

Financial Stability Report

2019

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

**Financial Stability Report
2019**

Central Bank of Iraq – 2020
Financial Stability Report for 2019
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Introduction

The Central Bank of Iraq is working hard to diagnose the systemic financial risks that the financial sector in Iraq may be exposed to, as well as analyze the most important trends of the selected financial and banking indexes according to the best scientific practices followed in the international and Arab financial institutions to ensure a proper and stable financial sector. The Central Bank of Iraq is pleased to present the Financial Stability Report (the tenth issue) to inform the parties concerned with the Iraqi financial system, researchers and the public in general about the conditions of the financial sector in Iraq during the year 2019.

The Financial Stability Report for the year 2019 included a number of basic axes, as follows:

- Financial sector developments.
- Indicators of financial soundness of the banking system.
- Measuring the aggregate index of financial stability.
- Total stress tests.
- Infrastructure developments of the financial system.
- Financial inclusion.

In connection to the foregoing, the Iraqi economy continues to face a number of risks, on top of which are security impacts and oil price imbalances, as well as the unilateral nature of Iraq's rent-based economy, as well as global growth and its implications on the oil sector, which is of high relative importance to Iraq's GDP. Therefore, the Central Bank of Iraq took the issue of achieving financial stability with increased attention. This stems from its responsibility to ensure a sound and stable financial system, maintain the same, and reduce potential risks after forecasting them. 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).

Financial stability is one of the main goals that must be achieved and maintained. These goals are mentioned in Article) of the Central Bank of Iraq Law No. 56 for the year 2004. It is one of the main objectives of all central banks, along with the stability of the price level and exchange rates, to ensure

Effective performance of all economic units towards sustainable economic development. This is what prompted the central banks of the world to give greater importance to ensuring the integrity and stability of their financial systems, which was reflected in the preparation of periodic reports on financial stability.

Most of the indicators included in the 2019 Financial Stability Report indicated that the financial system in Iraq, with 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 from the real sector. This will be explained in the report.

The Summary

The Central Bank of Iraq continues to monitor and analyze changes in the financial system; for being the responsible party on the safety and stability of this system, the issuance of the financial stability report for this year is a part of the Central Bank of Iraq's work to achieve and enhance financial stability for financial and banking institutions. The financial statements for the year 2019 have been approved. The following is a summary of this report:

The banking system in Iraq consists of (73) banks as in the year 2019, of which are (7) government banks and (66) private local and foreign banks, and the largest number of which are commercial banks, (40) banks, followed by Islamic banks, (26) banks, and (3) specialized banks. Banking system magnitude of assets increased from (123) trillion Dinars in 2018 to (133) trillion Dinars in 2019, with an increase rate of (8.21%). Ratio of assets of the five largest banks amounted to (78%) of total assets, the rest is the share of other banks. The level of assets concentration of the five largest banks according to the Herfindahl – Hirschman index reached 1962 points in 2019. This indicates a moderate level of assets concentration in the banking system.

Banking sector deposits increased from (76.89) trillion Dinars in 2018 to (82) trillion Dinars in 2019.

Similarly, bank capital increased by (2.5%) in 2019 to reach (15.5) trillion Dinars, after it was (15.1) trillion Dinars in 2018, due to the establishment of new Islamic banks, as well as the increase in the capital of some banks.

Cash credit increased from (38.5) trillion Dinars in 2018 to (42) trillion Dinars in 2019, at a (9%) rate of increase, while the contractual credit decreased from (25.33) trillion Dinars in 2018 to (25.26) trillion Dinars in 2019, decrease rate (-0.26%) and its relative importance to total credit decreased from (39.7%) in 2018 to (37.5%) in 2019.

Overdue debts amount decreased from (4.8) trillion Dinars in 2018 to (4.1) trillion Dinars in 2019, with a decrease rate of (-15%). This reflects an increase in the commitment level of repaying overdue loans. Ratio of total overdue debts to total cash credit decreased from (12.8%) in 2018 to (9.89%) in 2019 due to the decrease in bad debts value of government banks. This reflects a decline in the risks facing the banking system, especially the risks arising from private

sector activity, whose non-performing loans constitute the largest ratio of delinquency.

The data and statistics contained in the Iraq Securities Market Report for the year 2019 indicate that the market has continued to deteriorate in the performance of its annual indices, as the market index (ISX 60) has closed (It is an index that is primarily based on selecting 60 companies with the highest turnover rate for participating companies' shares) in its last trading session for the year 2019 at (493.76) points, decreasing from 2018 at rate of (- 3.2%) for several reasons, including the failure of some companies to hold their annual meeting and the failure to distribute profits to shareholders of some companies, in addition to resulting in a loss for others.

Analysis of financial soundness indicators showed a decrease in the ratio of banking system capital adequacy in general from (285%) in 2018 to (173%) in 2019. These ratios, despite their decrease from 2018, reflect the adequacy and good financial capacity of banks operating in Iraq that help them in facing potential risks, as it greatly exceeds the standard ratio specified by Basel standards, amounting to (8%), and the ratio specified by the Central Bank of Iraq, amounting to (12%). Operating banks in Iraq also achieved a high liquidity rate, as the monthly rate of the LCR ratio did not fall below the minimum set thereto during the year 2019. It reached its highest rate in August (257%), while the lowest rate for the LCR ratio was in of March and April, as it reached (223%). As for the net stable funding rate for the banking system in Iraq, high rates were recorded in 2019 quarters, amounting to (241%), (213%), (215%), (218%) respectively for each quarter. This indicates that banks have more funding available than required. The Iraqi banking system has high liquidity levels according to other indicators, as the liquidity ratios range between the highest liquidity ratio (96.1%) according to the liquid assets index to short-term liabilities, and the lowest liquidity ratio recorded for the year 2018, amounting to (43.2%) according to the indicator of liquid assets ratio to total assets of the banking system. While the cash credit to deposits ratio reached (51%) in 2019, which is lower than in 2018, when it reached 50%. The financing gap decreased in 2019 by (4.6%) compared to 2018, as the gap in 2019 reached (-92.5%), due to a higher rate of growth in cash credit than the deposit growth rate. Ratio of overdue debts / total assets decreased from (3.95%) in 2018 to (3.12%) in 2019 to reflect the enormity of the Iraqi banking system assets. Ratio of overdue debts to capital has also decreased from (32.4%) in 2018 to (26.8%) in 2019. The

return on assets increased from (0.53%) in 2018 to (0.79%) in 2019, as a result of the increase in bank profits, as net interest-bearing income increased at a growth rate of (13.4%) Interest-free income also increased at a rate of (4.6%). As for the return on owners' equity, it increased from (4.4%) in 2018 to (6.9%) in 2019 for all government and private banks.

The financial stability index was calculated for the first time in Iraq, as banking stability index was the only index calculated in previous years. Index value reached (0.474, 0.478, 0.420, 0.586, 0.593) for the years 2015-2019, respectively. This index increased in 2019 compared to 2018, at an increase rate of (1.2%). Thus, the banking system is generally not expected to experience short-term crises. The reason for the increase in the banking stability index is the rise in both (Banking Sector Index, financial cycle Index).

According to the basic scenario in the statistical model prepared for stress tests, the predicted bad debt ratio increased from (10.05%) in the first quarter of 2020 to (10.12%) in the fourth quarter of 2020, and the results showed a slight increase in the bad debt ratio as a result of negative shocks to the GDP growth rate. This slight decrease is a result of the decrease in the ratio of banking depth in Iraq, which is an indication of the contribution extent of the banking sector in financing real activity, and therefore its decrease reflects the weakness of the relationship between the banking sector and the real sector. As for international oil prices, they showed a positive statistically significant relationship on the ratio of bad debts. This is opposite to what is expected, which may be due to government's ability to absorb low global oil prices shock and maintain public spending level without major change. This was confirmed by the recurrent crises of low oil prices. It is expected that the decrease in the growth rate of government spending will lead to an increase in the bad debt ratio, but the relationship was positive and significant, as the scenarios for lower government spending growth rate were accompanied by a decrease in the growth rate of bad debt in all 2020 quarters. This positive relationship may be due the low impact of economic crises on government spending, especially the current spending thereof. As the government often maintains the level of current spending, and prepares alternative sources for its financing in the event of a decrease in the main sources, but the protracted crisis may lead to a decrease in the alternative sources of financing or their depletion in the worst case scenario. This could cause fiscal policy to impede financial or banking stability efforts. Therefore, additional financial buffers must be built to face crises when they occur to help

reduce the transmission channel of the effects of fiscal policy to financial stability.

With regard to developing the financial infrastructure as a basic element in supporting financial stability, the Central Bank of Iraq issued a number of controls and instructions, including (liquidity transfers controls, controls for raising the ceiling of small and medium loans to (1) billion dinars, banks merger and union controls, governance and management controls, institutional information and communication technology in the banking sector, supervisory work manual for internal auditing, supervisory work manual, risk management controls, guidelines for preparing financial statements for banks in accordance with the requirements of International Standard No. 9 of financial instruments, stress tests instructions, liquidity according to the accrual scale, legal compliance report and compliance auditor, interdependence controls).

Development of the Iraqi payments system is one of the priorities in the Central Bank of Iraq policy to develop the banking sector and provide the best banking services, especially in the field of electronic banking and payments settlement. The Central Bank continues to improve the payment system, as several measures were taken in 2019 to develop payment systems for the purpose of achieving stability in the financial and monetary system, including (continuing the project of localizing state employees' salaries, expanding participation in the Iraqi retail payment system (IRPSI), linking comprehensive banking systems, providing guarantees for transfers through the payments system, developing Central Securities Depository (CSD) system, and strengthening The role of supervision and control, updating the systems, launching the electronic collection project). For the purpose of enhancing the citizen's confidence in the banking system, the Central Bank has been developing institutions that support the banking sector or establish new institutions such as the Deposit Insurance Corporation, whose shares were offered for subscription in 2019.

The Central Bank of Iraq is concerned with enhancing the level of financial inclusion and raising the level of financial services provision for all segments of society, in all regions of Iraq, while working to raise the quality level of provided services, as well as the Central Bank of Iraq work to increase citizens' awareness of financial inclusion issues by holding workshops and seminars, and using Various media. In addition, during the year 2019, the Central Bank of Iraq continued with the initiatives of financing small and medium enterprises and

financing large enterprises, which contribute to supporting and enhancing financial inclusion. Financial inclusion indexes have also been analyzed, which are the level of access to financial services, the index of banking density and banking spread. Banking density, increased from (44.16) in 2018 to (44.25) in 2019.

While the banking spread in 2019 reached (2.25) compared to (2.26) in 2018, and the aggregate index of financial inclusion in Iraq increased from (22.09) in 2018 to (25.4) in 2019, which reflects the success of the Central Bank of Iraq policy in achieving financial inclusion.

1-Financial Sector Developments in Iraq

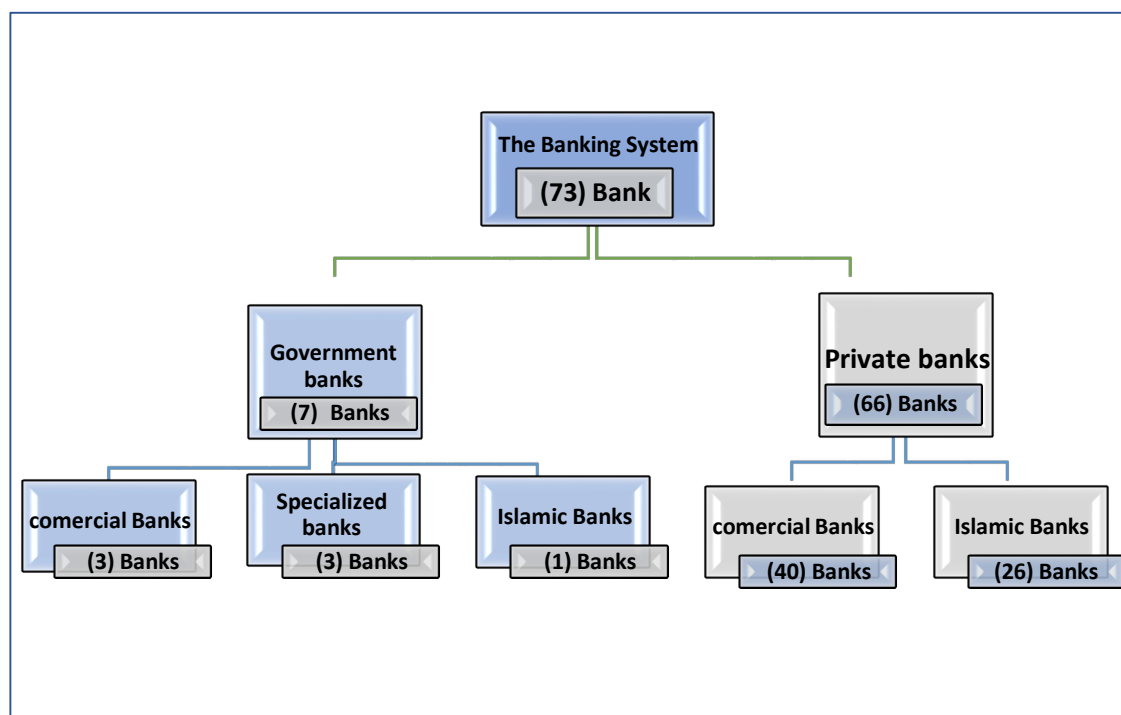
1. Financial Sector Developments in Iraq

1-1 Banking sector development in Iraq:

The banking system in Iraq consists of (73) bank as in 2019, including (7) government banks and (66) domestic and foreign private banks and the largest number therefrom are commercial banks and they are (43) banks, following by (27) Islamic banks then (3) specialized banks as shown in figure (1).

Figure (1)

The structure of the Iraqi banking system as in 2019

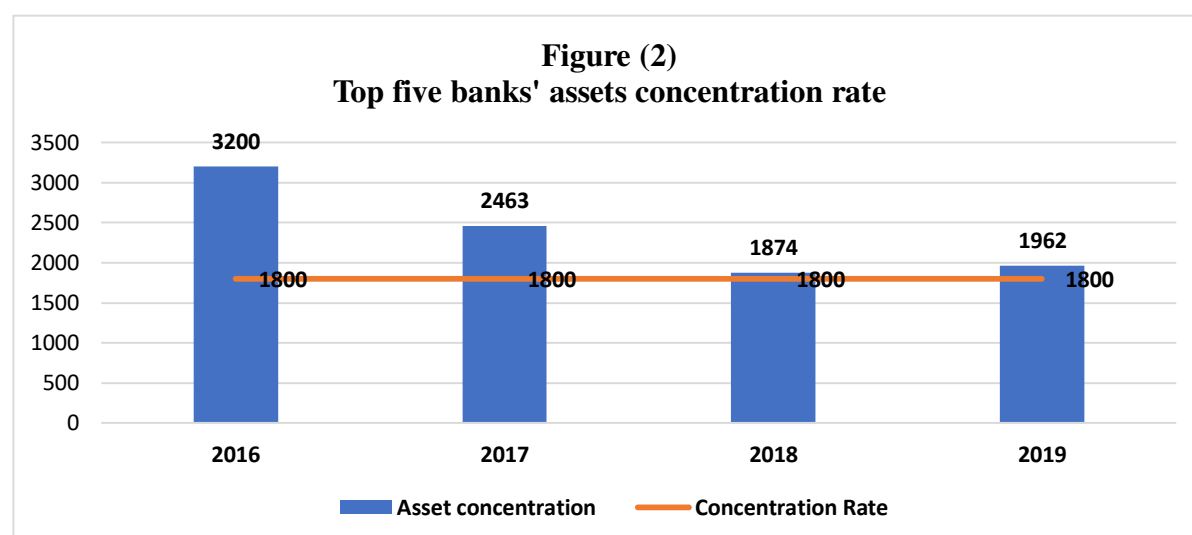


Source: Central Bank of Iraq, Department of Statistics and Research.

1-1-1 Banking sector assets:

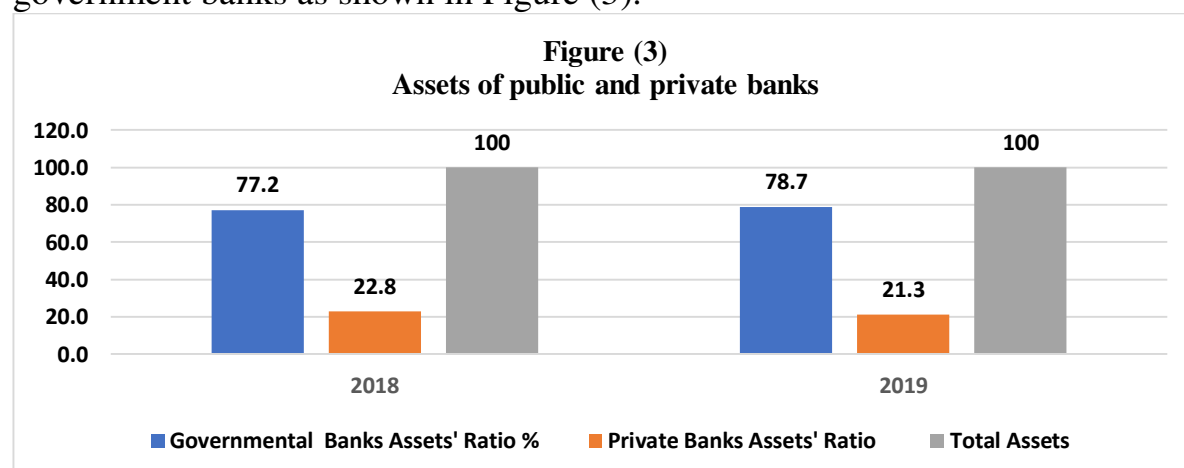
The size of the banking system assets increased from (123) trillion dinars in 2018 to (133) trillion dinars in 2019 with an increase rate (8.21%), and despite the increase in the number of banks in Iraq to (72) banks, the proportion of the assets of the five largest banks has reached (78%) of the total assets and the rest is in the share of other banks, and this indicates an increase in the activity of these banks compared to other banks.

Assets concentration rate for top five banks according to Herfindahl – Hirschman Indicator¹ amounted 1962 point for the year 2019 as shown in figure (2). This indicates a moderate concentration rate in the assets of the banking system. However, the increase of concentration rate of 2019 compared to the previous year indicates a decrease in competition between banks. Concentration rate has increased due to the increase of government banks' assets from 95 trillion Dinar in 2018 to 104.8 trillion Dinar in 2019.



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

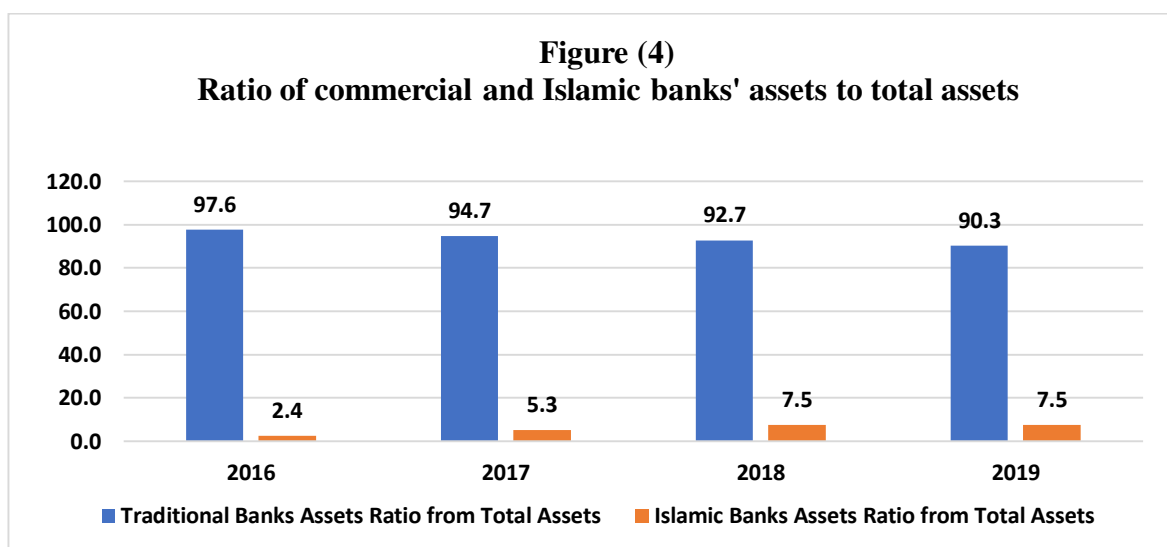
The data also show a slight increase in the rate of government banks' assets from the total assets and a slight decrease of private banks' assets during the years 2018-2019. This reflects a decrease in competition between private and government banks as shown in Figure (3).



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

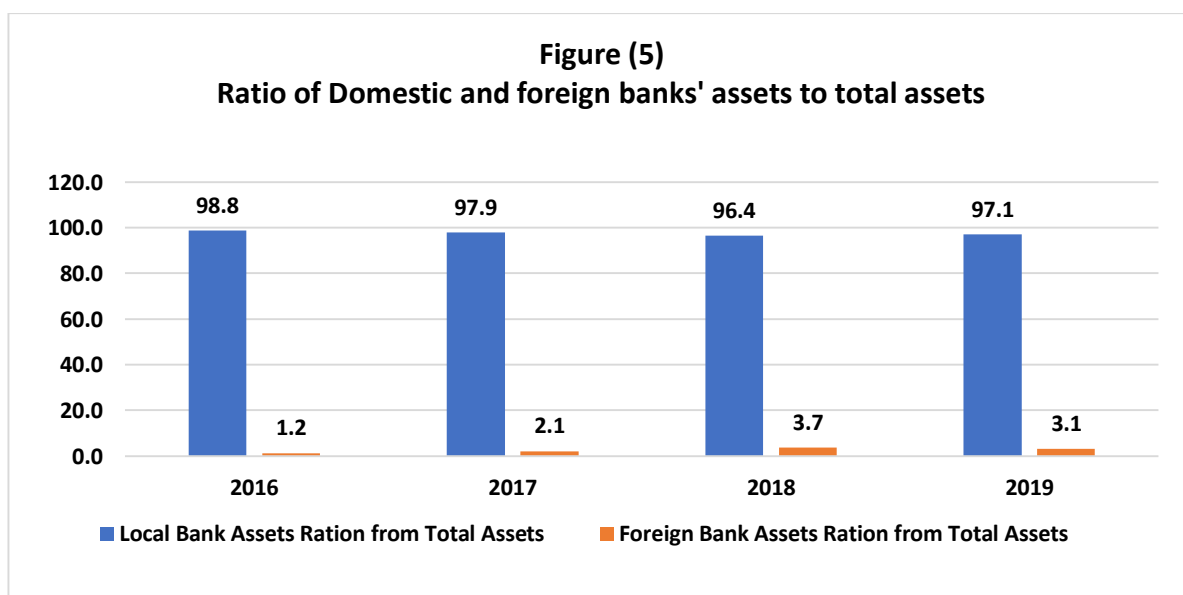
¹ the (Herfindahl – Hirschman) value is between (0-10000) so if the value was below than (1000) this indicates to non-concentration and if the value was between (1000-1800) it indicates to moderate concentrations and if the value was greater than (1800) it indicates to high levels of concentration and the index is measured according to the following formula: $(HHI = \sum si^2)$ where (si) represents the relative importance (market share) of the variable.

As for the assets in terms of the type of banks, both conventional and Islamic, the conventional banks accounted for the largest percentage of total assets, they reached (92.6%) in 2019, and this is a result of the long history of conventional banks in comparison with newly created Islamic banks, but the share of Islamic banks' assets out of the total Assets have been increasing as a result of the expansion of their business and the establishment of new Islamic banks until they reached (7.4%) in 2018, and this is illustrated by Figure (4).



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

The activity of foreign banking sector operating in Iraq continues to decrease as in the year 2019; foreign banks' assets rate were (3%) to total assets, as shown in Figure (5).

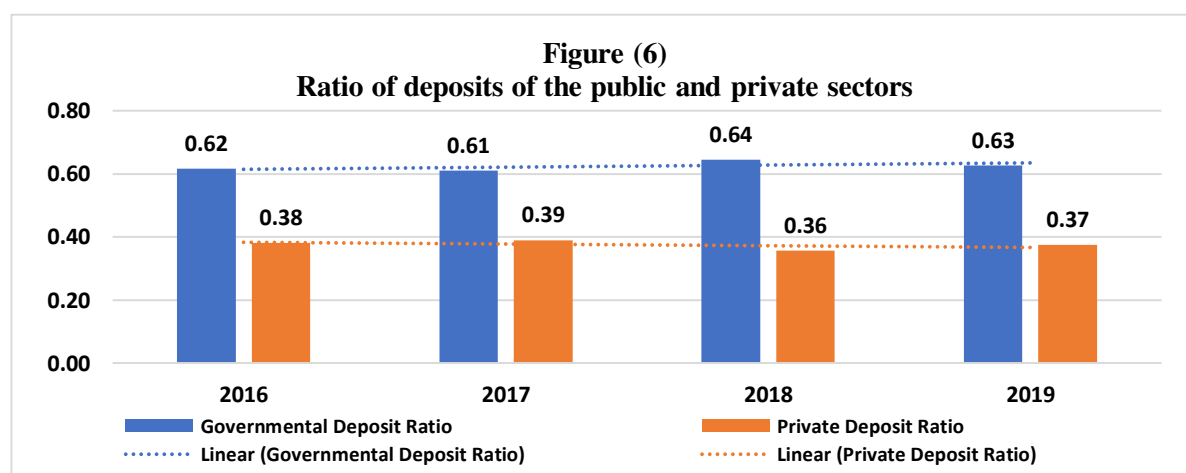


Source: Central Bank of Iraq, Department of Statistics and Research.

1-1-2 Banking Sector Deposits:

The banking sector deposits increased from (76.9) trillion dinars in 2018 to (82) trillion dinars in 2019 with an increase of (6.6%), and the reason for this increase is the continued improvement in the economic conditions in 2019. This can also be attributed to the success of the Central Bank of Iraq in furthering the financial inclusion by proceeding with salary domiciliation and encouraging the utilization of electronic payment methods, particularly for public sector employees in addition to private sector employees. This encouraged the increase of deposits at banks, which further reflected the increased awareness of individuals in the banking system and the public trust in the same.

This improvement was reflected in the increase in private deposits which constitute (37%) of total deposits in banks in 2019, increased from (27.4) trillion dinars in 2018 to (30.7) trillion dinars in 2019, and with a growth rate of (12%), as a result of the reflection of the improved economic situation in the rise average per capita Gross Domestic Product of (6.69) million dinars in 2018 to (6.72) million dinars in 2019¹. Also government deposits, which constitute (63%) of total bank deposits in 2019, increased from (49.52) trillion dinars in 2018 to (51.40) trillion dinars in 2019, with a growth rate (3.8%), And as a result of the decrease in the share of government deposits in the total deposits of the Iraqi banking system from (64%) in 2018 to (63%) in 2019, this has led to an increase in the difference between the percentage of deposits for the public and private sector, as in Figure (6).

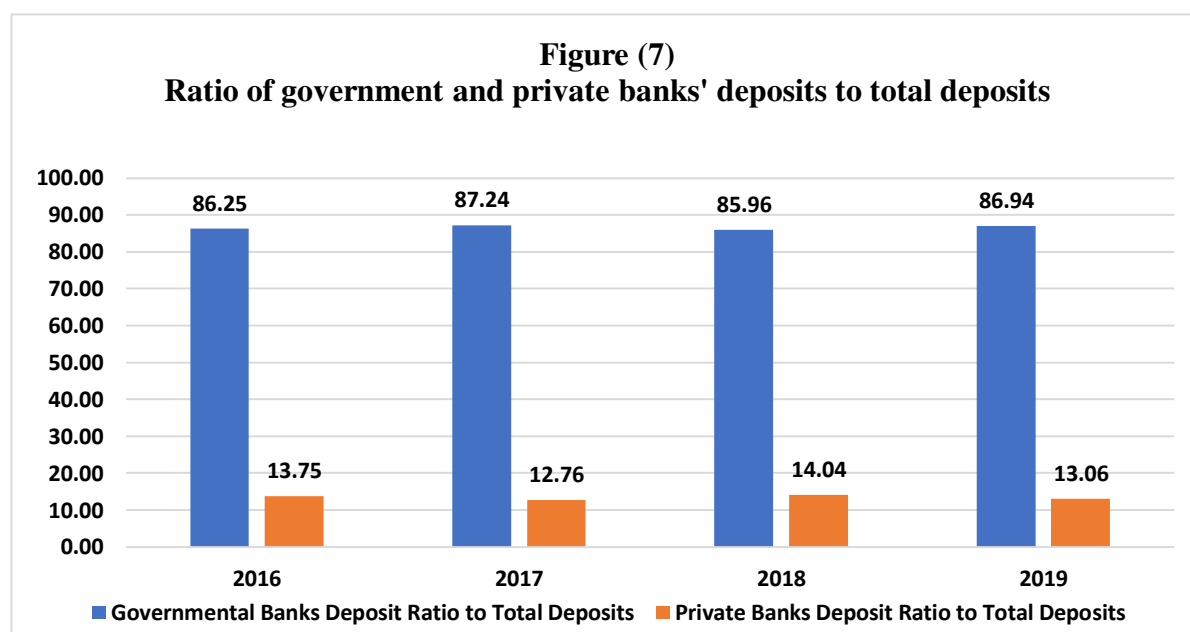


Source: Central Bank of Iraq, Department of Statistics and Research.

¹ Ministry of Planning, Central Statistical Organization.

If the banks are classified according to their type, they will be classified into three different groups, the first includes government and private banks, the second includes conventional and Islamic banks, and the third includes domestic and foreign banks, then the distribution of deposits between them will be according to the following:

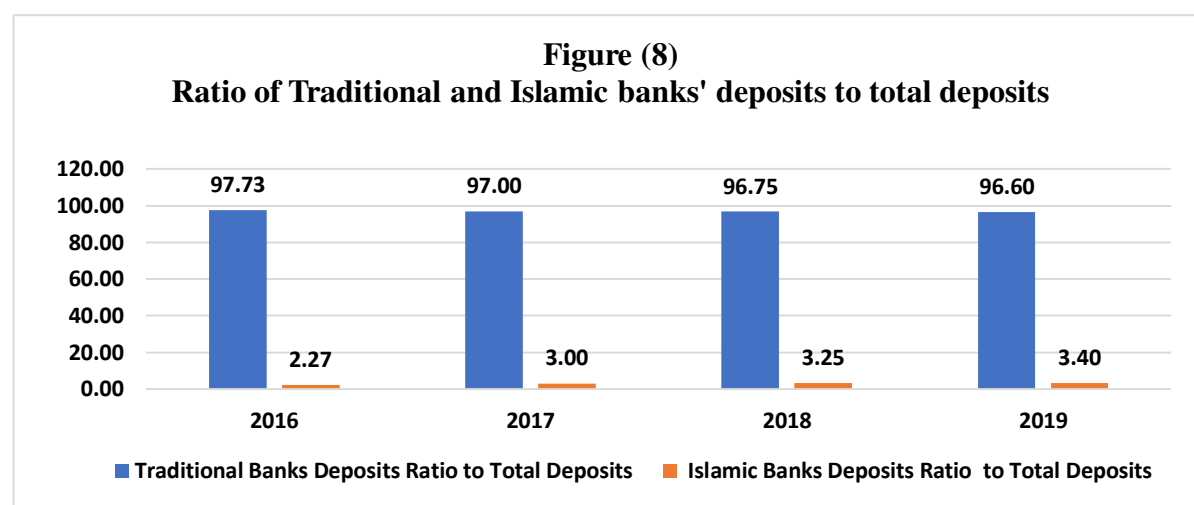
With regard to the first group, the ratio of government bank deposits accounted for the highest percentage of total deposits as it reached (86.94%) in 2019, despite the fact that their number represents (9.9%) of the number of banks, while the share of private banks was (13.06%) of total deposits for 2019. The increase in the share of government banks in total deposits reflects the high confidence of the public in government banks, as they are guaranteed by the state, as well as they have a wide network of branches scattered throughout Iraq beyond what all private banks possess, as the share of government banks from the number of branches to their total number is (48.87%), while the share of branches of private banks is (51.12%) for the year 2019. Figure (7) shows the ratio of deposits of government and private banks for the period (2016 – 2019).



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

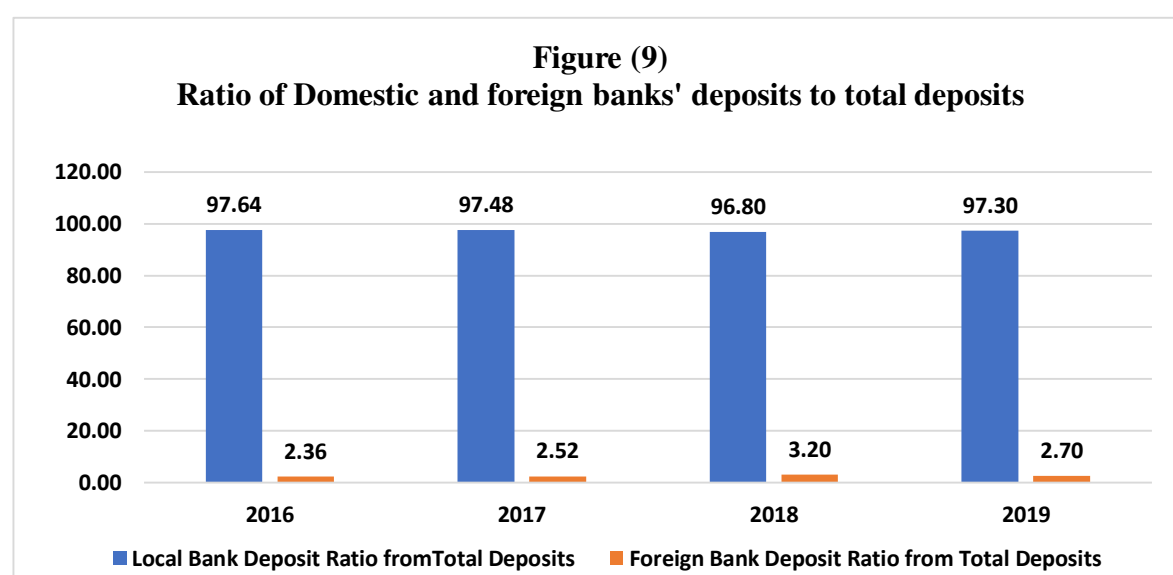
As for the second group represented by the share of deposits of conventional and Islamic banks separately to total deposits, the conventional banks accounted for the highest percentage of them, as their share reached (96.60%) in 2019, while the share of Islamic banks reached (3.40%) for the same year and this reflects a limited role for Islamic banks in attracting deposits, compared to conventional banks, as they represent (36.9%) of the total number of banks, whereas the conventional banks represent (63%) of the total number of banks operating in Iraq. The reason for the limitedness of Islamic banks' deposits is the fact that the

majority of these banks were established only recently and under political and economic fluctuations which affected their performance. As shown in Figure (8).



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

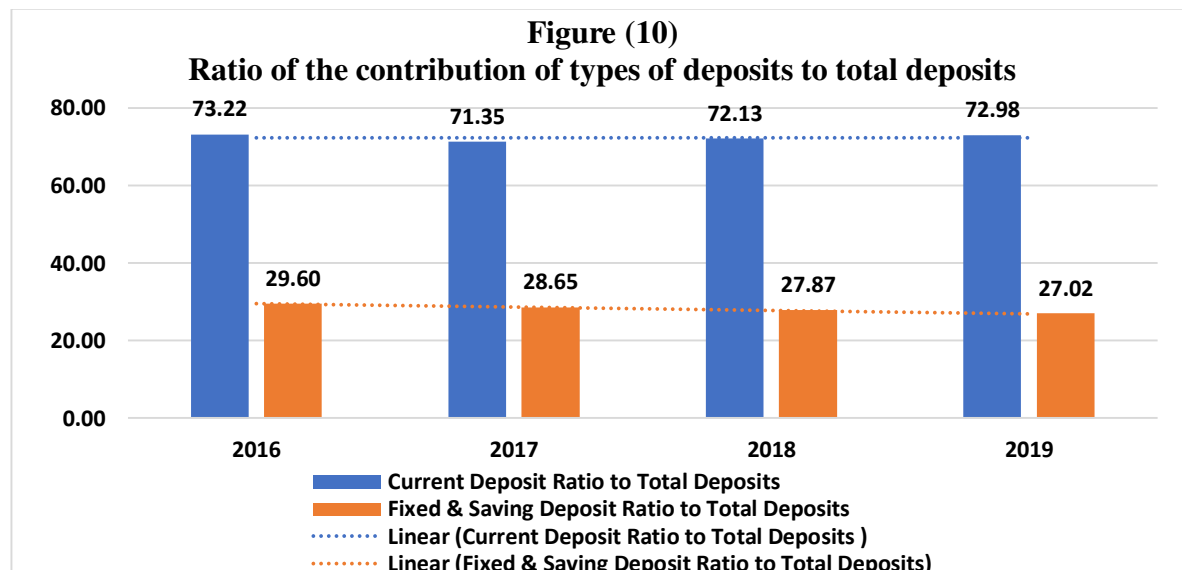
While the third group represented by the share of deposits of domestic and foreign banks separately to total deposits, deposits of domestic banks acquired the largest share of deposits as it reached (97.30%) while the share of deposits of foreign banks to total banks reached (2.70%) for the year 2019 although the number of foreign banks represents (24.65%) of the total number of banks, Figure (9) shows these ratios.



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

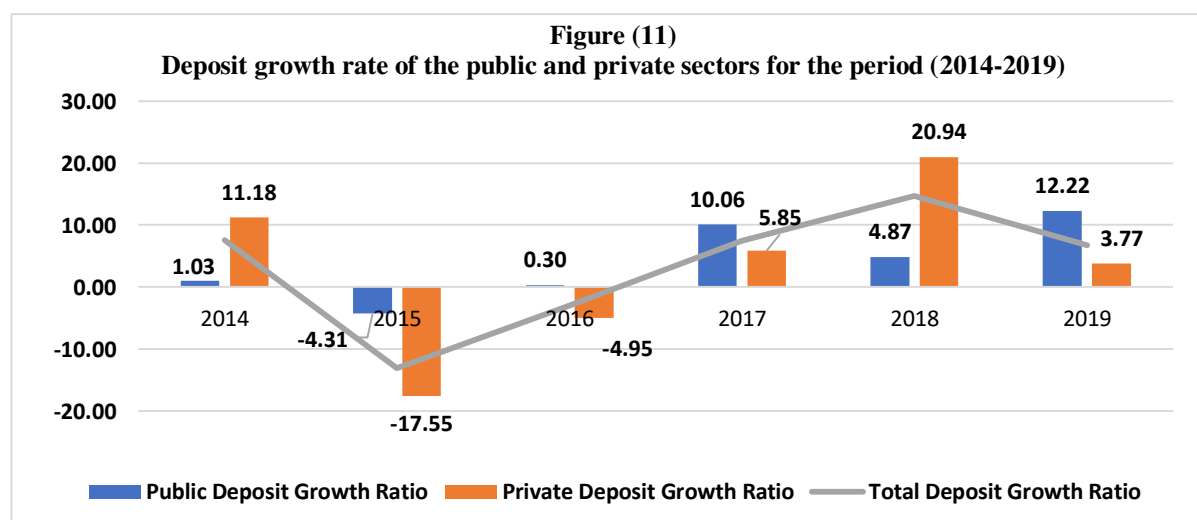
As for the classifying the deposits in terms of their type (current deposits, savings deposits, and fixed deposits), current deposits continued to hold the largest portion of total deposits, as their contribution rate increased from (72.13%) in 2018 to (72.98%) in 2019, while the contribution rate of both fixed deposits

decreased from (12.56%) in 2018 to (11.66%). As for saving deposits of the total deposits, it slightly increased to (15.36%) in 2019 after it was (15.31%) in 2018. Although there is an increase of the contribution of saving deposits to the total deposits, and its consequences on the volume of credit, yet; the gap between current deposits on the one hand and between the saving and fixed deposits on the other are directed towards regression with the increase of the volume of saving and fixed deposits as shown in Figure (10).



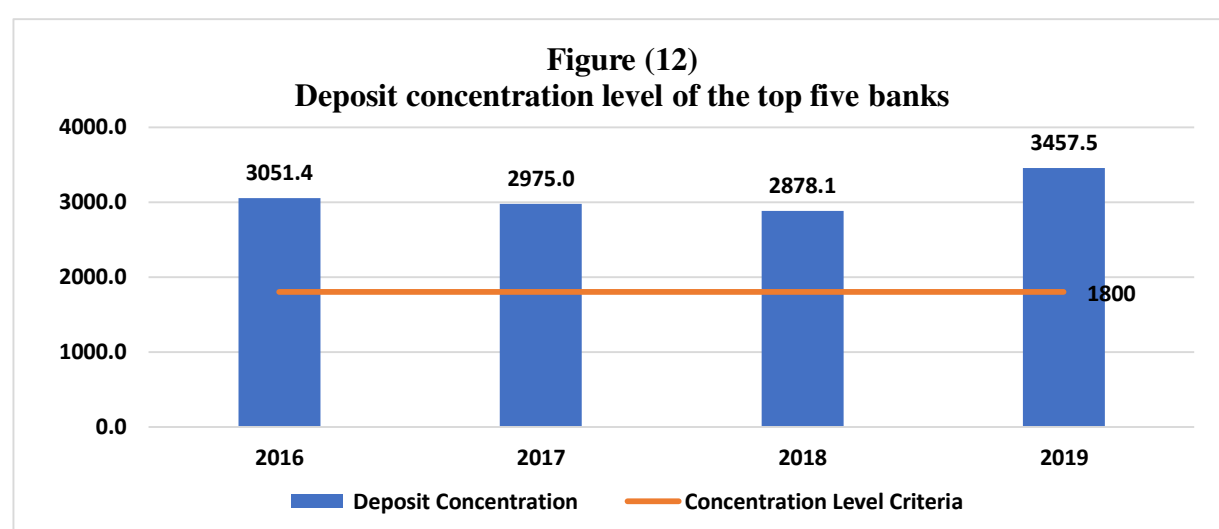
Source: Central Bank of Iraq, Department of Statistics and Research.

In terms of deposit growth rate, public sector deposits achieved a growth rate of (12.22%) while private sector deposits achieved a growth rate of (3.77%). As for the total deposit growth rate, it achieved (6.78%) and this is due to the improvement of economic conditions in 2019 compared to previous years. Figure (11) shows the growth rates for public and private sector deposits.



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

The concentration level of the deposits of the five largest banks, according to (Herfindahl – Hirschman) indicator is (3457.517) point on 2019 and this indicates a high concentration level in comparison with that of 2018 which amounted (2878.137) point as it increased from the year 2018 with a large percentage (20%). This is an indication of the high concentration of deposits of the five largest banks. It is an evidence on the confidence of the public with these banks due to the fact that the majority of which are affiliated to public sector; therefore, it is guaranteed by the government. Thereby, the increase of concentrations therein does not constitute a real danger, as it is unlikely that these banks stray from fulfilling their obligations in the event the withdrawals of depositor's increase. Figure (12) shows the concentration of deposits for the five largest banks.

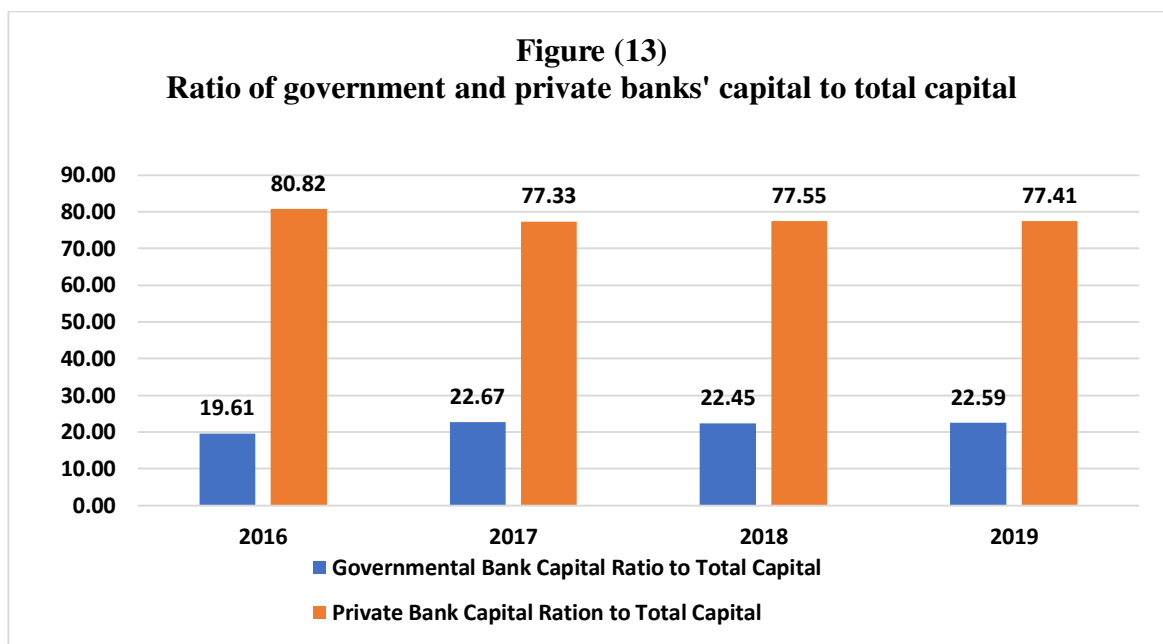


Source: Central Bank of Iraq, Department of Statistics and Research.

1-1-3 Banking Sector Capital:

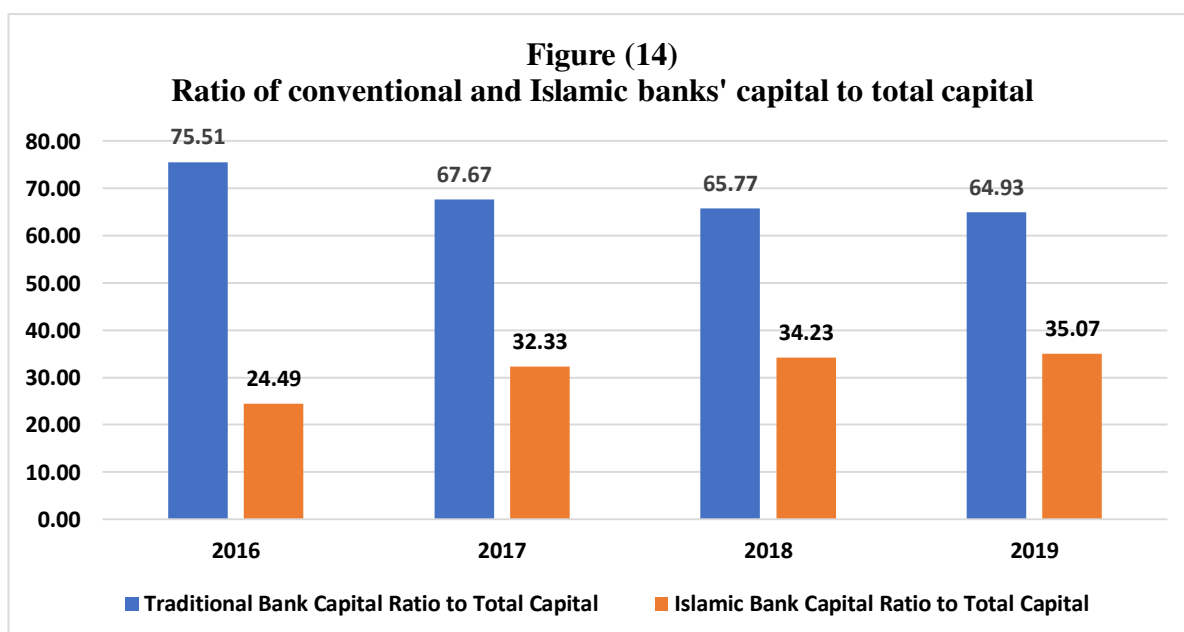
Banks capital increased by (2.5%) in 2019 to reach (15.5) trillion dinars, after it was (15.1) trillion dinars in 2018. If the banks are classified according to their type, they will be classified into three different groups: the first includes government and private banks, the second includes conventional and Islamic banks, and the third includes domestic and foreign banks, and the distribution of capital between them will be as follows:

Regarding the first group, the ratio of the capital of private banks formed the highest percentage to total capital, reaching (77.4%) in 2019, while the share of government banks was (22.59%), as a result of the increase in the number of private banks compared to government banks, in addition to the adherence of the banks concerned with the regulations of the Central Bank to raise the capital to (250) billion dinars, Figure (13) shows the contribution rates for the two types of banks.



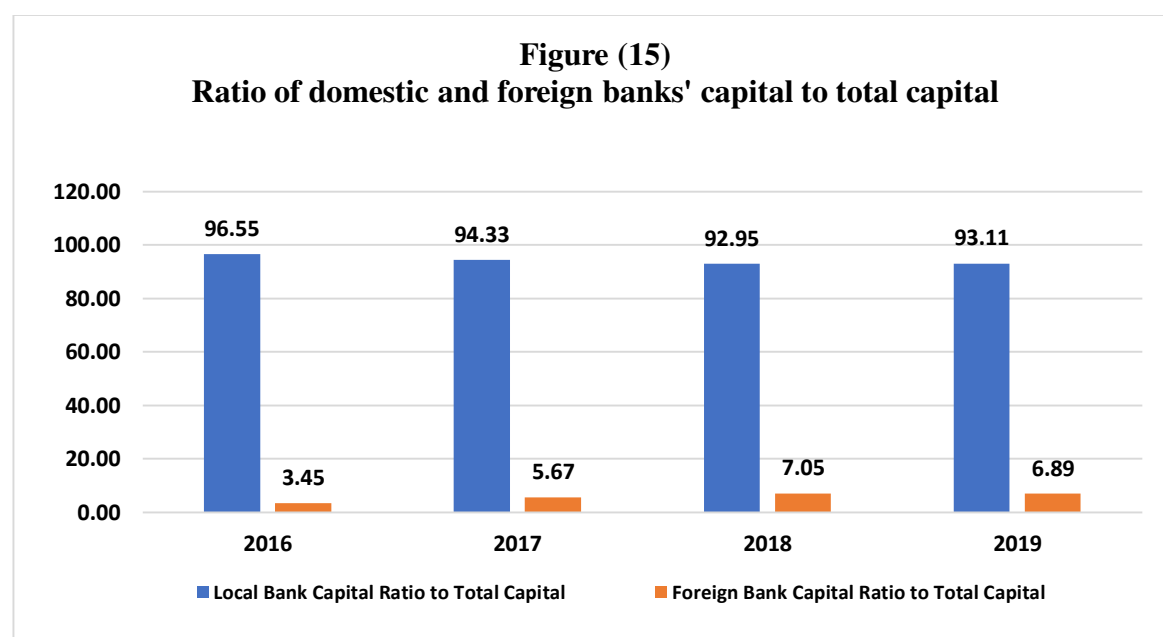
Source: Central Bank of Iraq, Department of Statistics and Research.

As for the second group represented by the ratio of the capital for conventional and Islamic banks separately to the total capital, the conventional banks acquired the highest percentage of it, as their share reached (65 %) in 2019, while the share of Islamic banks reached (35%) for the same year, which is proportional to the number of each of them in the banking system, as the number of conventional banks (63%) out of the total number of banks, while the number of Islamic banks (37%) out of the total number of banks, and Figure (14) shows the contribution percentages for this group.



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

As for the third group represented by the ratio of the capital of domestic and foreign banks separately to the total capital, the capital of domestic banks constituted the highest percentage of the capital, as shown in Figure (15).



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

1-1-4 Bank Credit:

1-1-4-1 Development of bank credit:

The total credit provided by banks to public and private sectors, which is represented by cash and pledged credit, witnessed an increase of (5.5%) in 2019, to reach (67.3) trillion dinar during 2019, after it was (63.8) trillion dinar in 2018.

This increase occurred in cash credit which increased to (42) trillion dinars in 2019 after it was (38.8) trillion dinar in 2018, with a rate of (9%). Thereby, its relative importance to total credit increased from (60.30%) in 2018 to (62.46%) in 2019. The rate of cash credit growth granted to central government and public institutes and private sector increased to (17.7%) and (4%) respectively. While the rate of cash credit of public institutes decreased by (- 0.8%) during 2019.

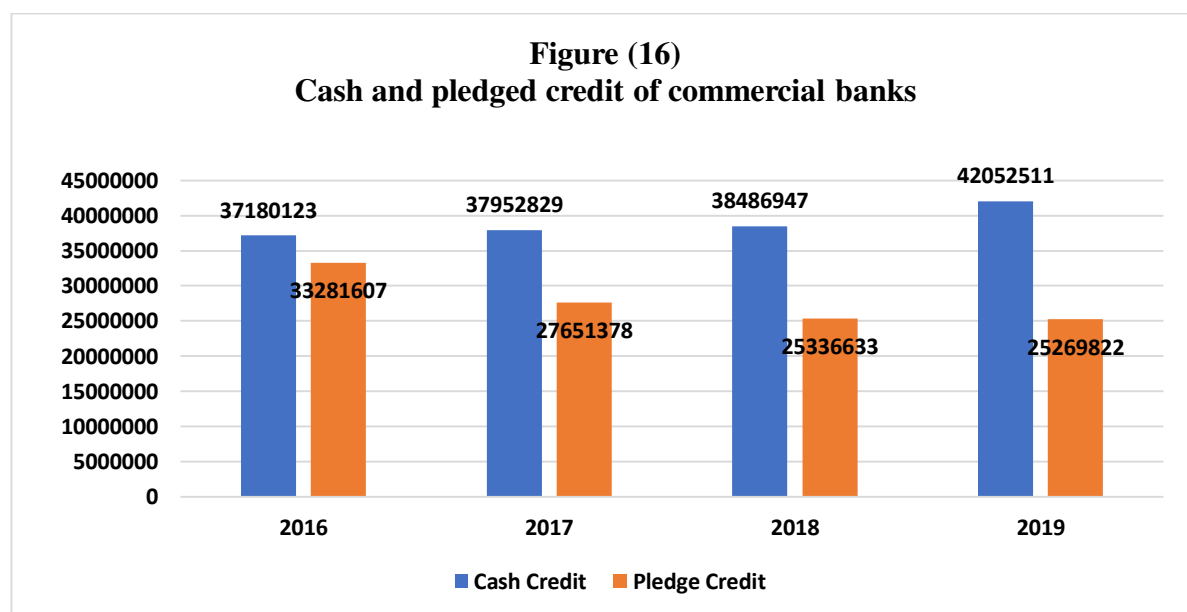
As for pledged credit, it decreased slightly from (25.33) trillion dinars in 2018 to reach (25.26) trillion dinar in 2019, with a minus growth rate amounting to (- 0.26%). This led to regression of its relative importance to total credit from (38.7%) in 2018 to (37.5%) in 2018. The pledged credit granted to both central government and private sector witnessed a decline of growth rate (- 3.32%) and (- 0.38%) respectively. Whereas the pledged credit granted to public institutes witnessed a slight increase of (0.94%). Table (1) and Figure (16) below show a

noticeable decline of pledged credit provided by banks in favor of cash credit for the period (2014-2019).

Table (1)
Cash credit and pledged credit for commercial banks for the period (2016-2018)
(Million-dinar, growth rate, percentage)

year	Total Credit	The Overall Credit Growth Rate%	Cash Credit	Growth Rate %	Relative Blindness%	Pledge Credit	Growth Rate %	Relative Importance%
2016	70,461,730	-8.83	37,180,123	1.16	52.77	33,281,607	-17.89	47.23
2017	65,604,207	-6.89	37,952,829	2.07	57.85	27,651,378	-16.92	42.15
2018	63,823,580	-2.71	38,486,947	1.41	60.30	25,336,633	-8.37	39.70
2019	67,322,333	5.48	42,052,511	9.26	62.46	25,269,822	-0.26	37.54

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

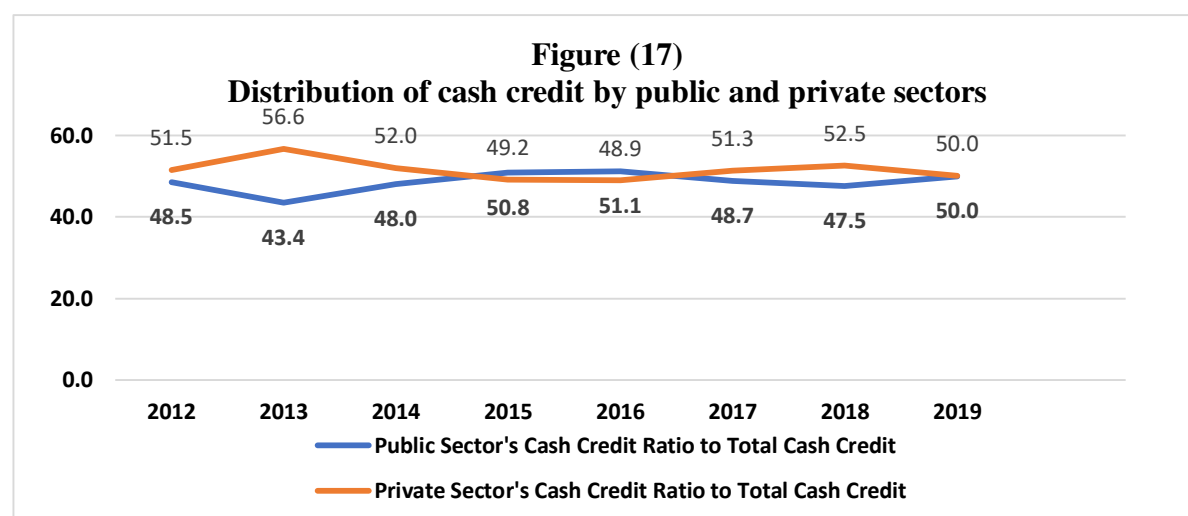


Source: Data of table (1).

1-1-4-2 Sectorial distribution of cash credit

The share of the private sector in cash credit decreased from (52.53%) in 2018 to (50.04%) in 2019, while the share of the public sector in cash credit increased from (47.47%) in 2018 to (49.96%) in 2019 as the cash credit granted to the public institutions decreased (which is financed exclusively by government banks) at a rate of (- 0.77%), while the cash credit granted to the central

government increased at a rate of (17.70%) and this increase reflects the continuation of the expansionary trend of public expenditures after the economic and security crisis years that Iraq has gone through.



Source: Data of table (1).

From Figure (17) it is clear that the gap between the private cash credit ratio and the public cash credit ratio decreased in favor of the latter, and this is an indication of the high impact of public sector competition with the private sector for obtaining cash credit.

On the other hand, the society services sector occupied the largest ratio of the total cash credit (36.9%) which increased from 2018 (35.9%) with an increase of defaulted credit in this sector to total cash credit, amounting to (3.6%) in 2019 after it was (1.9%) in 2018. This means that there is an increase in risks of banking system even though these are not high risks at the current time. However, they can be high risks on the banking system in case no attention was given to them. Overdue debts of this sector to total overdue debts amounted to (36.88%), which increased from the year 2018 where it was (35.45) which reflects an increased risk of this sector on the banking system as referred to previously. Following this sector in terms of overdue debts are both of construction and establishment sectors with a rate of (23.8%) while the rate of cash credit provided to trade, restaurants, and hotels sector increased to (18%) in 2019 after it was (15%) in 2018. As for the other sectors such as industry and agriculture etc. they witnessed less rates to the total granted credit. This indicates that Iraqi banks rely heavily on granting commercial, construction, and establishment loans due to collaterals which these sectors can provide in comparison to other sectors. On the other hand, what caused the formation of sectorial distribution map of banking credit is the realistic nature of economic activity which is dominated by these sectors (construction, establishment, restaurants, hotels and trade) and the limitedness of other sectors (industry, agriculture etc.).

Table (2)

**Sectorial distribution of cash credit by sector type for the period (2016 – 2019)
(Percentage)**

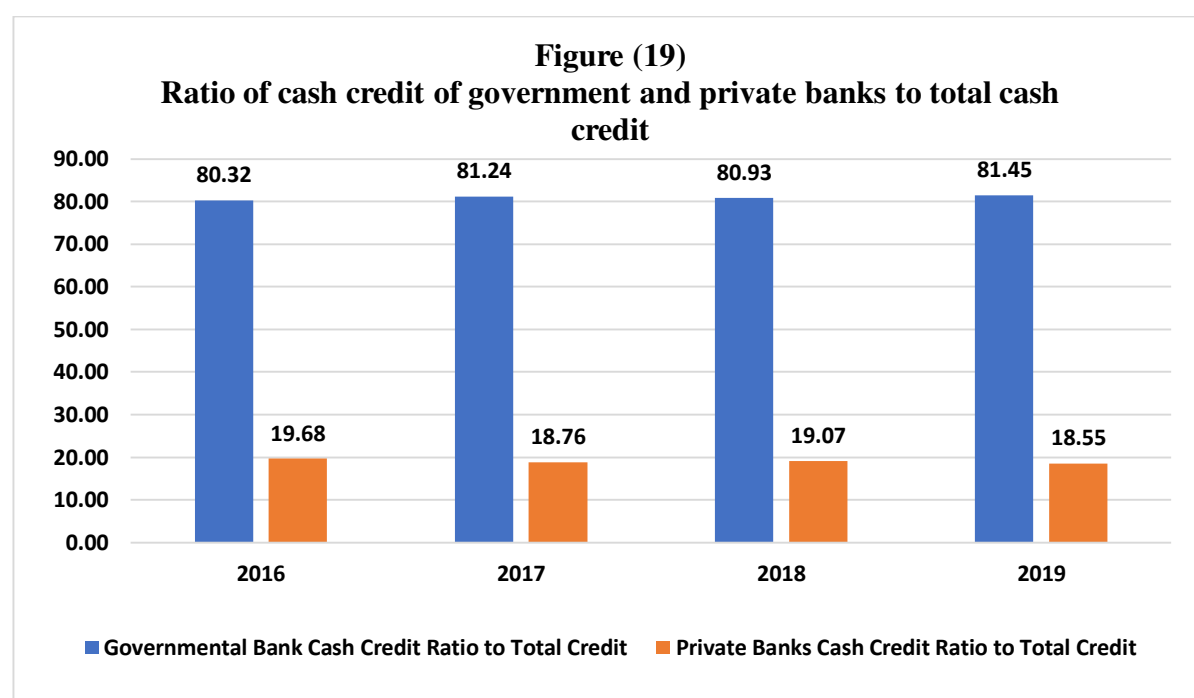
	Agriculture and hunting	Mining	Manufacturing industry	Water, electricity and gas	Trade, restaurant and hotels	Transportation, storage and transportation	Finance and insurance	Community services	Outside world	Construction
2016	5.72	0	5	3.93	15.2	7.46	2.26	39.02	0.08	21.3
2017	4.59	0	4.56	6.04	16.07	6.96	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

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

Source: Data of table (2).

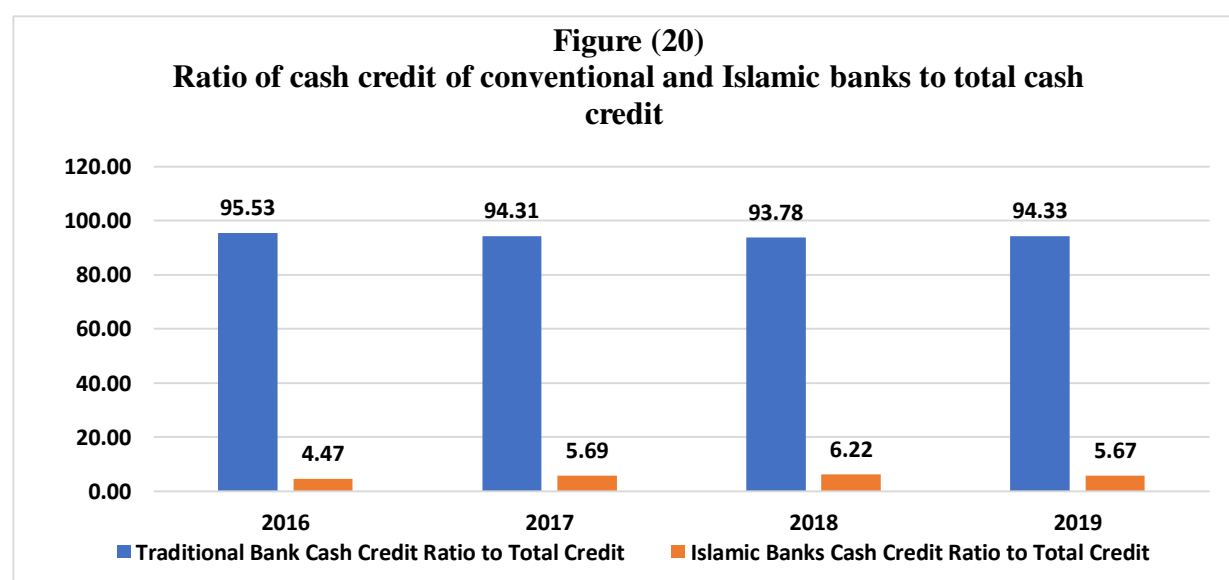
And if the banks are classified according to their type, they will be classified into three different groups, the first includes government and private banks, the second includes conventional and Islamic banks, and the third includes domestic and foreign banks, and the distribution of cash credit between them will be according to the following:

Regarding the first group, the governmental banks acquired the largest ratio of cash credit to the total cash credit, which amounted to (81.5%) in 2019, while the share of private banks was (18.5%) for the same year, and despite the fact that the number of government banks constitutes only (8.2%) of the total number of banks, its acquisition of (86.94%) of the total deposits as a result of public confidence in it made it acquire the largest ratio of cash credit, and Figure (19) shows the contribution ratio of government and private banks.



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

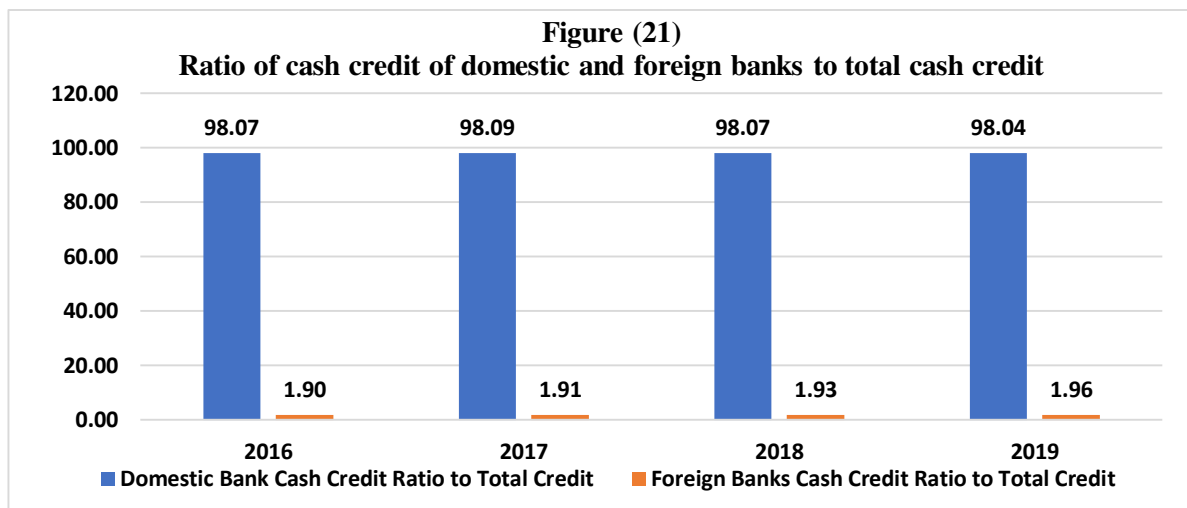
As for the second group represented by the share of cash credit for conventional and Islamic banks separately to the total cash credit, the conventional banks acquired the higher share of it, as their contribution share reached (94.33%) in 2019, while the share of Islamic banks reached (5.67%) for the same year and Figure (20) shows this ratio for the period (2016 – 2019).



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

The third group represented by the share of cash credit for domestic and foreign banks separately to total cash credit, it was (98.07%) for domestic banks and (1.93%) for foreign banks in 2018, this shows the limited contribution of foreign

banks to support the National Economy, although their number constitutes (22.5%) of the total number of banks, but it provided cash credit amounting to (1.93%) of the cash credit granted in 2018, and Figure (21) shows this ratio for the period (2016 – 2018).

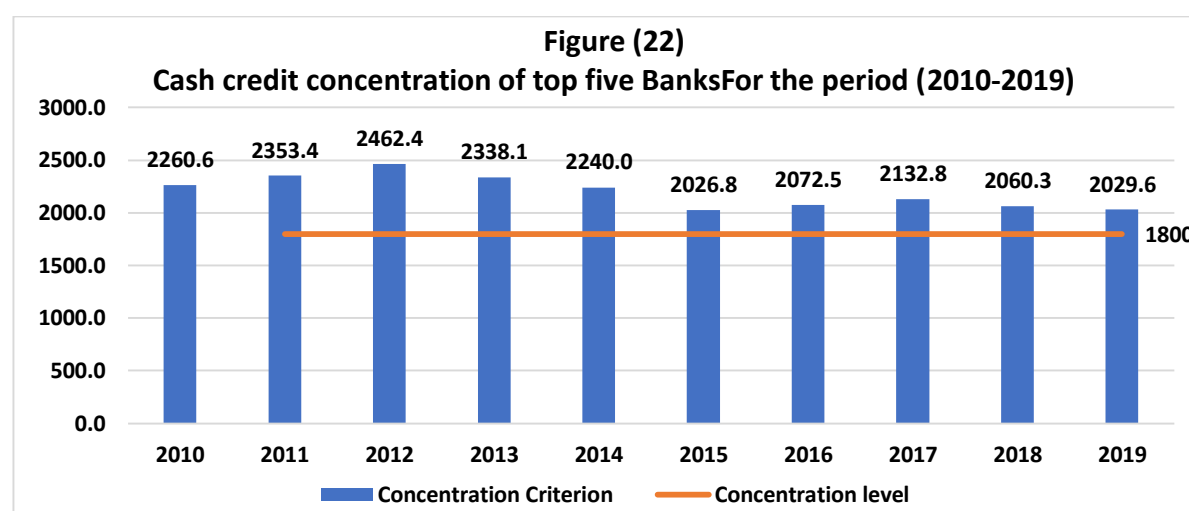


Source: Central Bank of Iraq, Department of Statistics and Research.

1-1-4-3 Bank credit concentrations:

State-owned banks continued to dominate the largest proportion of credit provided by the banking sector, as the ratio of credit provided by the largest five government banks (80.2%) of the total cash credit so that the market share was high in government banks, and the degree of credit concentration of the five largest banks in 2019 reached (2029.61) points, lower from the year 2018 that was (2060.34) point.

The concentration of credit with government banks reveals their impact on controlling the banking sector, and this is a natural result of its network of branches scattered throughout all of Iraq, the ease of access to its services, and its evolving development role by increasing the credit it provides compared to private sector banks, as well as banking awareness of government banks through the various visual and audio means of communication and the services they provide even to retirees by granting them advances, as shown in Figure (22).



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

1-1-4-4 Analyzing the credit to GDP Gap:

The positive gap indicates the acceleration of the ratio's growth across its historical trend, indicating the necessity to build Buffers (from the 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) ¹this indicates the presence of risks from increasing the granting of credit by a rate greater than the rate of growth of GDP, and this requires building a greater amount of additional capital reserves to meet the potential losses that the financial system may be exposed in order to remain able to continue performing its main functions ².

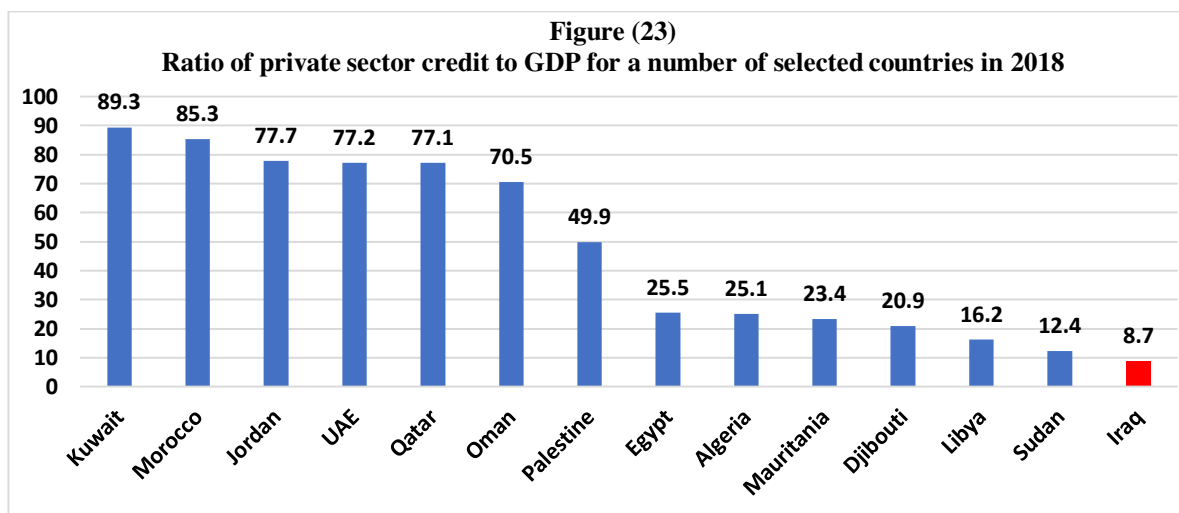
The banking depth³ is still low in Iraq, whether measured with GDP with oil or without oil, it reached in 2019 (7.90%) with oil GDP and (15.1%) with non-oil GDP, which is also low compared to a number of Arab countries, as in 2018, shown in Figure (23), where Iraq ranked last in the list and although this low ratio is considered a negative indication of the extent of the banking sector's contribution to financing real activity, the only positive result of it is its impact in decreasing the volume of risks achieved from the possibility of an acceleration of the rate of bank credit growth in Iraq.

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

² For more information, see the Financial Stability Report 2017

³ Banking depth= credit for private sector

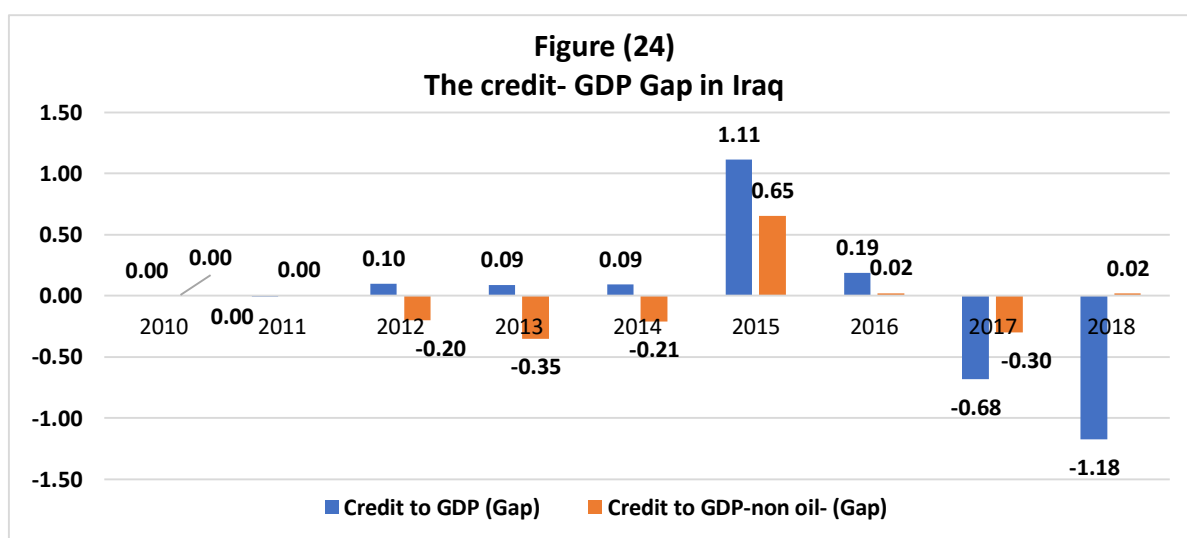
GDP



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

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

Hodrick - Prescott (HP) Filter method suggested by (BCBS) is used in calculating Credit to GDP Gap ¹ in Iraq and the results shown in Figure (24) indicate that this gap falls below the minimum, and it is less than one, whether in the case of adopting GDP data with oil or without oil, this indicates that bank credit can increase without worrying about creating instability in the Iraqi financial system, taking into account the basic criteria ² that must be met when granting credit to the various economic sectors.



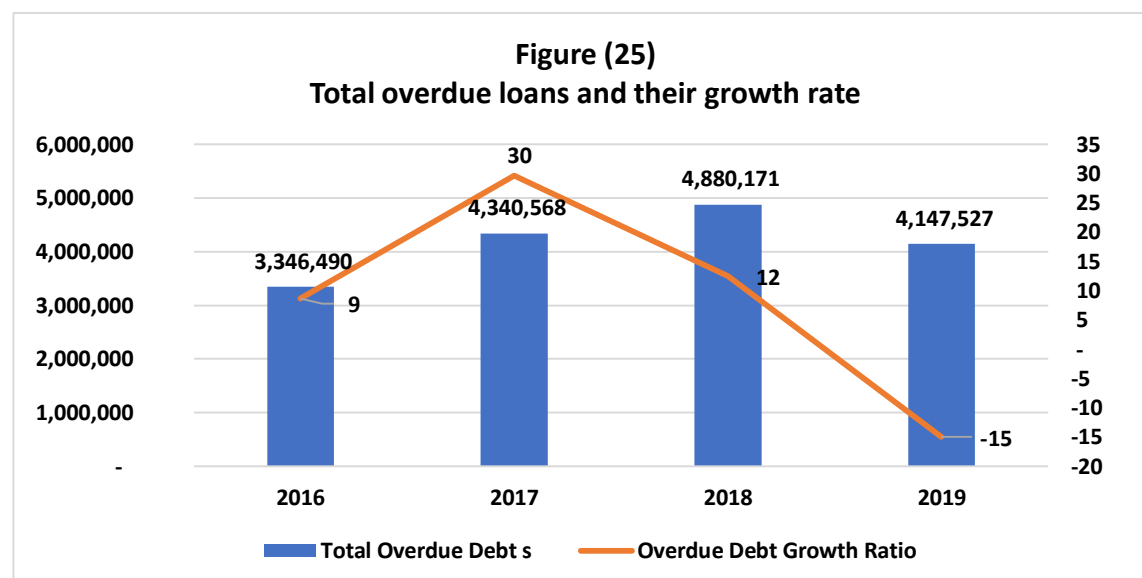
Source: Central Bank of Iraq, Department of Statistics and Research.

¹ Includes the credit granted to the private sector only.

² For example, 5Cs standards that include Character, Capacity, Capital, Collateral and Conditions.

1-1-4-5 Overdue Debts:

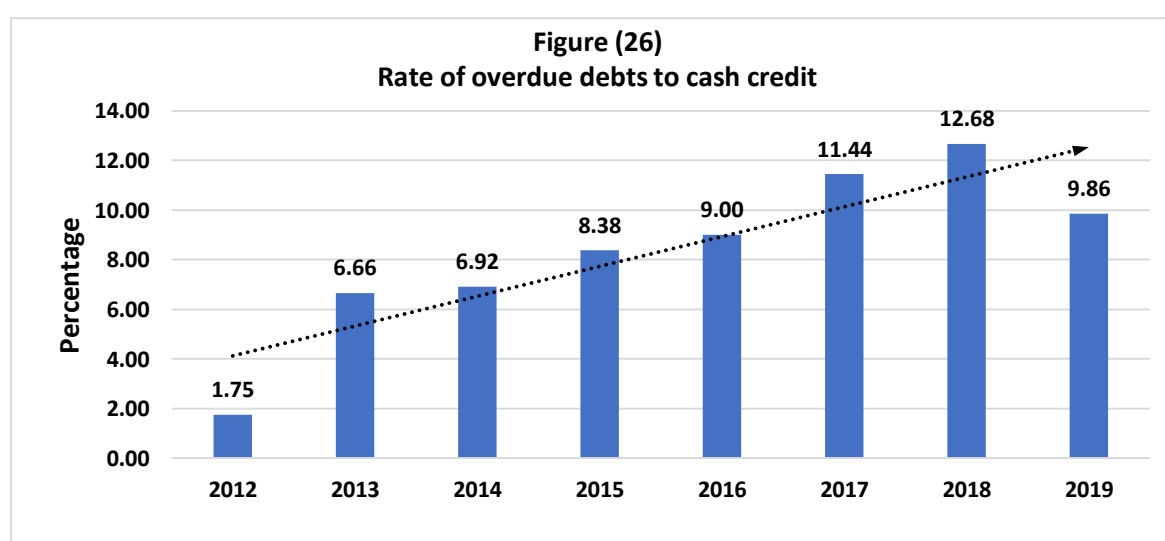
The volume of overdue debts decreased from (4.8) trillion dinars in 2018 to (4.1) trillion dinars in 2019, and with a decrease of (-15%), and this reflects an increase in the rate of commitment in the repayment of loans due.



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

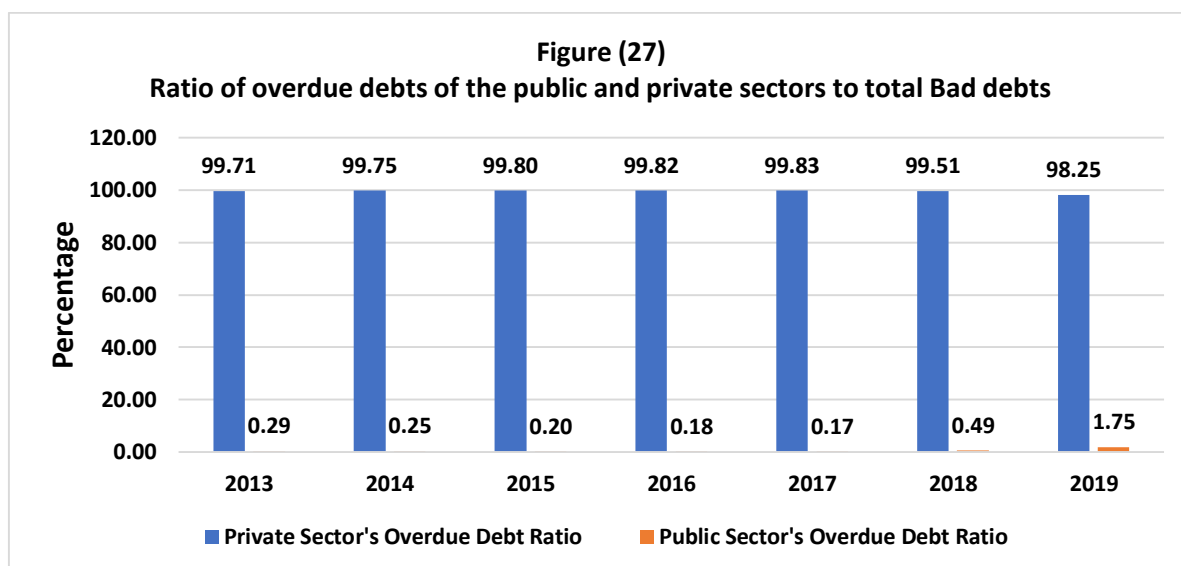
The ratio of total overdue debts to total cash credit witnessed a decline during 2019 to reach (9.86%) while it was (12.8%) during 2018, which reflects a decrease in the risks facing the Banking System, especially the risks arising from private sector whose defaulted loans constitute the largest rate of default.

(Figure 26).



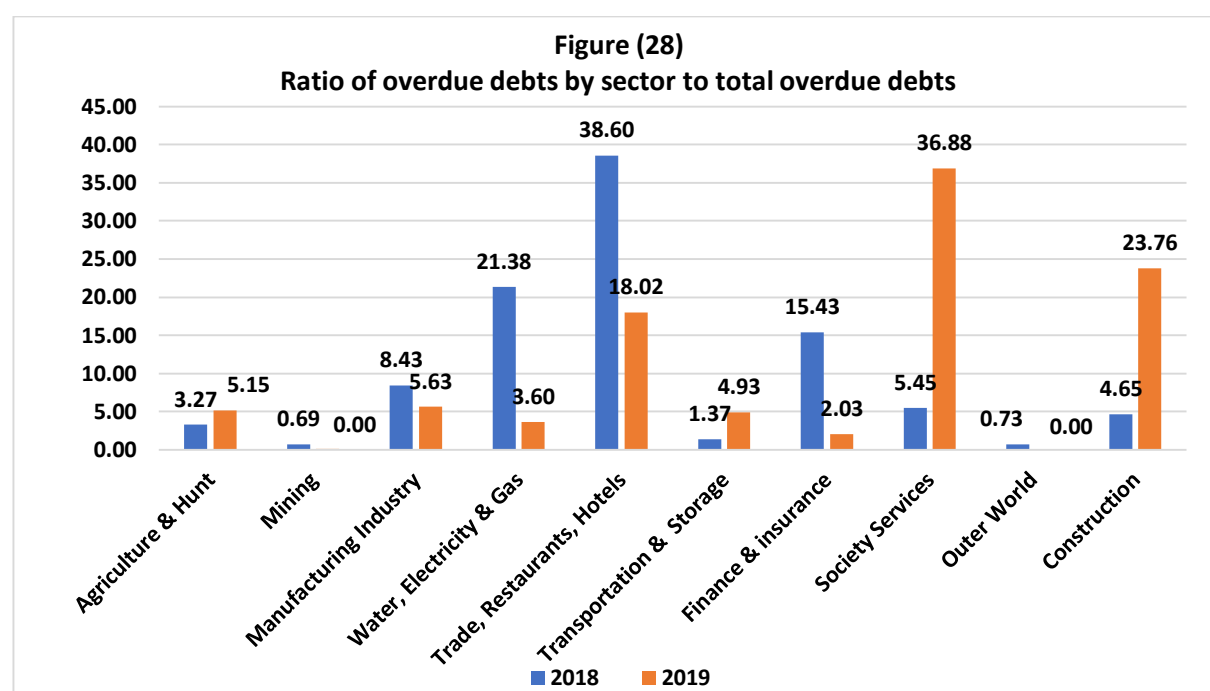
Source: Central Bank of Iraq, Department of Statistics and Research.

Figure (27) shows the ratio of overdue debts of the public and private sectors to total overdue debts, and reveals that the private sector continued to acquire the largest proportion of overdue debts during the period 2013-2019, as it reached in 2019 (98.25%), and this requires more attention by the monetary authorities for the subject of credit provided to the private sector, as (17.35%) of the loans provided by government banks to the private sector, and (22.77%) of loans provided by private banks to private sector are overdue debts. These rates decreased for government banks after they were (25.6%) in 2018 and the same rates increased for private banks after they were (21%) in 2018. This reflects higher efficiency of government banks in collecting its overdue loans. This requires banks to study the creditworthiness of the customer well, especially the five main components of granting credit and put forth a solid plan to collect their overdue loans.



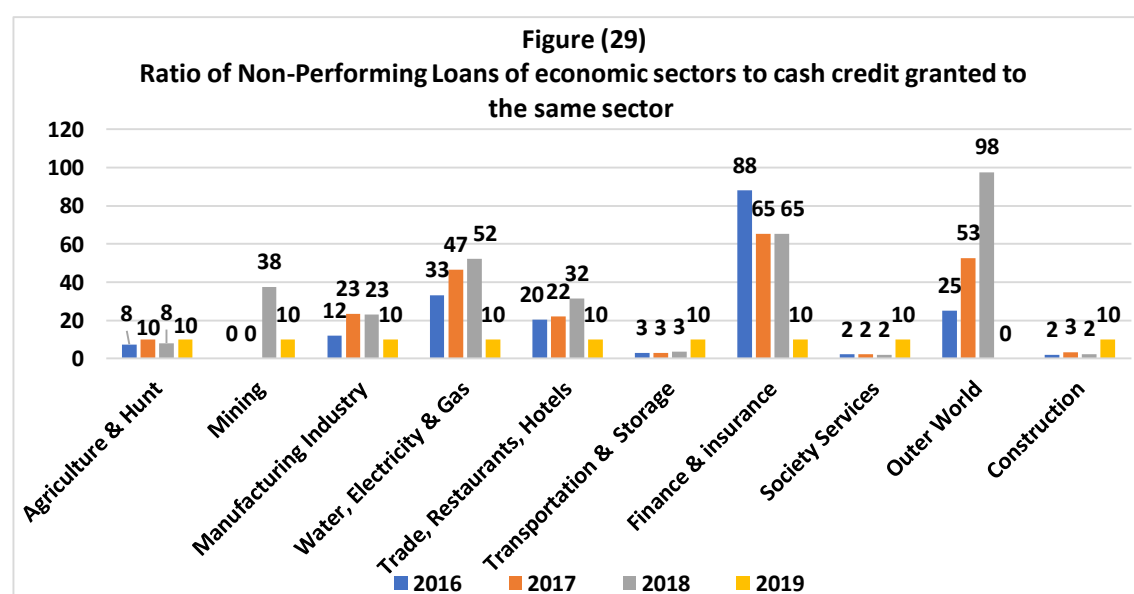
Source: Central Bank of Iraq, Department of Statistics and Research.

Figure (28) shows the ratios of non-performing of the economic sectors, and the ratios were different for each sector, while the society service sector continued to become first in 2019 with a non-performing ratio (36.88 %), the construction and establishment sectors came second, to increase from (4.65%) in 2018 to (23.76%) in 2018, and the trade, restaurants, and hotels sector came third with a ratio of (18.02%) in 2019 after it was (38.60%) in 2018. These ratios reflect the total default of the economic sectors.



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

The ratio of overdue debt of each sector to the total cash credit granted to the same sector has shown equal ratios for all sectors except for the external world sector, as Figure (29) reveals that the external sector has no data due to their unavailability. As for the remaining sectors, their ratios were equal (9.9%). Figure (29) shows an increase of non-performing risks in each of construction and establishment sector, society service sector, transportation and financing sector, and agriculture and hunting sector. While the non-performing ratios for the other sectors were decreased.



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

1-2 Iraq Stock Exchange:

The data and statistics mentioned in the report of the Iraq Stock Exchange for the year 2019 indicate that the market has been characterized by deterioration in the performance of its annual indicators. This deterioration accompanied market performance for years due to security, economic and political crises that Iraq witnessed. where the market index (ISX 60) **(it is an index that mainly depends on choosing (60) companies achieving the highest turnover of shares for the participating companies)** closed in its last sessions of 2019, on (493.76) points, a decrease of (-3.2%) from its level in the last session of 2018 of (510.12) points. The prices of trading shares are affected by many factors including dividend as the possible shareholder and investor give much importance to the financial position of the company particularly on its capacity to carry out its activity; achieve profits and distribute the same on the one hand, and the expected developmental plans on the other. Only (24) companies have distributed the dividend in 2019 of the financial position as in 2018. The prices of shares are affected by the nature of the Iraqi quarterly economy. The changes of oil market are reflected on all operating sectors in the Iraqi economy and thereby on the prices of shares which are affected by the size of turnover and transactions in the private sector which depends on the per capita income; unemployment rate; economic cycles; and the investment culture prevailing in the society. This means that the revitalization of transactions and investment of securities requires joint social-economic triggers to change and develop the pattern of investment and transaction prevailing in investment outlets.

On the other hand, the index of (trading value, number of shares traded, number of sessions, number of companies traded and number of contracts executed) decreased by (-39%, -44%, -2%, -11.4%, and -10%) respectively for the year 2019, while the index of each of (number of sessions, number of companies traded, and number of deposited shares) has increased by (1.3%, 2.6% and 9%) respectively for the same year.

1-2-1 Trading in the regular market:

The total number of shares traded for companies listed in the Iraq Stock Exchange decreased to (210.8) billion shares during 2019, down by (44%) from 2018 amounted to (376.8) billion shares, and the banking sector companies ranked first with (173.2) billion shares decreasing at a rate of (- 48.1%) from that on 2018 of (333.5) billion shares, while the value of trading for all companies declined during 2019 to (164.5) billion dinars, down (- 29.3%) from their value for 2018 of (232.6) billion dinar and the trading value of the banking sector companies formed (58.1) billion dinars for the year 2019, which decreased by (- 54.4%) from its value in 2018, amounting to (127.3) billion

dinars.

The total number of contracts executed during 2019 decreased to (77814.0) contracts for all economic sectors, declining by (-11%) from the year 2018 of (87512.0) contracts, and the number of contracts in the industrial sector reached (27970.0) contracts ranked first for the year 2019 from the rest of participating sectors, down by (- 9%) from 2018, which amounted to (30742.0) contracts. It is noticeable, from the Iraqi Stock Exchange data analysis, that the banking sector is one of the most impacting sectors on the operation of market. The traded shares for this sector decreased from (333.5) billion shares in 2018 to (173.2) billion shares in 2019. In addition, the number of contracts executed decreased from (33346.0) contracts to (21619.0) contracts for the same sector and same years. This recession of indicators might reflect a decline of investment in the Iraqi banking sector, which might in turn affect negatively on the financial stability in Iraq. Table (3) shows the indicators of the regular market of stock exchange.

Table (3)

Number of shares, value of shares traded, number of contracts and sessions in the regular market for the years (2018 –2019)

(Million-dinar, Percentage)

Sectors	Number of shares traded (million shares)			Trading value (million dinars)			The number of executed contracts		
	2018	2019	Growth Rate	2018	2019	Growth Rate	2018	2019	Growth Rate
The banking sector	333579.8	173224.4	-48.1	127372.7	58142.2	-54.4	33346.0	21619.0	-35.17
Telecom sector	2394.4	5543.6	131.5	20374.9	43867.8	115.3	2635.0	3231.0	22.62
The insurance sector	400.0	1845.0	361.3	193.3	876.8	353.6	297.0	2250.0	657.58
Services sector	3731.0	3847.3	3.1	9046.0	7041.6	-22.2	7563.0	8382.0	10.83
Industry sector	34296.8	24220.7	-29.4	54852.5	38825.7	-29.2	30742.0	27970.0	-9.02
The hotel and tourism sector	785.8	559.1	-28.8	12731.6	8957.1	-29.6	5923.0	7039.0	18.84
Agriculture sector	1618.0	1600.5	-1.1	8109.8	6881.1	-15.2	7006.0	7323.0	4.52
Total	376806.3	210840.6	-44.0	232681.1	164592.3	-29.3	87512.0	77814.0	-11.08191
Number of sessions	238.0	241.0		238.0	241.0		238.0	241.0	

Source: Iraq Stock Exchange Annual Report for 2018 and 2019.

*Annual growth rate between 2018 and 2019.

As for the net foreign investment in the regular market, it decreased in 2019 to (-13857.5) million dinars, while in 2018 it reached (18766.9) million dinars.

The largest volume of net foreign investment was in the banking sector, followed by the services sector and then the hotels and tourism sector while there was a large exit for non-Iraqi investors from the industry and communications sectors, as shown in Table (4).

Table (4)
Net foreign investment in the regular market for 2018 and 2019

Sectors	Foreign Trading Value (million dinars)					
	2018			2019		
	foreign buy	foreign sell	Net foreign investment	foreign buy	foreign sell	Net foreign investment
The banking sector	9306.1	11844.4	-2538.3	3290	2325.99	964.01
Telecom sector	10806.5	805.6	10000.9	1665.6	4724.1	-3058.5
The insurance sector	32.8	0.1	32.7	0.32	116.26	-115.94
Services sector	3445.9	2617.1	828.8	530.3	210.25	320.05
Industry sector	20478.1	11669.6	8808.5	3532.1	15686.85	-12154.75
The hotel and tourism sector	2520.6	874.6	1646	949.2	738.27	210.93
Agriculture sector	1.2	12.9	-11.7	10.1	33.4	-23.3
Total	46591.5	27824.6	18766.9	9977.62	23835.12	-13857.5

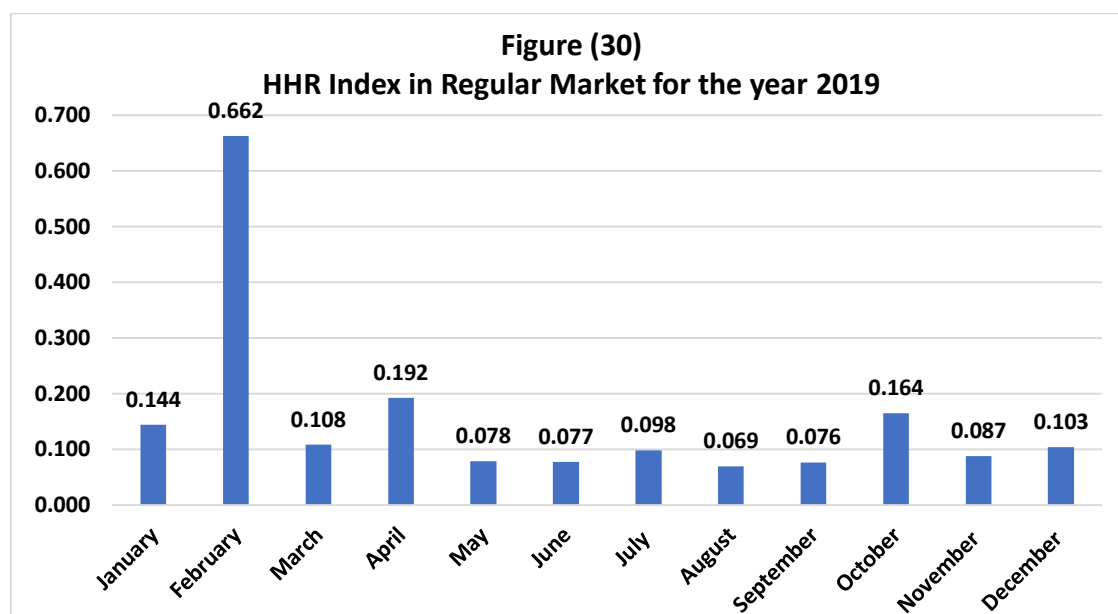
Source: Iraq Stock Exchange Annual Report for 2018 and 2019

1-2-1-1 Depth and Resilience of Regular Market:

The Depth and Resilience of Iraq Stock Exchange can be measured through Hui- Heubel Ratio (HHR)¹, where the results indicate that the Iraq Stock Exchange in 2019 has witnessed fluctuation in the depth and resilience of the regular market where the Hui-Heubel Ratio (HHR) indicator recorded a high rate in June 2019 as a result of the increase of difference between the highest price and lowest price on the one hand, and decrease of share turnover for the same month as it reached (0.4) on the other hand. This is the lowest turnover rate in 2019. This led to an increase in the Hui-Heubel Ratio (HHR) index to (0.66). As for the remaining months of the year, it witnessed fluctuation between rise and fall in Hui-Heubel Ratio (HHR) index to record the lowest level in August which was (0.069). Moreover, all these months have not reached the integral one number, and this reflects the depth and resilience of the regular market in these months.

¹ It is possible during the Hui-Heubel Ratio (HHR) index to know the depth and resilience of the stock market, as the low values of this index indicate an increase in the depth and resilience of the market, while high values indicate a decrease in depth and resilience in the market, and can be calculated through the following equation:

$$HHR = \frac{\text{higher price} - \text{lower price}}{\text{lower price}} \times \frac{\text{Trade value}}{\text{market value}}$$



Source: Iraq Stock Exchange monthly data published on the website: www.isx-iq.net.

1-2-2 Trading in the second market:

The number of shares traded in the second market witnessed a decrease in 2019 by (- 45.32%) as it decreased from (455.8) billion shares in 2018 to (249.2) billion shares in 2019, as well as a decrease in the value of trading in 2019 by (- 48.5%), it decreased from (233.7) billion dinars in 2018 to (120.3) billion dinars in 2019, and the banking sector had the largest share in terms of the number of shares and the value traded despite its decline from 2018. as shown in Table (5).

Table (5)

Number of shares and value of trades in the second market for the years (2018 –2019)

Sectors	Number of shares traded (million shares)			Trading value (million dinars)		
	2018	2019	Growth Rate	2018	2019	Growth Rate
The banking sector	371060.20	246492.80	-33.57	169304.10	112081.90	-33.7985
Telecom sector	2071.10	1684.40	-18.67	6046.90	4530.50	-25.0773
The insurance sector	162.80	441.50	171.19	80.00	209.90	162.375
Financial investment sector	29.30	50.00	70.65	20.00	44.70	123.5
Financial transfer sector	82390.00	187.10	-99.77	57397.20	59.80	-99.8958
Services sector	106.00	112.80	6.42	912.80	79.50	-91.2905
Industry sector	0.01	285.70	3571150	0.50	3302.50	660400
The hotel and tourism sector	4.70	1.70	-63.83	34.10	12.50	-63.3431
Total	455824.50	249256.00	-45.32	233795.80	120321.30	

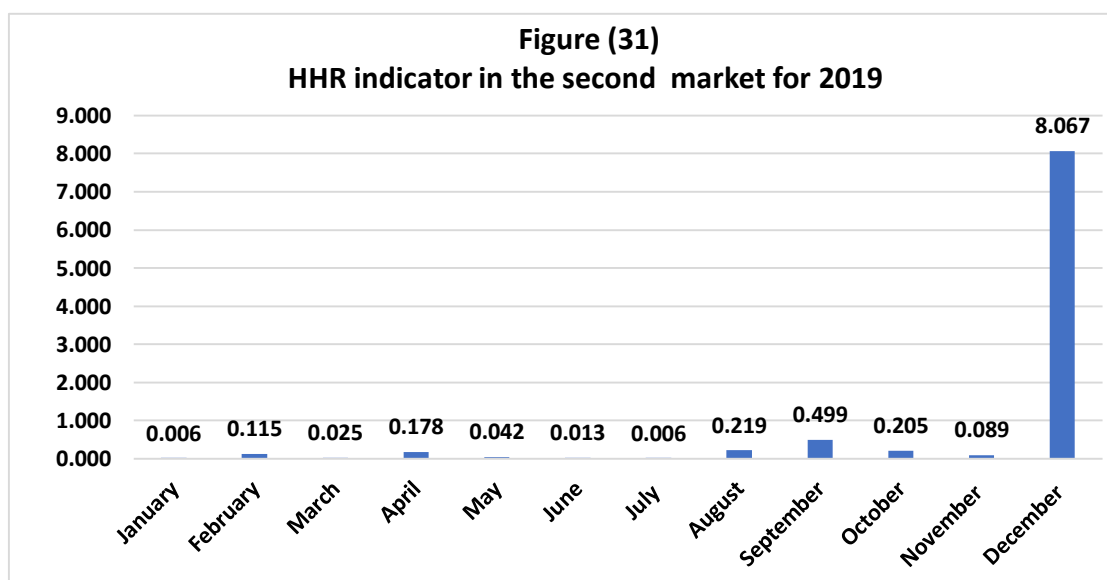
Source: Iraq Stock Exchange Annual Report for 2018 and 2019.

*Annual growth rate between 2018 and 2019.

The year 2019 witnessed an increase in the number of shares sold from foreigners over shares purchased in the second market, which indicates an exit of foreign investors from it, and the number of traded shares purchased by non-Iraqis during the year 2019 reached (18.3) billion shares with a trading value of (11.0) billion dinars executed under (1664) contracts belonging to (11) publicly traded companies out of (27) companies listed in the second market, compared to (2.07) billion shares with a trading value of (6.04) billion dinars executed under (503) contracts belonging to (6) publicly traded companies out of (47) companies listed in the market in 2019, while the number of traded shares sold by non-Iraqis during the year 2019 recorded (18.7) million shares with a trading value of (11.1) million dinars executed under (1704) contracts belonging to (8) traded companies out of (27) companies listed in the second market.

1-2-2-1 Depth and Resilience of Second Market:

The Hui-Heubel Ratio (HHR) index for measuring Depth and Resilience of Second Market recorded a fluctuation in 2019 as it reached (8.06) in December. This increase was due to the increase of difference between the highest share price and the lowest share price as the highest share price amounted to (7.615) while the lowest share price amounted to (0.822). The index recorded its lowest level in January, as the value of the index reached (0.006), as a result of the high turnover ratio of shares to (2.354) and (3.087) respectively. This is supposed to reflect the depth and resilience of the second market of the Iraqi Stock Exchange for 2019 as shown in Figure (31).



Source: Iraq Stock Exchange monthly statements published on the site: www.isx-iq.net.

2-Financial Soundness Indicators

2. Financial Soundness Indicators

2-1 Capital adequacy ratio indicator:

The capital adequacy ratio indicator is one of the most important indices that are used to identify the bank's solvency and its ability to withstand potential losses or insolvency, as the more capital increases, the possibility of financial insolvency, and accordingly the degree of its financial solvency rises, and vice versa, so the Central Bank of Iraq has paid special attention to strengthen the financial position of banks by increasing their capital, as the first line of defense to make them more able to overcome potential risks, and the Basel II standard was adopted to measure capital adequacy.

The capital adequacy ratio for the banking system as a whole decreased from (285%) in 2018 to (173%) with a rate of decrease amounting to (39.2%) despite the increase of the whole capital of banks from (15,151,306) million dinars in 2018 to (15,501,276) million dinars in 2019. This reflects an increase of the value of risk-weighted assets which led to decrease of the capital adequacy ratio of the banking system. Notwithstanding the decrease of capital adequacy ratio for the year 2019; it is considered significantly high in comparison with the ratios required by Central Bank of Iraq amounting to (12%). Therefore, it is considered a significantly high rate which reflects the ability and efficiency of the banking system to confront the risks and unexpected problems that may be exposed to it, and banks maintained this high level of financial solvency is the result of capital components, most of which are from (Tier 1) capital consisting of core capital.

As for the **capital adequacy ratio for government banks** according to the Basel II standard, it reached (29%) in 2019 lower by (32.55%) from its ratio in 2018 which recorded (43%) as shown in Figure (32), despite the increase of capital of government banks from (3.2) trillion in 2018 to (3.3) trillion, which indicates an increase in the risk-weighted assets within and outside the budget. This calculated ratio reflects the adequacy and good financial ability of government banks to help them face potential risks, as this ratio is greater than the standard ratio set by the Central Bank of Iraq, which is (12%).

And **the capital adequacy ratio for private banks** according to the Basel II standard was (186%) in 2019, it recorded a slight decrease of (- 39.8%) from the year 2018, when it reached (309%), despite capital increase from (11.7) in 2018 to (11.9) in 2019, this reflects a significant increase of risks that the banks operating in Iraq face. Notwithstanding this rate's decrease from the previous year, it is considered a significantly high rate which surpasses significantly the set rate according to Basel

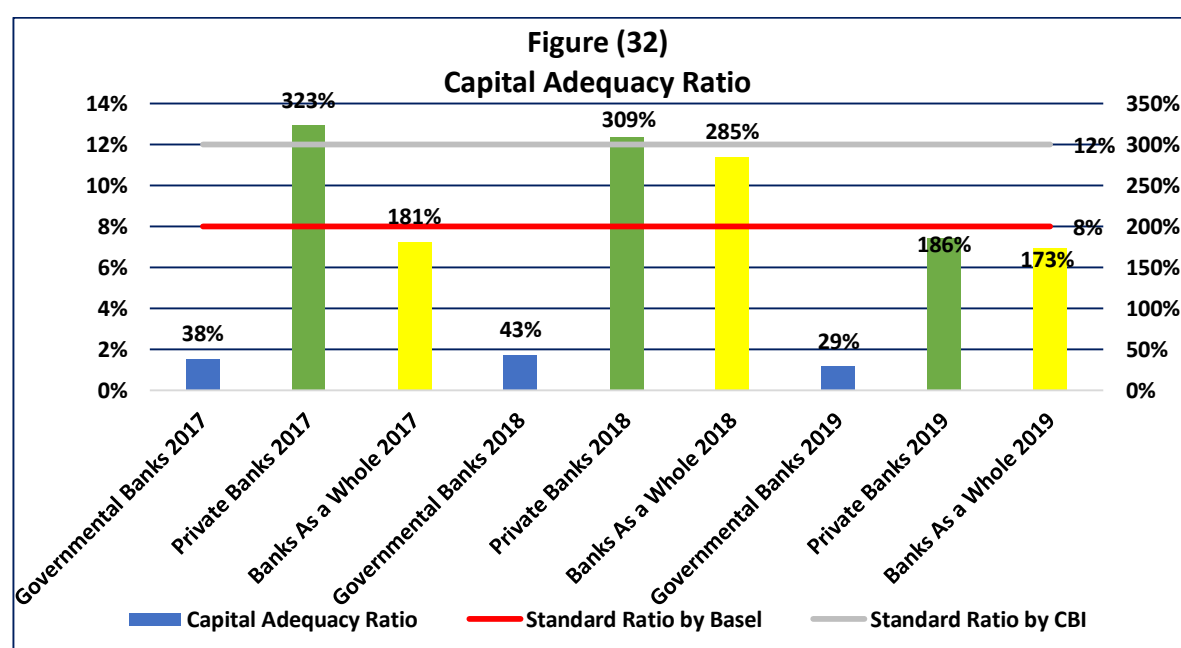
standard amounting to (8%) and also that which is set by the Central Bank of Iraq, amounting (12%).

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

The first factor: The number of private banks is more than government banks, as the number of the first ones reaches (66) banks, while the number of government banks (7) banks until 2019.

The second factor: the increase in the capital of the private bank in response to the instructions of the central bank to increase the capital with (250) billion dinars as a minimum for each bank.

The third factor: which is the most important; it is the increase in the size of the risk-weighted assets of government banks, as the proportion of government banks' contributions to each of the assets, cash credit, pledged credit and investments is (79%), (81%), (68%) and (93%) in 2019 for each of them, respectively, i.e. government banks despite their low number, their banking activity is much greater than that of all private banks, due to the fact that they have been established for a long time, as well as the widespread of its branch network in all parts of Iraq.



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

2-2 Liquidity indicators:

Basel II introduced a new framework to regulate the liquidity where it focused on high quality capital (ordinary shares). The new liquidity standard consists of liquidity coverage ratio (LCR) which requires banks to maintain a sufficient amount of high-

quality liquid assets to enable them to cope with stressful situations for a period of no less than (30) days, as well as from the net stable funding ratio (NSFR) that is considered a structural supervisory tool in measuring the level of liquidity.

Table (6)

The application of LCR and NSFR by Banks

Ration	Year	2017	2018	2019
LCR		80%	90%	100%
NSFR		100%	100%	100%

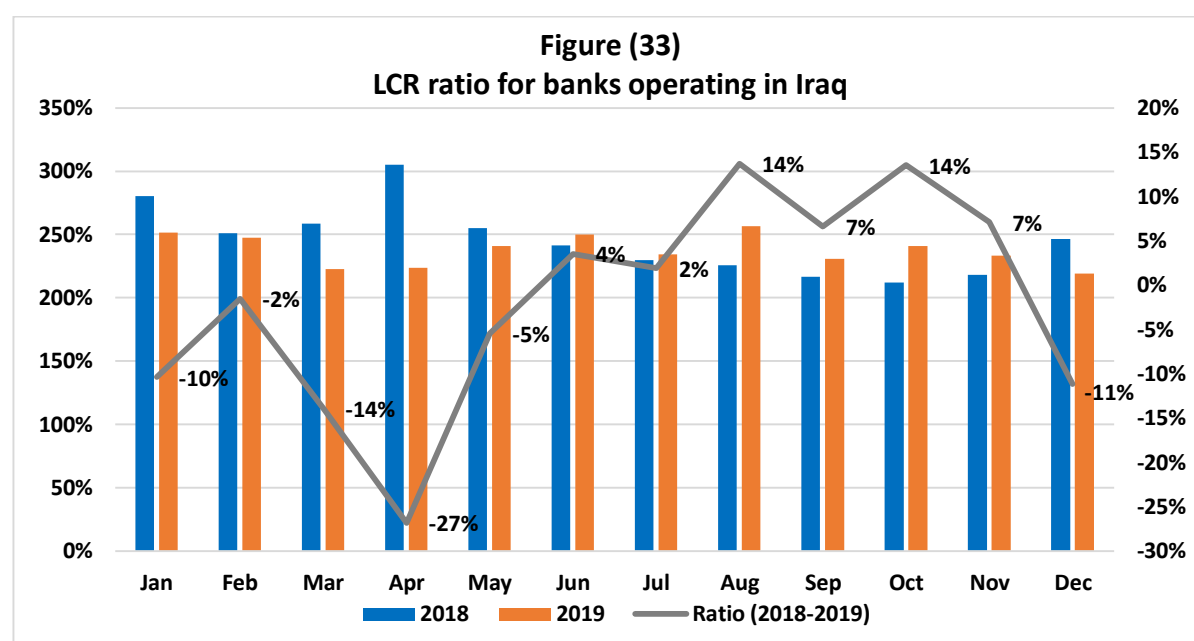
Source: Central Bank of Iraq, Financial Operations and Debt Management Department.

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

The Central Bank of Iraq has begun to implement LCR as of 2017 by (80%), and it is done gradually until it reaches (100%), and it should not be less than this percentage, as shown in Table (6), in order for the bank to be able to guarantee that its liabilities and liquidity needs are met for a period of (30) days, which prevents falling into financial insolvency problems in the short term.

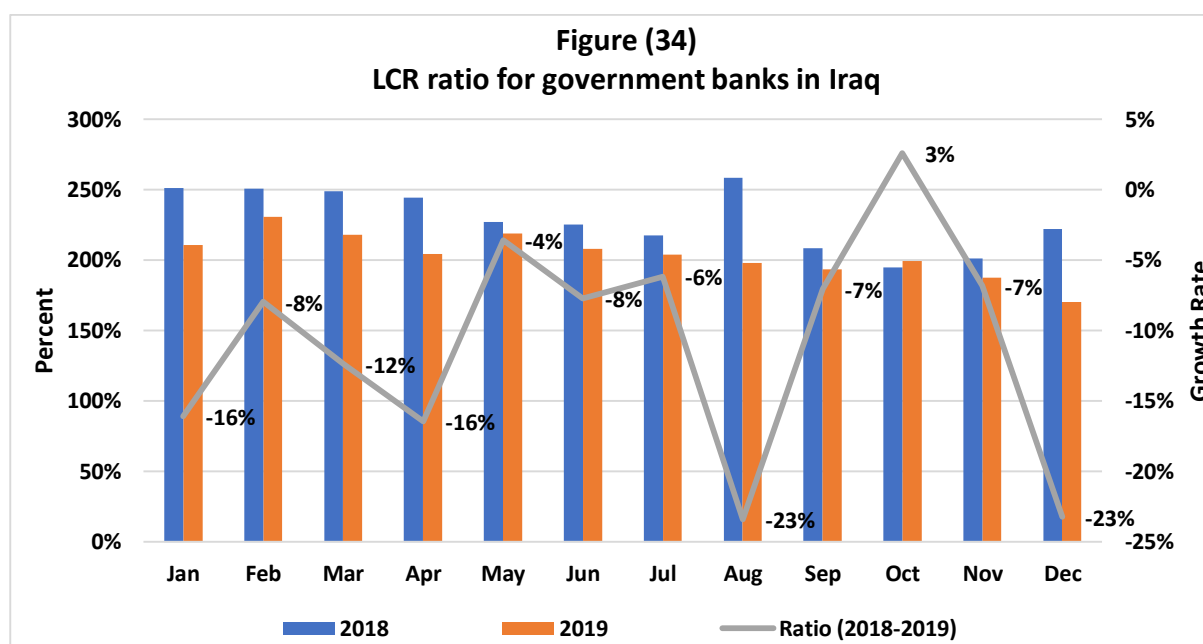
The banks operating in Iraq achieved a high liquidity rate of LCR if the monthly average of this ratio does not fall below the minimum set for it during 2019, and LCR recorded its higher average in August where it reached (257%) while the lowest average of LCR was in March and April where it reached (223%) for both, which is much higher than the minimum LCR amounting (100%). Iraqi banks have succeeded in applying the liquidity coverage ratio as a whole banking sector. As for individual banks, there are some banks that did not meet the required ratio on 2019. The number of banks which did not meet the liquidity ratio was (11) bank's. While some banks reached high levels till very high limits, and these rates reflect their ability to face liquidity within (30) days and Figure (33) illustrates the monthly average of LCR for operating banks in Iraq and growth rate between the monthly ratios of 2018 and 2019.

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



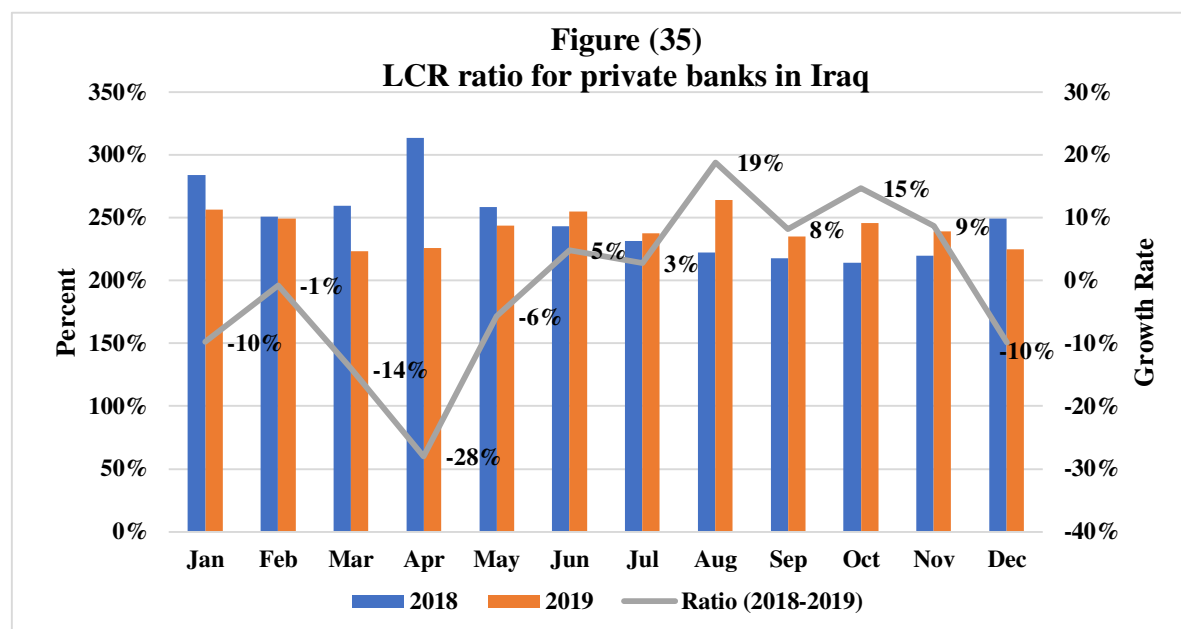
Source: Central Bank of Iraq: Banking Supervision Department.

If liquidity coverage rate was divided according to the type of banks (government and private), the LCR rate for government banks in the year 2019 did not decrease below the minimum limit set by the Central Bank of Iraq. The highest recorded rate was in February (231%) and the lowest rate (170%) in January. The decline of economic conditions led to decrease of LCR rate in government banks below the recorded rate of 2018 as shown in figure (34) where growth recorded a negative rate for all months of the year except for October where a slightly positive growth was recorded.



Source: Central Bank of Iraq: Banking Supervision Department.

As for LCR rates for private banks in 2019, their value differed between the highest rate which was recorded in August (264%) and lowest rate which was recorded in March (223%). While growth rate between the months of 2018 and 2019 fluctuated in achieving positive rates in some months and achieving negative rates in others, as shown in Figure (35):

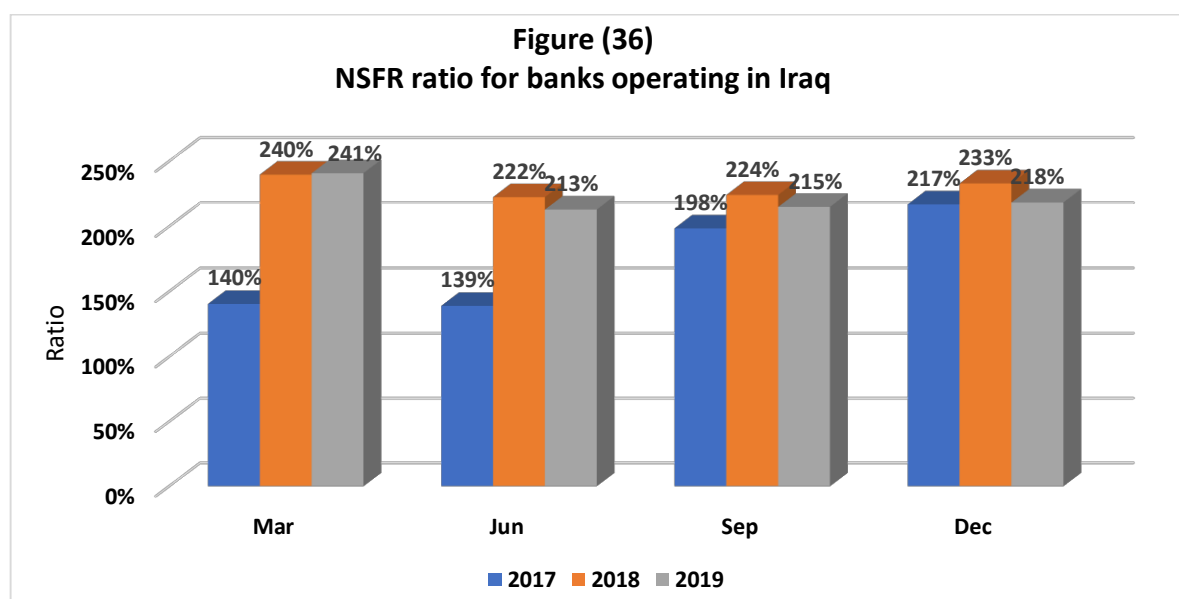


Source: Central Bank of Iraq: Banking Supervision Department.

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

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

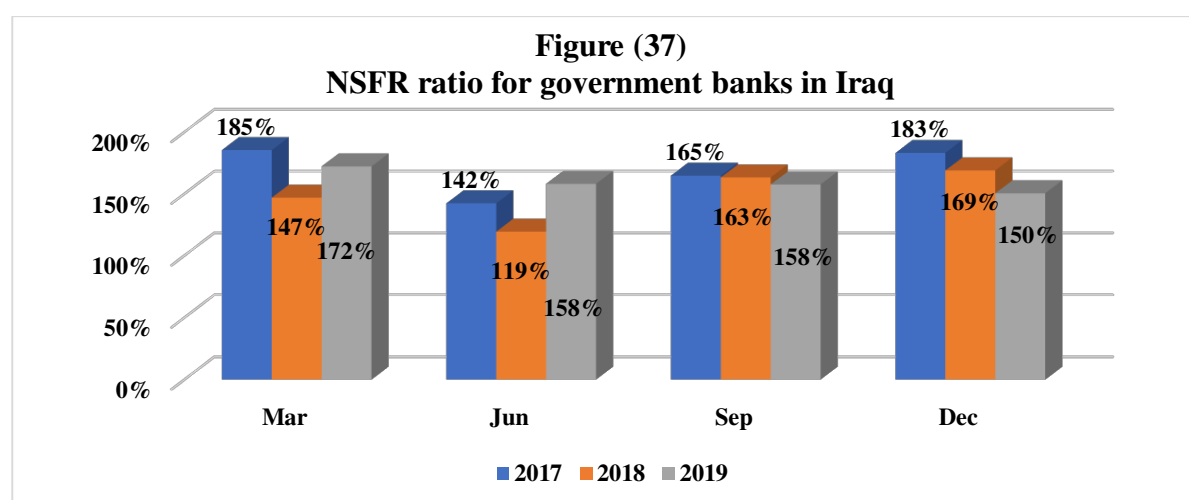
And the net stable funding ratio (NSFR) to the banking system in Iraq achieved a high percentage in all quarters of the year 2019 amounting (241%), (213%), (215%) and (218%) respectively, for each quarter, which are high compared to the ratio determined by the Basel III Committee. This indicates that banks have more available financing than required financing, i.e.: banks are able to finance the asset side according to what the sources of funds make available in the liabilities side. This is on the total level, as for the partial level; these percentages were lower than the set percentages for (12) banks. Figure (36) shows the NSFR for the 2017, 2018 and 2019 quarters.



Source: Central Bank of Iraq: Banking Supervision Department.

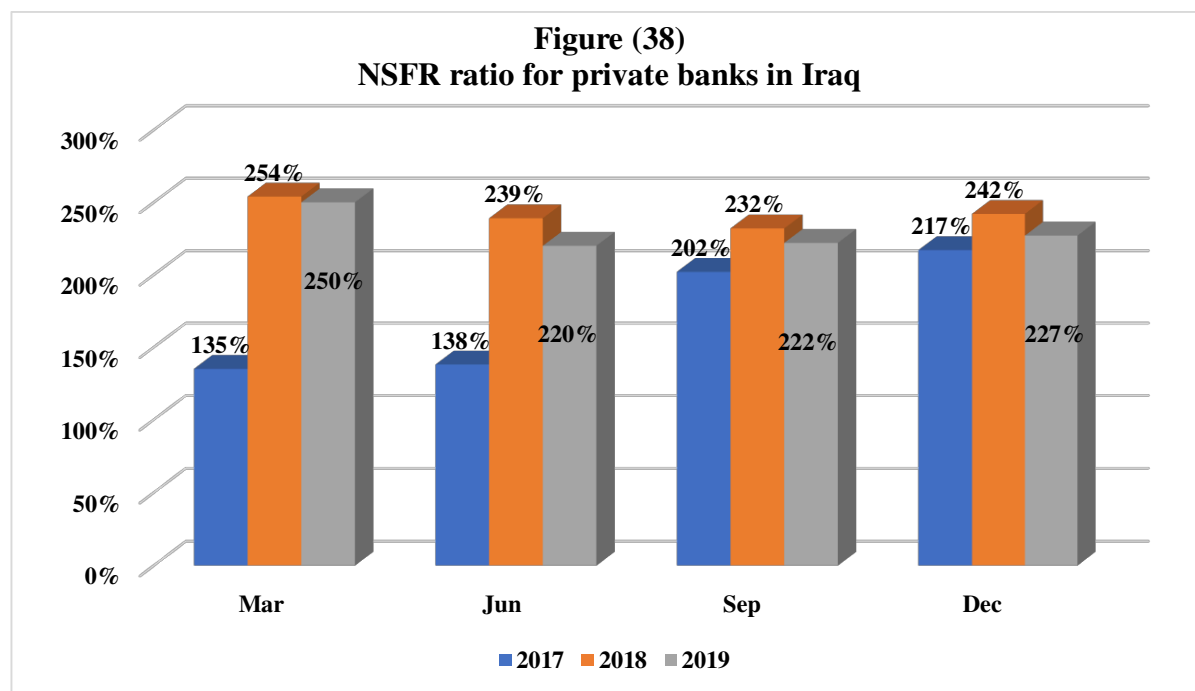
If NSFR rate was divided according to the types of banks (government and private), the NSFR rate of government banks in 2019 did not decrease below the minimum limit set the Central Bank of Iraq. The highest recorded rate in the first quarter was (172%) and the lowest in the fourth quarter (150%). Figure (37) shows the development of NSFR rate of government banks for the years 2017, 2018, and 2019.

If NSFR rate was divided according to the types of banks (government and private), the NSFR rate of government banks in 2019 did not decrease below the minimum limit set the Central Bank of Iraq. The highest recorded rate in the first quarter was (172%) and the lowest in the fourth quarter (150%). Figure (37) shows the development of NSFR rate of government banks for the years 2017, 2018, and 2019.



Source: Central Bank of Iraq: Banking Supervision Department.

As for NSFR rates for private banks in 2019, their value differed between the highest rate which was recorded in the first quarter (250%) and lowest rate which was recorded in the second quarter (220%). These rates are higher than the minimum limit of (100%). On the partial level, (11) banks recorded a decrease in NSFR throughout the seasons of the year. Figure (38) shows the development of NSFR in private banks for the years 2017, 2018 and 2019:

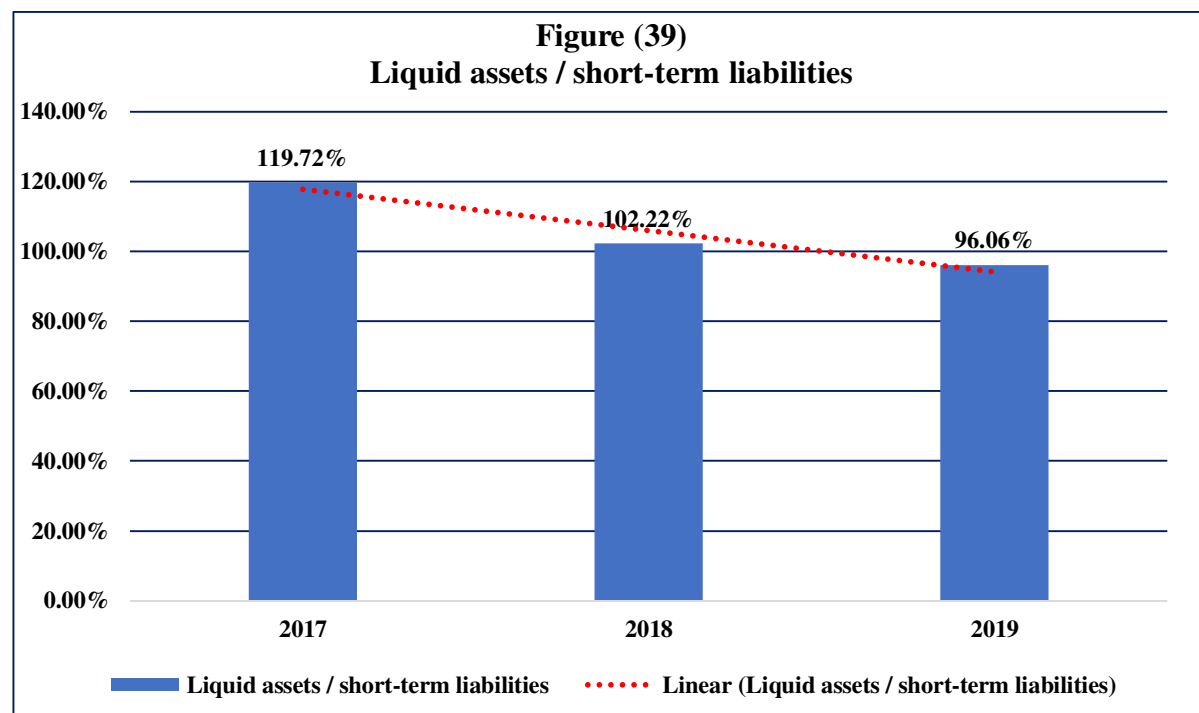


Source: Central Bank of Iraq: Banking Supervision Department.

The fact that the banking system has high levels of liquidity keeps the challenge great for bank management, because it is facing 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 one hand, on the other hand; its increase higher than the set limit results in decrease of bank profitability. Liquidity indicators can be measured according to four indicators which 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, we find if the banking system has a high liquidity ratio that gives it a shield and a buffer against the crises resulting from the withdrawals that it may be exposed to. Hence, the degree of risk is the least possible, and the bank can avoid it through the liquid assets available to it, and if it affects the profitability goal of banks, moreover, the banks have the ability to expand in the granting of bank credit, according to the following:

2-2-3 Liquid assets / Short-term liabilities¹

The ratio of the liquid assets indicator to the short-term liabilities of the banking system in general decreased to (96.1%) in 2019 compared to 2018 of (102.2%) and this decrease is due to the increase of current deposits value from (55,464,737) million dinar in 2018 to (59,917,740) million dinar in 2019, with a growth rate of (8.03%) which is higher than liquid assets growth rate which amounted to (1.5%) for the same period. The general direction of the rate which witnessed a gradual decrease for the period 2017-2019 indicates that the liquid assets no longer cover the short-term liabilities with (100%). However, this decline does not represent a threat to financial stability in the mean time, because the ratio, despite its decline, is high when compared to previous years' ratios, and therefore it represents a great financial durability for all banks (governmental and private), because it maintains high liquidity to face depositors' withdrawals and to provide loans and reflects positively on financial stability where it guarantees the banks' ability to fulfill their obligations of deposits, as well as guarantee their ability to provide loans to others, at the same time they spare them to resort to the central bank to request liquidity, Figure (39) shows this ratio for the years 2017, 2018 and 2019.

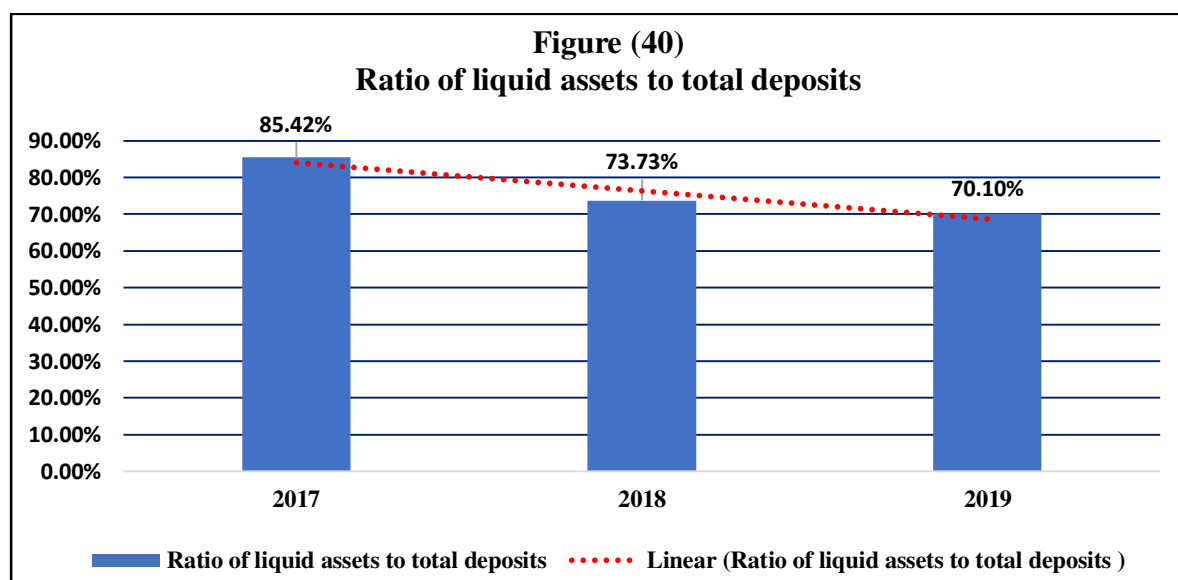


Source: Central Bank of Iraq, statistic website: <http://cbiraq.org>.

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

2-2-4 Liquid Assets / Total Deposits:

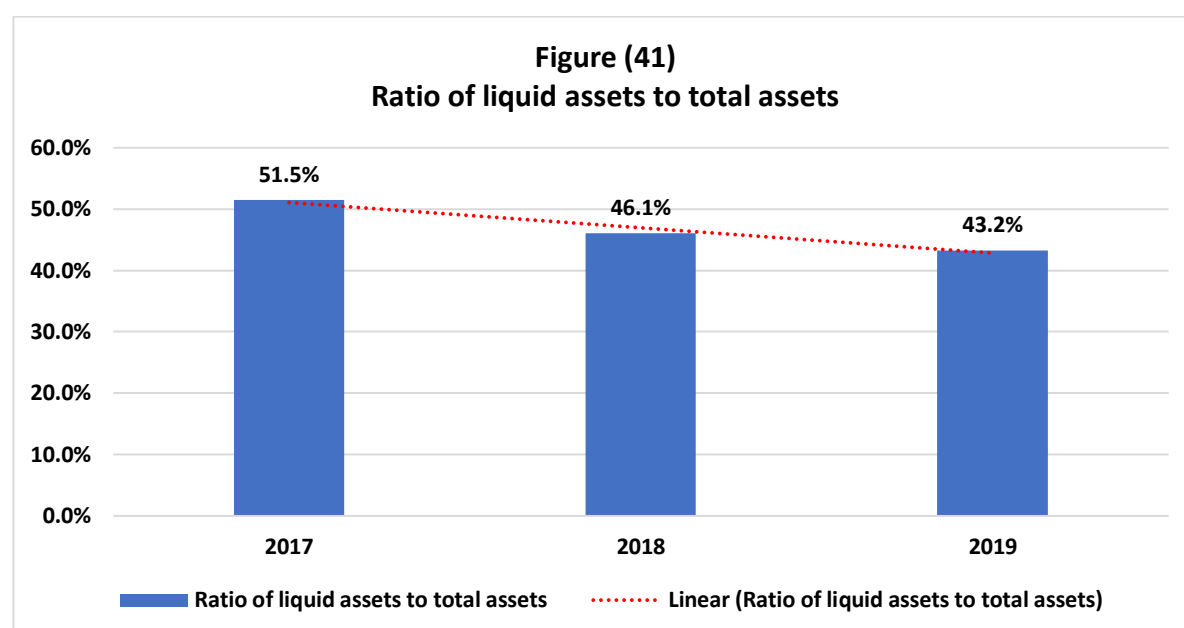
This indicator expresses the amount of liquid assets held by the bank including (cash with the central bank, as well as cash on hand, and other liquid balances), and the extent of its investment in granting loans of various kinds. **In general, the banking system** registered a percentage of (70.1%) on 2019 lowered than on 2018 of (73.73%), i.e.: The banking system is not likely to be exposed to liquidity risk in the short term, but keeping this high ratio reflects negatively on the return and profitability, as the liquidity goal will conflict with the profitability goal, because this liquid fund is not employed in investments that can generate significant financial returns for the bank, and therefore its decline reflects a clear trend towards the use of Loanable Funds. The decrease in the rate was due to increase of deposits with a growth rate of (6.7%) which is higher than liquid deposits growth rate (1.5%) as shown in Figure (40) which the liquid assets ratio to the total deposits of the banking sector.



Source: Central Bank of Iraq, statistic website: <http://cbiraq.org>.

2-2-5 Liquid Assets / Total Assets:

This ratio shows the extent to which the bank maintains full liquidity assets to meet depositor withdrawals, and measured relative to the total assets of the bank, the ratio of liquid assets to the total assets of the banking system in general decreased from (46.1%) in 2018 to (43.2%) in 2019. This decrease was due to the increase of total assets from (122,994,835) million dinar in 2018 to (133,089,806) million dinar in 2019, with a growth rate of (8.2%) which is higher than liquid assets growth rate of (1.5%) for the same period. And although it is decreased, it is considered a high ratio. And this reflects the hedging trend of the banking system. Figure (41) shows the liquid assets ratio to the total assets of banks operating in Iraq.



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

2-2-6 Cash Credit / Deposits:

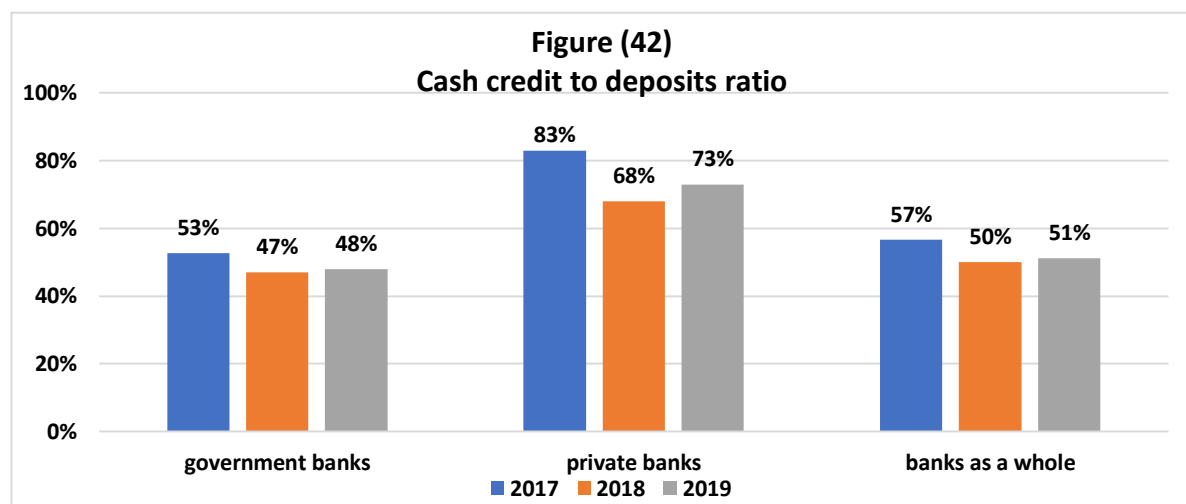
Cash credit ratio to deposits reflects the ability of banks to employ the available funds which are collected from the deposits to meet the demand on credit. The Central Bank of Iraq has set the cash credit ratio to deposits at a rate that does not exceed (70%), the cash credit ratio to deposits with the banking system in general increased from (50%) in 2018 to (51%) in 2019 and is within the standard ratio set by the Central Bank of Iraq. This increase was due to the growth of cash credit at a rate of (9%) in 2019, which is higher than deposits growth rate of (7%) for the same year.

The same ratio with the government banks¹ of (48%) in 2019 high at a rate of (1.8%) compared to 2018 of (47.1%), due to the growth in deposits of state-owned banks at a rate of (10%) on the one hand, On the other hand, deposits grew by (8%), and the growth of cash credit to deposits. It is noted that the rate of increase in credit is greater than the rate of increase in deposits, and this is due to the increase of credit provided to public sector in 2019 with a rate of (15%) compared to 2018, and the increase of credit provided to private sector with a rate of (4.1%) for the same year.

As for private banks,² the ratio reached (73%) in 2019, which is higher than in 2018 of (68%), that private banks are ahead of government banks to invest their deposits, and state-owned banks maintain more liquidity than planned and employ low deposits.

1 The rate of cash credit of government banks to its total deposits.

The thing that encourages banks to employ low deposits is to give low interest rates on deposits against loans and this is embodied in the rate of credit and debit interest margin (Spread) with the Iraqi banking system, as it reached (7.12%) and (7.9%) in the Iraqi dinar in 2018 and 2019 respectively, and the interest margin in foreign currencies (8.19%) and (9.14%) for the same period.



Source: Central Bank of Iraq, statistic website: <http://cbiraq.org>.

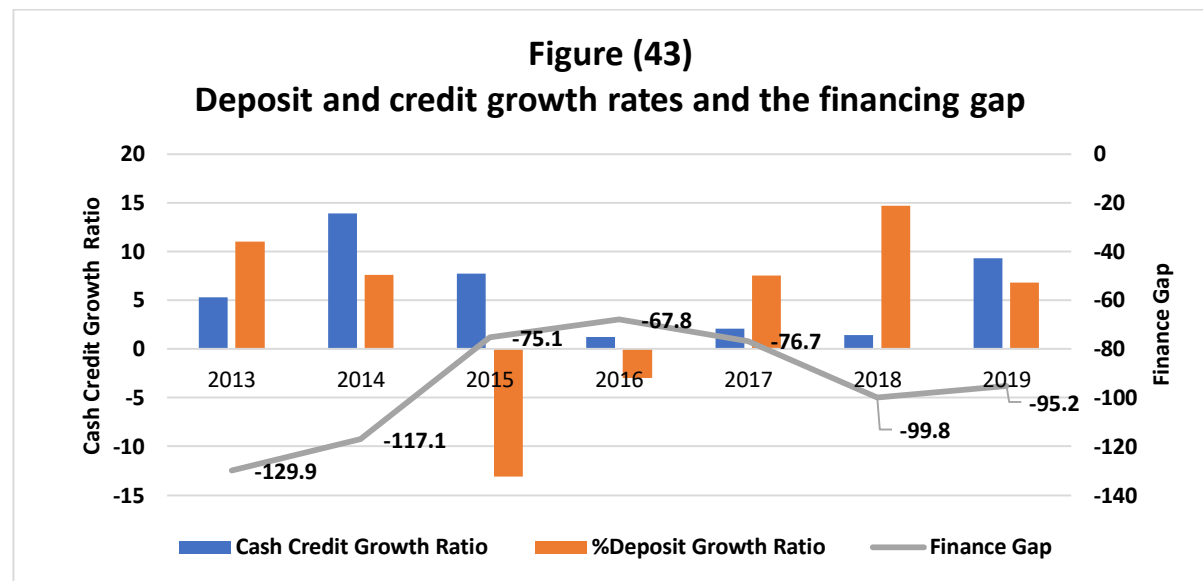
2-2-7 Funding gap (credit gap):

The funding gap means the difference between cash credit and deposits to cash credit¹. This gap narrowed in 2019 by (4.6%) compared to 2018, as the gap reached in 2019 (-92.5%). This is due to the increase in the cash credit growth rate at a rate higher than the deposits growth rate, as the growth of cash credit in 2019 reached (9.3%) compared to 2018, while the deposits grew at a rate of (6.8%) in 2019, which increased from 2018 (76.8) trillion dinars, which led to the narrowing of the gap. The narrowing of the gap between 2018 and 2019 is due to the improved economic conditions.

However, the gap remains high and covered by more than its value by many deposits, 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 the result is a decrease in the risks to which the banking system may be exposed. The high gap means that the risks related to confidence in the banking system are low, and Figure (43) shows the relationship between the growth rates of cash credit and deposits on the one hand and the financing gap on the other hand.

¹ See:

- <http://www.albayan.ae/economy/capital-markets/2016-08-22-1.2700768>
- Qatar Central Bank, Financial Stability Report 2014, p. 78.



Source: Central Bank of Iraq, statistic website: <http://cbiraq.org>.

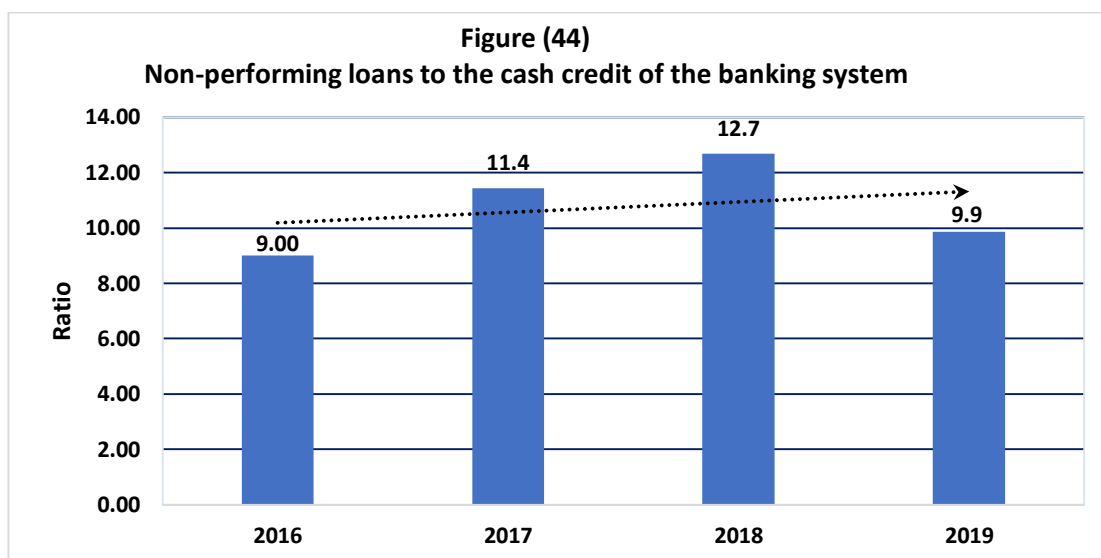
2-3 Assets Quality Indices:

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

2-3-1 Nonperforming loans (NPL) ratio / Total cash credit:

The non-performing loans at Iraqi banks recorded (4.1) trillion dinars in 2019, lower than Percentage (-21.9%) compared to 2018, when it reached (4.8) trillion dinar. which led to a decrease of non-performing loans ratio to cash credit from (12.6%) in 2018 to (9.9%) in 2019, this affects positively the financial stability index in Iraq, as the ratio of non-performing loans is one of the variables included in its calculation.

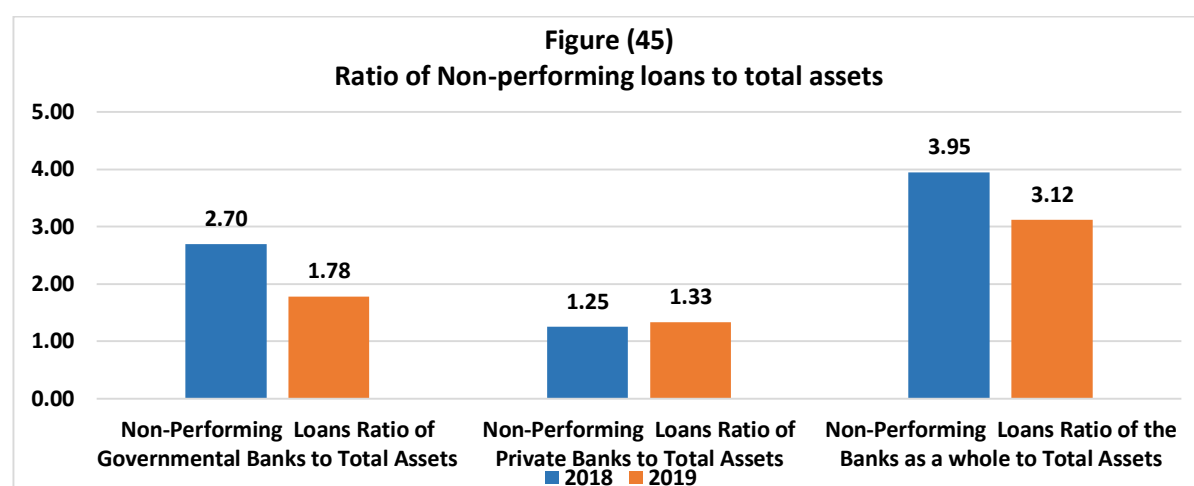
Non-performing loans for the year 2019 were distributed at (2.37) trillion dinars for government banks, at a rate of (7%) of cash credit of government banks, which is lower than 2018 (11%). This is a good indicator which supports stability of banking sector, and (1.77) trillion dinars for private banks and at (23%) of cash credit, which is higher than 2017 (21%). This indicates that private banks are more exposed to the risk of non-payment compared to government banks, due to the high ratio of their non-performing loans to cash credit compared to government banks. Figure (44) shows banks' non-performing loans rates to total cash credit.



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

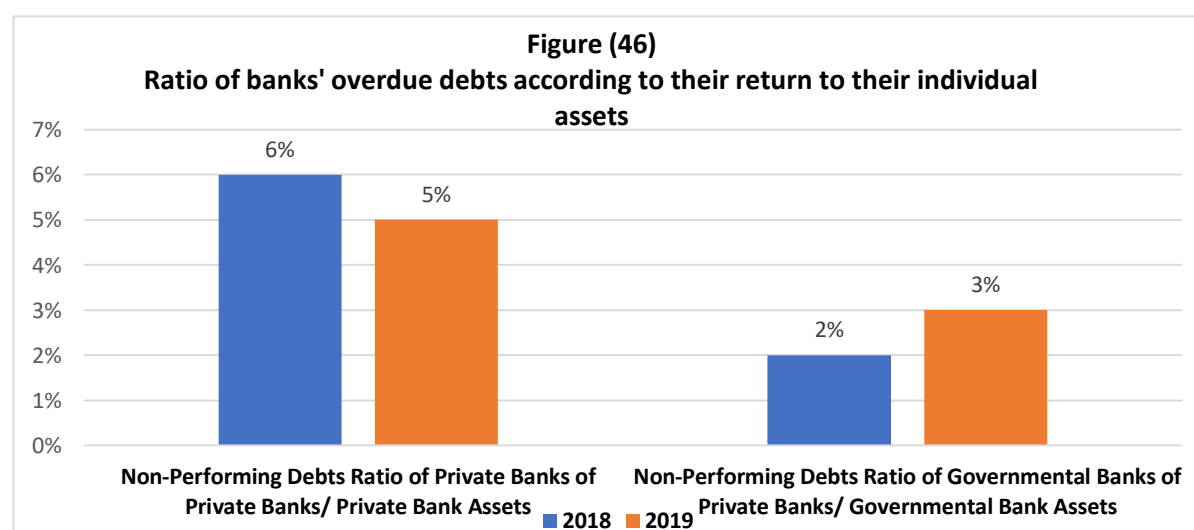
2-3-2 Nonperforming loans (NPL) ratio / Total assets:

The ratio of non-performing loans (doubtful debts) to total assets of the banking system decreased in general during 2019, as the ratio reached (3.12%) compared to (3.95%)¹ in 2018. This ratio reflects the large assets of the banking system despite its decrease in 2019, and this ratio has decreased as a result of the decrease in the volume of non-performing loans from (4.8) trillion dinars in 2018 to (4.1) trillion dinars in 2019. However, it reflects a good and sound position of banks operating in Iraq in terms of the volume of assets in 2019 where the international literature and experiences indicate that exceeding this ratio (10%) foreshadows an expected banking crisis, but in Iraq this ratio is still within acceptable standards and that its reduction will be better and reflects a good performance of banks. Concerning **government banks**, the ratio of non-performing loans to total assets decreased from (2.70%) in 2018 to (1.78%) in 2019, due to the decrease of its non-performing loans with a rate of (-29%) and the increase of total assets with a rate of (8%) while private banks recorded an increase in their non-performing loans ratio to total assets From (1.25%) in 2018 to (1.33%) in 2019, as a result of the growth of their non-performing loans at a rate of (15%), despite the increase of total assets by (8%). The increased non-performing loans in private banks makes it necessary to put forth appropriate methods and solutions to ensure that they do not pose threat on the banking system. Figure (45) shows the foregoing rates.



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

If non-performing loans rate to assets was classified according to the type of banking sector (government or private); they would reach (3%) and (2%) for government banks in 2018 and 2019 respectively, as this rate decreased due to the decrease of non-performing loans at a rate of (-29%) and the increase of assets value of government banks in 2019 at a rate of (10%) compared to 2018. As for private banks, the non-performing rate to assets increased from (5%) in 2018 to (6%) in 2019 due to the increase of its non-performing loans at a rate of (15%) between 2018 and 2019. While its assets increased at a rate of (1%) only and for the same period as shown in Figure (46). The increase of non-performing loans rates whether to cash credit or assets of private banks makes it a necessity to put forth the appropriate methods or update the existing ones to address this default in order to avoid future crises which threaten the stability of the banking system.

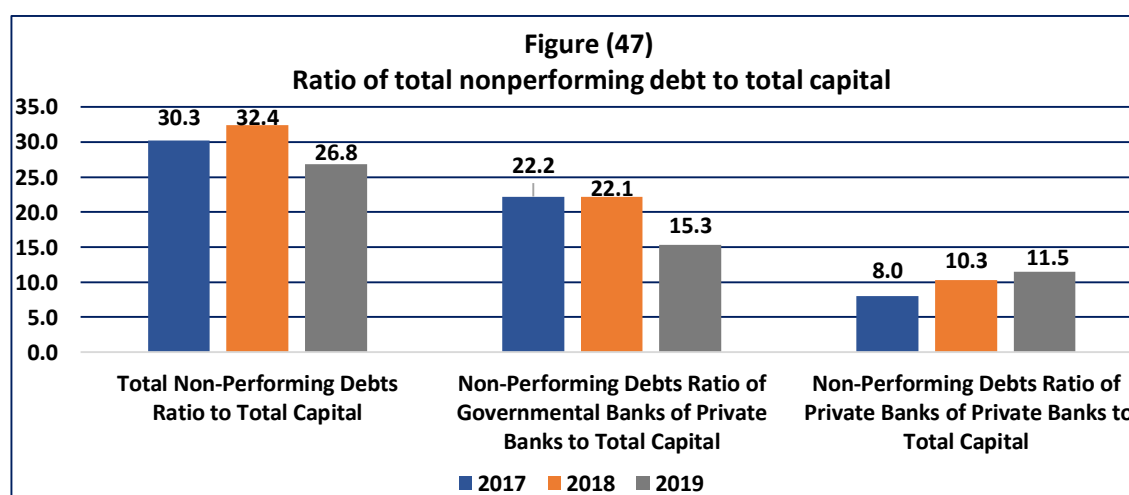


Source: Central Bank of Iraq, Department of Statistics and Research.

2-3-3 Nonperforming loans (NPL) ratio / capital:

The high ratio of non-performing loans to capital gives a clear indication of the risk in banking institutions and then affects the financial stability Indicator in Iraq, which is evident in governmental banks as a result of the large volume of their loans and the small volume of their capital. However, the exacerbation of this ratio in the banks' balance sheets gave an indication of the existence of financial risks therein beyond any doubt, which requires the regulatory authorities to give this matter a great deal of importance in order to avoid any possible default that may happen in the future.

The ratio of non-performing loans to capital decreased in 2019 to (26.8%) compared to the same ratio in 2018 of (32.4%) for total banks, as a result of the decrease in non-performing loans for government banks. Figure (47) shows the ratio of non-performing loans 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 2019 (15.3%) for government banks and (11.5%) for private banks, due to the decrease in the capital of government banks compared to private banks.

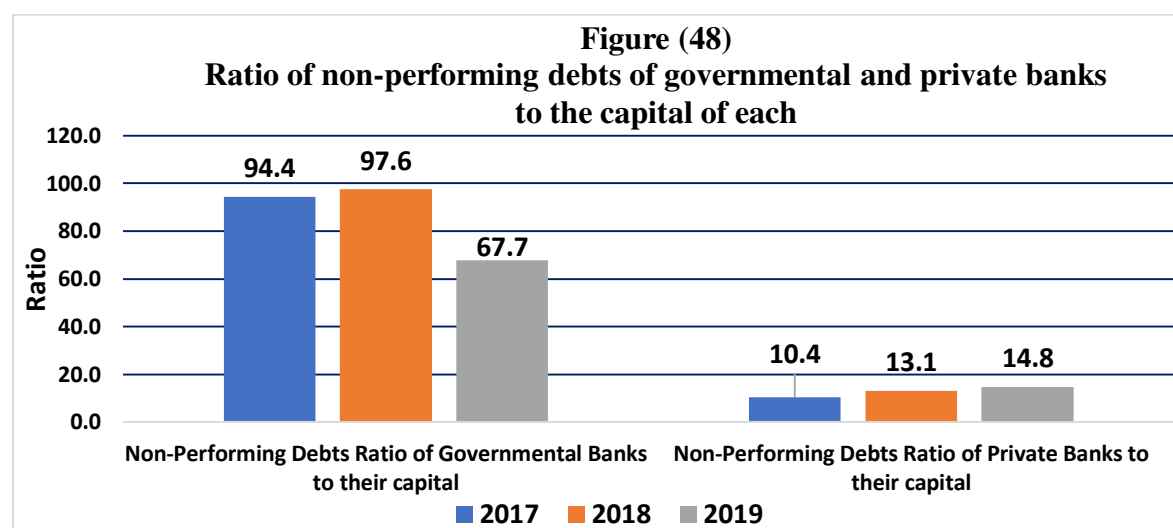


Source: Central Bank of Iraq, Department of Statistics and Research.

As for the ratio of non-performing loans for each of the government banks and private banks to the total capital of each of them separately, it showed that the ratio of non-performing loans of government banks to their capital is (94.4%), (97.6%) and (67.7%) for the years 2017 and 2018 and 2019 respectively, which is a very high ratio due to the low volume of government banks capital, as a result of most of them not responding to the requirements to increasing capital to (250) billion dinars, where the total capital of government banks in 2019 amounted to (3,501,600) million dinars only, and this rate decreased in 2019 due to the decrease of non-performing loans value and the increase of its capital, but this may not constitute 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 ratio as a hedge of potential risks.

As for private banks, the ratio of non- performing loans to their total capital amounted to (10.4%), (13.1%) and (14.8%) for the years 2017, 2018 and 2019, respectively, and as shown in Figure (48).

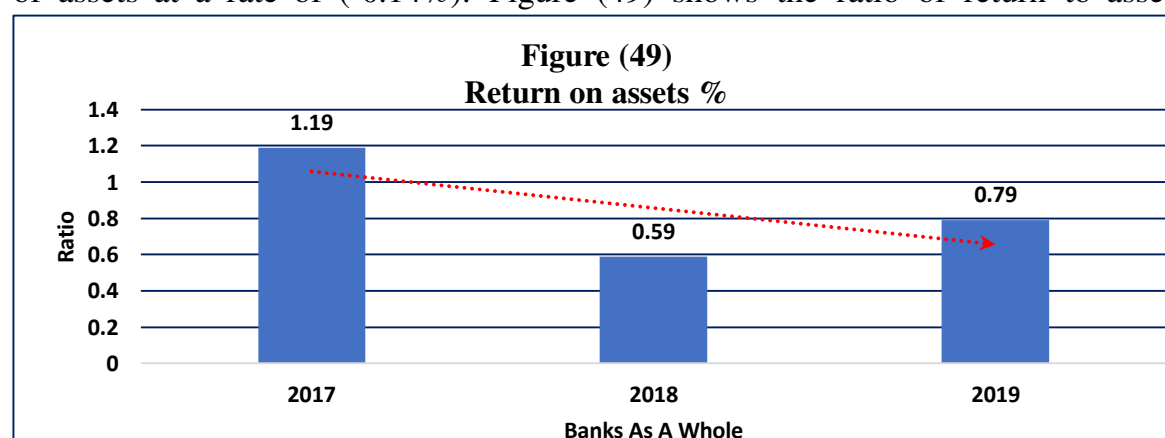


Source: Central Bank of Iraq, Department of Statistics and Research.

2-4 Revenue and Profitability indices:

2-4-1 Ratio of return on assets:

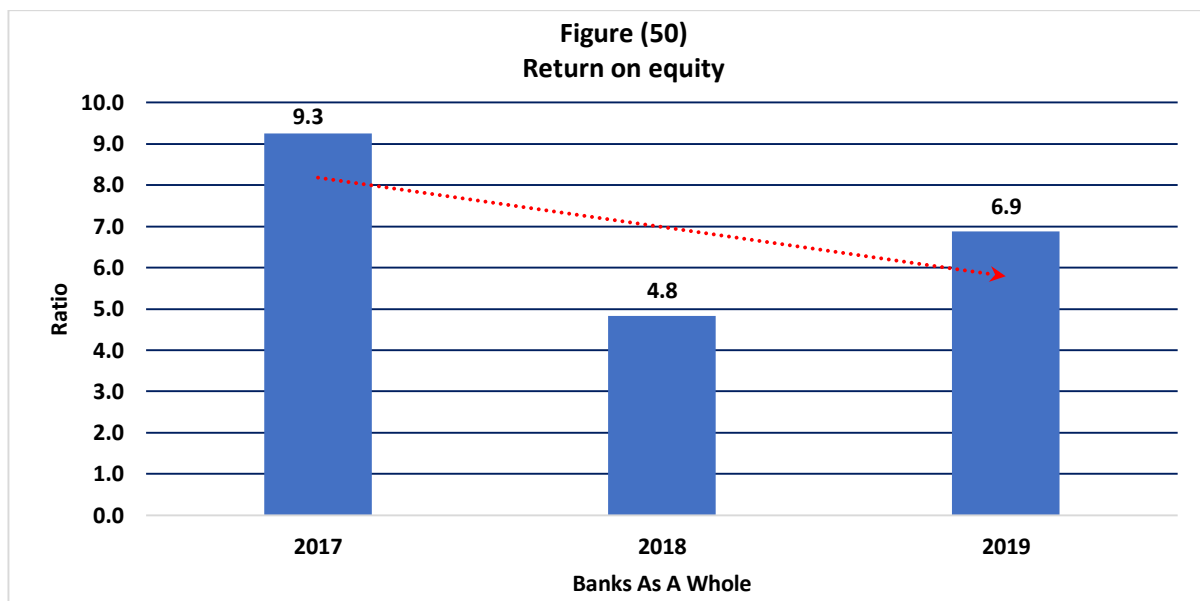
The ratio of return on assets increased from (0.53%) in 2018, to (0.79%) in 2019 for all banks, as a result of the increase in bank profits, as net interest income increased from (1,319,451) million dinars in 2018 to (1,496,584) million dinars in 2019, with a growth rate of (13.4%). The non-interest income also increased from (934,509) million dinars in 2018 to (977,161) million dinars at a rate of (4.6%), as well as the decrease of assets at a rate of (-0.14%). Figure (49) shows the ratio of return to assets.



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

2-4-2 Ratio of return on equity:

The ratio of return on equity increased from (4.4%) in 2018 to (6.9%) in 2019 for all government and private banks, and this ratio reflects the rate of return that investors owners of capital in the financial institution receive, the efficiency of the institution, and the extent of its success in generating profits from each unit of equity and the main reasons for this increase are the increase in the value of income and the decrease in the value of assets, as shown in the previous paragraph, and as shown in Figure (50).



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

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

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

Facing crises and fluctuations and maintaining financial stability are among the most important challenges that supervisory authorities seek to achieve. Due to these challenges and crises, a necessity emerged to build an index which reflects the position of the financial system through a set of variables that represent the elements of this system and through which weaknesses can be detected.

Financial Stability indices are an early warning which mitigates the possibility of crises and reduces the costs needed to address their implications. Therefore, Central Bank of Iraq as represented by Monetary and Financial Stability Department and in cooperation with Arab Monetary Fund, sought to develop financial stability index to include not only banking stability, but also financial stability of the system as a whole. This was made through adopting a set of indices for each of the banking system, the aggregate sector, capital market, and financial cycle. These sub-indices rely also on other sub rates explained in Table (7)

3-1 The Variables Used in the Calculation of financial Stability Index:

Financial Stability Index consists of four main indices as follows:

- A. Banking Sector Index: Consists of 10 sub-indices which are; capital adequacy rate, non-performing loans total loans rate, net non-performing loans to capital rate, allocations coverage rate, liquid assets to liquid liabilities rate, total loans to total customers deposits rate, return on assets rate, return on equity rate, total non-interest expenditures to total income rate, and interest margin to total income rate.
- B. Aggregate Economy Index: Consists of four sub-indices; growth rate of total domestic product, deficiency rate of current account to total domestic product, inflation rate, foreign reserves rate to total domestic product.
- C. Capital Market Index: Consists of two sub-indices; Iraqi Stock Exchange index and market value of shares to total domestic product rate.
- D. Financial Cycle Index: Consists of one index which measures the gap of credit, i.e. the difference between the credit rate provided to private sector to total domestic product and long-term rate trend using Hodrick–Prescott filter.

Table (7) explains the variables used in formulating the Financial Stability Index and the relationship between these variables and Financial Stability Index, noting that the variables which have inverse relation will be given minus prior to normalizing data according to the method which will be explained in the Index methodology:

Table (7)

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 these ratios will be calculated using (The Hodrick-Prescott filter).

Framework (1): 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.

3-2 Results of Calculating Financial Stability Index in Iraq:

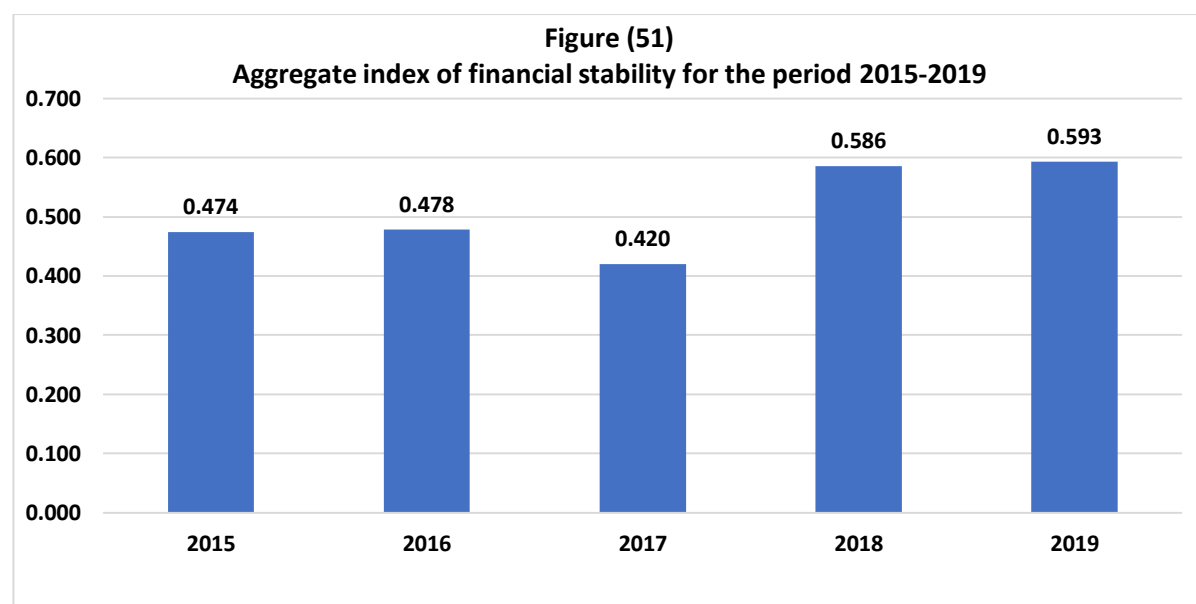
3-2-1 Analyzing Aggregate Index of Financial Stability in Iraq:

Assessing the level of financial stability by aggregate index relies mainly on the components and trends of the aggregate index. The values of aggregate sub-indices of the aggregate index of financial stability in Iraq witnessed fluctuations through the period from 2015 to 2019, lower from (0.474) in 2015 to (0.420) in 2017. This decrease was due to the decrease of banking sector index and capital market index. It then increased to reach (0.593) in 2019. This reflects the fact that the financial stability index is affected by the conditions that the country faced during these years as shown in Table (8) and Figure (51):

Table (8)

Aggregate financial stability index and its component sub-indices

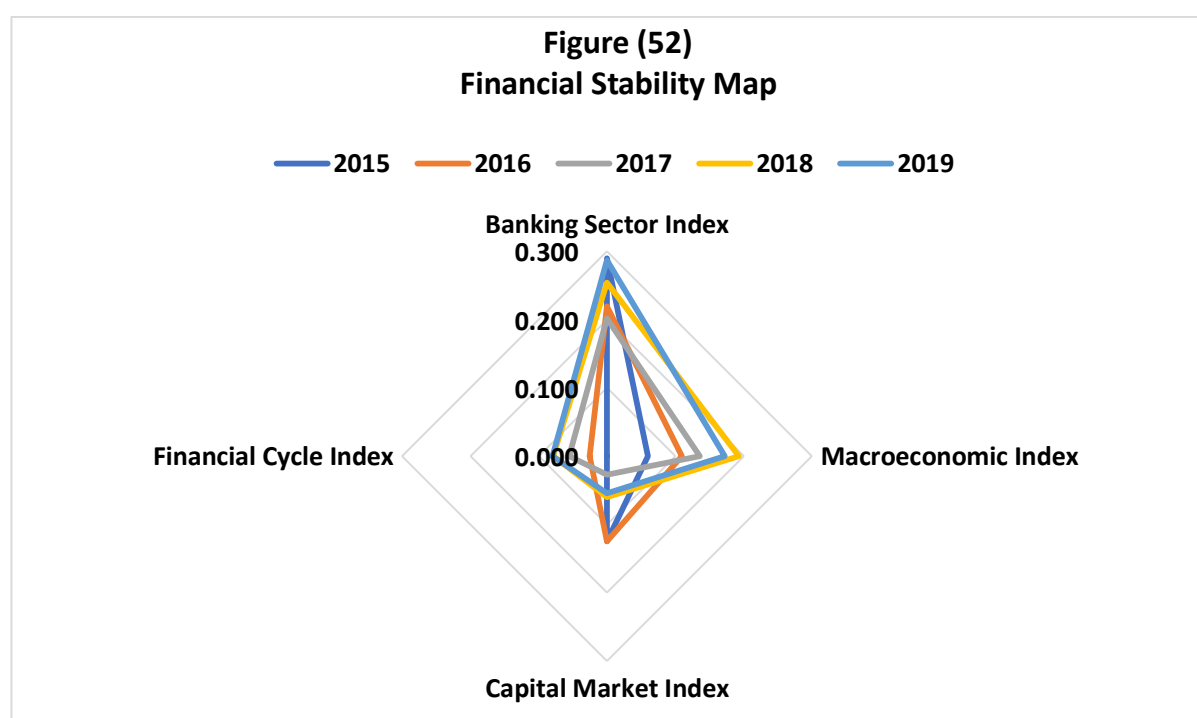
	2015	2016	2017	2018	2019
Aggregate Index of Financial Stability	0.474	0.478	0.420	0.586	0.593
Banking Sector Index	0.290	0.219	0.202	0.254	0.287
Macroeconomic Index	0.060	0.109	0.136	0.193	0.172
Capital Market Index	0.124	0.124	0.027	0.060	0.054
Financial Cycle Index	0.000	0.025	0.055	0.079	0.080



Source: Table (8) Data.

3-2-2 Financial Stability Map:

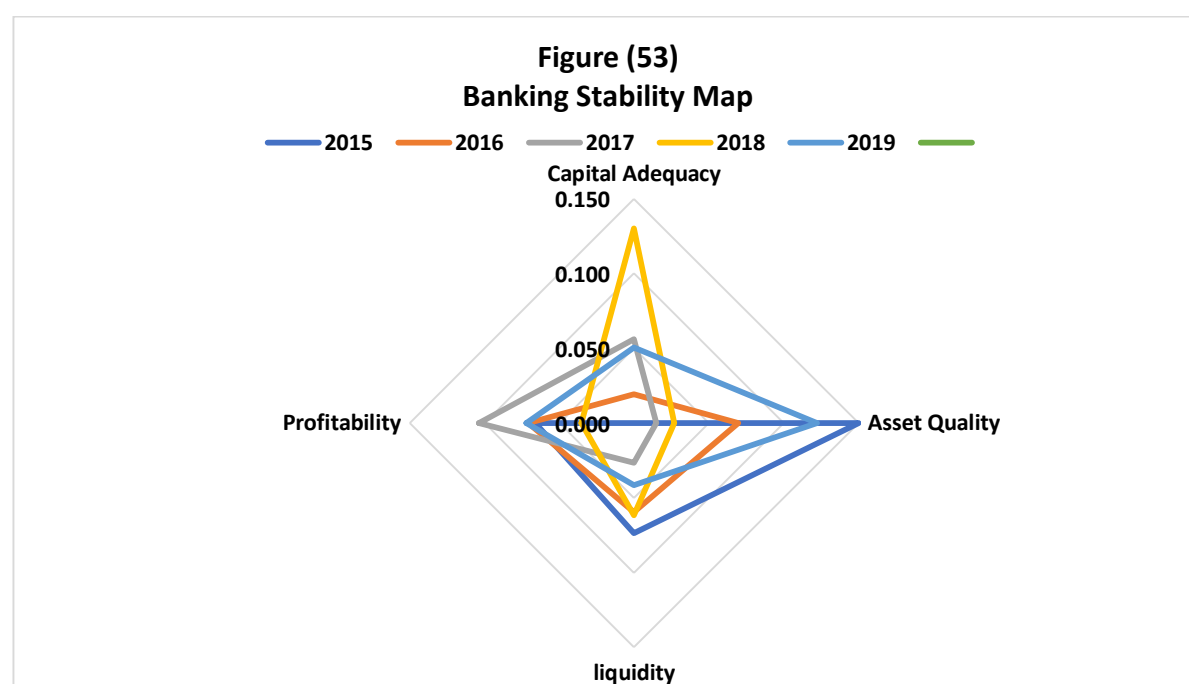
Financial stability map shows an analysis of aggregate sub-indices trends based on yearly data. Figure (52) shows that banking stability index had the most effect in increasing the financial index in Iraq. This is attributed to two reasons; first is the increase of weight of index in comparison with the remaining indices, the second is the increase of the number of sub-indices involved in its formulation. The effect of this index decreased in 2016 and 2017 and then it returned to increase in 2018 and 2019 until it reached (0.287) in 2019. The increase of this index was the main reason for the financial stability index to maintain a stability level near to that of 2018 despite the decrease of aggregate economy and capital market indices. This reflects a relative stability of the financial stability index in Iraq. Figure (52) shows the financial stability map:



Source: Table (8) Data.

It is evident from the financial stability map that the two indices of banking sector and aggregate economy are the most effective in the aggregate index of financial stability followed by capital market index, while financial cycle index had a minor effect due to decrease of credit gap and record of negative rates for most years of the period (2015-2019).

Due to the fact that the banking stability index is the most effective index on financial stability index, the necessity arises to analyze the banking index map and explain the sub-indices as it is shown in Figure (53):



Source: Table (8) Data.

Figure (53) shows that the increase in assets quality index and profitability index is the main reason for the increase of banking stability index in 2019 and that the increase of assets quality was due to decrease of non-operating loans to total loans and increase of allocations. Therefore, decrease of net non-operating loans to capital and increase of coverage rate. This leads to the increase of assets quality. As for the increase of profitability, it is due to the increase of return on assets index and return on capital index in addition to decrease of non-interest expenditures to total income in 2019 to (49.18%). These ratios are considered one of the most important with respect to measuring the operating efficiency of banks. Whenever this rate decreases less than (55%), this indicates a higher operating efficiency.

3-3 Analyzing the relationship between the aggregate index and sub- indices:

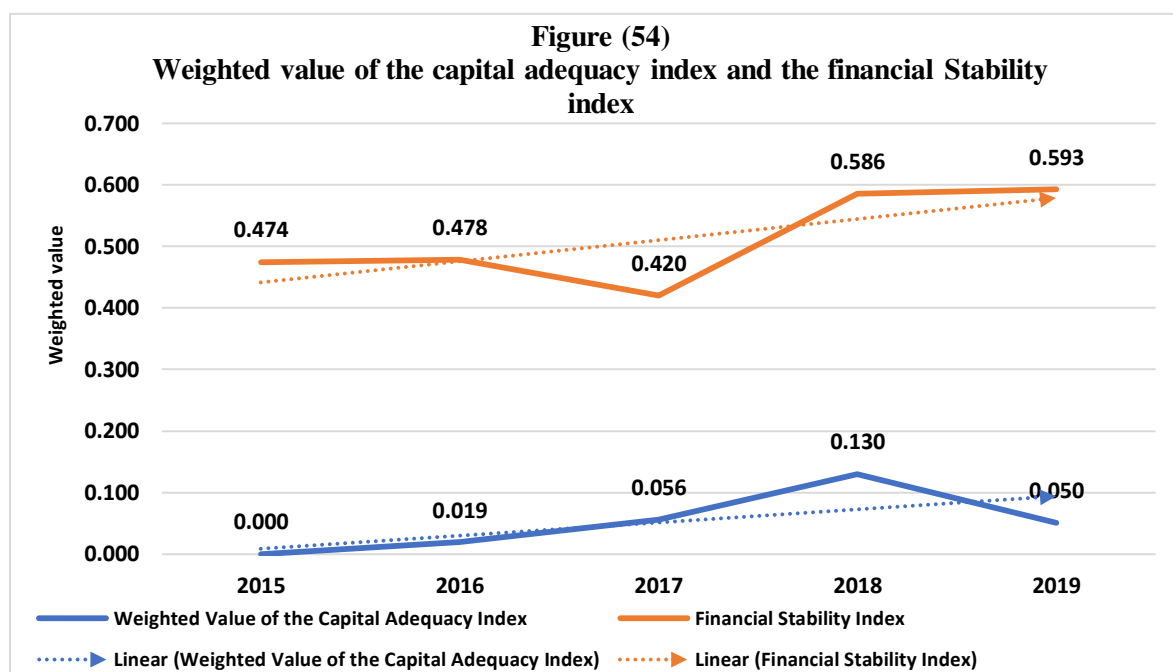
The aggregate index of banking stability consists of several sub- indices, all of which ultimately affect the value of the index, and they are as follows:

3-3-1. Capital Adequacy Index¹:

The weighted value of the capital adequacy index was recorded at (0.000), (0.019), (0.056), (0.130) and (0.050) for the years from 2015 to 2019, which indicates the general trend of the Central Bank of Iraq towards strengthening the durability of the financial system and making it more resilient to shocks, allowing the rise of the

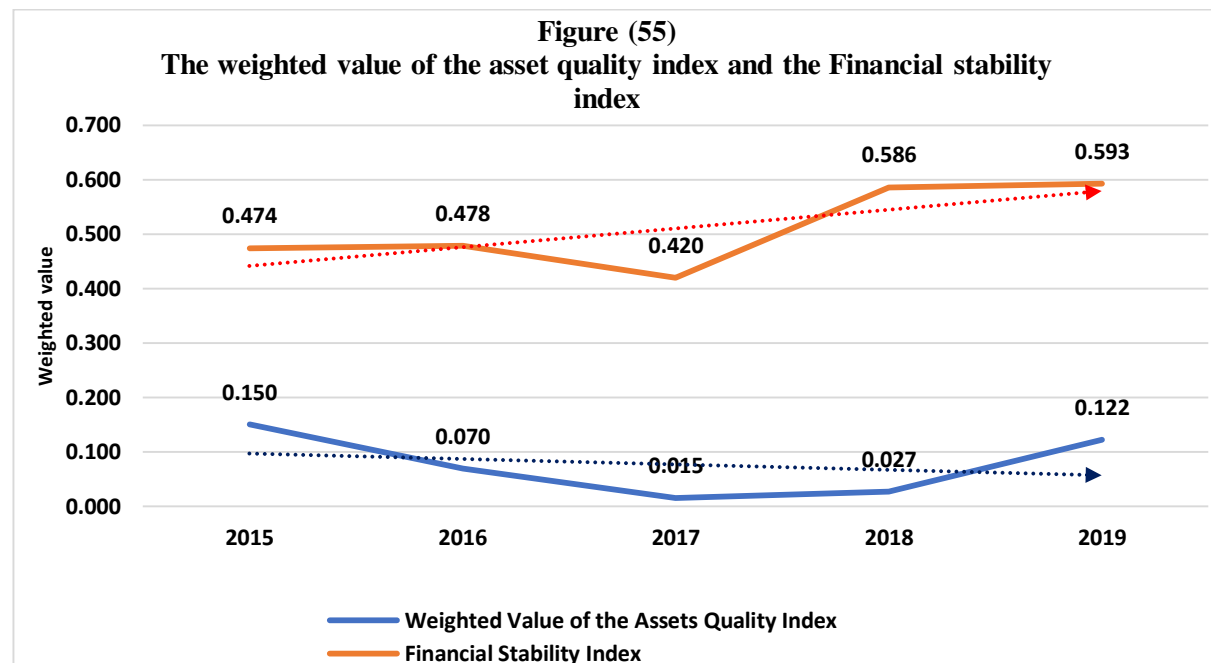
¹ Indexes from 3-3-1 to 3-3-4 represent the banking sector index.

aggregate index in a positive and clear manner, and suggests that the decrease of the weighted value of the adequacy index, due to the decline in capital adequacy from (285%) in 2018 to (173%) in 2019, negatively affects the financial stability, as the capital adequacy ratio is one of the most important ratios that measure the integrity and strength of bank financial centers, as capital adequacy enhances the ability of banks to withstand shocks and higher risks, and thereby, the protection of depositors' funds. Therefore, the higher this ratio increases within certain limits, the more it has a positive impact on the financial stability. Figure (54) illustrates the relationship between the weighted value of the capital adequacy index and the financial stability index:



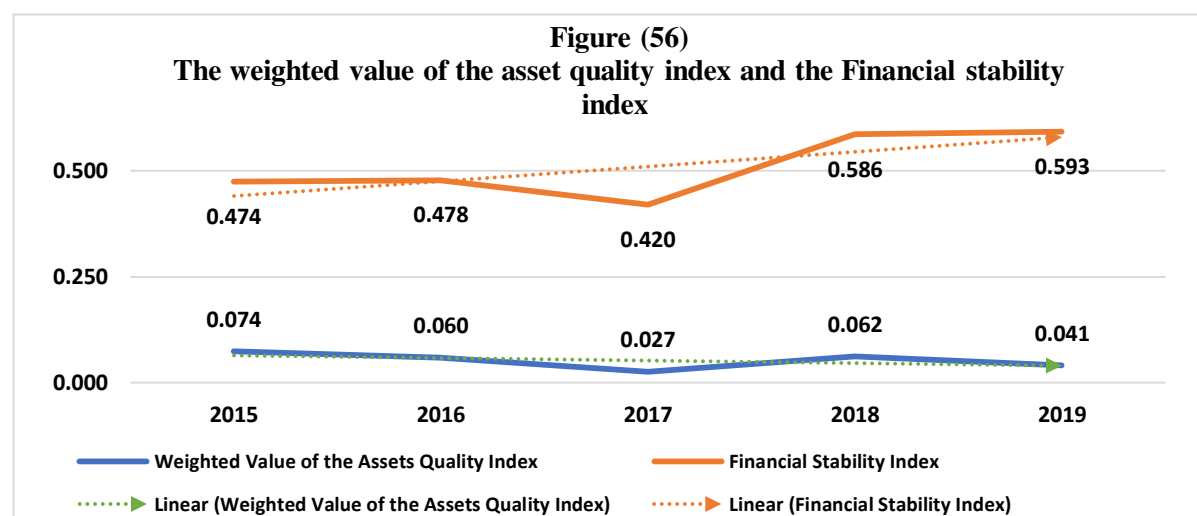
3-3-2. Asset Quality Index:

The Asset Quality Index represents the final outcome of three indices that affect different relationships of the financial stability index as shown in Table (7). While the increase will negatively affect both of the non-performing debt/total debts ratio and net non-performing debts after subtracting the provisions/capital base ratio index, the increase in the coverage ratio (Provisions/Non-performing Debts) has a positive effect on the financial stability index. Consequently, the weighted value of asset quality will have a positive effect on the financial stability if the latter rises, and negatively affects it in case of decline in the same, exactly as shown in Figure (55), where the general trend of the asset quality index has been upward, which is consistent with the general trend of the financial stability index.



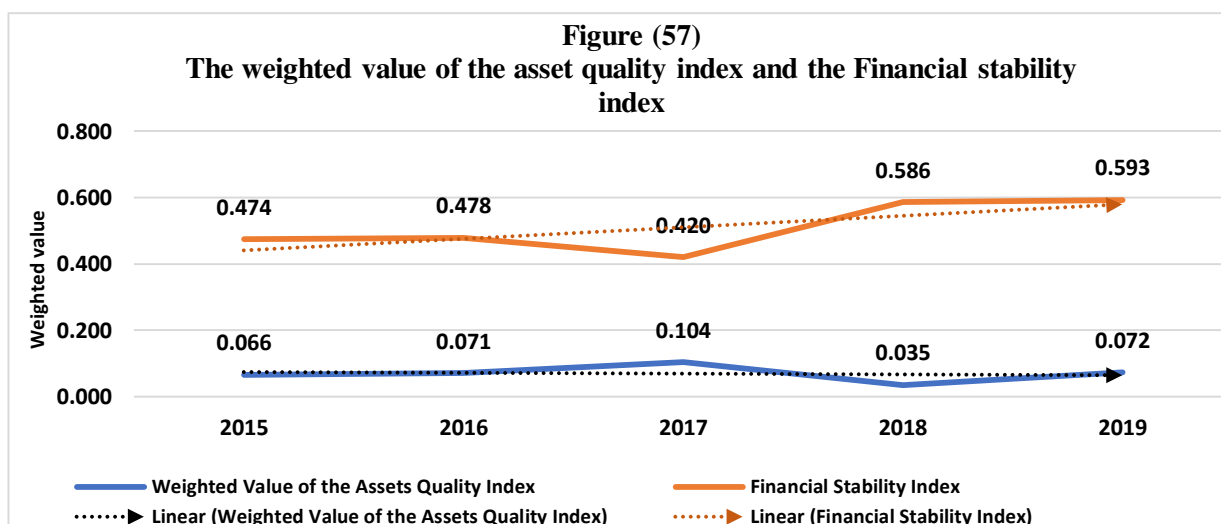
3-3-3. Liquidity Index:

This index consists of two ratios. The first measures the ability of the banking sector to fulfill its short-term obligations of high-quality liquid assets or a stable funds base. The second is the total debt/total customer deposits ratio. The effect of the first ratio is direct while the second ratio is inversely proportional in the banking stability index, and thus, the financial stability index. The weighted value index for this ratio has fluctuated between increase and decrease over the period from 2015 to 2019, as the increase had a positive effect on the financial stability if its direction corresponds with the trend of other indices with a significant impact in the Financial Stability Index, as illustrated in Figure (56):

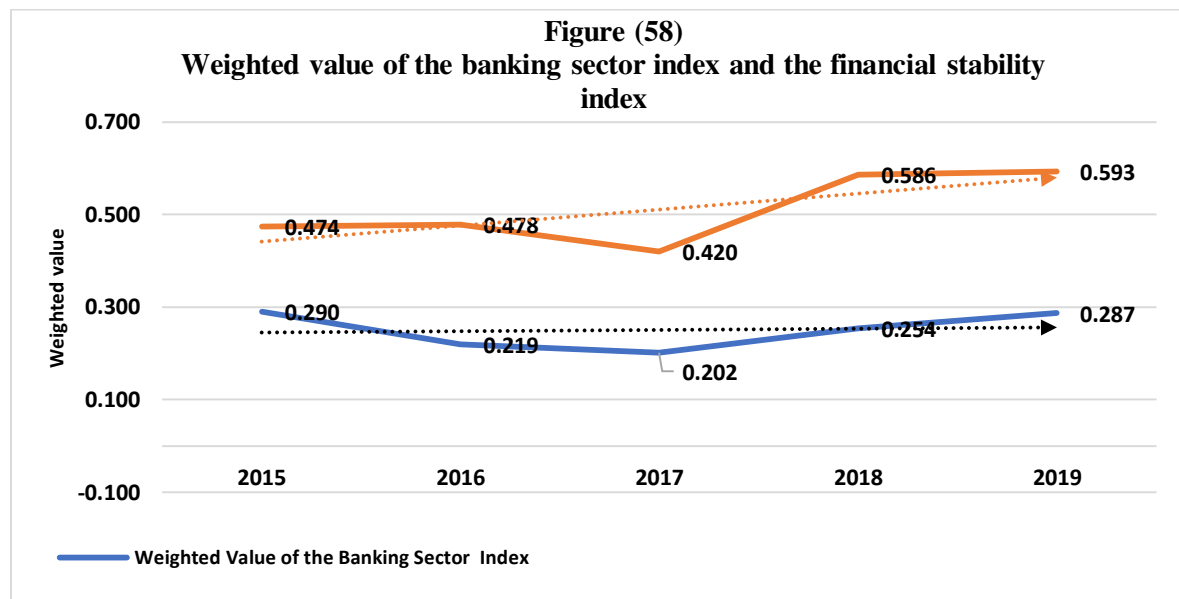


3-3-4. Profitability Index:

The sum of the weighted value of the profitability index represents the sum of the weights for four sub-indices, which are (total non-interest expenses /total income, return on assets ratio (ROA), return on equity (ROE), interest margin to total income). The effect of the first ratios is inversely proportional in the financial stability index, while the effect of the rest of ratios is positive. The weighted value of the first ratio index, which is one of the most important ratios for measuring the operational efficiency of banks, has witnessed an upward trend, which indicates the weakness of the banking sector in controlling its expenses. However, the positive effect represented by the increase in the efficiency of banks in the process of granting credits, their good effectiveness in using their capital and the increase in their dependence in achieving revenues on their core business in their role as mediators between savers and investors is a good factor that helped raise the weighted value of the profitability index from (0.035) in 2018 to (0.072) in 2019, resulting in the improvement of the financial stability, as shown in Figure (57).

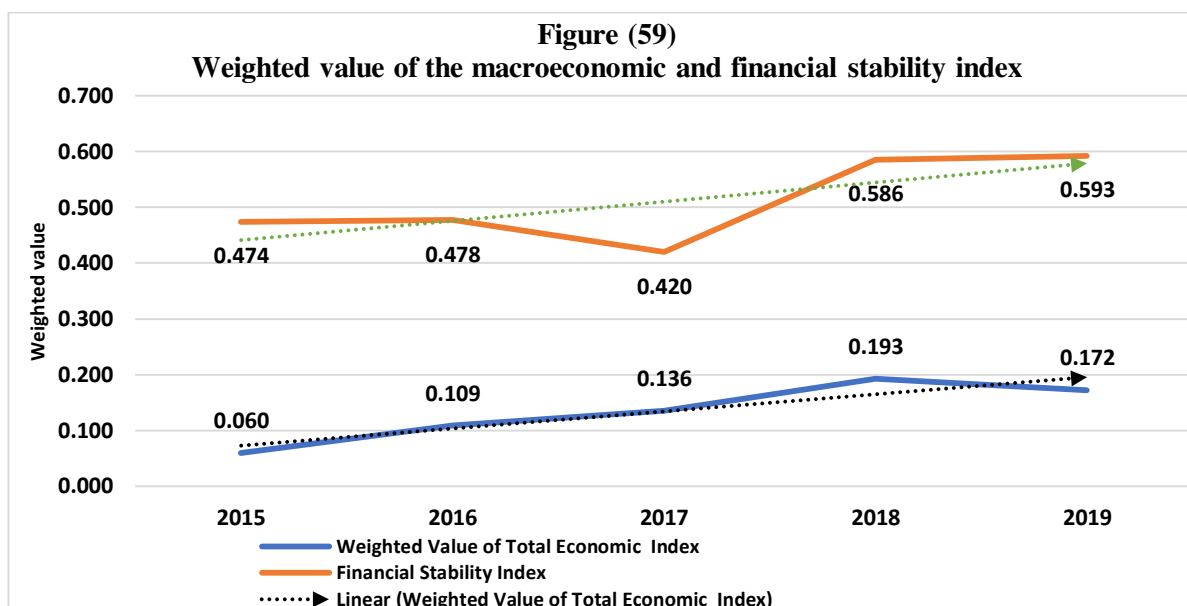


The final impact of the above four indices is evident in the financial stability index through a relationship analysis between the financial stability index and the banking sector index (which represents the final outcome of indices from 3-3-1 to 3-3-4), since the final positive effect of the outcome of the aforementioned indices was of a general positive trend, contributing to the increase of the financial stability index. Figure (58) shows that the increase in the weighted value of the banking sector index from (0.202) in 2017 to (0.287) in 2019 has led to an increase in the financial stability index from (0.420) to (0.593) for the same duration.



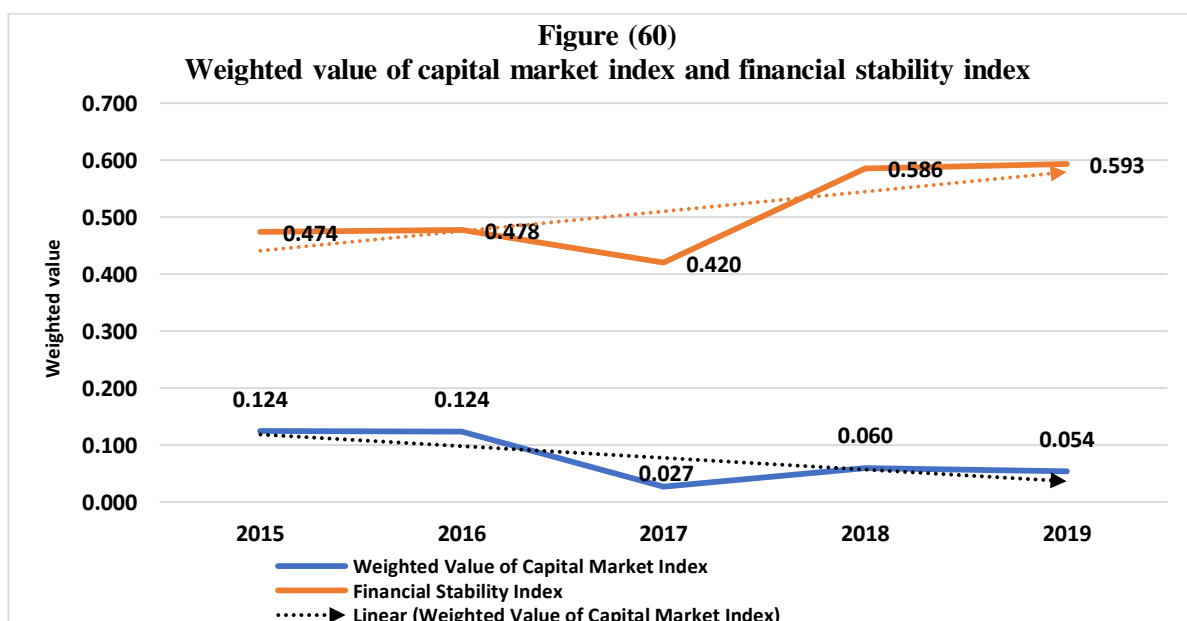
3-3-5. Macroeconomic Index:

The macroeconomic index measures the impact of macroeconomic variables on the financial stability, and this index consists of four sub- indices which are (GDP growth rate, foreign reserves /gross domestic product (GDP) ratio, current account deficit /GDP ratio, inflation rate). The effect of the two first ratios is steadily rising in the financial stability, while the third and fourth ratios have opposite effect, and the final impact outcome of these indices represents the macroeconomic index effect on financial stability. If the final outcome is negative, this would lead to a decrease in the financial stability index, while if the outcome is positive, the latter would result in an increase in the financial stability index. It can be concluded from Figure (59) that the weighted value of the macroeconomic index has taken an upward trend, as it increased from (0.060) in 2015 to (0.193) in 2018, and increased again in 2019 to record (0.172), and that the improvement in the ratio's trend in general has contributed to the improvement of the level of financial stability, and as shown in the following figure (59):



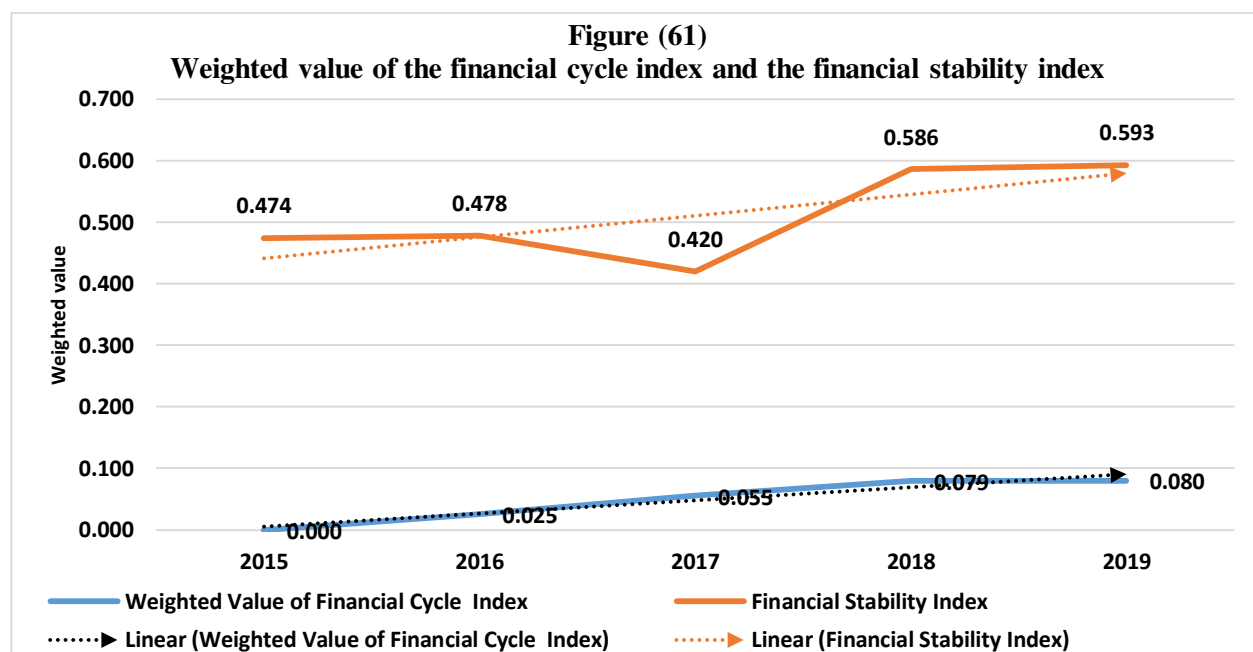
3-3-6 Capital Market Index:

This index measures the impact of capital markets on financial stability using two indices, the first is the Iraq Stock Exchange Index, which measures the performance of the financial market, and the second (Stocks market value/ GDP) as this ratio is one of the most important indices that are taken into account when preparing competitive reports for countries at the international level, and these two indices have a positive relationship with the financial stability index. Therefore, the increase in the weighted value of this ratio index contributes to improving the financial stability index, as shown in Figure (60).



3-3-7. Financial Cycle Index:

This index consists of one indicator, which is the product credit gap, which represents the ratio of credit growth rate provided to the private sector to the rate of growth of GDP. However, The greater the gap between the credit growth rate and the GDP growth rate the more it affects negatively the financial stability index, as the increased gap indicates that the credit growth rate for the private sector is higher than the GDP growth rate. Nevertheless, the credit gap recorded a positive rate in the years 2015 and 2016, and then it re-recorded negative rates in the years from 2017-2019, which contributed to the improvement of the financial stability index. However, the average ratio of the credit gap in Iraq for the period (2015-2019) reached (-0.43%), which indicates a weakness in the contribution of the banking sector to financing real activities, but at the same time it represents a decrease in the size of the risks realized from the possibility of an acceleration in the bank credit growth rate. Figure (61) shows the relationship between this index and the financial stability index.



4-Macro-Stress Testing

4. Macro-stress testing

There's no question of the importance of banks to 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. Thus, the focus on the financial sector safety is urgently needed to ensure the continuation, support, revitalization and expansion of economic activities. Stress tests are a tool for managing risks in the financial system, and performing stress tests is an off-site supervision tool for bank 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 the extent of their impact on the other sector, because any risks or shocks to the real sector may constitute sources of risk to the financial sector and vice versa as well.

Therefore, the prediction of the banking sector's ability to absorb external shocks requires analyzing and monitoring developments in the real economy, by building appropriate scenarios, and in this regard a set of macro scenarios that are divided into the basic scenario, medium and more severe, have been assumed for the purpose of assessing the ability of the banking system (the main component of the Iraqi financial sector) to withstand those shocks and continue to perform its primary functions without compromising the rights of depositors.

4-1 What are stress tests?

A stress test is a " what-if " analysis that takes the situation in general, but assumes fundamental changes in one or more variables for the purpose of observing what its effect is on other variables, and is also a tool for measuring the soundness and resilience of a particular financial institution or financial system in general under harsh and different events and scenarios. It is a quantitative exercise of the concept (what if ?), to estimate: what will happen in the capital, profits, and cash flow of financial institutions individually, or the system as a whole, if some risks are occurred.

The emergence of stress tests as an instrument was not in the field of finance, but in technical sciences, in the broad sense, stress tests are a technique or method for measuring the stability of an organization or system under various undesirable conditions in the field of finance, and stress tests are used to evaluate the investment portfolio of a specific institution, or to measure the stability of a specific institution, and is called Micro – Stress Tests. Later this method was used to test the stability of a group of financial institutions together, or the financial system in general, which may

affect the overall economy, and it is called Macro – Stress Tests which will be used in this report.

4-2. The importance of macro-stress tests:

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

4-3 Macro scenarios:

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

A. Baseline Scenario:

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

B. Medium Stress Scenario:

In this scenario, the medium intensity shock for each variable is determined.

C. Severe Stress Scenario:

In this scenario, a shock that is more severe than a medium-impact shock is determined for each variable.

And due to the nature of the Iraqi economy, some macroeconomic variables have been chosen, which are the global oil prices, due to their clear impact on all financial conditions in Iraq, and in economic growth, and then on the banking sector, and the rate of economic growth that reflects all developments in the macroeconomic, and its impact on banking activity especially, non-performing loans, as well as the government spending variable, which is one of the indices that has a clear impact on total consumption and total investment, and thus on the ability of projects and individuals to comply to their financial dealings with banks.

In this context, a test was made of 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 (Vector) Autoregressive Model "VAR" methodology and the nonperforming loan ratio was used as a measure of financial default, due to the availability of data on a quarterly basis and for a period that allows for stress tests.

The model aims to estimate the relationship between the financial default of banks, and any shocks related to macroeconomic variables, especially the variables referred to above, to measure their impact on the rate of non-performing loans for the period (2010Q1) till (2019Q4) the model took the following functional 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 is the baseline scenario, by which the values of the variables included in the model has been predicted, estimated during the period from the first quarter of 2020 to the fourth quarter of 2020, while the other two scenarios are the medium-intensity scenario, and the high-intensity scenario, and the tests were performed for each variable separately, assuming that the other variables were stable and after conducting the stability test on the Vector Autoregressive Model (VAR), it turned out to be statistically stable, and valid for carrying out the prediction, as shown in Figure (62).

Figure (62)

Estimated stability of Vector Autoregressive Model

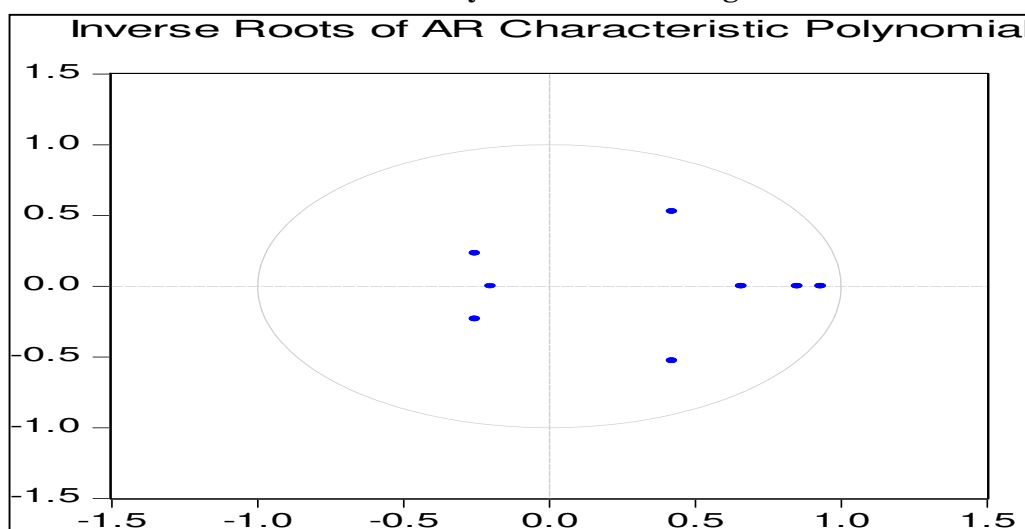


Table (9) shows the hypothetical scenarios that reflect the shocks to which the Iraqi economy may be exposed, as there will be a decrease in all variables at different rates according to the hypothetical scenarios.

Table (9)
Shock scenarios approved in VAR model

Variables	GGDP %	GOIL P %	GGE %
Scenarios			
The scenario is of medium intensity	-7	-26	-20
The scenario is high intensity	-14	-52	-40

The scenarios were assumed according to the following methodology:

1. Medium-intensity scenario: Estimated by calculating the variable growth rate of the baseline scenario, minus one standard deviation for the variable growth rate series over the period (2010Q1-2019Q4).
2. High- intensity scenario: Estimated by calculating the variable growth rate of the baseline scenario, minus two standard deviations for the variable growth rate series over the period (2010Q1-2019Q4).

4-4. Effect of negative shock on the rate of GDP growth on the non-performing loans ratio:

The potential negative impact of the low rate of real GDP growth on the ratio of non- performing loans is mainly due to the contraction of economic activity in general, which results in a decrease in the income of borrowers, and hence their ability to repay the principal and the interests arising therefrom, and thus it is expected that the relationship will be inverse between GDP growth rate and non-performing loans. The model has already shown this relationship, but it was not statistically significant, and the lack of significance of the relationship statistically is due to the low banking depth in the Iraqi economy, as the proportion of private credit contribution to GDP is low compared to some Arab countries, where this ratio in Iraq was (8.6%), (9.3%) and (8.7%) for the years 2016, 2017 and 2018 respectively, whereas these ratios are low compared to the

rest of the Arab countries¹, and the ratio of banking depth is an indication of the extent of the banking sector's contribution to financing real activity, and therefore its decline reflects the poor relationship between the banking sector and the real sector.

Table (10)

Scenarios for predicting non – Outstanding debts to cash credit ratio after GDP shock

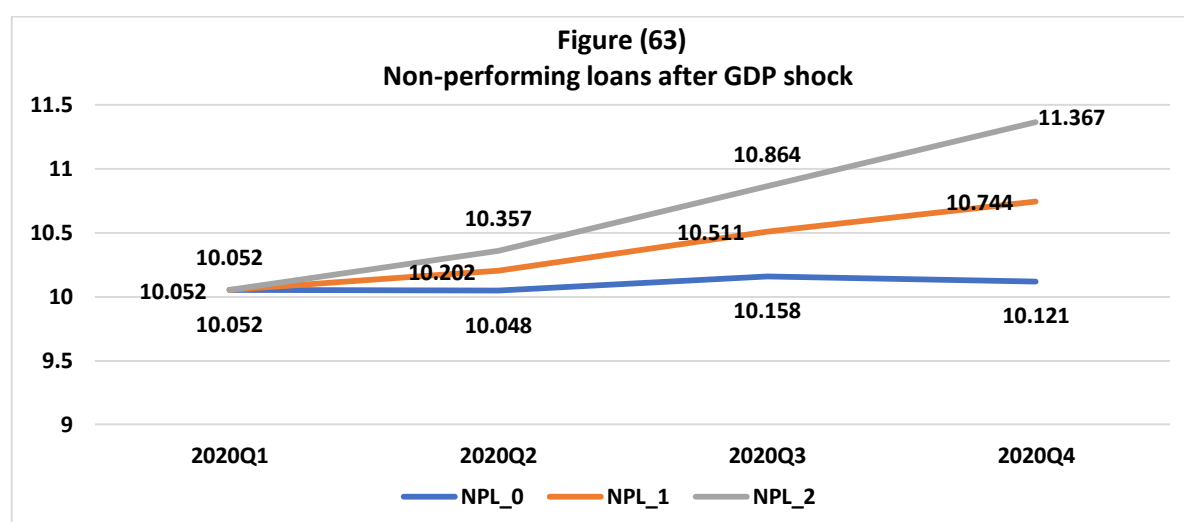
Years Scenarios	2020			
	Season 1 %	Season 2 %	Season 3 %	Season 4 %
Baseline scenario	10.051	10.047	10.157	10.121
Medium intensity scenario	10.052	10.202	10.511	10.744
Most severe scenario	10.052	10.357	10.864	11.367

Table (10) shows a fluctuation in the outstanding loans ratio predicted in the baseline scenario from (10.051%) for the First Quarter, to (10.047%), (10.157%) and (10.121%) for the second Quarter, third Quarter and fourth Quarter, respectively, in 2020. As a result of the negative shock in the GDP growth rate according to the prepared scenarios, the outstanding loans ratio increased from (10.047%) to (10.202%) and (10.357%) for the baseline, medium and high-intensity scenarios respectively for the second quarter of 2020, as well as from (10.157%) to (10.551%) and (10.864%) for baseline, medium and high-intensity scenarios, respectively, for the third quarter of 2020.

As for the fourth quarter of 2020, Outstanding debts to cash credit ratio after GDP shock increased from (10.121%) to (10.744%) and (11.367%) for the baseline, medium and high-intensity scenarios, respectively. The slight impact of the low growth rate of GDP in the ratio of bad debts confirms the poor relationship between them, and this is shown by the low banking depth in the Iraqi economy.

Figure (63) shows that the negative shock in the growth rate of GDP will lead to an increase in the non-performing loans ratio of the medium intensity scenario (NPL_1) and the high-intensity scenario (NPL_2) from the Baseline scenario (NPL_0) by slight ratios and for all quarters of 2020.

¹ For more ratios of countries, see Figure (23) of the report.



4-5. Impact of the negative shock of world oil prices on outstanding loans to cash credit ratio:

Table (11) shows the relationship between oil prices and the ratio of non-performing loans to the Iraqi banking system, and the relationship between them is supposed to be inverse, but the results showed a direct and statistically significant relationship between the two variables, and with a slight impact that reflects the weak relationship between global oil prices and the financial sector in Iraq, due to the government's ability to absorb the shock of low international oil prices, and to keep the level of public spending unchanged and this was confirmed by the low oil prices crisis after 2014 and despite the decrease in public revenues in 2015 and 2016 at an annual rate of (- 36.9%) , and (-18.1%), respectively but the public expenses did not decrease only at (-15.7%) and (-4.7%) for the same years which lead to the surplus recorded in 2014, amounting to (21.8) trillion dinars, turned into a deficit of (3.9) trillion dinars and (12.6) trillion dinars for the years 2015 and 2016 respectively, and likewise in 2019, public expenditures increased at a growth rate of (38.1%), while public revenues grew at a rate of (0.94%) only, which led to the transformation of the surplus recorded in 2018, amounting to (25,696,645) million dinars, to a deficit of (-4,156,528) million dinars in 2019 year, and this indicates the success of the fiscal policy in providing alternative sources of revenue for the shortfall caused by the decline in international oil prices. However, this success has depended mainly on the surpluses provided by the previous high oil years, thus the continued decline in oil prices for a long period in the future will lead to major financial problems.

Table (11)
Scenarios for predicting outstanding loans to private credit ratio
after the international oil price shock

Years Scenarios	2020			
	Season 1 %	Season 2 %	Season 3 %	Season 4 %
Baseline scenario	10.05	10.05	10.16	10.12
Medium intensity scenario	10.05	9.64	9.69	9.62
Most severe scenario	10.05	9.22	9.21	9.11

4-6. Impact of the negative shock of the government spending growth rate on outstanding loans (to credit cash) ratio:

With regard to the effect of the government spending growth rate on the outstanding loans to cash credit ratio, the results appeared to be contrary to the expected, as the decline in the government spending growth rate is expected to lead to a high rate of outstanding loans, but the relationship was direct and non-significant, as the low government spending growth rate could lead to a lower rate of non-performing loans growth for the second and fourth quarters of 2020, while its decline in the second quarter of 2020 leads to a very small increase in the of outstanding debts. The direct trend of this relationship may be due to the poor impact of economic crises on government spending, especially current spending from it, as the government often maintains the level of current spending, and provides alternative sources of financing in the event of a decrease in main sources. Although public revenues decreased at high rates in the previous period, public expenditures did not decrease at the same rates, in addition to an increase in employee compensation, which is the main component of public expenditures, and the basic influential in theory in the non-performing loans ratio, as employee compensation increased from (28.4) trillion dinars in 2014 to (32.6) trillion dinars in 2015, and with a growth rate of (14%) despite the great shock that the Iraqi economy went through between 2014 and 2015, and this trend continued in managing the fiscal policy until the year 2019, where compensation for workers increased at a rate of (3.2%), (9%) and (13.4%) for the years 2017-2019. The longevity of the crisis may lead to the exhaustion of alternative financing sources and this may make fiscal policy hampering the financial or banking stabilization efforts therefore, it is necessary to build additional fiscal buffers in order to face the crises when they occur, which helps

in reducing the channel of transferring the effects of financial policy to financial stability.

Table (12)
Scenarios for predicting the outstanding loans ratio as a result of the negative shock in the government spending growth rate

Years Scenarios	2020			
	Season 1 %	Season 2 %	Season 3 %	Season 4 %
Baseline scenario	10.05	10.05	10.16	10.12
Medium intensity scenario	10.05	10.04	10.20	10.10
Most severe scenario	10.5	10.02	10.25	10.08

5- Financial Infrastructure Developments

5. Financial Infrastructure Developments

Among the main objectives adopted by the Central Bank of Iraq under the law hereof is to achieve financial stability. Achieving this goal requires the establishment of an advanced and updated financial infrastructure which keeps pace with global developments, as the financial infrastructure defines the set of institutions, laws and payment systems which provide financial services and information at a low cost, in a high speed and in a safe manner, and which meet the requirements of all customers at all times.

5-1. Most significant Financial Sector Infrastructure Developments:

In order to keep pace with global developments in the financial and banking sector, the Central Bank of Iraq has issued an important set of controls for the work development in the financial and banking sector, as follows: -

5-1-1. Liquidity Transfer Controls:

The Central Bank of Iraq has issued controls related to the transfer of liquidity between banks, based on the provisions of the articles (43), paragraph (e) of article no. 28 under the Central Bank of Iraq Law No. 56 of 2004. These controls aim to maintain the strength and stability of the financial system in general, and the banking system in particular, especially after the stability of the Iraqi dinar exchange rate against the US dollar in the markets and the reduction of the price gap in the local currency, and in order to continue providing new financial products that help and motivate all banks to deal in a way that achieves the goal of monetary policy in using their quantitative tools to control the money supply on the one hand and open new paths for surplus funds investment with some banks on the other hand.

This project is considered as the first foremost step towards preparing the activation of the interbank money market in the future, especially if any risks, even if very low, resulting from the transfer process mechanism, will be borne by the accounts for transfer process and by the Central Bank of Iraq, being the party that will adopt the transfer process in the first phase of the latter.

The implementation of this project was effective as of March 2019 for all Islamic and conventional banks.

5-1-2. Controls for raising the ceiling for small and medium loans to (1) billion dinars:

For the purpose of encouraging the private sector to be an important resource for the Iraqi economy and expanding their activities to all sectors, the Central Bank established an initiative of (1) trillion dinars in order to urge banks operating in Iraq to grant small and medium loans. This initiative was launched since 2015, however, in 2019, the Central Bank made an amendment to this initiative, whereby the ceiling for granting credit to a single customer was raised to (1) billion dinars, while the upper limit was (100) million dinars, with the continuation of granting small amounts according to the type of project, Therefore, these controls included all economic sectors except for the housing sector. The purpose was to give more space to the industrial and agricultural sectors, given that these projects help reduce dependence on goods imported from abroad, which reduces foreign exchange operations.

5-1-3. Merger Controls and Banks Unions:

These controls were issued in 2019 and are complementary to what is stated in Article (10) of Instructions No. (4) for the year 2010. The objective of these controls is to encourage banks to merge and build large and solid institutions, especially after the decision is made to convert money transfer companies into Islamic banks. These controls address the most accurate details in the procedures for completing the merger. The Central Bank also provided some incentives to the merged banks as an integration encouragement in order to create solid financial and banking institutions capable of supporting the Iraqi economy and achieving financial stability.

5-1-4. Governance Controls and the Institutional Management of Information and Communication Technology in the Banking Sector:

These controls were issued for the purpose of strengthening and maintaining effective and rational corporate management of information and communication technology (ICT) and information security and their related technologies .These controls represent the framework for governance and management of information and related technology, and represents the guidelines for managing ICT risks, data security, and cyber security at banks and financial institutions subject to the supervision of the Central Bank of Iraq.

5-1-5. Manual of the control work of internal auditing:

The Central Bank of Iraq in cooperation with the Middle East Technical Assistance Center (METAC) of the International Monetary Fund issued a guide on the internal audit oversight work. This guide was based on the principles of the Basel Committee for Banking Supervision regarding internal auditing in 2012, corporate governance 2015 and the best international practices. This guide discussed several procedures which the bank would undertake for the purpose of achieving the desired objective of the auditing, including the establishment of an internal audit department, giving the department powers to implement the audit process, providing independence, adequate financial and human resources and access to the board of directors and the board's audit committee to the latter, along with paying necessary care to the audit staff, provided that they are independent, competent, qualified and impartial. The department is closely related administratively to the Audit Committee of the Board of Directors.

5-1-6. Internal auditing Control Manual:

Due to the importance of risk management and the Central Bank of Iraq's interest in the issue of risk, the Central Bank issued Risk management controls for conventional banks in coordination with the International Monetary Fund (METAC) Center. These controls addressed all types of risks faced by banks, such as credit risk, market risk, liquidity risks, operational and legal risks in addition to many types of sub-risks.

These controls are considered as a tool for risk management in the bank, and as a legal framework that helps the board of directors and the executive management board in identifying the risks and extrapolating the potential events and risks. Banks were required under these controls that the individual in charge of managing risks has independence and the appropriate powers to carry out his duties, and banks are deemed to prepare a risk management strategy to be approved by the board of directors and indicate an appropriate carrying capacity to determine the level of risk that can be tolerated, as well as the duties and responsibilities of the Board of Directors and the executive management board in risk management in addition to the tasks of the department, as the Central Bank has stipulated the necessity of establishing risk departments in banks and financial institutions.

5-1-7. Instructions for Preparing Banks' Financial Statements in accordance with the Requirements of International Standard No. 9 for Financial Instruments:

These instructions were issued in line with the trend of most central banks to apply the standard No. (9) to keep pace with developments occurring in preparing the financial statements. The Central Bank addressed to implement the instructions for all commercial banks operating in Iraq, including foreign branches. As for Islamic banks, they apply the section related to the expected credit loss in this standard. Otherwise, the latter adheres to the requirements of the standards of Islamic accounting (25.30). This standard has been applied to commercial banks as of 1/1/2019.

5-1-8. Stress Tests Instructions:

Stress tests are used as part of the banks' risk management system, as these tests have a futuristic dimension in assessing risks. Stress tests are considered as a control tool that helps the bank's management in the future planning and provides it with size indices of the capital required to face the impact of unexpected negative events related to the many risks that the bank may be exposed to, which may result from large economic and financial shocks. Stress tests are also one of the risk management tools that must be used in risk management according to the second pillar of the Basel II decisions, as stress tests are conducted at banks with the aim of assessing the impact of emergency events on economic variables related to the market, on the bank profitability and its economic equity value.

The aim of conducting stress tests is to provide the bank's management with a future assessment of the risks that the bank may be exposed to as well as assisting in proper planning procedures for capital and liquidity and setting acceptable risk limits. These tests also help in developing methodologies to mitigate risks and establishing contingency plans to meet the circumstances resulting from stress testing situations, in addition to enhancing the process of identifying and controlling risks, which is a crucial part of the institutional governance system.

5-1-9. Liquidity by Accrual Scale:

The Central Bank of Iraq has issued liquidity instructions on an accrual basis, and a model of assets and liabilities, which are divided on an accrual basis for each account, has been prepared. This form is sent quarterly after preparing the

quarterly financial statements in order to know the trade gap and the cumulative liquidity gap. The adoption of the form for calculating liquidity provides the Assets and Liabilities Management Committee and the Executive Management a clear imaging of the accounts' entitlements on the budget's both sides, and the extent of its impact on providing liquidity, since if there is a defect in the maturity dates between the credit and debit accounts, this leads to a negative gap in liquidity, which affects the performance of the bank in the future and may reach default. Therefore, this form is an aid report in taking a decision in the investment and operation of deposits and all sources of financing.

5-1-10. Sharia Compliance Report and Compliance Monitor:

In order to increase the effectiveness of the Sharia compliance function and the compliance monitor in Islamic banks and to enhance the role the latter practices within the bank, a form has been prepared for the Sharia compliance report and the compliance monitor. The report is constituted of (11) sections which include the most important work carried out by the bank. Moreover, this form has been prepared in accordance with the laws and the instructions, according to the requirements of the Central Bank of Iraq, as for these reports to become an important source of necessary information and data for the Central Bank, with additional analysis of risks, and opinion of the compliance auditor, which will facilitate the banks' control and auditing process, as well as the process of updating data periodically and regularly.

5-1-11. Takaful Controls:

In order to support Islamic banking, the Central Bank of Iraq has issued regulations for establishing Takaful companies in Iraq. These controls included several axes that distinguished between Takaful companies and insurance companies in providing insurance services for customers, as it is not permissible for the Takaful companies to carry out commercial insurance business, as well as for commercial insurance companies not to practice Takaful works, either directly or through opening a Takaful window, or through insurance brokers.

These controls included the companies' financial and administrative matters, including the impermissibility to distribute any profits to equity owners from the insurance surplus, as it is distributed to the subscribers in the proportion of their subscriptions. In addition, the controls have set provisions and reserves, and determined the committees that must be established in the company, such as the

audit and controls committee and the Risk Management Committee. The reference of these companies to the Central Bank and the Insurance Bureau have been set.

The first Takaful company was established with a capital of (15) billion dinars, with the participation of all Islamic banks in order to be the first supporter in implementing Islamic Sharia standards in Islamic banking.

5-2. Financial Institutions Compliance in Money Laundering Procedures:

After the continuous work and great effort taken by the Central Bank of Iraq in order to get Iraq out of the follow-up zone, which was achieved during 2018, work has continued in order to achieve better results in dealing with international institutions, and one of the central bank's procedures is to establish a compliance monitor office in 2017, which is a management formation of that is independent of the banking department and the anti-money laundering office, and is directly linked to the governor, who is a focal point between the Central Bank of Iraq and the international auditing bodies, and who monitors the compliance of the departments of the Central Bank of Iraq to the international and local instructions, by coordinating with several international bodies, such as the Financial Action Task Force (FATF), the Middle East and North Africa Financial Action Task Force (MENAFATF), the International Monetary Fund, the World Bank, and the Federal Reserve Bank. The office shall be responsible for the compliance of the Central Bank of Iraq and the financial and banking sector subject to its control to the laws, instructions and international directives related to countermeasures against money laundering and terrorist financing issued by these institutions.

There are several supervisory controls that the office adopts in the performance of its duties, some of which are external and others internal, as the office adopts the recommendations of the Financial Action Task Force, the decisions of the Basel Committee and the lists of international sanctions (UN, OFAC, EU), while internal controls are the Central Bank of Iraq Law No. 56 of 2004, the Banking Law No. 94 of the year 2004, Anti-Money Laundering Law No. 39 of 2015, Islamic Banking Law No. 43 of 2015, in addition to all the instructions and controls issued by the Central Bank of Iraq from 2004 until 2019.

Functions of the compliance monitor at the central bank

The compliance monitor performs several tasks to achieve the goal for which the office was established, as he verifies that the bank departments and its formations do apply compliance standards and requirements, especially in disclosing the sources of funds in the banking system and international accounting through developing and re-engineering mechanisms and procedures, issuing clear work instructions, providing advice and advice that carries out the work of the Central Bank, as well as developing procedures and mechanisms, and proposing or issuing instructions or circulars issued to financial and banking institutions, especially in the principle of (Know your customer) in order to disclose and identify the sources of funds in the banking system and to combat money laundering and terrorist financing operations, to gain certainty of the legitimacy of funds deposited in the domestic banking system.

The monitor also coordinates with the risk departments in determining the internal and external risks that may result from failure in following the monetary policy of the Central Bank of Iraq, international compliance standards and requirements, and comprehensive quality management agreements. In addition, the monitor work is to ensure the quality of mechanisms and effective procedures in communication and coordination with the relevant internal authorities, including the banking department, the issuance and storage department, the control and auditing department, and external bodies, including the Federal Reserve Bank, the US Treasury and the International Monetary Fund, according to the agreements concluded with them.

The compliance inspector submits periodic reports on non-compliance operations that occur at the Central Bank of Iraq and in the banking and financial system to the Board of Directors and inform them of recommendations and proposals that prevent non-compliance and determines sanctions on banking and non-banking financial institutions. Moreover, the compliance monitor provides required advice and suggests plans to implement the vision and mission of the Central Bank in promoting its work according to best practices and on an efficiency, effectiveness and distinction basis in performing its work. The office used several electronic systems to facilitate its work in monitoring the financial institutions, including the world-check system of international sanctions,

(OFAC), (UN), (EU) and the compliance regime for banks and non-banking financial institutions.

5-3. Cyber Security:

The cyber security has become one of the basic tasks to maintain the sobriety of any institution and the scientific progress in the field of software and information technology has become one of the approved weapons in modern warfare. However, the years 2019 and 2020 have witnessed many violations in the institutions and ministries of some countries in the world, and this means the existence of a new form of wars with invisible weapons. Therefore, all governmental and private institutions and departments in Iraq seek to secure their websites to preserve their data from breaches. The central Bank of Iraq is considered as one of the first institutions that worked to achieve cyber security through several measures taken in 2019, which complement its previous procedures

In 2019, the Central Bank of Iraq issued governance controls to manage ITC risks, data security, and cyber security at banks and financial institutions. The central bank works with the national response team in issuing a policy document on information security at the level of government institutions and departments and their relative clients. The Central Bank is also working on the issuance of the Adaptive Security Governance Document for the cyber security.

The Central Bank has a strategic plan regarding cyber security that includes several projects and various stages for the purpose of developing the infrastructure for security and data protection at all levels. Indeed, a special document for information security policy and cyber security was issued and circulated to all departments of the Central Bank of Iraq and to be followed by all employees in order to maintain data confidentiality and avoid breaches, threats, malware and viruses.

As for cooperation between the Central Bank of Iraq, financial institutions and banks to implement the cyber security strategy, the Iraqi Central Bank of Iraq issued governance and institutional management controls of ICT in the banking sector that regulates information governance and management and associated technology, and the management guidelines of ICT and data security risks.

The banking system or financial institutions may be exposed to a range of electronic and informational threats, including penetration attempts or exposure to malicious and harmful software. Therefore, the Central Bank has issued a group of recommendations and circulars for the banking sector, in addition to governance controls. Moreover, the central bank addressed to establish a data center inside Iraq for banks or companies that provide electronic payment services, to acquire licensed software for all used operating systems, applications and databases, to prepare business continuity and disaster recovery plans, to provide alternative sites in emergency situations, in addition to developing the IT infrastructure in general, and data security especially, according to standard criteria (for example, ISO, ISACA, NIST, PCI).

The Central Bank of Iraq has made sure that banks and financial institutions have tools for cyber security corresponding to the approved strategy, which is followed up through the formation of accredited inspection bodies to audit everything that is related to the infrastructure of data and information security. An annual questionnaire is also prepared for the data security infrastructure to keep up to date on the latest developments and to update the infrastructure.

5-4. Central Bank Procedures for Repositioning Reluctant Banks:

The Iraqi Banking Law No. 94 of 2004 authorized a set of procedures for the Central Bank to reposition reluctant banks, including the formation of bodies for bank continuous supervision, or the imposition of guardianship on reluctant banks or the establishment of a bridge bank. The Central Bank of Iraq has taken over the previous years all these procedures against banks that suffer from a liquidity crisis or are reluctant to perform their banking and conservative duties on customer deposits, thus, the year 2018 witnessed the establishment of the first bridge bank in Iraq (Hammurabi Commercial Bank) for the purpose of saving one of the reluctant banks and in order to protect customers' deposits. The bridge bank management, which is a group of the central bank employees, worked hard to rescue the ailing bank and protect depositors and shareholders' funds, according to the mechanisms set by the laws and instructions in force in order to correct the course of the bank, however, in 2019, it was agreed to merge this bank with one of the operating banks, which has a good reputation in the banking business and a good spread for the purpose of establishing a competitive strong bank in the banking market and providing the best financial and banking services.

The bridge bank has been successfully established, and currently work is underway to complete the legal procedures at the Companies Registrar in the merger, assure that the new administration takes over the bank affairs and guarantee the withdrawal of the previous administration represented by the employees of the Central Bank.

From 2015 until the end of 2019, the Central Bank of Iraq imposed guardianship over a number of reluctant banks, as the existence and survival of the latter is believed by the central bank lead to the great defect in the banking system and to a negative impact on the reputation of banks in general.

Thus, a guardianship was imposed on nine Iraqi and foreign banks for the purpose of correcting and rehabilitating their course, where the guardianship committees made every possible effort to achieve the same. In fact, the guardianship of Iraqi banks was lifted after rehabilitation and change of their previous management or introduction of new investors. As for the foreign banks, which are three banks, the imposition of guardianship came as a result of external influences from the parent bank. Since these branches are not large, their impact on the banking market is very simple and do not pose risks on the banking system, and thus keeping the same under guardianship is linked to the improvement in the status of the parent bank.

There are two Iraqi banks that are still under guardianship. The first transferred its good assets to the bridge bank and the remaining bad assets have been liquidated by the guardianship committee. As for the other bank, the liquidation decision has been taken against it during the year 2019.

As for direct supervision, it is a primary action that the central bank takes on a bank if the indices point problems that may lead to its failure to perform its duties and provide services in a good manner. The Central Bank has formed, since 2015 to 2019, continuous and direct supervisory bodies for five banks for the purpose of evaluation of their status and to seek the possibility knowledge of correcting its course or taking a decision to impose or liquidate these banks. Nevertheless, the course of these banks has been corrected, restored to good functioning, along with a continued supervision over them.

5- 5. Development of the Iraqi Payment System: One of the main priorities in the policy of the Central Bank of Iraq is the development of the Iraqi payments

system for a purpose of providing the best services and developing the banking sector. The Central Bank has taken great interest in banking operations as well as electronic payment settlement systems. Whereas, the year 2019 witnessed many procedures aiming to the development of payment systems in order to achieve financial and monetary stability.

5-5-1. State Employees Salary Localization Project:

The salary localization project is still receiving great interest from the Central Bank of Iraq since its inception in 2017 in cooperation with the General Secretariat of the Council of Ministers, where (208) spending units were resettled during 2019, to reach a settlement's salaries total number of (398) spending units (self-financed and centrally) in addition to (877) units of account thereof, i.e. a growth rate of 106%, which is a quantum leap in the spread of electronic payment services, as spending units whose salaries are localized, constitute (62%) of the total spending units amounting to (633).

As for the number of employees whose salaries were localized during the year 2019, it reached (812,998) employees, making the total number of employees whose salaries are localized (993,540) employees in addition to the entitlements localization (333,997) of the National Public Pension Agency beneficiaries.

The number of banks involved in the localization project has been increased to (29) during the year 2019, after being (21) banks, for the purpose of increasing competition in providing services at reasonable prices, in addition to increasing the spread of payment services across the country. The aforementioned bank is involved in the localization project after assessment of its infrastructure, the spread of its branches and determining its eligibility to be part of the project.

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

This system has been launched since 2017, and (8) banks participated in it at the time. However, (10) banks were participating in 2018, and the participation of banks has expanded in 2019, as all of the (Trust Bank, Al Rajhi bank, Al-Nahrain Bank, Abr Al Iraq, the world bank, the agricultural bank, the industrial bank, Al-Taif Islamic Bank, the region's commercial bank). Thus, there is (27) total banks linked to this system.

5-5-3. Electronic Collection:

The e-collection project is one of the basic projects that contribute to enhancing and collecting government resources in a safe and transparent environment, relying on the infrastructure represented by the National Division, where all licensed banks and companies could act as an electronic payment service provider, and could through contribute to this project through their association with the national division as there is reciprocity in the use of cards issued by them and the use of points of sale and automatic exchange for collection purposes, as well as through electronic wallets via mobile phone. The project aims to provide a service of displaying, paying and inquiring about bills electronically for all citizens through banks and electronic payment service providers licensed by the Central Bank of Iraq, where the software for the collection project has been completed for the purpose of invoicing to billing entities and by relying on licensed electronic payment service providers and linking them indirectly to the retail payment infrastructure. Technical and financial criteria have been defined for the participation of electronic payment service providers in the project, and three ministries have been selected for launching purposes, which are: The Ministry of Electricity, the Ministry of Interior, and the Ministry of Construction and Housing.

5-5-4. Linking Comprehensive Banking Systems

In order to facilitate the workflow and update the data electronically and without human intervention, a project was implemented to link comprehensive banking systems for banks with the RTGS system. Indeed, the number of banks linked to this system reached 34 banks. As for the C-ACH electronic clearing system, the number of connected banks has reached (31) banks, while in 2019 only (10) banks were linked in both systems.

5-5-5. Automating the Work of Ministries and Government Institutions

The central bank worked hard to automate and obtain financial transfers between departments and state institutions and receivables through the Iraqi payment system by the C-ACH electronic clearing system using CT payment orders instead of instruments or cash.

The government departments and institutions work has been automated, namely (Oil Pipelines Company, Oil Products Distribution Company, North Refineries,

North Gas Company, Baghdad Distribution Authority affiliated to the Ministry of Oil, the Martyrs Foundation, and the General Headquarters of the Ministry of Electricity) in the payment of dues using payment orders to external parties instead of cash or instrument during the year 2019, as the overall progress rate of the project reached (74%).

5-5-6. Updating Payment Systems:

The Payments Department at the Central Bank of Iraq is working on updating the payment systems continuously for the purpose of access to the latest systems in providing advanced and fast payment services for the purpose of enhancing electronic banking operations. The year 2019 witnessed the update of the RTGS system by activating the cash out feature for the purpose of automating cash withdrawals to banks and dispensing with the use of checks in cash withdrawals through the seizure of the amounts on the system of real-time gross settlement and disbursement for cash withdrawal in Iraqi dinars (as a first stage), and subsequently approved for the dollar from bank account balances opened at the Central Bank of Iraq, as well as the update of the C-ACH electronic clearing system by activating direct debt instruments (DD) in the (po) screen to enforce the facilitation of the banks' process in collecting the amounts owed by customers based on a prior contract between the two parties.

5-5-7. Strengthening the Role of Supervision and Control:

Supervision of financial and banking institutions is among the priorities of the Central Bank of Iraq, especially in the field of electronic banking operations, which are considered to be newly established in Iraq. The relevant authorities have worked in the Central Bank to prepare a plan for monitoring financial institutions from the beginning of establishment until the start of providing services. The latter is between the two departments of banking and payments supervision, where companies' files are studied, when submitting an application for a practice license from the legal and technical sides within the requirements set by the Central Bank, and the license for these companies is granted accordingly, after extensive study. Thus, (3) companies were granted a license to operate as a payment service provider in the year 2019. In addition, a license was granted to one company to operate via a mobile phone during the year 2019.

And in order to enhance the role of the Central Bank in monitoring financial institutions, for the purpose of making the monitoring process transparent, the Iraqi Payments Law it has been prepared and submitted to the legislative authorities for approval. In addition, a number of instructions was issued to regulate the work of agents, who work as suppliers of foreign remittance service in Iraq. Additionally, an expanded database, which includes banks, electronic payment service providers and their agents, has been created, and a final copy of the agents' controls has been prepared and submitted to the senior management in the Central Bank of Iraq for issuance approval.

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

The Central Bank is keen to provide the best banking services to the Iraqi citizen. Thus, a number of electronic systems is used in order to provide the fastest financial banking services at low costs while ensuring and secure high quality. In addition, RTGS and C-ACH systems have been used to speed up the payment and settlement processes between banks and customers in a safe manner to achieve the goal of financial stability, which is considered one of the main objectives of the Central Bank of Iraq.

To the present, the RTGS system has the largest share in payments and financial settlement since the date of its use, as it has represented in 2019 a rate of (73%) at a total amount of (94.5) trillion dinars, while the electronic clearing system rate reached (27%) for the same year, at an amount of (35.4) trillion dinars. As for the foreign currency, the RTGC rate reached (96%) in 2019, at an amount of (5.7) billion dollars, while electronic clearing ratio was (4%), at an amount of up to (240) million dollars, and this shows the big difference between RTGS and C-ACH in the payment and settlement operations.

As for the growth of these systems, the total amount of RTGS operations in dinars for the year 2018 has reached (146.9) trillion dinars, however, for the year 2019, it amounted to (94.5) trillion dinars, which is lower than the previous year by (-36%). Nevertheless, RTGS transactions in foreign currency amounted to (3.8) billion dollars in 2018, compared with (5.7) billion dollars in 2019, with a growth rate of 50%, which reflects the banking activity expansion in foreign currency through the RTGS system.

As for the electronic clearing, it amounted (25.3) trillion dinars in 2018 in Iraqi dinars, and (35.4) trillion dinars in 2019, with a growth rate of (39%). Payments in foreign currency amounted in 2018 to (560.4) million dinars, and up to (240.4) million dinars in 2019, with a low growth rate (- 57%), as shown in the two Figures (64) and (65).

Figure (64) Market share of electronic payment services in dinars in 2019

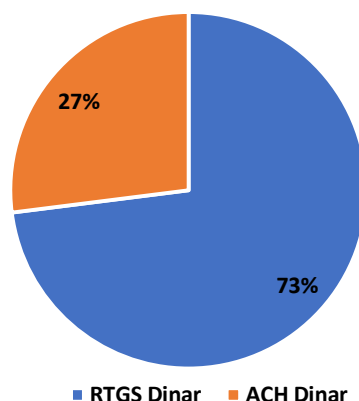
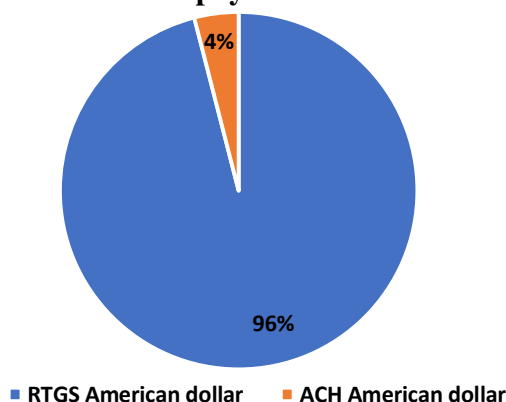


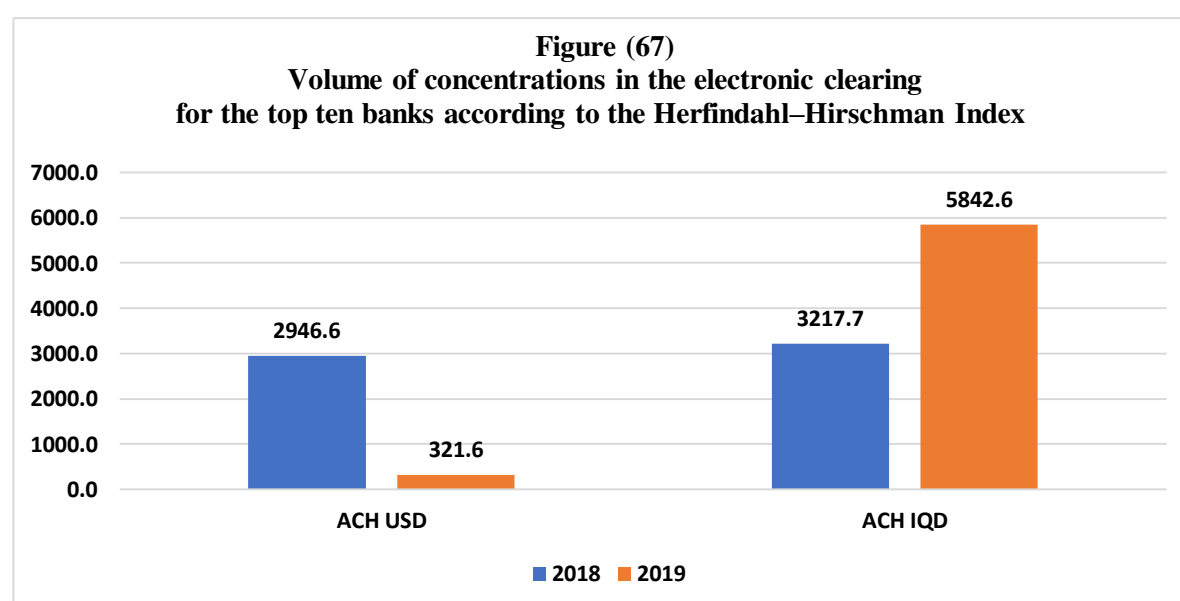
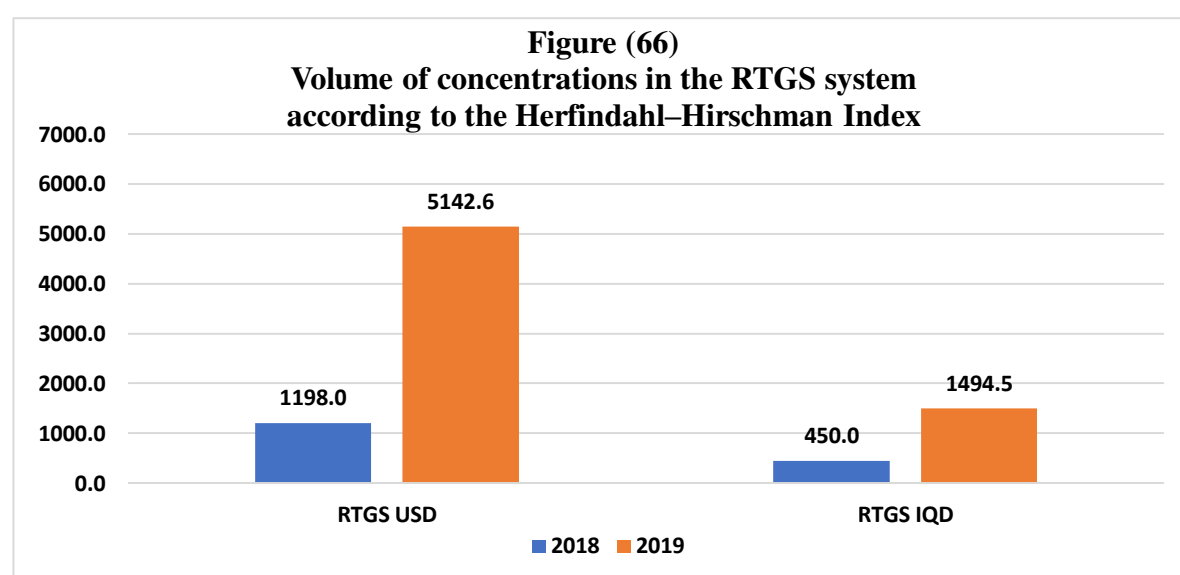
Figure (65) Market share of electronic payment services in dollars in 2019



The concentration in payment and settlement systems was calculated according to the Herfindahl–Hirschman Index, and it was found that there was an increase in the concentration in the RTGS system in foreign currency, as the index rose from (1198) points in 2018 to (5142.6) points in 2019, and this is what constitutes a high risk. Nevertheless, what reduces the size of these risks impact is that the concentration lies in government banks, especially in one of the government banks specialized in issuing documentary credits for ministries and government department, which means that this concentration and its risks are controlled. As for the concentration of RTGS in dinars, it also rose from (450) points to (1494.5)

points, but this increase does not constitute a risk nor is it considered a concentration.

With regard to electronic clearing, the volume of concentration in 2019 in Iraqi dinars reached (5842.6) points, which is higher than it was in 2018, when it reached (3217.7) points. As for the foreign currency, the concentration decreased very dramatically as the year 2019 reached (321) points after what was in 2018 (2,946.6) points, and thus the concentration in dinars does not carry risks, although the latter risks in foreign currency are somewhat high, but this concentration is in government-owned banks or the Finance Ministry, which reduces the severity of these risks.



5-6. Supporting institutions:

5-6-1. Deposit Insurance institution:

The Central Bank of Iraq has worked extensively and continuously with Iraqi banks for the purpose of establishing a deposit insurance company, and this project has been planned for years, but it was crowned with success in 2018 by signing the contract of establishing the Iraqi company to guarantee deposits with a group of government and private banks and with the Retirement Authority. And in 2019, the shares of the company have been offered for subscription, and the Central Bank has set the company's capital at (100) billion Iraqi dinars. The aim of establishing this company is to enhance the citizen's confidence in the banking sector and preserve the depositors' funds as well as to protect the banking sector from crises and increase the banking culture among the public. Announcing to customers that their deposits are insured and protected from any default that may befall the banks leads to enhancing confidence in the banking system and achieving the goal of financial stability.

5-6-2. Credit Information Exchange Department:

The bank has worked to develop the performance of the credit information exchange department as it is one of the important departments to achieve financial stability, as a credit information exchange system (CBS) was purchased and the staff was trained on it several years ago, with the continuous system updating since it provides important information about clients applying for credit facilities, including the obligation size and the bad credit amount for customers who have defaulted in payment, with personal information available on these customers. In addition, information on the customers' financial situation in previous stages and all legal procedures that may arise accordingly are listed. During the year 2019, the Central Bank carried out (10) updates to the system in order to improve its performance and provide better services to the beneficiaries. Moreover, employees working in this section worked hard to update customers' data on an ongoing basis and whatever the need arises, as the data updates during 2019 reached (55165) update transaction, while the credit inquiry for the same year reached (85920) credit inquiries, while there were (26) customers who stopped paying for the same year.

The Credit Information Exchange Section includes the Banking Awareness and Public Protection Division. This division has great importance in spreading banking awareness for the purpose of attracting deposits and investing them in economic activities in order to achieve financial stability. The process of spreading banking awareness is one of the important requirements during this stage, as there is a reluctance and lack of conviction of citizens to open bank accounts. Since the Central Bank has led the process of salaries localization, a banking awareness process must be conducted along with providing a full explanation to customers about their rights, and not forfeiting them, as comprehensive instructions based on international standards regarding banking awareness and public protection has been issued.

Presentations and seminars were presented to employees and directors of the banking awareness departments in banks and financial institutions, which focused on the importance and role of these formations in educating and guiding customers about the importance of banking and how to maintain their rights.

6- Financial Inclusion

6. Financial Inclusion

Financial inclusion is one of the main goals that countries set in their plans for the purpose of increasing financial depth because of its positive effects and great importance on economic growth, income distribution, and reducing unemployment and poverty. This interest in financial inclusion increased with the increase in technological development, and digital transactions became a large part of transactions. As at the level of individuals, World Bank data indicate that digital transactions have become (52%) of Global transactions in 2017 for individuals over the age of 15 years, but at the government level, the delivery of wages or government transfers in digital form constitutes (30%) of the total transactions in 2017¹, thus most countries of the world place it among their strategic economic objectives, directly and indirectly; The World Bank data indicates that the proportion of financial inclusion worldwide reached (69%) in 2017, while this ratio was (62%) in 2014 and (51%) in 2011, note that this percentage varies between high-income countries in which the proportion of adults with bank accounts reaches (94%) compared to (63%) in developing countries, and this percentage also differs from one country to another².

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

The advanced technology, the expansion of the use of the Internet, and the increase in the use of the mobile phone are among the important elements in increasing financial inclusion. Therefore, achieving an increase in the proportion of financial inclusion requires providing an infrastructure of advanced and rapidly spreading information technology.

The Central Bank of Iraq has given care for promoting the level of financial inclusion, and raising the level of financial services to all groups of society, and to all regions of Iraq, while working to raise the level of quality of services, and the Central Bank of Iraq also worked in cooperation with banks and the Iraqi Private Banking Association to increase citizens' awareness of financial inclusion issues, by holding workshops and seminars, as well as using various media.

¹ world bank group, # <http://datatopics.worldbank.org/g20fidata>.

² Asli Demirgoç-Kunt, Leora Klapper, Dorothy Singer, Sania Ansarugic Hess (2018) Global Financial Inclusion Index database 2017: Measuring Financial Inclusion and the FinTech Revolution, World Bank Group.

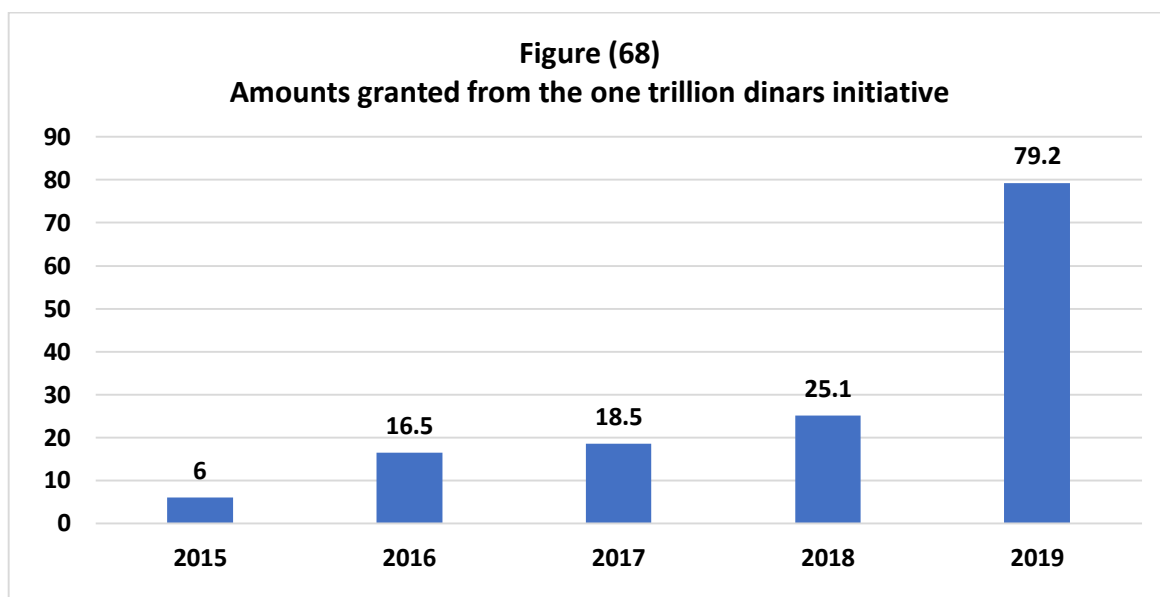
In order to enhance access to all groups of society and facilitate the use, including marginalized and underprivileged groups, of financial services and products that are appropriate to their needs, so that they are provided in a fair and transparent manner, at reasonable costs, and the concept of financial inclusion also includes protecting the rights of consumers of financial services and encouraging them to manage their money and savings in a sound manner and to achieve this, the Higher Committee of Financial Inclusion was formed in 2018 under the chairmanship of the Governor of the Central Bank and membership of a number of entities in the public and private sector, which is responsible for preparing the long- term national strategy for financial inclusion, and sub-committees (executive and coordination) emerged from it.

6-1. Initiatives of the Central Bank of Iraq in Supporting Financial Inclusion:

6-1-1. Small and Medium Enterprises Financing Initiative:

For the purpose of revitalizing the economy, and in favor from the Central Bank of Iraq by creating and supporting new ideas that contribute to the process of economic growth, providing job opportunities and reducing unemployment rates in the economy, the Central Bank of Iraq launched an initiative of (1) trillion dinars to grant small and medium loans to citizens through private banks; and with a low interest rate which does not constitute a burden on the beneficiaries, through the set of issued instructions. However, the central bank is still making adjustments in alignment with serving the national economy.

This initiative was launched in 2015, where (6) billion dinars were disbursed at that stage, and these loans have grown increasingly year after year to reach in 2019 to (79.2) billion dinars, as shown in Figure (68), and the total amount disbursed for customers from 2015 to 2019 is (145.114) billion dinars, which constitutes (14.51%) of the amount allocated by the Central Bank of Iraq, which is (1) trillion dinars, but this does not mean that the initiative still did not reach the level required in achieving the Central Bank's goals of spreading of small and medium enterprises but the amount allocated is very large, so that the percentage remains low, even if the granting process increases.



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

There were (33) banks from the private sector which participated in granting the initiative sums, divided into (18) Islamic banks, (15) Commercial banks and two branches of a foreign bank, and these loans contributed to the creation of about (4776) small projects that contributed to finding job opportunities for the unemployed. The Central Bank has worked to simplify granting procedures and complete transactions as quickly as possible, while urging banks to expand in this activity, which is one of the financial inclusion tools, in addition to that, the Central Bank has conducted advertising, promotional and awareness campaigns in the media and various social media.

6-1-2. Large Enterprises Financing Initiative:

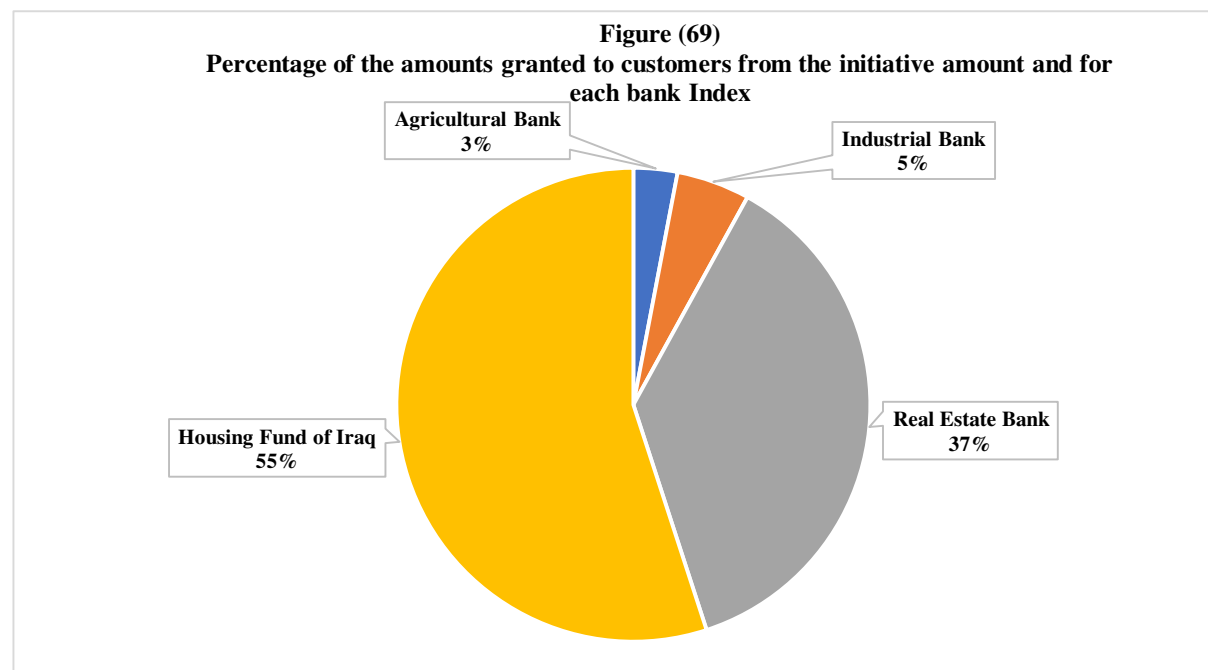
In addition to the (1) trillion dinars initiative that was mentioned, the Central Bank of Iraq has been keen to support large projects that have a clear impact on the economic development process, which helps in providing some of the needs and requirements of the local economy, and which also helps in the process of providing Jobs opportunities; Therefore, the Central Bank of Iraq launched a Large Enterprises Financing Initiative at an amount of (5) trillion dinars, where the initiative's amounts were pumped through specialized banks, at a low interest rate, so that it will not form a burden on the investor, for the purpose of continuation of his work, to raise production rates in important economic sectors (agricultural, industrial, and real estate) that contribute to increasing economic growth, as well as solving the housing shortage by providing soft loans to build housing units, or to build large housing complexes. Table (13) shows the nature of the distribution of these sums to the specialized banks and the housing fund.

Table (13)
The market share of banks in the large enterprises financing initiative

Bank Name	Amount Allocated	Actual Grant Amount			Interest Rate	Operating Rate			Grant Amount Rate
		2017	2018	2019		2017	2018	2019	
Agricultural Bank	1,666,000	15,832	27,559	50801	%4	0.95	1.65	3.04	%84
Industrial Bank	1,666,000	17,667	92,606	96652	%4	1.06	5.73	5.80	%4
Real Estate Bank	834,000	600	665,000	665000	%3	0.07	79.7	79.7	% 0
Housing Fund	834,000 Increased to 1.334.000	824	859,000	1009000	%2	0.10	64.39	75.6	%17

Source: Central Bank, Financial Operations and Debt Management Department

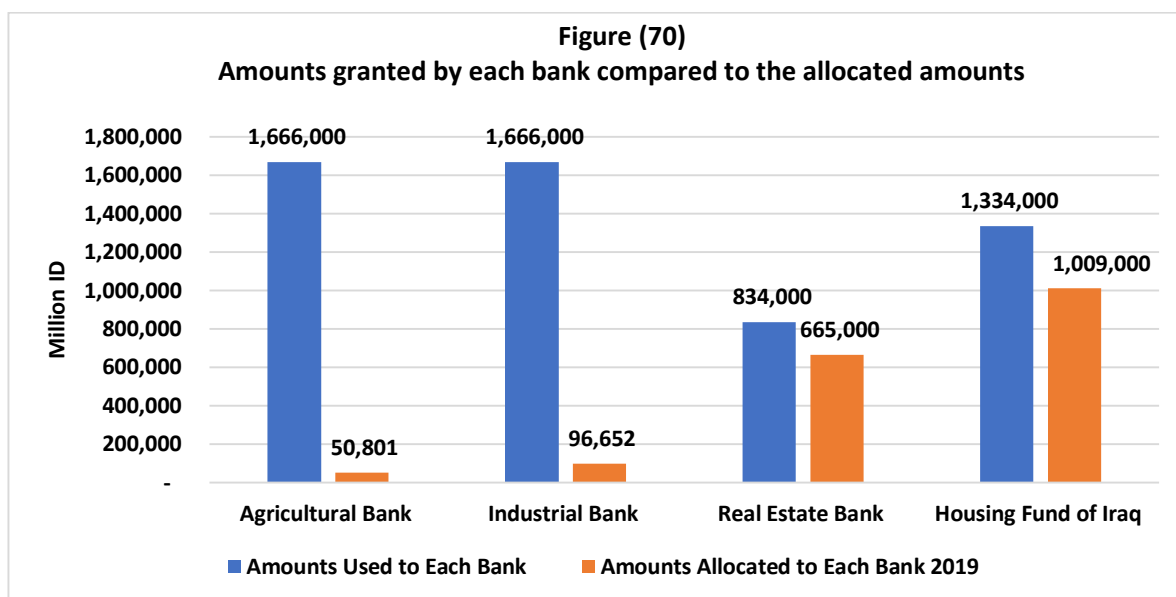
As a result of citizens' demand for loans provided by the Housing Fund, the amount allocated to the Fund has been increased from 834 billion dinars to 1334 billion dinars, and thus the initiative amount exceeds (5) trillion dinars to become (5.5) trillion dinars, as illustrated in Figure (69).



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

Accordingly, the largest share in this initiative was the share of the Iraqi Housing Fund, and this is what was explained above, and the reason for this is due to the great demand for real estate loans for the purpose of building housing units, As for the amounts allocated to the field of agricultural and industrial sectors, no large sums were disbursed

to them, despite the fact that the Central Bank allocated large sums within the initiative to support the reconstruction of old factories, which were suspended for long periods, as well as the reclamation of agricultural lands that were damaged as a result of the security and economic problems of the country. But the investor still feels concern about going into these areas because of the difficulty of competing with low-cost imported goods, so the Central Bank of Iraq encouraged banks to grant credit to investors with a very low interest rate in support of the national economy, as shown in Figure (70).



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

6-2. Financial Inclusion Indices:

The basic indices used to measure the level of financial inclusion can be divided into three types, namely: (access), (usage) and (quality). We will focus on the first and second dimensions (access and usage), and the third dimension (quality), which reflects the quality of financial services provided, is somewhat complex.

6-2-1. Financial Services Access Index: This dimension relies on a number of variables as follows:

6-2-1-1. Banking Intensity and Banking Spread Index:

Banking intensity and banking spread in Iraq are still below the required level, despite the encouragement of the Central Bank of Iraq to banks to open branches in all of Iraq, and the year 2019 witnessed a slight increase in the number of bank branches, reaching (888) branches, while they were (865) branches in 2018. The banking density increased slightly, reaching (44.25) in 2019 after it was (44.16) in 2018, accompanied by a slight decrease in banking spread, as it was (2.26) in 2018 and became (2.25) in 2019. The

slight change in the two years above, despite the increase in the number of branches, came as a result of the significant increase in the population of Iraq.

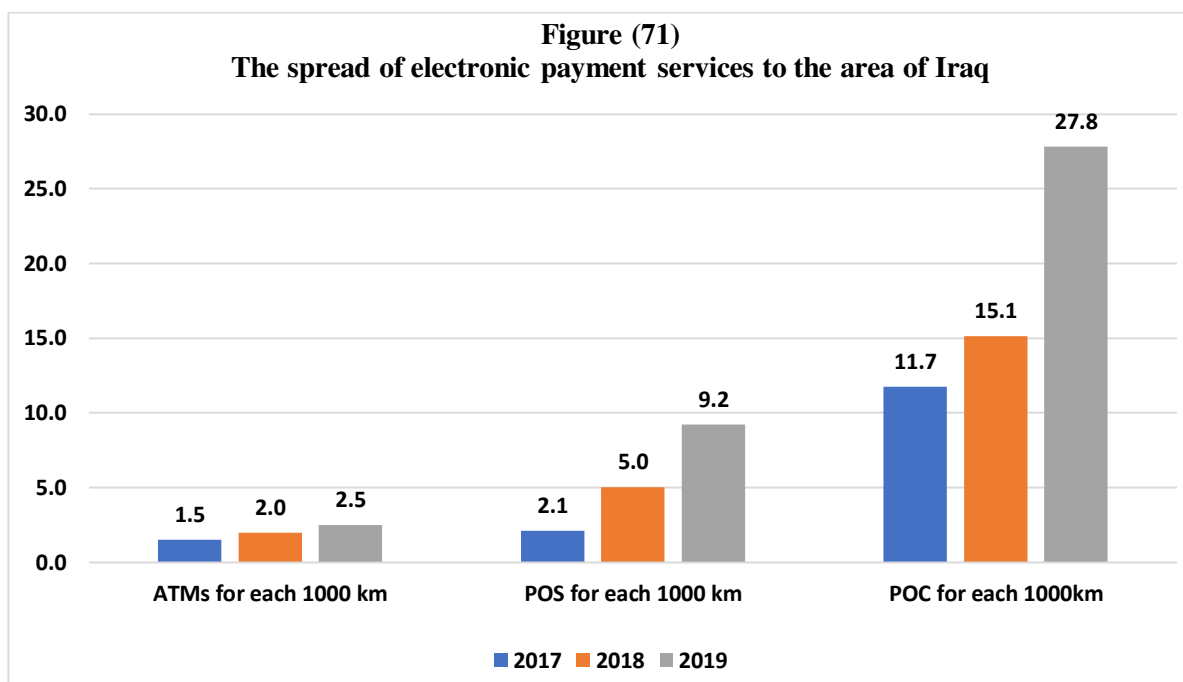
Table (14)
Banking intensity and banking spread in Iraq

Year	Population (thousand people)	Number of bank branches	Banking density	Banking spread
2015	36.933	854	43.24	2.31
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

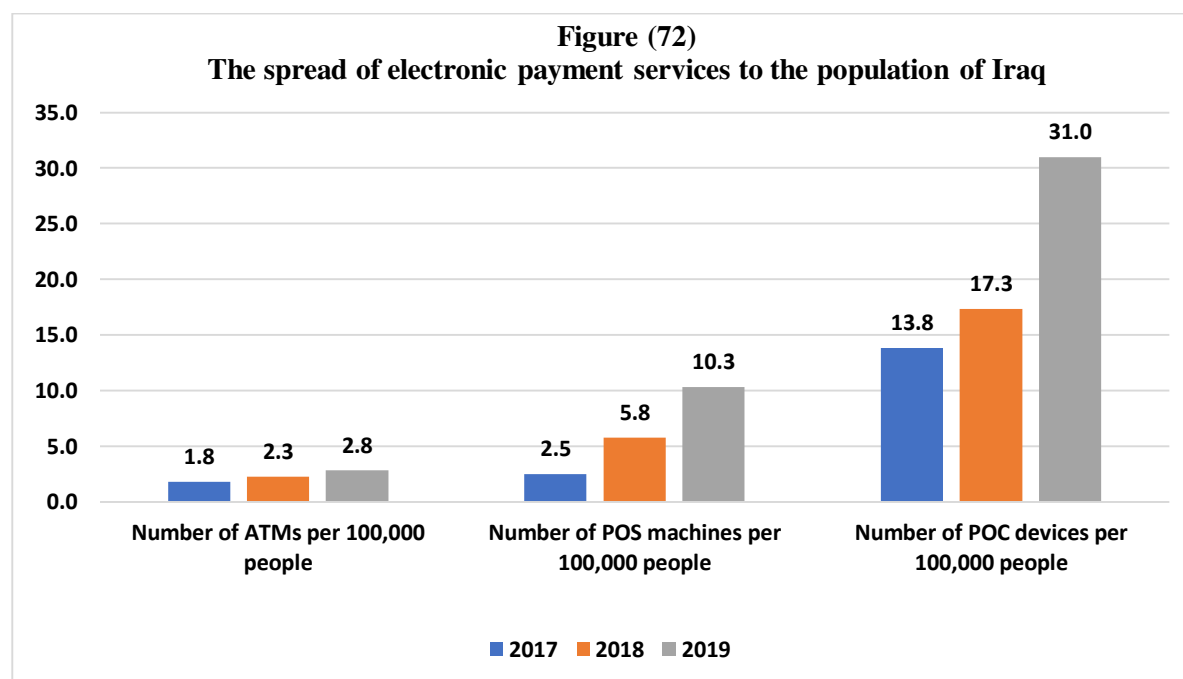
6-2-1-2. Spread of E-payment services (ATM), (POS) and (POC):

Increasing electronic payment services is one of the main objectives 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 the use of electronic payment tools, and eliminating dealing in cash gradually. The year 2019 witnessed an increase in the spread of (ATM), (POS) and (POC) devices throughout Iraq. It is noticed that the number of (ATMs) increased to the area of Iraq from (1.5) in 2017 to (2.5) in 2019, but the percentage is still very low and does not meet the aspiration and the desired goal. As for (POS) devices, their spread to the area of Iraq has increased from (2.1) in 2017 to (9.2) in 2019. As for (POC) devices, their spread to the area of Iraq has increased from (11.7) in 2017 to (27.8) in 2019, which is slightly more than (ATM) and (POS) devices, and it is expected that this ratio will increase in the future in line with the Central Bank of Iraq directions in this regard.

Likewise, with regard to the spread of payment services to the population of Iraq per (100,000) people, this ratio is considered low despite its rise in 2019, as the ratio of the number of ATM to the population reached (100,000) people (2.8), the POS has reached (10.3) and the POC (31), but the spread in payment services is still very simple, and the reason for this is that most commercial markets and shops deal in cash and not with (POS) devices because this culture does not spread, and this process is still vague to most shop owners, especially in popular and remote areas. As for (ATM), its spread is limited to Malls, commercial centers, some government departments and bank branch headquarters. There are no devices deployed in public areas. And Figures (71) and (72) illustrate this, but with the continued improvement in security in Iraq, coinciding with the efforts of the Central Bank of Iraq to encourage banks to open as many ATMs as possible, this ratio is expected to increase in the coming period.

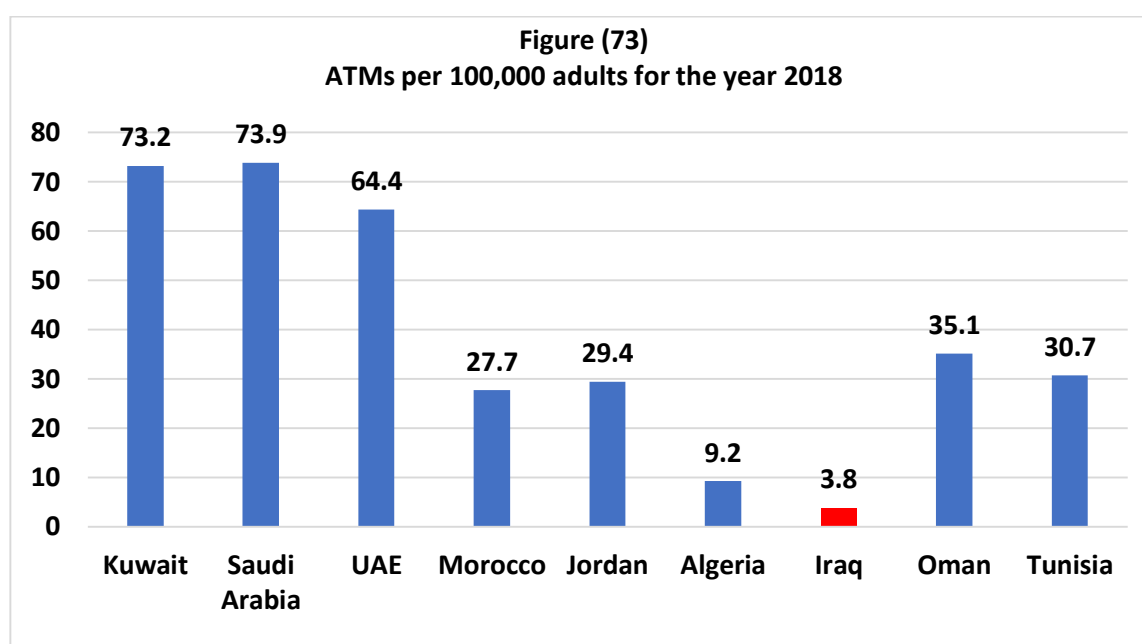


Source: Central Bank of Iraq, Payments Department.



Source: Central Bank of Iraq, Payments Department.

The percentage of (ATM) numbers in Iraq, as cited above, is considered low, and if this percentage is compared to the percentages of countries close to Iraq, we will notice that there is a decrease in the number of ATMs. Figure (73) shows the percentage of ATMs per 100,000 adults in a group of countries:



Source: International Bank Data

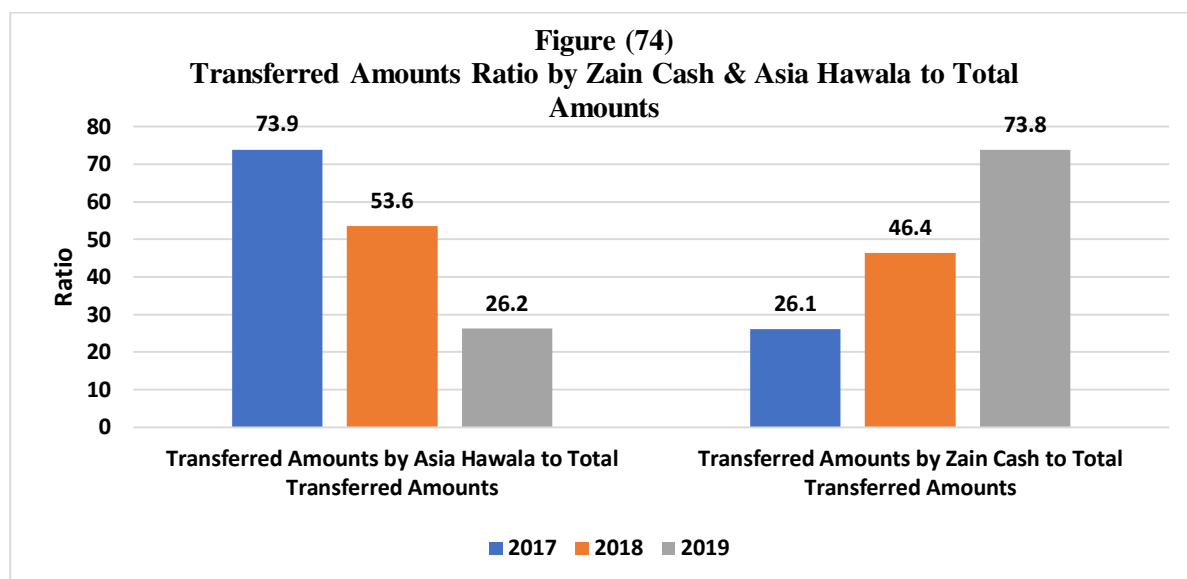
<https://data.albankaldawli.org/indicatoe/FB.ATM.TOTL.P5?view=chart>

From figure (73) it becomes clear that the Iraq has the lowest percentage in the number of ATMs among the group of comparative countries, which requires banks to increase the number of these devices 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 aimed at by the Central Bank of Iraq.

6-2-2. Financial Services Usage Index:

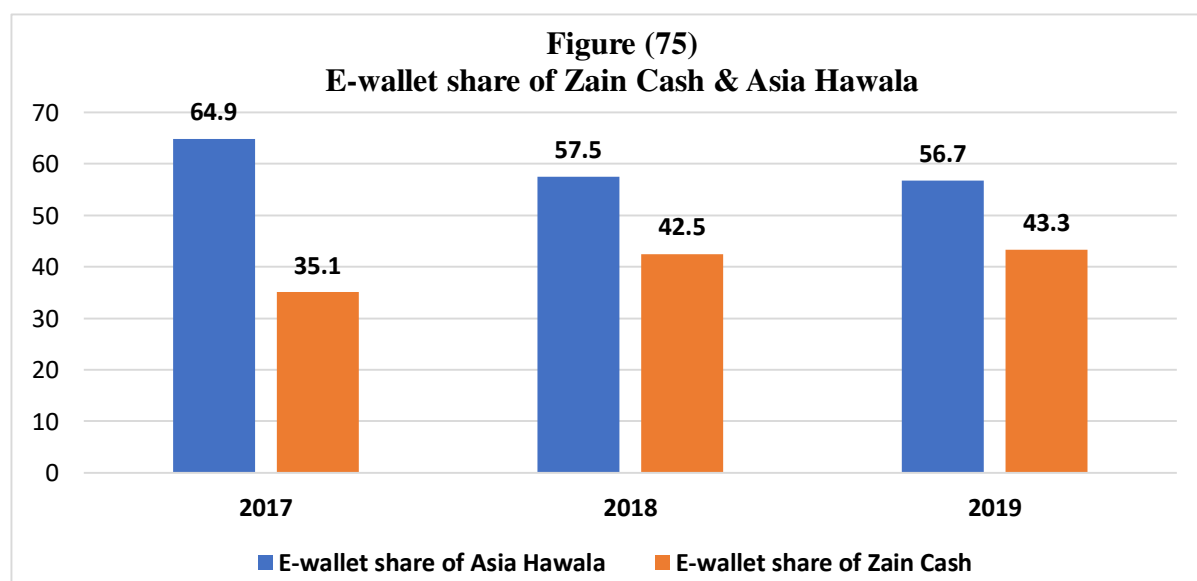
6-2-2-1. The Spread of Mobile Payment Services:

The spread the usage of electronic tools in settling payments enhances financial inclusion, and due to the belief of the Central Bank of Iraq of the importance of the spread of electronic payment tools, the latter granted license to two companies to facilitate the electronic payment process via mobile phones, namely Asia Hawala and Zain Cash, as these two companies began providing various financial services to their customers, such as transferring funds, paying bills, buying electronic cards, charging prepaid mobile phone and depositing and withdrawing cash to and from the wallet through the centers approved by the two companies. Figure (74) shows the financial activity of each company, which is measured by the amounts transferred for each company:



Source: Central Bank of Iraq, Payments Department.

Figure (74) shows that Competition between the two companies has increased from 2017 to 2019. Asia Company was controlling the majority of transfer operations of a percentage reaches (73%) in exchange for (26%) to Zain Cash at 2017. Zain Cash increased its operations to be the biggest in this service, where transferring rate reaches to (73%) against (26%) for Asia Hawala at 2019. The spread of these operations is considered positive issues that assist to develop the financial system services. Believing in these services, the Central Bank granted a license to another company working within the financial system. The increase in competing among companies reflects positively on the financial development. Figure (75) shows number of e-wallets owned by each company:

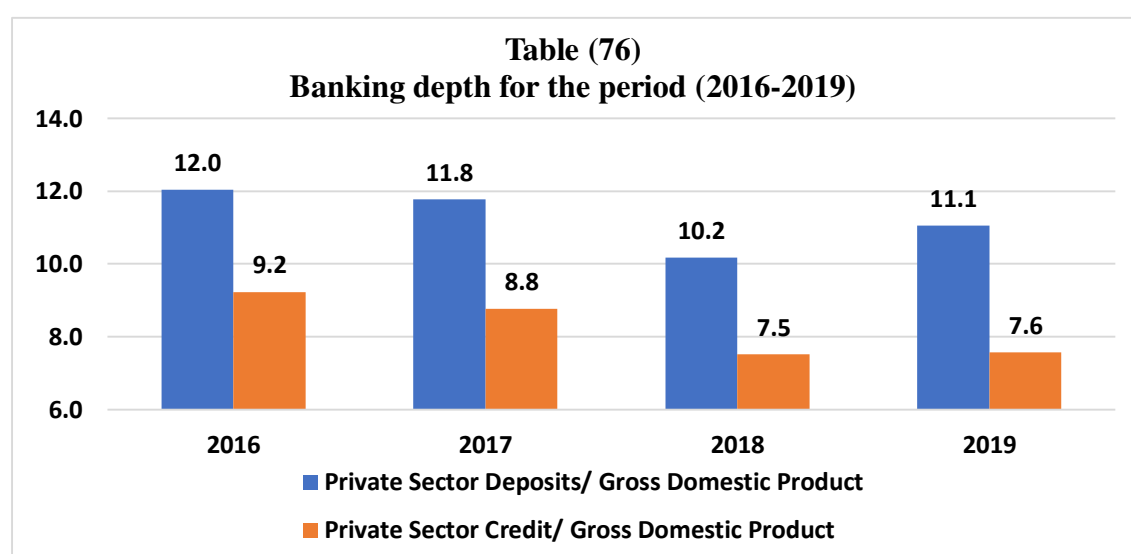


Source: Central Bank of Iraq, Payments Department.

Figure (75) shows that Asia Hawala share of the transfer from e-wallets was more than the share of Zain Cash, and at the end of 2019, it reached (56%) to Asia Hawala, in exchange for (43%) for Zain Cash. And back to Figure (74) it is noted that the transfer amounts For Zain Cash at the end of 2019, it amounted to more than (70%), which means that the services provided by Zain Cash are much larger than the services provided by Asia hawala. Therefore, Asia hawala is required to increase its services. Mobile payment services are considered a very advanced service, and we must work to increase them.

6-2-2-2. Banking Depth Index:

The Banking Depth Index shows the level of development of banking intermediation through easy access to banking services, low costs, and expansion in various banking institutions and instruments, which contribute to supporting the investment and economic development process. This index was measured using two variables. The first is the ratio of private sector loans to GDP. The second: the ratio of private sector deposits to GDP. Figure (76) indicates that this index has decreased from 2016 to 2019, due to an increase in the rate of GDP growth at growth rates that exceed those of both credit and deposits of private sector, where the private sector deposits and credit to the private sector witnessed an increase during the period 2016 – 2019.



Source: Central Bank of Iraq, Statistics & Researches Department.

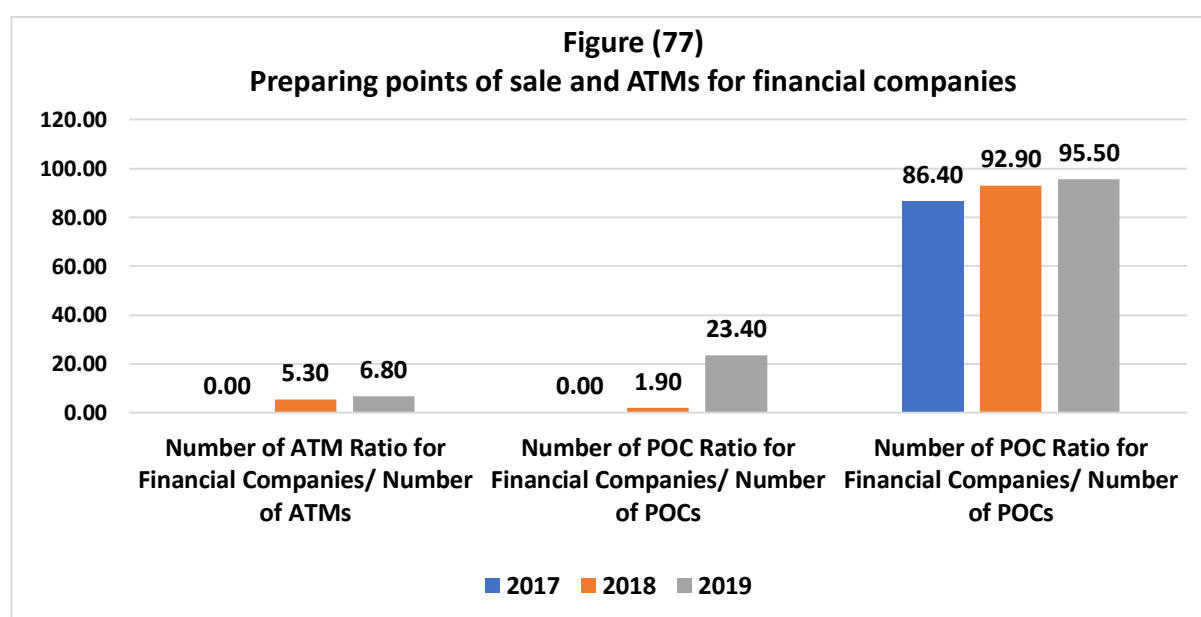
6-3. Non-Banking Financial Companies Contribution in Providing Financial Services:

Non-banking financial companies are among the institutions that contribute actively to developing the financial reality in any economy. Financial companies in Iraq have a role in providing POC and POS points and issuing cards, and therefore these companies

are considered as collecting companies, or issuing companies, or processing companies, or the one company carries out the three processes (issuance, collection and processing) and is subject to the supervision of the Central Bank. It is worth noting that these companies are the ones that issue electronic cards and provide banks with them. The work of these companies and the increase in their activity will positively affect the reality of financial inclusion.

6-3-1. Financial Companies Contribution in providing POS and ATMs:

Eight financial companies operating in Iraq played a role in providing automatic teller machines and providing points of sale, and Figure No. (77) reflects the contribution of these companies in providing points of sale and providing ATMs:



Source: Central Bank of Iraq, Payments Department.

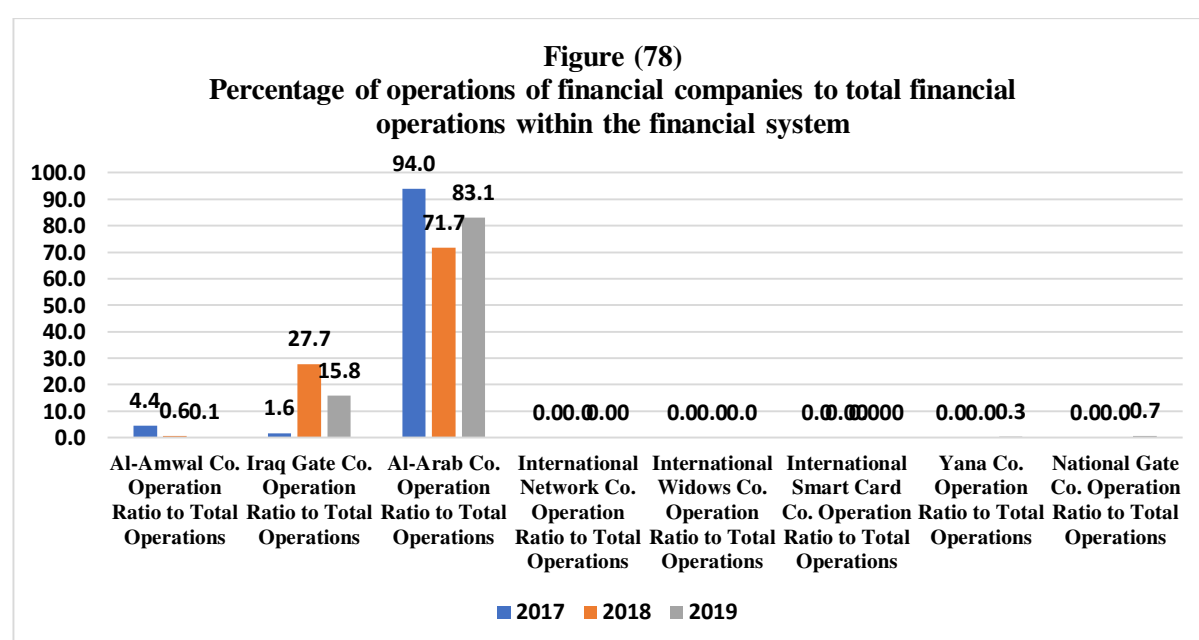
From Figure (77) it is clear that financial companies control points of sale (POS), as the percentage of their sale points number to the total number amounted (95%) at the end of 2019. As for the provision of ATMs which they are not responsible for, it is noticeable that it owns (6%) of the total number of ATMs available in the country, which is (76) ATMs.

It is worth noting that Iraq Gate Company is the only company that owns ATMs. Non-banking financial companies could very much play an important role in the process of developing financial inclusion within the country, by providing sale points and the issuing cards. The total financial operations conducted by these companies at the end of 2019 amounted to (48234533705) operation, locally, meaning: more than 48 billion local operations between the process of processing, collection and issuance, as for

international operations, it reached (124592025) operation, i.e. more than 124 million international operations at the end of 2019. In addition, these companies issue cards to banks and are considered within their operations, hence the great role that these companies play within the financial system is very clear.

6-3-2. Measuring Financial Companies Performance:

In order to know the contribution of each of the eight financial companies operating in the country in providing financial services, it is imperative to measure the performance of these companies within the financial system, and this will be done by measuring the operations that each of these companies undertook within the economy in order to measure its activity, Figure (78) shows the share of each financial company in financial operations:



Source: Central Bank of Iraq, Payments Department.

Figure (78) shows the percentage of operations carried out by each of the financial companies operating within the financial system to the total financial operations, and that these operations may be processing, collecting or issuing a card. It is clear from the above figure that (Al-Arab) is the most active company. Within the financial market, as the percentage of operations it carried out to the total number of operations reached (83%) at the end of 2019, with a number of operations that reached more than (40) billion financial transactions, followed by (Iraq Gate) Company, whose percentage of operations reached (15%) to the total operations at the end of 2019, with the number of operations that reached more than (7) billion operations within the financial system at the end of 2019. These two companies have control over nearly (98%) of the financial operations within the financial system and the remaining six companies share (2%) of

the total financial operations within the financial system, due to the recent establishment of other companies. As mentioned above, financial companies have a major role in developing and improving financial services.

6-4. Measuring Financial Inclusion Aggregate Index in Iraq:

The aggregate indicator is the one that reflects the progress made in the level of financial inclusion, through the use of a set of indices that take different values and weights in order to reach the final result that determines the extent of increase or decrease of the inclusion index. There are several methods to measure the Aggregated index of Financial Inclusion; Therefore reliance will be placed on the method used by Alliance For Financial Inclusion; For being the most appropriate application in the case of Iraq, and that is done by relying on the following steps¹:

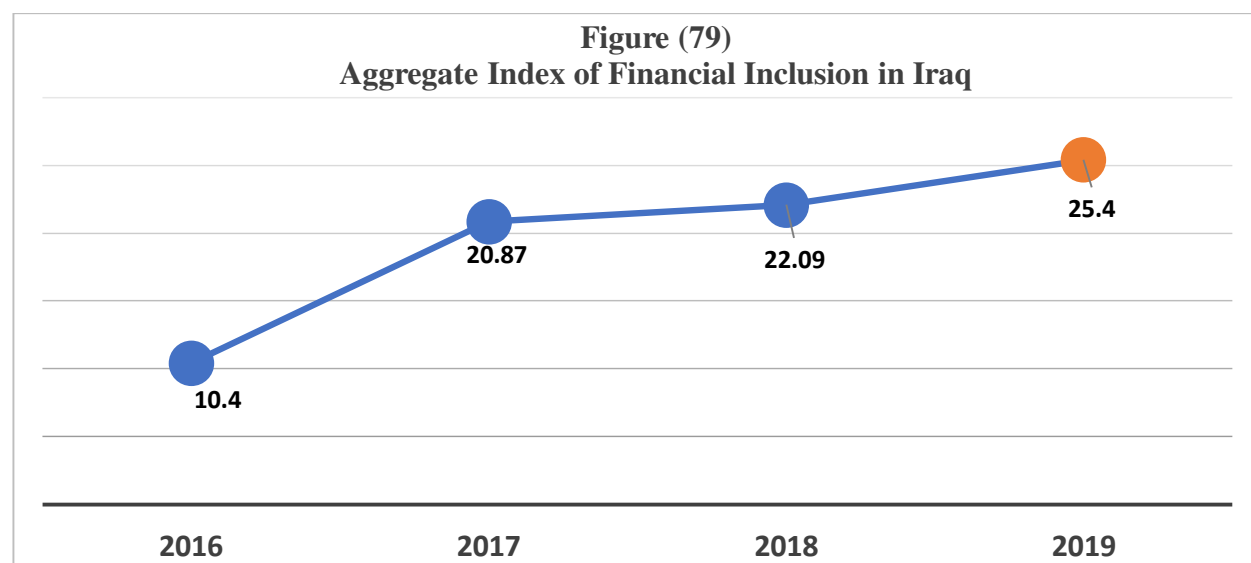
1. Determining the target values for the index: - The target values were chosen based on the values to be achieved in Iraq to enhance financial inclusion till the present.
2. Determining the weight of the variables: - The weight reflects the importance of the variables included in the measurement of the. sub-indices of financial inclusion are access, use, and then giving or weighting to the sub-indices.
3. Grouping Sub-indices: In this step, the sub-indices are grouped into one index that represents financial inclusion in Iraq, and the value of the index varies between one and zero, and whenever the value of the index approaches one, this means that there is a high level of financial inclusion, and vice versa.

The results in Figure (79) indicate an increase in the value of the Financial Inclusion Aggregate Index from (10%) in 2016 to (25%) in 2019, and this reflects the success of the Central Bank of Iraq policies in encouraging financial inclusion and increasing the confidence and dealings of individuals. With the formal financial sector, this increase in the value of the financial inclusion index is due to the remarkable increase in the number of bank accounts as a result of the salary domiciliation policy, as well as the noticeable increase in the number of ATMs and sale points, which started to increase in the last period.

Despite this clear and desirable increase in the level of financial inclusion in Iraq, the Central Bank of Iraq continues its policies towards achieving its important strategic

¹ For more, see Steps for Measuring Financial Inclusion Aggregate Index, Iraq Financial Stability Report, 2016.

goals, including increasing the level of financial inclusion, and adopting electronic tools in settling payments and exchanges instead of paying Cash.



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