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CONFRONTING BANKING FINANCIAL RISKS USING HEDGE ACCOUNTING PROCEDURES

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Abstract:

The study aims to assess the impact of hedging accounting practices on credit and liquidity issues. Its goal is to pinpoint the crucial practices that reduce the financial risks that economic units confront, especially in situations where the future is unpredictable and financial hazards originate from the financing aspect of operations—particularly when debt dependence rises. Risk is associated with quantified probability of loss or inability to attain value, in contrast to uncertainty, which is an immeasurable concept. Additionally, a sample of commercial banks listed on the Iraq Stock Exchange will be subjected to hedging accounting methods as part of the study, and their efficacy in reducing financial risks in the face of rapidly changing banking institutions and shifting environmental conditions will be evaluated.
The study aims to assess the impact of hedging accounting practices on credit and liquidity issues. Its goal is to pinpoint the crucial practices that reduce the financial risks that economic units confront, especially in situations where the future is unpredictable and financial hazards originate from the financing aspect of operations—particularly when debt dependence rises. Risk is associated with quantified probability of loss or inability to attain value, in contrast to uncertainty, which is an immeasurable concept. Additionally, a sample of commercial banks listed on the Iraq Stock Exchange will be subjected to hedging accounting methods as part of the study, and their efficacy in reducing financial risks in the face of rapidly changing banking institutions and shifting environmental conditions will be evaluated.

Keywords: Hedge accounting, financial risks.

1.INTRODUCTION

Fundamentally, hedging came about as a result of the Markowitz model, which established the idea of diversifying assets within an economic unit. Using this concept, investment portfolios that aim to reduce market participants' risks were created. Financial derivatives, including swaps, options, futures, forward contracts, and futures contracts, were added to the strategy over time with the express purpose of hedging against the numerous risks that economic unit's face.

The purpose of hedge accounting is to protect the economic unit from uncertainties of future events. In order for a derivative to be properly classified as a hedge, it needs to satisfy certain requirements for eligibility and maintain those requirements throughout the term of the hedge. These requirements include proving that there is a clear economic relationship between the hedged item and the financial derivative, evaluating the effect of credit risks that might influence changes in the hedging instrument's fair value, and making sure that hedge accounting complies with risk management goals, such as keeping the right hedge ratio.

Optimizing the use of current assets to safeguard the interests of creditors, depositors, and investors while attempting to reduce and manage losses is a necessary component of effective accounting for present assets. Preventing prospective losses and reducing future risks are the objectives. The process of hedging financial risks involves producing periodic reports that evaluate the level of risk that economic units are exposed to. By assisting in the identification, measurement, management, and reduction of these risks, this approach helps to manage them effectively and

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efficiently. The ultimate goal is to manage and reduce risks to a level where they do not negatively affect the efficiency and results of the economic unit's operations.
The paper is organized as follow: we review previous research on this topic in section 2, present our research problem and hypotheses in section 3, report the study findings and discussion in part 4, conclusions and recommendations are in part 5

2. LITERATURE REVIEW

Beatty et al. (2020) examined the role of hedge accounting in risk management for economic units. The study emphasized the importance of hedge accounting in addressing uncertainty about future events, particularly its effects on fair value, cash flows, and exchange rate fluctuations. It advocated for the continued use of hedge accounting to improve the fairness and reliability of financial reporting for both internal and external stakeholders.
Similarly, Martinez et al. (2020) examined the role of hedge accounting in risk management, emphasizing its alignment with changes in the contemporary business environment. The study concluded that hedging can help mitigate risks while maintaining profitability by developing appropriate risk management plans and specific treatments for different types of risks. It went on to say that hedging improves both financial and strategic performance, preserves existing assets, maximizes their efficiency, and protects the interests of investors, depositors, and creditors. Furthermore, the study recommended periodic reporting on the level of risk faced by economic units, as well as the implementation of strategies to reduce and prevent future losses.
In contrast, Gumb et al. (2018) sought to investigate the link between hedge accounting and various administrative decisions within an economic unit. To accomplish this, the study examined key concepts used to measure accounting conservatism and hedging, as well as how these concepts relate to financial crises, using a theoretical framework supported by both Arab and international research. The researchers employed a quantitative approach, analyzing financial statement data from selected units. Two methods were used to assess accounting conservatism: the accrual ratio and the market-to-book value ratio. Hedging was assessed using a dummy variable that indicated the extent to which banks used accounting hedging tools.
The study discovered a statistically significant negative relationship between hedge accounting and conservatism using the market-to-book value ratio. Furthermore, the study found that financial crises exacerbate the negative impact of conservatism on hedge accounting. The study recommended that organizations continue to use conservatism and hedge accounting, especially during financial crises, to ensure accurate financial reporting and maximize user benefits.
Previous research has concentrated on the role of hedge accounting in risk management for economic units, emphasizing its significance in dealing with future event uncertainty. These studies have emphasized the significance of hedge accounting in risk management, specifically credit and liquidity risks. Our research sought to efficiently identify, measure, and control these risks, thereby promoting effective risk management through the use of hedge accounting information.

3. Problem statement

3.1 Research Problem

The study problem can be summarized in the following questions:
1.Does the application of hedging accounting procedures affect the reduction of credit risks in commercial banks listed on the Iraq Stock Exchange?
2.Does the application of hedging accounting procedures affect the reduction of liquidity risks in commercial banks listed on the Iraq Stock Exchange?

3.2 Importance of the study

This study is significant because it focuses on identifying the financial risks faced by companies listed on the Iraqi Stock Exchange, specifically banks. It focuses on key accounting practices that can help to mitigate these risks, with the goal of assuaging current and potential investors' concerns. Hedge accounting plays a crucial role in identifying, measuring, controlling, and reducing the risks confronting an economic unit, allowing for efficient and effective risk management.
By keeping risks at acceptable levels, hedge accounting helps prevent negative impacts on the unit's performance and outcomes It makes risk estimation and precautionary measures easier while maintaining profitability by developing appropriate risk-management strategies. It also identifies specific treatments for various types of risks, while improving both financial and strategic performance, safeguarding existing assets, and optimizing their use to protect investors, depositors, and creditors.

3.2 Objectives of the study:

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The study aims to establish a theoretical foundation for hedge accounting and financial risks while demonstrating the influence of hedge accounting procedures on credit and liquidity risks. It seeks to pinpoint key methods to minimize financial risks faced by economic units, reducing them to the lowest possible level. By focusing on strategies that address uncertainty in future events, the study addresses financial risks that emerge from an entity's financing decisions, which intensify as debt reliance increases. The goal is to enhance risk management practices, enabling organizations to better navigate unpredictable financial environments.

3.3 Study hypotheses:

* The first hypothesis: There is no statistically significant effect between hedge accounting procedures and credit risks in banks listed on the Iraq Stock Exchange.

* The second hypothesis: There is no statistically significant effect between hedge accounting procedures and liquidity risks in banks listed on the Iraq Stock Exchange.

4. Results and discussion

Descriptive statistic

The current study was applied to a sample of banks listed in the Iraq Stock Exchange: Ashur International Investment Bank, Erbil Investment and Finance Bank, Iraqi Credit Bank, Iraqi Investment Bank, Regional Commercial Bank for Investment and Finance, National Bank of Iraq, Iraqi Commercial Bank, International Development Bank, Southern Bank, Gulf Commercial Bank, United Investment Bank, Mansour Investment Bank, Mosul Development and Investment Bank, Baghdad Bank, and Trans Iraq bank for Investment Bank. A total of 240 questionnaires were distributed to employees at these banks, with the questions addressing the time frame of 2018-2022. The responses were standardized and analyzed using a statistical software program. The results were generalized to examine the relationship between the use of hedge accounting procedures and the reduction of financial risks.

Tables 1 and 2 below present the distribution of the sample individuals based on age and academic qualifications.

Table No. (1)
Distribution of sample individuals by age

Age group	Frequency	Percentage
30-40 years	**37**	**%15.42**
41-50 years	**88**	**%36.67**
More than 50 years	**115**	**%47.91**
Total	**240**	**%100**

Table No. (2)
Distribution of sample individuals according to academic qualification

Educational level	Frequency	Percentage
Bachelor	**164**	**%68.33**
Master	**55**	**%22.92**
PhD	**21**	**%8.75**
Total	**240**	**%100**

The sample distribution by age shows that 84.58% of employees are over 40, with nearly half (47.91%) being over 50, indicating a more mature and experienced workforce. In terms of academic qualifications, the majority (68.33%) have a bachelor's degree, 22.92% have a master's, and 8.75% have a PhD. This combination of experience and education may reflect a mature and capable workforce, potentially well-suited for dealing with complex financial tasks and decision-making in the banking sector.

Testing Hypothesis

Testing the first hypothesis: The first hypothesis is stated as follows: "There is no statistically significant effect of hedge accounting procedures on credit risks in banks listed on the Iraq Stock Exchange."

To test this hypothesis, both the coefficient of determination and the adjusted coefficient of determination will be calculated. In addition, an analysis of variance (ANOVA) will be performed, as well as the estimation of the regression parameter and the t-value, including its significance for the variables associated with this hypothesis. The following table shows the coefficients of determination and adjusted coefficients of determination for the first hypothesis variables:

Table No. (3)

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Model summary between hedge accounting and credit risk

Model Summary[b]							
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	Sig. F Change
1	-.957[a]	.916	.838	.456323	.817	162.413	.000
a. Predictors: (Constant),							
b. Dependent Variable:							

According to the table above, the coefficient of determination (R-Square) is 0.916, with an adjusted coefficient of determination of 0.838. This means that the regression model accounts for 83.8% of total variations, with the remaining percentage explained by variables not included in the study. The Pearson correlation coefficient for hedge accounting and credit risk was -0.957, indicating a strong negative relationship between the two variables. This implies that the use of hedge accounting by the banks in the study can significantly reduce credit risks to the lowest possible level. Banks can thus protect existing assets, increase their utilization efficiency, and protect the interests of investors, depositors, and creditors. Furthermore, hedge accounting contributes to the reduction and prevention of future losses and risks. Accounting information prepared using hedge accounting is critical for determining stock and bond prices, forecasting future market trends, and mitigating financial risks.

The results of the analysis of variance (ANOVA) table between the variables of the first hypothesis can be explained through the following table

Table No. (4)

Analysis of variance (ANOVA) between hedge accounting and credit risk

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	134.224	1	105.824	162.413	.000[b]
	Residual	29.016	240	.277		
	Total	163.240	241			
a. Dependent Variable:						
b. Predictors: (Constant),						

The table above presents the analysis of variance (ANOVA) for the variables related to the first hypothesis, which examines the effect of hedge accounting on credit risk. The calculated F value is 162.413, which is significant at the 5% significance level (Sig. = 0.000). This indicates that the model used in the study is statistically significant. The regression parameter estimation, along with the t-value and its significance, for the relationship between hedge accounting and credit risk, is detailed in the following table:

Table No. (5)

Results of the regression estimation between hedge accounting and credit risk

Coefficients [a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.261	.462		12.949	.000
		.674-	.067	.265	4.610	.000
a. Dependent Variable:						

The SPSS results in the table above, which test the significance of the regression parameter, show a regression coefficient of -0.674 and a t-test value of 4.610, both of which are statistically significant at the 1% and 5% levels. This results in the rejection of the null hypothesis and acceptance of the alternative hypothesis, indicating a strong link between hedge accounting and credit risk. The simple linear regression model that represents the relationship between hedge accounting and credit risk for the study sample is as follows:

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Credit Risk = (-0.674) Hedge Accounting + e

This demonstrates a statistically significant link between hedge accounting and credit risk, meaning that hedge accounting can help mitigate credit risk in the banks studied. The findings suggest that banks face risks related to credit due to inadequate periodic review and assessment of the credit department, leading to recurring issues such as bad loans. Additionally, insufficient attention to the pre-credit approval process, along with the rapid growth of credit facilities shortly after approval, poses considerable risks, particularly when financial data remains stable and the repayment period has not yet commenced.

Testing the second hypothesis: The second hypothesis is formulated as follows: "There is no statistically significant effect of hedge accounting procedures on liquidity risks in banks listed on the Iraq Stock Exchange." The results of the estimation used to test this hypothesis are presented in the following tables.

Table No. (6)
Model summary between hedge accounting and liquidity risk

Model Summary[b]							
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	Sig. F Change
2	.944[a]-	.891	.845	.562341	.788	54.1051	.000
a. Predictors: (Constant),							
b. Dependent Variable:							

Table 6 demonstrates a strong correlation between hedge accounting and liquidity risk. The correlation coefficient (R) is -0.944, indicating a highly significant inverse linear relationship. This suggests that hedge accounting strategies can effectively reduce liquidity risks. Hedging allows banks to limit their exposure to market risks, which is critical because, while investments seek profit, they also have the potential for significant losses. Effective hedging strategies are essential for managing market risk exposure. In addition, banks must ensure that their liquidity is effectively managed in order to meet customer withdrawal demands and align with their funding sources. Failure to do so can reduce profitability and cause liquidity mismatches.

The coefficient of determination (R^2) is 0.891, indicating that hedge accounting accounts for around 89.1% of the variability in liquidity risk. This indicates a strong model fit. After adjusting for predictor count, the model explains approximately 84.5% of the variability (adjusted R^2 = 0.845). The estimate's standard error is 0.562341, which represents the average deviation between observed values and model predictions. Additionally, the R^2 change is 0.788, highlighting the significant increase in explanatory power with the model's predictors. The F-change value of 54.1051, with a significance level of 0.000, confirms that the model's explanatory power is statistically significant. Overall, these results demonstrate that hedge accounting has a substantial and statistically significant impact on liquidity risk.

Table No. (7)
Analysis of variance (ANOVA) between hedge accounting and liquidity risk

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
2	Regression	133.219	1	109.007	154.105	.000[b]
	Residual	19.447	240	.198		
	Total	152.666	241			
a. Dependent Variable:						
b. Predictors: (Constant),						

The table 7 above presents the analysis of variance (ANOVA) for the variables related to the study's second hypothesis, which examines the effect of hedge accounting on liquidity risk. The calculated F-value is 154.105, and it is statistically significant at the 5% level, with a Sig value of 0.000. This confirms that the model used in the study is significant. The

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regression parameter estimates, along with the t-value and its significance in the relationship between hedge accounting and liquidity risk, are further detailed in the following table.

Table No. (8)

Results of the regression estimation between hedge accounting and liquidity risk

Coefficients [a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Constant)	2.465	.415		11.862	.000
		-.613	.063	.245	4.533	.000
a. Dependent Variable:						

The statistical analysis presented in the table 8 indicates that the regression parameter value is -0.613, with a t-test value of 4.533. This t-test value is statistically significant at both the 5% and 1% levels, leading us to reject the null hypothesis in favor of the alternative hypothesis. This suggests that there is a significant impact of hedge accounting on liquidity risk.

The simple linear regression model representing the relationship between hedge accounting and liquidity risk in the study sample is as follows:

Liquidity Risk = -0.613 * Hedging Accounting + e

This model indicates a statistically significant relationship between hedge accounting and liquidity risk, suggesting that hedge accounting can effectively help in reducing liquidity risk within the study sample.

5. CONCLUSION AND RECOMMENDATIONS

The study emphasizes the importance of hedge accounting in managing liquidity and credit risks in the banking industry. It demonstrates a strong negative relationship between hedge accounting practices and liquidity risk, implying that effective implementation can significantly reduce financial vulnerabilities. Hedge accounting accounts for approximately 89.1% of the variance in liquidity risk, highlighting its importance to financial stability.

Recommendations

1. Economic units, particularly banking institutions, must promote the culture and concepts of hedge accounting, emphasizing their importance and evaluating their applicability to today's business environment, including the changes and developments that accompany it.
2. Financial statements should be prepared in accordance with International Accounting Standard (IFRS 9), with a focus on clarity and transparency, particularly in relation to financial credit, asset evaluation, and revaluation.
3. It is critical to account for price fluctuations caused by changes in foreign exchange rates during the accounting period and to make concerted efforts to reduce financial risks as much as possible.
4. The focus should be on studying and analyzing the interrelationships and influences between variables related to risk, returns, and the value of financial assets in order to understand their trends and make informed decisions that support banking institutions' objectives.

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