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The impact of non-performing assets on the profitability of Iraqi commercial banks:An applied study in the Gulf Commercial Bank and the National Bank for the period(2012-2021)

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Abstract : The aim of the research is to shed light on the impact of non-working assets on the profitability of commercial banks, where non-working assets, their causes, and methods of treatment were dealt with, as well as banking profitability, where a sample of two banks was selected and a time series extending from (2012-2020), For this research, there were two hypotheses represented by the relationship between non-operating assets and bank profitability, using the statistical program (Eviews). Which the bank bears during the processing and collection of those assets, and recommendations to banks to reduce these assets.

Keywords: non-performing assets, bank profitability.

INTRODUCTION: The financial and banking system is the basic building block in the economic construction ofany country, and this importance increases from the growing role of financial intermediation and the inevitability ofbalance between units with a surplus and units with a deficit in it, at a time when technological development and complexity have reached their peak, and competition for creativity and innovation is at its peak.

Accordingly, the strength of an economy is nothing but a reflection of the strength of the financial and banking system with it, but with that, just as the economy can reach the top, it can also collapse in moments, and this is due to the nature of the banking system and the risks surrounding it.

One of the most prominent problems facing the financial and banking sector is the faltering of its assets, the dilemma of its treatment, and avoiding the repercussions resulting from it as much as possible, or maintaining its minimum levels, in order to ensure that the investment climate is not affected, and since the factors that govern it are intertwined, intertwined and uncontrolled at the level of those in charge of management Credit itself, which is the result of borrowers' failure to meet their obligations, incurs burdens that exceed the opportunity cost of employment. As the failure of banks to collect their assets leads to weak profit-oriented banking services, which requires finding solutions to the causes of non-working assets that increase uncertainty regarding the capital position of banks and thus limits the possibility of obtaining financing, and therefore interest rates on banks rise by reducing The growth of credit and economic activity, in addition to the high costs related to the management of non-working assets and the decrease in capital resulting from the losses of these assets, as both lead to a decrease in the profitability of commercial banks.

First - research methodology

A - the research problem

In both financial and technological innovation, and informational innovation, banks find themselves strongly required to participate in identifying the risks that beset the credit process, the most important of which are the risks of non-performing assets, and monitoring their causes in advance, and providing them with successful treatment, in order to optimally accommodate the variables of the environment in which they exist.

On this basis, the research problem revolves around the following main question:

What is the extent of the impact of non-performing assets on the profitability of commercial banks?

B-the importance of the study:

The importance of the research lies in the fact that it focuses on an issue that is considered one of the most important issues for banks in terms of their success and continuity, as it deals with:

1- Shedding light on non-working assets and how to control and treat them.
2- Shedding light on banking profitability.
3- Knowing the impact of non-performing assets on the profitability of commercial banks.

C- Research Objectives:

1- Identify the reasons and obstacles that may prevent the bank from collecting its money.
2- Measuring the extent of the impact of non-performing assets on the profitability of banks.
3- Trying to come up with recommendations that help banks avoid falling into the problem of non-performing assets

Fourth - research hypotheses The study is based on testing the following null hypotheses:
The first main hypothesis: There is a statistical significance of the effect of non-performing assets on bank profitability
The second main hypothesis: There is a statistical significance of the effect of non-performing assets on the rate of
The third hypothesis: There is a statistical significance of the effect of non-performing assets on the net interest margin ratio.

C- Research methodology

This research relies on both the inductive approach and the analytical approach as follows:

1- Theoretical side

In this aspect, the researcher relies on extrapolating and analyzing what was included in previous studies of non-working assets, and showing the most important results that it reached, in order to build an integrated framework to clarify the impact of non-working assets in reducing bank profitability, by relying on sources, references, books, .periodicals and scientific research. in the field of finance and banking

2- The applied side :

In this aspect, the researcher relies on the analytical approach by collecting data for the research
To reach the effect of non-operating assets in reducing bank profitability, from the financial statements of the research sample banks for the period (2012-2020) and through the published financial statements of the research sample banks .and benefit from them to test the validity of the hypotheses in pursuit of the research objectives

D- Research limits :

A- Temporal limits: The research covered the selected sample in the spatial limits (2012-2020) for the independent and dependent variables.

B- Spatial borders: the Commercial Bank of Iraq and the National Bank of Iraq.

Second: The theoretical framework of non-operating, profitability and banking assets

1- Non-performing assets

A- Define non-performing assets

There are many definitions of non-performing assets and their contents varied, as they can be defined as those assets that carry with them a partial or total loss for lending institutions, and the cost of non-performing assets includes the value of those assets plus the cost of collecting and managing them, or opportunity costs, and the costs of banks and credit follow-up transactions. For non-performing assets, as a result of the customer's failure to pay his obligations to the bank on the specified date, whether it was for you due to an acceptable or unacceptable reason, or it was due to the customer's procrastination, or reasons beyond his control **(Mattar, 2010: 68,69)**.

Or it can be defined as bank loans that started well and then turned into non-performing ones, with high risks that may not be possible to collect these loans within a reasonable period **(Abdul Hamid, 2009: 21).** Or loans whose principal or interest payments have stopped, or Both of them together for a period of three months or more because the cash surpluses for the exploitative activity are not enough to pay those obligations.

It includes credit transactions of doubtful value or remaining balances, which the bank considers the possibility of repayment is doubtful, based on the information available to its management, and this often leads to the loss of part of these financing operations, when the position of the applicants for financing is not reassuring and the guarantees It is not enough, which makes it imperative for those in charge of credit management to put the account under continuous monitoring with a close follow-up of the business development of these borrowers in order to reduce the potential loss to the lowest possible level **(Tayel, 2006: 328).**

B-ffects of non-performing assets

1- At the level of the banking system: Confidence in the banking system begins to decline among customers and dealers in various economic activities, and this situation may worsen when sudden and large withdrawals of deposits occur, which may be a result of moral or real risks, which in turn leads to a decline in consumption and investment, and a decrease in the level of activity economy and its arrival in a state of recession or even recession **(Abdul-Jabbar and Saeed, 2015: 376).**

2. The effect of local banks: When the phenomenon of bank defaults occurs, it will lead to the defaulting local banks and reduce the lines of credit granted to these banks, or they will impose strict conditions when granting banking facilities and require direct cash deposits that cover in advance the value of their entire foreign transactions, whether in the field of import credits and others, and this has Negative impact on imports.

3. Slowdown of economic growth: The expansion of the phenomenon of bank failure leads to an impact on economic growth due to the decrease in financing operations for projects, especially new projects, which leads to a slowdown in economic growth.

4. Effects on Profits: Non-working assets have wide negative effects on profits, for example but not limited to
Including the following: (Al-Arebid, 2017: 285).

a) Funds frozen in non-performing assets are not within the reach of the banking institution for investment.

b) Increasing the administrative costs of collecting these debts. The time and effort required by officials to follow up on these debts, which negatively affects their productivity. c) The possibilities of growth and increase in the profitability of the enterprises that suffer greatly from non-working assets are relatively limited.

e) Losses from the sale of expropriated assets

b) **5 - The impact on projects and companies:** The failure of banks leads to a reduction in the volume of financing operations due to difficulties in liquidity, which leads to difficulties in financing the establishment of new projects and difficulties in financing working capital for existing companies.

C- Causes of non-functioning assets

There are many reasons that lead to the failure of credit facilities, as there are reasons related to the bank granting credit and reasons related to the borrower, and other reasons beyond the control of both the bank and the customer, that is, reasons related to the external environment, among the most prominent of these reasons are what Come:

(a) The reasons related to the bank

Weak credit risk management and easily accepted borrowers cause non-performing assets under credit evaluation, in other words, the management was poorly evaluating the creditworthiness of the borrower and his ability to repay the debt and the risks associated with it. Therefore, poor credit analysis and insufficient risk management have an impact on non-performing assets. And credit control has a major role in preventing the occurrence of non-performing assets, as strict monitoring and control of projects is the basis for obtaining good quality loans. In addition, even non-performing assets that are well evaluated and advanced may perform well if they are monitored. Properly when the bank fails to pay due attention to the borrowers and what it does with the money, the bank may not see the risks associated with it and the goal of following up and monitoring credit is to ensure that the end use is in line with the purpose and terms of approval. (Asfaw, 2016:669).

(b) the reasons related to the client

1- Recent experience in the activity .

2-Using loans for purposes other than their intended purpose.

3 -The client's disregard for the bank's instructions and directives, or his non-compliance with the conditions set by the bank for his use of the financing provided to him, and his non-compliance with providing follow-up data or presenting them in a manner consistent with the bank's desires, but without reflecting the reality of his existing conditions in the funded project.

4- Failure to provide the correct data and information to the bank when requesting financing or during it.

5-Serious irresponsibility and mismanagement of borrowed money, especially if the clients are not the owners of the project **(Adel, 2011: 62**).

(c) - the reasons related to the external environment.

The institutional environment includes both (the legal and judicial framework, political stability, and the degree of control over corruption), as the presence of corruption negatively affects the degree of market competitiveness, and then leads to the provision of ineffective credit facilities in societies that have few democratic traditions and civil affiliation, if exposed Decision makers are under pressure from groups that seek to obtain an unjustified or illegal economic quarter. In this context, credit decisions are strongly affected by political pressure from various interest groups. Hence, companies with strong political ties will get credit facilities, but it may be less Quality (even in extreme distress) Moreover, internal oversight tends to be low in countries with a corrupt civil society, of which much of the Middle East and North Africa region is, and the quality of institutions including the judicial system, bureaucracy, law and order, and property rights may be weak, as well The political crisis in the country, wars, and all these factors affect the client's ability and then lead to his stumbling, not to mention the natural causes, including (floods, earthquakes, fires, and other disasters) (**Abdul Qader et al., 2018: 141**).

D-Methods of treating non-performing assets

The methods of treating non-performing loans differ according to the circumstances of each of the bank or the customer, and therefore the bank must deal with the customer with caution so that the bank can recover all its rights with minimal losses.

1- Floating the customer: the bank faces a problem where one of the customers defaults as a result of exceptional, urgent and not permanent circumstances that have an impact on the customer's ability to pay, and therefore it becomes difficult to get out of this crisis without obtaining the support or support of the bank to save the customer and continue its activity and then return to the ability to Payment, and the process of floating the customer is considered one of the first and most important stages for dealing with non-performing assets, and it is represented by the bank giving the customer an opportunity to improve his situation by giving him a grace period through which the payment of the debt and its interest is postponed from one to three years.

The process of floating the client may also include either scheduling the debt, waiving interest or part of it, or waiving a percentage of the debt **(Bin Seddiqa, 2017: 53).**

2- Recovering the client: At this stage, the bank takes a set of procedures through which direct and indirect intervention takes place in the management of the client's activity, according to a plan of action to be agreed upon with the client. At this stage, the bank provides appropriate administrative advice to the client, which deals with the following aspects:

a- Re-establishing the necessary accounting and control systems in an integrated manner, and this leads to the rejection of accurate internal control and auditing with the availability of sound and accurate data and information that can be relied upon in restoring the sound financial statements and that help in making the right decisions in a timely manner.

b- Recommend and work to exploit the unused part of the production capacity in coordination with sales and marketing policies to create consistency between them and overcome all obstacles. **c-** Renewing assets or the consumed part of them to raise production capacity. This may require an increase in capital, resorting to the method of financing deferral, or selling part of the unused assets, and using it to renew the rest of them. D- Re-studying employment, its specifications, and the potential of the workforce, which leads to increased production, reduced unit cost, and improved production, through practical training at home and abroad. (**Ben Siddiqa, 2017: 54).**

3- Customer recovery: It represents the most important stages, and it is a set of procedures according to which the work or project is transferred from a defaulting customer to a non-defaulting customer, i.e. the customer regains his activity, and the customer is revived by granting new facilities and on soft terms through which he can return his activity to his normal state, and here he must The bank should take into account that this decision is considered one of the most dangerous banking decisions due to the risk it entails in the form of doubling the bank's loss of the original credit facility in addition to the additional financing in the event of the customer's failure, and therefore this decision must receive special attention from the bank as it is more dangerous than the decision Granting credit, which necessitates the fulfillment of a set of conditions, the most important of which are**: (Aish, 2015: 13)** 1- Determining the problems surrounding the borrower and how to overcome them and the ability of the project management to do so or the need for a modification in management that would allow facing the problems in a positive way.

2- That the customer has the desire and determination to overcome the crisis and has the ambition and full readiness to bear the effort, cost and risks involved in the decision to expand, and that the bank's past transactions have supported these facts.

3- That the future and present conditions also indicate the availability of a suitable market for the customer that accommodates his products of the goods and services that he offers. 4- That the stage of stagnation and recession in the economic cycle that caused the insolvency of the client is close to ending, if it has not already ended, and that the cause of the sudden turmoil that occurred to the client has been addressed. 5- Estimating the size of the additional loan necessary to pay the borrower's activity and get him out of his crisis, and make sure that granting this additional facility will achieve for the bank a recovery of a larger percentage of the original credit facility in addition to the new loan.

4- Scheduling: The basis for the decision to reschedule non-operating assets is in the event that it is confirmed that the borrowers are unable to pay, for reasons beyond his control, such as national or global economic conditions that led him to stop fulfilling his obligations. We also find that he has a great possibility to resume his activity and achieve profits that guarantee repayment. Loans, and one of the most important rules for scheduling a loan.

a- The extent of the borrower's sincerity and his previous response to the bank and his intention to fulfill his obligations.

b- Schedule the indebtedness balances according to a schedule and specific dates, with fixing the installments commensurate with the borrower's activity and financial flows.

c- The bank should take into account the changes that occur in the future and that affect the cash flows of the borrower, such as the exchange rate variable, or the state's intervention in laws and legislations (**Adel, 2011: 57**).

5- Capitalization: It means transferring part of the bank's loans to the institution to contribute to its capital. Some believe that the capitalization of loans is one of the positive solutions for the following reasons:

(a)Improving the financing structure of the institution.

(b) Reducing the burdens of loans and their benefits on the borrowing institution.

(c)Providing judicial expenses for the bank **(Adel, previous source: 58).**

6- The bank's waiver of part of its troubled loans: as the bank has reached, through study and analysis, a complete conviction of the borrower's inability to pay all the outstanding loans and its interest, then it resorts to relieving the borrower of part of the amount due in order to reach an acceptable settlement, and not to follow judicial solutions Due to the length of the procedures, the amicable settlement takes place according to the following forms:

(a)Exempting the borrower from a certain amount in exchange for him paying the remaining amount of the loan value in one payment.
(b)Exempting the borrower from a certain amount, in exchange for him paying part of the remaining amount of the loan and paying the remaining installments.
(c)Exempting the borrower from a certain amount and paying the remaining amount in installments to pay it according to a specific timetable **(Adel, previous source: 60).**
7- **Debt securitization as one of the methods of dealing with non-working assets in banks**: by which non-working assets are converted into securities that are traded in financial markets, and one of the most important determinants of the success of the securitization process. Existence of an active market for securities.
(a) The presence of institutions specialized in the trading of securities to increase investment and revitalize the stock market.
(b) building a system of institutions and securitization companies.
(c)Issuing laws, rules, and regulations for the securitization process **(Siddiqa, 2017: 70)**.
8- Liquidation of the client: According to this method, the two parties are convinced that liquidation is the best solution for the lack of expansion in the facilities, and for the lack of elements of success and the continuation of the activity that leads to the destruction of the remainder of the project after verifying the following aspects: The economic activity practiced by the institution has reached a stage of decline and it cannot practice a popular activity, and then the banks take legal measures to liquidate the borrower and seize his money and assets and declare his bankruptcy and sell all the mortgaged collateral to the bank to fulfill his rights **(Shaherazade, 2017: 178)**.

2-banking profitability

A- Its concept: Banks are service institutions that collect money from depositors and savers in different forms and ways, then they lend these amounts to institutions, companies and individuals in need of this money, and through the comparison between the low interest rate that you pay to depositors and the high interest rate that borrowers, banks achieve their profits in addition to the activities and work that they carry out such as Collecting checks and other things. Banks get other commissions added to their profits **(Kanaan, 2012: 190).**
Profitability is defined as the net increase in real wealth that can be distributed to the owners of the project at the end of the period without affecting the invested capital **(Farouhat et al., 2018: 538**) . It is also known as the actual embodiment of the results achieved by the bank, which are of interest to multiple parties and different categories (shareholders, lenders, suppliers, customers, etc.)
Profitability represents the final result of a number of policies and decisions taken by banks as the main goal that the bank seeks to achieve, and the ability of banks to achieve profits is usually measured by a set of ratios, the most important of which are as follows**: (Nila, 2016: 6)**
1- The rate of return on property rights: This indicator measures the management's ability to achieve profits from the owners' money, or refers to what the owners get from their investment of their money, and it explains the returns generated by these private funds during the fiscal year. The bank to finance its assets, which are also called equity, and this indicator is calculated according to the following formula:

Equity Equity at the Return Rate=(Annual Net Result) / (Equity Equity)

2- The rate of return on assets: This rate is calculated by dividing the annual net result by the total assets based on the fact that the bank has used to achieve this result all its assets and not a part of them, which is calculated through the following equation.

Annual Net Result)/(Total Assets)=(Assets on Average Return

B-Impact of non-performing assets on profitability

The benefits that banks obtain from the credit facilities that they grant to their customers are the main source of their income, as non-performing assets refer to investing money in poor non-interest-producing facilities that occur due to the wrong choice of customers, and the volume of non-performing assets does not only affect current profits, but extends its impact To the future profits as well, which leads to the loss of the bank to some good investment opportunities in the long term, and the profits of banks also decrease and because of the write-off of the provisions that were formed to meet the troubled assets **(Pradhan, 2014: 14).**The profitability of banks is used as one of the criteria through which the efficiency of performance in the bank is judged, and this negative impact of non-operating assets on the profitability of the bank appears as follows: **(Kirui, 2013: 15)**

1- The increase in non-performing assets in general has a negative impact on banks' profits through a decrease in the rate of return on assets, and this negative effect appears as a result of the bank's failure to achieve revenues from non-performing assets as the revenues of these assets are frozen and marginalized, and they are not considered as real achieved revenues, which Affects the bank's revenues at the general level.

2- Non-performing assets lead to the erosion of banks' profitability and incur more expenses in order to get rid of them, in addition to the high opportunity cost (rate of return on investment) due to non-performing assets as a result of not achieving returns from the funds that were invested in these assets, as it was possible to employ these Money in other investments and get better earnings.

3- Banks incur expenses in creating provisions to meet the losses of their non-operating assets, which in turn affect the profitability of the bank, and there are additional expenses incurred in attempts to recover the money that was invested in these poor facilities.

As a result of the seriousness of non-working assets and their negative and direct impact on the profitability of the bank, the decrease in the bank's revenues results in other negative effects, including. (Al-Khidr, 2011: 124)

1- High expenses for obtaining funds from sources other than deposits. As a result of the bank's need to provide additional resources as compensation for the funds that were frozen in the form of troubled assets, which causes an increase in expenses, and these high expenses for additional funds affect the competitiveness of the bank, which ultimately leads to The high cost of providing the bank's services to its customers.

2- The bank's inability to meet its needs as a result of the net profit being affected by the decline in revenues and the increase in the volume of funds frozen in provisions.

3- The decrease in the net operating profit as a result of the decrease in the bank's revenues and the marginalization of the debit returns (debit interest) of non-operating assets results in an imbalance in the balance of cash flows of both types, incoming and outgoing, and this matter affects the ability of the bank to meet its obligations towards depositors and other banks.

2- The practical framework

A- Description and analysis of the financial data of the research variables

The practical side Ratio of non-performing assets: The ratio of non-performing assets refers to the total doubtful debts and bad debts to the total loans and advances **(Swamy, 2014: 32), (Kapoor, 2014: 36).**

Working non-assets ratio=(Bad debts + collection of doubtful debts) / (Advances and loans total)

The National Bank of Iraq	Iraqi Trade Bank	Time period
4.71	0.49	2012
0.01	26.41	2013
0.03	34.35	2014
0.11	0.14	2015
0.01	5.13	2016
0.39	0.52	2017
0.26	0.79	2018
0.12	0.04	2019
3.62	0.06	2020
1.14	7.55	**the average**
1.80	1.31	**standard deviation**

The table was prepared by the researcher based on the annual financial reports published by the banks

Table No. (2) Rate of return on assets

The National Bank of Iraq	Iraqi Trade Bank	Time period
0.42	0.61	2012
0.19	0.49	2013
0.16	1.99	2014
1.51	1.00	2015
1.30	0.55	2016
0.16	0.64	2017
0.20	1.78	2018
0.73	2.03	2019
0.39	0.32	2020
0.56	1.05	**the average**
0.51	1.30	**standard deviation**

The table was prepared by the researcher based on the annual financial reports published by the banks

B- Testing and analyzing the research hypotheses

For the purpose of testing hypotheses, the current study can be done through the use of statistical indicators, represented by the simple correlation coefficient that measures and tests the strength of the relationship between two variables, one of which is an independent variable representing (non-working assets) and the other is the dependent variable. Thus, the test hypothesis states the following: "There is a significant correlation Statistical for the impact of non-working assets on bank profitability.

Which represents (banking profitability). As for testing and measuring the impact relationship between the two variables mentioned above, it is possible by employing the simple regression model, which is defined according to the following model:

$$y_i = \beta_0 + \beta_1 x_i + e_i$$

Where y_i represents the dependent variable (dependent), β_0 represents the fixed limit, β_1 represents the marginal slope, x_i represents the values of the independent variable, and e_i represents the random error limit that is distributed according to the normal distribution with a mean (0) and variance of σ^2 in order to test the hypothesis that states (There is a statistically significant effect relationship for the impact of non-working assets on bank profitability). But before proving the hypotheses of the above study, we will describe the statistical variables of the current study, which refer to data that takes the form of a time series defined by the time period (2012-2020) for the two banks of the Trade Bank of Iraq and the Bank of Iraq. Al-Ahly of Iraq. And as shown below:

First: Iraqi Trade Bank

We can summarize the statistical description and test the above test hypotheses on the data of the Trade Bank of Iraq through the following:

Statistical description The statistical description focuses on finding some indicators of central tendency and some indicators of dispersion, as well as the (Jarke Bira) test, as shown in the table below Table (1) shows the indicators of the statistical description and the test of the normal distribution of the study variables at the Trade Bank of Iraq

Probability	Jarque-Bera	Kurtosis	Skewness	The standard deviation	the arithmetic mean	the variable
0.536	1.245	1.541	0.546	0.693	1.045	**banking profitability**
0.245	2.810	3.060	1.368	13.191	7.548	**non-performing assets**

From the results listed in Table 1, which belong to the Trade Bank of Iraq, we find that the value of the arithmetic mean for the variable (banking profitability) is equal to (1.045), and with a standard deviation of a value of (0.693), while the value of flatness and skewness that belongs to the variable (banking profitability) It amounted to (0.546)

(1.541), respectively. For the purpose of testing the normal distribution of bank profitability variable data, we will rely on the (Jarque-Bera) test. From the above table, we find that the value of the test statistic (Jarque-Bera) amounted to 1.245, and its probability value was (0.536). When compared, we find that the value is greater than 0.05, so the null hypothesis will be accepted, which states (that the data on the banking profitability variable follow a normal distribution) and reject the alternative hypothesis which states (that the data on the variable of banking profitability do not follow the normal distribution).

Returning to the results listed in Table 1, which belong to the Trade Bank of Iraq, we find that the value of the arithmetic mean for the variable (non-working assets) is equal to (7.548), and with a standard deviation in the language of its value (13.191), while the value of flattening and skewness that belongs to the variable (assets non-working) amounted to (1.362) (3.060), respectively. For the purpose of testing the normal distribution of non-working assets variable data, we will rely on the (Jarque-Bera) test. From the above table, we find that the value of the test statistic (Jarque-Bera) amounted to 2.810, and its probability value was (0.245). When compared, we find that the value is greater than 0.05, so the null hypothesis will be accepted, which states (that the data of the non-functioning assets variable follow the distribution natural) and reject the alternative hypothesis which states (that the data of the non-working assets variable do not follow the normal distribution).

Testing and analyzing the correlation hypothesis of the current study variables for the Trade Bank of Iraq

The current research includes a study of the correlation between the dependent variable (dependent) represented by (banking profitability), and the independent variable represented by (non-working assets), where we will focus on testing the main hypothesis (the null hypothesis) which states "there is no statistically significant correlation between the variable Banking profitability and the variable of non-working assets of the Trade Bank of Iraq for the period from 2012-2020 "against another hypothesis (the alternative hypothesis)" By employing the simple Pearson correlation coefficient, then testing the significance of the correlation coefficient by employing the (t) test for the sample variables. In the current study, we will rely on the scale of Mukaka (2012: 71)) to determine the strength of the correlation between the variables of the study, as shown in Table (1).

table 2 Standard strength coefficient of correlation

Source: Mukaka. M.M. (2012) " Statistics Corner: A Guide to Appropriate Use of Correlation Coefficient in Medical Research" Malawi Medical Journal; vol.24,no3 -p. 69-71

1.00-0.90	0. 90-0.70	0.70 -0.50	0.50-0.30	0.30-0.00	**degree of correlation**
Very trong	**Strong**	**Moderate**	**Low**	**very low**	**link strength**

The table below shows the values of the correlation coefficient between the variables of the current study of the Iraqi Trade Bank

Table No. (3) shows the values of the correlation matrix between bank profitability and non-performing assets:

Covariance Analysis: Ordinary		
Date: 04/07/23 Time: 18:05		
Sample: 2012 2020		
Included observations: 9		
Correlation		
t-Statistic		
Probability		
Observations	**Bank profitability**	**non-performing assets**
Bank profitability	1	*105-0.
	-----	3.569
	-----	0.036
	9	9
non-performing assets	*-0.510	1
	3.569	-----
	0.036	-----
	9	9

Source: Prepared by the students based on the program Eviews9

* Mean significant difference at 0.05 ** Mean significant difference at 0.01 Through the results presented in Table No. (3), we find that there is a moderate inverse statistically significant correlation between bank profitability and non-performing assets, and that relationship was estimated at (-0.510). The value of the t-test is (3.569), and its corresponding probability value is (0.036), which is less than 0.05, so this relationship is significant, which means rejecting (the null hypothesis), which states, "There is no statistically significant correlation between the variable of banking profitability." And the variable of non-working assets of the Trade Bank of Iraq for the period from 2012-2020 "and accepting (the alternative hypothesis)" There is a statistically significant correlation between the variable of banking profitability and the variable of non-working assets of the Trade Bank of Iraq for the period from 2012-2020.

Studying the impact relationship and its hypotheses between the study variables and for the Trade Bank of Iraq

This topic focuses on studying the relationships of the effect of the dependent variable, which is bank profitability, and the independent variable, which is (non-performing assets). Which focuses on testing a main hypothesis (the null hypothesis), the first of which states that (there is no statistically significant effect of the variable of non-working assets on the variable of banking profitability of the Trade Bank of Iraq for the period from 2012-2020). Against another hypothesis called (the alternative hypothesis) (there is A statistically significant effect of the non-working assets variable on the banking profitability variable of the Trade Bank of Iraq for the period from 2012-2020). In order to complete the test requirements for the effect of the studied variables, it is done by employing the (T) test to clarify the significance (statistical significance) of the independent variable on the dependent variable, and employing the (F) test to indicate the suitability of the general model with the data under study, and the coefficient of determination or interpretation (R2). To find out the proportion of the independent variable interpretation of the dependent variable.

3-1 Studying the impact of the relationship between non-performing assets on bank profitability

The effect relationship between the independent variable represented by non-performing assets and the dependent variable represented by bank profitability can be described through a simple regression model as shown in the table below

Table No. (4) shows the results of the regression coefficient between non-performing assets and bank profitability

Bank profitability Dependent Variable:
Method: Least Squares
Date: 04/07/23 Time: 18:58
Sample: 2012 2020
Included observations: 9

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.962211	0.282237	3.409230	0.0113
Non-preforming assets	0.011042-	0.002400	4.600833-	0.0000

R-squared	0.544235	Mean dependent var	1.045556
Adjusted R-squared	0.522303	S.D. dependent var	0.692588
S.E. of regression	0.723846	Akaike info criterion	2.384655
Sum squared resid	3.667674	Schwarz criterion	2.428482
Log likelihood	8.730946	Hannan-Quinn criter.	2.290075
F-statistic	8.323975	Durbin-Watson stat	1.934161
Prob(F-statistic)	0.000019		

The source is prepared by the student based on the Eviews program

Through the value of (F) calculated (8.323975), and the corresponding probability value, which is equal to (0.00019), which is a significant value under the level of significance of 0.05, we conclude that the studied model between (non-performing assets) and bank profitability is a significant model, meaning that this model is compatible with The phenomenon under study is in its representation.

In addition, it is noted from the above table that the coefficient of determination (R^2) amounted to (0.544) and the corrected coefficient of determination (0.522). It refers to the non-performing assets variable.

We find that the non-performing assets have an opposite effect, meaning that when the non-performing assets increase by one unit, the financial profitability variable will decrease by (0.011042). Through the (t) test of the beta value coefficient (B1), which amounted to (4.600833 -) and its probability value of (0.0000). It is a sign of significant beta coefficient below the significance level of 0.05. Therefore, we will reject the null hypothesis, which states the first that (there is no statistically significant effect of the non-functioning assets variable on the variable of banking profitability of the Trade Bank of Iraq for the period from 2012-2020). And accept the alternative hypothesis (there is a statistically significant effect of the non-functioning assets variable on the variable Banking profitability of the Trade Bank of Iraq for the period 2012-2020).

Second: Al-Ahly Bank of Iraq We can summarize the statistical description and test the above test hypotheses on the data of the National Bank of Iraq through the following: b- Statistical description The statistical description focuses on finding some indicators of central tendency and some indicators of dispersion, as well as the (Jarke Bira) test, as shown in the table below

Table (5) shows the indicators of the statistical description and the test of the normal distribution of the study variables at the National Bank of Iraq.

Probability	Jarque-Bera	Kurtosis	Skewness	The standard deviation	the arithmetic mean	the variable
0.4446	1.621	2.404	0.996	0.514	0.562	**banking profitability**
0.229	2.947	3.110	1.4006	1.803	1.029	**non-performing assets**

From the results listed in Table 5, which belong to the National Bank of Iraq, we find that the value of the arithmetic mean for the variable (banking profitability) is equal to (0.562), and with a standard deviation of its value (0.514), while the value of flatness and skewness that belongs to the variable (banking profitability) It amounted to (0.996) (2.404), respectively. For the purpose of testing the normal distribution of bank profitability variable data, we will rely on the (Jarque-Bera) test. From the table above, we find that the value of the test statistic (Jarque-Bera) amounted to 1.621, and its probability value amounted to (0.4446). When compared, we find that the value is greater than 0.05, so the null hypothesis will be accepted, which states (that the data on the banking profitability variable follow a normal distribution) and reject the alternative hypothesis which states (that the data on the variable of banking profitability do not follow the normal distribution).

Returning to the results listed in Table 5, which belong to the National Bank of Iraq, we find that the value of the arithmetic mean of the variable (non-functioning assets) is equal to (1.029), and with a standard deviation of its value (1.803), while the value of flattening and skewness that belongs to the variable (assets non-working) amounted to (1.4006) (3.110), respectively. For the purpose of testing the normal distribution of non-working assets variable data, we will rely on the (Jarque-Bera) test. From the above table, we find that the value of the test statistic (Jarque-Bera) amounted to 2.947, and its probability value amounted to (0.229). When compared, we find that the value is greater than 0.05, so the null hypothesis will be accepted, which states (that the data of the non-functioning assets variable follow the distribution natural) and reject the alternative hypothesis which states (that the data of the non-working assets variable do not follow the normal distribution).

Testing the correlation hypothesis and analyzing it for the variables of the current study of the National Bank of Iraq

The current research includes a study of the correlation between the dependent variable (dependent) represented by (banking profitability), and the independent variable represented by (non-working assets), where we will focus on testing the main hypothesis (the null hypothesis) which states "there is no statistically significant correlation between the variable Banking profitability and the variable of non-performing assets of the National Bank of Iraq for the period from 2012-2020 "against another hypothesis (the alternative hypothesis) "There is a statistically significant correlation between the variable of banking profitability and the variable of non-performing assets of the National Bank of Iraq for the period from 2012-2020", from By employing the simple Pearson correlation coefficient, then testing the significance of the correlation coefficient by employing the (t) test for the sample variables. The table below shows the values of the correlation coefficient between the variables of the current study of the National Bank of Iraq

Table No. (6) shows the values of the correlation matrix between bank profitability and non-performing assets

Covariance Analysis: Ordinary
Date: 04/07/23 Time: 18:05
Sample: 2012 2020
Included observations: 9
Correlation

t-Statistic		
Probability		
Observations	bank profitability	Non-performing assets
bank profitability	1	92**5-0.
	-----	-4.519
	-----	0.000
Non-performing assets	9	9
	-0.592**	1
	-4.519	-----
	0.000	-----
	9	9

Source: Prepared by the students based on the program Eviews9

* Mean significant difference at 0.05 ** Mean significant difference at 0.01

Through the results presented in Table No. (6), we find that there is a correlation of moderate inverse statistical significance between bank profitability and non-performing assets, the estimator of that relationship was (-0.592). And the value of the t-test in the language (-4.519), and its corresponding probability value in the language (0.00), which is less than 0.05, so this relationship is significant, which means rejecting (the null hypothesis) that states “there is no statistically significant correlation between the profitability variable Banking and the variable of non-working assets of the National Bank of Iraq for the period from 2012-2020" and accepting (the alternative hypothesis) "There is a statistically significant correlation between the variable of banking profitability and the variable of non-functioning assets of the National Bank of Iraq for the period from 2012-2020."

Studying the impact relationship and its hypotheses between the study variables and those of the National Bank of IraqThis topic focuses on studying the relationships of the effect of the dependent variable, which is bank profitability, and the independent variable, which is (non-performing assets). Which focuses on testing a main hypothesis (the null hypothesis), the first of which states that (there is no statistically significant effect of the variable of non-working assets on the variable of banking profitability of the National Bank of Iraq for the period from 2012-2020). Against another hypothesis called (the alternative hypothesis) (there is A statistically significant effect of the variable of non-working assets on the variable of banking profitability for the National Bank of Iraq for the period from 2012-2020). In order to complete the test requirements for the effect of the studied variables, it is done by employing the (T) test to clarify the significance (statistical significance) of the independent variable on the dependent variable, and employing the (F) test to indicate the suitability of the general model with the data under study, and the coefficient of determination or interpretation (R2). To find out the proportion of the independent variable explanation from the dependent variable

3-1 Studying the impact of the relationship between non-performing assets on bank profitability

The effect relationship between the independent variable represented by non-performing assets and the dependent variable represented by bank profitability can be described through a simple regression model as shown in the table below

Table No. (7) shows the results of the regression coefficient between non-performing assets and bank profitability

bank profitability Dependent Variable

Method: Least Squares
Date: 04/07/23 Time: 19:30
Sample: 2012 2020
Included observations: 9

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.618729	0.210108	2.944808	0.0216
non-performing assets	-0.054920	0.009738	-6.519397	0.0000

R-squared	0.637109	Mean dependent var	0.562222
Adjusted R-squared	0.594447	S.D. dependent var	0.514047
S.E. of regression	0.539247	Akaike info criterion	1.795843
Sum squared resid	2.035509	Schwarz criterion	1.839670
Log likelihood	6.081293	Hannan-Quinn criter.	1.701263
F-statistic	.26977411	Durbin-Watson stat	1.802055

Prob(F-statistic)0.0004298

The source is prepared by the student based on the Eviews program

Through the value of (F) calculated (11.269774), and the corresponding probability value, which is equal to (0.0004298), which is a significant value under the level of significance of 0.05, we conclude that the studied model between (non-performing assets) and bank profitability is a significant model, meaning that this model is compatible with The phenomenon under study is in its representation.

In addition, it is noted from the above table that the coefficient of determination (R^2) amounted to (0.637) and the corrected coefficient of determination (0.594). It refers to the non-performing assets variable.

We find that the non-performing assets have an opposite effect, meaning that when the non-performing assets increase by one unit, the financial profitability variable will decrease by (-0.054920). Through the (t) test of the beta value coefficient (B1), which amounted to (-6.519397) and its probability value of (0.0000).) which is evidence of significant beta coefficient under the 0.05 significance level. Therefore, we will reject the null hypothesis, which states the first that (there is no statistically significant effect of the non-functioning assets variable on the variable of banking profitability of the National Bank of Iraq for the period from 2012-2020). We accept the alternative hypothesis (there is a statistically significant effect of the non-functioning assets variable on a variable Banking profitability of the National Bank of Iraq for the period from 2012-2020).

Conclusions and recommendations:

1-Non-operating assets in commercial banks are a phenomenon that cannot be disposed of, but they can be minimized and dealt with with caution to mitigate their effects as much as possible.

2- Most of the reasons for the high percentage of non-working assets in banks are due to their expansion in granting unconsidered credit, and there are reasons, some of which are related to the borrowing customer, some of which are related to the bank itself, and some of them are related to external circumstances.

3- Non-operating assets indirectly affect the profitability of commercial banks, through the costs borne by the bank during the processing and collection of those assets.

4- The weakness of the supervisory side and the poor credit studies contributed greatly to the defaulting of the assets of the commercial banks, as well as the confusion in issuing and amending credit policies without a clear study or the participation of the banks in putting them together contributed to the rise in their ratios with the banks.

5- The high non-working assets of the banks, the research sample, is evidence that there is a defect in the bank's credit system, as well as poor credit management in terms of studying loan requests.

6- The decrease in bank profitability may have many causes, and the high percentage of non-working assets is one of these reasons

7- There is a correlation and positive significant effect between non-operating assets and banking profitability in the research sample banks.

Recommendations:

1-The need for loan requests submitted to the bank to be carefully and well studied, as well as continuous training for workers in the credit granting departments.

2- The need to follow up the credit granted by the bank through all its stages to ensure that the credit is spent on the purpose for which it was granted.

3- The banks should rely on the economic feasibility of the projects when granting them credit, and not rely on the guarantees provided by the borrower.

4- The borrower must be honest and truthful when submitting his data to the bank, and not provide misleading data.

5- Banks must rely on modern and sophisticated methods and methods to avoid and deal with non-performing assets instead of relying on traditional methods.

6- It is preferable that banks handle non-operating assets in friendly ways with the client and avoid judicial methods because they take a lot of time in addition to the large expenses paid by the bank.

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appendices

	The National Bank of Iraq					
the year	Doubtful debts	Bad debt	Total loans and advances	Doubtful debts	Bad debt	Total loans and advances
2012	104574	327059	674932	116915	104480	829146
2013	965050	155826	115537	989911	144080	231100
2014	122131	517840	165476	121921	234795	315960
2015	125257	819130	184042	142054	370384	283342
2016	290771	115503	144071	397490	508360	292445
2017	618933	321980	164684	506590	569200	309323
2018	211008	189520	935362	950199	951000	312420
2019	215667	211670	194222	121998	121190	321504
2020	329084	498364	341522	126836	-	433867

	The National Bank of Iraq		The Commercial Bank of Iraq	
The yaer	**The annual net result**	**Property rights**	**The annual net result**	**Property rights**
2012	**143100**	**546639**	**181900**	**143200**
2013	**106800**	**165411**	**166100**	**196579**
2014	**104600**	**263368**	**896500**	**214385**
2015	**810900**	**260396**	**416600**	**274201**
2016	**757700**	**187732**	**235300**	**281941**
2017	**100500**	**285719**	**296500**	**291808**
2018	**108600**	**257849**	**791200**	**283958**
2019	**653200**	**256641**	**916400**	**271929**
2020	**354500**	**307483**	**199000**	**314542**