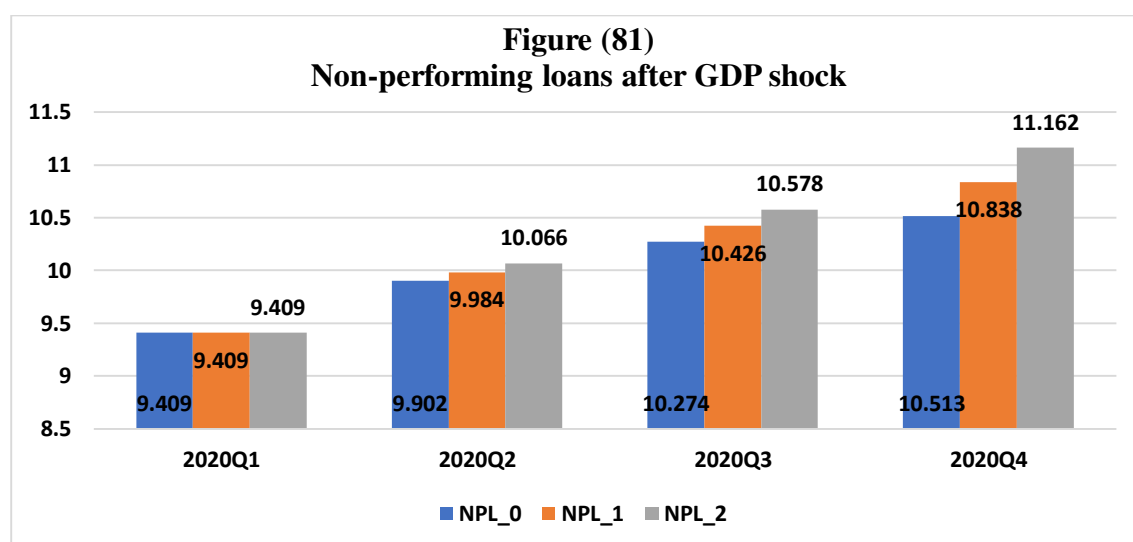
scenarios for forecasting the Non-performing loans ratio after the GDP shock.

Years	Scenarios	2021			
		Season 1 %	Season 2 %	Season 3 %	Season 4 %
	Baseline scenario	9.408	9.902	10.274	10.513
	Medium intensity scenario	9.408	9.934	10.426	10.837
	Most severe scenario	9.408	10.006	10.578	11.162

Source: Central Bank of Iraq estimates, Monetary and Financial Stability Department, 2020.

As for the fourth quarter of 2021, the non-performing debt ratio increased, as a result of the negative shock in the real GDP growth rate from (10.513%) to (10.837%) and (11.162%) for the base, medium and high severity scenarios, respectively. The real GDP growth rate in the Non-performing loans ratio confirms the weak relationship between them, and this is evidenced by the low banking depth ratio in the Iraqi economy, as the ratio of credit provided to the

private sector to real GDP increased from (9.2%) in 2016 to (13%) in 2020, as for private sector deposits divided by real GDP, it increased from (12%) to (18%) during the period (2016-2020). Figure (81) shows the impact of the negative shock on the real GDP growth rate, which will lead to a very slight increase in the **Non-performing loans** ratio of the medium-severe (1_NPL) and more severe (2_NPL) scenarios than the base scenario (0_NPL), for all quarters of 2021.



Source: Central Bank of Iraq estimates, Monetary and Financial Stability Department, 2020.

6-5. The Impact of the Negative Shock of World Oil Prices on The Non-Performing Loans Ratio:

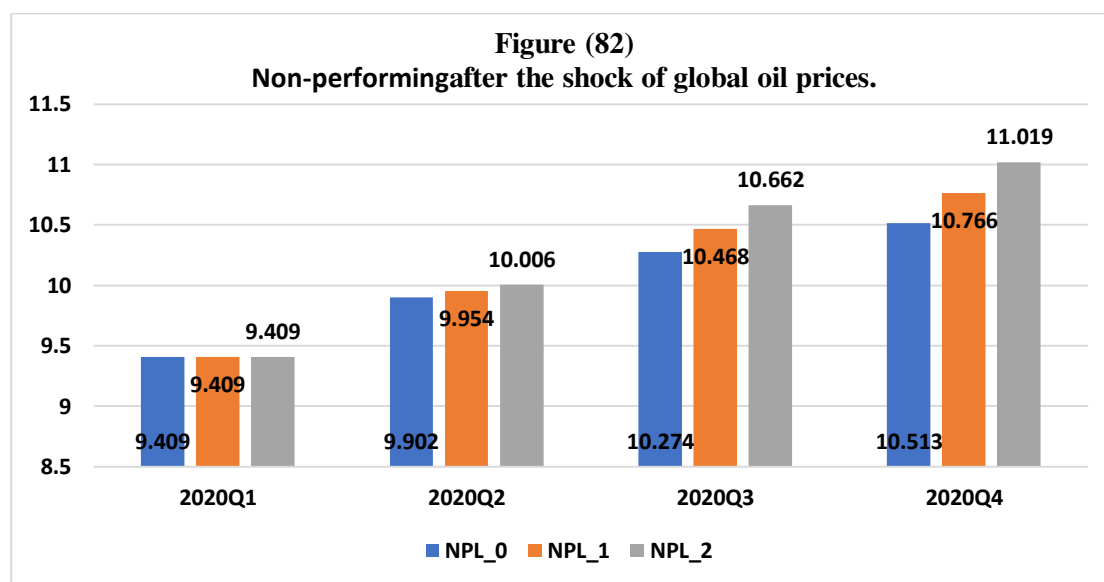
Table (15) shows the inverse relationship between international oil prices and the rate of **non-performing loans** in the Iraqi banking system. The results showed an inverse and statistically significant relationship between the two variables, This reflects the strong relationship between international oil prices and the financial sector in Iraq during this period, as international oil prices can significantly affect the per capita income available in Iraq, especially since most government expenditures that constitute oil revenues more than (90%) will be affected by prices Global oil, which means a decrease in income and then a rise in default in the payment of loan dues, and that the government's ability to absorb the shock will be limited for a certain period, after which the crisis of difficulty in paying the dues of current and investment expenses will appear, and this is what the volume of public spending witnessed a significant decrease at the end of the year 2020 by (-31%) compared to the volume of public spending during the year 2019 as a result of the decline in oil prices by

(-37.9%) for the same period, which negatively affected the volume of public actual revenues, declining by (-41.2%) during the year 2020 compared to 2019. Which led to an increase The amount of the deficit in the general budget reached (12.9) trillion dinars during the year 2020 after it was (4) trillion dinars during the year 2019, as shown in Figure No. (82).

Table (15) scenarios for forecasting the rate of Non-performing loans after the shock of international oil prices.

Years	Scenarios	2021			
		Season 1 %	Season 2 %	Season 3 %	Season 4 %
	Baseline scenario	9.409	9.902	10.274	10.513
	Medium intensity scenario	9.409	9.954	10.468	10.766
	Most severe scenario	9.409	10.006	10.662	11.019

Source: Central Bank of Iraq estimates, Monetary and Financial Stability Department, 2020.



Source: Central Bank of Iraq estimates, Monetary and Financial Stability Department, 2020.

6-6. The Impact of the Negative Shock of Government Spending on Non-performing loans ratio:

The results showed the impact of the growth rate of government spending on the rate of **Non-performing loans** in Iraq, as the decrease in the growth rate of government spending is expected to lead to a rise in the rate of Non-performing loans. Lead to an increase in the growth rate of **Non-performing loans** in the four quarters of 2021, and the trend of this relationship may be due to the strong impact of government spending on the economic crises in Iraq, especially current spending from it, as the government often maintains the level

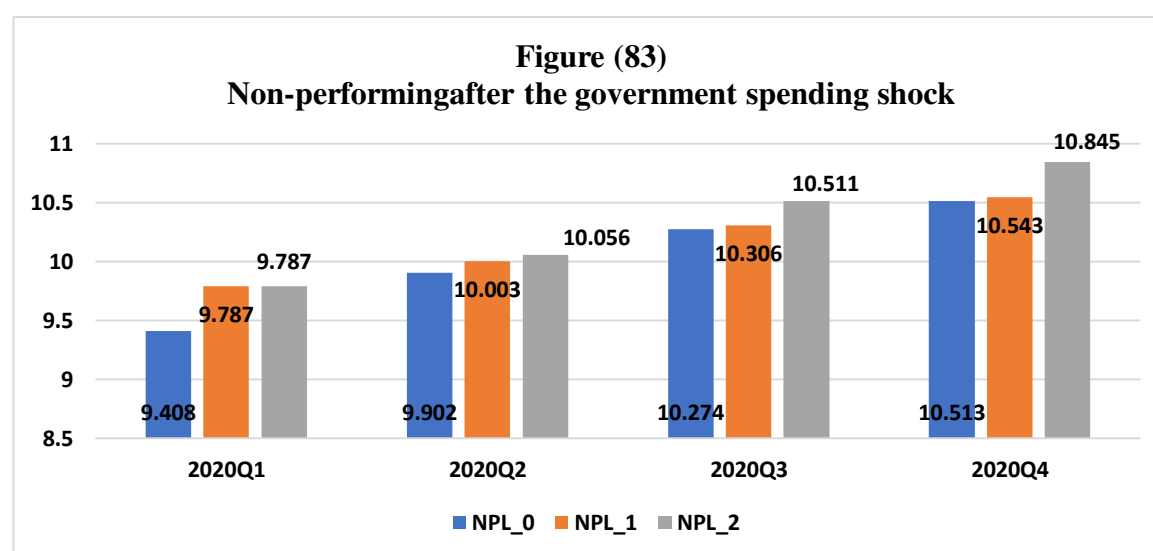
of current spending, and creates alternative sources to finance it in the event of a decline in the main sources (oil revenues), as the decline in public revenues at high rates by (-41.2%) during the year 2020 compared to the year 2019. 2020 and by (-31%) compared to the volume of public spending during the year 2019, and as shown in Figure (83), that the economy is exposed to a long-term crisis that may lead to the exhaustion of alternative sources of financing, which may make the fiscal policy an obstacle for financial or banking stability efforts, therefore, it is necessary to build additional financial buffers to confront crises when they occur that help reduce the channel of transmission of the effects of financial policy to financial stability, including rationalizing public spending and strengthening other sources of local public revenues (customs duties, etc.).

Table (16)

scenarios for predicting the rate of Non-performing loans as a result of the negative shock in the growth rate of government spending.

Years	Scenarios	2020			
		Season 1 %	Season 2 %	Season 3 %	Season 4 %
	Baseline scenario	9.408	9.902	10.274	10.513
	Medium intensity scenario	9.787	10.003	10.306	10.543
	Most severe scenario	9.787	10.056	10.511	10.845

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



Source: Central Bank of Iraq estimates, Monetary and Financial Stability Department, 2020.

7- Financial Infrastructure Developments

7. Financial infrastructure developments

Achieving financial stability is one of the most important objectives identified by the Central Bank of Iraq and which are stated in its law. In order to achieve this goal, a developed financial infrastructure must be available in line with the development taking place in the global financial and banking sector. It issued a set of controls and instructions and took several measures during the year 2020 for the purpose of developing the infrastructure of the Iraqi financial and banking sector, in order to provide financial services in a safe manner and at the lowest costs, and at a high speed in line with the requirements of customers, especially in light of the Corona pandemic, which has expanded the need for electronic financial and banking services.

7-1. Major Developments in Financial Sector Infrastructure:

Despite the suspension of financial and commercial activity for intermittent periods in light of the Corona pandemic, and the suspension of the work of most government departments as a result of the comprehensive ban imposed during the outbreak of the disease, the Central Bank of Iraq issued an important set of controls that would develop work in the financial and banking sector, as follows:

7-1-1. Controls Regulating the Work of the Main and Secondary agents of Foreign Remittance Service Providers in Iraq:

The Central Bank issued these controls for the purpose of strengthening the supervisory and regulatory role of agents of foreign currency exchange service providers throughout Iraq and its provisions, as it identified entities licensed by the Central Bank of Iraq to act as a (main agent), namely (banks, A-class exchange companies and companies licensed for electronic payment as a processor or payment from through the mobile phone), as for the (secondary agents), the Central Bank added banking companies of category B to banks and companies of category A, and in these regulations several provisions were contained to regulate the relationship between the Central Bank of Iraq and the main agent and the secondary agent, and the duties and rights of the main agent and the agent were defined. Secondary, as it requires concluding a contract between the main and secondary agent and presenting it to the Central Bank of Iraq to obtain approval before it is approved. The Central Bank of Iraq, and the principal agent is responsible before the Central Bank for anything issued by the sub-agent that causes financial risks or facilitates Reputation and compliance with laws and regulations, the principal agent ensures that he and

the sub-agents comply with the Anti-Money Laundering and Terrorist Financing Law. These controls also give the principal agent the right to suspend the work of any of his sub-agents and terminate his work upon failure or inability to provide services.

7-1-2. Controls Regulating the Work of Mobile Payment Providers:

The Central Bank of Iraq issued these controls as the sectoral authority exclusively responsible for granting licenses for electronic payment services, and the purpose of these controls is to regulate payment services through the mobile phone, to achieve financial inclusion and access to financial and banking services for all members of society, including adults and children and those residing in city centers and remote areas.

These controls set conditions for granting licenses to mobile payment companies, as the applicant must be one of the companies wishing to license as a company specialized in electronic payment services from the Central Bank, and does not perform any other services, and the company's capital must be paid on time. Specific, as (20%) of the capital is paid and deposited in the Central Bank of Iraq as a basic requirement to consider the application submitted for obtaining initial approval, after which the remaining (80%) of the capital is deposited to obtain final approval, and the company is also not registered until the official authorities have the registration of companies only after obtaining the official approval. These controls stipulated during the licensing process that an economic feasibility study on the project and its future success be presented. The controls identified other procedures for granting the license, including administrative, financial and legal ones, all of which are aimed at ensuring the company's success in providing the best services to customers achieving the spread of financial services and financial inclusion.

7-1-3. Islamic Financial Protection Network Controls:

The Central Bank of Iraq issued controls for Islamic banks. Participation in the Islamic financial protection network is an obligation for Islamic banks, as this network uses the good exchange loan in cases of lack of liquidity, as an agreement is concluded between a group of Islamic banks on the basis of the commitment to donate rule (Obligation of Donate it stipulates the obligation to provide a mutually beneficial loan among themselves in the event of liquidity shortages with one of the parties involved in the agreement, and under the auspices and supervision of the Central Bank of Iraq). The loans have been divided into two types:

1- Quick Exchange good Loans to Address the Inability to Fulfill the Obligation ranging from (1.25) billion dinars to (5) billion dinars.

2- Reciprocal good loans to deal with severe liquidity shortage and weakness in the financial position from (10) billion dinars to (25) billion dinars, provided that the amount of the good loan does not exceed (10%) of the capital and sound reserves.

And the good loan funds (within the network) must be exclusively from the bank's capital. As for the guarantees, they are according to the agreement between the lending party and the borrower, provided that they are compatible with the provisions and principles of Islamic Sharia, as well as the payment mechanism is according to the agreement within a schedule and monthly or quarterly payments, provided that it does not exceed two years in the case of a good loan of the (first type), and not more than (7) years in the case of a good loan of the (second type).

7-2. Compliance by Financial Institutions with Money Laundering Procedures:

The Compliance Controller's Office is the body responsible for following up and testing the compliance of the various CBI departments with international requirements, instructions, local laws and leading practices, as well as providing advice and advice to management on applicable laws, regulations and standards, and following up on the Banking Control Department's procedures to measure the compliance by financial institutions with laws and instructions to combat money-laundering and the financing of terrorism.

Since the beginning of 2020, the Compliance Office has worked to develop the compliance function within the Central Bank of Iraq in line with international standards and best practices in this field, with the aim of achieving the highest levels of compliance, addressing the negative repercussions of non-compliance risks, strengthening governance and protecting against reputational risks, and ensuring the safety and stability of the financial and banking sector through Maintain the lowest level of compliance risk and protect it from engaging in any suspicious transactions or building business relationships with entities and persons subject to international sanctions, to increase trust and strengthen relationships with international partners and global financial institutions, as many goals and achievements were achieved during the year 2020 despite the bad health situation in Iraq and the world due to the Corona pandemic: -

- Developing the compliance function within the Central Bank in coordination with the largest international consulting firms, by drawing up the general policy and procedures for the compliance observer function in line with international standards.
- Strengthening the independence of the Compliance Office, by linking it directly to the senior management of the Central Bank of Iraq and dividing its tasks on the basis of specialized divisions.
- Develop risk-based audit programs for the purpose of monitoring the compliance of the Central Bank of Iraq departments with the laws and instructions.
- Raising the efficiency and capacity of the office's employees by providing training and specialized professional certificates in the areas of compliance and combating money laundering and terrorist financing.
- Spreading the culture and spirit of compliance among the employees of the Central Bank of Iraq by adopting the policy of sounding the alarm in accordance with international standards.
- Follow up on the compliance of the banking sector with the laws and instructions of compliance and combating money laundering and terrorist financing through continuous communication and supervision of the Banking Control Department.
- Enhancing the compliance function of the electronic program for record keeping and management of compliance work.
- In order for the work of the office to proceed in a manner consistent with the work of international institutions and to be effective in performing its tasks, the office deals with several international and local bodies, including the General Secretariat of the Council of Ministers, the Terrorist Fund Freezing Committee, the Financial Action Group (FATF) and the Anti-Money Laundering and Terrorist Financing Office, as well as departments The Central Bank of Iraq.

7-3. Cybersecurity:

The Central Bank of Iraq works to achieve the requirements and develop information security tools and techniques with regard to its technical and information infrastructure and the financial and banking sector in general, and to maintain the confidentiality of data and information and protect it from penetration. It has worked hard during recent years to develop the infrastructure for data and information security and cybersecurity and the application of

procedures All policies in the above two areas are in line with technical and technological developments in this framework.

On the legislative side, the Central Bank of Iraq issued governance and institutional management controls for information and communication technology in the banking sector that regulate governance and management of information and associated technology, and guidelines for managing information and communication technology risks, data security and cyber security for banks and financial institutions subject to the control of the Central Bank of Iraq.

The Central Bank, in cooperation with financial institutions and banks, is working to implement this cybersecurity strategy by issuing a set of circulars and directives, and holding seminars and dialogue meetings. The other bank is working on developing their capabilities in this field through the courses held by the central bank or external courses to develop the performance of employees regarding cyber security.

The Central Bank also educates its employees and strengthens their knowledge skills in the areas, policies and procedures of information security and protection.

The banking system is exposed to a range of electronic and information threats, including hacking attempts and exposure to malicious and harmful software, as well as phishing and fraud attacks. The Central Bank of Iraq has issued in this regard, as well as governance controls, a set of recommendations and circulars, including:

- Creating a formation or administrative entity specialized in information security within all banks and electronic payment service providers, as well as appointing an employee to occupy the position of information security manager and specifying his duties.
- Organizing a comprehensive strategic program for information security and cyber security and aligning it with the organization's strategy, implementing and monitoring this program and updating it on an ongoing basis, to disseminate information security technologies and solutions with the aim of reducing the risks of cyber-attacks and benefiting from new technology and threat information.
- Obliging banks and electronic payment service providers to acquire integrated and advanced electronic systems, and to automate all activities in

accordance with best practices, and to acquire licensed software for operating systems, applications and databases, and to avoid using unlicensed software as it is security critical and vulnerable to penetration and portals for planting malicious programs.

- Preparing training, development and knowledge transfer plans for human resources working in the fields of information technology, data security and cybersecurity.
- Establishing a main and backup data center (**Disaster Recovery Center**) for banks or companies providing electronic payment services inside Iraq with compatible specifications and approved global standards, acquiring licensed programs for operating systems and applications, and all used databases, preparing plans for business continuity and disaster recovery, and providing alternative sites In emergency situations, as well as the need to adopt international standards, for example (**ISO, ISACA, NIST, PCI**).
- Banks and licensed payment service provider's companies must assign specialized and accredited consulting firms in the field of information technology auditing and evaluation, who have accredited specialized expertise and certificates in this field to audit everything related to information technology (systems and software, Networks, data centers, information and communication security, e-payment card systems...etc.).

Managing, monitoring, reviewing and documenting the implementation of information technology policies and procedures, information security controls, cyber security, and response planning to cyber incidents by adopting standards and guidelines based on best practices in this framework.

As for the strategy adopted by the Central Bank of Iraq in the field of cybersecurity, the Central Bank of Iraq has developed a strategic plan to be implemented in phases that includes several projects, the aim of which is to continue developing the cybersecurity infrastructure and data protection at all levels, according to the latest advanced technologies approved in this framework.

7-4. Central Bank's Procedures for Repositioning Receiving banks:

In achieving sobriety for the banking sector, the Central Bank of Iraq relies on a set of laws, controls and instructions that allow the Central Bank a solid legal base to move in correcting the path of reluctant banks, including the Iraqi Banking Law No. (94) of 2004, as there is a set of legal articles that authorized

a number of procedures that can be taken by the Central Bank of Iraq to achieve the stability of the banking sector, as the law permitted the Central Bank to supervise banks periodically or direct and continuous supervision of lagging banks for the purpose of correcting the course of these institutions and preserving them from deterioration in their performance, which may affect the banking sector in general, as well as the law permitted the imposition of guardianship on banks that suffer from financial and administrative crises, and the Central Bank manages them by appointing a trustee for these banks. The Central Bank has taken all these measures against banks that suffer from financial and administrative crises.

The Banking Law of the Central Bank has authorized the establishment of a bridge bank to rescue troubled banks, by injecting sums from the central bank into the establishment of the bridge bank as a capital for this bank, and the good assets of the troubled bank that has reached the stage of liquidation are acquired, and the bridge bank works to achieve revenues in order to restore The amounts are to depositors, and after the bank becomes able to operate well and generate good revenues, it is disposed of by selling it to any investor who has a good reputation and is able to manage it without delay.

The Board of Directors of the Central Bank took a decision to establish a bridge bank for the purposes of saving one of the lagging banks, as the establishment of the bridge bank was started from 2018, and the establishment was completed and a license to practice a profession was granted on 11/29/20, and work will start at the beginning of 2021.

From 2015 to 2020, the Central Bank imposed guardianship on a number of banks, after their low level of financial and administrative performance, which led to a liquidity crisis in these banks, which called the Central Bank to intervene in order to preserve the integrity and stability of the financial system, as guardianship was imposed on (3) Banks are (Dar Al- Salam, Milli Iran and Parisian). As for the commercial banks that are under liquidation, (7) banks are (Basra International, Fransabank, Credit Libanais, Lebanese-French, Intercontinental, Lebanon, Diaspora and Mediterranean). As for the commercial banks that are under the supervision of the Central Bank of Iraq are (5), namely (Al-Mutahed, Al-Shamal, Babylon, Al-Warka and Al-Iqtisad), while the wills were subsequently lifted on each of the commercial banks (Across Iraq, Al-Warka, Al-Iktisad and Al-Mutahid).

In addition, there are (10) banks placed under the direct and continuous supervision of the Central Bank for the purpose of monitoring their performance, and submitting reports to the senior management of the Central Bank of Iraq in order to address all the failures that occurred from the management of these banks, and that the reasons for forming supervision committees differ from one bank to another, including Banks that came out of tutelage and are under control for the purpose of preventing any failures from the new administration, or there are banks that were voluntarily liquidated, especially branches of foreign banks by a decision of their general management for the purpose of continuous supervision of the liquidation process, to ensure the preservation of deposits, and the return of customers' money quickly and from without any unfairness.

7-5. The Evolution of the Iraqi Payment System:

The Iraqi payments system is the mainstay that helps develop banking work in the field of electronic banking, and the process of developing the Iraqi payment system is a priority of the Central Bank, as there is continuity in the development of the payments system, and the year 2020 witnessed several measures that contribute to the development of the payments system, as well as procedures.

7-5-1. State Employee Salary Settlement Project:

The salary localization project has been receiving great attention from the Central Bank of Iraq since its launch in 2017, in cooperation with the General Secretariat of the Council of Ministers, as the localization of the salaries of (2076) spending units (self-financed and focused) was completed until the end of 2020,

and the salaries of (867,589) government employees during the year 2020, bringing the total number to (1,861,129) employees, i.e. a growth rate of 88%, in addition to that, the settlement of entitlements (608,955), benefiting from the National Public Pension Agency.

The number of banks approved by the Central Bank in the salary settlement project during the year 2020 has increased to (32) banks, with an increase of (4) banks to the list approved by the Central Bank. Central bank departments and banks in order to reach the abolition of dealing with direct cash, especially in light of the Corona pandemic, as there has become a great need for electronic financial services to achieve social distancing and reduce the solicitation of money; Because it is one of the means of spreading corona disease.

7-5-2. IRPSI (Iraq Retail Payment System Infrastructure):

The Iraqi retail payment system consists of two main axes: the national resident who supports interbank clearing of transfers made by customers and transactions that take place through the use of automated teller machines and points of sale through credit cards that are linked to the bank account, and the number of banks participating in the payment system has reached retail (39) bankers, as well as (8) companies. Payments via mobile phone, as funds are transferred through electronic wallets without the need for a bank account, as well as transfers can be made for bill payment and shopping, as well as the services established (cash deposit, cash withdrawal, transfer between customers, linking the bank account to the wallet to facilitate Transferring from the bank account to the tools, paying the salaries of employees in the private sector, recharging the balance, purchasing via the Internet, purchasing electronic recharge cards).

7-5-3. Electronic collection:

The electronic collection project is one of the main projects that contribute to enhancing government resources and collecting them in a safe and transparent environment, relying on the infrastructure represented by the national exchange. The use of cards issued by them, the use of points of sale and automated teller machines for collection purposes, as well as through electronic wallets via mobile phones. The project also aims to provide the service of displaying and paying bills electronically and inquiring about them for all citizens through banks and electronic payment service providers authorized by the Central Bank of Iraq. The software for the collection project has been completed so that the concerned parties can participate in it, and one of the most important achievements during the year 2020.

- The actual work of the Iraqi Housing Fund was launched by collecting the installments of loans granted by the beneficiaries electronically on 11/15/2020.
- Forming a committee to coordinate and manage government activity towards establishing electronic governance and the work teams emanating from it, including the work team for electronic collection headed by the Director General of the Payments Department.
- The electronic payment companies have completed the technical requirements necessary to participate in the electronic collection project.
- A meeting was held for the electronic collection project team to present the vision of the collection project, set a work map and set timelines for the

completion stages of the departments (Ministry of Electricity, Directorate of Civil Status, Passports and Residence, General Traffic Directorate, General Authority of Customs).

- The progress in the electronic collection process helps reduce dealing with cash, and the greater the number of service departments and institutions participating in the collection project, the less the need to use cash, especially in light of the Corona pandemic; Because cash is one of the main tools in transmitting viruses, and the development in the field of electronic financial services contributes significantly to achieving financial stability.

7-5-4. Automation of government ministries and government institutions:

The Central Bank of Iraq is working to automate financial transfers between state departments and institutions and to collect receivables through the Iraqi payment system through the electronic clearing system C-ACH using CT payment orders instead of checks or cash payment, and the most important thing that has been accomplished:

- Holding a workshop for the Ministry of Transport to introduce how to implement mechanisms and procedures and to introduce electronic payment tools.
- Addressing the Ministry of Health after the Corona pandemic, using electronic payment tools in financial transactions, and directing its affiliated formations to commit to using electronic payment.
- The issuance of the circulars of the General Secretariat of the Council of Ministers, emphasizing the affiliated ministries to use electronic payment tools instead of cash and checks, and not to deal with entities that do not have bank accounts.
- Issuing a letter from the Ministry of Health addressed to unions for the purpose of using electronic payment tools.
- The approval of the Civil Aviation Authority to provide support to banks and electronic payment service providers in providing financial and banking services to travelers.
- Activating the work (32) of the formations of the Ministry of Oil in the system to automate their financial transactions.
- Establishing a workshop for the Ministry of Interior, the Directorate of Personal Protection, and providing them with electronic authorizations for the purpose of starting to automate their financial transactions.

7-5-5. Payment systems update:

The Payments Department of the Central Bank of Iraq is constantly updating payment systems for the purpose of accessing the latest systems in providing advanced and fast payment services for the purpose of enhancing electronic banking operations, The year 2020 witnessed a contract with (Oliverwyman) company to develop the structure of the payments system and develop plans and projects that contribute to enhancing the use of electronic payment tools and digital financial services, as well as developing the capabilities and skills of the department's employees, and (4) new banks have been involved in the RTGS system, bringing the total number The banks have (75) banks, in addition to the Ministry of Finance, the Retirement Authority, the Department for the Care of Minors, and the General Postal and Savings Company. (50) branches, bringing the number of branches of banks participating in this system to (789) teams.

7-5-6. Strengthening the Role of Oversight and Control:

One of the priorities of the Central Bank of Iraq is to strengthen the role of supervision and control over financial and banking institutions to achieve the goal of financial stability, and the impact of supervision on financial institutions that provide electronic financial services is very important; Because the provision of these services is recent in Iraq, as a plan has been prepared to monitor these institutions from their establishment until the completion of granting them the license and directing the provision of services to customers. 2020 and issuing a number of circulars to enhance the role of supervision and control over financial institutions, as follows:

- The completion of the preparation of the draft of the Iraqi Payments Law, pending approval by the legislative authorities.
- Issuing controls for the work of agents of electronic payment service providers.
- Amending and issuing the rules governing the work of mobile payment service providers.
- Preparing instructions for agents of foreign remittance service providers in coordination between the Payments Department and the Exchange Control Department.
- Issuance of a circular for the cross-card financial transfer service.
- Issuance of virtual electronic payment cards.

- Coordinate with the Office for the Suppression of Money Laundering and the Financing of Terrorism to produce the Manual on Indicators of Suspicion of Money Laundering and Terrorist Financing through Electronic Payment Services.
- Issuance of non-touching electronic payment cards.

7-5-7. The Arab Regional Payment System project (Beni)

It is a platform that provides real-time clearing and settlement services for cross-border money transfers and in Arab and international currencies. And the associated costs on banks and their customers, as the following was done:

- Completing the processes of linking between the platform (Beni) and the RTGS system, in cooperation with the company that provided the payment system.
- The Central Bank of Iraq, represented by the Investments Department, completes the test scenarios with the (BENI) team to complete the bank's link to the platform.
- Completing the technical requirements from the Central Bank of Iraq as a direct participant in the Beni Inter-Arab Payments Platform.
- Signing an agreement between (15) local banks in Egypt and the Arab Monetary Fund to participate in the platform.
- Communicate with banks wishing to participate in the (Bani) system, and follow up with them to know the progress stages of the project.

7-5-8 Concentration in Payment and Settlement Systems:

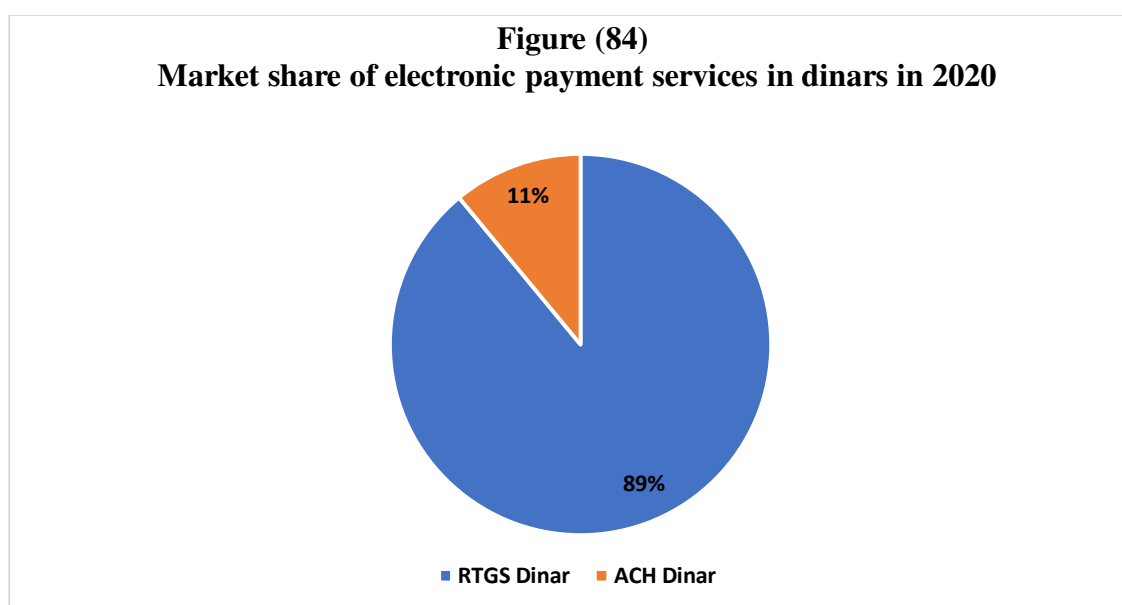
The Central Bank is keen to provide the best banking services to the Iraqi citizen. A number of electronic systems have been used to provide the fastest financial banking services at simple costs while ensuring high and safe quality. The RTGS system and the electronic clearing system C-ACH have been used to expedite the payment and settlement processes. Between banks and customers in a safe way to achieve financial stability, which is one of the main objectives of the Central Bank of Iraq.

The RTGS system has the largest share in payments and financial settlement operations since the date of its use until now, as it constituted (83%) in 2020 with a total amount approaching (198) trillion dinars, while the percentage of the electronic clearing system reached (17%) for the same year, with an amount of approximately of (40) trillion dinars, while in foreign currency, the RTGS ratio reached (92%) in 2020 with an amount of approximately (4,976) million dollars, while electronic clearing constitutes (8%) at an amount of

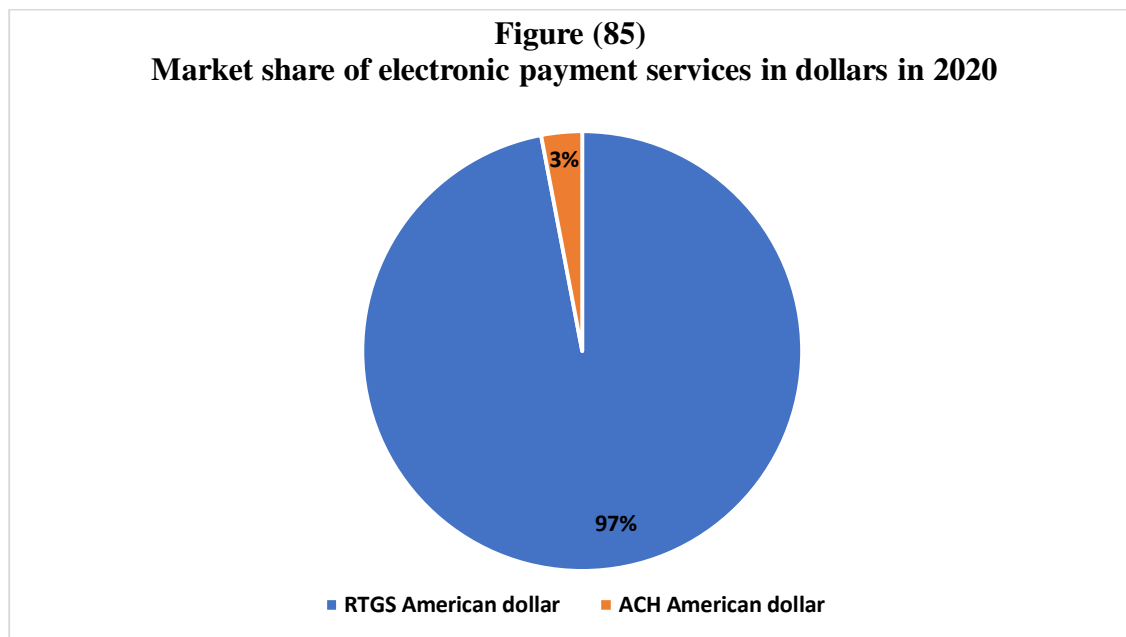
approximately (425) million dollars, and this shows that there is a big difference between RTGS and C-ACH in the payment and settlement processes.

In terms of activity growth in these systems, the total amount of RTGS operations in 2019 in dinars amounted to nearly (185.6) trillion dinars, while in 2020 it reached (198) trillion dinars, which is higher than the previous year by (6.7%). As for RTGS transactions in currency in 2019, it amounted to approximately (5.9) billion dollars, while in 2020 it amounted to (4.9) billion dollars, with a negative growth rate of (-17%), which reflects the expansion of banking activity in the local currency through the RTGS system, and a contraction in dealings in the dollar currency, as a result of stopping commercial activity during the ban periods in light of the Corona pandemic.

In 2019, electronic clearing in Iraqi dinars was approximately (35.4) trillion dinars, in 2020 it was approximately (25.2) trillion dinars, with growth (-29%). In 2019, electronic clearing in foreign currency was approximately (\$240.4) million, the year 2020 was approximately (\$148.6) million, with a sharp decline (-38%) and figures (84 and 85) showing this.

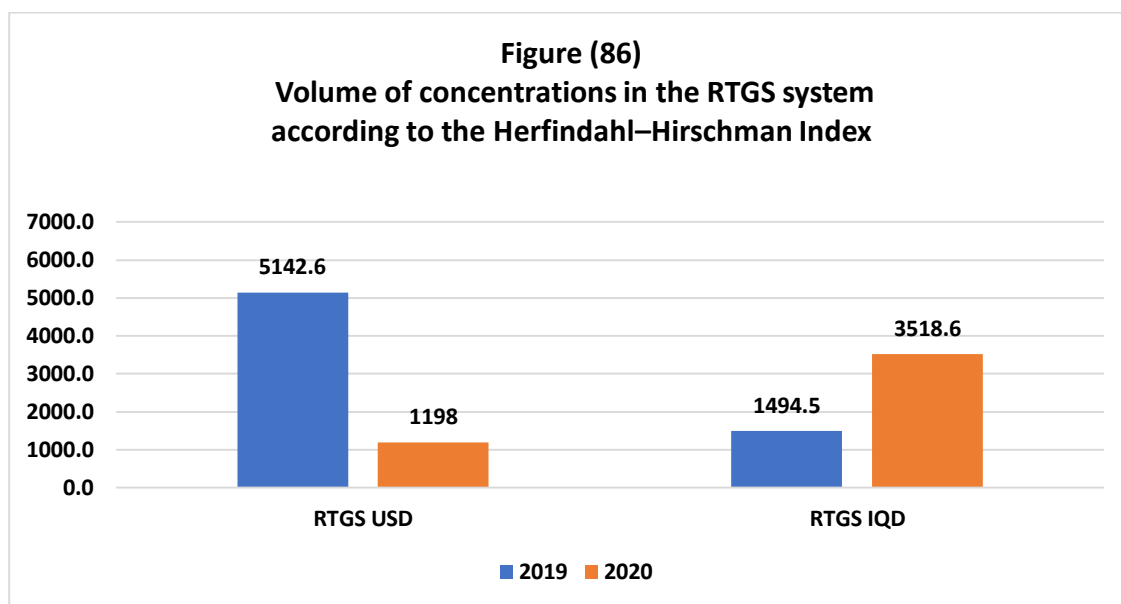


Source: Central Bank of Iraq, estimates of the Monetary and Financial Stability Department 2020.



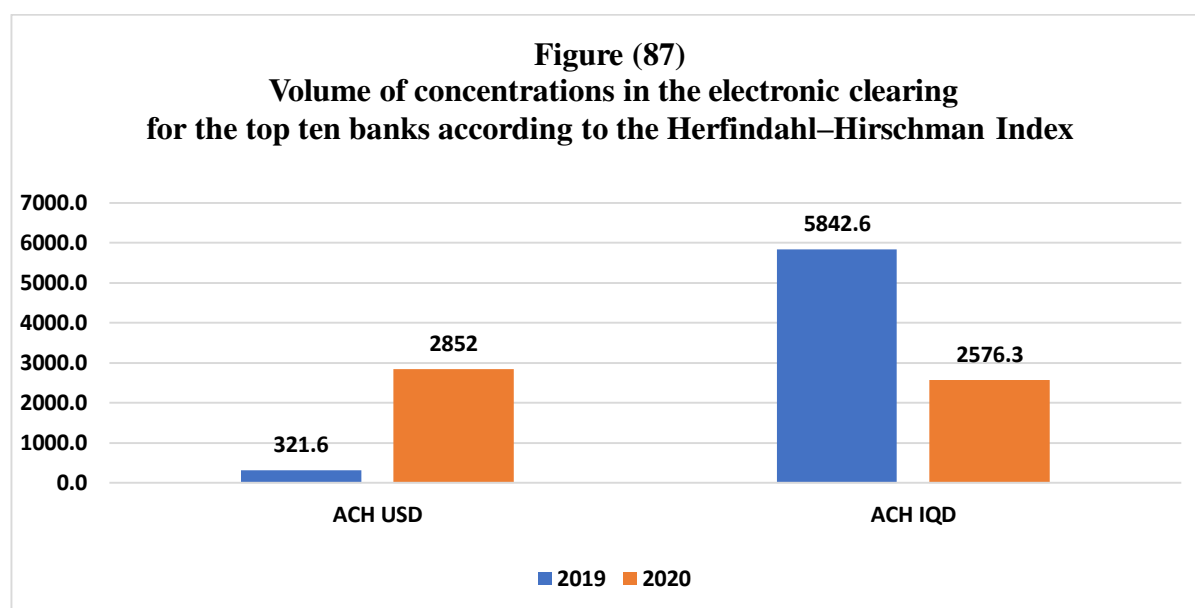
Source: Central Bank of Iraq, estimates of the Monetary and Financial Stability Department 2020.

The concentration on the transactions of the top ten banks in the payment and settlement systems was calculated according to the Hervendal - Hirschman index. It was noted in Figure (86) a clear decrease in the concentration in the transactions of RTGS in dollars, as in 2019 it was (5142.6) points and it decreased to (1198) points, which means there are no risks in dollar transactions in the RTGS system. as for the Iraqi dinar, the concentration increased from (1494.5) points in 2019 to (3518.6) points in 2020, and this is an indication of the increased risks in dinar transactions, but what reduces the amount of these risks is that the concentration lies in Governmental banks that are supported by the Ministry of Finance; For being the owner of these banks.



Source: Central Bank of Iraq, estimates of the Monetary and Financial Stability Department 2020.

As for the concentration in electronic clearing, the concentration in the dinar transactions in 2019 reached (5842.6) points, and it decreased to (2576.3) points in 2020, which means a decrease in the volume of risks and it is within the acceptable limits. (2852.7) points during the year 2020, a clear increase from what it was in 2019, as it was (321.6) points, as in Figure (87), and that most of these transactions were with government banks, due to the decrease in the activity of some private banks during the health ban period.



Source: Central Bank of Iraq, estimates of the Monetary and Financial Stability Department 2020.

7-6 Supporting Institutions:

7-6-1 Deposit Insurance Corporation:

The Iraqi Deposit Insurance Company will start its business in 2021 after the incorporation process has continued since 2018. Subscription to the company's capital was completed in 2020, which amounts to 100 billion dinars, in which the public sector contributes (48%) and the private sector (52%). The regulations specified that one dinar be deducted for every (10,000) dinars from deposits subject to guarantee, which is the lowest percentage in the Arab countries, and the company pays the highest compensation rate in the region, as shown in Table (17).

Table (17)
Ratio of compensation under Deposit Insurance Corporation System.

Amount in Dinar	Ratio	Compensation ratio
25,000,000-1	100%	25 million
25,000,001-50,000,000	30%	15 million
50,000,001-100,000,000	20%	20 million
100,000,001-250,000,000	10%	25 million
250,000,001-500,000,000	5%	25 million
500,000,001-1000,000,000	4%	40 million
Total		150 million

Source: Central Bank of Iraq, Banking Control Department.

The goal of establishing the company is to achieve stability in the banking sector, especially after the reluctance of some banks, which called on many citizens to refrain from depositing their money in private banks in the main, and hoarding it in homes, which made the Central Bank keen to make this experiment a success and urged banks to establish this company is to be the most important basic measures in achieving financial stability and developing bank deposits.

7-6-2 Credit Information Exchange Section:

The Credit Information Exchange Section in the Banking Control Department of this bank is one of the important sections in achieving financial stability, and one of the tools used by the Central Bank to achieve the goal of financial stability. The Central Bank management was keen to provide support to this section in order to develop its performance and keep pace with the advanced mechanisms used In the countries of the world, an advanced electronic system

was used by contracting with an international company specialized in these systems, providing the department with the credit bureau system (CBS), which has been updated more than once, the last of which was on 11/11/2020. The launch of the system into the live environment, and the query is done directly from the bank on the system without addressing the central bank. A total of (5668) inquiries were conducted during the period from 1/11/2020 to 12/31/2020, and the number of overdue installments and those who stopped paying, which amounted to (1109,873) installments during the year 2020, and banks have been directed to update their data for a month and during the first ten days of the following month, and in the event of delay in uploading the data to the bank's customers and sponsors correctly and completely, a daily fine is imposed on the bank is entitled to (one) million dinars until their commitment to the above. the services of this system are as follows:

1. The existence of this system allows banks to increase their credit activities, reduce losses from **non-performing loans**, and support supervision and control over the financial sector.
2. Enable the beneficiaries to assess credit risks and help them take a sound credit decision in accordance with correct criteria and bases based on historical information.
3. To address some of the issues that have emerged, such as **non-performing loans** and low repayment rate, as well as the similarity of customer names that affected the lack of identification of the customer to banks and financial institutions.
4. This system provides us with an important and key indicator for assessing the financial appropriateness and reputation of the instruments returned in the classification methodology using symbols that illustrate the nature of the customer's relationship with his bank and the extent to which is committed to fulfilling the instruments withdrawn.
5. It also provides us with an indication of the legal status of the customer, whether the customer has (a seizure of his movable and immovable funds, blacklist, freezing of funds ... etc.) so that it helps the beneficiaries to take a sound credit decision.

7-6-3. Awareness and Banking Services Control Section:

This department was established in 2020 at the Central Bank of Iraq after it was a division in the credit information exchange department, due to the importance of banking awareness and the central bank's sense of the importance of banks providing diverse and advanced banking services to their customers, as it was entrusted with the tasks of following up on procedures for protecting the public, providing services and raising awareness.

The number of complaints submitted by bank customers to the Central Bank during the year 2020 amounted to (278), and the bank verified them and followed up on the banks in order to solve these problems, as well as setting up a database in the department on these problems, and it is followed up, and in case of repeating the type of complaint submitted against the bank itself will be a negative indicator in the process of its assessment.

The department has followed a mechanism in evaluating the banking services provided by banks to their customers in order to develop the banks' performance in providing advanced services, especially electronic banking.

8- Financial Inclusion

8. Financial inclusion:

The Central Bank of Iraq seeks to increase the level of financial inclusion within the country through a set of measures that it has taken towards that goal, and among these measures (the initiative of large, medium and small projects launched since (2015), which contributed to increasing the number of projects and reducing the exacerbation of the unemployment problem, 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, and achieve Its goals are faster and more accurate, and the trend towards electronic exchange instead of monetary exchange within the economy, and the critical importance of financial inclusion that is characterized by it; therefore, it is one of the main goals that countries put in their accounts for the purpose of increasing financial depth, because of its positive effects and great importance in economic growth and distribution income, reducing unemployment and poverty, and this concern for financial inclusion has increased with the increase in technological development, and digital transactions have become a large part of transactions. Which is directly related to technological development, and the increase in technological development leads to an increase in financial inclusion, as the percentage of adults with bank accounts in China in 2017 reached (80%) of the total population, while in Malaysia this percentage reached (85 %) during the same year, while this percentage in the UAE reached (24%) and in Saudi Arabia (12%), and this percentage in Afghanistan (0.6%) during 2017¹, meaning that the developed countries have an increase in the proportion of individuals who own bank accounts, Which is the basis of financial inclusion, as the first step towards financial inclusion is for an individual to open a bank account and access the financial system.

Financial inclusion is defined as the access of financial and banking services to the largest possible number of the population, especially groups of society with low incomes, at appropriate costs for them, through official channels and the creation of appropriate financial services.

Advanced technology, expanded Internet use and increased mobile phone use are important elements in increasing financial inclusion; achieving a high level of

¹ World Bank, <http://ufa.worldbank.org/country-progress/iraq>

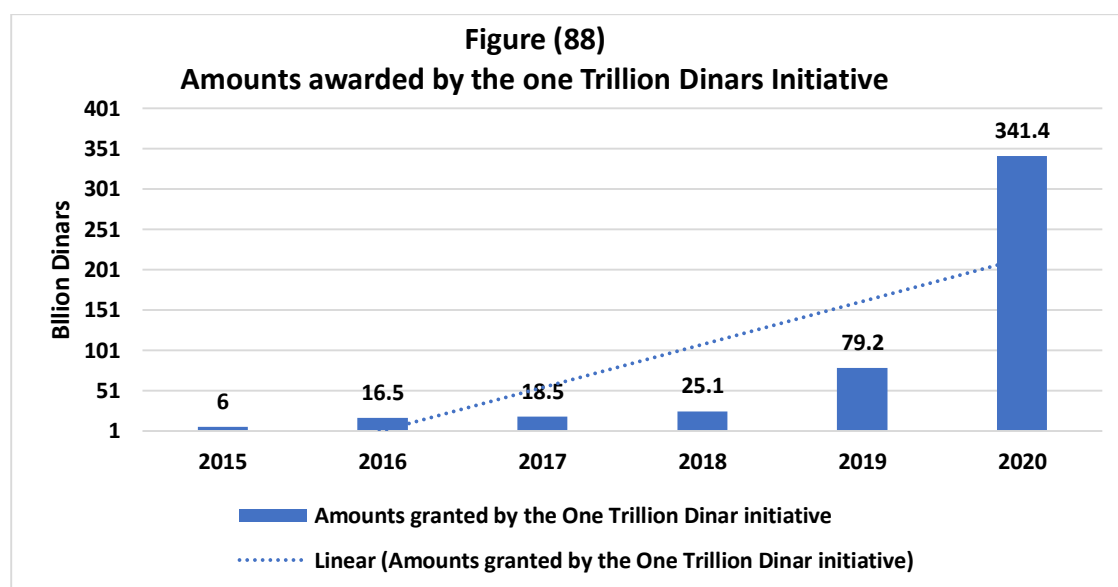
financial inclusion therefore requires an advanced and rapidly spreading information technology infrastructure.

8-1. Initiatives of The Central Bank of Iraq in Support of Financial Inclusion:

8-1-1. SME Finance Initiative:

The Central Bank of Iraq has taken it upon itself to revitalize the local economy through its adopted policies and through a set of initiatives that it launches in order to move the wheel of the economy towards growth, and among these initiatives is the initiative to finance small and medium enterprises (1) Trillion that is granted to citizens through banks operating in the Iraqi banking sector And with a small interest rate that does not constitute a burden on the beneficiaries through the set of instructions it issued, and amendments are still being made to them in line with serving the national economy.

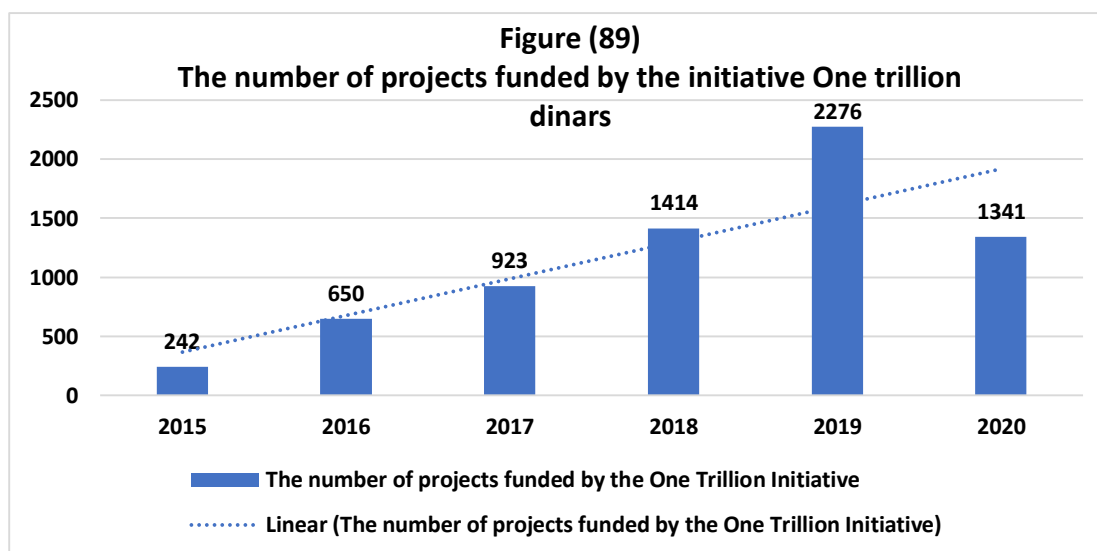
This initiative has been launched since 2015, as (6) billion dinars were disbursed at that stage, and these loans have grown increasingly year after year to reach (341) billion dinars in 2020 as shown in Figure (88), which constitutes a percentage of (34%) of the amount allocated by the Central Bank of Iraq, which is (1) Trillion dinars.



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

(42) private sector banks have participated in granting the initiative amounts, and a public sector bank is the Industrial Bank. The Central Bank has worked to simplify grant procedures and complete transactions as quickly as possible, while

urging banks to expand in this activity, which is one of the tools of financial inclusion, in addition, the Central Bank conducted advertising, promotional and awareness campaigns in the media and various social media. These loans contributed to the creation of about (6846) small projects until the end of 2020, which helped create many job opportunities for the unemployed, and figure (89) shows the number of Projects funded by the (1) Trillion Initiative:



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

It is clear that there is an increase in the number of funded projects, as (242) projects were started at the beginning of the initiative in 2015, then the number of funded projects began to increase until it reached (2276) in 2019 to decline in 2020 (1341) due to the decline in economic growth And the closure resulting from the repercussions of the Corona pandemic and the measures taken to prevent it, which led to the economic decline, such as imposing a curfew, closing markets and other measures, bringing the total number of funded projects at the end of 2020 (6846) projects.

8-1-2 The Large Project Financing Initiative:

The Central Bank of Iraq and its keenness to finance small and medium-sized projects through the initiative of the (1) Trillion mentioned, the Central Bank of Iraq was keen to support large projects that have a clear impact on the economic development process that helps provide some of the needs and requirements of the local economy, which help Also in the process of providing job opportunities, so the Central Bank of Iraq worked to launch the initiative to finance large projects with an amount of (5) Trillion dinars, as the initiative's funds were pumped through specialized banks, and at a low interest rate, so that it would not

constitute a burden on the investor, for the purpose of continuing to work , to raise production rates in the important agricultural, industrial, and real estate sectors, which contribute to increasing economic growth, as well as contributing to solving the housing crisis by providing soft loans to build housing units, or build large housing complexes. Table No. (18) shows the nature of the distribution of these amounts to specialized banks and the Housing Fund.

Table (18)

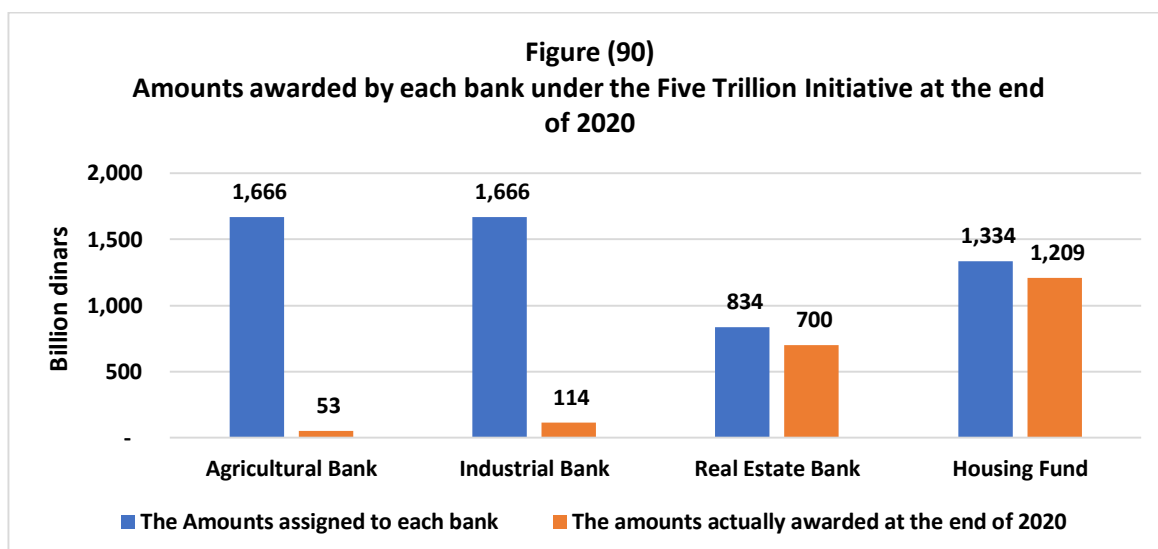
Market share of banks in the initiative to finance large projects.

Billion dinars

Bank	Allocated amount	Amounts actually awarded at the end of 2020	Interest Ratio	Operating Ratio at The End of 2020
Agricultural Bank	1.666	53	2%	3.1%
Industrial Bank	1.666	114	2%	6.8%
Real Estate Bank	834	700	2%	83.9%
Housing Fund	1.334	1.209	1%	90.6%
Total	5,500	2,076		37.7%

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

As a result of citizens' demand for loans provided by the Housing Fund, the amount allocated to the fund has been increased from (834) billion dinars to (1334) billion dinars, and thus the amount of the initiative exceeds (5) trillion to become (5.5) trillion dinars, and therefore the largest share in This initiative was for the Iraqi Housing Fund, and this has been clarified, as (90.6%) of the amounts allocated to the Housing Fund were disbursed, while (83.9) of the amounts allocated to the Real Estate Bank were disbursed and (6.8%) of the amounts allocated to the Industrial Bank were disbursed. (3.1%) of the amounts allocated to the Agricultural Bank, and the reason for this is due to the large demand for real estate loans for the construction of housing units. As for the amounts allocated in the agricultural and industrial sectors, large amounts of them were not disbursed due to the low demand for this type of loans as a result of high risks. This indicates that the real estate sector is the most active sector among the sectors targeted by the Central Bank in this initiative, and (37.7%) of the total amounts of the initiative have been spent, as shown in Figure (90).



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

8-2. Indicators of financial inclusion:

The basic indicators used to measure the level of financial inclusion can be divided into three types: ACCESS, USAGE, and QUALITY. The first and second dimensions will be addressed, namely (access and use). As for the third dimension (quality), which reflects the quality of the financial services provided, its measurement is somewhat complicated. So the focus will be on the other two dimensions.

8-2-1 ACCESS indicator: This Dimension Depends on a Number of variables, as Follows:

8-2-1-1. The bank Density Indicator and The Banking Spread:

Banks are among the most important institutions through which financial inclusion is increased, monetary policy objectives are implemented, and financial services are delivered to the public. Therefore, this indicator is concerned with the number of bank branches within the economy. The banking spread and banking density in Iraq are still below the required level, and despite encouraging The Central Bank of Iraq, banks open branches in all parts of Iraq, but the increase in bank branches was not very large, and the year 2020 witnessed a slight increase in the number of bank branches, reaching (891) branches, while in 2019 there was (888) a difference, There was an increase in the banking density, reaching (45.06) in 2020 after it was (44.25) in 2019, and this was accompanied by a decrease in banking penetration, It was (226) in 2019, and became (2.21) in 2020, and this is a result of the population growth at a rate greater than the growth of the number of bank branches in Iraq, and Table No. (19) shows this:

Table (19)

Banking proliferation and banking density in Iraq.

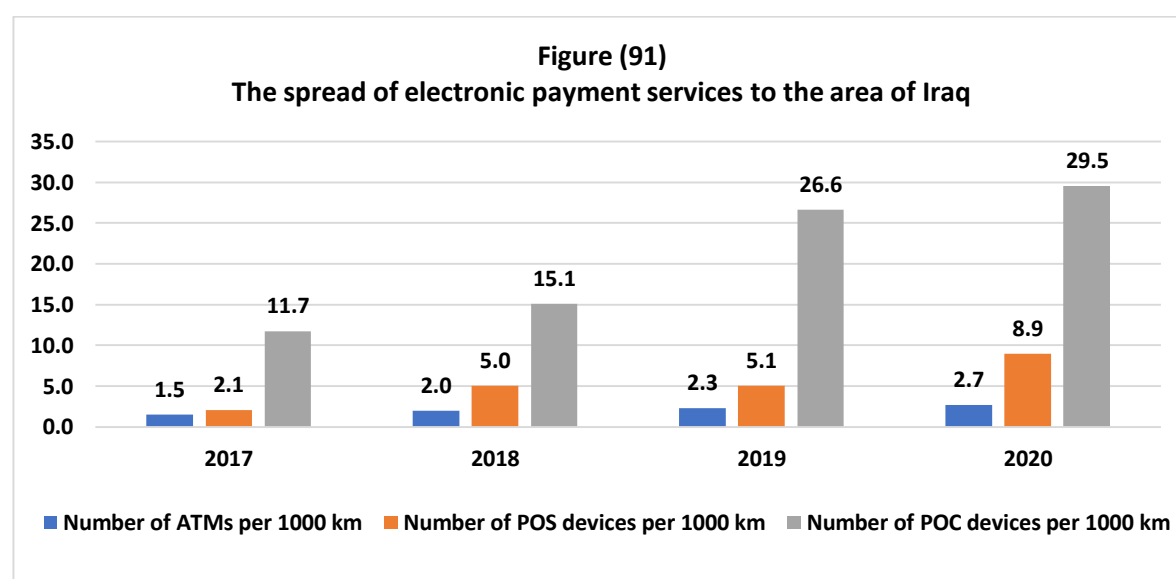
Year	Population (1,000)	Number of bank branches	Banking density	Banking spread
2016	37.883	866	43.74	2.29
2017	37.140	843	44.05	2.27
2018	38.200	865	44.16	2.26
2019	39.300	888	44.25	2.25
2020	40.150	891	45.06	2.21

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

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

8-2-1-2. The proliferation of electronic payment services (ATM), (POS) and (POC):

Following the increase in electronic payment services, it is one of the main goals that the Central Bank of Iraq seeks to increase, in order to introduce the largest possible number of individuals into the financial system and try to increase operations within the financial system and use electronic payment tools, and gradually get rid of dealing with cash, and Figure (91) shows the number (POS), (POC) and (ATM) per 1000 km:

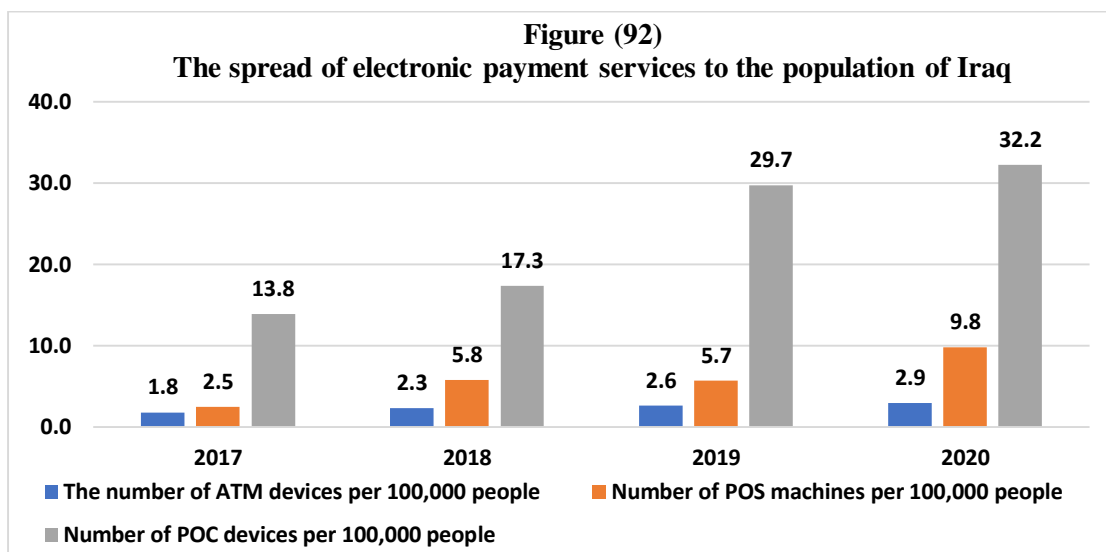


Source: Central Bank of Iraq, Payments Department.

It is noted from Figure (91) that there is an increase in the percentage of the number of (ATM), (POS) and (POC) devices in all of Iraq, as it is noted that the number of ATMs in the area of Iraq increased from (1.5) in 2017 to (2.7) in 2020,

but what The percentage is still very low and does not meet the ambition and the desired goal. As for (POS) devices, their spread to the area of Iraq increased from (2.1) in 2017 to (8.9) in 2020, while (POC) their numbers increased from (11.7) in 2017 to (29.5) in 2020, 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.

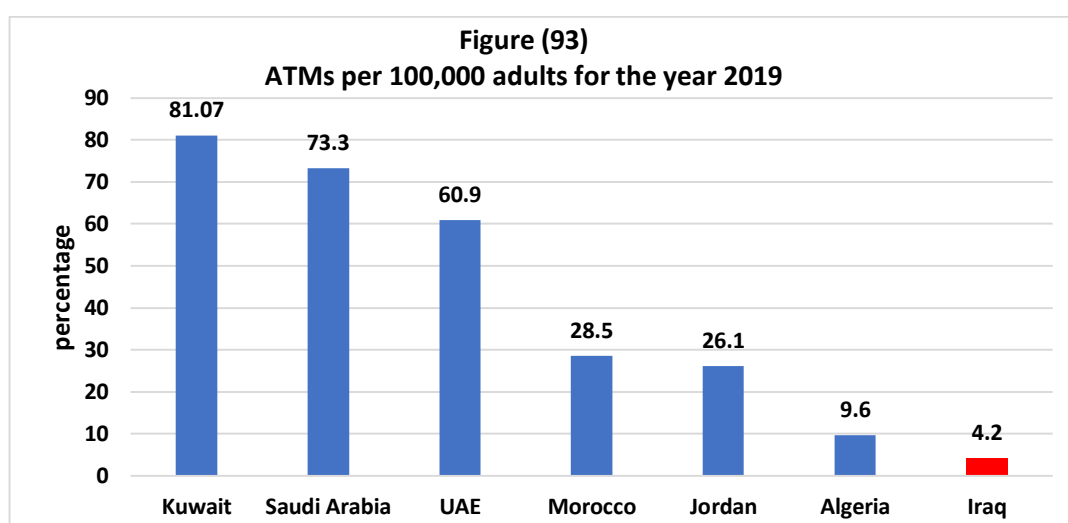
The same applies to the spread of electronic payment services to the population of Iraq per 100,000 people. This percentage is low, and Figure (92) shows this:



Source: Central Bank of Iraq, Payments Department.

It is clear that despite the rise in electronic payment services in 2020, in which the ratio of the number of ATM to the population of (100,000) people was (2.9) and the POS amounted to (9.8) and (POC) it reached (32.2) in 2020, but this spread in payment services is still very simple, and the reason for this is that most commercial markets and stores deal with cash and not POS devices, because this culture has not spread, and this process is still ambiguous for most shop owners, especially in popular and remote areas, as for ATM devices. its spread is limited to malls, commercial centers, some government departments and bank branch headquarters, and there are no devices spread in public areas, but with the continued improvement of security in Iraq, coinciding with the efforts of the Central Bank of Iraq to encourage banks to open the largest possible number of ATMs, this percentage is expected to increase in the coming period.

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 thousand people.



Source: World Bank data:

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

It is clear that Iraq has the lowest percentage in the number of automatic teller machines among the group of comparison countries, which requires banks to increase the number of these machines in order to provide the best services to the public, which helps to increase the number of individuals who enter the financial system, and increase the level of financial inclusion that it is aimed at the Central Bank of Iraq.

8-2-2 USAGE Financial Services Access Indicator:

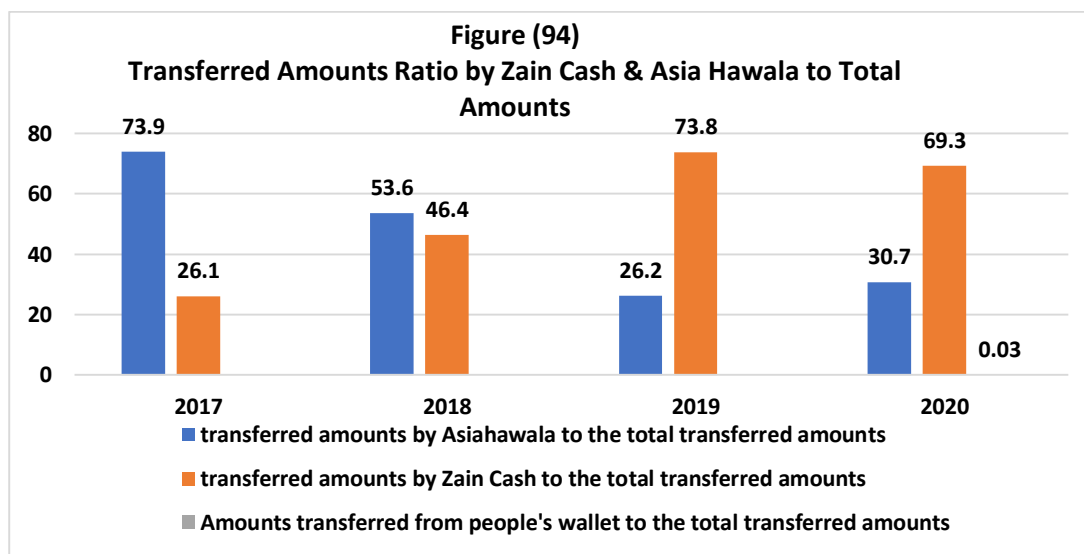
8-2-2-1. The Contribution of Non-Banking Financial Companies to the provision of Financial Services:

Non-bank financial companies are among the institutions that actively contribute to the development of the financial reality in any economy, and they have various tasks within the economy, including mobile payment companies, and there are three companies operating within the financial sector at the end of 2020, while there are non-bank financial companies Banking whose work is (release - processing – collection) within the financial sector, and it has a role in providing (POC and POS) points and issuing cards, and then these companies either work as collecting companies or exporting companies, or processing companies, or they are the one company They carry out the three operations (issuing, collecting and processing) and they are subject to the supervision of the Central Bank. It is worth noting that these companies are the ones who issue electronic cards and supply them to banks. developing the work of these companies and increasing

their activity will reflect positively on the reality of financial inclusion, The Central Bank has granted the license to many companies to carry out their work, but there are five companies that were active within the financial sector at the end of 2020.

8-2-2-2. The Proliferation of Mobile Payment Services:

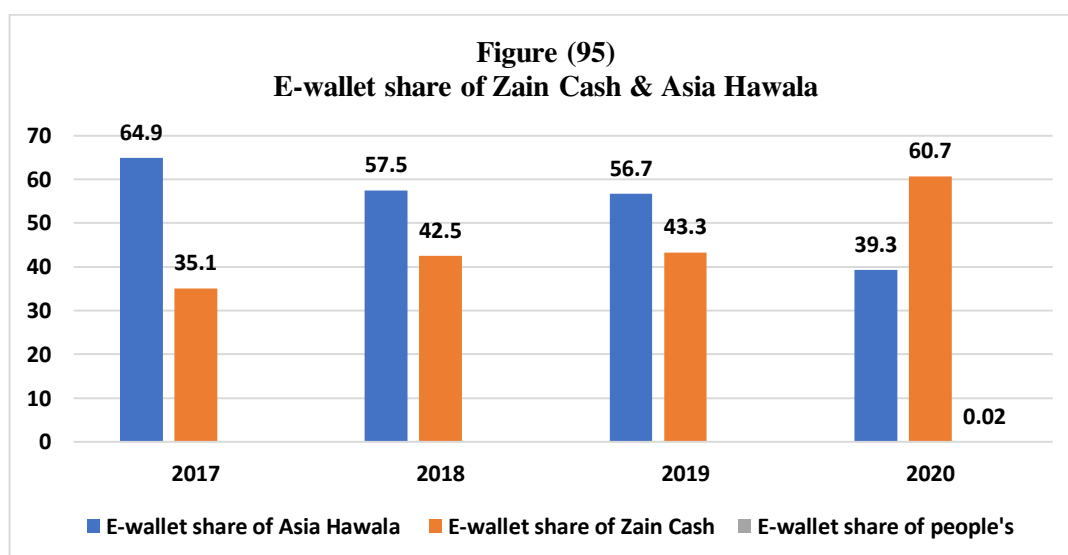
Mobile payment operations are a form of financial development, as they facilitate many financial operations, and help in completing them quickly and accurately, and the Central Bank of Iraq believes in the importance of the spread of electronic payment tools, so it granted a license to two companies to facilitate the electronic payment process via mobile in 2017, namely (Asia Hawala and Zain Cash), as these two companies began providing various financial services to their customers, such as transferring money, paying bills, purchasing electronic cards, filling prepaid lines, and the process of depositing and withdrawing cash to and from the wallet, through the centers approved by the two companies. A third on the work permit from the Central Bank in 2020, which is the People's Portfolio Company, and Figure (94) shows the financial activity of each company, which was measured by the amounts transferred to each company:



Source: Central Bank of Iraq, Payments Department.

It is noted that **Zain Cash Company** has control over financial transfers, as the percentage of transferred amounts to the total transferred amounts increased from (26.1%) in 2017 to (69.3%) in 2020, while **Asia Hawala Company** decreased this percentage from (73.9%) in 2017 to (30.7%) in 2020, while a People's Portfolio Company started its work in 2020 and the percentage of the transferred

amounts to the total amounts was low due to the recentness of its work, following the spread of such services is one of the positive things that help in developing the system services financial, The increase in competition between companies is reflected positively on the financial development, and Figure (95) shows the number of electronic wallets owned by each company:



Source: Central Bank of Iraq, Payments Department.

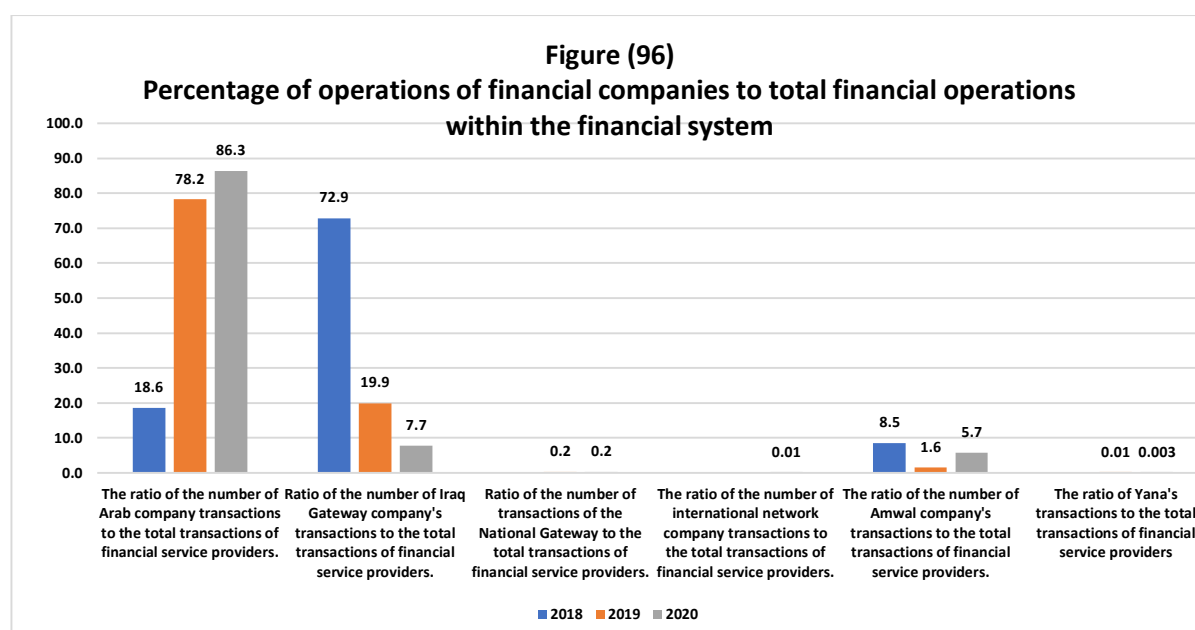
As the share of the **Asia Hawala wallet** of electronic wallets was more than the shares of other companies and amounted to (56%) at the end of 2019 for **Asia Hawala**, compared to (43%) for **Zain Cash**, but in 2020, **Zain Cash's** share of the wallets increased to (60.7%), while **Asia Hawala** has a percentage of its electronic wallets to the total of wallets (39.3%), while the People's Wallet Company has reached (0.02%), due to its recent work. Mobile payment services are among the very advanced services that must be increased.

8-2-2-3. The Contribution of Financial Firms (Processing, Issuing and Collection Companies) to Financial Inclusion:

There are a number of financial companies working in Iraq that work on collection, processing and issuance, and there are 6 active companies at the end of 2020, and in order to know the contribution of each of the financial companies operating in the country in providing financial services, it is necessary to measure the performance of these companies within the financial system and it will this is done by measuring the movements made by each of these companies within the economy in order to measure its activity, and it is clear from Figure (96) that the Arab Company has the largest percentage in the number of financial movements provided as financial services, whether they are issued, processed, or

as collections, with a percentage It amounted to (86.3%) of the total transactions of financial service providers at the end of 2020.

Whereas, Iraq Gate Company owns (7.7%) of the total movements of service providers at the end of 2020, and this indicates the control of the Arab Company on the financial services market, and back in 2018, Iraq Gate Company was the largest dominator of the financial services market with a percentage of (72.9%) to the total movements of service providers, while Al-Arab Company owned (18.6%) of the total movements of service providers, and with reference to other companies, it is a weak competitor in the financial services market throughout the period (2018-2020). The services provided by companies Non-banking finance is one of the most important steps towards developing financial inclusion, due to its ease in completing transactions and shifting towards digital implementation, which helps in saving effort and time, which is very attractive to the public to enter the financial system.



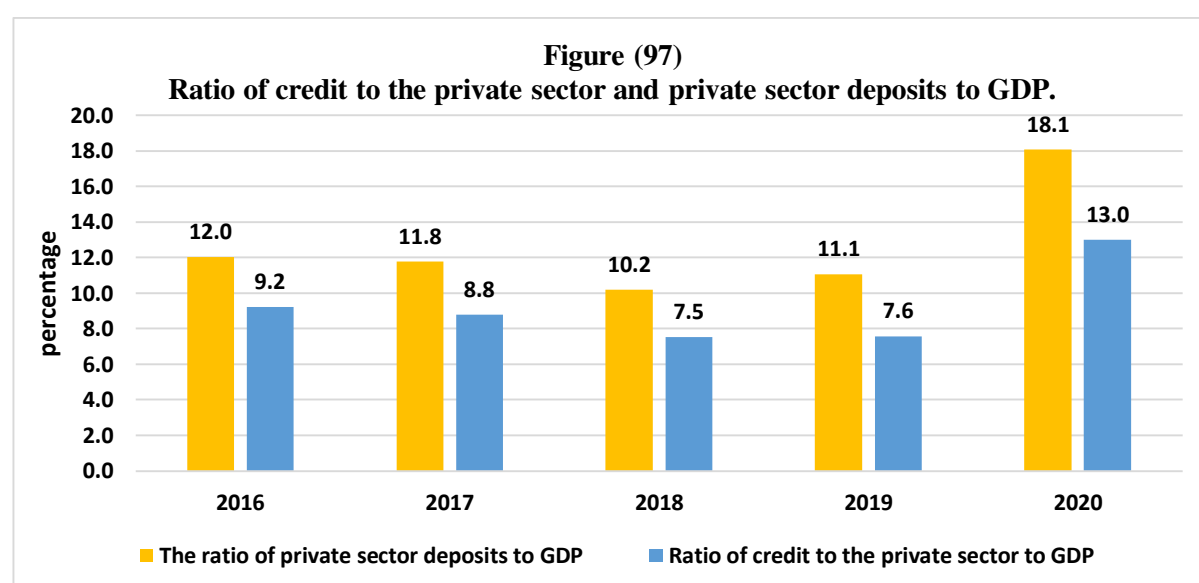
Source: Central Bank of Iraq, Payments Department.

8-3. Bank Depth Indicator:

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. 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, and Figure (97) illustrates these two ratios. It is clear that the ratio of credit provided

to the private sector to GDP increased from (9.2%) in 2016 to (13%) in 2020. This The increase is due to the increase in the volume of credit provided to the private sector with a decrease in GDP in 2020, as the GDP decreased by (-28%) in 2020 compared to 2019.

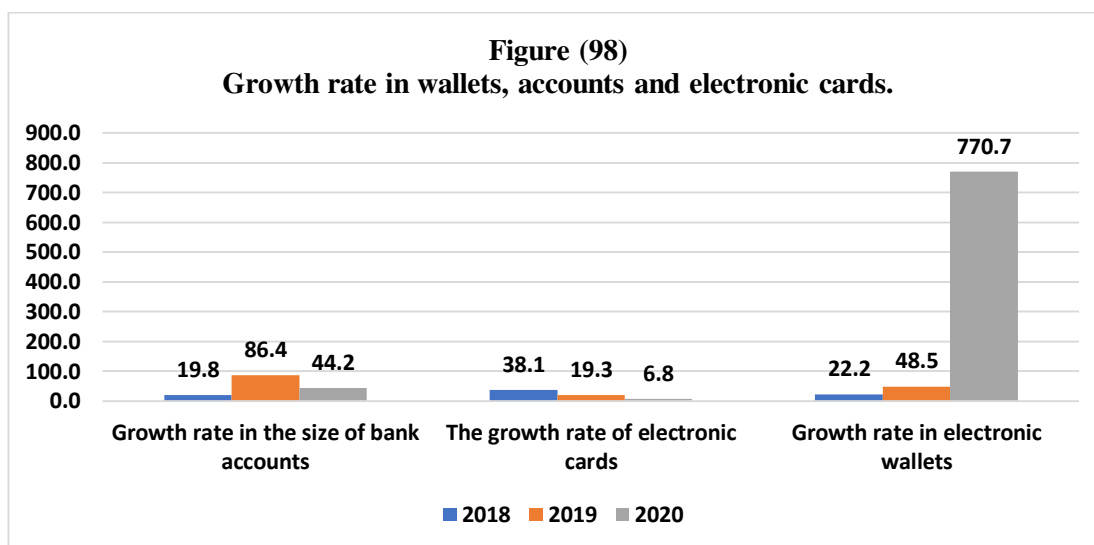
While there was an increase in the volume of credit extended to the private sector by (22%) during the same period, as for the private sector deposits divided by GDP, it increased from (12%) to (18%) during the period (2016-2020). The increase is due to the increase in the volume of deposits and the decrease in the GDP, as the volume of deposits increased by (16.9%) during the period 2019-2020.



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

8-4. Electronic Cards, Bank Accounts, Electronic Wallets:

Electronic cards, bank accounts and electronic wallets: The increase in the number of electronic cards, bank accounts or electronic wallets is a development and expansion in the volume of financial inclusion, the first step towards financial inclusion is to open a bank account, and then the increase in the number of bank accounts is inclusion a greater number of individuals in the financial system, as well as with regard to electronic wallets and electronic cards. Figure (98) shows the growth rate in the number of bank accounts, electronic wallets and electronic cards:



Source: Central Bank of Iraq, Payments Department.

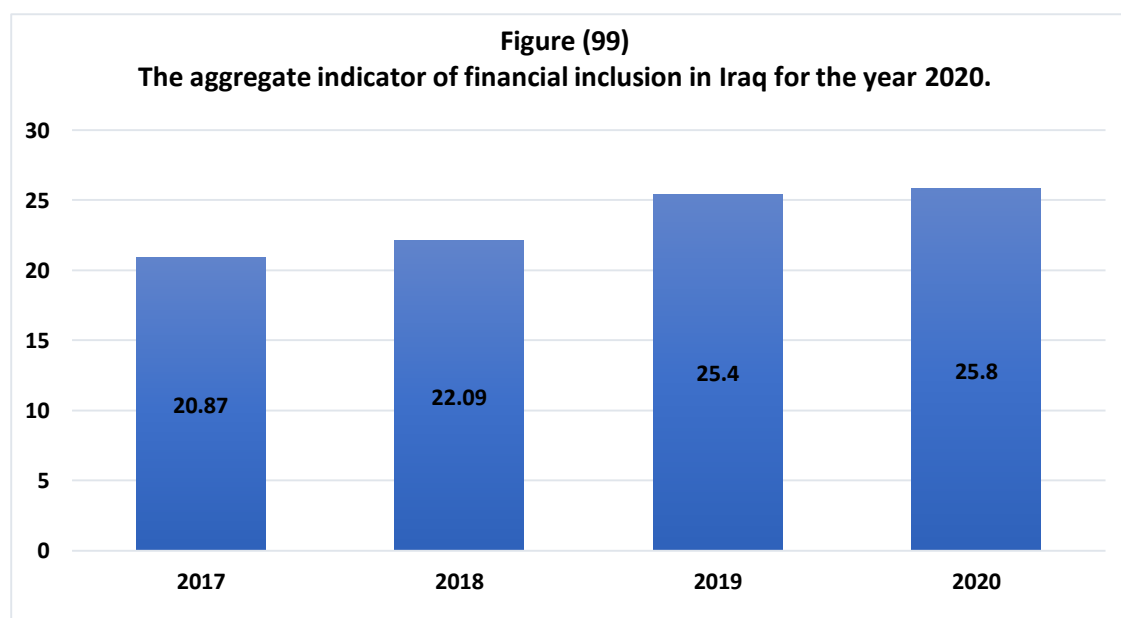
It is clear from Figure (98) that there is a significant increase in the growth rate of electronic wallets, as the growth rate in the volume of electronic wallets reached (770%) in 2020 compared to 2019, and this is due to the widespread use of electronic wallets through mobile networks represented by companies **Zain Cash** and **Asia Hawala** and people's wallet due to its ease of use, especially with the measures to prevent corona disease that were implemented in 2020, while there was an increase in the growth rate of electronic cards (6%) in 2020 compared to 2019, but it is less than the increase that occurred In 2019 compared to 2018, it amounted to (19%) and this is due to the preventive measures that were followed in 2020, and the same thing is hanging over the increase in bank accounts, as it increased by (44%) in 2020 compared to 2019, which is less than the rise Which occurred in 2019 compared to 2018, when the growth rate during that period was (86%), but in general, there is an expansion in financial inclusion, and there is a greater entry of individuals into the financial system.

8-5. Measuring the Aggregate Indicator of Financial Inclusion in Iraq:

The aggregated index is a reflection of the extent of progress made in the level of financial inclusion, by using a set of indicators that take different values and weights in order to reach the final result that determines the extent of the increase or decrease of the financial inclusion index, and there are multiple ways to measure the Aggregated Index of Financial Inclusion ; Therefore, the method used by the Alliance for Financial Inclusion will be adopted, as it is the most

appropriate application for the case of Iraq¹, and the results in Figure (99) indicate an increase in the value of the aggregate index of financial inclusion from (20.8%) in 2017 to (25.8%) in general. 2020, but comparing 2020 with 2019, we find that the rise in the level of financial inclusion was not by a large percentage, as it rose from (25.4%) in 2019 to (25.8%) in 2020, and the reason for this is due to the challenges faced by the Iraqi economy due to the Corona pandemic , but in general, there is an increase in the value of the aggregate index of financial inclusion, and this 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 official financial sector. This increase in the value of the financial inclusion index is due to the noticeable increase in the number of bank accounts as a result of the salary localization policy, as well as the noticeable increase in the number of ATMs and points of sale, which increased in the last period.

Despite this increase in the level of financial coverage in Iraq, the Central Bank of Iraq continues its policies towards achieving its important strategic objectives, including increasing financial coverage and adopting electronic tools to settle payments and exchanges instead of cash payments.



Source: Central Bank of Iraq, Financial Stability Department estimates for 2020.

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

Financial Stability Report 2020 Preparation Staff

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