

The Impact of Toxic Assets on Financial Performance under the Adoption of International Financial Reporting Standards (IFRS 9): An Empirical Study in Iraqi Banks

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Abstract: The objective of this study is to examine the effects of hazardous assets on financial performance within the framework of implementing International Financial Reporting Standards (IFRS 9) in the Iraqi setting. The present study investigated a representative sample of twelve financial institutions that are publicly traded on the Iraq Stock Exchange, spanning the time frame from 2011 to 2020. The variables of the study were assessed by quantitative measurements, utilizing the statistical software SPSS, and employing a range of statistical techniques. The findings of the study revealed a significant correlation among the three primary variables under investigation, namely toxic or non-performing assets, financial performance, and the implementation of the IFRS 9 standard. Moreover, the researchers also illustrated the adverse influence of toxic assets on financial performance subsequent to the implementation of the IFRS 9 standard. This factor played a role in diminishing the levels of financial performance within the banks included in the sample of the study.

Keywords: Toxic Assets, Financial Performance, International Financial Reporting Standards (IFRS 9).

Introduction:

The assessment of a company's strength or worth is intrinsically linked to the caliber of its assets. The capacity of assets to effectively facilitate actual production is indicative of their quality, thereby leading to enhanced returns on investments. The performance of a corporation can be characterized as the collective endeavors of personnel inside the organization aimed at attaining the intended objective. The performance of the company also serves as an indicator of the degree to which outcomes in the process have been attained in relation to the company's underlying objective. The financial success of an organization is a crucial aspect in determining its income, earnings, and overall value, as demonstrated by the observed increase in the economic unit's worth (Deitiana & Habibuw, 2015).

In the present context, toxic assets refer to financial assets held by a corporation that have experienced a substantial decline in value, perhaps resulting in a frozen market for these assets. The potential reasons for this phenomenon may stem from the emergence of previously undisclosed risks associated with the assets, alterations in the external market conditions, or a combination of both factors. According to Wilson's (2022) research, it has been indicated that numerous challenges encountered by companies amidst financial crises were associated with toxic assets, specifically high-risk mortgage-backed securities. The first issuers of these securities neglected to take into account the realistic default rate on mortgage payments and the magnitude of its occurrence. The aforementioned dangers, namely within the banking industry, have resulted in challenges across all investment divisions and subsequently the decline of their financial outcomes. This decline is of significant importance as it forms the fundamental framework upon which banks establish their financial structure (Abdi & Kavale, 2016).

The research problem:

The presence of these noxious assets requires a comprehensive comprehension of how to effectively manage them in relation to their influence on financial performance, particularly within the banking industry, and the following outcomes, regardless of whether this influence is detrimental or beneficial. Moreover, it is imperative to investigate the potential influence of this phenomenon on investors' relationships with banks that possess these deleterious assets, commonly referred to as non-performing assets.

Based on the aforementioned information, the research problem can be articulated as follows: To what extent does the adoption of International Financial Reporting Standards (IFRS 9) for financial instruments affect the financial performance of Iraqi banks that hold toxic or non-performing assets (bad debts)?

The Significance of the Research:

This study holds significance as it represents one of the initial attempts to thoroughly investigate the interplay between three variables, namely toxic assets, financial performance, and the IFRS 9 standard, within the context of a developing nation such as the Republic of Iraq. More specifically, the study focuses on the critical sector of the Iraqi banking industry. The significance of

this study is in identifying appropriate resolutions for hazardous or underperforming assets within the selected organizations (Iraqi banks) and comprehending their influence on financial performance while implementing IFRS 9. Moreover, the research endeavors to investigate the influence of this impact on the environment of Iraq, which is the central area of interest in this study.

The study's significance is further emphasized by its pioneering nature, as it is among the initial investigations to explore the relationship between these three factors inside the Iraqi banking system.

The aims of the research:

The general objective of this research is to assess the extent of the impact of toxic assets present in companies (within the banking sector in the Iraq Stock Exchange) on financial performance under the adoption of International Financial Reporting Standards (IFRS 9).

From this main objective, the following specific objectives arise:

1. Statement of the Concept of the Three Study Variables (Toxic Assets, Financial Performance, and IFRS 9 Financial Instruments)
2. Defining the Measures for Each of the Mentioned Variables, Additionally, Confirming the Presence or Absence of a Relationship and Impact Among the Variables

Research Hypothesis:

The research is based on five hypotheses, as follows:

1. (H1) First Main Hypothesis: There are statistically significant differences in the levels of the research variables among the surveyed banks.
2. (H2) Second Main Hypothesis: There is a relationship among the three research variables.
3. (H3) Third Main Hypothesis: The relationship between toxic assets and financial performance varies under the adoption of the IFRS 9 standard.
4. (H4) Fourth Main Hypothesis: There is a statistically significant impact of toxic assets on financial performance.
5. (H5) Fifth Main Hypothesis: The impact of toxic assets on financial performance differs before and after the adoption of the IFRS 9 standard in the surveyed banks.

Research Limitations:

The experimental research was limited to the banking sector in the Iraqi environment, covering the years from 2011 to 2020. The research relied on quantitative measurement of its variables.

Research Methodology and Variables:

In the present study, three distinct types of variables were utilized. There are three types of variables in this study. The first kind is the independent variable, which is denoted as hazardous assets. The second type is the dependent variable, which is denoted as financial performance. The third type is the intervening variable, which is denoted as the extent of adopting IFRS 9. The study

employed three main methodologies: the inductive methodology, the deductive methodology, and the descriptive or analytical methodology, in order to establish its concepts and themes. The analysis and theoretical framework of this study were established by drawing upon a range of relevant literature, scientific publications (including books, academic journals, theses, articles), as well as research from both Arabic and foreign websites. The study aimed to establish the correlation between the variables under investigation and afterwards examine this correlation within the specific setting of Iraqi banks. The requisite data for the research were obtained from reports and financial statements that were publicly disclosed on the Iraq Stock Exchange. The independent variable in this study was characterized as toxic or non-performing assets, whereas the dependent variable was financial performance. IFRS 9 Financial Instruments functioned as an intermediary variable. The diagram presented herein depicts the interrelationship among the variables under investigation.

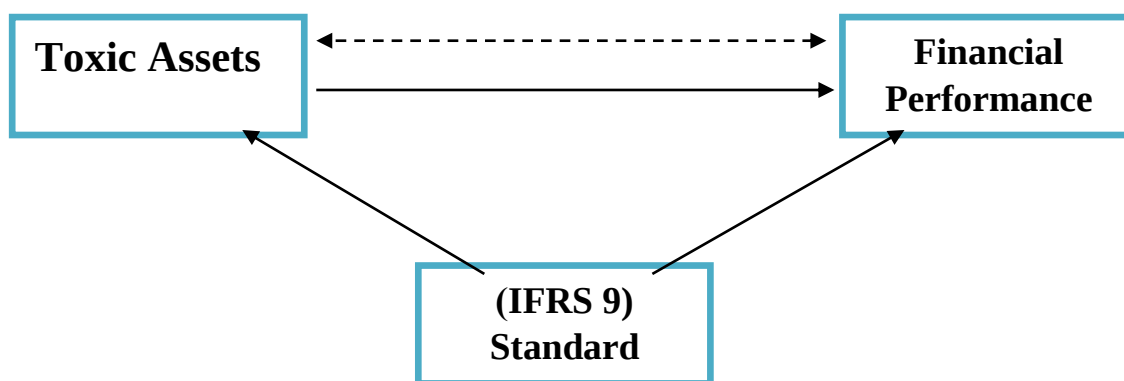


Figure (1): Research Model

The figure was prepared by the researcher.

Following a comprehensive examination of the introduction and methodology inside the initial axis of the research, which comprises a total of five axes, the subsequent sections of the study will now be scrutinized in the subsequent manner: The second axis will focus exclusively on the theoretical underpinnings of the research variables and the process of establishing the connections and associations among them. The objective will be achieved through elucidating the notion of toxic or distressed assets, financial performance, and the standard (9) financial tools, together with the measurement methodologies for each variable and their interdependencies. Concurrently, the third axis is specifically allocated to the examination of the research model and the subsequent testing of hypotheses. The fourth axis is typically designated for the purpose of delineating the study variables, while the last axis is dedicated to the comprehensive examination of the most significant findings and corresponding suggestions.

Theoretical Framework of the Research:

The phrase "toxic assets" initially denoted "troubled assets" due to their adverse impact on the financial statements, including income and balance sheets, of financial organizations. The aforementioned distressed assets acquired the label of "toxic" as it became apparent that financial institutions lacked a feasible means to effectively market and sell this vast stockpile of distressed

assets. Moreover, the depreciation of these assets significantly undermined the financial positions of the aforementioned financial institutions, since their value declined at an unprecedented rate that was deemed implausible by many. The decrease in adverse risks can be attributed to a convergence of factors, including a dearth of creative thinking driven by avarice and the questionable diligence exercised by financial institutions in evaluating these assets (Ugwueze et al., 2019).

Here is a brief overview of some researchers who have addressed the concepts, definitions, and measurement approaches related to the study variables, as follows:

1. The concept of toxic or troubled assets and measurement approaches

Many researchers have shown interest in these assets, and some have defined them as:

(Al-Aqeeli & Al-Hajami, 2022: 140) A common term used to describe financial assets whose value has significantly declined and no longer has an active market, making it impossible to sell these assets at a reasonable price for their holders.

(Ugwueze et al., 2019: 17) defined them as assets that become illiquid when the secondary market for buying and selling them disappears. These assets cannot be sold because they are widely regarded as a guaranteed way to lose money.

(Al-Basha et al., 2018: 5) and others argue that toxic assets are those whose intrinsic value is significantly misrepresented, appearing to have a higher value than their market value, which is considered deceptive.

In accordance with the provided definitions, the **researcher** sees toxic assets as those that have a significant impact on the primary financial statements because they appear differently in terms of valuation in the financial markets than their true intrinsic value.

Regarding the measurement approaches specific to toxic assets, several metrics have been adopted by numerous researchers to measure these assets, including:

a. In their research, Ugwueze et al. (2019) employed two variables, namely financial performance as the dependent variable and toxic assets as the independent variable. The factors in question were assessed by means of sub-variables utilizing a linear regression equation, as follows:

$$\text{Financial Performance ROE} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e \dots$$

Whereas:

Y = (Financial performance) was measured based on "Return on Equity".

X1 = (Capital Adequacy) was measured through "Total Equity to Total Assets ratio."

X2 = (Asset Quality) was measured through the "Non-Performing Loans to Total Loans ratio."

X3 = (Liquidity) was measured as the "Ratio of Current or Liquid Assets to Total Deposits."

b. The study by Al-Aniza and Al-Janabi (2019) relied on credit risk as a variable to measure toxic assets using the following equation:

$$\text{Credit Risk} = \text{Non-Performing Loans} / \text{Total Loans}$$

These credit risks are determined by comparing the risk ratio with the sample's arithmetic mean. If the ratio is greater than the mean, then credit risks are higher, and vice versa. (Al-Aniza and Al-Janabi, 2019: 108).

2. The Concept of Financial Performance and its Measurement Approaches.

The examination of global corporations' financial performance has garnered considerable interest from financial professionals and scholars alike. This interest encompasses both general and private bank management, as it constitutes a significant component considered by investors in their decision-making process when acquiring stocks in various companies. Enhancing the financial performance of a firm is imperative in order to sustain the appeal of its stock to investors. On one side, Deitiana and Habibuw (2015) argue that... (p. 79). The evaluation of a company's financial performance may involve various aspects, including but not limited to profitability, dividend growth, sales turnover, and return on investments. Nevertheless, there is a contentious discourse across different disciplines over the methodologies employed to assess corporate success and the underlying determinants influencing it. The evaluation of financial performance frequently involves the utilization of essential accounting performance indicators, including return on assets, operational profit margin, earnings before interest and taxes, value-added economic value, and sales growth. The concept of liquidity is intricately connected to working capital, which denotes the financial resources required to support the routine operational endeavors of a business that generate income. The management of working capital is of utmost importance in assessing a company's level of success or failure in terms of business performance, as it directly affects the company's profitability. The efficacy of corporate operations is heavily contingent upon the adeptness of the finance management in effectively overseeing the various constituents of working capital (Abdi & Kavale, 2016: 102-103).

Several literary studies have developed various concepts and definitions related to the topic of financial performance, and some of these will be summarized as follows:

Copeland defines financial performance as the measure of return on assets. According to Gitman, financial performance can be defined as the return on assets, a metric employed to evaluate the total effectiveness of managerial efforts in creating profits from the assets at their disposal. It is commonly known as the return on investment, as stated by Deitiana and Habibuw (2015: 81-82).

Furthermore, Ismail (2019: 28) defined it as the organization's ability to manage and utilize its resources optimally to achieve its financial objectives. These objectives primarily include meeting its obligations, ensuring liquidity, reducing costs, and increasing revenues.

A study by Surour and Shoukry (2022: 8) highlighted that financial performance is a measure that reflects a company's performance. It represents an image that reflects its degree of success and its ability to achieve the desired financial goals, supporting its competitive advantage, which allows it to sustain and evolve.

Based on the facts provided, it is the researcher's contention that financial performance serves as a pivotal criterion utilized by organizational management to evaluate the overall well-being and

condition of the organization. The evaluation is conducted by employing the auxiliary measurement indicators that have been adopted by the company in order to generate exact and accurate outcomes.

Regarding the measurement approaches specific to financial performance, several key indicators have been adopted, including the following:

a. Return on Assets (ROA): is one of the important financial ratios that measures a company's success as an indicator. It is used to assess an organization's ability to generate profits from its total assets. A high ROA indicates the efficiency of the organization in managing and earning profits from its assets (Surour and Shoukry, 2022: 8). It is calculated as follows (Qardouh and Faisal, 2020: 49):

$$\text{Return on Assets (ROA)} = \text{Net Profit} / \text{Total Assets}$$

b. Liquidity Ratio: Liquidity ratios refer to those ratios that measure the company's ability to meet its short-term obligations (current liabilities) using cash and other assets that can be quickly converted into cash in a relatively short period (current assets). They are calculated as follows (Abdulraouf and Al-Arabi, 2022: 22-23):

$$\text{Liquidity Ratio} = \text{Current Assets} / \text{Current Liabilities}$$

c. Return on Equity (ROE): This indicator focuses on measuring the return for every invested dollar by shareholders. A higher ROE indicates the efficiency of investment and operational decisions made by the organization (Al-Fadli and Al-Duwaiji, 2020: 27).

3. Concept, Origin, and Evolution of the International Financial Reporting Standard (IFRS 9) - Financial Instruments.

The official journal of the European Union issued the International Financial Reporting Standard (IFRS 9) for accounting for financial instruments in July 2014. The current standard was implemented as a replacement for the preceding International Accounting Standard (IAS) 39, primarily due to its inadequate treatment of loss allowances in the context of the financial crisis. The International Financial Reporting Standard 9 (IFRS 9), which was implemented on January 1, 2018, represents a novel accounting standard pertaining to financial instruments. It encompasses the classification, measurement, impairment, and hedge accounting aspects of these instruments.

The introduction of IFRS 9 brings forth a forward-looking methodology for acknowledging credit losses in financial statements, known as the Expected Credit Loss (ECL) approach. This technique incorporates a comprehensive set of accounting information, including the macroeconomic forecast. The adoption of this novel prospective methodology is a direct result of the critiques levied at the preceding accounting standard, IAS 39, which solely acknowledged credit losses in instances when unequivocal proof of a credit-related incident, such as default or substantial payment delay, was present. In essence, it might be argued that IAS 39 operated on a retrospective basis. According to Frykström (2018: 1) and Gornjak (2020: 2).

Gornjak (2017: 118-119) conducted a study that examined the merits and drawbacks of the International Financial Reporting Standard (IFRS) 9 in relation to financial instruments. The strengths of the approach discussed encompass several key aspects. Firstly, it effectively reduces the

complexity associated with classification and measurement. Secondly, it ensures that accounting processes are aligned with the overall business strategies. Thirdly, it provides comprehensive disclosures regarding any changes in the business model. Fourthly, it addresses the challenges that may arise from financial crises. Fifthly, it simplifies the rules pertaining to derivative measurement. Sixthly, it places a strong emphasis on stakeholders and their interests. Seventhly, it ensures accurate disclosure of losses. Eighthly, it enables comparability and harmonization of accounting processes and financial reporting. Lastly, it improves consistency and transparency in the preparation of reports, thereby enhancing competitiveness with global counterparts. Nevertheless, there are certain limitations associated with the implementation of International Financial Reporting Standard (IFRS) 9. These limitations include the introduction of new concepts such as the business model, which necessitates expert judgment and can be subjectively determined. Additionally, the standard allows for multiple options and diverse financial solutions, which may lack a structured framework for financial requirements. Furthermore, the standard does not provide clear guidance on addressing issues related to the decline in hedge accounting values. Lastly, the adoption of IFRS 9 may require adjustments or upgrades to existing accounting systems in order to align with the new accounting processes.

According to Frykström's (2018: 2) analysis, the International Financial Reporting Standard (IFRS 9) is comprised of three primary components. The initial aspect pertains to the categorization and quantification of monetary assets, while the subsequent aspect concerns the anticipated credit loss impairment model, which encompasses the methodology for projecting credit losses. Lastly, the third aspect encompasses hedge accounting. IFRS 9 encompasses both financial and non-financial institutions, with a particular emphasis on financial institutions owing to their substantial involvement as primary lenders. Consequently, financial institutions, namely banks, experience the most impact as a result of the newly implemented impairment regulations outlined in the International Financial Reporting Standards (IFRS) 9 standard.

4. The relationship between toxic assets and financial performance and the International Financial Reporting Standard (IFRS 9).

Some studies have attempted to clarify the relationship between toxic assets, financial performance, and the International Financial Reporting Standard (IFRS 9) financial instruments. Accordingly, they have divided the relationship into three parts, which will be mentioned as follows:

1.4 The relationship between toxic assets and financial performance.

The research conducted by Nzoka (2015) investigated the influence of asset quality on the financial performance of commercial banks in Kenya. The research included all commercial banks operating in Kenya, amounting to a total of 43, throughout the period spanning from 2010 to 2014. The researchers acquired secondary data from the yearly supervision reports of the Kenyan central bank pertaining to the aforementioned banks. Subsequently, they employed statistical software (SPSS) to conduct data analysis. The research utilized a t-test with a significance level of 5% to examine the data. Additionally, the study computed the correlation coefficient (r) and conducted an analysis of variance (ANOVA). The study's results revealed that various parameters pertaining to

asset quality exhibited a statistically significant influence, to varying degrees, on financial success. This implies that the financial performance of commercial banks cannot be only determined by asset quality, as it necessitates the consideration of additional aspects such as capital sufficiency, management efficiency, profitability, and liquidity. The unfavorable correlation between asset quality and financial performance was underscored. The study's findings suggest that it is crucial to prioritize the attainment of elevated asset quality, enhance investment asset levels, and mitigate non-performing assets through the evaluation, monitoring, and regulation of credit risks.

Wilson (2022) conducted a study that empirically investigated the efficacy of the U.S. government's endeavor to acquire mortgage-backed assets from non-agencies in the aftermath of the financial crisis of 2008 and 2009. Furthermore, the research examined and formulated attributes pertaining to prompt loan reimbursement inside the U.S. Commercial Mortgage-Backed Securities Loan Facility (TALF CMBS) initiative of the Federal Reserve. The research encompassed the timeframe spanning from 2009 to 2010 and revealed that the study's conclusions have certain political ramifications. Given that the Federal Reserve does not experience any losses from emergency loans that are repaid ahead of schedule, it is plausible that the Federal Reserve may exhibit a preference for asset managers who oversee bigger amounts of assets under management. This preference stems from the fact that such managers are more inclined to withdraw from emergency programs at an earlier stage, as exemplified by the situation with the Term Asset-Backed Securities Loan Facility (TALF). Additionally, it is possible for the Federal Reserve to mitigate potential losses in the future by directing emergency loans towards asset-backed securities with stronger credit ratings. Furthermore, there is evidence to suggest that the implementation of higher interest rates by the Federal Reserve at the outset of the emergency lending program is correlated with early repayment of loans.

Ugwueze et al. (2019) did a study with the objective of examining the influence of hazardous assets on the financial performance of commercial banks in Nigeria. The research centered on the sub-measures employed for evaluating toxic assets. These sub-measures encompassed the assessment of the impact of non-performing and questionable assets on return on assets, the examination of the effect of loans and advances on return on assets, and the analysis of the influence of doubtful debt on asset returns. The research employed secondary data sourced from Nigerian enterprises, specifically financial statements, spanning the timeframe of 2007 to 2016. The study's findings indicate that the escalation of non-performing and doubtful debts within Nigerian banks' money deposits can be ascribed to several factors. These include inadequate monitoring of borrowers to ensure appropriate utilization of funds, the persistent surge in lending rates, insufficient knowledge on the part of loan applicants, the failure of commercial banks to promptly follow up on their loans to prevent default, and deficiencies in credit policy management. In brief, the research has successfully identified multiple elements that contribute to the existence of toxic assets within Nigerian banks and the subsequent repercussions on their financial performance. The significance of proficient risk management, diligent borrower monitoring, and good credit policy management in sustaining a robust financial performance within the banking industry is underscored by these aspects.

The study conducted by Azam and El-Saeedi (2022) demonstrated the impact of implementing the Expected Credit Loss (ECL) model on financial indicators of listed banks in the Egyptian stock exchange. The study sampled 38 banks for the period from 2019 to 2021. The research employed various statistical methods to test hypotheses, such as regression analysis and correlation, in addition to a set of descriptive statistics to describe the behavior of variables and their degrees of moderation. The study arrived at the following results:

- a. Increase in financial solvency indicators of commercial banks compared to the required rates set by the Basel Committee.
- b. Egyptian banks are inclined to enhance the size of their credit loss provisions for hedging against potential future credit losses.
- c. There are significant differences between Egyptian banks based on their financial solvency.
- d. There are significant differences among Egyptian banks based on their size according to the indicators of the Expected Credit Loss (ECL) model.
- e. There is a statistically significant impact of the indicators of the Expected Credit Loss (ECL) model on the financial solvency of Egyptian banks, with a determination coefficient of approximately 0.902.

According to Frykström's (2018: 2) research, the examination of the transitional impact of implementing the International Financial Reporting Standard IFRS 9 on the financial condition of banks revealed a lack of clarity. Nevertheless, financial institutions are currently in the process of adopting International Financial Reporting Standard 9 (IFRS 9), and accurate quantitative data has not yet been produced. However, several analyses undertaken by regulatory agencies, analysts, and auditing companies indicate that the projected impact on the Common Equity Tier 1 (CET1) ratio is around 45-50 basis points during the transitional period. Furthermore, the implementation of International Financial Reporting Standard 9 (IFRS 9) has the potential to strengthen credit risk management and internal pricing procedures within banks. This may be achieved by the prompt recognition of credit losses, which in turn may prevent the occurrence of periodic swings. Moreover, IFRS 9 has the capacity to improve transparency pertaining to credit risks within the banking sector. Ultimately, this may result in enhanced financial stability.

2.4 The relationship between toxic assets and the International Financial Reporting Standard (IFRS 9) for financial instruments.

Several investigations have demonstrated this association, including a prominent conclusion from the research conducted by Motwally (2021). One of the notable findings pertains to the utilization of loan loss provisions by Egyptian banks as a means to manage profits and capital. This observation suggests a potential decline in the overall quality of financial reports for such banks. Furthermore, a notable augmentation in profitability and the implementation of capital management strategies were observed among banks listed on exchanges in contrast to those that were not listed. The study reached a significant finding that highlights the improvement in the quality of financial reporting for listed banks as a result of adopting IFRS 9. Additionally, it imposes restrictions on profit generation and capital management strategies within these financial institutions. The objective

of the research was to examine the impact of implementing the International Financial Reporting Standard (IFRS 9) for financial instruments on the utilization of loan loss provisions in profit and capital management across publicly listed banks in Egypt. The study encompassed a total of 27 banks, out of which 14 were publicly traded on the Egyptian stock exchange. The investigation spanned from 2017 through 2020 and employed a range of statistical techniques.

Magdalena and Martan (2021) conducted a study to investigate the effects of loan loss provisions and the estimation of loan loss provisions before and after the implementation of the International Financial Reporting Standards (IFRS 9) for financial instruments. The research employed a sample of banks located in various European countries, comprising 236 institutions from a total of 35 European countries. These banks had implemented the International Financial Reporting Standard 9 (IFRS 9) on January 1, 2018, for the fiscal year spanning from 2017 to 2018. The research discovered that there were no statistically significant disparities observed in the loan loss provisions and estimated loan loss provisions subsequent to the implementation of International Financial Reporting Standards (IFRS) 9 for financial instruments.

Furthermore, the research conducted by Al-Khalaileh (2023) examined the impact of implementing IFRS 9 in quantifying credit losses on the level of accounting disclosure quality. The research was centered on a representative sample of 23 commercial banks in Jordan. Various statistical techniques were utilized to derive pertinent findings. The research findings indicate a statistically significant relationship between the use of IFRS 9 for quantifying loan losses and the quality of accounting disclosure in commercial banks operating in Jordan.

The objective of the research undertaken by Bojar and Olszak (2022) was to investigate the impact of the anticipated credit loss methodology, as outlined in the International Financial Reporting Standards (IFRS 9), on the relationship between the capital adequacy ratio and loan growth in publicly listed banks in Poland. The research employed a sample of 12 commercial banks, selected based on the financial statements supplied by these institutions, covering the period from 2012 to 2018. The research discovered that the incorporation timeframe of the anticipated credit loss methodology enhances the associations between loan expansion and the capital adequacy ratio. Loan growth exhibits a higher degree of sensitivity in relation to the levels of capital adequacy ratios. The primary objective of these significant results is to augment the financial stability of the institutions within the sample under investigation.

The objective of the research conducted by Shahin and Al-Baghdadi (2019) was to evaluate the degree to which the accounting measurement of credit risk in Egyptian banks has been improved through the implementation of the Basel III agreements and the International Financial Reporting Standard (IFRS 9). The research was centered on a representative selection of banks in Egypt, encompassing various types such as public, joint, private, and international banks. The sample comprised of 4 public banks, 28 joint and private banks, and 7 foreign banks. The research utilized a survey that was disseminated to employees across multiple departments, encompassing senior management, risk management, compliance, and governance. The researchers employed a quantitative approach by utilizing publicly available financial statements pertaining to the loans and credit facilities of the institutions. The investigation has arrived to the following conclusions:

1) Banks have a good understanding and comprehension of the requirements of the Expected Credit Loss (ECL) model, as well as the regulatory guidelines and directives related to credit loss measurement practices.

2) Commercial banks reduced their loan loss provisions in 2018 compared to 2017, as a result of their commitment to building reserves under the IFRS 9 risk reserve standard.

3.4 The relationship between financial performance and the International Financial Reporting Standard (IFRS 9) for financial instruments.

Numerous academic studies have provided empirical evidence about the correlation between financial performance and the implementation of the International Financial Reporting Standard (IFRS 9), either through direct or indirect means. In 2022, Al-Haj conducted a research to examine the effects of the adoption of the International Financial Reporting Standard (IFRS 9) on the financial performance of organizations. The research was centered on Bank Blous, a financial institution operating in Syria, throughout the time span of 2017 to 2019. The study utilized a descriptive and analytical methodology, incorporating financial data that was published throughout the specified timeframe, in conjunction with statistical techniques. The research discovered that the implementation of IFRS 9 has a substantial impact on the valuation of available-for-sale financial assets, potentially leading to their reclassification and subsequent reduction to zero value. The value of financial assets held for trading is contingent upon the quality of these assets, particularly in the case of investments held for trading or investments held till maturity in the context of debt instruments. Moreover, the findings of the research indicate that the implementation of International Financial Reporting Standards (IFRS) 9 had a considerable influence on the level of profitability, specifically when applied retroactively to the financial statements of the fiscal year 2018. However, it did not have a noteworthy effect on profitability and capital efficiency in alternative scenarios.

Ahmed (2022) conducted a study to assess the influence of the adoption of the International Financial Reporting Standard (IFRS 9) on liquidity risks faced by commercial banks in the Gulf region. The study spanned the years 2014 to 2021, encompassing both the pre- and post-implementation periods. The research employed a deductive and conventional analytical methodology to examine the data obtained from the empirical investigation and evaluate the proposed hypotheses. The research results revealed a statistically significant favorable effect, with more pronounced enhancements reported in conventional banking institutions.

According to Al-Saeed et al. (2020), the authors conducted a study to examine the effects of implementing the Expected Credit Loss (ECL) model under International Financial Reporting Standard 9 (IFRS 9), specifically titled "Financial Instruments – Recognition and Measurement," on the reduction of loan risks and enhancement of financial performance in commercial banks in Egypt. The research was centered on a sample of Egyptian commercial banks that were listed on the Egyptian Stock Exchange. The sample comprised 13 commercial banks and the study specifically examined data from the year 2019. The results of the study revealed the following:

1) The application of the Expected Credit Loss (ECL) model led to a significant improvement in credit risk indicators, resulting in increased credit quality indicators and reduced financial risks.

This had a positive impact on mitigating credit risks and, consequently, improving the financial performance of Egyptian commercial banks.

2) The application of the Expected Credit Loss (ECL) model under the International Financial Reporting Standard No. 9 (IFRS 9) on Financial Instruments, titled "Financial Instruments – Recognition and Measurement," has aided in enhancing risk disclosure by relying on historical, current, and future information. This makes it easier to predict risks before they occur.

Abu Dallu (2021) conducted a study that investigated the effects of implementing the International Financial Reporting Standard No. 9 (IFRS 9) on the financial statements of insurance businesses in Jordan that are listed on the Amman Stock Exchange. The research employed a sample of 23 insurance businesses that are publicly traded on the Amman Stock Exchange. The selection of companies was based on their published financial statements, namely the income statement (net profit) and the statement of financial position (retained earnings) for the period spanning from 2015 to 2020. The research conducted revealed that the implementation of IFRS 9 did not provide any statistically significant effects on the financial statements of Jordanian insurance firms that are publicly traded on the Amman Stock Exchange. Nevertheless, the study has successfully detected the influence of implementing International Financial Reporting Standards (IFRS) 9 on the initial amounts of accumulated profits carried forward into the fiscal year 2018 for the aforementioned corporations.

Finally, Hassan's study (2019) aimed to investigate the effects resulting from the transition to the application of International Financial Reporting Standards No. 9 (IFRS 9), which replaced International Accounting Standard No. 39 (IAS 39), on the financial statements of commercial banks listed in the Egyptian stock market. The study used a sample consisting of 13 banks operating in the Egyptian market during the period from 2017 to 2018. The study concluded that there were several positive effects of applying IFRS 9. It revealed that there was a statistically significant positive impact of implementing IFRS 9 on market value. Additionally, it showed a statistically significant negative impact on the risk exposure of commercial banks in the study sample.

Research Design:

1. Research Community and Sample:

The present study pertains to the research domain of the banking industry, with a specific emphasis on banks that are listed on the Iraq Stock Exchange. As of the conclusion of 2022, the securities market in Iraq encompassed a collective sum of 47 banks. Nevertheless, the study's sample size was limited to 12 financial institutions. The study employed a time series dataset covering the period from 2011 to 2020. The selection criterion for the sample encompassed two key factors: the presence of essential data for variable measurement and the consistent disclosure of financial reports by the banks throughout the research sample period. The sample does not include Islamic banks due to their exemption from the adoption of IFRS 9. Table 1 presents the banks that were chosen as the research sample.

Table (1): Research Sample Banks

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Seque ncing	Bank	ode C	Seque ncing	Bank	ode C
1	Baghdad	B BOB	7	Iraqi Credit	B ROI
2	Commerci al Bank of Iraq	B COI	8	Sumer Commercial Bank	B SUC
3	Commerci al Gulf	B GUC	9	Ashur International Bank for Investment	B ASH
4	Iraqi Investment	B IBI	10	The Middle East	B IME
5	Al- Mansour	B MNS	11	Mosul	B MFI
6	Al-Ahli Iraqi Bank	B NOI	12	United Investment for Investment	B UND

Source: The table was prepared by the researcher.

2. Measurement of Variables

The three factors in the study were assessed through the application of quantitative scales. These scales were developed based on existing research and involved the analysis of financial reports from a sample of selected banks. This approach was employed to get the required data for measuring the identified variables. The following is a comprehensive elucidation of the metrics employed to assess the research variables:

a. The independent variable (Non-Performing Assets or Troubled Assets):

The independent variable (Non-Performing Assets or Troubled Assets) was measured using the following formula, based on an agreement with the studies of Ugwueze et al., 2019, Adebisi et al., 2020, and the equation model as follows:

$$\text{Non-Performing Assets} = (\text{Non-Performing Loans} / \text{Total Loans})$$

The higher the ratio, the greater the proportion of non-performing assets in the bank.

b. The dependent variable (Financial Performance):

It was measured through two indicators in agreement with the studies (Alabi et al., 2020), (Deitiana & Habibuw, 2015), (Ugwueze et al., 2019), and these indicators are Return on Assets and Liquidity Ratio as follows:

The first indicator: Return on Assets = Net Profit / Total Assets

The second indicator: Liquidity Ratio = Current Assets / Current Liabilities

c. The intervening variable: IFRS 9 Financial Instruments Standard: The standard was assessed in accordance with the research conducted by Bojar and Olszak (2022), Metwally (2022), and Magdalena and Martani (2021), utilizing a dummy variable. The assignment of the value (1) for the application period was determined by the decision made by the Central Bank of Iraq to implement it in commercial banks in 2016. Therefore, the aforementioned time frame spanned from 2016 to 2020, encompassing the designated research period. In contrast, a number of zero is provided to indicate the non-application time during the research period, which spanned from 2011 to 2015.

Descriptive analysis:

Table (2) displays the levels of non-performing assets and financial performance (as per its scale) and the adoption of the IFRS 9 standard by the sample banks.

Table (2): The arithmetic mean of the research variables within the selected banks as a sample.

Sequenc e	Bank	الأداء المالي (نسبة السيولة)	الأداء المالي (العائد على الموجودات)	معيان)IFRS9(	الموجودا ت السامة
		Y2	Y1	M1	X1
1	Baghdad	1.169	0.015	0.5	0.087
2	Iraqi Commercial	2.457	0.029	0.5	0.155
3	Gulf Commerce	1.747	0.027	0.5	0.368
4	Iraqi Investment	1.795	0.024	0.5	0.332
5	Al-Mansur	1.464	0.020	0.5	0.338
6	Iraqi Al-Ahli	1.749	0.019	0.5	0.283
7	Iraqi Credit	2.091	0.017	0.5	0.128
8	Sumer Commercial	3.165	0.005	0.5	0.070
9	Assur International	2.489	0.038	0.5	0.101
10	Middle East	1.386	0.013	0.5	0.339
11	Mosul	2.509	0.021	0.5	0.123
12	United for Investment	1.740	0.025	0.5	0.278
Sum		1.980 0	0.0210	0.50	0.217

Source: The table was prepared by the researcher based on the outputs of the statistical software (SPSS).

The data presented in Table 2 demonstrates the fluctuating levels of toxic assets (non-performing) among the banks over a ten-year research period. Gulf Commercial Bank exhibited the highest average percentage of toxic assets at 36.8%, whereas Sumer Commercial Bank displayed the lowest average percentage at only 7%. The adoption of the International Financial Reporting Standard (IFRS9) was determined based on the measuring method employed, with the time period serving as a key factor. The arithmetic mean remained consistent across all banks throughout the observed time frame. On the other hand, Assur Bank had the most notable level of financial success with regards to return on assets. In contrast, it is noteworthy that Sumer Commercial Bank exhibited the least favorable return on assets, amounting to a mere 0.5%. This percentage, being quite little, fails to provide any substantial motivation for potential investors to consider allocating their resources towards this institution, despite its comparatively lower proportion of toxic assets. Furthermore, it achieved the highest liquidity ratio. On the other hand, the liquidity ratio of Baghdad Bank was found to be the lowest. Table 3 presents the arithmetic mean and standard deviation for the research variables as well as for the entire sample.

Table (3) describes the research variables.

Variable type	Variables	Cod e	Arithmeti c Mean	Standar d Deviation	Minimu m Value	Maximu m Value	Variance Coefficient
Independen t	Toxic substances	X	0.217	0.189	0.000	0.705	87.0%
Foreign	IFRS 9 Standard	M	0.500	0.500	0.000	1.000	100%
Follower	Return on Assets (ROA)	Y1	0.021	0.022	-0.033	0.086	104.2%
	Liquidity Ratio	Y2	1.980	0.717	0.648	4.539	36.2%

Source: The table was prepared by the researcher based on the outputs of the SPSS software.

Based on the data shown in Table 3, it is evident that the research sample exhibits a rather elevated proportion of harmful compounds, with certain observations indicating particularly high levels of this percentage. Nevertheless, the sample's mean as a whole is compromised in terms of representativeness due to the high standard deviation and the fact that it above the threshold of the variance coefficient, which is set at 50%. The observed increase in the standard deviation suggests a greater degree of dispersion, variance, and inconsistency among the researched expenses. Regarding the adoption of the financial instruments standard, a consistent value was documented as a result of employing a measurement type characterized by its inherent stability. In contrast, the financial performance, as measured by the return on assets, exhibited a very low percentage, with an average

of 2.1% across the entire sample. The aforementioned percentage exhibits a significant disparity when compared to potential investment opportunities, particularly in light of the fact that Iraqi commercial banks provide fixed deposit interest rates spanning from 5% to 11%. The liquidity ratio exhibited an acceptable percentage across all banks included in the research sample, indicating a consistent and uniform pattern in the observations and expenditures. This is supported by the decrease in both the standard deviation and the variance coefficient.

These results are consistent with the study by (Azam & Al-Saedi, 2022), (Magdalena & Martan, 2021), and (Hassan, 2019), but differ from the study by (Metwally, 2022), (Al-Khalaylah, 2023), and (Shahin & Al-Baghdadi, 2019), as well as (Bojar & Olszak, 2022).

Hypothesis Testing:

The research includes five main hypotheses, which are as follows:

(H1) First Main Hypothesis: There are significant differences in the research variables' levels in the surveyed banks.

For the purpose of testing this hypothesis, a one-sample t-test was adopted to determine significant differences in the levels of availability of research variables in the surveyed banks. Table (4) displays the test results.

Table (4): Levels of Research Variable Availability

Variables	Code	t(	df(	)Sig.(
Toxic Assets	X	12.590	119	.000
IFRS 9 Standard	M	10.909	119	.000
Return on Assets(ROA)	Y1	10.509	119	.000
Liquidity Ratio	Y2	30.246	119	.000

The source can be translated to English as follows:

Based on the data shown in Table 4, it is evident that the calculated (t) value exhibited statistical significance at a significance level below 5%. This finding supports the existence of significant differences. The evidence supports the relationship between the variable of toxic assets, the variable of adoption of the financial instruments standard (IFRS9), and the variable of financial performance as measured by both indicators. As a result, the initial primary hypothesis is deemed valid.

(H2) Second Main Hypothesis: There is a relationship between the three research variables.

In order to facilitate impact testing, it is imperative to assess the extent of the association between the research variables as a preliminary measure to ascertain the variables that are suitable for inclusion in regression equation models for effect analysis. The Pearson correlation coefficient was utilized to assess the degree of association between the research variables, as presented in Table 5.

Table (5): Values of the Correlation Coefficient Between Research Variables

		Return on Assets (ROA)	Liquidity Ratio	IFRS 9 Standard
Toxic Assets	Pearson	0.291**	-0.296**	-0.465**
	Sig.	0.001	0.001	0.000
IFRS 9 Standard	Pearson	-0.565**	0.137	1
	Sig.	0.000	0.134	

** : This indicates that the correlation is statistically significant at the 1% level.

* : This indicates that the correlation is statistically significant at the 5% level.

Source: The table was prepared by the researcher based on the outputs of the statistical software (SPSS).

From Table (5), the following observations can be made:

1. The findings of the study indicate a statistically significant positive correlation between toxic assets and the return on assets in the banks that were examined. This implies that as the level of toxic assets increases, there is a corresponding increase in the return on assets. Conversely, a statistically significant negative correlation is seen between hazardous assets and both the liquidity ratio and the implementation of the financial instruments standard (IFRS9). This implies that a rise in hazardous assets is correlated with a decline in the liquidity ratio and a drop in the inclination to adhere to the financial instruments standard (IFRS9).

2. A statistically significant negative correlation has been observed between the implementation of the financial instruments standard (IFRS9) and the return on assets. This indicates that as banks demonstrate a greater propensity to embrace the standard, there is a corresponding decline in the return on assets. Nevertheless, the statistical analysis did not yield a significant correlation between the adoption of the standard and the liquidity ratio. Hence, the exclusion of the liquidity ratio as a proxy for financial success in following impact tests is warranted due to the absence of a significant link. The findings presented here are consistent with the research conducted by Metwally (2021) and diverge from the investigations conducted by Ugwueze et al. (2019), Al-Khalaylah (2023), Al-Hajj (2022), and House and Masatlioglu (2015).

(H3) Third Main Hypothesis: The relationship between toxic assets and financial performance varies in the context of adopting the (IFRS 9) standard.

To test this hypothesis, the correlation coefficient for the partial correlation between toxic assets and financial performance (return on assets) was measured under the adoption of the International Financial Reporting Standards (IFRS9). Table (6) presents the test results.

Table (6): Partial Correlation Values between Toxic Assets and Financial Performance under IFRS9 Standard

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The Variables		Excluding the IFRS9 Standard	Not excluding the IFRS9 Standard
		Financial Performance	Financial Performance
Toxic Assets	Pearson	0.039	0.291**
	)Sig(	0.674	0.001

Source: The table was prepared by the researcher based on the outputs of the statistical software (SPSS).

** This means that the correlation is statistically significant at the 1% level.

* This means that the correlation is statistically significant at the 5% level.

From Table (6), it is evident that the positive relationship significantly weakens when excluding the IFRS9 Standard, and to a very significant extent. This strongly indicates the importance of the IFRS9 Standard in enhancing the strength of the positive relationship between toxic assets and financial performance.

Based on the information provided, it appears that the results support the validity of the third main hypothesis.

(H4) The fourth main hypothesis: There is a statistically significant impact of toxic assets on financial performance.

A simple linear regression equation was formulated to estimate financial performance (as measured by the return on assets) based on toxic assets, in order to determine the level of impact of the latter on financial performance. Table (7) displays the results of the impact test.

Table (7): Impact of Toxic Assets on Financial Performance

The Variables	The Constant Coefficient) β (	The Regression Coefficient) β (	The (T) Value)Sig.(	The (F) Value)Sig.(	) R^2 (
Toxic Assets	0.014	0.034	3.306)0.001(	10.931)0.001(	0.085

Source: The table was prepared by the researcher based on the outputs of the statistical software (SPSS).

Based on the data presented in Table 7, it can be noticed that the F-value of 10.931 was found to be statistically significant at the 5% level. This suggests that the regression model exhibits stability. This implies that the estimation of financial performance, namely the return on assets, can be derived from toxic assets, hence validating the model. Furthermore, the T-value of 3.306, which is significant at a level of less than 5%, indicates a statistically significant influence of toxic assets on financial performance. The obtained beta regression coefficient (β) value of 0.034 suggests a positive relationship, indicating that an increase in the proportion of toxic assets is associated with a

corresponding increase in financial performance, as measured by the return on assets. In addition, the coefficient of determination (R^2) value, which is 0.085, indicates that toxic assets account for around 8.5% of the observed fluctuations in financial performance, specifically in terms of the return on assets. Based on the aforementioned information, the acceptance of the fourth primary hypothesis is indicated.

These results are consistent with the study by Ugwueze et al. (2019) and differ from the studies by Metwally (2021), Azzam and El-Saeidy (2022), Ekinici and Poyraz (2019), and House and Masatlioglu (2010).

(H5) The fifth main hypothesis: The impact of toxic assets on financial performance differs before and after the adoption of the IFRS9 standard in the surveyed banks.

To test this hypothesis, two simple linear regression equations were formulated to estimate financial performance (as measured by the return on assets) based on toxic assets for two periods: the first period before the standard's implementation and the second period after the standard's implementation. Table (8) displays the results of this test.

Table (8): Differences in the Impact of Toxic Assets on Financial Performance Before and After the Adoption of IFRS9

The Variables	Model 1: Before Adoption of (IFRS9)			Model 2: After Adoption of (IFRS9)		
	R^2	The (F) Value Sig.	The Level of Significance	R^2	The (F) value Sig.	The level of significance
Toxic Assets	0.026	1.564 0.216	Statistically non-significant	0.067	4.188 0.045	Statistically significant
	The constant coefficient β_0	The regression coefficient β_1	The (T) value) Sig.	The constant coefficient β_0	The regression coefficient β_1	The (T) value (Sig.)
	0.028	0.018	1.251 0.216	0.012	-0.027	-2.047 0.045

Source: The table was prepared by the researcher based on the outputs of the statistical software (SPSS).

Based on the data presented in Table 8, it can be observed that the F value demonstrated statistical significance at a significance level of 5% subsequent to the implementation of the standard. However, prior to the adoption of the standard, the F value did not exhibit statistical significance. The aforementioned observation indicates the robustness of the second regression model subsequent to the implementation of the standard, hence suggesting the feasibility of estimating financial performance using toxic assets post-implementation. This implies that the second model is more valid compared to the first regression model, as the validity of the latter was not proved prior to the

acceptance of the standard. This implies that the assessment of financial performance using toxic assets prior to the implementation of the standard is unreliable, hence questioning the validity of the initial model.

Moreover, the statistical significance of the (T) value below the 5% significance level subsequent to the implementation of the standard indicates the substantial influence of toxic assets on the financial performance. Nevertheless, the magnitude of the impact had not been confirmed prior to the approval of the standard. The regression coefficient (β) for the negative beta regression signifies that there is a negative relationship between the adoption of the standard and its impact. Specifically, it suggests that an increase in the proportion of hazardous assets following the implementation of the standard is associated with a deterioration in financial performance, as measured by the return on assets. The findings of this study are in direct opposition to the results obtained in the fourth hypothesis, which examined the influence of adopting the International Financial Reporting Standards (IFRS9) on altering the direction and significance of said influence. Put differently, the utilization of the established criterion exposed the actual adverse consequences of hazardous assets on diminishing levels of financial performance.

Additionally, the determination coefficient (R^2) values of (0.026) and (0.067) before and after the standard's adoption, respectively, indicate that toxic assets before the standard's adoption explain 2.6% of the variations in financial performance, while toxic assets after the standard's adoption explain 6.7% of the variations in financial performance. This suggests that there is a greater capacity for providing explanations following the implementation of the standard. Based on the aforementioned information, the acceptance of the fifth primary hypothesis is warranted. The findings presented here are consistent with the research conducted by Al-Haj (2022) and diverge from the investigations conducted by Gornjak (2020) and Frykström (2018).

Conclusions:

1. A correlation can be observed between the three primary variables, namely toxic or non-performing assets, financial performance, and the (IFRS9) standard, regardless of whether it is favorable or negative in nature.
2. The correlation between hazardous or non-performing assets and financial performance is diminished with the implementation of the International Financial Reporting Standards (IFRS9).
3. There exists a positive correlation between toxic or non-performing assets and financial performance, whereby an increase in the proportion of toxic assets is associated with an increase in financial performance, as indicated by the return on assets.
4. The adoption of the (IFRS9) standard has been found to have a significant adverse effect on financial performance due to the presence of toxic assets. The aforementioned influence has

contributed to a decrease in financial performance levels, as evidenced by the statistical techniques employed in the research.

Recommendations:

1. Full disclosure of data pertaining to toxic assets, including the risks connected with those assets, is of utmost importance for banks, as indicated by the research sample. Banks should prioritize efforts to enhance their asset-specific disclosure methods.
2. To mitigate the persistence or expansion of toxic or non-performing assets within Iraqi banks, it is imperative to refrain from engaging with them, adhering to the policy of non-performing loans.
3. Enhancing the structure and arrangement of workshops, educational seminars, and training courses targeting all pertinent stakeholders with the aim of elucidating the subject matter of hazardous assets and their ramifications on financial statements, particularly within the framework of comprehending the International Financial Reporting Standard (IFRS 9) accurately.
4. It is imperative that Iraqi banks adhere to their prescribed protocols in order to efficiently manage toxic or non-performing assets, hence mitigating any future losses for these financial institutions.

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