

## Financial Stability Report









Central Bank of Iraq
Department of Monetary &
Financial Stability

Financial Stability Report 2018

www.cbi.iq

Central Bank of Iraq – 2019 Financial Stability Report for 2018 Central Bank of Iraq – Al Rasheed Street – Baghdad – Iraq

Phone: 8165171 P.O. Box: 64

Fax: 0096418166802 E-Mail: <u>cbi@cbi.iq</u>

# Chairman and Members Of the Board of Directors of the Central Bank of Iraq 31/12/2018

#### **Chairman of Board of Directors**

Mr. Ali Mohsen Ismail Al-Alaq

Acting Governor (Chairman of the Board)

#### **The Members**

Dr. Munther Abdul Qader Al-Shaikhli

Deputy Governor (Member)

Mr. Waleed Eidi Abdulnabi

Counselor (Member)

Dr. Mudher Muhammad Saleh

Economist (Member)

Dr. Ahmed Ebraihi Ali

Economist (Member)

Dr. Majed Mohsen Al-Soori

Economist (Member)

Dr. Nawar Edham Mutar Al-Zubaidi

Legal expert (Member)

Dr. Muwafaq Abdulhussein

Chartered Accountant and Auditor (Member)

## **Table of contents**

|  | Subject   | Page   |
|--|---|--|
|  | Introduction  | A  |
|  | Summary   | B - F  |
|  | 1. Financial sector developments in Iraq  | 3 - 30   |
| 1-1  | Banking sector development in Iraq  | 1  |
| 1-1-1  | Banking sector assets   | 1  |
| 1-1-2  | Banking sector deposits   | 4  |
| 1-1-3  | Banking sector capital  | 9  |
| 1-1-4  | Bank Credit   | 12   |
|  | 1-1-4-1 Development of bank credit  | 12   |
|  | 1-1-4-2 Sectoral distribution of cash credit  | 13   |
|  | 1-1-4-3 Bank credit concentrations  | 17   |
|  | 1-1-4-5 Analyzing the credit to GDP gap   | 18   |
|  | 1-1-4-6 Overdue debts   | 20   |
| 1-2  | Iraq Stock Exchange   | 24   |
| 1-2-1  | Trading in the regular market   | 25   |
|  | 1-2-1-1 Depth and Resilience of the regular market  | 26   |
| 1-2-2  | Trading in the second market  | 27   |
|  | 1-2-2-1 Depth and Resilience of the second market   | 28   |
|  | •   |  |
|  | 2. Financial Integrity Indices  | 31-46  |
| 2-1  | 2. Financial Integrity Indices Capital adequacy ratio indicator   | <b>31-46</b> 31  |
| 2-1<br>2-2   |   |  |
|  | Capital adequacy ratio indicator  | 31   |
| <b>2-2</b> 2-2-1   | Capital adequacy ratio indicator Liquidity indicator  | 31<br>33   |
| <b>2-2</b> 2-2-1   | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)   | 31<br>33<br>33   |
| 2-2<br>2-2-1<br>2-2-2  | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)   | 31<br>33<br>33   |
| 2-2<br>2-2-1<br>2-2-2  | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)  Net stable funding ratio (NSFR)  | 31<br>33<br>33<br>34   |
| 2-2-1<br>2-2-2<br>2-2-3<br>2-2-4   | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)  Net stable funding ratio (NSFR)  Liquid assets / short-term liabilities  | 31<br>33<br>33<br>34<br>35   |
| 2-2-1<br>2-2-2<br>2-2-3<br>2-2-4   | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)  Net stable funding ratio (NSFR)  Liquid assets / short-term liabilities  Liquid assets / total deposits  | 31<br>33<br>33<br>34<br>35<br>37   |
| 2-2-1<br>2-2-2<br>2-2-3<br>2-2-4<br>2-2-5  | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)  Net stable funding ratio (NSFR)  Liquid assets / short-term liabilities  Liquid assets / total deposits  Liquid assets / total assets  Cash credit / deposits  | 31<br>33<br>33<br>34<br>35<br>37<br>37                                     |
| 2-2-1<br>2-2-2<br>2-2-3<br>2-2-4<br>2-2-5<br>2-2-6   | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)  Net stable funding ratio (NSFR)  Liquid assets / short-term liabilities  Liquid assets / total deposits  Liquid assets / total assets  Cash credit / deposits  | 31<br>33<br>33<br>34<br>35<br>37<br>37<br>38                               |
| 2-2-1<br>2-2-2<br>2-2-3<br>2-2-4<br>2-2-5<br>2-2-6<br>2-2-7  | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)  Net stable funding ratio (NSFR)  Liquid assets / short-term liabilities  Liquid assets / total deposits  Liquid assets / total assets  Cash credit / deposits  Funding gap (credit gap)  | 31<br>33<br>33<br>34<br>35<br>37<br>37<br>38<br>40                         |
| 2-2-1<br>2-2-2<br>2-2-3<br>2-2-4<br>2-2-5<br>2-2-6<br>2-2-7<br>2-1                                   | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)  Net stable funding ratio (NSFR)  Liquid assets / short-term liabilities  Liquid assets / total deposits  Liquid assets / total assets  Cash credit / deposits  Funding gap (credit gap)  Assets quality indicator  | 31<br>33<br>33<br>34<br>35<br>37<br>37<br>38<br>40<br>41                   |
| 2-2-1 2-2-3 2-2-4 2-2-5 2-2-6 2-2-7 2-1 2-3-1  | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)  Net stable funding ratio (NSFR)  Liquid assets / short-term liabilities  Liquid assets / total deposits  Liquid assets / total assets  Cash credit / deposits  Funding gap (credit gap)  Assets quality indicator  Non-performing loans (NPL) ratio / total cash credit  | 31<br>33<br>33<br>34<br>35<br>37<br>37<br>38<br>40<br>41<br>41             |
| 2-2<br>2-2-1<br>2-2-2<br>2-2-3<br>2-2-4<br>2-2-5<br>2-2-6<br>2-2-7<br>2-1<br>2-3-1<br>2-3-2          | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)  Net stable funding ratio (NSFR)  Liquid assets / short-term liabilities  Liquid assets / total deposits  Liquid assets / total assets  Cash credit / deposits  Funding gap (credit gap)  Assets quality indicator  Non-performing loans (NPL) ratio / total assets  Non-performing loans (NPL) ratio / total assets  | 31<br>33<br>33<br>34<br>35<br>37<br>37<br>38<br>40<br>41<br>41<br>42       |
| 2-2<br>2-2-1<br>2-2-2<br>2-2-3<br>2-2-4<br>2-2-5<br>2-2-6<br>2-2-7<br>2-1<br>2-3-1<br>2-3-2<br>2-3-3 | Capital adequacy ratio indicator  Liquidity indicator  Liquidity coverage ratio (LCR)  Net stable funding ratio (NSFR)  Liquid assets / short-term liabilities  Liquid assets / total deposits  Liquid assets / total assets  Cash credit / deposits  Funding gap (credit gap)  Assets quality indicator  Non-performing loans (NPL) ratio / total cash credit  Non-performing loans (NPL) ratio / total assets  Non-performing loans (NPL) ratio / capital | 31<br>33<br>33<br>34<br>35<br>37<br>37<br>38<br>40<br>41<br>41<br>42<br>43 |

| 3.    | Measurement of the aggregate index of banking stability in Iraq  | 47 – 56 |
|-------|--|---------|
| 3-1   | Banking stability trends in Iraq                                 | 49      |
| 3-1-1 | Banking stability map  | 49      |
| 3-1-2 | Aggregate index of banking stability                             | 49      |
| 3-2   | Analyzing the relationship between the aggregate index and sub-  | 51      |
|       | indices  |         |
| 3-2-1 | Capital Adequacy Index   | 51      |
| 3-2-2 | Asset Quality Index  | 52      |
| 3-2-3 | Profitability Index  | 52      |
| 3-2-4 | Liquidity Index  | 53      |
| 3-2-5 | Foreign Exchange Risk Index                                      | 54      |
| 3-2-6 | Banking Concentration Index                                      | 55      |
|       | 4. MACRO-STRESS TESTING  | 57-64   |
| 4-1   | What are stress tests?   | 57      |
| 4-2   | The importance of macro stress tests                             | 58      |
| 4-3   | Macro scenarios  | 58      |
| 4-4   | The effect of negative shock on the rate of GDP growth on the    | 61      |
| No    | n- Performing Loans  |         |
| 4-5   | The impact of the negative shock of world oil prices on the      | 63      |
|       | Non-performing Loans   |         |
| 4-6   | The impact of the negative shock of the government spending      | 63      |
|       | growth rate on the Non-performing Loans                          |         |
|       | 5. Financial infrastructure developments                         | 65-86   |
| 5-1   | The concept of financial infrastructure                          | 65      |
| 5-2   | The most important legislative environment developments of the   | 65      |
|       | financial sector   |         |
| 5-3   | Iraq exit from international follow-up                           | 72      |
| 5-4   | Central bank measures to correct the path of reluctant (laggard) | 77      |
| bar   | nks  |         |
| 5-5   | The development of the Iraqi payments system                     | 78      |
| 5-6   | Concentration in the payment and settlement systems              | 81      |
| 5-7   | Cyber security   | 84      |
| 5-8   | Supporting institutions  | 85      |
|       | 6. Financial Inclusion   | 87-102  |
| 6-1   | Central Bank of Iraq initiatives to support financial inclusion  | 88      |
| 6-2   | Financial inclusion indices                                      | 91      |
| 6-2-2 | Financial Services Use Index                                     | 94      |
| 6-2-3 | Banking Depth index  | 99      |
| 6-3   | Measuring the aggregated index of financial inclusion in Iraq    | 100     |

## **List of Tables**

| Sequence | Subject  | Page |
|----------|--|------|
| 1        | Cash and pledged credit of commercial banks for the period (2012 – 2018)   | 13   |
| 2        | Sectoral distribution of cash credit by sector type for the period (2013 – 2018)   | 14   |
| 3        | Number of traded shares and value of shares, number of contracts and sessions in the regular market for the years (2017-2018)    | 25   |
| 4        | Net foreign investment in the regular market for the years 2017 and 2018   | 26   |
| 5        | Number of shares and the value of trades in the second market for the years 2017 and 2018  | 28   |
| 6        | LCR and NSFR ratios application by banks   | 33   |
| 7        | Indicators for measuring the aggregate index of banking stability in Iraq  | 47   |
| 8        | Estimates of the aggregate index of banking stability in Iraq  | 50   |
| 9        | Shock scenarios applied in (VAR) model   | 60   |
| 10       | Scenarios for predicting Non-performing loans ratio after GDP shock  | 61   |
| 11       | Scenarios for predicting Non-performing loans ratio after the global oil price shock   | 63   |
| 12       | Scenarios for predicting the Non-performing loans ratio as a result of the negative shock in the government spending growth rate | 64   |
| 13       | Market share of banks in the large projects financing initiative   | 89   |
| 14       | Banking spread and banking intensity in Iraq   | 92   |

## **List of Figures**

| Sequence | Subject   | Page |
|----------|---|------|
| 1        | The structure of the Iraqi banking system for 2016                          | 1    |
| 2        | Asset concentration level of the top five banks                             | 2    |
| 3        | Assets of public and private banks  | 3    |
| 4        | Ratio of commercial and Islamic banks' assets to total assets               | 3    |
| 5        | Ratio of Domestic and foreign banks' assets to total assets                 | 4    |
| 6        | Ratio of deposits of the public and private sectors                         | 5    |
| 7        | Ratio of government and private banks' deposits to total deposits           | 6    |
| 8        | Ratio of conventional and Islamic banks' deposits to total deposits         | 6    |
| 9        | Ratio of Domestic and foreign banks' deposits to total deposits             | 7    |
| 10       | Ratio of the contribution of types of deposits to total deposits            | 8    |
| 11       | Deposit growth rate of the public and private sectors                       | 8    |
| 12       | Deposit concentration level of the top five banks                           | 9    |
| 13       | Ratio of government and private banks' capital to total capital             | 10   |
| 14       | Ratio of conventional and Islamic banks' capital to total capital           | 11   |
| 15       | Ratio of domestic and foreign banks' capital to total capital               | 11   |
| 16       | Cash and pledged credit of commercial banks                                 | 12   |
| 17       | Distribution of cash credit by public and private sectors                   | 13   |
| 18       | Ratio of cash credit for each sector to total credit                        | 15   |
| 19       | Ratio of cash credit of government and private banks to total cash credit   | 16   |
| 20       | Ratio of cash credit of conventional and Islamic banks to total cash credit | 16   |
| 21       | Ratio of cash credit of domestic and foreign banks to total cash credit     | 17   |
| 22       | Cash credit concentration of top five banks                                 | 18   |
| 23       | Ratio of private sector credit to GDP for a number of selected              | 19   |
| 24       | countries in 2017   | 20   |
| 24       | The credit – GDP gap in Iraq  | 20   |
| 25       | Total overdue loans and their growth rate                                   | 20   |

| 26 | Rate of overdue debts to cash credit  | 21 |
|----|---|----|
| 27 | Ratio of overdue debts of the public and private sectors to total bad debts | 22 |
| 28 | Ratio of overdue debts by sector to total overdue debts                     | 22 |
| 29 | Ratio of Non-Performing Loans of economic sectors to cash                   | 23 |
|    | credit granted to the same sector   |    |
| 30 | HHR indicator in the regular market for 2018                                | 27 |
| 31 | HHR indicator in the second market for 2018                                 | 29 |
| 32 | Capital adequacy ratio  | 32 |
| 33 | LCR rate for months in 2018   | 34 |
| 34 | NSFR rate for seasons in 2018   | 35 |
| 35 | Liquid assets / short-term liabilities (%)                                  | 36 |
| 36 | Ratio of liquid assets to total deposits                                    | 37 |
| 37 | Ratio of liquid assets to total assets                                      | 38 |
| 38 | Cash-to-deposit ratio   | 39 |
| 39 | Deposit and credit growth rates and the financing gap                       | 40 |
| 40 | Non-performing loans to the cash credit of the banking system               | 41 |
| 41 | Ratio of Non-performing loans to total assets                               | 42 |
| 42 | Ratio of total Non-performing debt to total capital                         | 43 |
| 43 | Ratio of Non-performing Loans of government and private banks               | 44 |
|    | to their respective capital   |    |
| 44 | Return on assets%   | 45 |
| 45 | Return on equity%   | 46 |
| 46 | The aggregate map of banking stability in Iraq                              | 49 |
| 47 | Standard value index for capital adequacy and the aggregate                 | 51 |
|    | index   |    |
| 48 | Standard value index for asset quality and the aggregate index              | 52 |
| 49 | Standard value index for profitability index and the aggregate index        | 53 |
| 50 | The standard value of the liquidity index and the aggregate index           | 54 |
| 51 | The standard value of the foreign exchange risk index and the               | 55 |
|    | aggregate index   |    |
| 52 | The standard value of the banking concentration Index and the               | 56 |
|    | aggregate index   |    |
| 53 | Inverse roots of AR Characteristic Polynomial                               | 60 |
| 54 | Non - performing Loans after GDP shock                                      | 62 |
| 55 | Market share of electronic payment services in dollars for 2018             | 82 |
| 56 | Market share of electronic payment services in dinar for 2018               | 82 |

| 57 | Market share of electronic payment services in dinar for 2018    | 83  |
|----|--|-----|
| 58 | The volume of concentrations in the electronic clearing in US    | 84  |
|    | dollars for the top ten banks, according to Herfindahl-Hirschman |     |
|    | Index  |     |
| 59 | The amounts granted from the 1 trillion dinars initiative        | 88  |
| 60 | The amounts granted to customers from the initiative amount and  | 90  |
|    | for each bank  |     |
| 61 | The amounts used by each bank compared to the amounts            | 91  |
|    | allocated  |     |
| 62 | The spread of electronic payment services Iraq wide              | 93  |
| 63 | The spread of electronic payment services to the population      | 94  |
| 64 | The percentage of adults who have bank accounts in some Arab     | 95  |
|    | countries  |     |
| 65 | Some factors that hinder opening accounts in some Arab           | 96  |
|    | countries  |     |
| 66 | The percentage of females and males who are account holder in    | 97  |
|    | some Arab countries  |     |
| 67 | The percentage of adults who use the electronic payment method   | 98  |
|    | to conduct financial transactions in some Arab countries         |     |
| 68 | Market share of mobile payments for the year 2018                | 99  |
| 69 | Banking depth for period (2019 – 2016)                           | 100 |
| 70 | The aggregate index of financial inclusion in Iraq               | 101 |

## **List of Frameworks**

| Sequence | Framework title   | Page<br>No. |
|----------|---|-------------|
| 1        | Measurement steps of the aggregate index of banking stability in Iraq | 48          |

## **List of Diagrams**

| Sequence | Frame title  | Page |
|----------|--|------|
|          |  | No.  |
| 1        | Phases of the Central Bank of Iraq's action to exit the follow-up zone                                   | 74   |
| 2        | The most important regulations issued by the Central Bank to the financial institutions                  | 75   |
| 3        | The most important regulations issued by the Central Bank to regulate the work of financial institutions | 76   |

#### **Introduction**

The Iraqi Central Bank is pleased to present the ninth financial stability report for the year 2018 to the authorities concerned with the Iraqi financial system, researchers and the general public. The main objective of the report is to diagnose the systemic financial risks that the Iraqi financial sector may be exposed to, and to analyze the most important trends of the financial and banking indices to ensure a sound and stable financial sector.

The Financial Stability Report for the year 2018 includes a number of important subjects, which are: Analyzing the financial sector developments, analyzing the financial soundness indices of the banking system, the aggregate indicator measurement of banking stability, analyzing the results of the macro stress tests, analyzing the developments in the infrastructure of the financial system in addition to analyzing the developments of financial inclusion and the aggregate index measurement of financial inclusion.

The financial stability is considered one of the main goals to be achieved and maintained that have been provided for in article (3) of the Central Bank of Iraq Law No. (56) of 2004, and it is one of the main goals for each Central Banks together with the stability of the prices level and the exchange rate to ensure an effective performance of all the economic units towards achieving a sustainable economic development. This prompted central banks in the world to give greater importance in ensuring the soundness and durability and stability of their financial systems, and that is embodied in the preparation of periodic reports of financial stability.

The Central Bank of Iraq has given the subject of achieving financial stability increasing attention, and it stems from its responsibility to ensure a sound and stable financial system, maintain it, and minimize the potential risks after forecasting, and this is what encourages the Central Bank of Iraq to make the financial stability its first goal within its declared strategy for the period (2016 - 2020).

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

#### **The Summary**

The Central Bank of Iraq continues to monitor and analyze the changes in the financial system; being the authority responsible for the soundness and stability of this system. The issuance of the financial stability report for this year is part of the work of the Central Bank of Iraq to achieve and enhance the financial stability of financial and banking institutions, and the financial statements for the year 2018 have been adopted. The following is a summary of this report:

The banking system in Iraq consists of (71) bank as in 2018, including (7) government banks and (64) domestic and foreign private banks and the largest number therefrom are commercial banks and they are (40) banks, following by (25) Islamic banks then (3) specialized banks. The size of the banking system assets increased from (111.2) trillion dinar in 2017 to (122.9) trillion dinar in 2018, with an increase rate of (10.5%) and that the ratio of the assets of the five largest banks amounted to (76.4%) of the total assets, and the rest is in the share of the other banks. The concentration level of the assets of the five largest banks, according to (Herfindahl – Hirschman) index is (1873.76) point in 2018 and this indicates to a moderate concentration level in the banking system assets.

The banking sector deposits increased from (67) trillion dinars in 2017 to (76.89) trillion dinars in 2018, and the reason for this increase is the continued improvement in the economic conditions in 2018.

Also, the banks' capital increased by an average of (4.50%) in 2018 to reach (15.1) trillion dinars, after it was (14.4) trillion dinars in 2017 due to the establishment of new Islamic banks, and the transformation of the activities of some financial money transfer companies into Islamic banks.

Cash credit increased from (37,180) billion dinars in 2017 to (38.48) billion dinars in 2018, while pledged credit decreased from (27,651) billion dinars in 2017 to (25,336) billion dinars in 2018, with a decrease rate of (-8%) so its relative importance reduces to total macro credit from (42.15%) in 2017 to (39.7%) in 2018.

As for the volume of the overdue debts, it increased significantly from (4.3) trillion dinars in 2017 to (4.8) trillion dinars in 2018, and by an increase of (12.43%), and this reflects an increase in the rate of delay in the repayment of loans due for the year 2018. The rate of overdue debt growth varies over the period (2013 – 2018) and that the ratio of total overdue debt to total cash credit is on the increase during the period (2013-2018). This percentage has increased from (11.44%) in 2017 to (12.68%) in 2018, which reflects an increase in the risks faced by the banking system, especially the risks resulting from private sector activity although it received a lower percentage of the total credit compared to the credit provided to the public sector.

The data and statistics mentioned in the report of the Iraq Stock Exchange for the year 2018 indicate that the market has been characterized by a decrease in the performance of its annual indices, as the market index (IS 60) (an index that mainly depends on choosing (60) companies achieving the highest turnover of the shares of the participating companies) closed in its last sessions of 2018, on (510.12) points, a decrease of (12.1%) from its level in the last session of 2017 of (580.54) points and this is due to several reasons including the failure of some companies to hold their annual meeting and the others fail to distribute the profits to shareholders, as well as achieving a loss for others.

The analysis of financial soundness indices showed that the capital adequacy ratio for the banking system in general increased from (181%) in 2017 to (285%) in 2018, and these high ratio reflect a good adequacy and financial ability of banks operating in Iraq to help them face potential risks, as it significantly exceeds the standard ratio set according to the Basel standards, which is (8%) and also the one determined by the Central Bank of Iraq, which is (12%). The banks operating in Iraq also achieved a high liquidity rate, as the monthly average of the LCR ratio did not fall below the limit set for it during the year 2018, and it reached its highest rate in the month of April (which is 3309%), whereas the lowest rate for the LCR rate was in September where it was (406%).

As for the ratio of net stable financing of the banking system in Iraq, it recorded high rates in all seasons of 2018, amounting to (579%), (348%), (320%) and (318%), respectively and this indicates that banks have available financing greater than the required financing. The Iraqi banking system has high levels of liquidity according to other indices, as the liquidity ratios range between the highest liquidity ratio which is (102.2%) according to the liquid assets index to short-term liabilities, and between the lowest average liquidity ratio recorded for the year 2018, amounted to (46.1%) according to the liquid assets index to total assets of the banking system. While the cash credit ratio to deposits reached (50%) in 2018 is lower than in 2017, when it reached (56.6%), as a result of the growth of deposits at a rate greater than the rate of cash credit growth, this has led to the widening of the financing gap, which has increased from (-67.7%) in 2001 to 99.8%) in 2018. As for the ratio of non-performing loans / total assets, it increased from (3.90%) in 2017 to (3.95%) in 2018 to reflect the huge assets of the Iraqi banking system. As for the ratio of non-performing loans to capital, it increased in 2018 to (32.4%) compared to the same ratio in 2017 which amounted to (30.3%), and the ratio of return on assets has decreased to (0.53%) in 2018 compared to its ratio amounted to (0.85%) at the end of 2017, due to the decrease in banks 'profits, as the net interest-bearing income in 2018 decreased by (-13.7%) from 2017; likewise, the non-interest bearing income decreased by a rate of - (18.1%) for the same period. As for the rate of return on equity, it decreased at the end of 2018 to (4.37%) compared to 2017, in which the ratio reached (9.2%), and the main reasons for the decrease in this ratio are a decrease in the value of income and an increase in the value of assets.

The bank stability index increased from (0.301) points in the fourth quarter of 2017 to (0.340) points in the fourth quarter of 2018 and with an increase rate of (13.1%) thus, it is not expected that the banking system in general will be exposed to short-term crises.

The reason for the rise in the banking stability index is the rise in each of (the capital adequacy index, the banking concentrations index, the foreign bank risk index, and the quality of the assets index), as the rise in the first and second indices reflects a decrease in risk, while the increase in the other indices reflects a higher risk and the positive effect of the first and second indices measured by growth rate was (124.6%), while the negative impact of the third and fourth indices measured by the growth rate was (92.4%), which left a positive impact on the banking stability index in Iraq.

And according to the base scenario in the statistical model of the stress tests, Nonperforming Loans predicted ratio increased by from (% 12.424) in the first quarter of 2019 to (%13.249) in the fourth quarter of 2019, and the results showed a slight rise in the non-performing debt ratio as a result of negative shocks of the GDP growth rate and this slight decrease is due to the decrease in the ratio of banking depth in Iraq, which is considered an indication of the extent to which the banking sector contributes to the financing of real activity and hence, its decrease reflects the weak relationship between the banking sector and the real sector. As for international oil prices, it has shown a positive and statistically insignificant relationship on the Non-Performing Loans ratio and this is opposite of the expected, and this may be due to the government's ability to absorb the shock of the decline in international oil prices and to keep public spending level without major change and this is confirmed by the low oil prices crisis after 2014 and it is expected that the decline in the rate of growth of government spending will lead to an increase in the bad debts ratio but the relationship was direct and moral, as the rate of growth of government spending was accompanied by a decrease in the rate of growth of Non-Performing Loans for all seasons of 2019, and that the steady trend of this relationship may be due to the weak impact of government spending by the economic crises, especially the current spending thereof, as the government often keeps the current spending level, and provide alternative sources of financing in the event of low primary sources, but the length of the duration of the crisis could lead to the depletion of alternative funding sources, which may make the fiscal policy hampering the efforts of financial or banking stability therefore, additional financial buffers must be built to cope with crises as they occur and help reduce the transfer of the effects of fiscal policy to financial stability.

In connection with the development of the financial infrastructure as an essential element in support of financial stability, the Central Bank of Iraq issued a number of controls and instructions, including (regulations of Islamic financing tools, regulations of risk management in Islamic banks, regulations of the Shari'a Supervisory Board and Shari'a Auditing, regulations of the capital adequacy standard in accordance with Basel III requirements for conventional banks, instructions for Business Continuity Management System in the Iraqi banking sector, according to the International Standard ISO 22401, regulations governing the brokerage firms' for buying and selling of foreign currencies and instructions for the work of sub- agents for foreign remittance service providers).

The development of the Iraqi payments system is one of the priorities in the Central Bank of Iraq's policy for the development of the banking sector and the provision of the best banking services especially in the field of e-banking and settlement of payments and that the central bank's work continues to improve the payments system. In 2018, several measures were taken to develop payment systems, with the aim of achieving stability in the financial and monetary system, including (expanding the participation in the IRPSI, connecting comprehensive banking systems, providing guarantees for remittances through the payments system, developing the Central Securities Depository (CSD), strengthening the role of supervision and oversight and updating the systems).

And the Central Bank of Iraq is concerned with enhancing the level of financial inclusion and raising the level of financial services delivery for all segments of society, and in all regions of Iraq, while working to raise the level of quality of services provided. And the Central Bank of Iraq worked on increasing citizens awareness on subjects of financial inclusion through conducting workshops and seminars and using various media in addition, the Central Bank of Iraq has launched two initiatives to promote financial inclusion, namely (the Small and Medium Enterprises Financing Initiative and the Large Projects Financing Initiative), and the financial inclusion indicators have been analyzed and they are the index level of access to financial services, and the banking intensity and banking spread index. As for the banking intensity, it reached (44.16) in 2018, and it is higher than 2017, when it was (44.05), while the banking spread reached (2.26) in 2018 after it was (2.27) in 2017, and the aggregate index of financial inclusion in Iraq increased from 20% in 2017 to 22% in 2018, which reflects the success of the Central Bank of Iraq policy in achieving financial inclusion.

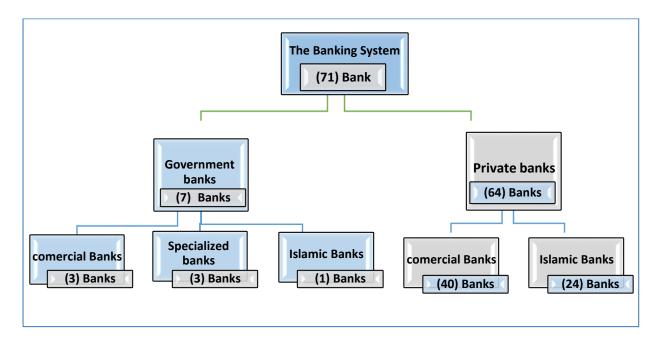
## Financial Sector Developments in Iraq

#### 1. Financial Sector Developments in Iraq

#### 1-1 Banking sector development in Iraq

The banking system in Iraq consists of (71) bank as in 2018, including (7) government banks and (64) domestic and foreign private banks and the largest number therefrom are commercial banks and they are (40) banks, following by (25) Islamic banks then (3) specialized banks as shown in figure (1).

Figure (1)
The structure of the Iraqi banking system as in 2018



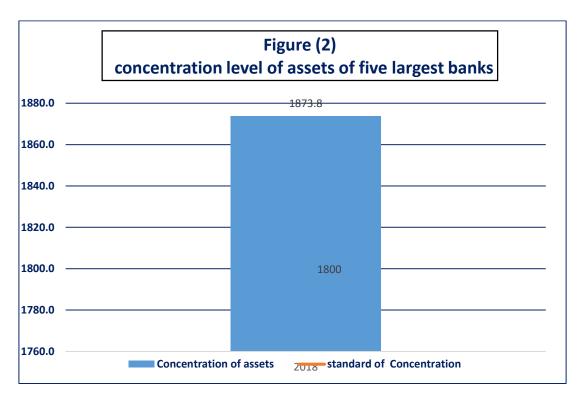
Source: Central Bank of Iraq, Department of Statistics and Research

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

The size of the banking system assets increased from (111.2) trillion dinars in 2017 to (122.9) trillion dinars in 2018 with an increase rate (10.5%), and despite the increase in the number of banks in Iraq to (71) banks, the proportion of the assets of the five largest banks has reached (76.4%) 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.

<sup>&</sup>lt;sup>1</sup> The assets were recalculated according to new international standards, starting in January 2012

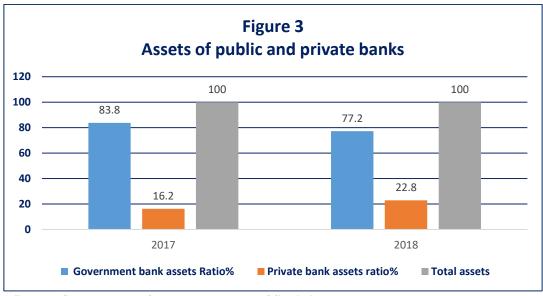
The concentration level of the assets of the five largest banks, according to (Herfindahl – Hirschman) index <sup>1</sup> is (1873.76) point in 2018 as shown in figure (2) and this indicates to a moderate concentration level in the banking system assets, as the low concentration index means an increase in the level of competition between banks, as well as the possibility of a decrease in this level in the future if other banks adopt financial technology tools by providing new financial services and products.



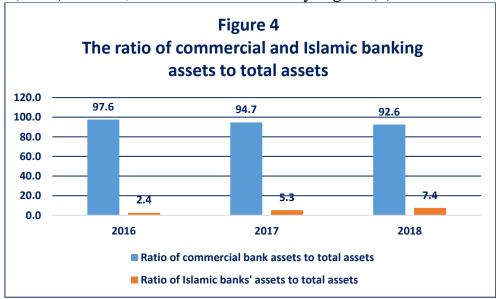
Source: Central Bank of Iraq, Department of Statistics and Research

The statements also show a decline in the ratio of government bank assets to total assets and the rise in private bank assets during the period (2017-2018), which is a good indicator that reflects the improvement in the level of competition between private and government banks, and this is illustrated by Figure (3).

<sup>1-</sup> 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= $\Sigma$ si²) where (si) represents the relative importance (market share) of the variable.

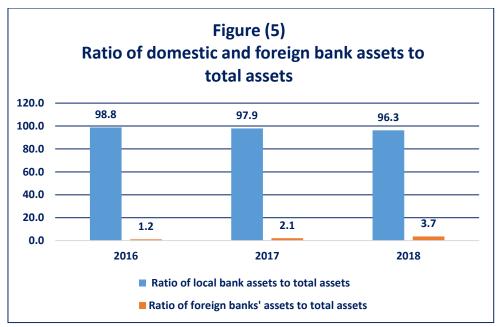


As for the assets in terms of the type of banks, both conventional and Islamic, the conventional banks accounted for the largest percentage of total assets, they reached (92.6%) in 2018, and this is a result of the long history of conventional banks in comparison with newly created Islamic banks, but 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

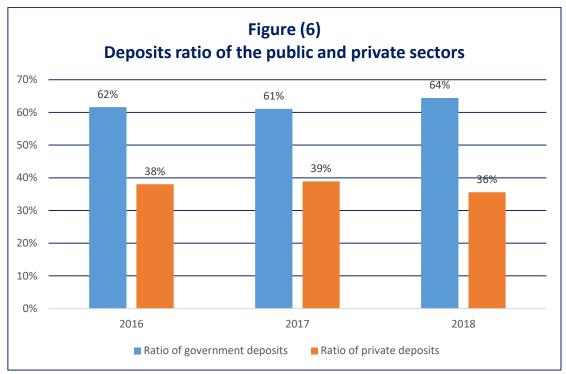
Although the ratio of foreign banks assets to total assets of the banking sector increased from (1.2%) in 2016 to (3.7%) in 2018, this situation reflects the weak contribution of foreign banks in banking activity, as shown in Figure (5).



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

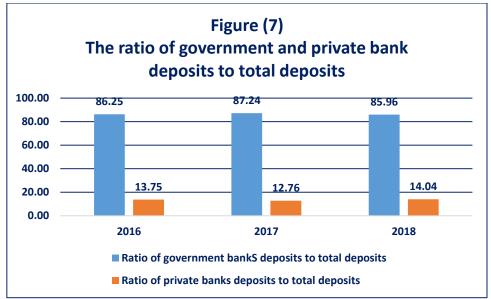
The banking sector deposits increased from (67) trillion dinars in 2017 to (76.89) trillion dinars in 2018 with an increase of (14.76%), and the reason for this increase is the continued improvement in the economic conditions in 2018. This improvement was reflected in the increase in government and private deposits, as government deposits, which constitute (64%) of total deposits in banks in 2018, increased from (40.95) trillion dinars in 2017 to (49.52) trillion dinars in 2018, and with a growth rate of (20.93%), while private sector deposits, which constitute (36%) of total bank deposits in 2018, increased from (26.09) trillion dinars in 2017 to (27.36) trillion dinars in 2018, with a growth rate (4.87%), as a result of the reflection of the improved economic situation in the rise average per capita GDP of (6.10) million dinars in 2017 to (6.60) million dinars in 2018<sup>1</sup>. And as a result of the increase in the share of government deposits in the total deposits of the Iraqi banking system from (61%) in 2017 to (64%) in 2018, this has led to an increase in the difference between the percentage of deposits for the public and private sector, as in Figure (6).

<sup>1</sup> Ministry of Planning, Central Statistical Organization

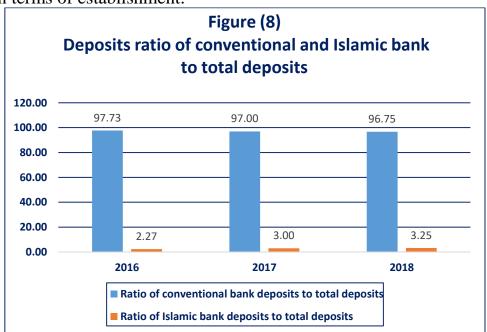


And if the banks are classified according to their type, they will be classified into three different groups, the first includes government and private banks, the second includes conventional and Islamic banks, and the third includes domestic and foreign banks, then the distribution of deposits between 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 (85.96%) in 2018, despite the fact that their number represents (9.9%) of the number of banks, while the share of private banks was (14.04%) of total deposits for 2018. 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 (61.4%), while the share of branches of private banks is (38.6%) for the year 2018. Figure (7) shows the ratio of deposits of government and private banks for the period (2016 - 2018).



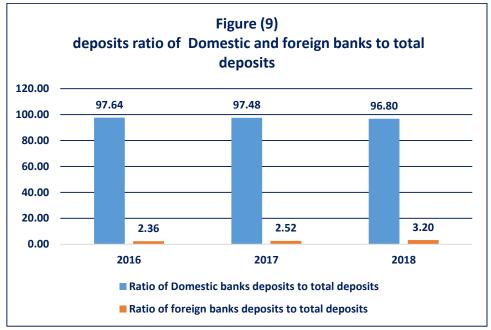
As for the second group represented by the share of deposits of conventional and Islamic banks separately to total deposits, the conventional banks accounted for the highest percentage of them, as their share reached (96.75%) in 2018, while the share of Islamic banks reached (3.25%) for the same year (Figure 8) and this reflects a limited role for Islamic banks in attracting deposits, as well as an increase in the number of conventional banks compared to Islamic ones, as they represent (64.8%) of the total number of banks, also due to the fact that the conventional banks, especially governmental ones has preceded the Islamic banks in terms of establishment.



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

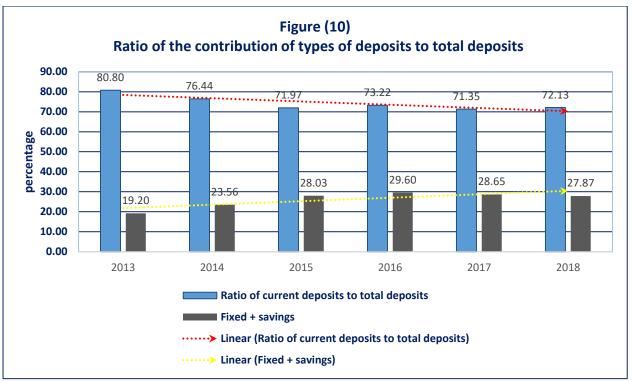
While the third group represented by the share of deposits of domestic and foreign banks separately to total deposits, deposits of domestic banks acquired the largest share of deposits as it reached (96.80%) while the share of deposits of foreign

banks to total banks reached (3.20%) for the year 2018 although the number of foreign banks represents (22.5%) of the total number of banks, Figure (9) shows these ratios.

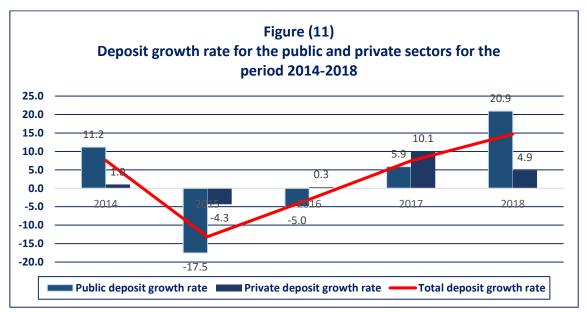


Source: Central Bank of Iraq, Department of Statistics and Research

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 (71.3%) in 2017 to (72.1%) in 2018, while the contribution rate of both fixed and savings deposits decreased from (12.87%) and (15.78%) in 2017 to (12.56%) and (15.31%) in 2018, respectively. The high contribution of current deposits compared to fixed deposits and savings deposits limits the ability of banks to expand granting credits, especially long-term credit that is often used in financing development projects, but the general trend of the data of these variables indicates a narrowing gap between current deposits on the one hand, fixed deposits and savings deposits on the other hand in favor of the latter, and this is a good indicator that contributes to increasing depth and financial stability in Iraq, and Figure (10) shows the types of deposits with commercial banks.



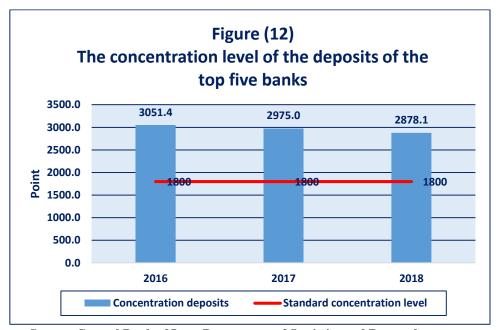
In 2018, public sector deposits achieved a growth rate of (20.936%), while the private sector deposits achieved a growth rate of (4.871%), so that the total growth rate of total deposits is (14,684%) and this is due to the improvement of economic conditions and high oil prices. Figure (11) shows the growth rates for public and private sector deposits.



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

The concentration level of the deposits of the five largest banks, according to (Herfindahl – Hirschman) index is (2878.137) point on 2018 and this indicates to a slightly high concentration level, where it is decreased from 2017 that recorded

(2975.034) point with a decrease rate of (-3.25%) and this is an indication of the low concentration of deposits of the five largest banks. However, the concentration remains within the slightly high limits of the five largest banks as a result of public confidence in them is due to the fact that they are affiliated with the public sector, and therefore they are guaranteed by the state, thus the high concentrations in them are not a real danger, as it is unlikely that these banks will refrain from fulfilling their obligations in case depositors withdraw their deposits. Figure (12) shows the concentration of deposits for the five largest banks.

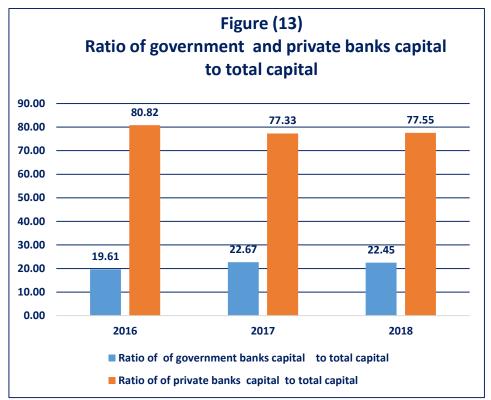


Source: Central Bank of Iraq, Department of Statistics and Research

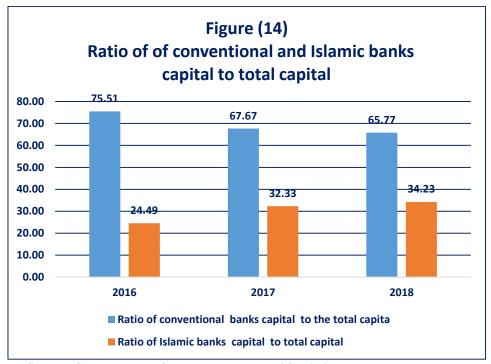
#### 1-1-3 Banking sector capital:

Banks capital increased by (4.50%) in 2018 to reach (15.1) trillion dinars, after it was (14.4) trillion dinars in 2017. 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:

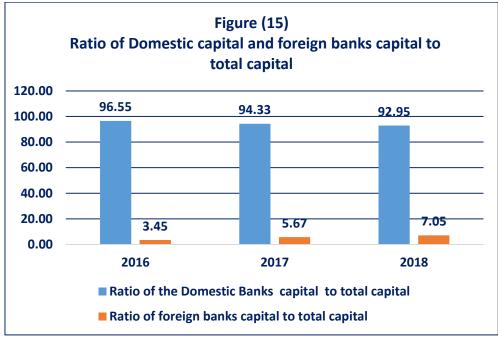
Regarding the first group, the ratio of the capital of private banks formed the highest percentage to total capital, reaching (77.55%) in 2018, while the share of government banks was (22.45%), as a result of the increase in the number of private banks compared to government banks, in addition to the 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.



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 (65.77%) in 2018, while the share of Islamic banks reached (34.23%) for the same year, which is proportional to the number of each of them in the banking system, as the number of conventional banks (64.8%) out of the total number of banks, while the number of Islamic banks (35.2%) out of the total number of banks, and Figure (14) shows the contribution percentages for this group.



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)



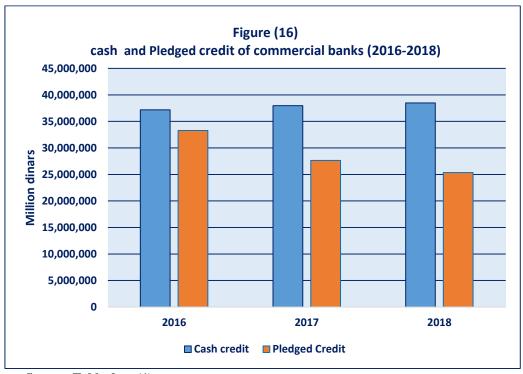
Source: Central Bank of Iraq, Department of Statistics and Research

#### 1-1-4 Bank Credit:

#### 1-1-4-1 Development of bank credit

The total credit provided by banks, which is represented by cash and pledged credit, witnessed a decrease of (2.17%) in 2018, and that this decrease occurred in the pledged credit, which decreased from (27.651) billion dinars in 2017 to (25.336) billion dinars in 2018 and at a rate of (-8.37%), where it relative importance to total overall credit will decrease from (42.15%) in 2017 to (39.7%) in 2018 and the rates of pledged credit granted to the central government, public institutions, and the private sector decreased by (-14.42%), (-4.14%), and (-10.54%) each, respectively.

As for cash credit, it increased from (37.180) billion dinars in 2017 to (38.48) billion dinars in 2018, at a growth rate of (1.4%), which led to an increase in its relative importance to total credit from (57.85%) in 2017 to (60.3%) in 2018. The cash credit granted to the central government and the private sector witnessed an increase in the rate of growth for each of them, respectively, to (38.27%) and (3.93%), while the cash credit granted to public institutions witnessed a decrease of (62.95-%), and Table (1) and Figure (16) show a noticeable decline in the pledged credit provided by banks in favor of cash credit for the period (2014-2018).



Source: Table data (1)

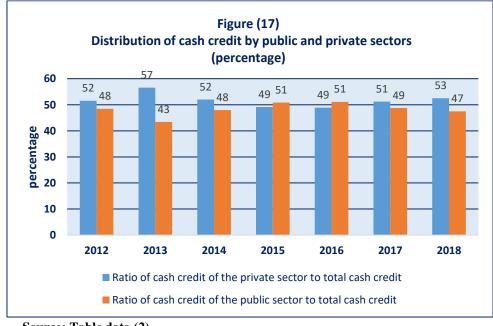
Table (1)
Cash credit and pledged credit for commercial banks for the period (2012-2018)
(Million dinar, growth rate, percentage)

| Year | Total<br>overall<br>credit | Overall<br>credit<br>growth<br>rate% | Cash credit | Growth rate% | Relative<br>importance<br>% | Pledged<br>credit | Growth rate% | Relative<br>importance<br>% |
|------|----------------------------|--------------------------------------|-------------|--------------|-----------------------------|-------------------|--------------|-----------------------------|
| 2012 | 72,612,878                 | 22.29                                | 28,438,688  | 39.79        | 39.16                       | 44,174,190        | 13.17        | 60.84                       |
| 2013 | 83,619,037                 | 15.16                                | 29,952,012  | 5.32         | 35.82                       | 53,667,025        | 21.49        | 64.18                       |
| 2014 | 85,031,460                 | 1.69                                 | 34,123,067  | 13.93        | 40.13                       | 50,908,393        | -5.14        | 59.87                       |
| 2015 | 77,285,840                 | -9.11                                | 36,752,686  | 7.71         | 47.55                       | 40,533,154        | -20.38       | 52.45                       |
| 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                       |

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

#### 1-1-4-2 Sectoral distribution of cash credit

The share of the private sector in cash credit increased from (51.25%) in 2017 to (52.53%) in 2018, while the share of the public sector in cash credit decreased from (48.75%) in 2017 to (47.47%) in 2018 as the cash credit granted to the public institutions decreased (which is financed exclusively by government banks) at a rate of (-62.95%), while the cash credit granted to the central government increased at a rate of (38.27%) 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: Table data (2)

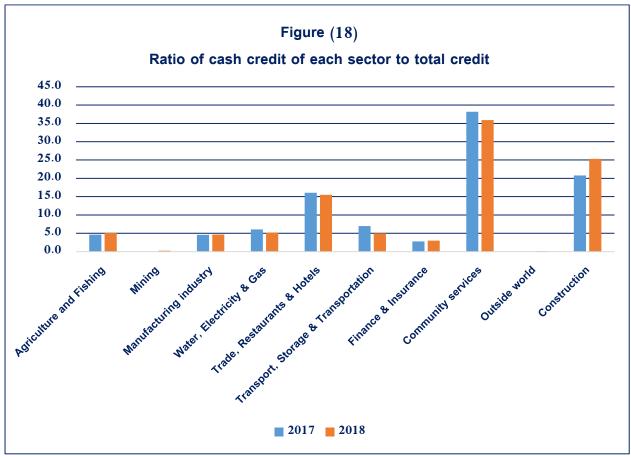
From Figure (17) it is clear that the gap between the private cash credit ratio and the public cash credit ratio continues to grow in favor of the former, and this is a good indication of the low impact of public sector competition with the private sector for obtaining cash credit.

On the other hand, the society services sector occupied the largest ratio of the total cash credit granted by banks despite the decrease of this ratio from (38.19%) in 2017 to (35.9%) in 2018 as shown in Table (2) and Figure (18) and this shows the control of the society services sector on the cash credit provided by banks. Although the society services sector has acquired the largest proportion of the amount of cash credit, it does not represent a threat to the stability of the banking system as long as the ratio of non-performing loans to the total credit granted to the society services sector is low and it reached (1.9%) in 2018, lower than 2017, when it reached (%) 2). The ratio of non-performing loans for this sector to total non-performing loans was (5.4%) lower than in 2017, when it reached (7.2%), which reflects a decrease in the risks of this sector to the banking system, and the society services sector is followed by both the construction and building sector (25.3%), higher than the previous year in which it reached (20.78%), and the trade, restaurants and hotels sector (15.5%). As for other sectors such as industry, agriculture, etc., they have obtained lower ratio of the total credit granted, and this indicates that Iraqi banks rely a lot on granting commercial and construction loans, given the collateral that these sectors can provide compared to other sectors. On the other hand, the nature of the real economic activity overwhelmed by these activities (building, construction, restaurants, hotels, and trade) and the limitations of other activities (industrial, agricultural, etc.) which contributed in the formation of the sectoral distribution map for bank credit.

 $Table\ (2)$  Sectoral distribution of cash credit by sector type for the period (2013 – 2018) (Percentage)

| Year | Agriculture & Fishing | Mining | Manufacturing<br>industry | Water, electricity and gas | Trade, restaurants and hotels | Transport, storage and transportation | Financing and insurance | Society<br>services | Outside world | Construction |
|------|-----------------------|--------|---------------------------|----------------------------|-------------------------------|---------------------------------------|-------------------------|---------------------|---------------|--------------|
| 2013 | 6.00                  | 0.00   | 5.50                      | 0.40                       | 16.20                         | 8.10                                  | 2.30                    | 34.90               | 0.70          | 25.90        |
| 2014 | 5.70                  | 0.10   | 5.80                      | 2.80                       | 14.30                         | 6.30                                  | 3.10                    | 35.80               | 0.10          | 26.00        |
| 2015 | 5.50                  | 0.00   | 6.50                      | 2.20                       | 14.20                         | 5.90                                  | 3.60                    | 38.90               | 0.10          | 22.80        |
| 2016 | 5.72                  | 0.00   | 5.00                      | 3.93                       | 15.2                          | 7.46                                  | 2.26                    | 39.02               | 0.08          | 21.30        |
| 2017 | 4.59                  | 0.00   | 4.56                      | 6.04                       | 16.07                         | 6.96                                  | 2.76                    | 38.19               | 0.00          | 20.78        |
| 2018 | 5.1                   | 0.2    | 4.6                       | 5.2                        | 15.5                          | 5.0                                   | 3.0                     | 35.9                | 0.1           | 25.3         |

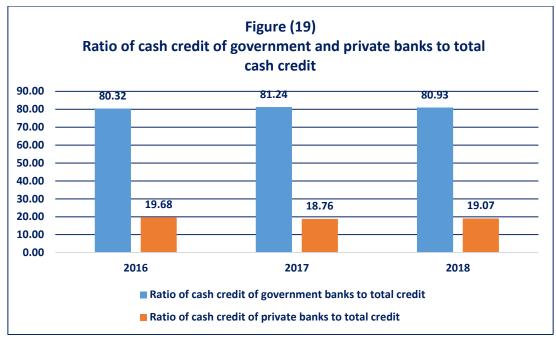
Source: Central Bank of Iraq, Department of Statistics and Research



Source: Table data (2)

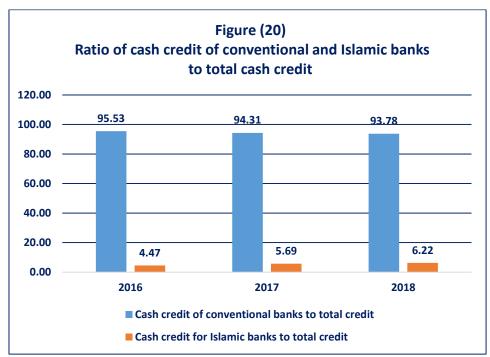
And if the banks are classified according to their type, they will be classified into three different groups, the first includes government and private banks, the second includes conventional and Islamic banks, and the third includes domestic and foreign banks, and the distribution of cash credit between 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 (80.93%) in 2018, while the share of private banks was (19.07%) for the same year, and despite the fact that the number of government banks constitutes only (9.9%) of the total number of banks, its acquisition of (85.96%) 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.

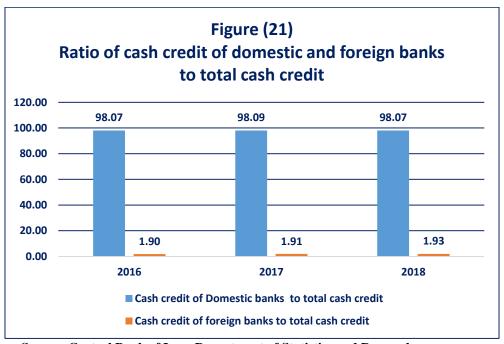
As for the second group represented by the share of cash credit for conventional and Islamic banks separately to the total cash credit, the conventional banks acquired the higher share of it, as their contribution share reached (93.78%) in 2018, while the share of Islamic banks reached (6.22%) for the same year and Figure (20) shows this ratio for the period (2016 - 2018).



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).

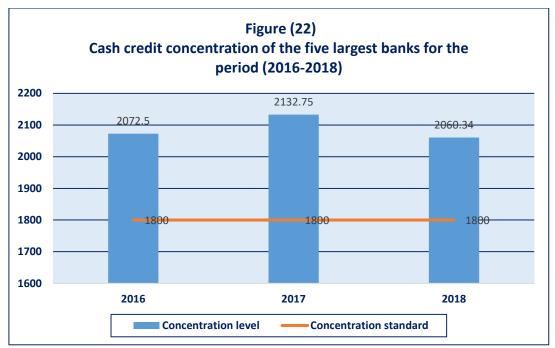


Source: Central Bank of Iraq, Department of Statistics and Research

#### 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%) 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 2018 reached (2060.34) points, lower by (72.41) point from the year 2017 that was (2132.75) 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: the Central Bank of Iraq, Department of Statistics and Research

## 1-1-4-5 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  $(10)^{-1}$ ,

this 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 <sup>2</sup>.

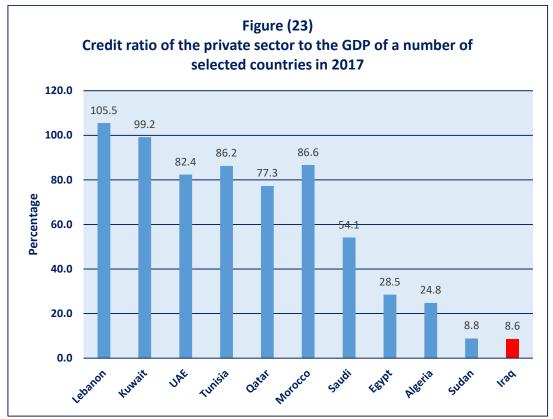
The banking depth <sup>3</sup> is still low in Iraq, whether measured with GDP with oil or without oil, it reached in 2018 (8.1%) with oil GDP and (15.2%) with non-oil GDP, which is also low compared to a number of Arab countries, as in 2017, shown in Figure (23), where Iraq ranked last in the list and 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.

GDP

<sup>&</sup>lt;sup>1</sup> Bank for International Settlements, **Guidance for National Authorities Operating the Countercyclical Capital Buffer**, December 2010, p13.

<sup>2</sup> For more information see the Financial Stability Report 2017

<sup>3</sup> **Banking depth**= credit for private sector



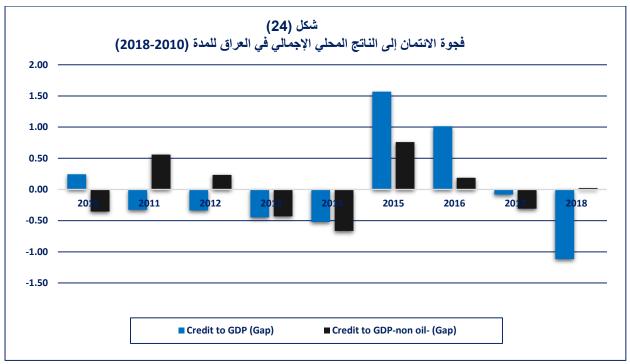
Source: Central Bank of Iraq, Department of Statistics and Research World Bank, Financial Sector data: <a href="http://data.worldbank.org/topic/financial-sector">http://data.worldbank.org/topic/financial-sector</a>

Hodrick - Prescont (HP) Filter method suggested by (BCBS) is used in calculating Credit to GDP Gap <sup>1</sup> 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 <sup>2</sup> that must be met when granting credit to the various economic sectors.

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

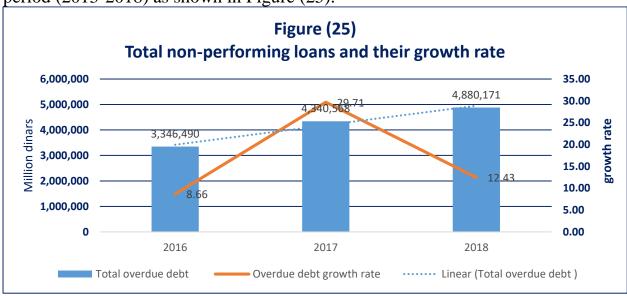
<sup>2</sup> For example 5Cs standards that include Character, Capacity, Capital, Collateral and Conditions



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

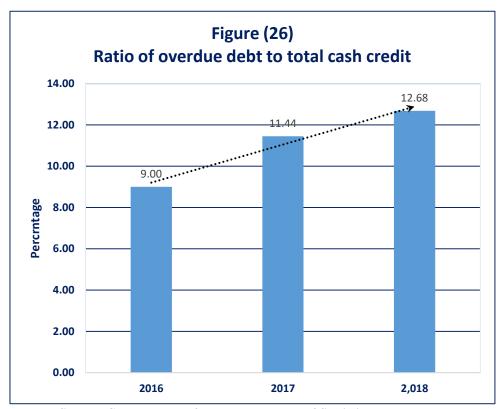
### 1-1-4-6 Overdue Debts

The volume of overdue debts increased significantly from (4.3) trillion dinars in 2017 to (4.8) trillion dinars in 2018, and with an increase of (12.43%), and this reflects an increase in the rate of delay in the repayment of loans due for 2018, in addition to the fact that the rate of overdue debt growth has varied during the period (2013-2018) as shown in Figure (25).



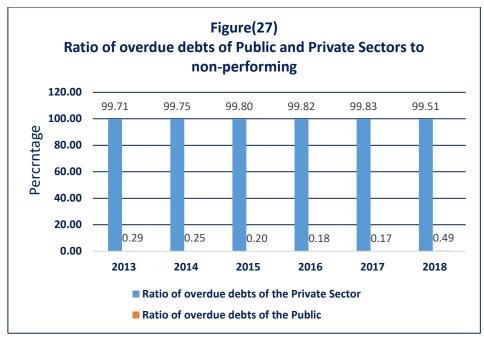
Source: Central Bank of Iraq, Department of Statistics and Research

The ratio of total overdue debts to total cash credit is in a steady increase during the period (2016-2018) and this percentage has increased from (11.44%) in 2017 to (12.68%) in 2018, which reflects an increase in the risks facing the Banking System, especially the risks arising from private sector activity despite having a lower ratio of total credit (Figure 26).



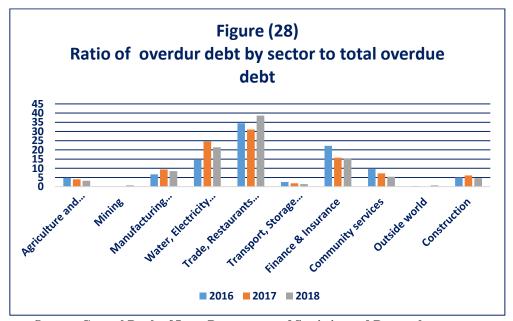
Source: Central Bank of Iraq, Department of Statistics and Research

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 in 2018, as it reached (99.51%), and this requires more attention by the monetary authorities for the subject of credit provided to the private sector, as (25.6%) of the loans provided by government banks to the private sector, and (21%) are overdue debts in 2018 and these ratios have risen from those in 2017 when they were (25.27%) and (16.2) for the two ratios respectively, and this requires banks to study the creditworthiness of the customer well, especially the five main components of granting credit.



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

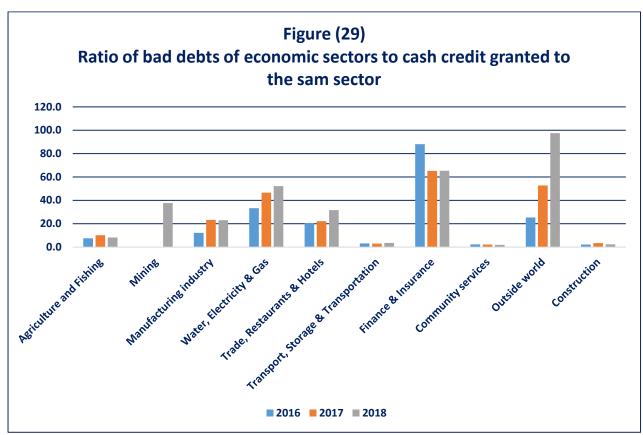
Figure (28) shows the ratios of non-performing of the economic sectors, and the ratios were different for each sector, while the foreign trade sector continued to become first in 2018 with a non-performing ratio (38.60%), the water, electricity and gas sectors came second, and the finance and insurance sector came third. 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 an increase in its ratio in some sectors and a decrease in others, as Figure (29) reveals that the external world sector is considered the most risky, followed by the finance and insurance sector and the water, electricity and gas sector, as for Society services, despite its acquisition of the largest proportion

of cash credit, but it is low-risk, and the construction sector is one of the low-risk sectors due to the required collateral required for granting housing loans represented by the guarantee of the house or real estate of all kinds, in addition to the fact that the property prices have not fallen during the period (2016 - 2018).



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 2018 indicate that the market has been characterized by deterioration in the performance of its annual indicators, 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 2018, on (510.12) points, a decrease of (12.1%) from its level in the last session of 2017 of (580.54) points, the trading indicators in shares of joint-stock companies for the year 2018 were not better than in 2017, as a result of being affected by a set of negative factors, including the holding of (80) companies meetings of their corporate bodies during 2018 and (24) companies did not hold their annual meeting and only (33) of them acknowledged dividends to shareholders, and the poor operating performance of some companies also led to (25) companies achieving annual deficit and financial losses, as this weakness was reflected in the form of increased supply of their shares and lower prices in trading, in addition to some companies exceeding the legal period of annual disclosure, then the trading of its shares were stopped and their prices were declining, then their indices contracted due to its exit from trading for several months (35 companies were suspended due to the failure to submit the annual disclosure and 17 companies due to the failure to provide the quarterly disclosure during 2018, as well as 4 banking companies were put under guardianship). The poor relationships of a number of joint-stock companies with their shareholders and with potential investors lead to attract new investments and maintain existing investments.

The failure to approve a number of investment incentives, such as the rules of investment funds and Investment Portfolio Management and the Instructions for international certificates of deposit (Global Depository Receipts) for Iraqi shares and instructions to allow the shareholding company wishing to buy proportions of its shares when their prices are low was one of the reasons that led to the decline of the index (ISX 60) in addition to the absence of the role of the Global Custody and its role in attracting international investments, as the Iraq Stock Exchange is the only emerging market in the world in which the Global Custody did not start its activity in it <sup>1</sup>, as well as the nature of the structure of the Iraqi economy, the economic culture of society and the size of its investment in the stock market, all of which are factors helped to decrease the performance of the Iraq stock exchange.

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 (48.2%, 31.5%, 0.4%, 11.4%, and 5%) respectively for the year 2018, while the index of each of (market value, number of listed shares, and number of listed

<sup>1</sup> Iraq Stock Exchange, Annual Report for 2018, p. 19

companies) has increased by (5.9%, 5.1% and 3%) 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 (376.8) billion shares during 2018, down by (67.6%) from 2017 amounted to (631.4) billion shares, and the banking sector companies ranked first with (333.5) billion shares decreasing at a rate of (79.4%) from that on 2017 of (598.5) billion shares, while the value of trading for all companies declined during 2018 to (232.6) billion dinars, down (66.3%) from their value for 2017 of (386.9) billion dinar and the trading value of the banking sector companies formed (127.3) billion dinars for the year 2018, which decreased by (140.1%) from its value in 2017, amounting to (305.8) billion dinars.

The total number of contracts executed during 2018 decreased to (87512.0) contracts for all economic sectors, declining by (8.5%) from the year 2017 of (94,994) contracts, and the number of contracts in the banking sector reached (33364.0) contracts ranked first for the year 2018 from the rest of Participating sectors, down by (40.5%) from 2017, which amounted to (46,890) contracts, as shown in Table (3).

Table (3)
Number of shares, value of shares traded, number of contracts and sessions in the regular market for the years (2017 –2018)
(Million dinar, Percentage)

| Sectors                      | No. shares traded (million share) |          | Value of trades (million<br>dinar) |          |          | No. contracts executed |         |         |                  |
|------------------------------|-----------------------------------|----------|------------------------------------|----------|----------|------------------------|---------|---------|------------------|
|                              | 2017                              | 2018     | growth<br>rate%*                   | 2017     | 2018     | growth<br>rate%*       | 2017    | 2018    | growth<br>rate%* |
| Banking sector               | 598565.6                          | 333579.8 | -79.4                              | 305821.5 | 127372.7 | -140.1                 | 46890.0 | 33364.0 | -40.5            |
| telecommunications<br>sector | 3120.2                            | 2394.4   | -30.3                              | 17609.2  | 20374.9  | 13.6                   | 3712.0  | 2635.0  | -40.9            |
| Insurance sector             | 1358.5                            | 400.0    | -239.6                             | 1030.4   | 193.3    | -433.1                 | 1625.0  | 297.0   | -447.1           |
| Investment Sector            | 0.0                               | 0.0      | 0.0                                | 0.0      | 0.0      | 0.0                    | 1.0     | 1.0     | 0.0              |
| Services sector              | 4830.1                            | 3731.0   | -29.5                              | 8311.3   | 9046.0   | 8.1                    | 9940.0  | 7563.0  | -31.4            |
| Industry sector              | 21505.3                           | 34296.8  | 37.3                               | 37869.0  | 54852.5  | 31.0                   | 19821.0 | 30742.0 | 35.5             |
| Hotels and tourism sector    | 814.5                             | 785.8    | -3.7                               | 11269.1  | 12731.6  | 11.5                   | 6215.0  | 5923.0  | -4.9             |
| Agriculture Sector           | 1225.5                            | 1618.0   | 24.3                               | 4963.3   | 8109.8   | 38.8                   | 6700.0  | 7006.0  | 4.4              |
| Total                        | 631420.1                          | 376806.3 | -67.6                              | 386879.0 | 232681.1 | -66.3                  | 94994.0 | 87512.0 | -8.5             |
| No. Sessions                 | 239.0                             | 238.0    | -0.4                               | 239.0    | 238.0    | -0.4                   | 239.0   | 238.0   | -0.4             |

Source: Iraq Stock Exchange Annual Report for 2017 and 2018

\*Annual growth rate between 2017 and 2018

As for the net foreign investment in the regular market, it increased in 2018 to (18766.9) million dinars, while in 2017 it reached (-5089.3) million dinars.

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

Table (4)
Net foreign investment in the regular market for 2017 and 201

|                    | The value of foreigners trading (million dinars) |            |             |         |            |             |  |  |  |
|--------------------|--|------------|-------------|---------|------------|-------------|--|--|--|
| Sectors            |  | 2017       |             |         | 2018       |             |  |  |  |
|                    | Foreign  | Foreigners | Net foreign | Foreign | Foreigners | Net foreign |  |  |  |
|                    | buying   | selling    | investment  | buying  | selling    | investment  |  |  |  |
| Banking sector     | 26056.3  | 20042.1    | 6014.2      | 9306.1  | 11844.4    | -2538.3     |  |  |  |
| telecommunications |  |            |             |         |            |             |  |  |  |
| sector             | 1765.7   | 6608.7     | -4843       | 10806.5 | 805.6      | 10000.9     |  |  |  |
| Insurance sector   | 340.9  | 26.3       | 314.6       | 32.8    | 0.1        | 32.7        |  |  |  |
| Services sector    | 930.7  | 107.2      | 823.5       | 3445.9  | 2617.1     | 828.8       |  |  |  |
| Industry sector    | 10792.7  | 19695      | -8902.3     | 20478.1 | 11669.6    | 8808.5      |  |  |  |
| Hotels and tourism |  |            |             |         |            |             |  |  |  |
| sector             | 1590.8   | 80.9       | 1509.9      | 2520.6  | 874.6      | 1646        |  |  |  |
| Agriculture Sector | 2.9  | 8.5        | -5.6        | 1.2     | 12.9       | -11.7       |  |  |  |
| Total              | 41479.8  | 46569.1    | -5089.3     | 46591.5 | 27824.6    | 18766.9     |  |  |  |

Source: Iraq Stock Exchange Annual Report for 2017 and 2018

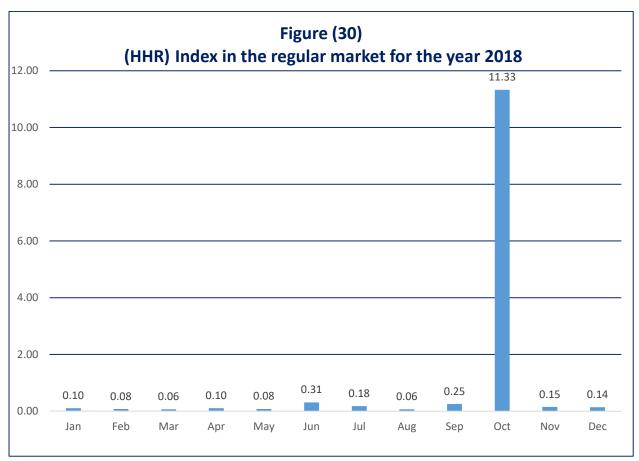
# 1-2-1-1 Depth and Resilience of Regular Market

The Depth and Resilience of Iraq Stock Exchange can be measured through Hui-Heubel Ratio (HHR) <sup>1</sup>, where the results indicate that the Iraq Stock Exchange in 2018 has witnessed fluctuation in the depth and resilience of the regular market were the Hui-Heubel Ratio (HHR) index recorded a high rate in October 2018 as a result of the decrease in the stock turnover rate for that month, as it reached (0.009), which led to an increase in the Hui-Heubel Ratio (HHR) index to (11.32). Thus, the decrease in the turnover rate affected the decrease in the depth and resilience of the regular market. 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 (0.062). 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.

Trade value/ market value

<sup>1</sup> 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 = higher price – lower price/ lower price



Source: Iraq Stock Exchange monthly (2016) statements published on the site: <a href="https://www.isx-iq.net">www.isx-iq.net</a>

### 1-2-2 Trading in the second market:

The number of shares traded in the second market witnessed a decrease in 2018 by (21.90%) as it decreased from (58.3) billion shares in 2017 to (45.5) billion shares in 2018, as well as a decrease in the value of trading in 2018 by (54.45%), it decreased from (51.3) billion dinars in 2017 to (23.3) billion dinars in 2018, and the banking sector had the largest share in terms of the number of shares and the value traded despite its decline from 2017. The second market witnessed the entry of the telecommunications sector, as a new sector to be invested in, as shown in Table (5).

Table (5)
Number of shares and value of trades in the second market for the years (2017 –2018)

| Sectors               | No. shares | traded (millio | on share) | Value of trades (million dinar) |           |         |  |
|-----------------------|------------|----------------|-----------|---------------------------------|-----------|---------|--|
|                       | 2017       | 2018           | growth    | 2017                            | 2018      | growth  |  |
|                       |            |                | rate%*    |                                 |           | rate%*  |  |
| Banking sector        | 470312.20  | 371060.20      | -21.10    | 43739.60                        | 169304.10 | 287.07  |  |
| telecommunications    | -          | 2071.10        |           | -                               | 6046.9    |         |  |
| sector                |            |                |           |                                 |           |         |  |
| Insurance sector      | 300.00     | 162.80         | -45.73    | 126.00                          | 80.00     | -36.51  |  |
| Investment Sector     | 768.10     | 29.30          | -96.19    | 173.80                          | 20.00     | -88.49  |  |
| Money transfer sector | 112231.70  | 82390.00       | -26.59    | 77933.20                        | 57397.20  | -26.35  |  |
| Services sector       | 24.00      | 106.00         | 341.67    | 14.20                           | 912.80    | 6328.17 |  |
| Industry sector       | 1.90       | 0.01           | -99.58    | 118.20                          | 0.50      | -99.58  |  |
| Hotels and tourism    | 21.90      | 4.70           | -78.54    | 169.80                          | 34.10     | -79.92  |  |
| sector                |            |                |           |                                 |           |         |  |
| Total                 | 583662.00  | 455824.50      | -21.90    | 513275.10                       | 233795.80 | -54.45  |  |

Source: Iraq Stock Exchange Annual Report for 2017 and 2018

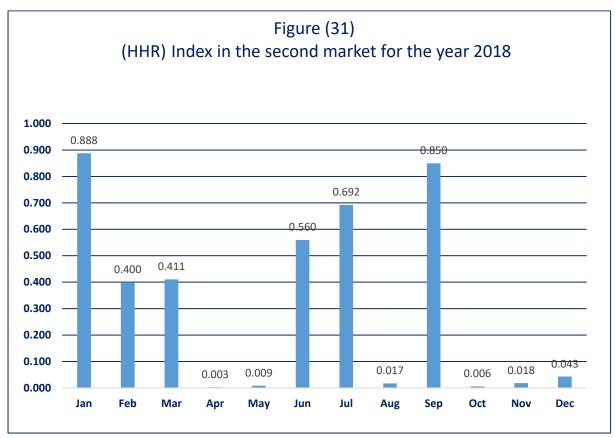
The year 2018 witnessed an increase in the number of shares sold from foreigners over shares purchased in the second market, which indicates an exit of foreign investors from it, and the number of traded shares purchased by non-Iraqis during the year 2018 reached (2.07) billion shares with a trading value of (6.04) billion dinars executed under (503) contracts belonging to (6) publicly traded companies out of (47) listed companies, compared to (20.6) billion shares with a trading value of (20.6) billion dinars in 2017 executed under (12) contracts belonging to (2) publicly traded companies out of (29) companies listed in the market, while the number of traded shares recorded (2.66) million shares with a trading value of (6.63) million dinars sold by non-Iraqis during the year 2018 executed under (530) contracts belonging to (6) traded companies out of (47) listed companies, compared to (0.11) one million shares with a trading value of (0.17) million dinars executed under (2) contracts belonging to (2) publicly traded companies out of (29) listed companies.

# 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 2018 but all the values of the index did not reach the integral one number, and the index recorded its lowest level in April, as the value of the index reached (0.003), as a result of the high turnover ratio of shares to (14.01).

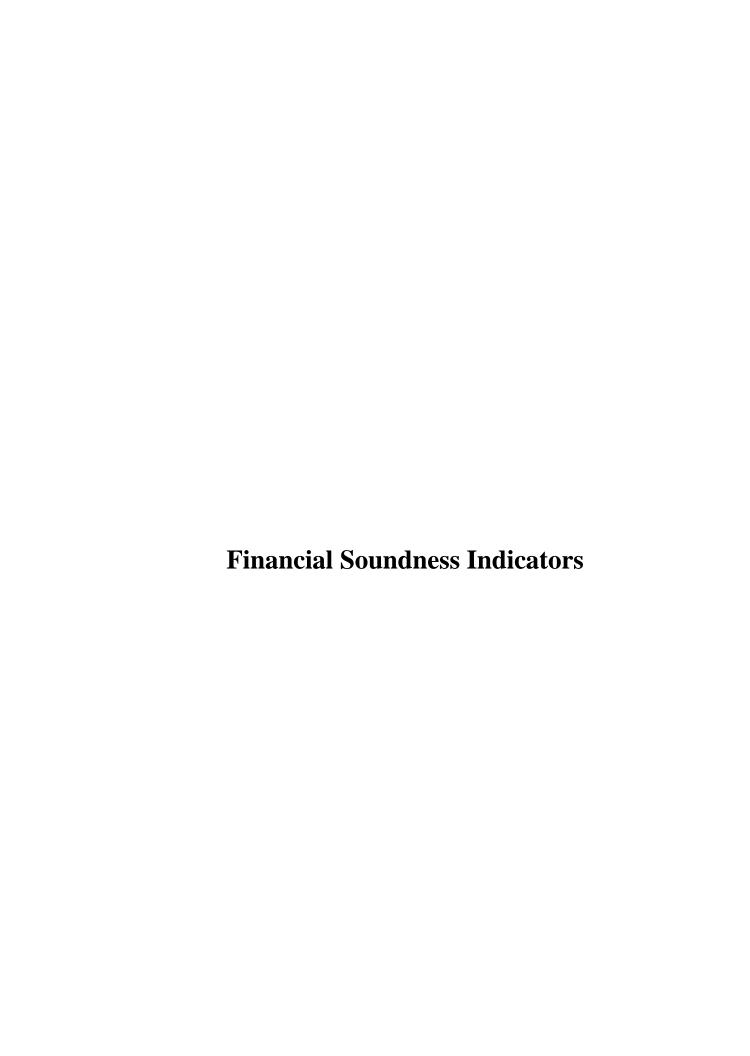
<sup>\*</sup>Annual growth rate between 2017 and 2018

While the highest value of the index was (0.888) for the month of January, which reflects the depth and resilience of the second market in the Iraq Stock Exchange for the year 2018, as shown in the Figure (31).



Source: Iraq Stock Exchange monthly statements published on the site: <a href="www.isx-iq.net">www.isx-iq.net</a>





## 2. Financial Soundness Indictors

# 2-1 Capital adequacy ratio index

The capital adequacy ratio index 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 increased from (181%) in 2017 to (285%) in 2018, which is a very high rate that 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 <u>Basel II standard</u>, it reached (43%) in 2018 higher by (13.2%) from its ratio in 2017 which recorded (38%) as shown in Figure (32), and this is due to the decrease in the risk-weighted assets on and off the budget, in contrast to the increase in the capital of banks, and 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%).

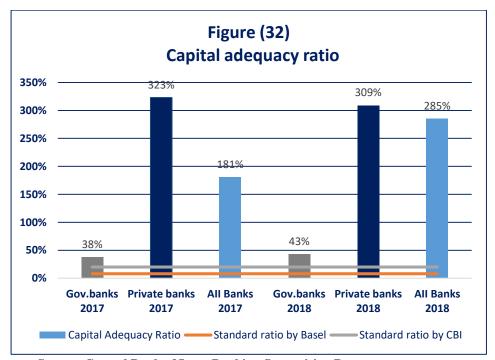
And the capital adequacy ratio for private banks according to the Basel II standard was (309%) in 2018, it recorded a slight decrease from the year 2017, when it reached (323%), although this ratio, despite its decrease slightly from the previous year, is a very high ratio that exceeds significantly the ratio specified by Basel standard amounting (8%), as well as the specified by the Central Bank of Iraq amounting (12%), this is due to the fact that the number of private banks is high compared to government banks, as (3) private banks were opened in 2018, and the capital adequacy ratios of the latter was very high compared to the long-standing operating banks, as its capital is high compared to risk-weighted assets, its capital adequacy ratio increases.

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 (64) banks, while the number of government banks (7) banks until 2018.

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.

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 (77.1%), (80.9%), (68.9%) and (92.1%) 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: Banking Supervision Department.

## 2-2 Liquidity index

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

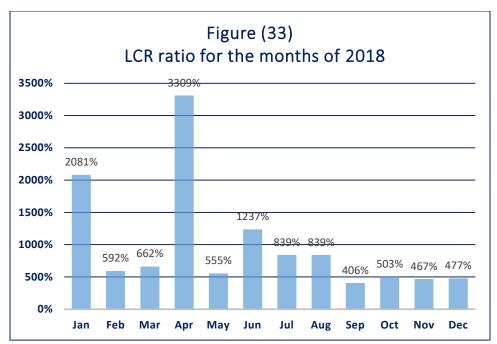
| Year Ration | 2017 | 2018 | 2019 |
|-------------|------|------|------|
| LCR         | 80%  | 905  | 100% |
| NSFR        | 100% | 100% | 100% |

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

### 2-2-1 LCR

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 2018, and LCR recorded its higher average in April where it reached (3309%) as a result to a rise of LCR of some newly established banks while the lowest average of LCR was in September where it reached (406%) 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, 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.

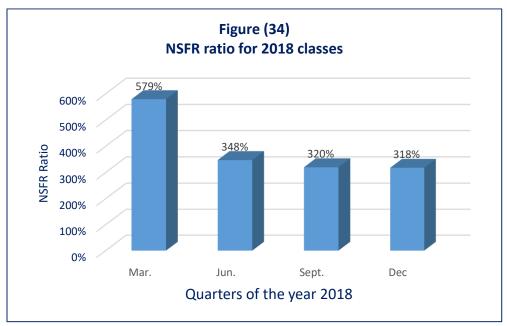


Source: Central Bank of Iraq: Banking Supervision Department.

### 2-2-2 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 2018 amounting (579%), (348%), (320%) and (318%) respectively, higher than in 2017, with a growth rate of (214.1%) (93.9%), (2.8%) and (10.1%) respectively, for each quarter, which are high compared to the ratio determined by the Basel II 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, and Figure (34) shows the NSFR for the 2018 quarters.



Source: Central Bank of Iraq: Banking Supervision Department.

The banking system has high levels of liquidity in excess of those set by the Central Bank of Iraq, where the bank has an appropriate level 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 the other hand, 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 that 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 he can avoid it through the liquid assets available to him, 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 liabilities<sup>1</sup>

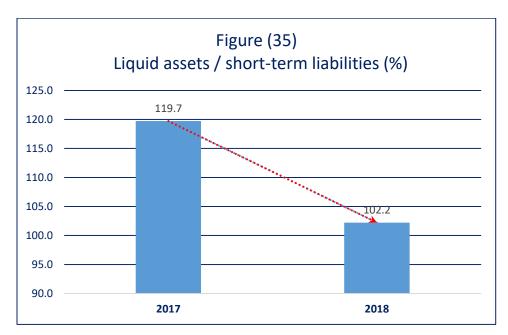
The ratio of the liquid assets index to the short-term liabilities of the banking system in general decreased to (102.2%) in 2018

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

compared to 2017 of  $(119.7\%)^{-1}$  and this decrease is due to two reasons:

The first is the recalculation of assets according to new international standards, which led to a decrease in the value of liquid assets, and then a decrease in the value of the numerator rule above.

Second: The increase of the value of current deposits of a current nature from (47,839,010) million dinars in 2017 to (55,464,737) million dinars in 2018, with a growth rate of (15.9%). This decline does not represent a threat to financial stability, because the ratio, despite its decline, is high when compared to the specified ratio, 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, and Figure (35) shows this ratio for the years (2017 and 2018).

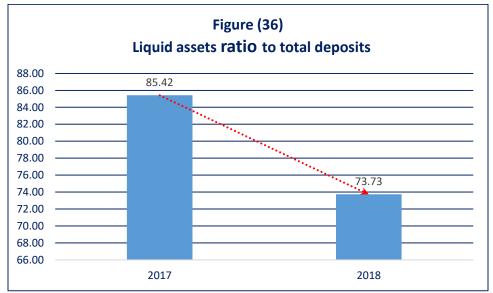


Source: Central Bank of Iraq, statistic website: <a href="http://cbiraq.org">http://cbiraq.org</a>.

<sup>1-</sup>There has been a change in the liquid assets ratio to short-term liabilities due to the recalculation of assets according to new international standards, and this ratio decreased for the year 2017 from 214.1% to 119.7% as a result of applying the new standards

## 2-2-4 Liquid assets / total deposits

This index 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 (73.73%) on 2018 down by (13.7%) than on 2017 of (85.42%) <sup>1</sup>, 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 and Figure (36) reflects the liquid assets ratio to the total deposits of the banking sector.



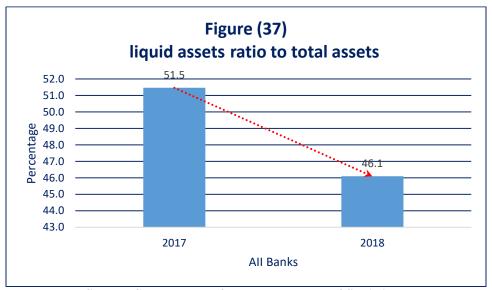
Source: Central Bank of Iraq, statistic website: http://cbiraq.org

## 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 (51.5%) in 2017 to (46.1%) in 2018, and although it is decreased it is a high ratio.

<sup>1</sup> As a result of the assets being recalculated according to new international standards as of January 2012, the value of all associated ratios has changed.

And this reflects the hedging trend of the banking system in light of the high degree Country Risk\*, but at the same time it is considered a low ratio compared to the previous two indices, and Figure (37) shows the liquid assets ratio to the total assets of banks operating in Iraq.



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

# 2-2-6 Cash Credit / deposits

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** decreased to (50%) in 2018 and is within the standard ratio set by the Central Bank of Iraq, which reflects the ability of banks to use the funds available to them from deposits to meet the demand for loans and advances, which is lower than in 2017 (56.6%) due to the growth of deposits at a rate of (14.68%) in 2018 on the one hand and the growth of cash credit at a rate lower than the growth rate of deposits as it reached (1%) on the other hand.

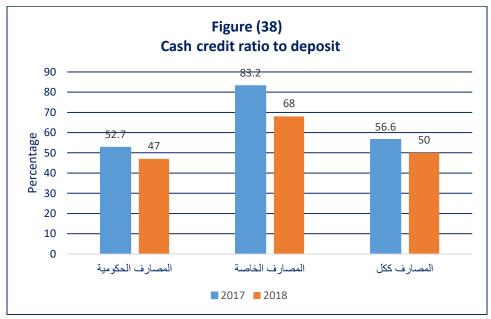
The same ratio with **the government banks** of (47%) in 2018 down at a rate of (11.3%) compared to 2017 of (53%), due to the growth in deposits of state-owned banks at a rate of (13%) on the one hand, and the growth of cash credit at a rate of (1%) on the other hand, and then the reduced cash credit to deposits.

<sup>\*</sup>Risk degree in Iraq: In view of the economic and security conditions, the degree of risk in Iraq is high, and therefore requires a large degree of hedging.

It is noted that the rate of increase in deposits is greater than the rate of increase in cash credit, and this indicates that state-owned banks maintain redundant liquidity that is employable without prejudice to the mentioned standard and without carrying additional risks.

As for the level of **private banks**, the ratio reached (68%) in 2018, which is lower than in 2017 of (83.2%), 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.

The thing that encourages banks to employ low deposits is to give them low interest rates on deposits against loans and this is embodied in the rate of credit and debit interest margin (Spread) with the Iraqi commercial banking system, as it reached (7.12%) in the Iraqi dinar in 2018, and the interest margin in foreign currencies (8.19%) for the same year, while the defined and standard interest margin rate is (3%).



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

<sup>1</sup> See:

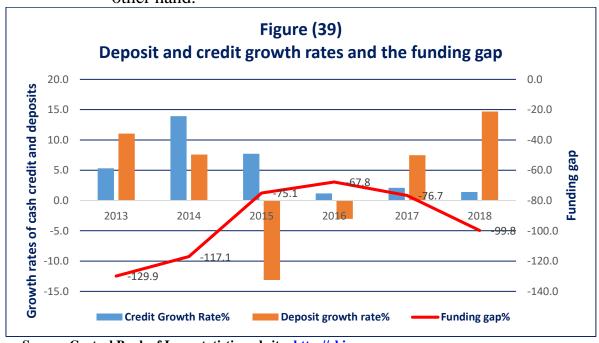
<sup>-</sup> http://www.albayan.ae/economy/capital-markets/2016-08-22-1.2700768

Qatar Central Bank, Financial Stability Report 2014, p. 78

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

The credit gap means the difference between cash credit and deposits to cash credit <sup>1</sup>.

This gap widened in 2018 by (30.2%) compared to 2017, as the gap reached in 2018 (99.89%). This is due to the increase in the deposit growth rate at a rate higher than the cash credit growth rate, as the growth of deposits in 2018 reached (14.7%) at a value of (76) trillion dinars for the year 2017, while the cash credit grew at a rate of (1.41%) at a value of (38.4) trillion dinars in 2018, up from 2017, where the amount of cash credit reached (37.9) trillion dinars, which led to the widening of the gap. The widen of the gap between 2018 and 2017 explains the decrease in demand for loans and advances due to banks imposing high interest rates, as well as imposing not soft credit conditions. The gap is 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 39 shows the relationship between the growth rates of cash credit and deposits on the one hand and the financing gap on the other hand.



Source: Central Bank of Iraq, statistic website:  $\underline{\text{http://cbiraq.org}} \;.$ 

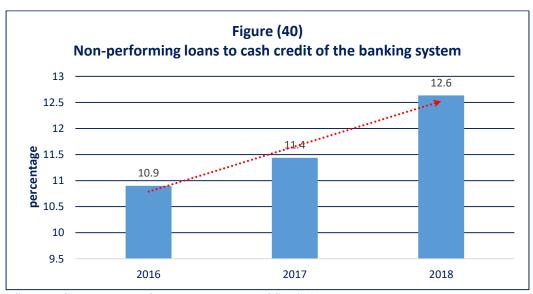
## 2-3 Assets Quality Indices

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 (4.8) trillion dinars in 2018, with a growth rate of (12%) compared to 2017, when it reached (4.3) trillion dinars, which led to an increase in the of non-performing loans ratio to cash credit from (11.4%) in 2017 to (12.6%) in 2018, this affects 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 2018 were distributed at (3.3) trillion dinars for government banks, at a rate of (11%) of cash credit and (1.5) trillion dinars for private banks and at (21%) of cash credit, and 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, as shown in Figure (40).



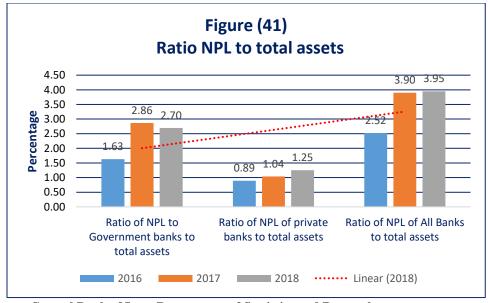
Source: Central Bank of Iraq, Department of Statistics and Researches

<sup>1</sup> For the year 2017, the total assets data have been approved from the statistical site of the Central Bank of Iraq because of adjustments to them according to new standards. As for the year 2018, it was approved from the statistical bulletin.

## 2-3-2 Nonperforming loans (NPL) ratio / total assets

The ratio of non-performing loans (doubtful debts) to total assets of the banking system increased in general during 2018, as the ratio reached (3.95%) compared to (3.90%) <sup>1</sup> in 2017, with an increase rate of (1.2%).

This ratio reflects the large assets of the banking system despite its rise in 2018, and this ratio has increased as a result of the increase in the volume of non-performing loans from (4.3) trillion dinars in 2017 to (4.8) trillion dinars in 2018. However, despite its rise, it reflects a good and sound position of banks operating in Iraq in terms of the volume of assets in 2018 where the international literature and experiences indicate that exceeding this ratio (10%) foreshadows an expected banking crisis according to international literature and experience, 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 (2.86%) in 2017 to (2.70%) in 2018, due to the increase in the volume of total assets with a growth rate of (10.7%), which is higher than the rate of non-performing loans of government banks of (4.2%), while private banks recorded an increase in their non-performing loans ratio to total assets as a result of the growth of their non-performing loans at a rate of (33.7%), which is a growth rate that exceeds the growth rate of the aforementioned assets, as shown in Figure (41).



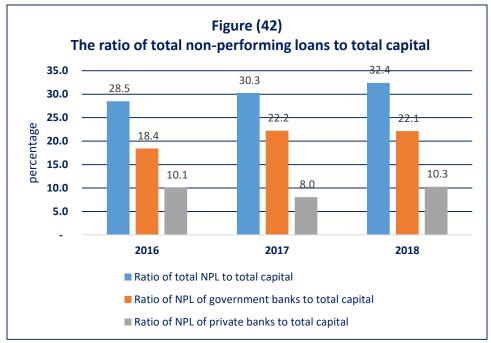
Source: Central Bank of Iraq, Department of Statistics and Research

# 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 index 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.

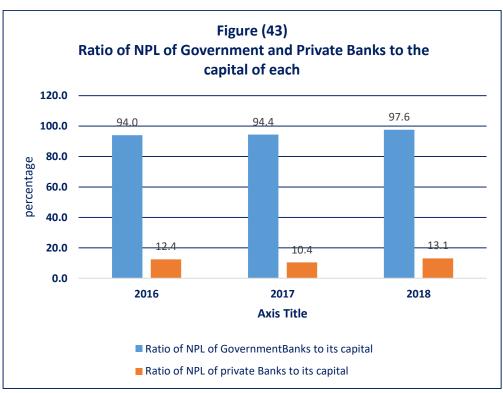
The ratio of non-performing loans to capital increased in 2018 to (32.4%) compared to the same ratio in 2017 of (30.3%) for total banks, as a result of the rise in non-performing loans for government and private banks, and Figure (42) shows the ratio of non-performing loans contribution of the government banking sector and the private banking sector to the total capital of the banking sector in general, and this ratio reached in 2018 (22.1%) for government banks and (10.3%) 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 Researches.

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 (94.0%), (94.4%) and (97.6%) for the years 2016 and 2017 and 2018 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 increase capital to (250) billion dinars, where the total capital of government banks in 2018 amounted to (3,401,600) million dinars only, 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 risks Potential.

As for private banks, the ratio of non- performing loans to their total capital amounted to (12.4%), (10.4%) and (13.1%) for the years 2016, 2017 and 2018, respectively, and as shown in Figure (43).

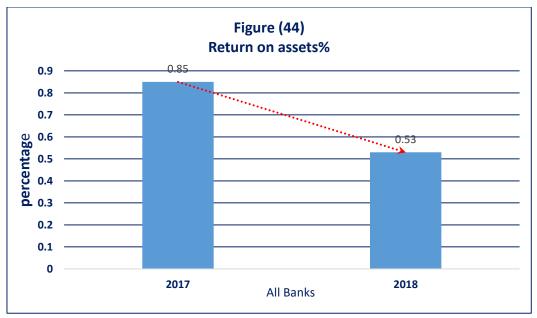


Source: Central Bank of Iraq, Department of Statistics and Researches

# 2-4 Revenue and Profitability indices

### 2-4-1 Ratio of return on assets

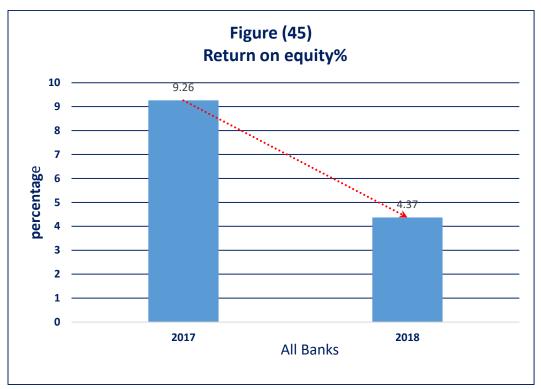
The ratio of return on assets decreased to (0.53%) in 2018, compared to its ratio of (0.85%) at the end of 2017 for all banks, as a result of the decrease in bank profits, as net interest income decreased from (1,529,018) million dinars in the year 2017 to (1,319,451) million dinars in 2018, with a decrease rate of (-13.7%). The non-interest income also decreased from (1,141,626) million dinars in 2017 to (934,509) million dinars in 2018 at a rate of (-18.1%), as well as the growth of assets at a rate of (10.7%), and Figure (44) shows the ratio of return to assets.



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

# 2-4-2 Ratio of return on equity

The ratio of return on equity decreased at the end of 2018 to (4.37%) compared to 2017 in which the ratio reached (9.2%) 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 decrease are the decrease in the value of income and the rise in the value of assets, as shown in the previous paragraph, and as shown in Figure (45).



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

# Measurement of the Aggregate Index of Banking Stability in Iraq

# 3.Measurement of the aggregate index of banking stability in Iraq

The interest in measuring the aggregate index of banking stability by many central banks in the world has increased because it gives a better picture of the soundness and performance of the banking system rather than relying on individual indicators, especially after the crises and fluctuations that the world has witnessed, whether at the level of the economy or policy that have an impact on Banking stability, and because the latter cannot be measured and evaluated on the basis of only one indicator without taking into consideration other indicators that reflect the state of the performance of the banking system. The aggregate index of banking stability in Iraq was built on the best international practices in this area by relying on a set of appropriate financial ratios appropriate to the nature of the Iraqi banking system, and that these ratios are the capital adequacy, liquidity, profitability, asset quality, foreign exchange risk and bank concentrations described in detail in the table (7) as these indicators reflect the soundness of the Iraqi banking system as well as an analysis of the level of risk to the banking system in general.

Some indices are expected to have positive relationship with the aggregate index (capital adequacy, profitability, liquidity quality and banking concentrations), while other indicators will have an inverse relationship with the financial stability index (asset quality and foreign exchange risk).

Table (7)
Indices for measuring the aggregate index of banking stability in Iraq

| Sub-Indices       | Variables  | Weights | Type of      |
|-------------------|--|---------|--------------|
|                   |  |         | relationship |
| Capital adequacy  | Core capital + ancillary capital / risk weighted assets within |         |              |
|                   | the balance sheet + risk weighted assets off balance sheet     | 0.166   | +            |
|                   | Nonperforming loans / capital                                  | 0.166   |              |
| Asset quality     | Nonperforming loans / total loans                              | 0.166   | -            |
|                   | Return / Assets  | 0.166   |              |
| Profitability     | Return / Equity  | 0.166   | +            |
| Liquidity quality | Liquid assets / total assets                                   | 0.166   |              |
|                   | Liquid assets / short-term liabilities                         | 0.166   | +            |
| Foreign exchange  | Net open position in foreign currency / capital                | 0.166   |              |
| risk              | Liabilities in foreign currency / total liabilities            | 0.166   | -            |
| Banking           | Central government and public institutions deposits / total    | 0.166   |              |
| concentrations    | deposits   |         | +            |
|                   | Loans to central government and public institutions / total    | 0.166   |              |
|                   | loans  |         |              |

## Framework (1): Steps to measure the aggregate index of banking stability in Iraq

The <u>aggregate index</u> is a composite index and is calculated according to the following steps:

1) Standardization <sup>1</sup> by the following formula:

 $Z = \underline{A-Min}$ 

S.D.

Where:

**A**: The raw values of the sub-index data.

Min: Represents the minimum-value of the data.

**S.D.**: Represents the standard deviation of the data

**Z:** Represents the standard value of the variable.

The value of the indicator ranges between  $(0 - \infty)$ , 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: equal weights were defined (that all sub-variables are of equal importance) to the variables of the indices mentioned in Table (11), and there are other methods for granting weights such as<sup>2</sup>:
- Expert Judgment
- Principal Components Analysis
- Factor Analysis
- 3) Collection of weighted standardized values to obtain sub-indices values
- 4) Calculating the average for the sub-indices to obtain the aggregate index of banking stability was done by calculating the average for the sub-indices according to the following formula:

$$BSI = \underline{1\Sigma Z1 + \Sigma 2 Z2 + 2\Sigma Z3 + 2\Sigma Z4 + 3\Sigma Z5 + 2\Sigma Z6}$$

N

Where:

BSI: Banking Stability Index

Z<sub>1</sub>-Z<sub>6</sub>: Sub-Index

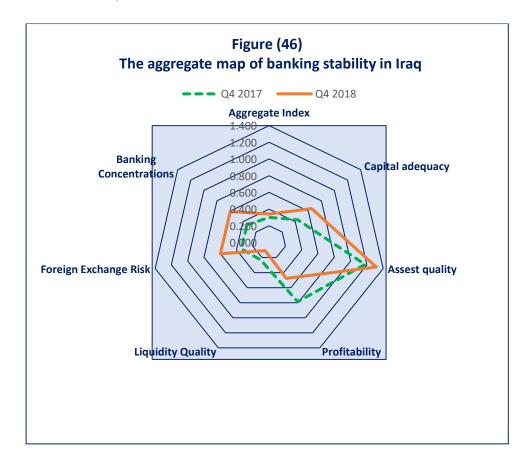
N: represents the number of variables amounting to (11) variables.

- 1) There are a number of methods for converting data into standard values (Standardization) and each method has its advantages and disadvantages, but using the method mentioned above is one of the best methods based on Rabi Mishra and others, for more information see:
- Rabi Mishra, Puneet Verma, and Sanket Bose (2015), Operationalising Financial Inclusion Index as a Policy Lever: Uttar Pradesh (in India)- A Case Study, Journal of Mathematics and Statistical Science, Vol. 1, Issue 4, pp 149-165
- 2) OECD, (2008), Handbook on Constructing Composite Indicators Methodology and User Guide, Organization for Economic Co-Operation and Development, pp31-33. Available at: <a href="https://www.oecd.org/publishing/corrigenda">www.oecd.org/publishing/corrigenda</a>

#### 3-1 Banking stability trends in Iraq

#### 3-1-1 Banking stability map

The banking stability map provides a summary in a graphic way to link changes in risks and conditions that affect banking stability, which is also a tool for monitoring changes in indicators affecting banking stability, as Figure (46) indicates that the Iraqi banking sector witness a state of stability despite the fluctuations witnessed by the components of banking stability during the period (2018-2017).



## 3-1-2 Aggregate index of banking stability

The assessment of the level of banking stability by the aggregate index depends mainly on the components and trends of the aggregate index. The estimated aggregate index values recorded an increase in four indices and a decrease in other indices, during 2018, and the final result was an increase in the banking stability index from (0.301) in the fourth quarter of 2017 to (0.340) in the fourth

quarter of 2018, and with an increase rate of (%13.1). Thus, it is not expected that the banking system will experience crises in the short term. The reason for the increase in the banking stability index is the rise in (the capital adequacy index, the banking concentration index, the foreign exchange risk index, and the asset quality index), as the first and second indices reflect a decrease in risk, while the rise of the other two indices reflects an increase in risk.

The positive effect of the first and second indices measured by the growth rate was (124.6%), while the negative impact of the third and fourth indices measured by the growth rate was (- 92.4%), which left a positive impact on the Banking Stability Index in Iraq. The profitability and liquidity index has witnessed a decrease from 2017, but the effect of this decline was minimal due to the low rates of its contribution to building the aggregate index. The decline in profitability indicates a decrease in banking activity and a weak contribution of banks in support of economic growth, in addition to the fact that liquidity with Iraqi banks may be insufficient to face banking crises in the event of high banking failures in the coming years, given that the liquid assets only cover (46%) of short-term liabilities in the fourth quarter of 2018, and Figure (8) shows an estimate of the aggregate index of banking stability in Iraq.

 $Table\ (8)$  Estimates of the aggregate index of banking stability in Iraq for the period 2017 – 2018

| Index                         | Q4 2017 | Q4 2018 |
|-------------------------------|---------|---------|
| Aggregate index               | 0.301   | 0.340   |
| Capital adequacy              | 0.437   | 0.650   |
| <b>Assets Quality</b>         | 1.177   | 1.315   |
| Probability                   | 0.786   | 0.476   |
| Liquidity quality             | 0.232   | 0.109   |
| Foreign exchange risk         | 0.341   | 0.599   |
| <b>Banking concentrations</b> | 0.338   | 0.595   |

### 3-2 Analyzing the relationship between the aggregate index and subindices

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

#### 3-2-1 Capital adequacy index

The standardized value of the capital adequacy index increased to (0.650) in 2018 with a rise of (48.8%) from 2017, and this indicates that banks operating in Iraq have very high financial durability and very low risk ratios that affected the rise in the aggregate index of banking stability positively and effectively.

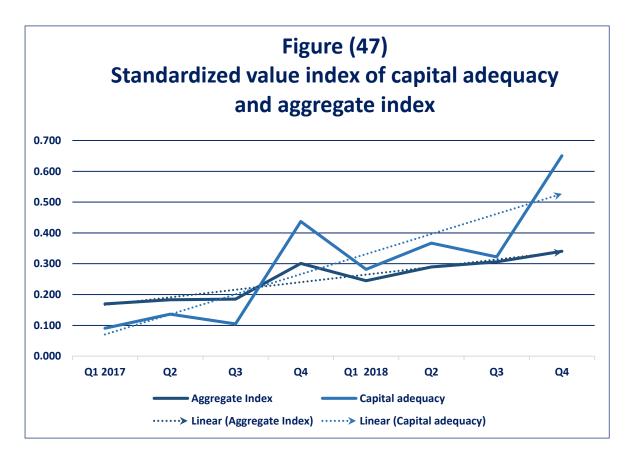
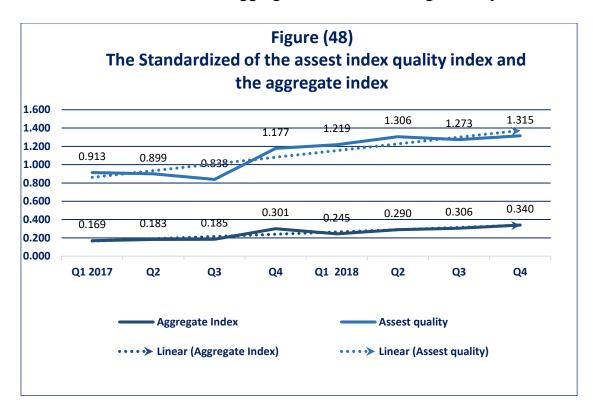


Figure (47) shows that the standardized value of the capital adequacy index reached (0.650) in the last quarter of 2018, which is a positive and significant change in the adequacy index compared to 2017, as the last quarter of 2017 recorded a ratio of (0.437), and

this increase came due to the increase in banks 'capital due to the establishment of (3) private banks in 2018.

#### 3-2-2 Asset Quality Index

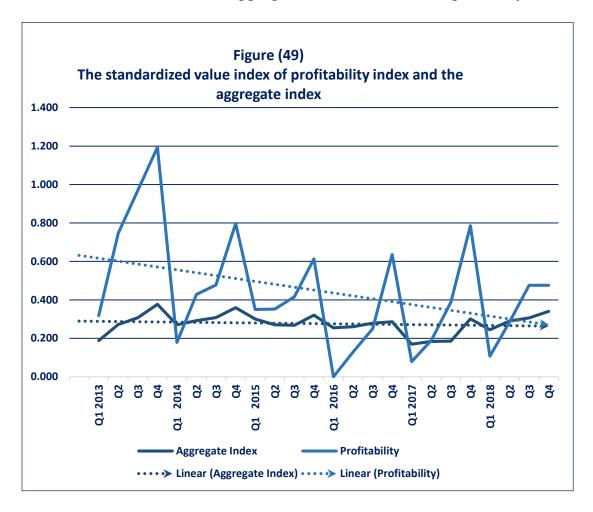
The standardized value of the asset quality index increased in the last quarter of 2018 compared to its value in 2017, as it reached in the last quarter of 2017 (1.177) and increased until it reached in 2017 to (1.315), as shown in Figure (48), that this increase is a result of the high ratio of non-performing loans to both capital and total loans during 2018, and this increase in the value of the asset quality index, although it is within acceptable levels, causes a decrease in the value of the aggregate index of banking stability.



# 3-2-4 Profitability Index

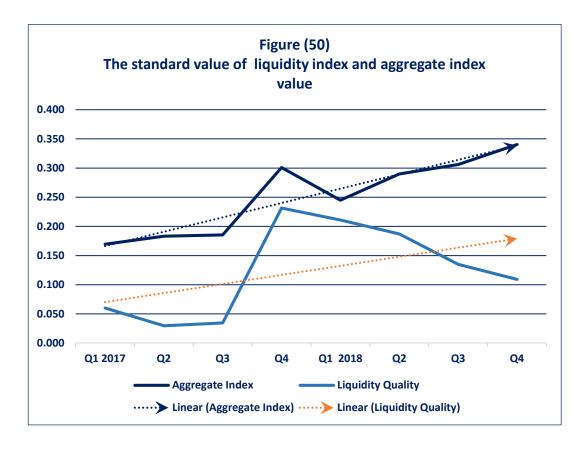
The standardized value of the profitability index continues in 2018 to record a downtrend, where the value of this index reached at the last quarter of 2018 (0.476), down from the last quarter of 2017 of (0.786), as shown in Figure (49), this decrease in the value of the index was due to a decrease in the value of the return of banks, as well as an increase in the value of assets between 2017 and 2018

and the decrease in the profitability index value negatively affected the value of the aggregate index of the banking stability.



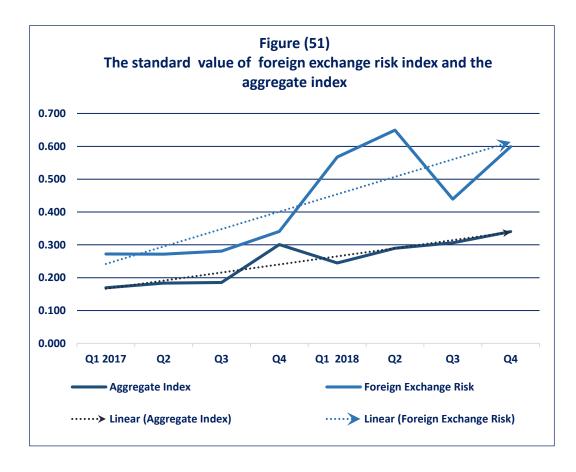
#### 3-2-4 Liquidity Index

It is noticed that the value of the liquidity index took a downward trend during 2018, as it decreased from (0.232) in the last quarter of 2017 to (0.109) in the last quarter of 2018, as a result of the decrease in liquid assets, as in Figure (50), the decrease in the liquidity index value came as a result to the decrease of the ratio of liquid assets to total assets from (51.5%) in 2017 to (46.1%) in 2018, as well as a decrease in the ratio of liquid assets to short-term liabilities from (119.721%) in 2017 to (102.2%) in 2018, as shown in Figure (44).



## 3-2-5 Foreign Exchange Risk Index

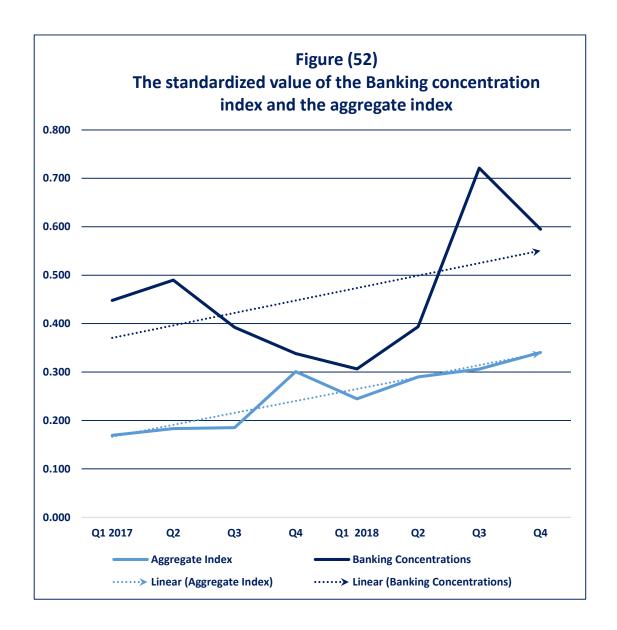
The standardized value of the foreign exchange risk index increased from (0.341) in 2017 to (0.599) during 2018, with a change rate of (75.79%), which is a slight rate compared to the change rate between 2016 and 2017 that reached (682.15%). That is: increasing in foreign exchange risks with a growth rate lower than the rate in 2017, and this indicates the direction of these risks towards a decrease, which may be due to the improvement that occurred as a result of the rise in oil prices, and then the recovery of the general economic situation, as well as the gradual stability of the security situation, and Figure (51) shows the direction of this index with the aggregate index of banking stability.



## 3-2-6 Banking Concentration Index

The standardized value of the Banking Concentration Index increased in 2018, as this value increased from (0.338) in the fourth quarter of 2017 to (0.595) in the fourth quarter of 2018, and this value increased due to the increase in the standardized value of deposits of the central government and public institutions from (0.029) in the fourth quarter of 2017 to (0.359) in the fourth quarter of 2018, with an increase rate of (1154.76%), which led to an increase in the standardized value of the Banking Concentration Index.

The index reached its highest value in the third quarter of 2018, which is (0.721), as shown in Figure (52).





## 4.Macro – Stress Testing

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 (2013 Q1) till (2018 Q4) 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 Q1 of 2019 to Q4 of 2019, 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 Inverse Roots of AR Characteristic Polynomial, it turned out to be statistically stable, and valid for carrying out the prediction, as shown in Figure (53):

Figure (53)

# Estimated VAR model stability

Inverse Roots of AR Characteristic Polynomial

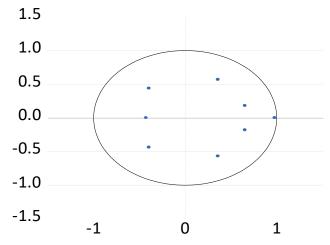


Table (9) shows the hypothetical scenarios that reflect the shocks to which the Iraqi economy may be exposed, as there will be a decrease in all variables at different rates according to the hypothetical scenarios, and as shown in table (9).

Table (9)
Shock scenarios approved in VAR model

| Variables                | GGDP    | GOILP   | GGE     |
|--------------------------|---------|---------|---------|
|                          | %       | %       | %       |
| Scenarios                |         |         |         |
| <b>Medium-intensity</b>  | -7.567  | -38.831 | -16.013 |
| scenario                 |         |         |         |
| High- intensity scenario | -15.135 | -77.662 | -32.027 |

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 (2013Q1-2018Q4).
- 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 (2013Q1-2018Q4).

## 4-4 The effect of negative shock on the rate of GDP growth on the nonperforming 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%) and (9.3%) for the years 2016 and 2017 respectively, whereas in Lebanon was (107.2%) and (105.5%) for the

same years and in Kuwait was (103.8%) and (99.17%), respectively, and for the same mentioned period<sup>1</sup>.

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 – performing loans ratio after GDP shock

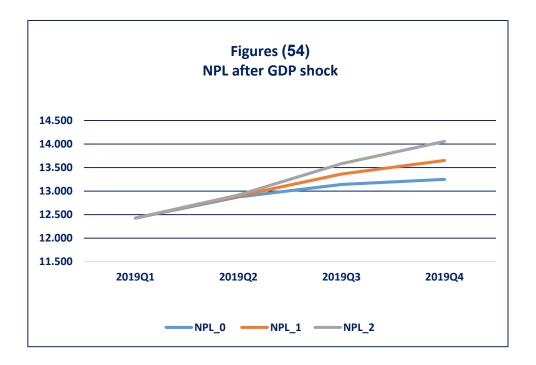
| Years                    | 2019    |         |         |         |
|--------------------------|---------|---------|---------|---------|
| Scenarios                | Q1<br>% | Q2<br>% | Q3<br>% | Q4<br>% |
| Baseline scenario        | 12.424  | 12.876  | 13.142  | 13.249  |
| Medium-intensity         | 12.424  | 12.897  | 13.363  | 13.653  |
| scenario                 |         |         |         |         |
| High- intensity scenario | 12.424  | 12.917  | 13.584  | 14.057  |

Table (10) shows an increase in the **non – performing loans ratio** predicted in the baseline scenario from (12.424%) for the Q1, to (12.876%), (13.142%) and (13.249%) for the second quarter, third quarter and fourth quarter, respectively, in 2019. As a result of the negative shock in the GDP growth rate according to the prepared scenarios, the non-performing **loans** ratio increased from (12.876%) to (12.897%) and (12.917%) for the baseline, medium and high-intensity scenarios respectively for the second quarter of 2019, as well as from (13.142%) to (13.363%) and (13.584%) for baseline, medium and high-intensity scenarios, respectively, for the third quarter of 2019.

As for the fourth quarter of 2019, the non-performing loans ratio increased as a result of the negative shock in the growth rate of GDP from (13.249%) to (13.653%) and (14.057%) 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 (54) 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 2019.

<sup>&</sup>lt;sup>1</sup>For more ratios of countries, see Figure (23) of the report.



## 4-5 The impact of the negative shock of world oil prices on the nonperforming loans 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 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.

Table (11)
Scenarios for predicting non-performing loans ratio after the international oil price shock

| Years                    | 2019   |        |        |        |
|--------------------------|--------|--------|--------|--------|
|                          | Q1     | Q2     | Q3     | Q4     |
| Scenarios                | %      | %      | %      | %      |
| Baseline scenario        | 12.424 | 12.876 | 13.142 | 13.249 |
| Medium-intensity         | 12.424 | 12.591 | 13.012 | 13.161 |
| scenario                 |        |        |        |        |
| High- intensity scenario | 12.424 | 12.305 | 12.881 | 13.074 |

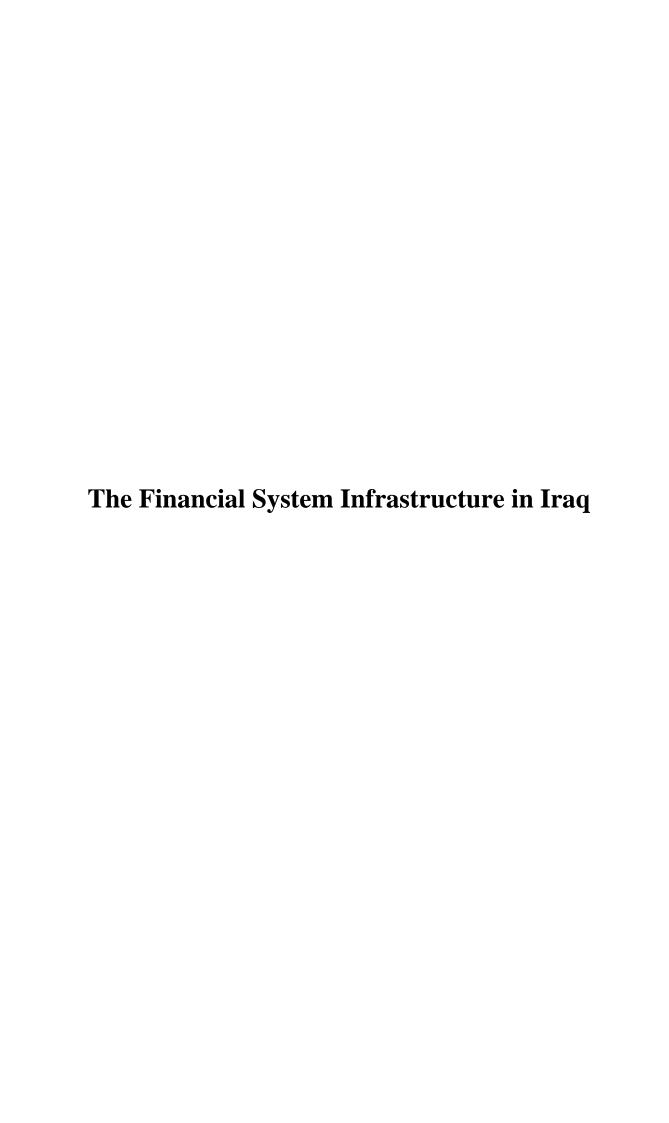
# 4-6 The impact of the negative shock of the government spending growth rate on the non-performing loans ratio

With regard to the effect of the government spending growth rate on the non-performing loans **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 non-performing loans, but the relationship was direct and significant, as the low government spending growth rate could lead to a lower rate of non-performing loans growth for all quarters of 2019.

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, but 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 non-performing loans ratio as a result of the negative shock in the government spending growth rate

| Years                     | 2019   |        |        |        |
|---------------------------|--------|--------|--------|--------|
|                           | Q1     | Q2     | Q3     | Q4     |
| Scenarios                 | %      | %      | %      | %      |
| Baseline scenario         | 12.424 | 12.876 | 13.142 | 13.249 |
| Medium-intensity scenario | 12.424 | 12.421 | 12.348 | 12.031 |
| High- intensity scenario  | 12.424 | 11.966 | 11.555 | 10.814 |



## 5. Financial infrastructure developments

#### 5-1 The concept of financial infrastructure

The developed financial infrastructure is considered one of the most important requirements for ensuring financial stability, as it provides an appropriate and renewable legislative environment that accompanies developments in the financial and banking business for the purpose of ensuring a sound and stable financial sector. The Central Bank of Iraq seeks to develop the banking legislative environment, as it issued a set of regulations and instructions that regulate work in the financial and banking sector during the year 2018, as well as previous laws and regulations, such as the Central Bank Law, the Banks Law, the Islamic Banks Law, and Regulations No. (4).

# 5-2 The most important legislative environment developments of the financial sector

A set of instructions and regulations were issued to regulate the work of banks and financial companies, especially Islamic banks, as follows:

# **5-2-1 Regulations of the Islamic Financing Tools**

After the Islamic Banks Law No.(42) for the year 2015, which is considered the first legal pillar upon which Islamic banks were based, was issued and according to Article (13-15) of the Islamic Banks Law, which obliged Islamic banks to apply the standards of the Accounting and Auditing Organization for Islamic financial institutions (AAOIFI) and for ease of reference of the said standards by the Islamic Banks especially the new ones, these regulations have been developed within the framework of achieving the (support and development of the Islamic banking industry) goal within the (2016-2020) strategic plan of the Central Bank of Iraq. These regulations have touched upon the accounting treatments for each Islamic banking product, and the conditions provided therein, and provided a detailed explanation of these products according to the (AAOIFI) standards staring from signing the contract until its

expiration. Adherence to these regulations will necessarily increase the strength and soundness of Islamic banks, which are an important part of the banking sector.

### 5-2-2 Regulations of Risk Management in Islamic banks

The increase in the number of Islamic banks in Iraq from (9) banks in 2010 to (24) banks in 2018, will necessarily result in an increase and expansion in the use of Islamic financing tools that are associated with some risks, and to reduce them these regulations were issued.

It emphasized the necessity of establishing a risk management division that is linked to the Board of Directors and is responsible for overseeing the department, correcting and approving the risk management policy, and ensuring the continuous alignment between the financing strategy, the risk management strategy, and the liquidity risk management strategy, and identifying performance indicators for risk management that are consistent with the performance indicators of the bank, as well as ensuring legal and regulatory compliance with financing and risk management strategies, as well as assigning responsibilities at the appropriate levels within the bank, ensuring the realization of resources for risk management, and ensuring that the continuity of the risk management framework is maintained. The regulations set the rules that must be implemented to establish the risk management division in Islamic banks, and the formation of sub-units affiliated with the department that are responsible for the risks in the major divisions and branches. These regulations also defined key credit risk management procedures, which include assessing client's performance speculators of financiers, suppliers, participants and rating their risk, assessing the credit portfolio, hedging the effects and risks associated with credit risk, and defining measures leading to credit risk mitigation. The regulations took into account the main procedures for managing investment risks by setting a deliberate investment policy that works to reduce risks, and also identified measures that can be taken to mitigate investment risks. These regulations detailed the identification of market risks, liquidity risks, and operational risks, and defined the actions that banks can take in mitigating these risks, which leads to the presence of clear information for the risk management department in how to deal with various risks, and work to eliminate or reduce their negative effects, which leads to a stable environment for Islamic banking, and helps in achieving financial and economic stability.

# 5-2-3 Regulations of the Sharia Supervisory Board & Sharia Auditing

The year 2018 witnessed the issuance of the regulations of the Sharia Supervisory Board, the Sharia and Internal Auditing and Sharia Compliance for the Islamic banks, as the Central Bank considers the Sharia Supervisory Board is the regulatory entity through which a distinction can be made between commercial and Islamic banking at the level of activity and oversight, and is also considered the first regulatory level in generating commitment values to the principles and provisions of Islamic Shari'a, in a way that leads to achieving Islamic oversight and financing at the local and international level.

These regulations provide the basis to be followed by Islamic banks in laying the foundations for effective Sharia control by defining the responsibilities, powers and tasks of the Sharia Supervisory Board, Sharia Auditing Department, Sharia Compliance Department, and Compliance Officer, and reliance has been placed on the Islamic Banks Law, (AAOIFI) standards and Standard (10) of 2009 issued by The Islamic Financial Services Board (IFSB), Basel Document on Obligation in addition to clause (2-9) of the ISO 9001: 2015.

These regulations determined the number of members of the Sharia Board, their competencies, the tasks assigned to them, and the method of their appointment, as it considered from the

powers of the General Authority of the Bank, and based on the guidance of the Appointment Committee in the Board of Directors, and after obtaining the approval of the Central Bank of Iraq, and also determined the educational qualifications of members of the Sharia Board, as the educational attainment of the president of the Board shall not be less than a master's degree from a recognized university in Sharia sciences, including jurisprudence of transactions, and he has (3) years' experience in issuing fatwas and legal rulings. These regulations emphasized the independence of the Sharia Supervision Board, the noninterference of the Board of Directors, and not to influence the Sharia Supervisory Board, or that one of its members is a member of the Board of Directors, or the Executive Management, and these regulations showed the work and tasks of the Sharia Supervisory Board, and the duties assigned to it, as well as the prohibitions imposed thereon. As for the Sharia audit department, the regulations clarified the mechanism of forming the department and its affiliation with the Board of Directors, and the duties of the department head, who is responsible before the Board of Directors for carrying out the department's tasks and preparing reports. The Head of Department must be CSAA (Certified Sharia Advisor and Auditor) certificate holder granted by the Accounting and Auditing Organization for Islamic Financial Institutions. With regard to the Sharia Compliance and Compliance Control Department, Department regulations have defined the nature of the Sharia compliance function, and defined it as (an independent function that identifies the risks of non-compliance with relevant Sharia and statutory laws and regulations, and sets recommendations for overcoming those risks). This department consists of at least three employees, headed by a compliance observer who must have at least 10 years' experience in banking, and must have (Certified Islamic Specialist in Governance and Compliance) certificate granted by the Accounting and Auditing Organization for Islamic Financial Institutions. Several duties have been identified for the department, including reviewing policies and procedures, adhering to banking instructions, identifying risks,

preparing a guide to the risks of non-compliance, and preparing a plan and schedule for field visits to the branches.

# 5-2-4 Regulations related to the capital adequacy standard in accordance with Basel III requirements for conventional banks

These regulations were issued based on the Iraqi Central Bank Law No. (56) For the year 2004 and the Banks Law No. (94) For the year 2004 with the aim of keeping pace with developments in the global banking system, and for the purpose of reaching what was confirmed by the decisions of the Basel Committee for Banking Supervision. The banks were given an opportunity to apply them experimentally on 09/30/2018, the results are sent to the Central Bank with inquiries and notes, after which a workshop will be held with banks to discuss and all inquiries and notes. while overcome the actual implementation of Basel III will take place in 2019. The regulations contain accurate details in the process of applying Basel III standard of capital adequacy by defining the terms contained therein, determining the method of extracting the capital base (the nominator of the ratio), the weighted assets with the weights of risks (credit risks, market risks, and operational risks) (the denominator of the ratio), and the central bank has set the capital adequacy ratio not less than (10%), which is less from what it was in the past, as the minimum levels were (12%), while the international standards set it not less than (8%).

# 5-2-5 Instructions for the business continuity management system in the Iraqi banking sector in accordance with the international standard ISO 22401

These instructions were issued in implementation of the (2016-2020) strategic plan of the Central Bank of Iraq and it works to define the necessary requirements for the principles of key business continuity in facing potential risks, and clarifies disaster recovery procedures and their negative effects. The

international standard for business continuity management system arranges, clarifies, evaluates, and analyzes high-quality preparation and implementation in facing risks, threats and securing banking operations.

These instructions set the responsibilities of the Board of Directors and executive management, and demanded to start preparing a business continuity plan to face risks according to international standard ISO 22401 and commitment to monitor operational risks, follow up the implementation of the business continuity management system, disasters and crises recovery, and verify the adequacy and efficiency of the measures taken in the Backup process and maintain the last updated version of systems, programs, applications, and databases to face potential disasters, and secure the required resources of hardware, software, programs, applications, human resources to be provided.

Preparing a list of the key personnel and their assistants that includes their addresses, and their point of contacts with a view to managing the various actions to be implemented in the business continuity plan, training them appropriately, choosing the alternative location in which the bank's business is managed, and conducting periodic tests to check the quality of the business continuity plan performance to the face the risks.

# 5-2-6 Regulations governing the business of brokerage firms for buying and selling foreign currencies

The Central Bank of Iraq issued new regulations to regulate the business of brokerage firms for buying and selling foreign currencies No.(1) For 2018, and Regulations No. (8) For 2015 were canceled. These regulations set requirements for the establishment of banking companies, the company's capital must not be less than (500) million dinars and it specified the controls and conditions that must be met by the Managing Director, and these regulations also indicated the available actions that the

company can exercise, as well as prohibitions, the most important of which are not granting loans to customers or any credit facilities, issuing guarantees, issuing credits, and unlawful speculation, because they are of the Banking functions, in addition, there are punitive measures against companies that violate these regulations, allowing banking companies to operate with a clear legal framework that does not allow interference in the work of other financial institutions, and works to supply managers who have the ability to understand and develop work in the field of banking and exchanging foreign currencies to organize the process of buying and selling of foreign currencies, and building an important database that helps in achieving financial stability in the market.

# 5-2-7 Regulations for the work of sub- agents of foreign remittance service providers

These regulations were issued to regulate the work of subagents for electronic payment services providers. The money exchange companies are the most important subsidiary or subagents for banks and money transfer and electronic payment companies.

These regulations have been given to entities licensed by the Central Bank (banks, money transfer companies, and electronic payment companies) approval to be the main agent of electronic payment services providers, and they are entitled to have their sub- agent, in order to achieve a high level of spread and that electronic services can reach the farthest place in Iraq to enhance financial inclusion.

These regulations have specified some conditions that must be met by sub- agents, the most important of which is obtaining the approval of the central bank for such agency, and after that a contract is organized between the two parties to ensure that the Anti-money laundering and terrorist financing policy is followed, and the main agent is responsible to the Central Bank for any financial risks or violation of laws and regulations, and the main agent has been given the right to monitor the sub- agent, and he has the right to suspend the work of any sub- agent who sees that he has not complied with laws and regulations, or poses risks to the work of the main agent. The sub- agent must maintain records and a book separate from the main agent, and be subject to the supervision of the Central Bank of Iraq and that these regulations allow the spread of electronic payment services throughout Iraq in order to achieve the goal of financial inclusion with the ability to monitor and continuous follow-up in order to achieve financial stability.

## 5-3 Iraq exit from international follow-up

The year 2018 witnessed an important event and a major achievement for the Central Bank of Iraq, which is the exit of Iraq from the Follow-up zone, according to the report of the Financial Action Task Force for the Middle East and North Africa region (MENAFATF). The Financial Action Task Force (FATF) has formally announced Iraq exit from the follow-up zone; this is due to the significant progress made by the Central Bank of Iraq and the Anti-Money Laundering and Countering Financing of Terrorism (AML/CFT) Bureau in improving and addressing deficiencies, meeting all obligations towards the recommendations of the Financial Action Task Force (FATF), addressing the requirements of the (AML/CFT) strategy adopted by the Central Bank of Iraq, as well as legislating Anti-Money Laundering Law No. 39 of 2015, issuing regulations and instructions, and establishing the Anti-Money Laundering and Countering Financing of Terrorism (AML/CFT) Board, as well as the Committee for Freezing Terrorist Funds; and for this, Iraq is no longer subject to the monitoring and follow-up process by (FATF), and with this decision from the International Institution, Iraq would have opened up great prospects for Iraqi financial and banking institutions to deal with Arab and international institutions, which would help to enhance confidence in the Iraqi financial and banking sector, and support efforts to achieve financial stability.

The Central Bank of Iraq has taken several measures regarding (AML/CFT) due to its belief in the need for a sound and stable financial sector to provide financing and various financial services to the real sector, and to encourage economic activity. The Central Bank has worked to ensure the soundness of the activity of various financial and banking institutions, especially with regard to (AML/CFT) matters, to avoid international sanctions on financial institutions and Iraq in general.

Therefore, the Central Bank has taken several measures regarding (AML/CFT), the foremost of which is the enactment of the Anti-Money Laundering Law, the establishment of the (AML/CFT) Bureau, the formation of the Freezing of Terrorist Funds Committee, and the Central Bank has also joined and ratified the International Convention for the Suppression of terrorism and concluded bilateral agreements with countries to exchange information on money recovery, the Central Bank also issued (AML/CFT) regulations and instructions to financial institutions, and worked on preparing periodic reports by the Compliance Officer and Head of the Reporting Department at financial institutions to be sent to the Bank for evaluation and follow-up. The Central Bank of Iraq also worked to enroll employees of banks and financial institutions, and employees of the Central Bank in specialized training courses in the field of (AML/CFT), in cooperation with international and Arab training institutions, in addition to conducting a periodic evaluation of banks and determining the progress made in implementing the Central Bank's policy regarding (AML/CFT) Anti- money laundering and combating financing of terrorism.

# Diagram (1) Phases of the Central Bank of Iraq's action to exit the followup zone

2018 Iraq exist the Follow-up zone 2012 Iraq is on the list of highrisk countries

2017
Issuance of the Regulations No. (1) regarding the rules of due diligence towards clients of financial institutions

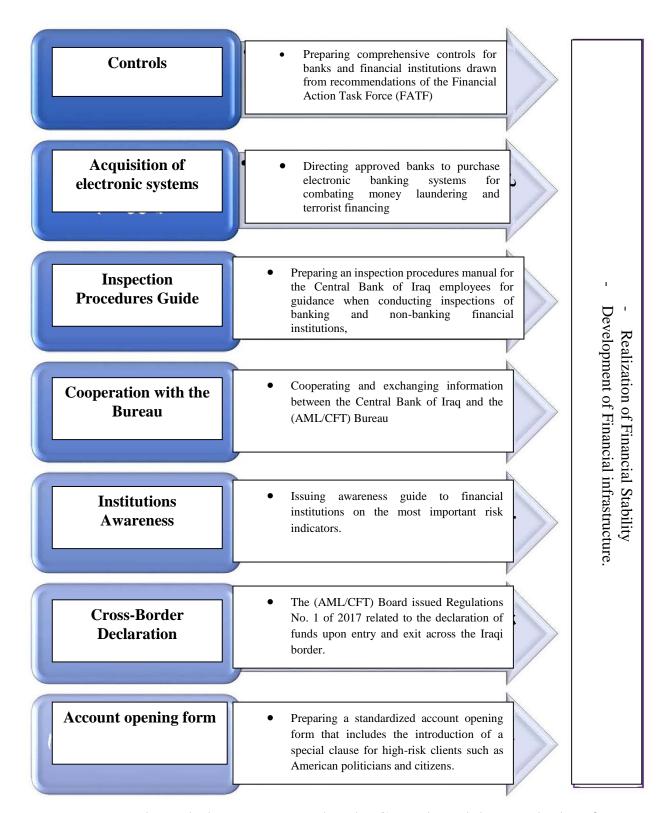
2016 Issuance of the regulations of the terrorist freezing committee 2012 Accession and scrutiny of the International Convention for the Suppression of Terrorism

2015 The issuance of the Anti-Money Laundering and Countering Financing of Terrorism (AML/CFT) Law

Diagram (2) the most important regulations issued by the Central Bank of Iraq to the financial institutions

| Due diligence rules                            | • The Central Bank of Iraq issues Regulations<br>No. (1) regarding the rules of due diligence<br>towards clients of financial institutions   |
|--|--|
| Reporting Policy                               | Obligating all financial institutions to notify<br>the Anti-Money Laundering and Countering<br>Financing of Terrorism (AML/CFT) Bureau<br>immediately of any suspected operations that<br>include money laundering or terrorist<br>financing   |
| Governance Guide                               | <ul> <li>Issuing a corporate governance guide for<br/>financial institutions to regulate the work of<br/>banks and the separation of powers</li> </ul>   |
| Classification of                              | The Central Bank of Iraq obligated the banks   |
| customers based on risk                        | to classify clients on the basis of money laundering and financing terrorism risks   |
| Operation Guidelines                           | <ul> <li>Requiring banks to prepare and issue<br/>operation guidelines certified by their Boards<br/>of Directors that include the duties and<br/>responsibilities of compliance officers in their<br/>banks</li> </ul>  |
| Sources of funds for foreign currency purchase | <ul> <li>Directing all banks and financial institutions of<br/>the methods and procedures required to be<br/>approved to verify the sources of funds of<br/>applicants of purchase orders of foreign<br/>currency.</li> </ul>  |
| Banned banks and institutions                  | Issuing circulars to prohibit dealing with all internationally banned banks and institutions, to stop dealing in US dollars with Iranian banks, and to prohibit dealing with North Korea   |
| Law application in<br>Kurdistan                | <ul> <li>Implementing the provisions of the Anti-Money Laundering and Countering Financing of Terrorism (AML/CFT) Law in the Kurdistan Region</li> <li>Establishing two branches of the Central Bank in the Kurdistan Region in accordance with the administrative order number 3819 dated 2016</li> </ul> |

Diagram (3) the most important regulations issued by the Central Bank of Iraq to regulate the work of financial institutions



Through these measures that the Central Bank has worked on for many years, the report of the Financial Action Task Force for the Middle East and North Africa region (MENAFATF) was issued in May 2018, including several recommendations, including the basic, the main, and other recommendations (according to the classification of the report), which indicated the exit of Iraq from the control zone and the result was (Highly Committed).

The year 2018 also witnessed the exit of the Central Bank of Iraq formally from the European Union list of sanctions, as the Union officially announced the exit of the Central Bank of Iraq from the list of sanctions imposed by the European Union on financial institutions, by publishing it in the official newspaper of the Union, which confirmed the cancellation of sanctions imposed on the Central Bank in the era of the previous regime, those sanctions that stipulated the ban on dealing with a group of Iraqi financial and non-financial institutions, and this step comes as a result of the significant progress achieved by the Central Bank of Iraq in improving its performance and applying international regulations and standards.

Under these recent amendments, global and European financial and banking institutions will be allowed to deal in accordance with the new regulations, because the Central Bank of Iraq has become one of the reliable financial institutions to deal with European institutions, and that these developments help to attract capital from abroad for the purpose of investing in the financial sector and other sectors, within Iraq, to contribute in achieving financial and economic stability for the country.

# 5-4 The Central bank measures to correct the path of Troubled Banks

The Central Bank of Iraq uses various measures to correct the path of troubled banks. One of these measures is the establishment of the Interim Bank (the Bridge Bank), as Article (67 A) of the Banks Law No. (94) for the year 2004 authorized the Central Bank to establish and license an Interim Bank owned and managed by the Central Bank to receive any assets or liabilities from one or more banks to which a trustee was appointed, based on Chapter (11), or a Receiver under Chapter (14) of the aforementioned Banks Law.

In the case of the establishment of the Interim Bank, the Central Bank will provide it with capital, as well as appointing members of the Board of Directors from appropriate and fit persons, for this Board to implement the bank's Articles of Incorporation, and it has been approved by the Central Bank of Iraq.

The year 2018 witnessed the establishment of the first Interim Bank in the history of Iraq, as an Interim Bank has not been established since the establishment of the Central Bank of Iraq, because the previous laws for establishing an Interim or Bridge Bank were not approved, while the Banks Law No. 94 of 2004 authorized that.

A decision to grant a license to an Interim Bank was issued on 5/9/2018 after the approval of the Board of Directors of the Central Bank of Iraq at one of its sessions, and it was named (Hammurabi Commercial Bank) for the purpose of rehabilitating a default bank, which was under the custody of the Central Bank.

The decision specified the bank's capital at (50) billion dinars, paid by the Central Bank of Iraq, and the appointment of a Board of Directors and a Managing Director to the bank from the Central Bank's personnel and based on this decision, the default bank trusteeship committee delivers the assets and liabilities of the default bank to the Board of Directors of Hammurabi Commercial Bank under delivery and receipt minutes that is provided to the Governor for approval.

The Hammurabi Bank shall complete communications with the owners of the deposits, savings and current accounts payable to obtain their final approval to capitalize these accounts, to be complementary amounts to the bank's capital, and the goal of establishing this bank is to rehabilitate the default bank, return the deposit amounts, and seek to provide the banking services allowed according to the Banks Law so the bank will resume its work normally and that its customers won't be affected.

## 5-5 The development of the Iraqi payments system

The development of the Iraqi payments system is one of the main 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 settlement of payments, and the work of the Central Bank continues to improve the payments system. In 2018, several measures were taken to develop payment systems in order to achieve stability in the financial and monetary system. These measures are:

# 5-5-1 State employees' salaries localization project

The Central Bank of Iraq, in cooperation with the General Secretariat of the Council of Ministers, worked on a project for localizing salaries for all state employees, and this project came for the purpose of switching from cash to electronic payment with all its tools. In 2018, salaries of employees of (124) spending units (ministry or government institution) were localized. This is a significant jump in the localization of salaries, as the total spending units whose salaries are localized (130) units spread over most ministries, which reflects the success of this experiment and its acceptability among the employees, but with this growth, the localization project still constitutes a percentage of (20.5%) out of the (633) spending units.

#### 5-5-2 Iraq Retail Payment System Infrastructure (IRPSI)

After the start of the Iraqi retail payment system in 2017, in which (8) banks participated, the year 2018 witnessed an expansion in participation in this system, as (10) new banks participated and they are (Babylon Bank, Al-Junoob Islamic Bank, Al-Rashid Bank, Mosul Bank, Byblos Bank, Noor Iraq Islamic Bank, Ceyhan Bank, BankMed, Investment Bank, Abu Dhabi Islamic Bank), and the linking process was completed after the completion of all administrative, technical and organizational procedures.

### 5-5-3 Connecting comprehensive banking systems

For the purpose of updating bank statements (data) electronically without human intervention and to avoid errors and reduce risks in the use of electronic payment systems, comprehensive banking systems for a number of banks have been linked with electronic payment systems used by the Central Bank, namely (RTGS and C - ACH) and these banks are (Bank of Beirut and Arab countries, Bank of Mosul, Al Junoob Bank, Al-Rajeh Bank, Noor Iraq Bank, BankMed, Trade Bank of Iraq, Ceyhan Bank, and International Development Bank).

# 5-5-4 Provide guarantees of transfers through the payments system

The Central Bank of Iraq activated the work of the daylending mechanism during 2018. The bank can use the guarantee to finance or cover its discontinued operations due to the lack of sufficient balance in its settlement accounts, by guaranteeing the bonds mortgaged with this bank, and this measure guarantees business continuity and achieves confidence in the Iraqi banking system.

## 5-5-5 Development of the Central Securities Depository (CSD)

It is an electronic system that replaces securities and book entries, as it allocates an account to every investor where the shares, bonds and certificates of deposit he owns will be registered in it, and it is traded and transferred in this system electronically, and operation of this system has been activated by issuing **Islamic Certificates of Deposit (ICD)** on this system, and issuing the first certificate of deposit on 16/1/2018, whereby the contract between the central bank and Islamic banks on the one hand, and with the exchanges on the other hand, is made in exchange for the implicit profits made under a Murabaha contract.

#### 5-5-6 Strengthening the role of supervision and control

The Central Bank has set up an Agent Registration System for banks and electronic payment services providers in order to meet the requirements for supervision and control of card issuing banks and electronic payment services providers, by providing a database of agents according to the type of agency granted to them by the provider (Principal or secondary). The Central Bank also issued licenses to some electronic payment companies for the purpose of subscribing to the retail payment system, working as an issuer and processor for prepaid cards, and handling settlements in coordination with the relevant departments.

## 5-5-7 Updating the systems

The Central Bank worked on updating the payment and settlement systems at the banking system through the relevant departments in this field, where it updated RTGS based on matching the Swift Code of the bank with the IBAN of the client.

Updating the (C-ACH) by adding new functions and activities and they are the addition of a field in the (PO) screen to update the type of salary file if it is for government spending units, or institutions of the private sector.

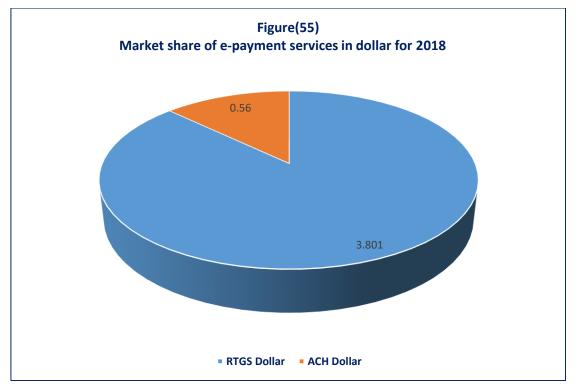
Whereas fees are deducted on the files of salaries of private sector institutions, and fees are not calculated on government files at the present time as well as modifying the session times by extending the time of the order of payment payable and adding sessions to payroll files

#### 5-6 Concentration in the payment and settlement systems

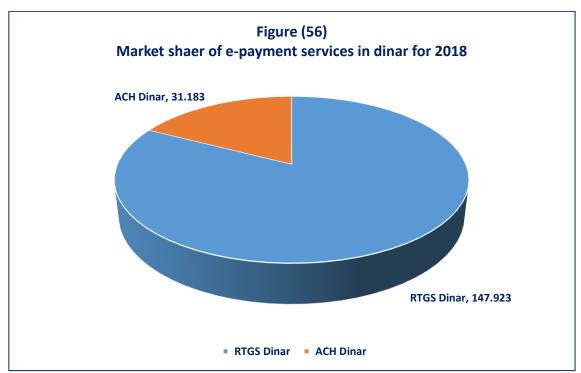
The Central Bank of Iraq relies on a set of electronic systems for the purpose of expediting the provision of electronic payment services and ensuring their quality, including the (RTGS) and (C-ACH) which are the backbone of settlement operations between customers and banks.

RTGS still takes the largest share in payments and financial settlements in 2018, where the total operation were about (147.9) trillion dinars despite its decline from the previous year 2017, as it was about (160.5) trillion dinars, a decrease of (7.8%). As for transactions in foreign currency, it reached in 2018 up to (3.8) billion dollars, which is higher than it was in 2017, as it was within the limits of (3.2) billion dollars, with an increase of (18.7%).

The electronic clearing in its two parts the electronic bonds and payment orders came in the second place, as it amounted to (31.1) trillion dinars in 2018 after it was (25.3) trillion dinars, and with a rise of 23%, as well as in the case with foreign currency operations, as it reached (560.4) million dollars in 2018, while it was (418.8) million dollars in 2017, with an increase of 34%, as shown in Figures (55) and (56).



Source: The Central Bank of Iraq, Payments Department.



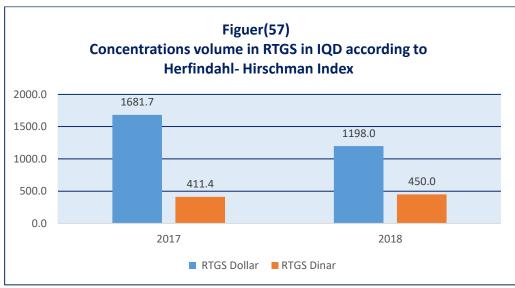
Source: Central Bank of Iraq, Payments Department.

The concentration in the payment and settlement systems was calculated according to the Herfindahl–Hirschman Index, and it was noted that the concentration in electronic clearing in the Iraqi dinar is higher than in 2017, as in 2018 the total concentration of ten banks (3217.7) points while it was in the previous year (2728.3) points, but

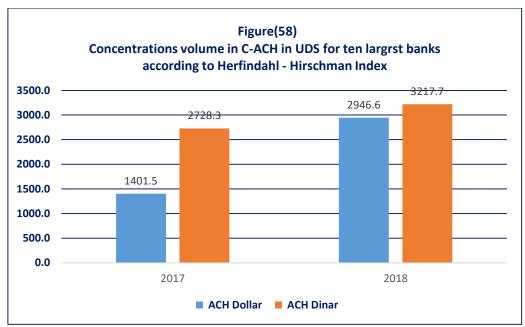
this rise does not pose significant risks to the banking sector, because most transactions are in government banks that account for a high percentage of transactions in the banking market, as the acquisition rate of government banks of transactions (97.4%) of the total transactions of the ten banks that were subject to the concentration index.

As for the electronic clearing in foreign currency, the concentration ratio increased from (1401.5) points in 2017 to (2946.6) points in 2018, and that this increase in the volume of the concentration does not constitute high risks, especially since there are transactions for one government bank that constitutes (46%) of total transactions of the top ten banks that were subject to the index.

While the RGTS witnessed a slight rise in the concentration index for the year 2018 in Iraqi dinars, reaching (450) points, while in the year 2017 was (411) points, this indicates that there is no concentration in this system in transactions in the Iraqi dinar, as shown in Figure (57). As for foreign currency transactions, the concentration index decreased in 2018, reaching (1198) points, while 2017 was (1681) points, and in both years this is considered to be within the safe concentration limits, as shown in Figure (58).



Source: Central Bank of Iraq, Payments Department.



Source: Central Bank of Iraq, Payments Department.

## 5-7 Cyber security

Whenever the expansion and development of electronic banking services, the greater the risk were. The risks of using sophisticated software, the Internet, and electronic payment and settlement systems have recently emerged, offset by the emergence of the dangers of cyber threats, and these threats have been offset by the emergence of the term cyber security, which means information space that came from the word cyber transmitted from the Latin word (Cyber). The cyber security is of great importance in achieving financial stability, and maintaining and spreading the advanced banking industry. Therefore, the lack of breakthroughs in the systems used in the field of electronic payment and settlement guarantees the availability of customer satisfaction and the widespread use of electronic banking products, so achieving cyber security has become a basis for the spread of electronic banking and its modern products. The Central Bank of Iraq has taken several measures to achieve cyber security, as it prepared an information security policy document, which represents the strategy adopted by the Bank, and includes a set of instructions that must be followed in order to ensure the confidentiality of data, and to avoid threats, breaches, and malware, as well as issuing some circulations and publications to banks and online payment companies, because the Central Bank of Iraq is keenness to operate within a discreet methodology, according to the best international practices.

The Central Bank is currently working on issuing a guide on corporate governance and institutional management of information technology and communications in the banking sector as well as guidelines for managing information and communication technology risks, data security and cyber security, at banks and financial institutions.

Given the importance of the financial and banking sector, which is one of the most targeted sectors by hackers, piracy, and electronic attacks, the Central Bank of Iraq is keen to compel banks and financial institutions to develop technical and information infrastructure, data security and protection systems, as well as to follow standards in this regard and to develop and train workers in this field. The Central Bank also conducts auditing and educational visits to banks and financial institutions for the purpose of urging them to continue to work to provide programs (software) and tools for cyber security, as there are a number of banks and financial institutions that have tools and programs (software) for cyber security, while others are currently working to obtain these programs (software).

As for security gaps, the Central Bank of Iraq is working to implement an internal project for the survey system, assessing and managing security gaps for the purpose of conducting periodic checks, implementing updates to close the gaps, and avoiding their exploitation to implement electronic attacks.

There are some terminal accounts of the banks that contain malicious software, and because they are networked with the Central Bank to implement payment systems and other systems, some malicious software have been detected trying to enter the Central Bank's network, and they were stopped immediately and automatically by the protection systems and firewalls of this Bank and all banks were informed of the need to use licensed anti-virus software for terminal accounts related to the Central Bank of Iraq systems.

# 5-8 Supporting institutions

# 5-8-1 Iraqi Deposit Insurance Company

At the beginning of 2018, the Central Bank of Iraq signed the Articles of Incorporation of the Iraqi Deposit Insurance Company, with the founding body of the company, which includes (44) Iraqi and foreign banks including (6) government banks and (22) banks from the private sector, and (16) branches of a foreign bank, and the establishment of this company was driven by the duties and objectives of the Central Bank of Iraq

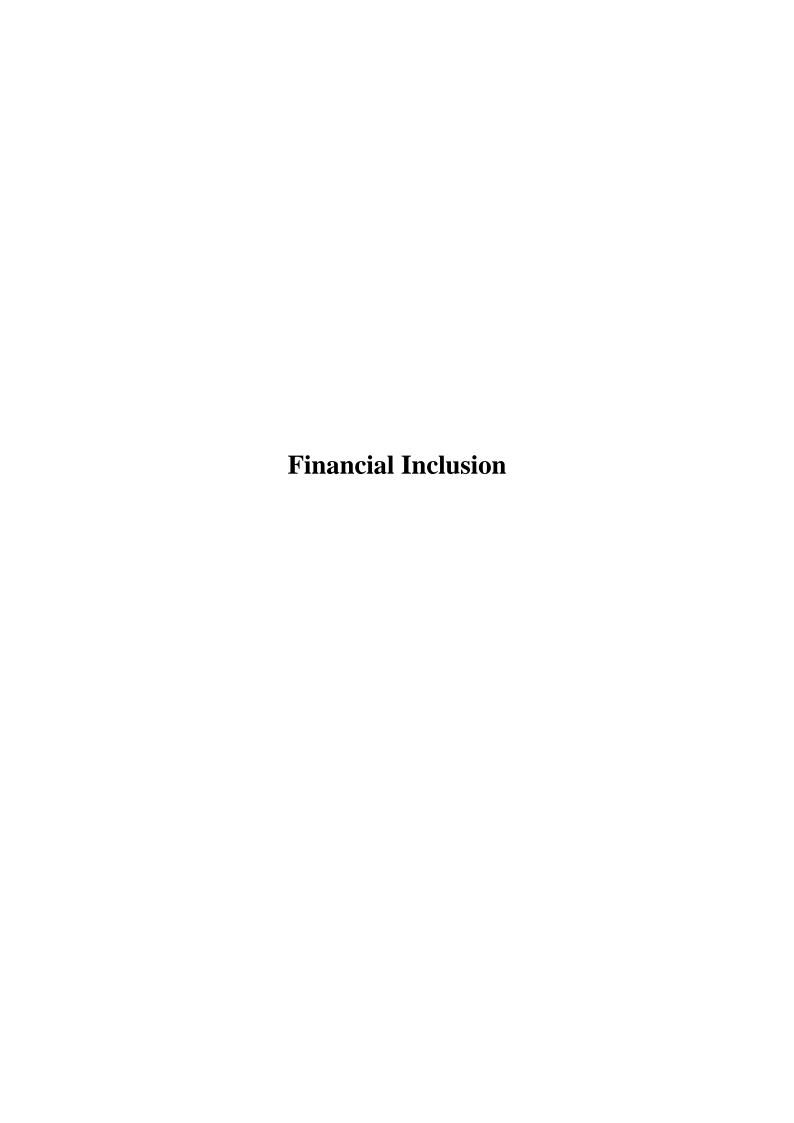
stipulated in its law to ensure the stability of the banking sector and increase confidence in it. The company will have a major role in protecting the banking sector, enhancing the public's confidence in it, and attracting more deposits, taking it out of compactness to enter it into the banking system, for the purpose of using it in investment, and granting credit to expand banking activity, and to support the Iraqi economy.

#### 5-8-2 Credit Information Exchange Department

The credit information exchange department is considered one of the important departments, as it provides the banking sector with information about customers wishing to obtain cash or pledged credit through Credit Bureau System (CBS) and that this system provides large and important information about customers applying for credit facilities, including the size of their obligations, the amount of bad credit for customers who have defaulted in payment, as well as the availability of personal information about these customers. In addition, information is provided on the financial position of customers in the previous stages, and are there legal actions against them?

This information helps in the decision-making by specialists and the bank's senior management whether to grant credit or not, and this Department may contribute through the information it provides in reducing financial default cases of borrowers, and ensuring the safety of banking institutions.

The Central Bank is currently in the process of updating the system and developing its performance to improve the services provided to the beneficiaries of this information, and the number of transactions of updating during the year 2018 reached (6825) update transactions, while the inquiry process reached (158481) query transactions in 2018, while (71811) was a query transaction in 2017, that is: with a growth rate of (122%), which reflects an expansion of the banks' policy in granting credit.



#### 6. Financial Inclusion

Care for financial inclusion has increased at the global level, and most countries worldwide have placed it among their strategic economic goals for the purpose of increasing financial depth, because of its direct and indirect positive effects on economic growth, income distribution, and reducing unemployment and poverty. There has been a continuous increase in the proportion of financial inclusion in most countries, as 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 another <sup>1</sup>.

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.

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

<sup>1</sup> Asli Demirguc-Kunt; Leora Klapper; Dorothe Singer; Saniya Ansar and Jake Hess (2018), Global Findex Database of Financial Inclusion 2017: Measuring Financial Inclusion and the Revolution in Financial Technology, the World Bank Group.

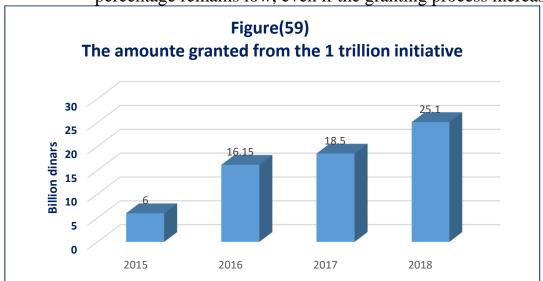
Financial Inclusion was formed in 2018 under the chairmanship of the Governor of the Central Bank and membership of a number of entities in the public and private sector, which is responsible for preparing the long-term national strategy for financial inclusion, and sub-committees (executive and coordination) emerged from it.

#### 6-1 Central Bank of Iraq initiatives to support financial inclusion

#### 6-1-1 Small and Medium Enterprises Financing Initiative

The Central Bank of Iraq launched the (1) trillion initiative to grant small and medium loans to citizens through private banks, and that is because of its belief in supporting the unemployed segment, and the owners of new ideas in creating projects that have beneficial and positive impact in the national economy, and the Central Bank was keen that these amounts reach beneficiaries at a small interest rate that does not form a burden on them.

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 2018 to (25.1) billion dinars, as shown in Figure (59), and the total amount disbursed for customers from 2015 to 2018 is (65,833) billion dinars, which constitutes (6.58%) 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 (31) banks from the private sector participated in granting the initiative sums, divided into (16) Islamic banks, (13) conventional banks and two branches of a foreign bank, and these loans contributed to the creation of about (2100) small projects that contributed to finding job opportunities up to (4200) 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

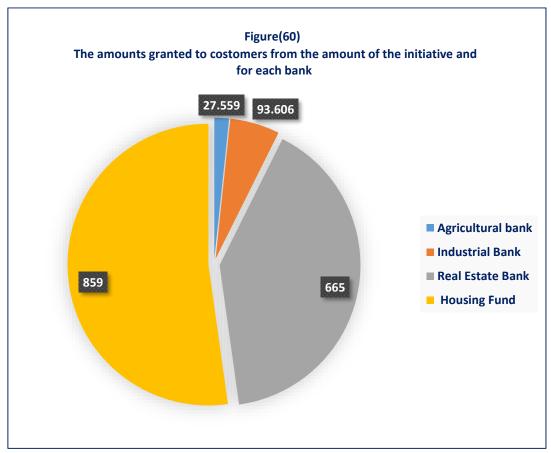
The Central Bank of Iraq was keen, among its goals, to promote economic development, and the Central Bank worked to achieve this important goal through Large Enterprises Financing Initiative at an amount of (5) trillion dinars, where the initiative's amounts were pumped through specialized banks, at a low interest rate, so 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 contribute to 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

| Banks' name       | Amount allocated                     | Actually granted |         | Interest | Operating ratio |       | Growth rate |
|-------------------|--------------------------------------|------------------|---------|----------|-----------------|-------|-------------|
|                   |                                      | 2017             | 2018    | rate     | 2017            | 2018  | in grant    |
| Agricultural Bank | 1,666,000                            | 15,832           | 27,559  | %4       | 0.95            | 1.65  | %74         |
| Industrial Bank   | 1,666,000                            | 17,667           | 92,606  | %4       | 1.06            | 5.73  | %424        |
| Real Estate Bank  | 834,000                              | 600              | 665,000 | %3       | 0.07            | 79.7  | % 1107      |
| Housing Fund      | 834,000<br>Increased to<br>1,334,000 | 824              | 859,000 | %2       | 0.10            | 64.39 | %1042       |

Source: Central Bank, Financial Operations and Debt Management Department

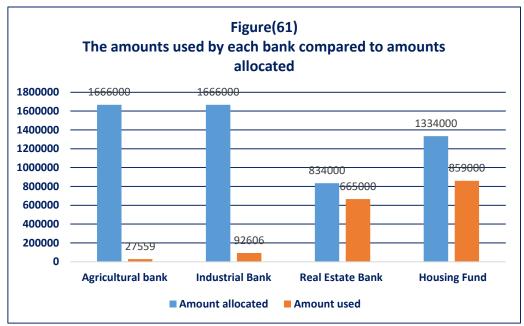
As a result of citizens' demand for loans provided by the Housing Fund, the amount allocated to the Fund has been increased from 834 billion dinars to 1334 billion dinars, and thus the initiative amount exceeds (5) trillion to become (5.5) trillion dinars. And Figure (60) illustrates this.



Source: Central Bank, Financial Operations and Debt Management Department

From the above, it becomes clear that there is a great demand for real estate loans as a result of the great demand for building housing units, especially that housing projects were suspended for a long time as a result of entering into wars and blockades, with the increasing number of residents and marriages, so obtaining housing units is a necessity for the Iraqi citizen. 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 (61).



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. The first and second dimensions (access and usage) will be touched upon, and the third dimension (quality), which reflects the quality of financial services provided, is somewhat complex to measure; therefore, the focus will be on the other two dimensions.

**6-2-1 Access:** 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 opening of new banks during 2018, as well as the encouragement of the Central Bank of Iraq to banks to open branches in all of Iraq, and the year 2018 witnessed a slight increase in the number of bank branches, reaching (843) branches, while they were (843) branches in 2017, and this increase came as a result of opening new banks, after converting the activity of some money transfer companies to Islamic banks. The banking density increased slightly, reaching (44.16) in 2018 after it was (44) in 2017, accompanied by a slight decrease in banking spread, as it was (2.27) in 2017 and became (2.26) in 2018.

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, as in 2018 it reached (38.2) million people, after it was (37.1) million.

Table (14)
Banking intensity and banking spread In Iraq

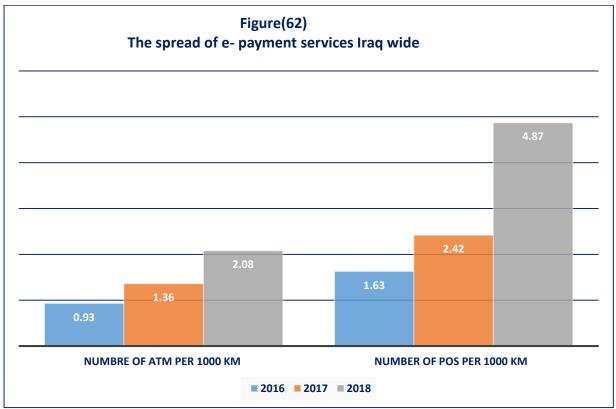
| Year | Population        | Number of     | Banking   | Banking |
|------|-------------------|---------------|-----------|---------|
|      | (thousand people) | bank branches | intensity | spread  |
| 2015 | 36.933            | 854           | 43.24     | 2.31    |
| 2016 | 37.883            | 866           | 43.74     | 2.29    |
| 2017 | 37.140            | 843           | 44.05     | 2.27    |
| 2018 | 38.200            | 865           | 44.16     | 2.26    |

#### 6-2-1-2 The spread of e-payment services (ATM) and (POS)

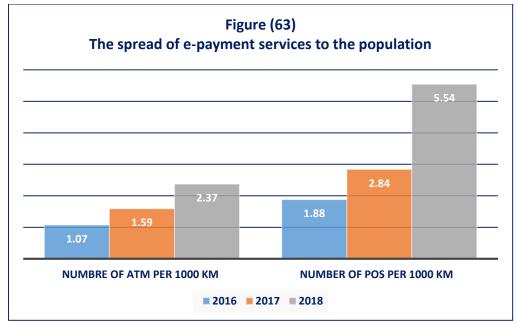
The Central Bank of Iraq is working on the spread of electronic payment services, shifting financial transactions from dealing in cash to using electronic payment tools, and eliminating dealing in cash gradually, and the year 2018 witnessed an increase in the spread of (ATM) and (POS) devices throughout Iraq. It is noticed that the number of (ATMs) increased to the area of Iraq from (1.36) in 2017 to (2.08) in 2018, 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 (2.43) in 2017 to (4.87) in 2018 which is slightly more than (ATM) 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 2018, as the ratio of the number of ATM to the population reached (100,000) people (2.37) and the POS has reached (5.54), 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 the reason is due to security challenges.

And Figures (62) and (63) 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.

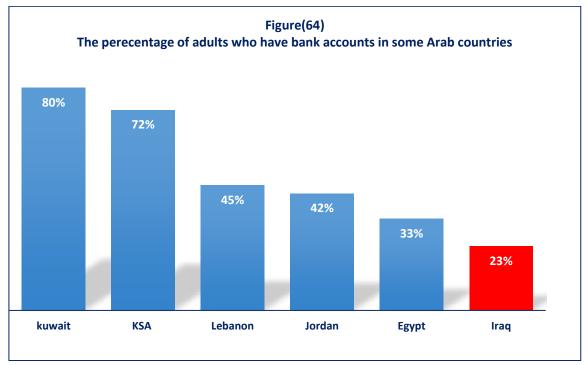
**6-2-2 Usage:** This dimension relies on a number of variables as follows:

#### 6-2-2-1 Accounts Ownership Index at financial institutions

The process of opening a bank account is one of the main factors in promoting financial inclusion, and taking advantage of the conventional and electronic financial and banking services. The available data indicate that the number of open bank accounts with banks did not reach the required level, compared to some Arab countries, as the number of accounts opened with banks until 2018 reached (1253029) accounts, and they constitute (3.2%) to the total population. It is a very small ratio, despite its increase from 2017, as it was (2.4%), and the ratio of the number of accounts to adults over 15 years (5.5%), while the growth rate of these accounts between 2017 and 2018 was (% 4).

While the number of bank cards issued in 2018 reached (1245261) cards with a growth rate (65.5%) from the previous year, as it was (752033) cards, and the ratio of cards to the number of adults form (5.4%), and the reason for the lack of a significant increase in the number of accounts opened to the population, despite the decision to localize the salaries of employees in all state institutions, the reason may be that most employees have been localized in government banks that do not have a comprehensive system, which led to the issuance of their cards without the opening of a bank account for them.

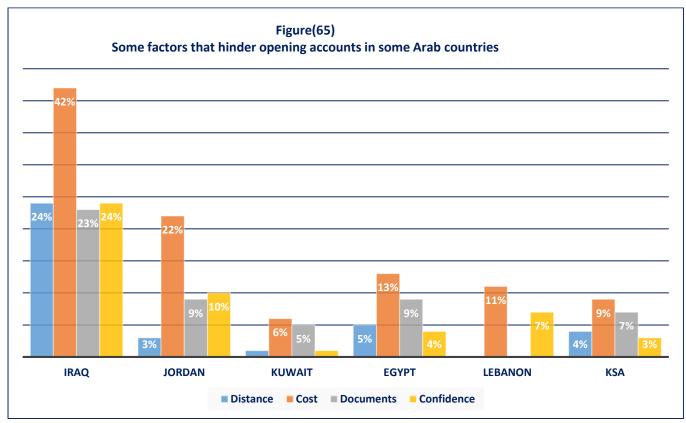
When comparing the financial inclusion indices of some Arab countries, it was noted that the ratio of adults who have bank accounts in Iraq reached (23%), which is the lowest ratio among the countries of the region, as shown in Figure (64), and the reason for this low ratio in Iraq is due to the low banking awareness. The Central Bank of Iraq is working on spreading the banking culture and urging citizens to deal with banks, as well as urging state employees to localize their salaries in approved banks, which will lead to the increase of this ratio in the future.



Source: the World Bank http://ufa.worldbank.org/country-progress/iraq

There are some obstacles that form a barrier for citizens to own bank accounts, including the distance between the bank and the location of residence, the cost of opening accounts, the lack of some documents regarding the account opening process, and confidence in the banking system. Through the figure (65), it becomes clear that there are (24%) of adults in Iraq hindered from obtaining a bank account due to the distance, which is the highest ratio compared to some Arab countries, as well as (42%) of adults were unable to open an account because the cost is high and, despite the presence of a large number of approved banks, which leads to increased competition and reduced costs of opening accounts, but still constitutes an obstacle to owning bank accounts, which is a significantly high rate compared to some Arab countries. While the documents required to open a bank account are a hindrance, as (23%) of adults find it difficult to open bank

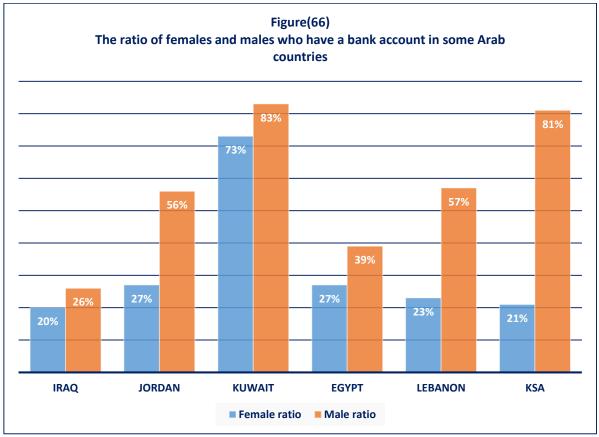
accounts and this came as a result of using the new KYC form that requires a lot of important information and documents, according to the international standards used to open accounts, as well as the use of four types of official documents in transactions, Iraq has started several years ago issuing the unified national ID card, which leads to reducing this ratio due to the ease of obtaining the data of customers wishing to open accounts.



Source: the World Bank http://ufa.worldbank.org/country-progress/iraq

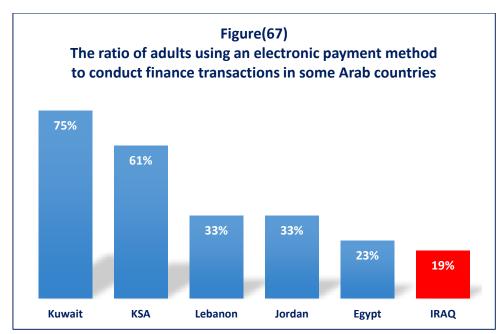
The low confidence in the banking system is one of the negative factors that affect the desire of individuals to deal with banks, and then financial inclusion in general. According to the World Bank data, the confidence index in the banking system is a significant factor in opening bank accounts, and this ratio reached (24%), which is the largest among the selected Arab countries. Therefore, the Central Bank works to spread banking awareness among citizens on the one hand, and to compel banks to comply with international laws, instructions, and standards on the other hand, in order to enhance confidence in the banking system. Among the most important of these measures is to compel banks to establish banking awareness sections, protect the public, and issue instructions regulating the work of these departments, and their relationship with customers in order to enhance citizen confidence in the banks.

Upon looking at the ratio of females and males who have bank accounts, it is noted that some Arab countries have a higher ratio of males than the ratio of females in owning bank accounts, as is the case with regard to Iraq, the ratio of males who own bank accounts reached (26%) while the ratio of females reached (20%), which calls for caring to encourage women to own bank accounts and use official financial services and empower them financially, as shown in Figure (66).



Source: the World Bank http://ufa.worldbank.org/country-progress/iraq

As for electronic payment services, the ratio of adults who use electronic payment tools in Iraq reached (19%), which is a good ratio considering that this activity is new therein, but it still represents the lowest ratio among some Arab countries and requires a lot of financial institutions to raise this ratio, and the transformation to use electronic payment services instead of using cash as shown in Figure (67).

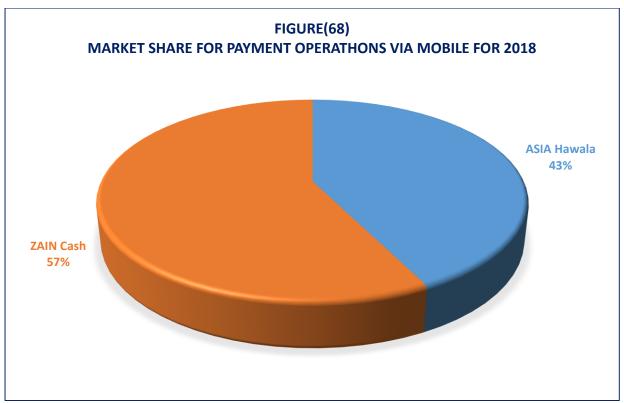


Source: the World Bank http://ufa.worldbank.org/country-progress/iraq.

#### 6-2-2-5 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, it 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, the process of depositing and withdrawing cash to and from the wallet through the centers approved by the two companies.

The total transactions by the two companies during the year 2018 reached (390,814) million dinars, and the volume of the competition was clear between the two companies in the acquisition of providing financial services to customers, as Asia Hawala achieved a ratio of (43%) of the total transactions, while the largest share was for Zain Cash that acquired (57%) of total transactions, as shown in Figure (68).

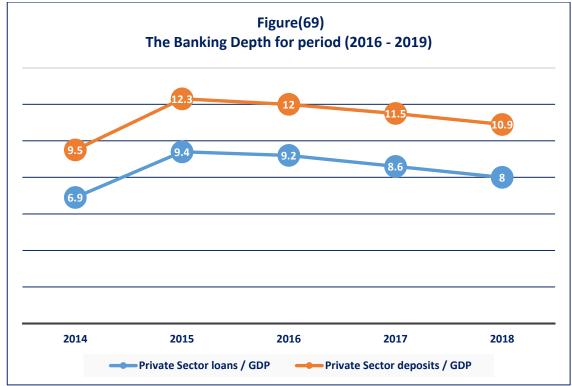


Source: Central Bank of Iraq, Payments Department

As for the spread of service at the level of customers, Asia Hawala Company obtained a ratio of (92%) of the customers, and the ratio of its customers' participation in Baghdad reached (22%) while Zain Cash Company customers' ratio reached (7.3%) to the total number of subscribers in the service, of whom (20%) are in Baghdad.

## 6-2-3 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 (69) indicates that this index has decreased from 2015 to 2018, due to an increase in the rate of GDP growth at rates of growth that exceed the growth rates 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 2015 – 2018.



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

#### 6-3 Measuring the aggregated index of financial inclusion in Iraq

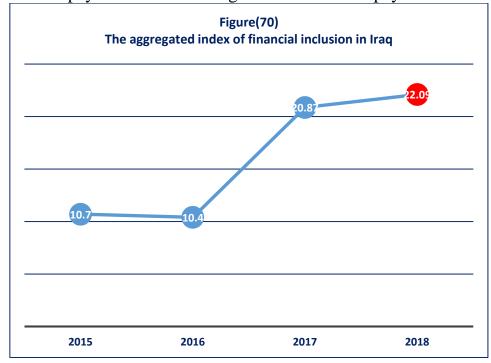
There are many methods to measure the aggregated index of Financial Inclusion; therefore, the Alliance for Financial Inclusion method will be adopted being the most suitable in the application of the case of Iraq by relying on the following steps <sup>1</sup>:

- 1- Determining the targeted values of the index: The targeted values were chosen based on the values to be achieved in Iraq to enhance financial inclusion, and they themselves were adopted in the Financial Stability Report for 2016, because Iraq has not reached the targeted values yet, and seeks to reach them.
- 2- Determining weights for variables: Weights reflect the importance of the variables involved in measuring the sub-indices for financial inclusion, which are access and usage, and then giving weights to the sub-indices.
- 3- Sub-indices aggregation: In this step, the sub-indices are grouped into one index that represents financial inclusion in Iraq, and the value of the index ranges between one and zero, and whenever the index value approaches one, this means that there is a high level of financial inclusion, and vice versa.

<sup>1</sup> The steps to measure the aggregated index of financial inclusion are published in the 2016 Iraq Financial Stability Report.

The results in Figure (70) indicate an increase in the value of the aggregated index of financial inclusion from (20%) in 2017 to (22%) in 2018, and this reflects the success of the Central Bank of Iraq's policies in encouraging financial inclusion, increasing the confidence and interaction of individuals with the formal financial sector. This increase in the value of the financial inclusion index is due to the noticeable increase in the number of bank accounts as a result of the salary localization policy, as well as the noticeable increase in the number of ATMs and POSs that have increased in the last period.

In spite of 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 goals, including increasing the level of financial inclusion, and adopting electronic tools to settle payments and exchanges instead of cash payment.





| Filing number in the Books   | and Documentation for the year 2019 | House in Baghdad (2402 |  |  |
|--|-------------------------------------|------------------------|--|--|
| For inquiries, opinions and comments please contact us at the following email: |                                     |                        |  |  |
|  |                                     |                        |  |  |
|  |                                     |                        |  |  |
|  |                                     |                        |  |  |

