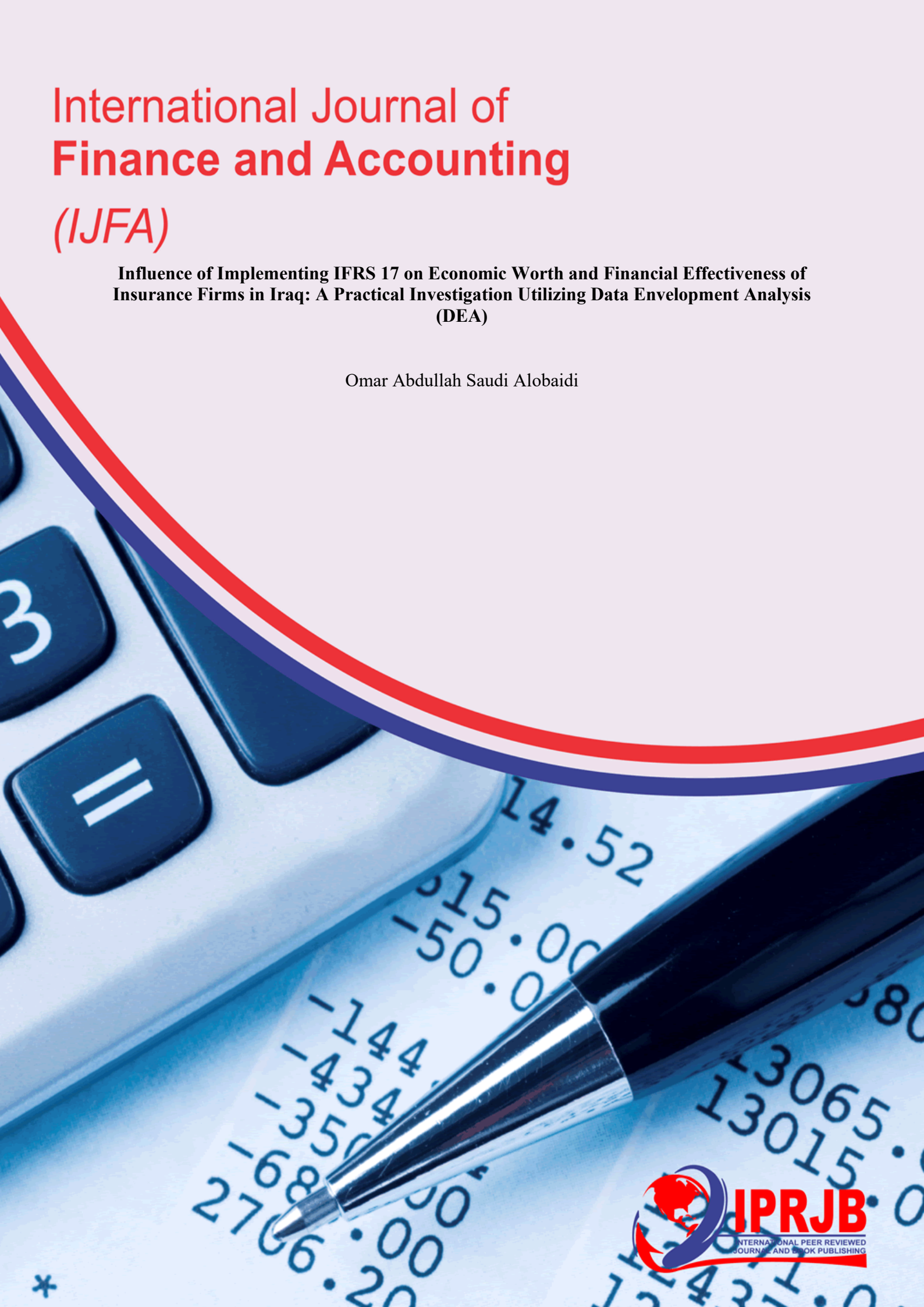
International Journal of
Finance and Accounting
(IJFA)

Influence of Implementing IFRS 17 on Economic Worth and Financial Effectiveness of Insurance Firms in Iraq: A Practical Investigation Utilizing Data Envelopment Analysis (DEA)

Omar Abdullah Saudi Alobaidi



International Journal of Finance and Accounting
ISSN 2518-4113 (online)
.Vol.11 Issue 5, No3 .pp . 30- 46 , 2026

www.iprjb.org

Influence of Implementing IFRS 17 on Economic Worth and Financial Effectiveness of Insurance Firms in Iraq: A Practical Investigation Utilizing Data Envelopment Analysis (DEA)

Omar Abdullah Saudi Alobaidi
Mustansiriyah University, College of Administration & Economics, Department of Banking and Finance Baghdad, Iraq

Article History

Received 5th April 2026

Received in Revised Form7th May 2026

Accepted 3rd June 2026

How to cite in APA format:

Alobaidi, O. (2026). Influence of Implementing IFRS 17 on Economic Worth and Financial Effectiveness of Insurance Firms in Iraq: A Practical Investigation Utilizing Data Envelopment Analysis (DEA). *International Journal of Finance .and Accounting*, *11*(5), 30–46 https://doi.org/10.47604/ijfa.3793

Abstract

Purpose: This research aims to examine how adopting IFRS 17 changes the Iraqi insurance sector specifically, how it boosts the quality of financial reports, strengthens financial solvency, and improves overall company performance.

Methodology: To do this, the study builds on recent work about IFRS 17 in Iraq. It took a quantitative and comparative approach. In this research, the researcher used Data Envelopment Analysis (DEA) and standard statistical tools to measure how this new standard affects financial performance in insurance companies. While the exact details might shift from one paper to another, this general framework holds.

Finding: The results speak clearly: adopting IFRS 17 has a strong, statistically significant positive effect on both the economic value and financial efficiency of Iraqi insurance companies. It addresses the shortcomings that plagued IFRS 4 and sets a new benchmark for transparency and effectiveness in the sector.

Keywords: *IFRS 17, Iraqi Insurance Firms, Economic Value Added (EVA) - Data Envelopment Analysis (DEA), Financial Efficiency (FE)*

by the Authors. This Article is an open access 2026© article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license http://creativecommons.org/licenses/by/4.0)

INTRODUCTION

Insurance sector represents a pivotal part in a nation's economy as it ties up different parts of its economic sectors. A country depends on the insurance industry to provide the necessary stability within its finance, society, economy, environment and ultimately politics and international aspects through the provided mechanism and arrangements to all stakeholders. This results from its key role in the process of managing risks and providing financial security to the individuals and organizations, regardless whether they belong to the public sector, commercial (private), consumer and international sectors. As the number of transactions and interactions between the stakeholders increase, the provision of the insurance industry has urged the need to reconsider the role of this sector, from a secondary element within the national economy to an autonomous information-based economy. This information represents the core of the competitiveness of the insurance sectors and firms. Hence, a more sophisticated accounting system needs to be implemented to reflect the true economic nature of insurance contracts.

Furthermore, IFRS 17 "Insurance Contracts" standard that was issued in 2017 and became effective on 1 January, 2023. Also it has greatly helped in developing standards to meet the needs of addressing any deficiency in accounting or non-accounting information regarding insurance transactions. This is due to the fact that insurance information is based on future cash flows and some transaction attributes are not clearly stated, thus resulting in differences in the reported information. Recently, Iraqi insurance companies have faced such a dilemma along with others. The most significant difficulty they encounter includes the lack of proper investments in insurance sector, locally and internationally, along with their lack of understanding of insurance principles and domination of few firms in the Iraqi market. Thus, understanding the consequences of IFRS 17 application on these firms' accounting systems is vital.

In May 2017, the board finished its work on insurance contracts and published IFRS 17 Insurance Contracts. IFRS 17 takes over from IFRS 4 and lays out rules for how companies should recognize, measure, present, and disclose insurance contracts covered by this standard.

Three years later, in June 2020, the Board released amendments to IFRS 17. These changes help companies adopt the standard more smoothly without causing unnecessary setbacks or reducing the value of the information IFRS 17 provides.

Problem Statement

In this study, there is an investigation into the problems encountered by Iraqi insurance companies in providing accounting information and non-accounting information to the stakeholders for better decision-making purposes, especially investment decisions. This issue becomes more critical when considering the structural reality of the insurance sector in Iraq. The Iraq insurance market is relatively small, insufficiently widespread, and historically dominated by state-owned companies, which have traditionally relied on cash-based accounting or outdated, primitive accounting systems. This structural weakness exacerbates the difficulties in transitioning to modern standards.

In particular, since the implementation of IFRS 17, many insurance companies still confuse between the two (IFRS 17 and IFRS 4). The former is considered less flexible than the latter which leads to the conclusion that some Iraqi insurance companies find it difficult to provide consistent measurements according to IFRS 17. Furthermore, the effect of IFRS 17 on EVA

and financial efficiency has not yet been properly investigated. Therefore, all these issues lead to inconsistencies in accounting information.

Iraq's insurance sector still doesn't have much structure or depth it barely registers at \(0.05\%\) of the country's GDP. State-owned companies like the National Insurance Company and the Iraqi Insurance Company run almost the entire show. The problems run deep: outdated, cash-based accounting systems hold everything back. They make it tough to achieve the transparency and compliance you see in more advanced financial markets.

Problem statement is presented through the following questions:

a. Does IFRS 17 contribute to the improvement of EVA indicators for Iraqi insurance firms?

b. Does IFRS 17 contribute to enhancing financial efficiency of Iraqi insurance firms?

c. Is there a difference in the financial efficiency of Iraqi insurance firms before and after the implementation of IFRS 17?

Prior Researches and Scholarly Views

According to Al-Nasrawi (2024), significant financial crises highlight the weaknesses of disclosures based on outdated standards in the insurance industry. The scholar proposes the use of modern international standards in order to improve the financial structures of emerging economies. The stance is confirmed by a research carried out by EFRAG (2024) where an informative report on IFRS 17 implementation into the financial sector was provided. The report reveals the key issues with respect to implementation of IFRS 17, namely choosing an adequate discount rate for the valuation of liabilities and adjusting portfolio segmentation models which necessitates sophisticated IT and human resources.

The issues pertaining to IFRS 17 implementation into the insurance companies were explored by Pulawska et al. (2025). The scholars considered 68 insurance companies from Europe whose financial statements are compliant with international standards. In the study, Pulawska et al. identified that the issue with accounting of contracts is complicated, expensive, and characterized by numerous problems related to timing and comparability. Furthermore, the scholars noted that insurance contracts do not include issues with respect to fluctuations in economic environment, particularly inflation.

The research conducted by Vazov and Hristozov (2025) is aimed at examining the impact resulting from the application of IFRS 17 in the insurance industry in China. According to the authors, the standard under discussion has provided necessary information, which can be used as a strategic instrument in recognizing, measuring, and disclosing insurance contract obligations. As a consequence, the application of IFRS 17 can be linked to improvements in financial results in the field of insurance business. Furthermore, the introduction of IFRS 17 implies an accounting approach, which aims to promote better transparency and comparability in financial statements, as well as the possibility to recognize profits over the entire term of insurance contracts. Finally, the new regulation limits managers in managing profits generated during the use of contractual obligations. Apart from this, Ter et al. (2024) examine the outcomes of implementing IFRS 17 "Insurance Contracts" among European insurance enterprises for the first time based on the analysis of 24 prominent European firms through information contained in their annual reports for 2023. In general, the application of IFRS 17 has enabled improvements in financial reporting in terms of several determinants, such as the analysis of changes in insurance obligations and sensitivity analyses of disclosure. It is worth

mentioning that the adjusted operating result was indicated as one of alternative performance measures (profit) by 50% of analyzed companies.

Analysis of Previous Literature and Literature Gap

Most previous research zeroes in on how IFRS 17 affects disclosure quality and revenue structures, mainly in developed regions like Europe or China. Scholars have also put the DEA model under the microscope, testing its ability to measure insurance company efficiency around the world. But the literature still leaves a gap: no one's tackled how IFRS 17 and DEA together shape the Iraqi insurance market. Iraq's insurance sector comes with its own set of structural quirks and operates in a developing economy, so it's time for an empirical study that digs into how these factors play out there.

Hypotheses of Research

The proposed hypotheses of research are presented below:

Hypothesis 1: The implementation of IFRS 17 and its effects on the economic value added (EVA) improvement of Iraqi insurance companies have a statistically significant correlation.

Hypothesis 2: There are statistically significant differences between financial performance indicators of Iraqi insurance companies in terms of DEA method before and after applying IFRS 17.

Hypothesis 3: The level of compliance with IFRS 17 requirements and financial performance of Iraqi insurance companies have a statistically significant relationship.

Scientific Importance of the Research

The current research identifies an important deficiency of knowledge about the application of IFRS 17 in emerging countries. This deficiency is considered from the perspective of the applicability of IFRS 17 in Iraq specifically. The methodological basis of the study involves a combination of methods of comparative efficiency analysis and calculation of the economic value of insurance companies.

Practical importance of the research: The conducted study serves as an advisory reference for regulators and managers of Iraqi insurance companies on how to consider the adoption of IFRS 17 regarding financial performance metrics.

Significance of the Research

Scientific significance: The research fills an important gap in scientific knowledge concerning the introduction of IFRS 17 in the context of emerging markets, particularly with respect to the market conditions in Iraq. The research includes a well-developed methodology based on the comparison of the DEA and EVA as complementary measures used for analyzing the performance of insurance companies financially.

Practical significance: The study offers a valuable guideline for regulators and the managers of Iraqi insurance companies about the meaning of IFRS 17 in the context of financial performance metrics.

METHODOLOGY

In the current investigation, a quantitative research methodology is used, including the gathering and analyzing of financial data from the Iraqi insurance companies available in the

literature. The panel approach is utilized to meet the goals of measuring the relative efficiency both over time and for each company at once.

Adopting IFRS 17 shakes up the Iraqi insurance sector, putting transparency front and center. Instead of relying on cash-based accounting, companies now have to use current-value measurement. This doesn't just tweak the numbers—it completely changes how insurers recognize revenue and judge their financial health.

To really see the impact, you need something concrete. That's where Data Envelopment Analysis (DEA) comes into play. With DEA, these abstract accounting shifts become clear efficiency scores you can actually compare.

Scope of the Research

The scope of the study is delineated below:

Scientific scope: Running a direct comparison through gathered data from Iraqi insurance firms before and after IFRS 17 kicks in. With a cross-sectional approach, line up historical (pre-IFRS 17) numbers against the new (post-IFRS 17) metrics to see how efficiency and performance shift. By measuring these changes head-to-head, DEA turns regulatory reform into measurable result

Chronological scope: This research focuses on the years 2020 to 2025, covering both the rollout and the application of the new normative document in that span. To see what changed, the study looks at two separate time frames. First, the pre-IFRS 17 period (2020–2022) sets the baseline, showing how financial efficiency looked before the standard came in. Then, the post-IFRS 17 period (2023–2025) tracks what happened after implementation, highlighting the impact of IFRS 17.

Geographical scope: Financial data of public Iraqi insurance companies are considered in this research with the use of sample size of 12 selected firms.

Analytical Framework for DEA Input and Output Selection

This study uses the Intermediation Approach, or Asset Approach, to select inputs and outputs for the DEA model. This method treats insurance companies as financial intermediaries. They collect premiums as inputs, then turn those into outputs like investments and claim payments. The approach matches how insurance firms really work, taking in premiums, holding reserves, and paying out claims—so it fits the context of this analysis.

The Theoretical Foundation of the Research

Continuous work is done by the International Accounting Standards Board (IASB) and the International Financial Reporting Standards (IFRS) on accounting standards, and their impact on the improvement in the quality of financial reporting and, consequently, the quality of accounting information and non-accounting one as well is analyzed. The mentioned above activity allows avoiding the main causes of the financial crises via a regulated way. Therefore, the current section defines the theoretical background regarding the nature of International Financial Reporting Standard IFRS 17 in connection with its relevance to the economic value and financial efficiency of the economic agents functioning in the Iraqi insurance industry.

Reasons for Updating IFRS 4

The implementation of the International Financial Reporting Standard (IFRS 4), namely "Insurance Contracts," uncovered various weaknesses. The weaknesses have also justified the

need for a solution, especially considering the criticisms raised by PDAel et al. (2025) and KPMG (2024).

i. Limitations inherent to IFRS 4 "Insurance Contracts" are what keep the standard going and hence make certain aspects of the standard not receive due consideration. Particularly, information generated by IFRS 4 is neither comparable nor easily interpretable by economic units involved in the same sector locally.

ii. The absence of an international standardized approach and consistency, combined with past weaknesses, is related to the standardization of accounting techniques that have been used. Although the International Financial Reporting Standards offer the advantage of flexibility that enables economic agents to choose from accounting standards when implementing their accounting practices, the problem of inconsistencies persists when comparing international firms in the same industry.

iii. The necessity of transparency and proper disclosure: Parties of different interest groups are faced with a shortage of adequate information regarding the conditions of the insurance contract and the corresponding flow of funds. This makes it more likely for the risks involved in such transactions to arise in an extent that does not match the level of disclosure needed for stakeholders' transparency.

iv. Insurance industry evolution: Within various business environments, both locally and internationally, the insurance industry has encountered various difficulties based on events and changes that have been occurring. This makes it increasingly difficult for the industry to function based on the standards set over two decades ago, considering the events involved and the amount of money flowing within the industry.

v. With regards to various accounting standards set forth by international organizations, the current efforts of the International Accounting Standards Board in providing clear guidelines about various accounting problems have made it possible for these standards to harmonize. As a result, IFRS 4 presents differences in its operational framework compared to other standards like IFRS 15 and IFRS 9.

vi. Concerning IFRS 4, it can be seen that IFRS 4 did not offer the required support for financial stability in the insurance sector because it was concerned about the process rather than finance issues, which made IFRS 4 appear more like regulation than an accounting practice.

vii. The categorization of insurance contracts based on their temporal aspects is a significant criticism of IFRS 4. The accounting standard emphasizes temporal aspects but fails to address the financial aspect that is inherent in the nature of these contracts. In particular, the contracts have been mainly limited to the legal aspect and results of the contract, or even just recognizing the resulting cash flows.

From the foregoing analysis, it can be deduced by the researcher that the motives behind the drive towards developing a uniform amendment to IFRS 4 have been reformist in nature, undertaken by the professional bodies concerned with the intention of ensuring continuous improvements in the quality of financial statements. Such an initiative cannot be considered to be static considering the changes that occur in the local and global business environment. As such, the course taken by the accounting standard continues to progress towards the balance between financial, accounting, process, and organizational dimensions.

Key Features of IFRS 17

IFRS 17, "Accounting for Insurance Contracts" is an initiative by the International Accounting Standards Board (IASB) and the International Financial Reporting Standards (IFRS), whose aim is to replace IFRS 4, "Insurance Contracts". It should be noted that this development takes into account accounting and financial reporting standards that are concerned with financial and accounting aspects of information generation in relation to this approach, as well as other related aspects including economic and procedural ones. This will provide more accounting standards for information generated from this approach (IFRS, 2023).

Table (1) Main Features of IFRS 17 Standard

Content and requirements	The essential element
Standard Objective	This helps achieve reliability and transparency in the financial Consequences of the interrelationships resulting from insurance contracts and the economic value attached to the insurance liabilities, as well as in evaluating their profitability and performance.
Scope of Application	It includes all reciprocal relationships resulting from issued insurance contracts, retained reinsurance contracts, and discretionary investment contracts (DPF).
Measurement Models	1) The General Model (GM): The General Model is utilized in long-term insurance contracts and evaluates insurance liabilities through present valuation methods. 2) The Variable Fee Model (VFM): The Variable Fee Model is used in direct participation insurance contracts depending on the performance of investments. 3) The PAA Premium Allocation Approach: The premium allocation approach is utilized in short-term insurance contracts whose period does not exceed one year, which include automobile and fire insurance policies.
Memory of Service Contract (MSC) Margin	It refers to unrealized results, particularly unrealized gains, which are generated by insurance policies and are written off during the term of insurance to avoid recognizing profits until the service is provided.
Insurance Revenue	The insurance services rendered, as evidenced by the earned premium, are measured without considering the investments, thus resulting in a better estimate of the profit from the main insurance activities.
Application Timing	Compulsory from 1 January 2023, with the opportunity for early implementation contingent upon the concurrent application of IFRS 9 and IFRS 15.

(Source: KPMG, 2024, adapted by the researcher)

As shown from the discussion above, it is clear to the researcher that the core features of IFRS 17 have successfully rectified the shortcomings that characterized the previous IFRS 4 framework. This includes the failure to allocate insurance contracts and the outcomes of the business operations (profit or loss) in accordance with their respective chronological occurrences. That is, the evaluation of these results based on income and expenditures creates

a distorted picture of the economic performance of businesses in the insurance industry. Therefore, the adoption of the framework reveals the inconsistencies in faulty accounting systems.

Evaluation of IFRS 17 Based on Conceptual Framework of Financial Accounting

Conceptual Framework for Financial Accounting is a fundamental framework through which one could evaluate how successfully an accounting standard set by the International Accounting Standards Board (IASB) and IFRS is working. In other words, in order to evaluate how successful IFRS 17 is in achieving its ultimate goal, its major features should be evaluated based on the elements of the IASB Conceptual Framework released in 2018, and these are (Al-Mihi & Awad, 2023; IASB, 2018).

a. Objectives of Financial Reporting: IFRS 17 seeks to provide relevant information in regard to predicting insurance liabilities' ability.

b. Qualitative Features of Accounting Information: The standard is based on the following three features of accounting information: faithful representation, relevance, and comparability. The assumptions used in accounting for insurance liabilities should be revealed accordingly.

c. Definition of the Financial Statement Elements: IFRS 17 provides detailed definitions of such concepts as insurance liability, service asset, and contractual service margin (CSM).

d. Recognition and Exclusion from Accounting Recognition: IFRS 17 sets clear criteria for grouping and categorizing the insurance contracts depending on the stage of the contract lifecycle.

e. Accounting Measurement: The standard uses the present value of risk-adjusted cash flows, the risk margin (RA), and CSM margin.

f. Disclosure and Presentation: A comprehensive insurance income statement is required by IFRS 17, along with risk and actuarial assumptions disclosures.

Data Envelopment Analysis (DEA) Model

The Theoretical Background of the DEA Model

Data Envelopment Analysis (DEA) is a statistical technique that helps to evaluate the relative efficiency of the decision-making units (DMUs) with respect to their transformation of a certain amount of inputs into the corresponding output without specifying the functional relationship between them. The method is based on the idea of the efficient frontier, which is understood as the best available result among the considered sample (Mergoni et al., 2025). As for the insurance companies, the DEA model allows identifying their weaknesses and suggesting measures that should be taken to improve their operations. This model has a unique advantage over others: it allows accounting for the variations of the inputs and outputs.

The DEA Models Used in the Study

In the study, the use of two models of DEA, according to Cikovic et al. (2024), is employed:

- RCC (CHARNES-COOPER-RHODES) Model: This model uses the assumption that the returns to scale are constant (CRS) and evaluates the financial efficiency of the whole business, particularly its ability to convert inputs into outputs without wastage.

- BCC (BANKER-CHARNES-COOPER) Model: This model makes an assumption based on variable returns to scale (VRS) and differentiates between net financial efficiency and scale efficiency. This allows for assessing the optimal size of the business.

The SE (scale efficiency) is calculated as a ratio of CCR efficiency to BCC efficiency, where a number below one represents inefficient operations due to scale.

The Economic Value Added (EVA) Index for the Insurance Industry

Definition and Assessment of Economic Value Added

EVA serves as an essential index and measurement tool because it encompasses several fields, including administration, finance, economics, and accounting, as it depends on these disciplines along with their tools. Thus, EVA can be described as:

Definition of Economic Value Added (EVA): A financial tool that can be used from both financial and managerial perspectives. It is an accounting measure that aims to overcome certain weaknesses of the accounting system that is used to prepare financial statements and the data that is derived using this method. It is an extremely important tool for evaluating the performance of an economic entity in the present period and its endeavors towards increasing the value of its shareholders. This measure combines the impact of decisions of managers on their business operations, the results of which are visible through an increase in profits or value and wealth, with the external environment, especially when the resources of an economic entity are limited.

Economic Value Added (EVA) and How It Is Calculated

Economic Value Added (EVA) means the amount of surplus earned by a firm when all the economic costs of the capital employed (both equity and debt) have been deducted. This can be expressed mathematically as below (Chen et al., 2023):

EVA = NOPAT – (WACC x INVESTED CAPITAL)

Where NOPAT stands for Net Operating Profit after Taxes, WACC is the Weighted Average Cost of Capital, while INVESTED CAPITAL stands for invested capital. When computing the components for EVA in the context of an insurance company using IFRS 17, several modifications will need to be made.

EVA Adjustments under IFRS 17

IFRS 17 implementation will require significant changes to be made in the computation of EVA in the insurance industry, as noted by KPMG (2024). Some of these changes include:

(1) the inclusion of the positive CSM in invested capital because it represents a definite and expected future value;

(2) the removal of the investment element from insurance income to better capture the operational efficiency of the organization in terms of NOPAT;

(3) the inclusion of RA in the cost of equity, since it represents an implicit cost for non-financial risks;

And (4) the modification of the WACC to account for the new valuation of insurance liabilities based on their present value rather than historical value.

Thus, in general in relation to the insurance industry specifically, Economic Value Added (EVA) can be explained as follows:

- EVA is the residual income after adjusting for capital costs that were borne during the process of generating returns. Capital costs consist of both cost of equity and cost of debt; hence the former can be considered financing costs.
- In determining EVA, both risk-free rate and equity risk premium are considered. On the other hand, cost of debt arises from interest rates, and there are no issues of methodology to be considered here.
- The true valuation of EVA is possible by making appropriate adjustments in the existing accounting system as the latter requires proper correction due to the need for precise measurement of wealth or value creation for the shareholders.

Study Population and Sample

The study population comprises all Iraqi insurance firms that are registered on the Iraq Stock Exchange. The following criteria were employed in the selection of the sample:

- Presence of comprehensive financial data for the company for a minimum period of (2020-2025).
- Registration of the company on the Iraq Stock Exchange and adherence to regulatory disclosure mandates.
- Implementation of International Financial Reporting Standards (IFRS) or their equivalent in the preparation of financial statements.
- Exclusion of firms that experienced mergers, acquisitions, or closures throughout the duration of the study.

	Company Names	Market symbol	Type of insurance
1	National Insurance Company	NINS	General
2	Iraqi Insurance Company	IINS	General
3	Dar Al Salam Insurance Company	DSINS	General
4	Al Mansour Insurance Company	MINS	General
5	Al Ahliya Insurance and Life Insurance Company	ALINS	General
6	Baghdad Insurance Company	BINS	General
7	Al Mukhtalita Insurance Company	MXINS	General
8	Al Hayat Insurance Company	LINS	General
9	Arab Union Insurance Company	AINS	General
10	Al Muttahid Insurance Company	UINS	General
11	Al Taawon Insurance Company	CINS	General
12	Ur Insurance Company	ORINS	General

(Source: Iraq Stock Exchange, prepared by researcher)

Sources of Data

In carrying out data collection, the researcher relied on the following sources:

- Annual financial statements available at the ISX website for the period 2020-2025.

- Financial information obtained from the Iraqi Insurance Regulatory Authority Database.
- Other sources of data made available through the company websites under study.

Methods of Statistics Used

Various methods of statistics and quantitative analysis were adopted as follows:

- The software package DEAP version 2.1 was adopted to calculate the BCC and RCC efficiencies, and scale efficiency using input orientation.
- The statistical software SPSS version 25 was adopted to calculate descriptive statistics, check for normality, and conduct statistical variation tests such as Mann-Whitney U test and Wilcoxon signed-rank test.
- Tobit regression was used to identify independent variables that affect efficiency scores at the second stage of the two-stage analysis process.
- Random effects panel regression model was adopted to test the hypotheses on EVA and financial efficiency measures.

Description of study variables:

Variable type	Indicator	Calculation Method	The symbol
Independent (IFRS 17)	Compliance with IFRS 17 requirements	Composite index of ten disclosure items required by the standard	COMP17
Dependent (EVA)	Economic value added	NOPAT-WACC × Invested Capital	EVA
Dependent (DEA - CCR)	Total technical efficiency	Input-oriented CCR model	FE_CCR
Dependent (DEA - BCC)	Pure technical efficiency	Input-oriented BCC model	PFE_BCC
Dependent (DEA)	Efficiency of scale	FE_CCR ÷ PFE_BCC	SE
Dependent (DEA)	Firm size (natural logarithm of assets)	LN (Total Assets)	SIZE
Dependent (DEA)	Claims paid ratio	Total Claims ÷ Total Written Premiums	CLR
Dependent (DEA)	Solution ratio	Net Assets ÷ Net Insurance Liabilities	SOL

(Source: Prepared by researcher based on IFRS 17 and study sources)

DEA Model Inputs and Outputs

Classification	The variable	Economic rationale
Inputs	Equity + Technical Reserves	Capital and resources under management
Inputs	Operating Expenses (excluding claims)	Cost of providing insurance services
Inputs	Invested Assets	Resources allocated to investment returns
Outputs	Net Written Premiums	Measuring the size of productive insurance activity
Outputs	Net Investment Income	Returns on investing resources in financial markets
Outputs	Economic Value Added (EVA)	Real value creation for shareholders

(Source: Mergoni et al., 2025, adapted by researcher)

Study Results and Discussion

Normality Test

The extent to which the study variables followed a normal distribution was tested using the skewness and kurtosis measures, and the results were as follows:

variable	Views	PR SKEWNESS)	(PR(KURTOSIS	(CHI2)2	PROP > CHI2	Distribution
COMP17	36	0.491	0.537	3.714	0.142	Normal
EVA	36	0.573	0.641	4.022	0.126	Normal
FE_CCR	36	0.618	0.692	3.881	0.131	Normal
PFE_BCC	36	0.447	0.501	3.598	0.148	Normal
SE	36	0.664	0.743	4.187	0.118	Normal
SIZE	36	0.539	0.605	3.762	0.137	Normal
CLR	36	0.582	0.653	4.099	0.122	Normal
SOL	36	0.613	0.687	3.944	0.129	Normal

(Source: Prepared by researcher using SPSS v.25)

However, the findings presented in the above mentioned table demonstrate that all the considered variables are normally distributed, since all CHI2 > PROB values were higher than the specified critical value of 0.05. Therefore, it is possible to use the parametric method of statistics analysis in order to verify the hypotheses.

Results of Hypothesis Testing 1: Impact of IFRS 17 Implementation on the Economic Value Added (EVA) Indicator

The considered hypothesis testing determines the character of the relationship between the level of implementation of IFRS 17 and the Economic Value Added (EVA) index. The table below presents the results obtained through random-effects panel regression:

Independent Variable	The coefficient (β)	standard error	value t	Level
Constant	−2.314	0.872	−2.654	0.012***
COMP17 (Compliance Score)	3.847	0.614	6.265	0.000***
SIZE (Company Size)	1.203	0.381	3.158	0.004***
CLR (Claims Rate)	−0.784	0.247	−3.173	0.004***
SOL (Solility Ratio)	1.641	0.459	3.574	0.001***
R^2 = 0.741 WALD CHI2=48.31 | PROB = 0.000 > CHI2				

****** Statistical significance at the 1% level (Source: Prepared by the researcher)***

From the output results presented in the table below, it can be clearly stated that there is a statistically significant positive association existing between the application of IFRS 17 and the EVA Index (β = 3.847). The above-mentioned result confirms the validity of the hypotheses raised by the researcher at the beginning of the research paper. In other words, for each unit change in the compliance index, the average change in EVA will be 3.847 units. This result emanates from the assumption that compliance with IFRS 17 leads to lower capital cost and quality of investment decision-making.

Results of the Testing of the Second Hypothesis: Comparison of DEA Efficiency Pre- and Post-IFRS 17 Implementation

The table below presents the average values of the total financial efficiency (CCR), net financial efficiency (BCC), and scale efficiency (SE) measures obtained by the chosen sample companies before (2021-2022) and after (2023) the introduction of IFRS 17.

Company	After SE	PFE_BCC After	FE_CCR After	FE_CCR Before
National Insurance Company	0.958	0.912	0.874	0.721
Iraqi Insurance Company	0.958	0.867	0.831	0.684
Dar Al Salam Insurance Company	0.930	0.804	0.748	0.593
Al Mansour Insurance Company	0.933	0.818	0.763	0.612
Al Ahliya Insurance Company	0.964	0.924	0.891	0.748
Baghdad Insurance Company	0.908	0.784	0.712	0.561
Al Mukhtalita Insurance Company	0.935	0.835	0.781	0.634
Al Hayat Insurance Company	0.957	0.897	0.858	0.703
Arab Union Company	0.914	0.792	0.724	0.571
Al Muttahid Insurance Company	0.938	0.847	0.794	0.648
Al Taawun Insurance Company	0.935	0.823	0.769	0.617
Ur Insurance Company	0.898	0.773	0.694	0.542
Average	0.936	0.840	0.787	0.636

(Source: Prepared by researcher using DEAP v.2.1)

These findings indicate an impressive increase in the efficiency ratio for finance (CCR) from 0.636 before the implementation to 0.787 after the implementation, representing a 23.7% increase. The financial efficiency ratio (BCC) was calculated at 0.840, signifying that a significant part of inefficiencies is a result of discrepancies in scale rather than due to poor

resource allocation itself. This is explained by improved assessment of insurance obligations, together with a more accurate resource allocation.

Results of the third hypothesis test: Overall Financial Efficiency FE_CCR

The variable	value Z	Standard error	(The coefficient (β	Significance level
The constant	3.279	0.104	0.341	0.001***
COMP17	4.842	0.038	0.184	0.000***
EVA	3.129	0.031	0.097	0.002***
SIZE	2.952	0.021	0.062	0.003***
CLR	2.979−	0.048	0.143−	0.003***
SOL	3.189	0.037	0.118	0.001***
F < PROB = 0.000 | F-STATISTIC = 52.14 | R^2 = 0.768				

****** Statistical significance at the 1% level (Source: Prepared by the researcher)***

Findings from the Testing of Hypothesis 3: General Financial Efficiency (FE_CCR)

From the results derived using the TOBIT regression analysis, it can be observed that following IFRS 17 standards (COMP17) is the strongest factor influencing general financial efficiency ($\beta = 0.184$, $p < 0.01$). The Economic Value Added Index comes in as the second strongest factor ($\beta = 0.097$). Moreover, with the value of R^2 being 0.768, it can be seen that about 76.8% of the total variation in the financial efficiency score can be accounted for by the regression model.

Conclusion

The study produces several conclusions, which prove the validity of the study hypotheses, summarized as follows:

First: Hypothesis 1 is proved true; there is a statistically significant positive correlation between the adoption of IFRS 17 and the performance of EVA index at 1% level of significance. The effect shows the standard's ability to promote self-discipline in pricing insurance liabilities and minimizing agency costs due to measurement ambiguity.

Second: There is an obvious and statistically significant difference in the efficiency indicator before and after the adoption of the standard, according to the DEA results, where the total average financial efficiency (CCR) is increased by 23.7%. Thus, hypothesis 2 is proved to be correct.

Third: There is an evident complementary relationship between the quality of disclosure and efficiency of resource allocation according to the results of the TOBIT model, proving hypothesis 3. In other words, COMP17 and EVA are the most significant factors determining total financial efficiency.

Fourth: Financial efficiencies differ across the sample, with National Insurance and Al-Ahlia obtaining the highest efficiencies among large companies and Or and Arab Union obtaining the lowest financial efficiencies as small companies.

Recommendations

Recommendation for Regulatory Authorities: It is recommended that Iraqi insurers be required to adopt IFRS 17 fully and without delay, providing appropriate technical assistance as needed.

Recommendation for Management: Exploit the output data derived from IFRS 17 measurement tools (such as CSM and RA) for pricing decisions and resource management purposes.

Recommendation for Inefficient Companies: Explore opportunities for restructuring or specialize in certain sectors to benefit from economies of scale and approach the optimum efficiency point.

Recommendation for Researchers: Expand future research to include reinsurance companies and the managed health care industry, applying the dynamic DEA approach known as Window Analysis.

Recommendation for Educators and Practitioners: Establish specialized courses related to actuarial modelling consistent with IFRS 17 guidelines, and collaborate with the Insurance Regulatory Authority to establish an integrated database.

REFERENCES

First: Arabic References

Al-Mihi, Professor Dr. Ramadan Abdel Hamid, & Awad, Sameh Salem. (2023). Assessing the Effects of Implementing IFRS 17 on the Financial Outcomes of Insurance Firms: An Empirical Study. Scientific Journal of Financial and Administrative Studies and Research, 15(2), 1-32. https://doi.org/10.21608/masf.2023.299920

Al-Nasrawi, Sultan Jassim. Financial Crises in the Third Millennium and Their Influence on the Performance of the Insurance Sector, Iraqi Journal of Administrative Sciences, 15 (60), 2024. https://www.researchgate.net/publication/339210052

Iraq Stock Exchange official website: https://www.isx-iq.net

Iraqi Insurance Supervisory Authority official website: https://insurance.mof.gov.iq

Federal Board of Supreme Audit, 2024. Indicators for Assessing the Performance of Insurance Companies. https://storage.fbsa.gov.iq/2024/03/06/2024_03_06_11967928294_160618254133911 7.pdf

Second: Foreign references

Alhawtmeh, O. M. (2023). The Impact of IFRS 17 on the Development of Accounting Measurement and Disclosure, in Addition to Improving the Quality of Financial Reports, Considering Compliance with the Requirements of IFRS 4—Jordanian Insurance Companies-Field Study. Sustainability, 15(11), 8612. https://doi.org/10.3390/su15118612

Almuntsr et al. (2024). The Impact of Applying IFRS 17 on Financial Reporting in State-Owned Non-Life Insurance Companies. International Journal of Research in Business and Social Science, 13, (7), https://www.ssbfnet.com/ojs/index.php/ijrbs/article/download/4345/3057/18571

Chen, Y., Jin, Z. & Qin, B. (2023)Economic Value Added in performance measurement: A simulation approach and empirical evidence, Accounting & Finance, 63 (1), 109-124, https://doi.org/10.1111/acfi.13053

Čiković, K. F., Cvetkoska, V., & Mitreva, M. (2024). Investigating the Efficiency of Insurance Companies in a Developing Country: A Data Envelopment Analysis Perspective. Economies, 12(6), 128, https://doi.org/10.3390/economies12060128

EFRAG (2024). IFRS 17 Educational Session for Financial Institutions, Summary Report, June 2024. https://www.efrag.org

IFRS Foundation (2023). IFRS 17 Implementation Guidance. International Accounting Standards Board, London., https://www.ifrs.org/issued-standards/list-of-standards/ifrs-17-insurance-contracts/

KPMG, (2024) Insurers' full-year reporting under IFRS 17 and IFRS 9, https://kpmg.com/xx/en/our-insights/ifrg/2024

Lassi, L. R., Teltumbade, G., Deore, K. N., & Pawar, V. S. (2024). A THEORETICAL EXPLORATION OF ECONOMIC VALUE ADDED (EVA) AND MARKET VALUE ADDED (MVA) AS MEASURES OF CORPORATE PERFORMANCE. ShodhKosh: Journal of Visual and Performing Arts, 5(6), 2898–2907, https://doi.org/10.29121/shodhkosh.v5.i6.2024.6004

Mergoni, A., Emrouznejad, A., & De Witte, K. (2025). Fifty years of Data Envelopment Analysis. European Journal of Operational Research, 326(3), 389, https://doi.org/10.1016/j.ejor.2024.12.049

Puławska, k., Strzelczyk, W. (2025), "IFRS 17 implementation: market participants' perspective". Central European Management Journal, Vol. 33 No. 3 pp. 455–477,, https://www.emerald.com/cemj/article/33/3/455/1248891/

Ter, R., Borelli, A., Vlijmen, P., (2024). First year's application of IFRS 17 in the financial statements of European insurance companies. Maandblad voor Accountancy en Bedrijfseconomie, 98(6), 403-422., https://mab-online.nl/article/139090/download/pdf/

Vazov, R., & Hristozov, Z. (2025). Specific Features of the Application of IFRS 17—Valuation of Insurance Contracts and Profit and Loss Management. Journal of Risk and Financial Management, 18(12), 706. https://doi.org/10.3390/jrfm18120706

Wanke, P., Henrique Saulo, C. & Silva, E. (2020). The Efficiency of Brazilian Insurance Companies and the Determinants of their Technical Efficiency. Journal of Business Economics and Management, 21 (5), 1288-1310, https://doi.org/10.3846/jbem.2020.13186