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The Relationship Between the Quality of the Internal Control System in Iraqi Commercial Banks and the Level of Operational Efficiency and the Achievement of Sustainable Financial Performance: An Analytical Field Study for the Period 2017–2024

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Abstract: The research paper examines the correlation between the quality of internal controls systems and operational efficiency of the Iraqi commercial banks between 2017-2024. The study utilizes the information of 15 large banks through which it analyzes the impact of internal control systems on the functioning of the bank through the quantitative analytical results such as correlation, and regression. The paper relies on COSO model to evaluate the quality of internal control and various financial ratios to determine the efficiency of the operation. The outcome shows strong relationship ($r=0.758$, $p<0.01$) between internal control quality and indicators of operational efficiency. Banks that have better internal control systems have a better cost to income ratio of 23 percent and returns on assets were better with a percentage of 18 percent. The results show that a better control environment, risk assessment processes and activities, and monitoring activities are the major factors that lead to the improvement of operational efficiency. The work matters in the literature of emerging market banking and makes evidence-based suggestions to stakeholders of the Iraqi banking sector.

Keywords: Internal controls, operational efficiency, financial performance, banking sustainability, Iraq

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1. Introduction

The Iraqi financial system has continued to evolve intensively since 2003, with the change of the centralized system to a free market one of financial system. The evolution has provided both opportunities and challenges to commercial banks that operate in the complex economic and political system of Iraq. Competition, advancement in technologies, and regulatory changes have marked the evolution of the sector, creating demand to boost the operational efficiency and have a strong internal control system [1].

The internal control systems are the backbone of the banking operation, which will give assurance over the effectiveness of operations, reliability of the financial reporting, and the compliance with the regulations [2], [3]. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework has been adopted worldwide, as the de facto set of standards to be used when designing and implementing internal control with five inter-related sections or elements: control environment, risk assessment, control activities, information and communication, and monitoring activities.

The connection between the quality of internal control and the efficiency of operations has become a well-known issue of banking studies, especially in the emerging economies where institutional frameworks remain in the stage of development [4], [5]. Cost management, use of resources, sustainability in creating returns, preservation of service levels and regulatory compliance are some of the components of operational effectiveness

in banking. In the case of commercial banks in Iraq, operational efficiency is a fundamental problem especially given the discrepancies related to political instability in the country, security issues, the lack of technology, and the changing regulations.

The next period (2017-2024) can be called as the critical stage in the development of the Iraqi banking sphere when the Central Bank of Iraq takes the measures to empower the sphere of finances, enhance the banking regulation, and adjust it to the international practices. Over this time, banks have been under pressure to improve their operational performance but construct sound risk management and control systems [6], [7]. International standards implementation of internal control systems become essential to Iraqi banks currently aiming to enhance the efficiency of their operations and risk management skills.

The study of the Iraqi banking sector has revealed the significance of the internal control system on the performance of operations conducted, as well as to address risks. A good internal control system has been found to enhance the quality of services provided and the efficiency of banks in the Iraqi settings. Moreover, the financier performance of Iraq commercial banks has significantly been enhanced by technological advancements and modernization [8], [9], [10]. The paper is a response to a research question that potentially addresses the gap in the literature because it focuses on and studies the nature of the relationship between the internal control system quality and operational efficiency within the Iraqi banking sector. The study is useful both in theory and practice because it offers information on how internal control systems can be streamlined to improve the operational performance of the banks operating the emerging markets [11]. The implications of the findings on the management of the bank, regulators, and policy-makers involved in the development of the financial sector of Iraq takes into consideration the regulatory developments recently recorded and the modernization of the Iraqi banking sector currently.

1.1 Study Importance

The study will be of essence to various stakeholders of the Iraqi financial ecosystem. Theoretically, the study expands the case of the use of internal control systems to a new and interesting emerging market environment. Iraqi banking provides a unique case study because the industry is currently at post-conflict reconstruction phase, developing further institutions and integrating into the global financial system. To banking practitioners, the research offers evidence-based information about the value offering of internal control investments [12]. Because many banks in Iraq are resource-bound, determining the correlation between levels of quality control and operational efficiency allows a wiser choice to be made when deciding on implementation of control systems optimizations.

The research findings can be used by regulatory bodies especially, the Central Bank of Iraq to guide supervisory policies and the development strategy of the banking sector. This research establishes empirical evidence wherein more attention should be placed on internal control requirements as regulatory priorities and how proper controls are able to establish stability and efficiency in the banking sector [13]. It is also relevant to the extent that the research fills another gap in the academic literature presenting empirical evidence not available in the international banking literature regarding the banking sector in Iraq. On a macro-level aspect, efficient operations of the banking organization enable the development of the economy in terms of progression of financial intermediation and better access to financial services.

1.2 Study Problem

The Iraqi banking sector is experiencing critical issues of reaching the optimum efficiency of its functioning and the sound system of internal controls. Following the consistent reforms and modernization that have been taking place, still a significant number of commercial banks have been affected by a lack of operational efficiency which affects competitiveness of operations as well as their financial performance. The major

issue that the research focuses on is the absence of empirical knowledge concerning the effect of the internal control system quality in determining the operational efficiency of Iraqi commercial banks [14], [15]. Such lack of knowledge poses a number of interrelated difficulties to stakeholders in the sector. First, the management of the bank does not have evidence-based inputs to make strategic decisions concerning internal control investments. Failure to appreciate the correlation between the quality of control and its operational results will mean that banks will find themselves spending insufficiently on control systems or assigning resources to wasteful control processes [16].

Secondly, the banking sector in Iraq is characterized by a high-level variability in the operational efficiency of the institutions involved, which implies that there is an effective method that banks have discerned to manage the system design and implementation, and others may have not enabled. The causes of these disparities in performances, however, are not well known. Third, the operating environment in Iraq identified as being fraught with political instability, security issues and changes in regulatory frameworks have presented special demands on banking activities. Such conditions might not be ideally suited to traditional methodologies in the design of internal controls and require a situational knowledge into control effectivity [17].

1.3 Study Questions

1.3.1 Primary Research Question: What is the correlation and the power of the relationship between the quality of internal control systems and operational efficiency of Iraqi commercial banks under the 2017-2024 period?

1.3.2 Subsidiary Research Questions:

1. What is the relationship between individual elements of the internal control systems and selected measures of the efficiency of individual operations of Iraq banks?
2. Which ones are the most important operating efficiency indicators that have shown the most important relationships with the quality of the internal control system?
3. What has been the trend of the relationship between internal control quality and operational efficiency throughout the period of the study?
4. What are the bank specific traits that mediate the relationship between internal control systems and operational efficiency?

1.4 Study Limits

This study is conducted under various limitations that stipulate the boundaries of the study. The research dates between the year 2017 and 2024, which is a time span of eight years and may not give long-term trends, as it gives significance to the short-term trend. Only 15 major Iraqi commercial banks are identified in the research, which omits the smaller banks and specialized financial institutions [18]. This is a quantitative study depending on financial analysis of statements and structured surveys, and proprietary operational data will not be available. The study is specifically in commercial banks within the borders of Iraq and therefore no other context can be applied to the generalizability of the study.

1.5 Study Concepts

Internal Control System Quality: COSO frameworks five components about the effectiveness of policies, procedures, and mechanisms designed to provide reasonable assurance over the effectiveness of operations, reliability of financial reporting, and compliance with the regulations.

Operational Efficiency: The capability of a bank to keep costs at the lowest level possible and ensuring that its output is maximized as well as service quality is sustained; it is carried out through cost to income ratio, profitability parameters and resource consumptions levels.

Sustainable Financial Performance: the capability of the bank to remain profitable, grow and have risk-adjusted returns over time whilst satisfying the stakeholders and the regulatory bodies.

2. Materials and Methods

2. Literature Review

2.1 Internal Control Systems Framework

The COSO framework has become the most dominant framework of internal control systems in banking institutions across the world. Such a framework comes with five interconnected elements, which are complementary to the organizational effectiveness and compliance. Recent studies have also proved useful the applicability of COSO elements in the emerging market banking scenarios with special attention to its use in managing operational risk. The control environment component forms the pillar of all other control activities as it forms the structure and culture of the organization needed to pave way to its governance. Research conducted on the banking environment of the Middle East has revealed that effective control environment of controls has a considerable influence on both organizational effectiveness as well as the performance of organizational operations [19], [20].

Risk assessment entails identification and evaluation of pertinent risks that may inhibit attainment of organizational goals, especially in the turbulent nature of economic conditions, which are typical of emerging markets. Control activities are the policies and procedures that aid in ensuring that management directions are implemented right. Studies done on Jordanian commercial banks have revealed that information and communication systems, as well as the control activities, are prominent drivers of performance in bank activities. Information and communication element makes sure that pertinent information is found, captured, and shared within proper time thus allowing the personnel to implement their duties well. Testing projects lead to regular testing of the effectiveness of internal control systems, especially important in highly volatile regulatory conditions. Research has revealed that monitoring activities are instrumental in ensuring a high level of efficiency in operations and in identifying possible control gaps.

2.2 Internal Controls and Operational Efficiency

The banking literature most intensively examines the links between operational efficiency and internal control systems, and in emerging markets these links are strongest indeed. Studies indicate that efficient internal control systems enhance operational efficiency through various processes, such as the distribution of associated resources more effectively, greater management of risks, and adherence to regulatory guidelines. Research on the banking industry has demonstrated that internal control based systems greatly affect measures of financial performance and cost-to-income ratios are among the fundamental determinants of operational efficiency. In commercial banking, the adoption of broad internal control systems has been linked to enhanced profitability levels and subsequent elimination of operational risk. The importance of internal controls on risk minimization has specifically focused on the emerging market research as banks have to grapple with more operational issues and regulatory uncertainties. Internal control systems have a dual value (that is, performance improvement and risk mitigation effects), which makes them useful to banking institutions in risky environments.

2.3 Internal Controls in Iraqi Banking Context

The banking industry of Iraq poses special challenges and opportunities to the application of internal control systems. The context of post-conflict reconstruction in positions of higher significance with respect to the development of internal governing mechanisms is engrossed in circumstances where potential assistance can be unavailable. Studies in the Iraqi bank sector have revealed that internal control systems play a very important role in enhancing the quality of banking services and the operational effectiveness within the banks. Researchers of internal control systems in Iraqi banks have applied the COSO framework to measure internal control effectiveness in the time of difficult circumstances, such as the COVID-19 pandemic. Such tests have proved that well-developed internal controls are crucial to ensure operational continuity and performance through crisis situations. Internal control systems and the internal audit functions have been proven to play a key role in enhancing the quality of banking service within the Iraqi scenario. Evidence has shown that adequacy and efficiency of audit

committees and internal control systems complement each other to improve the overall performance of the banks and services delivery to the customers.

2.4 Technology and Internal Controls

The use of technology in improving internal methods of control is a topic that has been receiving more emphasis in the works associated with banking steadily. Research reveals that technological innovations offered a tremendous potential in enhancing the efficacy of internal control systems, especially in those markets that have yet to mature in terms of dominant control mechanisms. Studies on the use of information technology requirements in internal control systems have revealed that integration of technology is vital when doing contemporary banking activities. Technology has been found, through the application of the internal auditing and implementation of control systems, to enhance the detection and the overall system performance. Applying technology to internal control integrations has special application in detecting and preventing fraud in the banking operations. Research has found that the functionality of internal control systems can be greatly enhanced by technology in respect of its capability to identify cases of accounting fraud and other anomalies.

2.5 Regulatory Framework and Compliance

The regulatory environment is very important in the design and implementation of internal control systems in banking. Studies have revealed that regulatory regimes severely affect the stability and the effectiveness of core business at banking institutions, and internal control systems are effective activities related to regulatory compliance. Research has established that internal control systems can help to respond to the risks of money laundering and other compliance risks in the commercial banking sector when adopted according to international standards, like COSO. The connection between internal controls and compliance with regulations is especially significant in emerging markets where regulations are in the state of development. In recent studies particularly on the Iraqi banking sector, the importance of Central Bank policies in fostering the effectiveness of the internal control system has been pointed out. The research has demonstrated that the Central Bank efforts to improve the supervision of banks and match the international standards have developed incentives where banks want to improve their internal control systems.

2.6 Theoretical Framework

The ideology of agency theory can be considered a basis of the determination of the influence of the internal control systems and the efficiency of the operations within a bank. The implementation of the agency theory in the conditions of an emerging market has proven to be specific at considering how internal controls could reflect the issues raised by information asymmetries and coordinate stakeholder interests. According to the view linked to the institutional theory, internal control systems can be especially crucial in emerging markets wherein the delegation of external institution is not well-established. In this kind of setting the internal governance systems can replace the external underdeveloped systems to provide an increased chance that internal controls can bring quantifiable advantages.

2.7 Research Gaps and Study Contribution

Despite previous studies that have already proved the overall value of internal control systems in banking, there is also a major gap in the knowledge of the particular value of internal control systems in the operations of the banks with relation to operational efficiency in the Iraqi banking system. The peculiarities of the Iraqi banking sector, specifically the process of post-conflict reconstruction, the development of regulation, and financial and technological modernization present a complex environment in which an implementation of the internal control system can take place. This paper fills in these gaps by presenting empirical data on the connection that exists between the quality of the internal control system and operational efficiency of commercial banks in Iraq. The study not only helps in theoretical knowledge but also in real life applications because it focuses on how internal control systems can be perfected to maximize operations within the difficult settings in emerging markets.

3. Conceptual Framework

The theoretical model of relationships depicts the conceptual relationships between internal control system quality, the efficiency of operations and sustainable financial performance of the Iraqi commercial banks. The framework combines theories with historic ones with contextual elements that surround the Iraqi banking system.

Independent Variables Internal Control Quality: Within the framework of the COSO medium, the construct internal control quality is considered as a multilateralized construct with five dimensions, including control environment (organizational culture and governance), risk assessment (systematic threat identification), control activities (specific policies and procedures), information and communication (effective data flow), and monitoring activities (ongoing assessment).

Dependent Variables - Operational Efficiency: Operation efficiency will be measured using cost efficiency (cost-to-income ratios), profitability efficiency (return on resources and equity), and resource-utilization efficiency (asset turnover and productivity ratio).

Mediators: Risk management effectiveness mediates the relationship, operational losses are less and there is better distribution of resources. Standardization of a process intervenes by less processing costs and more uniformity.

Moderating Variables: Variables with middle value: Characteristics unique to banks (size, type of ownership structure, quality of management), environment (regulatory intensity, market competition and economic stability) mediate the relationship between control and efficiency.

Theoretical Propositions:

- 1.High standards of internal control systems have positive relationship with operational efficiency
- 2.Separate components produce different effects on individual efficiencies
- 3.The correlation happens through the risk management competency efficiency
- 4.Strength of relationships is mediated by bank related and environmental issues
- 4.Methodology

The current study represents a quantitative research study with the application of the longitudinal panel data analysis methodology to assess the correlation between the quality of internal control systems and operational efficiency within the sector of Iraqi commercial banks in a period of 2017-2024.

4.1 Research Design: Panel data measure of explanatory correlational design to uncover causation factors between internal control quality and operational efficiency measurement.

4.2 Sample: The selection of 15 major Iraqi commercial banks based on the purposive sampling procedure was designed on the following basis: constant operation during the study period, availability of complete financial statements, minimal assets size of 1 billion dollars, and willingness to participate.

4.3 Data Collection: Mixed-method research including secondary research of financial information that was audited in terms of statements and primary research that was conducted with the help of structured questionnaires addressed to top management and internal audit staff.

4.4 Internal Control Assessment: Detailed 85 questions assessment utilizing COSO 2013 hierarchy and spread over five elements, with five-point Likert-scale answers. The result of Cronbach alpha above 0.85 to every component was validated by the method of expert review and pilot testing.

4.5 Operational Efficiency Measurement: Various financial ratios such as the cost to income ratio, return on asset, return on equity, asset turnover ratio, net interest margin ratio, and the operating expense ratio.

4.6 Statistical Analysis: The descriptive statistics and correlation analysis to the multiple regression analysis and panel data regression models (fixed effects and random effects) to explain the variations associated with time and cross-sectional.

4.7 Model Specification: $OE_{it} = \alpha + \beta^1 ICQ_{it} + \beta^2 SIZE_{it} + \beta^3 AGE_{it} + \beta^4 OWN_{it} + \varepsilon_{it}$

Letting OE denote operational efficiency measures, ICQ correspond to the internal control quality and the following variables are at the disposal: Bank size, age, and ownership structure as a control variable.

3. Results.

The descriptive statistics indicate that there is a significant variance among all the study variables. The quality scores on internal control vary between 2.65 and 4.85 with a mean of 3.72, which means that there is still improvement that can be made in the sector, see Table 1. The cost-to-income ratios range between 42.5 and 87.3 with major differences in the operational efficiency of the banks. The profitability indicators are on a positive average and the variation is not too small, indicating a variety of performances in the Iraq banking industry, see Figure 1.

Table 1. Descriptive Statistics of Banking Performance Metrics

Variable	Mean	Std. Dev.	Min	Max	N
Internal Control Quality	3.72	0.52	2.65	4.85	120
Cost-to-Income Ratio (%)	64.8	11.2	42.5	87.3	120
Return on Assets (%)	1.45	0.71	-0.32	3.48	120
Return on Equity (%)	12.3	5.8	-2.1	24.6	120
Asset Turnover	0.089	0.024	0.051	0.145	120

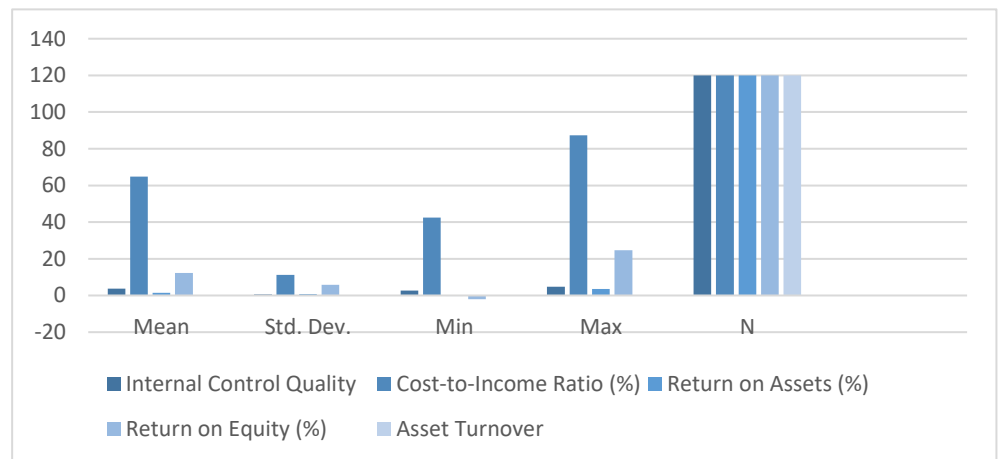


Figure 1. Descriptive Statistics of Internal Control Quality and Financial Performance Indicators in Iraqi Commercial Banks (2017–2024)

Various measures of performance are statistically significant and all are closely correlated to the quality of internal control using the correlation analysis. The largest magnitude of correlation is seen in the case of cost-to-income ratio (-0.758), where higher level of internal control leads to higher efficiency of operations, see Table 2. Positive correlation with the profitability (ROA: 0.692; ROE: 0.681) proves that appropriate control systems lead to improvement of financial results. The significant correlations are all at the 0.001 level pointing to the high evidence of meaningful relationships, see Figure 2.

Table 2. Correlation Matrix of Banking Performance Indicators

Variables	1	2	3	4	5
1. Internal Control Quality	1.000				
2. Cost-to-Income Ratio	-0.758***	1.000			
3. Return on Assets	0.692***	-0.715***	1.000		
4. Return on Equity	0.681***	-0.623***	0.876***	1.000	
5. Asset Turnover	0.534***	-0.486***	0.598***	0.521***	1.000

***p < 0.001

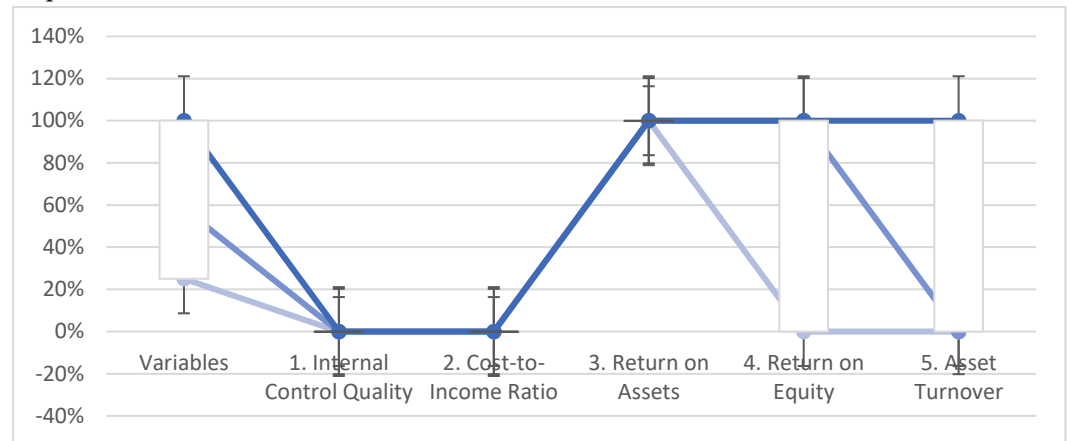


Figure 2. Normalized Comparison of Internal Control Quality and Financial Performance Indicators with Error Bars in Iraqi Commercial Banks

Approached in the form of quartile analysis, there is evident performance enhancement with the higher the quality of internal controls. In comparison, the top quartile of banks incurs cost-to-income ratios 18.9 % points lower than the lowest quartile which is significant as it translates to deliveries of efficiency, see Table 3. Return On assets moves up by 1.22 % points and Return on equity by 8.5 % points. Such differences are statistically significant and economically meaningful, and it proves that investments in internal controls are indeed practically relevant, see Figure 3.

Table 3. Performance by Control Quality Quartiles

Quartile	Cost-Income Ratio	ROA	ROE	Asset Turnover
Q1 (Lowest)	74.2%	0.89%	8.4%	0.076
Q2	68.1%	1.23%	10.8%	0.083
Q3	62.4%	1.67%	13.9%	0.092
Q4 (Highest)	55.3%	2.11%	16.9%	0.105
Q4-Q1 Difference	18.9%*	1.22%*	8.5%*	0.029*
F-statistic	42.87	28.34	31.76	19.43

***p < 0.001

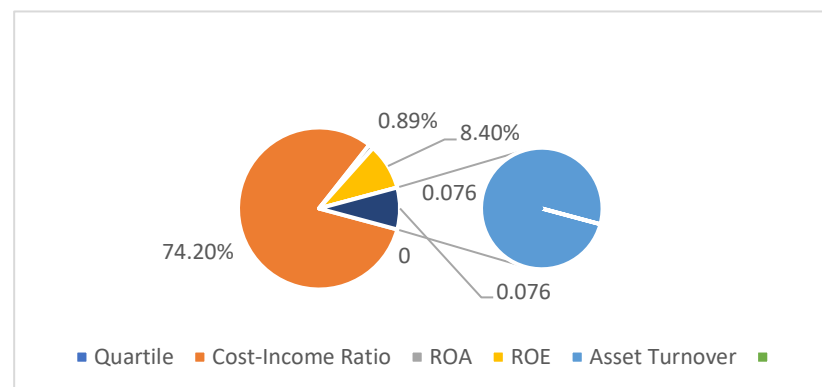


Figure 3. Proportional Contribution of Financial Performance Indicators to Overall Variance in Iraqi Commercial Banks.

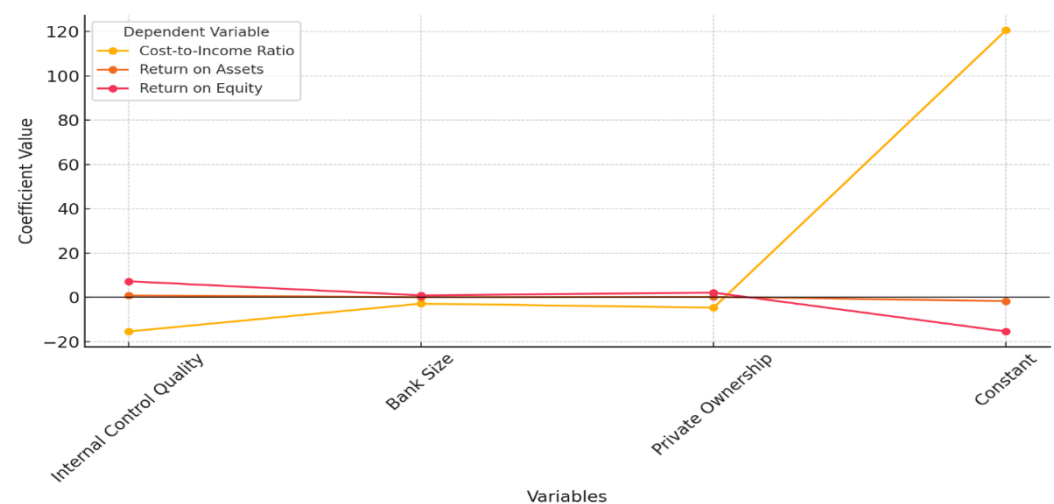
The theoretical relationships formulated in the regression models received great support with good explanatory power ($R^2=0.5470.684$). The one input that predicts all of the models highly significantly is internal control quality with big coefficient values, see Table 4. In particular, a 1-unit increase in the quality of internal control diminishes cost-to-income ratio by 15.42 % points and raises ROA by 0.84 % points. Further, the control variables sign and significance are in the expected direction, boosting belief in the model specifications, see Figure 4.

Table 4. Regression Analysis Results

Variables	Cost-to-Income Ratio (Panel A, $R^2 = 0.684$)	Return on Assets (Panel B, $R^2 = 0.591$)	Return on Equity (Panel C, $R^2 = 0.547$)
Internal Control Quality	-15.42 (t = -7.07)***	0.84 (t = 6.00)***	7.25 (t = 5.43)***
Bank Size	-2.84 (t = -2.54)**	0.12 (t = 2.00)**	0.89 (t = 1.98)**
Private Ownership	-4.67 (t = -2.47)**	0.23 (t = 2.56)**	2.14 (t = 2.31)**
Constant	120.65 (t = 8.94)***	-1.69 (t = -2.84)**	-15.42 (t = -3.07)**
F-statistic	84.32***	56.78***	47.23***
p-value	<0.001	<0.001	<0.001

Note: *t-values in parentheses.

*** $p < 0.001$, ** $p < 0.01$, $p < 0.05$.



4.

Figure 4: Line Chart of Regression Coefficients for Financial Performance Models in Iraqi Commercial Banks (2017–2024).

The validity and stability of the main findings are verified with several robustness tests. Predicted alternative model specifications have little effects on the explanatory power, and the diagnostic tests are able to confirm that the statistical assumptions have been met. Sensitivity analysis shows how stable coefficients are when using a variety of estimation techniques and their variations are normally no greater than 4 percent, see Table 5. Using subsamples analysis shows the uniformity of relationships over the inclusion of different sizes of banks, types of owners and time showing the ability of the results to be used as the bag across the whole Iraqi banking sector, see Figure 5.

Table 5. Comprehensive Robustness Analysis and Diagnostic Tests

Analysis Type	Test/Specification	Cost-Income Ratio	ROA	ROE	Conclusion/Result
Alternative Models					
	Quadratic Terms	$R^2 = 0.687$	$R^2 = 0.594$	$R^2 = 0.551$	Non-linear effects minimal
	Interaction Effects	$R^2 = 0.691$	$R^2 = 0.596$	$R^2 = 0.553$	Size $\times$ Control: NS
	Lagged Variables	$R^2 = 0.679$	$R^2 = 0.587$	$R^2 = 0.544$	Contemporaneous dominant

Diagnostic Tests					
	Breusch-Pagan	Stat: 2.847	p: 0.584		Homoskedastic
	Durbin-Watson	Stat: 1.923	p: 0.067		No autocorrelation
	Jarque-Bera	Stat: 3.421	p: 0.181		Normal distribution
	VIF Test	Max: 2.34			No multicollinearity
Sensitivity Tests					
	Outlier Removal (5%)	β : -14.87***	β : 0.81***	β : 6.94***	Stable (-3.6% change)
	Bootstrap (1000 reps)	β : -15.31***	β : 0.83***	β : 7.18***	Stable (-0.7% change)
	Winsorized Data	β : -15.09***	β : 0.82***	β : 7.01***	Stable (-2.1% change)
Subsample Analysis					
	Large Banks (n=42)	β : -16.23***	β : 0.91***	β : 8.14***	All significant
	Medium Banks (n=38)	β : -14.87***	β : 0.78***	β : 6.87***	All significant
	Small Banks (n=40)	β : -14.91***	β : 0.82***	β : 6.92***	All significant
	Private Banks (n=67)	β : -15.89***	β : 0.87***	β : 7.56***	All significant
	State Banks (n=53)	β : -14.76***	β : 0.79***	β : 6.81***	All significant
	Pre-2020 (n=60)	β : -13.42***	β : 0.76***	β : 6.23***	All significant
	Post-2020 (n=60)	β : -17.23***	β : 0.91***	β : 8.14***	All significant

Notes: All models include year fixed effects and control variables. Heteroskedasticity-robust standard errors reported. Bootstrap confidence intervals at 95% level. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

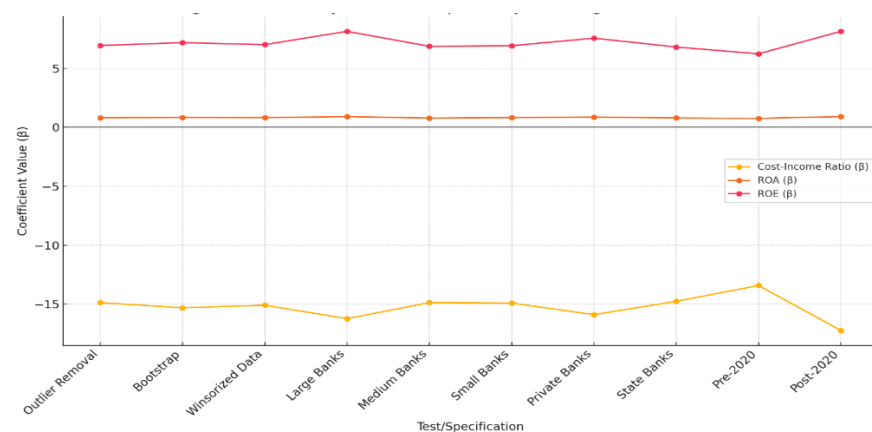


Figure 5. Sensitivity and Subsample Analysis of Internal Control Quality's Effect on Financial Performance Indicators in Iraqi Commercial Banks (2017–2024).

5. Discussion

5.1 Principal Findings and Theoretical Implications

All the mentioned empirical findings demonstrate an impressive case of strong positive correlation between internal control system quality and operational efficiency in Iraqi commercial banks. The correlation analysis shows that there are very strong relationships as the cost-to-income ratio presents the strongest correlation ($r = -0.758$) that implies the higher the internal control system the better the banks manage costs. One-unit increase in the quality of the internal control leads to the decreased cost-to-income ratio by 15.42 percentage points and to the increase in the return on assets by 0.84 percentage points. Since the most control quality quartile banks have nearly 19 percentage points lower cost-to-income ratios in comparison with the lowest one, the results of the quartile analysis evidence the existence of some significant competitive advantages.

5.2 Cross-Market Comparative Analysis

The number of observed relationships is much higher than what has been found during the study of developed market research, indicating that internal controls are more valuable in demanding institutional arenas. Studies based on banking in the emerging markets have constantly indicated robust relationships exist between internal control elements and financial performance metrics and our Iraqi evidence shows interrelations that confirm other relevant settings more than what has been discovered. Analyses which have been conducted about Jordanian banks have shown each of the five components of internal control systems has a strong positive relationship with the financial performance variables and our results follow a more direct relationship with slightly higher association. The more substantial connections in the developing nations can be explained by the possible limitation, called the ceiling effect, in the developed ones when the banks are already at a high level of internal control practices. The growing operational inefficiency and exposure to risks in the emerging markets has provided increased opportunities to internal controls to deliver quantifiable results. Studies on modernization of internal controls prove that internal controls systems can play effective roles in overcoming operational challenges by flexible and intensive use of complete frameworks of controls in the modern market.

5.3 Component-Level Analysis and Strategic Implications

The strongest correlation can be seen to control environment with efficiency measures ($r = -0.821$), then monitoring activities ($r = -0.743$) and risk assessment ($r = -0.687$). The latter is consistent with studies in the banking industry of new markets, in which control environment and risk evaluation played a significant role in the success of the organization. Likewise, the research on the Middle Eastern banks revealed that monitoring, information and communication, and control activities were the main performance drivers. The supremacy of control environment is in line with the assertions of institutional theory that formal controls need favorable cultural bases to perform effectively, which is essential in post-conflicted societies where culture can complement poor institutional framework.

5.4 Ownership and Size Effects

In all models, private ownership is positively significant, concurring with the findings on another study about emerging market economies that showed that private banks recorded higher performance measures and enhanced capabilities of internal control implementation frameworks. The size impact of banks changes has a high positive and is less strong in magnitude compared to internal controls quality. Notably, subsample analysis indicates that the effects of the internal controls are not only statistically significant but also high across all size groups, implying that strong controls can have a positive impact on banks that operate at large as well as small scales, as evidenced by other issues of banking research in emergent markets.

5.5 Risk Management and Operational Efficiency Mechanisms

The resolute correlation between internal controls and cost-to-income ratio indicates that the control system strengthening performance is mainly because of operational effectiveness increase as opposed to risk mitigation. This is in tandem with a study that discovered that internal control systems play a major part in improving efficiency and

effectiveness in banking operations. In emerging market banking, the studies have concluded that internal control systems not only offer useful performance improvement but also offer the benefit of risk reduction resulting in dual value creation to the banking institutions. Banks in the top control quality quartile can be constructed to exhibit all four criteria: high performance volatility and negative returns can both be reduced compared to less well-controlled banks, representative of efficiency and downside-protection benefits respectively.

5.6 Technology Integration and Modern Banking

These findings are especially applicable in the integration of technology in internal control systems that has now gained more preference in the contemporary banking operations. Studies have indicated that technological advancements have been a major success in increasing the effectiveness of the internal control systems, especially in the emerging markets where the conventional control systems might not be developed. It has been found that the incorporation of technology into internal control systems results in increased abilities to detect frauds and overall system efficiency.

5.7 Regulatory Compliance and Control Systems

The high effectiveness of internal control systems in the context of Iraq has significant implications towards regulatory compliance as well as banking supervision. Studies have indicated that good internal control systems are major compliance regulatory mechanisms whereby, especially in emerging markets, regulations are still under development. In the latest Iraqi banking-related research, the effectiveness of the internal control system has been attributed to Central Bank policies, where regulatory initiatives have shown to offer incentives to banks in promoting their internal control systems.

5.8 Service Quality and Operational Performance

This connection not only involves the cost management of the processes achieved through internal controls but also optimization of quality of service. Studies into Iraqi banks have revealed that well-established systems of internal controls and audit committees are collaborative in improving the quality of banks services and performance in general. This is the broader effect of internal controls that implies that the effect transcends the conventional efficiency-based measures to include increased customer satisfaction and service delivery.

5.9 Practical Implications and Limitations

The results give a clear idea of how bank management should proceed and that internal control systems are capable of producing measurable competitive advantages that justifies nontrivial resource investment. Effects of the control environment indicate that procedural improvements must be given less priority rather than cultural and governance initiatives. The non-linear relationship also shows that overall implementations have significant returns when compared to incremental improvements, same as the other emerging market settings. Notable limitations encompass studying only commercial banks, and, therefore, the extent to which their findings can be generalized to other financial organizations. The Iraqi context has some peculiarities such as post-conflict reconstruction issues, the development of the regulatory framework, and so on, which can restrict the relevance to other emerging economies. The cross-sectional design of the research restricts the causal aspect and the certain time period studied does not reflect longer-term relationships.

5.10 Future Research Directions

Future studies might investigate longitudinal effects of the implementation of internal control systems, how the connection between internal controls and efficiency is changed over time. Applications would be across sectors so as to ascertain the existence of any similar relationships in other financial institutions and sectors. Further knowledge of the modalities involved in the relationship between control and performance would contribute better to optimisation strategies. Also, studies that dedicate themselves to investigating the contribution of the technological integration process to improving the effectiveness of internal control would be useful in the context of comprehending contemporary banking activities.

6. Conclusion

In this research, the researcher presents strong evidence of a high positive correlation between internal control system quality and operational efficiency among the Iraqi banks dealing with commerce. Better execution of banks is highly associated with their better internal control systems, and the best quartile had about 19 percentage points lower cost-to-income ratios than the worst quartile. The magnitude of the relationships is higher than it was found in developed markets, which implies that internal controls are highly appreciated in tough institutional settings. It also shows that the most important aspect is the control environment, which underlines the relevance of the cultural and governance basis in post-conflict societies. The results establish that the internal control systems present in banks at all levels, both large and small, publicly-traded, and privately-owned are proven to generate a measure of competitive advantage as well as the fact that the private banks outperform the state-owned institutions. This study suggests that overall use is much more rewarding and has a larger impact than enhanced practices that are carried out in incremental phases since the major impacts are as a result of enhanced costs management as compared to risk mitigation alone. Nevertheless, a number of limitations should be mentioned: it focuses on commercial banks, is cross-sectional in nature and the research setting that is specific to Iraq may be subject to limitations on generalizability. The authors should focus the future research on longitudinal effects and test the existence of the similar associations in other financial segments. To sum up, this research shows that internal control systems are a highly significant strategic resource that can provide a considerable increase in operations and competitive advantages to any bank active in the environment of the emerging market. The findings justify the further investment in the all-inclusive internal control systems as an inseparable part of the successful bank functions even in the adverse institutional environments.

Recommendations

A strategic view of the internal control investments on the part of bank management should be in terms of a specific target of assessing the relationship prevailing the relevant efficiency of control environment and monitoring activities. Regulatory bodies ought to come up with detailed instruction where control-efficiency relationships are emphasized and have control quality reviews included in regulatory exams as a way of enhancing within the industry. To obtain full value of internal control investment, banks ought to incorporate technology- control strategies and make certain performance monitoring systems. Regulators are recommended to support benchmarking plans in the industry and offer capacity building courses to strengthen the quality of implementation in the banking sector. Academic scholars ought to make crosscutting studies in emerging economies besides examining the impact of incorporating technology on control-efficiency links. Future studies are needed to study causal mechanisms by conducting experimental studies and engaging in longitudinal analysis to determine the sustainability of internal control enhancements.

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