



# **MEASUREMENT AND DISCLOSURE OF CREDIT RISK MANAGEMENT IN THE LIGHT OF THE FINANCIAL REPORTING STANDARD IFRS 9 AN APPLIED STUDY IN A SAMPLE OF IRAQI PRIVATE BANKS**

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<p><b>Received:</b> 11<sup>th</sup> December 2022 <b>Accepted:</b> 11<sup>th</sup> January 2023 <b>Published:</b> 20<sup>th</sup> February 2023</p>	<p>This study aimed to clarify the role of the application of the International Financial Reporting Standard (IFRS:9) in credit risk management, by applying to Iraqi private banks. The study population is represented by all Iraqi private banks, which number (25) private commercial banks, and an arbitrary sample has been selected from these banks represented in that the financial statements and the clarifications complementing the bank are complete and issued quarterly and apply international standards and standard (IFRS:9) in accordance with the instructions The Central Bank of Iraq and thus the study sample becomes (5) banks, after excluding the banks that are not registered in the Iraqi Stock Exchange, and Islamic banks, which have recorded (30) views, and the financial data was obtained from the published financial reports for the period from (2016-2021) In the Iraq Stock Exchange and among the banks surveyed, it was used in the analysis of financial data (program, Excel 2010, SPSS, and Eviews 11 program).</p> <p>Among the most important conclusions reached by the study: that there is a positive significant relationship between the application of the expected credit losses model in accordance with the International Financial Reporting Standard (IFRS 9) and the level of management of credit risk indicators in the Iraqi private banks under study." In addition, there are significant differences at the significance level (0.05) before and after applying the expected credit losses model in accordance with the International Financial Reporting Standard (IFRS:9) entitled "Financial Tools - Recognition and Measurement in the Level of Management of Credit Risk Indicators in the Iraqi Private Banks under study</p>

**Keywords:** International Financial Reporting Standard (IFRS:9) - Credit risk management, Iraqi private banks.

## **1. INTRODUCTION**

A bank fulfills the conflicting ambition of not only being ready to provide liquidity on demand by depositors but also providing liquidity to borrowers to authorize loans to increase profitability. Considered the riskiest sector due to the nature of the role. These conflicting roles expose banks to several risks that can lead to bankruptcy. Money (Cebenoyan & Strahan, 2004).

First and foremost, the financial instruments a bank manages are an important component of a bank's

operating performance and reflect the bank's strategy of managing its portfolio of funds to maximize cash flow. Receivables and income grow. The higher the credit risk, the greater the allowances and obligations for reduced cash flows, in accordance with the requirements of the new standard. Treasury departments make allowances to cover these future risks according to the classification of each financial asset. To do. Increased financial burden impacting regulatory capital, especially as the increase in the provision's component is included in capital.



Credit risk, on the other hand, represents the loss if the borrower fails to pay its debts or if the borrower's creditworthiness deteriorates (Hamad, 2008). The process of granting loans, as is known, is one of the basic activities of a bank, in fulfilling the obligations owed by the bank according to the terms of the contract between the bank and the customer. These risks depend on the type and nature of each loan, its size and extent. Impact on banks.

*This has led to the need to consider in some detail the relationship between IFRS Standard 9 and banks' credit risk, as follows:*

This paper is organized as follows. Section 2 provides an explanation of the literature review. Section 3 describes the methodology used. Section 4 presents the study population and sample and follows Section 5 an analysis of the results and discussions. Finally, Section 6 presents the conclusion, and Section 7 presents the recommendations for the study.

## **2. LITERATURE REVIEW**

### **2.1 previous studies**

This topic covers some of the previous research relevant to the subject of research that researchers have been able to view and benefit from in order to clarify research gaps in a way that helps their current research. The pre- and post-application of IFRS 9 standards, grouped into four groups, are explained below.

This study Ahmed, (2016) addresses the impact of measuring credit losses according to accounting standards and related controls in Egyptian banks by analyzing the methodology applied in International Financial Reporting Standards (IFRS 9). Financial Instruments – Recognition and Measurement Financial Instruments – Recognition and Measurement, also identified similarities and differences with currently applied methodologies to Egyptian Accounting Standard No. (26) entitled Financial Instruments. The quality of Egyptian banking accounting information was applied to people with expertise and expertise in this study. This includes officials from the financial and credit departments, officials from the Bank of Egypt's administrative and supervisory departments, and bank auditors. Among the set of results, the most significant are: The application of the expected credit loss model, leading to increased efficiency for Wafa Accounting information should become more relevant to the needs of decision makers by supporting the assessment of past, present and future events. Also, the Bank of Egypt will Regulations on the preparation and capture of financial statements of issuing banks are mainly based on Egyptian Accounting Standard No. (26) entitled "Financial Instruments" and therefore the recognition of credit losses depends on the actual one. and does not

depend on the actual Expected loss approach that affects the quality of accounting information.

On the other hand, a study titled "Understanding Loan Loss Provisions Under IFRS 9: A Simulation-Based Approach" (Seitz et al., 2018), applied a simulation approach to improve the loan loss reserves under the international standard IFRS9. With an explicit and quantitative study of the IFRS9 ECL model, which has impacted the European banking industry, researchers have used: We used simulation models through an approach that relies on public information. Probability of default, loss given default, and level of liability. Researchers used data on European banks for the period 2005-2014 to estimate the number of reserves according to the expected loss model. Credit loss when calculating the probability of default using the proposed simulation model.

A study entitled "Preparing financial statements in accordance with International Financial Reporting Standard '9' and its impact on the credit ratings of international organizations: A study on a sample of Iraqi banks listed on the Iraq Stock Exchange" (Rasheed, 2020) recently explored and analyzed the role of preparing financial statements in accordance with the reporting standard International Finance 9 "Financial Instruments" mandated by the Central Bank of Iraq to apply to credit ratings by international organizations, and its relationship and impact. By studying financial statements (statement of financial position, statement of income, statement of other comprehensive income, list of changes in shareholders' equity), one researcher used questionnaires as a tool to study a survey sample of Iraqi banks. Did. 5) Surveys. Researchers also relied on analytical descriptive approaches that rely on collecting and interpreting data about phenomena. Data were analyzed using a statistical program (SPSS) using arithmetic means and finding correlations using (Person) coefficients. For effect relationships, investigators used (T-test), ANOVA test). Most prominent among the most important results is that the preparation of financial statements in accordance with IFRS9 will affect credit ratings by international agencies such as (S&P Global, Moody's, Fitch). Statement of financial position and earnings achieved after applying standard IFRS 9 and calculating allowance for losses Expected credit ratings and changes in fair value of financial assets and liabilities in the statement of other comprehensive income reflect.

A study entitled The Impact of IFRS 9 Transition on Capital in a Post-Bank Recovery Environment: The Case of Slovenia (Groff., & Mörec 2021) examines the impact of the IFRS 9 transition on levels of loan impairment and total assets. It was meant to find out. bank stocks. In Slovenia, a eurozone country, it was difficult to



restructure banks on a large scale with the help of the state. The study was applied to a sample of banks in Slovenia, an EU member state., the study conducted a comparative analysis of banks that transferred their portfolios of deteriorated loans to the state-owned bank's wealth management company and all other banks as expected. One of the most important findings of the study was the recognition that loan values (impairment) decreased significantly during the transition to International Financial Reporting Standards IFRS 9 due to a significant improvement in the asset portfolio, but A negative impact was observed for banks that have restructured their loan portfolios. To the impact of institutional and regulatory settings on the impact of standard implementation. International Financial Reporting IFRS 9.

*By reviewing relevant previous studies, what distinguishes the current study from previous studies can be determined as follows:*

This study is one of the studies that deals with the potential effects of applying the International Financial Reporting Standard IFRS9 on bank credit risk management by applying it to the Iraqi banking sector, and it was also distinguished by the novelty of the application period. Where the current study deals with a comparison with regard to reducing bank credit risks, before and after the application of the International Financial Reporting Standard IFRS9 Financial Instruments - Recognition and Measurement.

## **2.2 Theoretical framework**

### **2.2.1 Credit risk management**

The banking industry has witnessed a number of developments as a result of financial innovation, technological advancement and the liberalization of financial markets. This has led to an increase in competition between banks or financial institutions, and has also led to an increase in the risks that threaten their existence and continuity. With the increase and diversity of risks, it was necessary for financial and banking institutions to move towards risk management through the creation of new financial methods and techniques, in order to reduce or reduce risks. Hence, risk management is considered an important science in the field of project management, because it ensures the identification and measurement of risks to which the economic unit is exposed, whether industrial, commercial or financial. Risk management also differs from one entity to another according to its nature and specificity in its field of activity (Kadhim et al, 2020).

Therefore, it must try to prevent these risks by developing strategies that enable it to manage the various risks, and this is what is called credit risk management, which is defined as "an integrated organization that aims to confront the risks to which the

bank is exposed in the best way and the lowest costs by trying to discover, analyze, confront and guarantee the risk." It remains within its minimum limits (Al-Jubouri, Al-Rubaie, 2018) or in other words, the risk management process includes identifying, measuring and monitoring the risks to which the bank is exposed.

It can be said that banking risk management is the process of thinking systematically that the bank follows about all potential risks (financial or non-financial) before they occur and setting procedures that would avoid the bank of these risks or limit their effects while developing the appropriate means to deal with them, as this process enables Knowing the type of risk and preparing an appropriate strategy to control it by monitoring all related risks and preparing reports on them, as well as continuous monitoring of all constituent departments of the bank; Therefore, the researcher presents the following elements about credit risk management, as follows:

#### *Credit risk management activities*

*The tasks of credit risk management can be highlighted as follows: (Al-Madhoun, 2011):*

- 1- Develop credit risk management policies and strategies, prepare risk policies and structures within business units, and strive to create an appropriate environment.
- 2- Strategic and operational level cooperation on risk management.
- 3- Building a cultural awareness within the bank, including proper education and alignment with various functions on credit risk management, along with the development of risk response processes.
- 4- Prepare risk reports and submit them to the board and stakeholders.
- 5- Discover the risks inherent in each economic activity.
- 6- Analyze each risk found to know its nature, causes, and relationships with other risks.
- 7- Measure the degree of risk, its probability of occurrence, and estimate the size of the loss.
- 8- Choosing the most appropriate means to manage each of the risks that the individual or the institution has, according to the necessary safety and cost levels.

#### **2.2.2 Financial instruments:**

Financial instruments are considered as one of the sources of funding, as the general meaning of funding refers to providing the necessary funds for an activity in order to acquire assets that are financed from the bank's own resources. Its activity by offering stocks and bonds is reflected in an increase in the trading of these financial instruments on a larger scale (Yacoub, and Al-Dulaimi, 2018).

According to International Accounting Standard 32, financial instruments are also defined as contracts that give rise to financial assets in one entity and



financial liabilities or equity instruments in another entity (IAS 32,2016).

Financial instruments include all on-balance sheet financial assets and on-balance sheet financial liabilities, which are within the scope of the International Financial Reporting Standard IFRS 9 (Central Bank of Iraq, 2019).  
*Types of financial instruments:*

Financial instruments differ in how writers and researchers view them. Depending on the maturity date, they may be classified as short-term, medium-term or long-term financial instruments, and based on the market in which they are traded, they may be classified as field traded financial instruments. Market (stocks). and bonds) and futures markets, through monetary policy, bank lending and cash issuance or current accounts (Yacoub and Al-Dulaimi, 2018).

Al-Jubouri (2012) describes common types of financial instruments as follows:

1- Basic financial instruments: These represent all financial instruments used to measure the funds needed to enable an institution to carry out its activities. It is irrelevant whether those financial instruments are traditional financial instruments or financial instruments characterized by features of debt and equity.

2- Derivative Financial Instruments: Future-related contracts or financial contracts derived from previously issued underlying financial instruments such as (stocks - bonds - currencies). tied to an underlying financial instrument and protected or protected for speculative purposes by a party unwilling to carry it to another party willing to bear it without extending the conversion process into the underlying financial instrument; Being used and growing in importance The reasons behind their emergence The number of financial derivatives is due to technological, economic and financial developments and this tool is also characterized by the help of investors. Therefore, the expansion of the international financial market will lead to an increase in the trading volume and efficiency of the financial market for hedging risks. Achieve profits and provide liquidity.

Financial instruments are also classified into three main categories for the purposes of IFRS 9, the International Financial Reporting Standard, according to the business model in which they are managed and the flow of their contracts. These categories are: (Central Bank of Iraq, 2019) (Tariq, 2017)

1. Financial instruments measured at amortized cost.
2. Financial instruments measured at fair value through the statement of other comprehensive income (OCI).
3. Financial instruments measured at fair value through profit or loss.

### **2.2.3 The Importance of Adopting IFRS 9 Financial Reporting Standards in Credit Risk Management**

IFRS9, the standard for financial instruments, was issued to replace International Accounting Standard IAS39. Allowance for expected credit losses from financial instruments In addition to financial, default-induced risks, the standards also specify low-credit financial assets, which are measured using the effective interest rate for expected credit losses, and Income is calculated through the gross book value or the effective interest rate on the amortized cost for less creditworthy financial assets and, based on the above, the importance of adopting IFRS:9 financial reporting standards in credit risk management can be presented through the following points:

Efforts made to adapt to the requirements of the International Financial Reporting Standard IFRS 9 have contributed to improvements in banks' internal systems for monitoring credit risk, improved quality of internal information and decision-making related to credit risk. increase. Bank management and governance need to be strengthened, which can pose some challenges.

*The most important challenges facing commercial banks:*

1. Strengthen coordination among professional departments such as risk management, credit management, financial management, compliance management and information technology management. Administration.
2. Achieve integration and compatibility between financial statements and risk.
3. Collect and retain historical data necessary to develop models of expected losses.
4. The challenge of updating infrastructure, electronic systems, methodologies, work guides, and technology.
5. Risk Ratings and Accounting Policies.
6. There is no uniform model for calculating expected credit losses.
7. Lack of forward-looking scenarios for calculating expected losses.
8. The application of the IFRS 9 standard means that banks will make significantly more provisions than previously formed as a result of relying on estimates of expected credit losses rather than actual losses. And this will affect the bank's profitability, capital, and the capital adequacy index, and thus the lending capacity, and banks must function. In particular, the new banking law requires that the minimum capital be 25 billion dinars instead of his 500 million dinars in Iraq, so the capital needs to be increased. Dinar.

*In this sense, facing these challenges requires:*

- Adapting the accounting systems of commercial banks, whether Islamic or traditional, to adapt to the IFRS9 standard (Lassoued, Attia, & Sassi, 2018)
- Reclassification of certain financial instruments and reclassification of the debt securities segment.



- Ongoing reclassification of financial instruments related to changes in borrowers' ability to repay or negative expectations of the market value of financial instruments.

- Review the percentage of allocations imposed in response to changes in economic growth expectations so that if the state's economic growth rate increases, the percentage will increase and vice versa.

- The need to develop mechanisms to forecast the financial and economic conditions of Iraqi banks and more accurate capacity to identify internal and external challenges.

### 3. THE STUDY PROBLEM

As a result of the failure of many loans granted by banks, which indicates poor management of credit risks, so it was necessary to issue a standard concerned with measuring and determining the amount of provision required for the credit granted. In this regard, the Central Bank of Iraq issued directives regarding the application of the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition Measurement, according to which all Iraqi banks subject to its supervision are obligated to act on it from the date of its issuance in January 2019 AD, which obliges all these banks to change the method they follow in measuring and recognizing credit losses, as the IFRS9 standard "Financial Instruments - Recognition and Measurement" requires the bank to form provisions for debts expected before their occurrence, which limits credit losses on the one hand, but causes a significant increase in the volume of provisions on the other hand, and therefore banks and financial institutions will face some challenges and obstacles in applying that standard, in addition to that obliging Iraqi banks to apply this standard is a major challenge that requires research from During the formulation of the study problem in the following questions:

- *Does the application of the International Financial Reporting Standard IFRS9 affect credit risks?*
- *Does the application of the International Financial Reporting Standard IFRS9 affect the determination of the provision?*
- *Is it possible to apply the International Financial Reporting Standard IFRS9 in Iraq?*

### 4. THE IMPORTANCE OF THE STUDY

The importance of this study lies in its handling of an important sector of the vital sectors in the Iraqi state, which is the banking sector, which is the backbone of economic power in the state, so any damage to it could lead to a major economic crisis. Therefore, the

researcher hopes that this study will benefit the following:

1. It is hoped that the results of the study will benefit the management of banks in practice in adopting appropriate policies and strategies in overcoming the challenges facing banking activity.

2. The importance of this study from an applied point of view is also embodied in the necessity of paying attention to the accounting standards that should be adopted by the banks listed in the Iraq Stock Exchange to achieve their objectives, including international accounting and financial reporting standards, specifically the International Financial Reporting Standard - Financial Instruments - IFRS 9 regarding accounting for the decline in The value of credit facilities is represented by bank loans, because of these criteria's impact on revealing the reality of the work and activities of banks in the field of granting loans and accounting for their low value and in order to avoid any unacceptable accounting practices from stakeholders in those banks by exaggerating the provision for loan losses based on Iraqi banks. Listed in the Iraq Stock Exchange to the indicative regulation of the Central Bank of Iraq.

3. From a scientific point of view, the credit activity of the banking sector is considered an important and vital activity, as it is the main activity, so it is considered the most profitable activity, and credit risks are considered one of the most risks that threaten the work of banks in general, so it is necessary to study these risks and make recommendations about the measures taken in this regard. This is in light of the application of the International Financial Reporting Standard IFRS9.

4. This study is also concerned with making a comparison with regard to reducing bank credit risks, before and after applying the IFRS9 international financial reporting standard, which gives it special importance, as the study is the first of its kind in the Iraqi environment, comparing before and after applying the IFRS9 standard in Iraqi banks on to the extent of the researcher's knowledge and in the light of what has been seen from previous research and studies.

### 5. OBJECTIVES OF THE STUDY

The main objective of the study is to clarify the role of applying the International Financial Reporting Standard IFRS9 in managing bank credit risks, by applying it to the Iraqi private banks under study. From which the following sub-objectives emerge:

1. The scientific basis for the indicators of applying the expected credit losses model in accordance with the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition,



Measurement, and Management of Credit Risk Indicators in the Iraqi private banks under study.

2. Identify the degree of impact of the indicators of the application of the expected credit losses model according to the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement in the level of credit risk indicators management in the Iraqi private banks under study.

3. Identifying the existence of significant differences before and after applying the expected credit losses model according to the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement in the level of credit risk indicators management in the Iraqi private banks under study.

4. Reaching a number of recommendations that could benefit the administrative leaders in commercial banks in particular, private and public banks in general, ministries and relevant authorities, and those interested in this field.

## 6. STUDY HYPOTHESES

In the light of what was previously mentioned in terms of theory, research and previous studies, the researchers imagined the formulation of the study hypotheses and the relationship between the study variables, as follows:

*The first independent variable:* It is represented by the adoption of the international financial reporting standard IFRS9, which was implemented in Iraqi banks in January 2019 AD, according to the instructions of the Central Bank of Iraq, and then the researcher measured this variable as a variable that takes the value (1) for the element that is found in the financial statements Quarterly or supplementary notes to the financial statements in the case of adoption in the period from (2019) and beyond, and the value (zero) otherwise in the case of non-adoption in the period from (2018) and before.

*The second independent variable is:* the expected credit losses model according to the International Financial Reporting Standard (IFRS: 9) entitled Financial Instruments - Recognition and Measurement (X).

The dependent variable is: the level of management of credit risk indicators (Y). Which is measured based on a study (Isanzu, 2017).

Therefore, the researchers formulated the hypotheses of the study as follows:

**The first hypothesis:** There is no statistically significant impact relationship when applying the expected credit losses model according to the International Financial Reporting Standard IFRS9 in the level of credit risk indicators management in the Iraqi private banks under study.

**The second hypothesis:** There are no statistically significant differences at the level of significance (0.05) before and after applying the expected credit losses model according to the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement in the level of credit risk indicators management in the Iraqi private banks under study.

## 7. METHODOLOGY

The researchers relied on the inductive and deductive approach by looking at previous research and studies related to the subject of the study and analyzing it. The subject of research, which represents the study sample, during the applied study period (2016-2018 AD) before applying the criterion; And the period from (2019-2021 AD) after applying the international standard IFRS9.

This is in accordance with the instructions of the Central Bank of Iraq from the date of its implementation in January 2019, for the purpose of testing the hypotheses of the study and providing logical explanations for the results of hypothesis testing and comparing them with the results of previous studies

## 8. STUDY POPULATION AND SAMPLE

The study population consists of all Iraqi private banks, which are (53) banks, of which (25) are commercial banks, (28) are Islamic banks. Private, represented in the financial statements and complementary clarifications of the bank being complete and issued on a quarterly basis and applying international standards and the IFRS9 standard in accordance with the instructions of the Central Bank of Iraq, and thus the study sample becomes (5) one of the private Iraqi banks in question; Represented in: (Bank of Baghdad, the Commercial Bank of Iraq, the National Bank of Iraq, the International Development Bank, and the Mansour Investment Bank).

The following table No. (1) shows the Iraqi private banks under study according to the volume of assets at the end of the fiscal year 2021 AD, which disclose their annual reports that are registered in the Iraqi stock market, as follows:

**Table No. (1)**

The Iraqi private banks under study, according to the volume of assets at the end of the fiscal year 2021 AD

No	Bank name	The volume of assets by the end of 2021 (amounts in thousands of dinars)
1	Baghdad Bank	1539808656



2	Iraqi Commercial Bank	512311665
3	National Bank of Iraq	1821341840
4	International Development Bank	1507855376
5	Mansour Investment Bank	697917429

**Source:** Prepared by the two researchers based on the official website of the bank in question.

## 9. FINDINGS AND DISCUSSIONS

### 9.1 Discussing the results of testing the validity of the first hypothesis of the study:

To test the validity of this hypothesis, which states that: There is no statistically significant effect between the application of the expected credit losses model according to the International Financial Reporting Standard IFRS9 titled Financial Instruments - Recognition and Measurement in the level of credit risk indicators management in Iraqi commercial banks.

In order to achieve this purpose, this study uses a standard analysis database integrated cross-section and time series (with a number of cross-sectional units (i) represented by a group of five banks, for the time period from 2016 to 2021 to include 6 time observations  $T = (5)$  for each of the variables used in the model, with a sample size of (30 observations) all of this leads to results It is better for estimation and provides the opportunity to perform many statistical tests of different hypotheses.

Estimating the parameters of the model: Here, the parameters of the studied model are estimated, which is the equation for the level of credit risk indicators management as a dependent variable in terms of the independent variable, which is the expected credit losses model according to the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement (x)), and in short, the model can be written in its form General as follows:

$$y_{it} = \beta_0 + \beta_1 x_{it} \quad , i=1,2,\dots,5$$

t=1,2,...,6

The estimation is done using the three longitudinal data models, which are the aggregate regression model PRM, the fixed effects model FEM and the random effects model REM, and accordingly the model equations can be written as follows:

#### 1- Estimated Combined Regression Model

*It is done through the following:*

*Partial results analysis:*

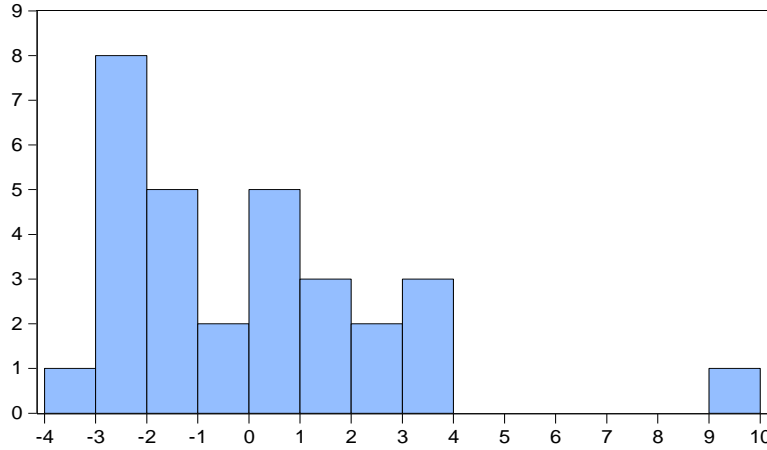
The coefficients of the model are not significant for the independent variable at the 5% level of significance, because the prob value is greater than 0.05 and equal to (0.0864).

- In terms of the strength of the correlation, the value of the coefficient of determination  $R^2$  amounted to 10%, which is the percentage of the contribution of the independent variable (the expected credit losses model according to the International Financial Reporting Standard IFRS: 9 entitled Financial Instruments - Recognition and Measurement) to the change in the level of management of credit risk indicators.

*Analyze the results in full:*

- By looking at Fisher's statistic, we notice that the model has no significant statistic as a whole, because the probability of Fisher's statistic is greater than 0.05. As for standard problems, the following can be concluded:

1. The problem of multicollinearity does not exist because the model is simple.
2. The problem of discrepancy between errors does not exist, and this is one of the advantages of the panel models.
3. As for the normal distribution of errors, they do not follow the normal distribution, as the prob value is less than 0.05.



Series: Standardized Residuals	
Sample 2016 2021	
Observations 30	
Mean	-2.48e-15
Median	-0.552400
Maximum	9.823090
Minimum	-3.221784
Std. Dev.	2.818970
Skewness	1.510959
Kurtosis	5.899630
Jarque-Bera	21.92480
Probability	0.000017

Source: Output from Eviews 11

**2- Estimated Fixed Effects Model:**

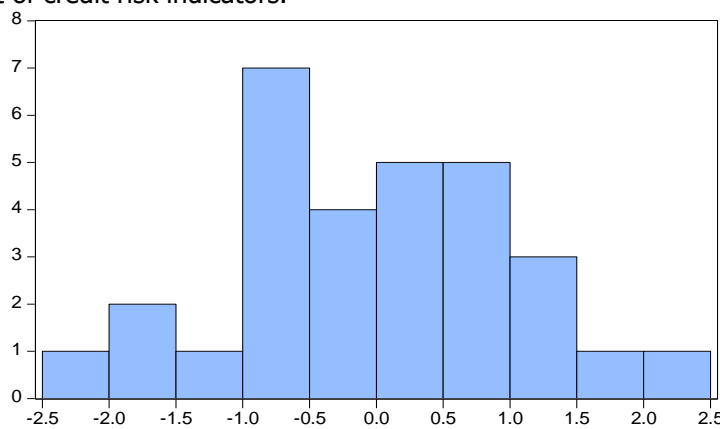
These fixed effects assume that the differences across the five banks are expressed by differences in the trimers. In this type of model, the partial slope parameters are restricted to being equal across the different banks, as they differ from each other in several respects despite their presence in a close area, and are almost homogeneous from the administrative point of view. The following estimated model was obtained:

*Partial results analysis:*

- The coefficients of the model are significant for the independent variable at a significant level of 1%, because the prob value is less than 0.001.
- In terms of the strength of correlation, the value of the coefficient of determination R<sup>2</sup> amounted to 94%, which is the percentage of the contribution of the independent variable to the change in the level of management of credit risk indicators.

*Analyze the results in full:*

- By looking at Fisher's statistic, we notice that the model has a significant statistic as a whole, because the probability of Fisher's statistic is less than 0.001.
  - The effect of the changes of the independent variable is a positive and significant effect, and its sign is fully consistent with the accounting theory.
- As for standard problems, the following can be concluded:
1. The problem of multicollinearity does not exist because the model is simple.
  2. The problem of discrepancy between errors does not exist, and this is one of the advantages of the panel models.
  3. As for the normal distribution of errors, they follow the normal distribution, as the value of prob is greater than 0.05.



Series: Standardized Residuals	
Sample 2016 2021	
Observations 30	
Mean	2.15e-16
Median	0.007071
Maximum	2.083175
Minimum	-2.132688
Std. Dev.	1.015905
Skewness	0.037706
Kurtosis	2.715946
Jarque-Bera	0.107967
Probability	0.947448

Source: Output from Eviews 11

**3- Estimated Random Effects Model:**

The random effects model is valid if it is confirmed that the differences between the sample banks represent a structural transition of the

parameters of the regression equations. As such, it may become the most appropriate framework and random effects model to use. Here, instead of assuming a given set of cutoffs for the sample banks, one middle cutoff is





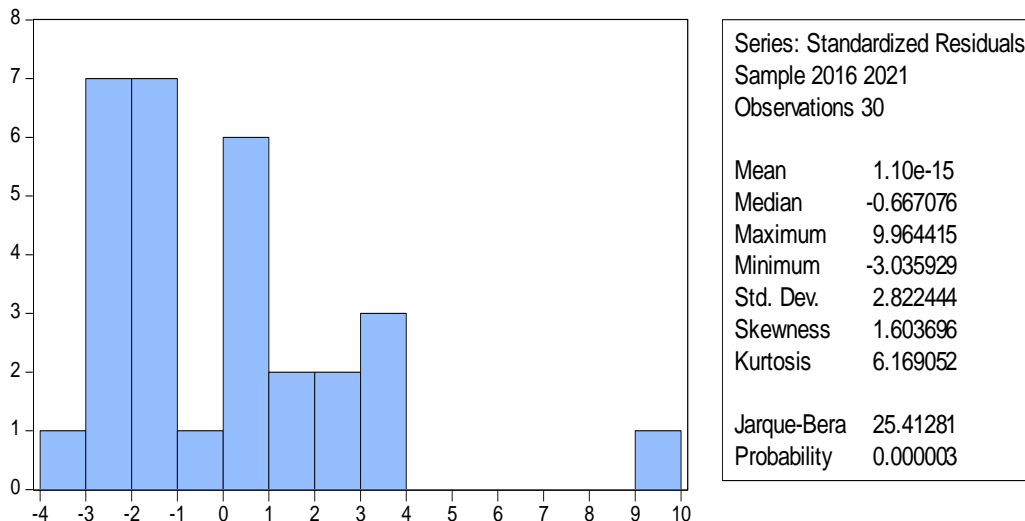
assumed for the group as a whole, while the random differences between the cutoffs are incorporated into the random error component of the equation. The random effect estimators were obtained using the generalized least squares (GLS) method. The estimated results were:

*Partial results analysis:*

- The coefficients of the model are not significant for the independent variable (at the 5% level of significance, because the prob value is greater than 0.05).

- In terms of the strength of correlation, the value of the coefficient of determination R<sup>2</sup> amounted to 4%, which is the percentage of the contribution of the independent variable in the change in the level of management of credit risk indicators.

*Analyze the results in full:*



Source: Output from Eviews 11

Based on the foregoing, we conclude that the estimated fixed effects model is the best fit model for the data. Therefore, the regression equation can be estimated as follows:

Source: From the results of the statistical analysis.

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$$\text{Credit risk indicators management level} = 45.06299 + 15.33197 \text{ Expected credit losses model according to IFRS9}$$


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It is clear from the previous relationship model, that it is possible to predict the degrees of the level of credit risk indicators management by measuring the expected credit losses model according to the International Financial Reporting Standard IFRS9 by applying the previous model equation, which means: every increase in the degree of the expected credit losses model

according to the international standard For IFRS9 Financial Reporting one whole score increases the management level of credit risk indicators by "45.06299".

This result indicates the great importance of the elements of the expected credit losses model according to the International Financial Reporting Standard IFRS9



in increasing the level of management of credit risk indicators, which gives an indication of the importance of the elements of applying the expected credit losses model according to the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition Measurement in reducing expected credit risk.

From the foregoing, it is clear that the first main hypothesis of the study hypotheses is incorrect, and the alternative hypothesis is accepted, which states that: "There is a significant effect of applying the expected credit losses model according to the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement in the Level of Management of Credit Risk Indicators in Commercial Banks Iraqi.

*9.2 Discussing the results of testing the validity of the second hypothesis of the study:*

And to test the validity of the second hypothesis of the study, which states: "There are no statistically significant differences at the level of significance (0.05) before and after applying the expected credit losses model according to the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement in the level of management of credit risk indicators in banks." Iraqi business.

The researcher conducted a (T-Test) test to find out the differences between the types of credit risks before and after applying the International Financial Reporting Standard IFRS9, and the results were as shown in Table No. (2) as follows:

**Table No. (2)**  
**Differences between banks in practice before and after applying IFRS9 according to the level of management of credit risk indicators**

Types of credit risk	Application of the international standard IFRS9	Mean	Std. Deviation	T	Sig. (2-tailed)	The decision
The level of management of credit risk indicators	before	15.133	1.642876	2.018	.053	Significant
	after	17.216	3.645911			

*Source: From the results of the statistical analysis.*

By analyzing the data in Table No. (2), it is clear that there are statistically significant differences at the level of significance (0.10) before and after applying the expected credit losses model according to the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement in the level of credit risk indicators management in Iraqi commercial banks In favor of after applying the expected credit losses model in accordance with the International Financial Reporting Standard

IFRS9 entitled Financial Instruments - Recognition and Measurement.

From the foregoing, it is clear that the null hypothesis H0 of the study is rejected and the alternative hypothesis is accepted, which states that:

"There are statistically significant differences before and after applying the expected credit losses model according to the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement in the level of credit risk indicators management in Iraqi commercial banks."

**9.3 The results of the study hypotheses tests:**

A summary of the results of testing the hypotheses of the study can be presented in the following table (3):

**Table No. (3)**  
**Summary of the results of testing the hypotheses of the study**

Statement	study hypotheses	The result
The first major hypothesis	There is no statistically significant effect between the application of the expected credit losses model according to the International	The null hypothesis was rejected and the alternative hypothesis was accepted



	Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement in the level of credit risk indicators management in the Iraqi private banks under study.	
The second main hypothesis	There are no statistically significant differences at the level of significance (0.05) before and after applying the expected credit losses model according to the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement in the level of credit risk indicators management in the Iraqi private banks under study.	The null hypothesis was rejected and the alternative hypothesis was accepted

*Source: prepared by the researchers in the light of the results of the statistical analysis*

## 10. CONCLUSION

In this study, the researchers relied on analyzing the financial statements of the private Iraqi banks, represented in: (Bank of Baghdad, the Commercial Bank of Iraq, the National Bank of Iraq, the International Development Bank, and Al-Mansour Investment Bank) that are supervised by the Central Bank of Iraq, where the necessary data for the study were collected from By relying on the secondary sources of data of the annual financial reports published for the bank on the Mubasher website and the websites of the private Iraqi banks in question, and the banking sector data through the quarterly statistical releases and the annual economic reports issued by the Central Bank of Iraq, in the period (2016-2021). *A delegation revealed to the researchers, through testing the hypotheses of the study, the following:*

1- Although the Central Bank of Iraq issued instructions obligating local and foreign banks and financial institutions to apply the international standard (IFRS9) starting from January 2019, with the aim of improving credit quality and enhancing safety in the banking system by increasing provisions, there are still some problems that Iraqi private banks must work to avoid them, which may be represented in the system of internal control, financial statements, and the infrastructure of each bank, which requires the quality and accuracy of accounting information in a way that indicates accuracy in calculating expected credit losses for each stage of financial assets.

2- The results also showed that the Iraqi private banks increased the percentage of loan loss provisions in the

period from (2019) after the obligation to apply the standard compared to the period (2018) and before, which is the experimental period before the obligation to implement the international reporting standard (IFRS9), as the reason is due to the banks' commitment The Iraqi private sector, which is subject to the supervision of the Central Bank of Iraq, is committed to forming a risk reserve in accordance with the requirements of the financial standard (IFRS9).

3- The results of the study also showed that the initial application of the financial standard (IFRS9) in the Iraqi private banks under study led to a significant improvement in credit risk indicators, as it led to a decrease in financial risk indicators in the period from (2018) and earlier, compared to the period from ( 2019) and beyond, that is, after applying the standard, which may have a positive impact on reducing credit risks and thus improving the management of the level of capital efficiency of the Iraqi private banks under study.

## 11. RECOMMENDATIONS

In light of the findings of this study, some general recommendations can be presented, which may be useful to the institutions of Iraqi society in general, and recommendations related to the study community (Iraqi private banks under study), in particular, in the light of both theoretical and field studies, as well The researcher makes recommendations for future research that may contribute to the diversity of studies in relation to the current study topics under study, which are as follows:



1- The Central Bank of Iraq has established clear bases for determining the allocations for the expected credit losses model in accordance with the International Financial Reporting Standard (IFRS9) entitled Financial Instruments - Recognition and Measurement to ensure standardization of practices in the Iraqi banking sector.  
2- The need to strengthen the financial positions of Iraqi banks to meet the expected increase in the volume of provisions, starting from the time of the obligation to implement the standard, through the Central Bank of Iraq increasing the capital of those banks to meet the expected increase in provisions as a result of applying the expected credit losses model in accordance with the International Financial Reporting Standard IFRS9 Financial Instruments - Recognition and Measurement.  
3- Iraqi banks must build a database for all customers, develop internal policies and systems, and develop strategic plans to assess the credit risks of customers more accurately, in line with the requirements of the expected credit losses model in accordance with the International Financial Reporting Standard (IFRS9) titled Financial Instruments - Recognition and Measurement.  
4- The need to pay attention to the basic elements of the indicators for applying the expected credit losses model in accordance with the International Financial Reporting Standard IFRS9 entitled Financial Instruments - Recognition and Measurement in the Level of Credit Risk Indicators Management in Iraqi Private Banks.

## 12. RECOMMENDATIONS FOR FUTURE RESEARCH PROPOSALS

- Conducting a comparative study between Islamic banks and conventional banks in light of the application of the International Financial Reporting Standard (IFRS9).  
- Studying the impact of applying the International Financial Reporting Standard (IFRS9) on tax legislation and laws.

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