THE ROLE OF GOVERNANCE IN IMPROVING INTERNAL CONTROL AND COMBATING MONEY LAUNDERING FOR BANKS LISTED ON THE IRAQ STOCK EXCHANGE

[1]AHMED ABDULKAREEM HUSSEIN, [2]Moufida Ben Saada

[1]PhD Student, Faculty of Economics and Management, Sfax University, Tunisia
[2]Associate Professor, Research Unit Accounting, Finance and Economic Modeling (MOCFINE) Higher Institute of Computing Science and Management, Kairouan University, Tunisia

accphd6@gmail.com[1]
Moufidabensaada123@gmail.com[2]

Abstract:
This study addresses the critical topic of the Role of Governance in Improving Internal Control and Combating Money Laundering, of banks listed on the Iraq Stock Exchange. The importance of the study stems from the escalating challenges facing the Iraqi banking sector, given the increasing risks of financial corruption and weak internal control systems. This makes governance a strategic tool for enhancing integrity and transparency in banking operations.The study aims to demonstrate the relationship between the application of corporate governance principles—such as transparency, accountability, independence, and the distribution of powers—and the efficiency of internal control systems, as well as their role in reducing the likelihood of money laundering. It also seeks to measure the extent of listed Iraqi banks' compliance with international governance standards and the impact this has had on strengthening their regulatory and compliance structures.
The study adopted a descriptive analytical approach, analyzing relevant theoretical literature and previous studies, along with field measurement tools such as questionnaires and semi-structured interviews with a number of internal control, audit, and compliance officials in a sample of Iraqi banks listed on the market for the period 2020–2024. The data was analyzed using SPSS to ensure statistical accuracy.The study finds that there is a statistically significant positive relationship between the level of implementation of governance principles and the effectiveness of internal control systems in banks.Good governance contributes to reducing control gaps exploited in money laundering operations by enhancing transparency and activating reporting and accountability mechanisms. Especially, the independence of the board of directors and internal audit committees plays a pivotal role in the early detection of illicit transactions.The weakness of the digital infrastructure in some banks limits also the effectiveness of electronic monitoring and monitoring of suspicious transactions.In light of the results, the study recommends the need to fully implement the governance manual issued by the Central Bank of Iraq and update it in line with international standards.Strengthening the independence of audit and compliance committees in banks and provide ongoing training for their members on methods for detecting money laundering. Banks should adopt advanced computerized control systems linked to a central database to track suspicious transactions.The study highlights the oversight role of the Securities Commission and the Central Bank in monitoring banks' performance and assessing their compliance with governance and oversight requirements.The study concludes that governance is not merely a regulatory framework, but rather a fundamental pillar for achieving financial stability, combating financial crimes, and enhancing confidence in the Iraqi banking system.This study contributes to enriching the literature related to external auditing and its role in combating money laundering, and provides an analytical model that can be used in future studies.It provides practical proposals and recommendations for Tunisian banks to strengthen external supervision and reduce money laundering, thereby enhancing confidence in the banking system.

Keywords: Governance, Internal Control, Money Laundering, Iraqi Banks, Iraq Stock Exchange, Transparency, Accountability, Independence, Internal Audit, Banking Compliance, Financial Stability, Risk Management, Combating Financial Crimes.

I.   Introduction:

Governance is the cornerstone of a stable and productive environment, as it is extremely important for corporate markets in general and financial markets in particular, all of which seek to reach the best position in the global economy. Governance has become a mechanism to enhance

confidence in a country's economy and a guide to fair and transparent policies and rules to protect the interests of investors and traders. It is also an indicator of the level of companies' achievements in adhering to the rules of good accountability, transparency and accountability, and the existence of measures to reduce corruption, thus increasing the attractiveness of the economy for local and foreign investments and improving its competitiveness.

The internal control system is one of the most important means of managing, controlling and measuring the company's resources, due to its important role in detecting and preventing fraud and protecting the material and moral resources of companies. It also helps achieve operational and strategic objectives by ensuring compliance with laws and regulations, as well as contributing to the provision of reliable financial reporting that allows accurate and timely decisions to be made. Over the years to achieve all goals and meet all requirements, taking into account the increasing interest in them by professional organizations and government agencies due to their role in supporting the governance rules in the organization. Internal control is also one of the most important pillars on which the audit process is based, as many auditing standards and guidelines have been issued at the global or local level to clarify the methods of evaluation, judgment and exploitation when performing the audit task. Abu Hilala, Ali Suleiman Jameel. (2022)

Establishing a strong governance structure is essential to comply with applicable laws and regulations, ensuring that all company activities comply with legal requirements. Internal control is an important part of governance, playing a vital role in managing risk and helping the company achieve its goals. Effective internal control supports the creation, promotion and protection of stakeholder value. Conversely, weak internal control can lead to stricter regulatory requirements, lengthy compliance efforts, and increased costs. Conceptual basis of bank governance Bank governance refers to the framework of rules, practices, and processes through which banks are directed and controlled. They include the mechanisms by which the objectives of banks are defined and pursued in the context of the social, regulatory and market environment. Key components of Iraqi bank governance include four important structures. The Board of Directors oversees the management of the Bank and ensures that the interests of shareholders and other stakeholders are protected. The Risk Management boards which effectively identify, assess and manage the risks inherent in banking operations.The Compliance board responsible for adheringto legal and regulatory requirements to prevent misconduct and ensure ethical behavior. The Transparency and accountability board in charge ofclearing communication with stakeholders and accountability for decision-making processes. The relationship between corporate governance mechanism, internal control system and the money laundering remains unexplored. This study investigates the relationship between the application of corporate governance principles—such as transparency, accountability, and independence—and the effectiveness of internal control systems in combating money laundering within the Iraqi banking sector. It assesses the compliance of listed Iraqi banks with international governance standards and evaluates the subsequent impact on the strength of their internal control and compliance frameworks.

Employing a descriptive-analytical methodology, this study combines a literature review with empirical data from questionnaires and semi-structured interviews conducted with internal control, audit, and compliance officials from a sample of listed Iraqi banks between 2020 and 2024. Statistical analysis using SPSS reveals a significant positive correlation between the implementation of corporate governance principles and the effectiveness of internal control systems.

Key findings indicate that robust governance—particularly transparency, accountability, and the independence of boards and audit committees—is pivotal in mitigating control gaps exploited for money laundering and enabling the early detection of illicit transactions. However, the study also identifies weak digital infrastructure as a significant impediment to effective electronic monitoring.In response, the study recommends the mandatory implementation and updating of the Central Bank of Iraq's governance framework, strengthening the autonomy of audit committees, and investing in advanced, centralized monitoring technologies. The study concludes that corporate governance is a fundamental pillar for financial stability and integrity, offering actionable insights for regulators and bank leadership to enhance confidence in the Iraqi banking system.

This paper is organized as follows: we present the study context and a review of the literature in the first section to expose the hypothesis to be tested. We devote the second section to the presentation of the methodology followed by the analysis of results in the third section. In the last section, we conclude

II. Literature review

This section establishes the conceptual foundation for the study by providing operational definitions for the core constructs: corporate governance, internal control, and money laundering. Building upon this framework, we then formulate the research hypotheses that guide the subsequent analysis.

2.1.The concept of internal control system

Internal control system is a fundamental process that is carried out within an organization to protect its assets, ensure the accuracy and reliability of financial information, and enhance operational efficiency. It serves as a preventive mechanism, forming the first line of defense that protects the interests of shareholders and other stakeholders. This system is essential for maintaining the integrity of financial reporting and supporting sound decision-making. (Khalid and Mayo, 2016, p. 18).It relies on the following three dimensions:

- The importance of internal control: Protection and guarantee: protects the company's assets and prevents fraud and errors.
- Strengthening governance: By enhancing accountability and transparency, internal control strengthens the governance framework.
- Sustainable Growth: An effective internal control system supports long-term growth by ensuring that the organization operates efficiently and ethically.

Internal control is necessary to protect the interests of shareholders, ensure reliable financial reporting, and promote the overall health and sustainability of the enterprise. It is the cornerstone of good corporate governance and a critical component of effective financial management.

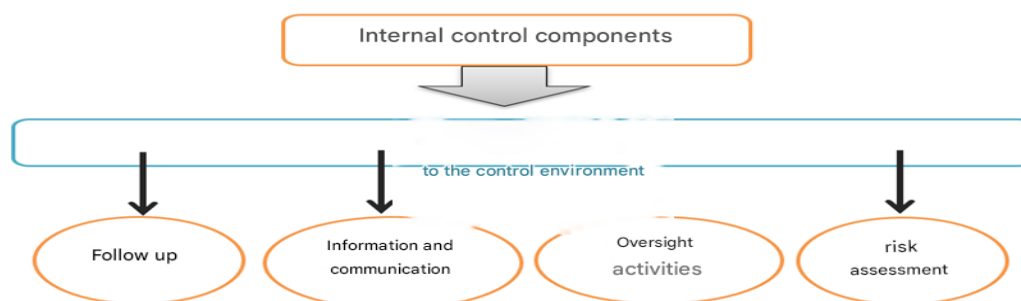The components of internal control can be illustrated by Figure 1 .

Figure 1 Components of internal control

Source: (Khair al-Din, 2020, p. 22)

The researcher believes the need to integrate these five components with each other in any institution that applies the internal control system, given the need and importance of each of them in achieving effective and efficient internal control and performs the desired purpose, and not to be just a section that takes space on the organizational structure of the institution, the activation of the internal control system requires the availability of all these components and their integration and interdependence.

2.2.Concepts for money laundering and its stages

Money laundering is a crime preceded by multiple criminal activities through which illegal financial returns were collected, those who acquired those funds resort to laundering them by introducing them into legitimate activities in order to give them legitimacy, so that they can be used easily and without being subjected to any form of accountability, and this concept has evolved throughout history and has been addressed by many researchers, organizations and bodies and has been talked about in many international conventions and national legislation: The Vienna Convention of 1988(Aidan, 2017, p. 216), The Basel Committee on Banking Supervision of the Vienna Convention (Basel Committee, 1989) ,The International Monetary Fund (IMF, 2001), Arab Convention for the Suppression of Money Laundering and the Financing of Terrorism (Arab Convention for Combating Money Laundering and Terrorist Financing, 2010), U.S. legislation of 1986 (Abdulaziz, 2007, p. 5) ; The Financial Action Task Force (FATF, 2014) ; French legislation of 1996 (Shafi, 2005, p. 32);The Strasbourg Convention of 1990 (Jazoll, 2017, p. 35); The International Convention for the Suppression of the Financing of Terrorism, adopted by the General Assembly in 1990 (Abdulaziz, 2007, p. 18);The European Council defined money laundering (Bou Amra et al., 2022, p. 63). Money laundering involves three essential stages :

Stage 1: Placement (The Deposit Stage)

Placement is the initial stage where illicit funds are introduced into the legitimate financial system. This is achieved by converting large amounts of cash into more manageable financial instruments. Common methods include:

- Depositing cash into bank or financial institution accounts.
- Purchasing financial assets such as stocks and bonds, or physical assets like real estate.
- Using traveler's checks, commercial papers, or payment orders to obscure the cash origin, often followed by cross-border transfers (Faouri & Qutaishat, 2002, p. 70).

During this stage, the funds gain two critical characteristics: **mobility and apparent legitimacy**. Financial instruments like commercial papers are easier to transport and transact than bulk cash, and their subsequent deposit into a bank creates the first layer of seemingly normal activity, making them harder to question (Mohamedain, 2004, pp. 10-12).

This stage is widely considered the **most vulnerable point for money launderers** and the best opportunity for detection by authorities. The large volume of physical cash required for deposit often raises suspicion, and it marks the first time illicit funds create a formal record within the financial system, which can be tracked by regulators (Hassan, 1999, p. 70; Didier, 1998, p. 66).

Stage 2: Layering (The Camouflage or Obfuscation Stage)

Once funds have been placed, the layering stage begins. The primary objective is to **obscure the origin of the funds** by creating a complex web of financial transactions designed to break the audit trail. Launderers separate the money from its illegal source through a series of intricate and often convoluted transactions that appear legitimate (Abdelaal, 2003, p. 11).Techniques at this stage include:

- Multiple electronic fund transfers between different accounts in various jurisdictions.
- Converting funds into different currencies.
- The buying and selling of high-value assets (movable and immovable).
- Channeling money through shell corporations or front companies to disguise them as legitimate business revenues.

The difficulty for authorities in this stage lies in the **sophistication and complexity** of the methods used, which are designed to be indistinguishable from legitimate, high-volume financial activity (Laherb, 2007, p. 30).

Stage 3: Integration (The Final Stage)

Integration is the final stage where the laundered money is **re-introduced into the legitimate economy**, appearing as clean funds. The money is now fully integrated and indistinguishable from legal profits, effectively "drying" it of its criminal taint.

This is often achieved by:

- Investing in legitimate businesses.
- Issuing fictitious loans or inflated import/export invoices through front companies.
- Receiving the funds as sham profits, dividends, or salaries.

At this point, it becomes exceedingly difficult for authorities to differentiate between legitimate capital and the now-laundered funds (Ibn Muhammad, 1999, p. 125). This stage represents the successful culmination of the laundering process, where criminally derived assets are openly used as clean money in the economy (Latrash, 2003, p. 116).

The three stages of money laundering—Placement, Layering, and Integration—are sequential and interdependent. This analysis underscores the critical importance of robust preventative and control measures at the earliest possible point. As the process advances, detection becomes exponentially more difficult. Therefore, strengthening regulatory oversight and internal controls during the **Placement stage** is paramount for effectively combating this financial crime and disrupting the cycle before the funds are fully assimilated into the economy.The researcher summarizes these stages in Figure 2 .
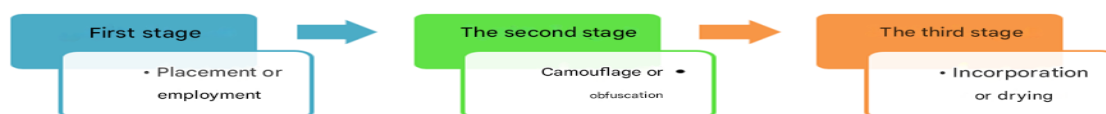

Figure nº 2.Stages of money laundering

Source: Authored by the researcher

2.3.Characteristics and standards of banking governance at the local level:

The framework for corporate governance in Iraqi banks is adapted from established global principles. As synthesized from the literature (e.g., Ward & Ashmawy, 2008; Talib & Al-Mashhadani, 2011; Nabhan & Suhaib, 2021), these principles are operationalized through the following key characteristics:

- Transparency and Disclosure: The commitment to providing timely, accurate, and accessible information. This includes the clear disclosure of financial performance and objectives, adherence to international accounting standards, and ensuring stakeholders have access to relevant corporate information.
- Accountability: The mechanisms for holding the board and executive management answerable for their decisions and performance. This is achieved by establishing clear lines of authority, implementing performance-based evaluation, and ensuring consequences for mismanagement or acting against the company's interests.
- Responsibility: The board's duty to oversee the company's operations with due care. This involves steering corporate strategy, overseeing risk management and internal controls, monitoring the work of auditors, and ensuring the company acts in the best interest of its shareholders and stakeholders.
- Independence: The structural and procedural separation of oversight from management to ensure unbiased decision-making. This is primarily reflected in an independent Chairman of the Board, a significant presence of independent directors, and autonomous audit and remuneration committees.
- Fairness (or Justice): The equitable treatment of all shareholders, including minority and foreign shareholders. Key rights include the ability to participate and vote in general meetings, obtain effective redress for grievances, and be protected from abusive related-party transactions.
- Corporate Discipline: The adherence to ethical behavior and responsible self-regulation. This involves a commitment to following internal rules and external laws, using capital for well-defined projects, and fostering a culture of integrity that aligns management's actions with shareholder interests.
- Social Responsibility: The recognition of the bank's role within society. This entails adhering to ethical standards, maintaining fair labor and employment practices, and implementing clear policies regarding the bank's environmental and social impact.Figure 3 shows. Characteristics and standards of governance.

Figure nº 3. Governance Characteristics and Standards
Source: Authored by the researcher

2.4. The nexus between corporate governance mechanism, internal control system and money laundering

A review of the pertinent literature, particularly focusing on the Middle Eastern and North African (MENA) banking sectors, reveals a consistent scholarly emphasis on the indispensable role of both internal and external control mechanisms in the fight against money laundering. This body of work establishes a foundational understanding of how financial institutions can erect defenses against illicit financial flows. For instance, focusing on the first line of defense, **Al-Khasawneh (2019)** conducted a detailed examination into the internal workings of Jordanian banks. The study rigorously assessed the extent to which these institutions adhere to and apply prescribed internal control procedures, ultimately demonstrating that these systems are not merely procedural formalities but serve as a crucial and effective tool for the proactive detection of suspicious transactions before they can be fully integrated into the financial system.

Complementing this internal perspective, other researchers have extended the inquiry to the domain of external oversight, validating its role as a critical secondary check. A key study by **Al-Awakleh (2017)**, also situated within the Jordanian banking context, investigated the specific contribution of external auditors in detecting and deterring cases of money laundering. The research confirmed that a diligent external audit function contributes significantly to reducing the incidence of these financial crimes. However, Al-Awakleh importantly qualifies this finding, noting that the effectiveness of the external audit is heavily contingent upon the auditor's strict adherence to professional standards and the strategic implementation of continuous, rather than merely periodic, auditing practices.

Broadening the geographical and conceptual scope, the work of **Abdel Meguid (2017)** provides a holistic view by analyzing the systemic negative effects of money laundering on the entire Egyptian banking system. This study not only highlighted the damages caused by such illicit activities but also reviewed the efficacy of various control mechanisms. The central recommendation emerging from this comprehensive review was the need for a dual-pronged strategy that involves the simultaneous strengthening of *both* internal control frameworks and external audit oversight. Taken together, these studies from Jordan and Egypt form a compelling narrative: while internal controls act as the immediate gatekeeper and external audits provide

essential independent verification, maximum efficacy is achieved only when these two functions operate in a robust, synergistic, and mutually reinforcing manner. This existing literature validates the critical importance of these control systems, thereby setting a crucial foundation for the present study, which seeks to investigate the underlying corporate governance principles that empower and enhance the effectiveness of these very mechanisms within the specific context of Iraqi banks. A robust corporate governance framework establishes the essential architecture for a bank's internal control system. In turn, effective internal controls serve as the operational arm of governance, providing reliable financial data and ensuring compliance, which are necessary for the board to execute its oversight duties. This creates a symbiotic relationship: strong governance enhances the effectiveness of controls, while reliable controls provide the board with the assurance needed for informed decision-making. Ultimately, the seamless integration of these two functions is a fundamental pillar for achieving financial stability, enhancing stakeholder confidence, and safeguarding the integrity of the banking system.Based on the literature review, we formulate the following hypotheses :

H1: External audits significantly improve the detection of money laundering activities in iraqi banks.

H2: There is a positive correlation between the frequency of external audits and the effectiveness of anti-money laundering controls in Iraqi banks.

H3: Banks that implement comprehensive audit recommendations see a reduction in money laundering incidents compared to those that do not.

III. Research design:

3.1.Sample and data:

the sample consists of 277 accounting professionals with experience in Iraqi banks during the period 2020-2024.

3.2.Statistical tests :

The experimental distribution (EDF) of the sample and the cumulative distribution function (CDF) of the given distribution.

H[1] zero H0: The sample comes from the specified distribution (normal distribution).

H alternative H1: The sample does not come from normal distribution.

The K-S D test statistic is the maximum absolute difference between the data distribution and the normal distribution:

$$D = max|C_D - E_D|$$

The probability value is extracted from the K-S distribution tables which are based on the sample size n and the calculated value D if the p-value is below the significance level α reject zero H H0 otherwise, we do not reject H0.After confirming the normal distribution and to test the hypotheses, we apply the **One-Sample Test**. The One-Sample t-Test is a statistical test used to determine whether the mean of a given sample differs significantly from a known or assumed value of the population mean. This test is especially used when the sample size is small and when the population standard deviation is unknown. The goal of the One-Sample t-Test is the H test Zero, which states that the sample mean is equal to the population assumed mean, versus the alternative H, which states that there is a difference between them.The One-Sample t-Test statistic is calculated using the following formula:

---

[1]Refers to the hypothesis wherever it is received

$$t = \frac{\bar{X} - \mu}{\frac{s}{\sqrt{n}}}$$

where t: test statistic, sample mean, : population assumed mean, $\bar{X} \mu$s: standard deviation, n: sample size. The steps to apply the test are to: Determine H: Zero H and alternate H are determined. Calculate the t-statistic: using the formula shown above. Comparison of calculated t-value with critical value: The calculated t-value is compared to the critical value from the t-distribution table based on the desired confidence level (usually 0.05) and degrees of freedom df=n−1 and then make a decision: If the value of |t| is greater than the critical value, zero H is rejected in favor of the alternate H. If it is smaller than or equal to the critical value, H cannot be rejected Zero.We apply the following tests and we find the following retails:

Table (1): Test of the normal distribution of variables.

Tests of Normality			
Kolmogorov-Smirnova			
Sig.	Df	Statistic	
15.4	172	19.8	Governance
33.2	172	29.7	N-M-D
12.4	172	19.4	Money laundering

Based on the results of the normal distribution test using the Kolmogorov-Smirnov test, the test shows that the value of Sig. The variants of Governance (0.154), n-m-d (0.332), and money laundering (0.124) are all greater than 0.05. This suggests that these variables follow the normal distribution, as zero H (H0) that assumes that the variables come from a normal distribution is not rejected.

Thus, it can be concluded that the three variables (jufernance, n-m-d, and money laundering) follow a normal distribution based on the Kolmogorov-Smirnov test, which means that it is appropriate to use statistical tests based on the assumption of the normal distribution of data in subsequent analysis, such as the One-Sample t-test to analyze the significance of differences in averages.

Figure (4): Normal distribution diagram of variables

Based on the three graphs in the Normal Q-Q Plot charts, which show the relationship between the observed values and the expected values of each of the variables: Governance, N-M-D, and Money Laundering, it can be seen that almost all points lie on the straight line drawn in each chart.

This distribution shows that the data largely follows the normal distribution, with the alignment of the points with the straight line indicating that the differences between the observed and expected values are very small. In other words, the data correspond to the expected normal distribution of each of these variables. Overall, these graphical receals support the results of the Kolmogorov-Smirnov test that the variables do not reject zero H (they follow the normal distribution), confirming that the use of statistical tests based on the normal distribution would be appropriate.

After checking the normal distribution, One Sample t Test can be used to study the significance of the direction of the answers through the following retails:

Table (2): Significant deviation of the directions of the sample answers

One-Sample Test							
Test Value = 3							
95% Confidence Interval of the Difference		Average difference	Sig. (2-tailed)	Df	Grade	medium	Variable
Upper	Lower						
7.673	5.768	67.209	0.00	171	13.928	3.67	Governance
9.483	7.737	86.105	0.00	171	19.469	3.86	N-M-D
9.911	8.147	90.291	0.00	171	20.206	3.90	Money laundering

The results of the T test for one sample in Table (2) indicate that there is a clear statistical significance in the deviation of the trends of the sample answers from the reference value (3) for the three variables: Governance, N-M-D, and Money Laundering. For the Governance variable, the arithmetic mean was 3.67, which is higher than the reference value, and the T-value was 13.928 with a significance level of .000, indicating that the deviation from the reference value is significantly significant. The average difference was 0.67209, indicating a clear increase in the trends of Participants towards the effectiveness of the Governance. This enhances confidence in the effectiveness of governance systems within the organization, with confidence limits ranging from 0.5768 to 0.7673. As for Ben-M-D, the arithmetic mean was 3.86, which is also higher than the reference value, with a value of T of 19.469 with a significance level of .000, reflecting a significant statistical significance in the deviation. The average difference was 0.86105, which means that participants consider N-M-D more effective than the reference average, which confirms the strength of the organization's internal control systems with confidence limits ranging from 0.7737 to 0.9483. In the case of money laundering, the arithmetic mean was 3.90, which is higher than the reference value. with a T value of 20.206 with a significance level of .000, indicating a strong significant difference in the answers. The average difference was 0.90291, which shows that participants perceive anti-money laundering

efforts to significantly exceed the reference average, enhancing participants' confidence in the efficiency of those efforts with confidence limits between 0.8147 and 0.9911. Based on these retails, it can be said that the target organization follows strong policies in Governance, relies on effective internal control systems and makes significant efforts in combating bleaching. funds, which enhances the financial stability of the institution and increases confidence by regulators and investors. These factors contribute significantly to improving the financial performance of the organization, reflecting stable and reliable financial management.

Based on the results of the descriptive analysis of the variables, it is clear that the money laundering variable is the most applied among the studied variables, achieving the highest arithmetic average of 3.90, indicating that participants see anti-money laundering efforts as the most effective and visible within the organization. This reflects IDA's commitment to implementing strict measures to curb money laundering, which is of great importance in enhancing financial transparency and compliance with international financial laws, which contributes to enhancing the institution's reputation and increasing the confidence of stakeholders. In contrast, the Governance variable was the lowest applied, with an arithmetic mean of 3.67, although this result still indicates a good application of the Governance principles, but it may reflect the need for further improvements in some aspects of the Governance to achieve a higher level of transparency and accountability within the organization. In financial terms, it can be said that the variation in levels of application between variables may affect the overall financial performance of the institution. Despite the strong performance in the anti-money laundering (anti-money laundering (NMD) field, additional improvements in governance could contribute to long-term financial stability and increased confidence by investors and regulators.

The hypothesis testing process represents an essential step in scientific research to validate the relationship between variables and confirm or deny hypotheses that have been put forward based on the theoretical framework and previous studies. Hypothesis testing is based on a set of statistical methods aimed at measuring the extent to which independent variables affect dependent variables or identify interrelationships between them. In the context of this study, multiple statistical tests will be used to analyze the collected data and test the research hypotheses that are designed to understand the extent to which the studied factors affect the financial and administrative resolves within the organization. Hypothesis testing is a critical step to provide scientific evidence about the effectiveness of policies and procedures applied in the organization and guide recommendations based on the results of data analysis.

The regression model applied in this study is an essential tool for examining the relationship between independent and dependent variables. Regression analysis allows us to measure the strength and direction of the relationship, helping to understand how changes in an independent variable affect the dependent variable. In its simplest form, a linear regression model can be expressed by the following equation:

$Y = \beta_0 + \beta_1 X + \varepsilon$

where:
- Y is the dependent variable (the outcome we are trying to predict),
- X is the independent variable (predictor),
- β_0\beta is the constant (Y value when $(X=0)$
- β_1\beta is the slope (change in Y due to the change of one unit in X
- ε\epsilon is the error term (the difference between the actual and expected values of Y

In studies involving an intermediate variable, as in this study, the Barron and Kenny methodology is used to test for the presence of an intermediate variable. This approach involves three analytical steps to assess whether the intermediate variable explains the relationship between the independent variable and the dependent variable. The steps with their corresponding equations are as follows:

1- Test the direct effectof the independent variable X on the dependent variable Y

$Y=\beta0+\beta1X+\epsilon$

This step examines whether there is a statistically significant relationship between X and Y.

2-Testing the Effect of the Independent Variable X on the Intermediate Variable M

$M=\beta0+\beta1X+\epsilon$

This equation evaluates whether X significantly affects the intermediate variable M.

3- Test the Effect of Intermediate Variable M onDependent Variable Ywith Independent Variable X

$Y=\beta0+\beta1X+\beta2M+\epsilon$

This step determines whether the intermediate variable M significantly affects Ypath b, as well as assessing whether the effect of X on Y decreases when the intermediate variable is inserted into the model. If the effect of X on Y becomes statistically insignificant or decreases significantly when the intermediate variable is included in the model, this indicates that the intermediate variable partially or fully explains the relationship between independent and dependent variables. Applying the Barron and Kenny methodology allows researchers to determine whether an intermediate variable is affecting the relationship, providing deeper insights into the mechanisms that drive the relationships observed in the data.

IV. Results

The results of the first H test, which examines the relationship between the level of application of the principles of Governance and resistance to money laundering, are in presented in table 3.

Table (3): Results Test

Model Summary[b]						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Statistics Sig	Durbin-Watson
1	5.45a	2.97	2.93	49.274	71.8 (0.000)	1.793

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.049	2.22		9.237	.000
	Governance	5.05	0.60	5.45	8.479	.000
a. Dependent Variable: Money Laundering						

The linear regression analysis for the first hypothesis (H₁), which examines the relationship between the application of governance principles and anti-money laundering (AML) effectiveness, yielded a statistically significant model (F = 71.8, p < .001). This result leads to the rejection of the null hypothesis (H₀), confirming a significant predictive relationship. The coefficient of determination (R²) of 0.297 indicates that approximately 29.7% of the variance in AML effectiveness can be explained by the level of governance implementation.

Further analysis reveals a positive and statistically significant impact of governance on AML efforts. The regression coefficient (β) was 0.505 (p < .001), demonstrating that stronger governance is associated with enhanced resistance to money laundering. This is supported by a moderate positive correlation between the two variables (r = 0.545). The model's validity is reinforced by a Durbin-Watson statistic of 1.793, which suggests no significant issue of autocorrelation in the residuals. From a practical standpoint, these findings imply that robust corporate governance is a key driver of financial integrity, contributing directly to the reduction of money laundering risks and thereby enhancing investor confidence and the overall stability of the banking system.

Figure (5): Results of determining the normal distribution of residues

The assumption of normally distributed residuals was assessed using a Normal Probability-Probability (P-P) plot, as depicted in Figure [Insert Figure Number]. The plot demonstrates a close alignment between the observed cumulative probabilities and the expected cumulative probabilities, with the data points clustering tightly along the diagonal reference line. This confirms that the residuals approximate a normal distribution, thereby satisfying a key assumption of the linear regression model. Fulfilling this condition enhances the overall validity of the model and lends credibility to the statistical results, allowing for a confident interpretation of the relationship between the variables under study.Table 4 present the results of testing the second hypothesis.

Table 4: Results Test

Model Summaryᵇ						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Statistics Sig	Durbin-Watson
2	.759a	.576	.574	.37863	231.2 (0.000)	1.822

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
2	(Constant)	1.306	.170		7.661	.000
	Algofernance	.696	.046	.759	15.208	.000
a. Dependent Variable: n-m-d						

The analysis of the second hypothesis (H₂), which posited a relationship between the application of governance principles and the effectiveness of the internal control system, revealed a highly significant regression model (F = 231.2, p < .001). This result leads to the rejection of the null hypothesis (H₀) and confirms a strong predictive relationship. The model's explanatory power is substantial, with a coefficient of determination (R^2) of 0.576, indicating that 57.6% of the variance in internal control effectiveness can be explained by the implementation of corporate governance.The relationship is characterized by a strong, positive, and statistically significant impact, with a regression coefficient (β) of 0.696 (p < .001), supported by a strong positive correlation (r = 0.759). The model's integrity is further validated by a Durbin-Watson statistic of 1.822, indicating the absence of significant autocorrelation in the residuals. From a financial perspective, these compelling results demonstrate that robust governance is a primary driver for strengthening internal controls, improving risk management, and mitigating financial losses. This synergy ultimately enhances operational efficiency, boosts bank profitability, and fortifies investor confidence.
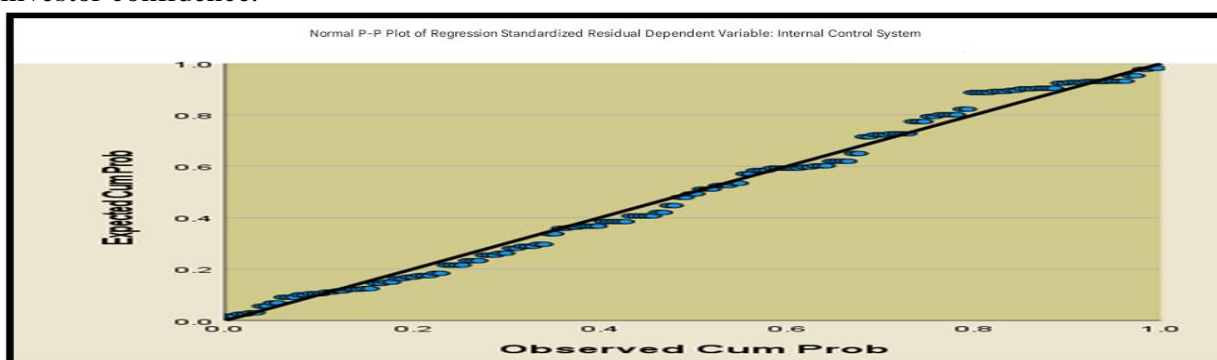

Figure (6): Results of determining the normal distribution of residues

The assumption of normally distributed residuals for the second regression model (H₂) was assessed using a Normal P-P plot, as presented in Figure [Insert Figure Number]. The plot demonstrates a close alignment between the observed and expected cumulative probabilities, with the data points adhering tightly to the diagonal reference line. This confirms that the residuals approximate a normal distribution, thereby satisfying a key assumption of linear regression. Meeting this condition is crucial as it enhances the validity of the model's parameter estimates and significance tests, lending credibility to the findings regarding the relationship between corporate governance and internal control effectiveness.Table 5 exposes the results of testing the fifth hypothesis.

Table 5: Results Test

Model Summary^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F-Statistics Sig	Durbin-Watson
3	.708	.502	.499	.41492	171.1 (0.000)	2.021

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
3	(Constant)	1.140	.214		5.337	.000
	N-M-D	.716	.055	.708	13.082	.000
a. Dependent Variable: Money Laundering						

The third hypothesis (H₃), which proposed a direct relationship between the effectiveness of the internal control system and anti-money laundering (AML) performance, was tested via linear regression. The analysis yielded a highly significant model (F = 171.1, p < .001), leading to the rejection of the null hypothesis and confirming a strong predictive relationship. The model possesses substantial explanatory power, with a coefficient of determination (R^2) of 0.502, indicating that 50.2% of the variance in AML effectiveness can be directly attributed to the quality of the internal control system.

The nature of this relationship is both strong and positive, evidenced by a regression coefficient (β) of 0.716 (p < .001) and corroborated by a strong positive correlation (r = 0.708). The model's validity is further reinforced by a Durbin-Watson statistic of 2.021, which falls in the ideal range, suggesting no problematic autocorrelation in the residuals. From a practical standpoint, this is a critical finding: it empirically demonstrates that a robust internal control system is a primary defense mechanism against illicit financial activities. This directly enhances the integrity of a bank's operations, which in turn can bolster investor confidence, mitigate financial losses from criminal activity, and safeguard the institution's reputation.

Figure (7): Results of determining the normal distribution of residues

The assumption of normally distributed residuals for the third regression model (H_3) was evaluated using a Normal P-P plot (Figure [Insert Figure Number]). The plot reveals a close adherence of the observed cumulative probabilities to the expected probabilities, with the data points clustering tightly along the diagonal reference line. This confirms that the residuals approximate a normal distribution, satisfying a key assumption of linear regression. Fulfilling this condition is essential as it validates the model's statistical integrity and lends credibility to the findings regarding the significant relationship between internal control effectiveness and anti-money laundering performance.

V.   Conclusions:

This study investigates the pivotal role of corporate governance in improving internal control effectiveness and combating money laundering within banks listed on the Iraq Stock Exchange. Amid escalating risks of financial corruption and systemic control weaknesses in the Iraqi banking sector, robust governance emerges as a critical strategic tool for enhancing institutional integrity. The primary objective is to empirically examine the relationship between the application of core governance principles—such as transparency, accountability, and independence—and the efficacy of internal control systems in mitigating money laundering risks. The study also assesses the compliance of listed Iraqi banks with international governance standards and evaluates the impact on their regulatory and compliance frameworks.

Employing a descriptive-analytical methodology for the period 2020–2024, the research integrates a review of theoretical literature with empirical data collected via questionnaires and semi-structured interviews with senior internal control, audit, and compliance officials. Statistical analysis using SPSS reveals a significant positive relationship between the level of governance implementation and the effectiveness of internal control systems. Key findings indicate that robust governance mitigates control vulnerabilities exploited for money laundering by promoting transparency and reinforcing accountability mechanisms. Notably, the independence of boards and audit committees is a critical factor in the early detection of illicit transactions. However, the study also identifies underdeveloped digital infrastructure as a key impediment to effective electronic monitoring.

The empirical analysis reveals a statistically significant positive relationship between the implementation of corporate governance principles and the effectiveness of internal control systems in Iraqi banks. Specifically, robust governance was found to mitigate control vulnerabilities exploited in money laundering operations by fostering a culture of transparency and reinforcing accountability mechanisms. Notably, the independence of the board of directors and internal audit committees emerged as a critical factor in the early detection of illicit transactions. However, the study also identified a significant impediment: the underdeveloped digital infrastructure in some banks, which limits the efficacy of electronic monitoring and surveillance of suspicious activities.

Based on these results, the study recommends the mandatory implementation and continuous updating of the Central Bank of Iraq's governance manual, strengthening the autonomy of audit and compliance committees, and accelerating investment in advanced, centralized monitoring technologies. The study concludes that corporate governance is not merely a regulatory framework but a fundamental pillar for achieving financial stability, combating financial crime, and enhancing confidence in the Iraqi banking system. This research contributes to the literature by providing an empirical model of the governance-control-AML nexus within a post-conflict

economy and offers actionable recommendations for Iraqi regulators and banking executives to fortify the financial system's integrity and resilience.

Based on the empirical findings, this study puts forth several targeted recommendations for strengthening the Iraqi banking sector. First, at the regulatory level, it is imperative that the Central Bank of Iraq mandate the full implementation of its governance manual and establish a process for its continuous updating in alignment with international best practices. Second, at the institutional level, banks must bolster the structural independence of their audit and compliance committees and invest in ongoing professional training for their members on advanced anti-money laundering (AML) detection methods. Third, to address the critical deficits in digital infrastructure identified in this research, banks should be compelled to adopt advanced, integrated control systems linked to a central database for real-time monitoring of suspicious transactions. Finally, the study underscores the need for proactive and rigorous oversight from the Securities Commission and the Central Bank to ensure these governance and control requirements are effectively enforced.

References:

1. Abdelaziz, Ayad. (2007). Money laundering and laws and procedures related to its prevention and control in Algeria. I1. Algeria: Khaldunia Publishing and Distribution.

2. Al-Mashhadani, Bushra; (2019). The role of the internal control system in combating the phenomenon of money laundering by applying to a sample of private banks in Iraq. ResearchGate Magazine. https://www.researchgate.net/publication/338052619

3. Arab Convention for the Suppression of Money Laundering and Terrorist Financing (2010).

4. Ben Mohammed, Abdulaziz. (1999) Drugs and the phenomenon of money laundering. Security and Life Magazine. Vol. 18. Issue (203).

5. Bou Amra, Hassan, and Shibl, Amal, and Qaritli, Mohamed. (2022). The relationship between the accounting profession and the crime of money laundering. University of Adrar, and the University of August 20, 1955_ Skidda. Algeria.

6. Chopsticks, Ferial. (2017). Financial corruption and waste of funds in Iraq after 2003. Al-Mustansiriya Journal of Arab and International Studies. Volume (56).

7. Faouri, Muhammad Issa. (2007). Management by surveillance. I1. Jordan. Amman: Dar Kunooz Al-Maarifa Al-Alamia for Publishing and Distribution.

8. For grass, Ali. (2007). Legal framework for combating money laundering. Algeria: Diwan of University Presses.

9.   For Tarash, names. (2014). Mechanisms to combat the crime of money laundering: a case study of Algeria. Master's thesis. Larbi Ben M'hidi University – Oum El Bouaghi. Faculty of Law and Political Science. Algeria.

10.   Hammad, Tarek Abdel Aal. (2005). Corporate Governance: Concepts, Principles, Experiences. University House, Egypt.

11.   Hassan, Saeed Abdullatif. (1999). Money Laundering Offences. I1. Egypt. Cairo: Dar Al-Nahda Al-Arabiya.

12.   Helpless, Rana. (2008). The Role of Banks in Controlling Money Laundering Operations: An Applied Study on Palestinian Banks in the Gaza Strip. Master's thesis. Islamic University-Gaza.

13.   Jazol, Saleh. (2017). Mechanisms to combat money laundering crimes in Algerian legislation and international conventions: A comparative study of Islamic law. First edition. Egypt. Alexandria: Dar. Fulfillment for printing and publishing.

2.   Jerez, Olivier. (2003) Le blanchiment de l'argent, revue banque édition, 2ème édition, Paris

14.   Khasawneh, Reem. (2019). The extent of Jordanian banks' commitment to applying internal control procedures to detect and prevent money laundering operations. Al-Balqa Applied University, Jordan. Arab Journal of Science and Research Publishing Journal of Economic, Administrative and Legal Sciences Volume III, Issue Twelve.

15.   Latrache, Taher. (2003). Banking Technologies.Algeria. Diwan of University Publications Library Edition.

3.   M. Sylph, J. (2004). Anti–Money Laundering. New York,: International Federation of Accountants.

16.   Mohammatain, Jalal Wafa. (2004). Combating the Money Torrent. Egypt. New University House Egypt.

17.   Nabhan, Sadiq, Suhaib, Rasul. (2021). The relationship between the level of actual application of corporate governance principles and the efficiency of internal control systems. Developmental Brightening Magazine. Issue No(26)

18.   Oqab, Reem, 2012, The Role of the Audit Committee in Raising the Efficiency of the Internal Control System to Combat Money Laundering in Jordanian Banks. International research journal of finance and economics, .VOL(1) NO(88).

19.   Shafi, Nader Abdulaziz. (2005). Money laundering crimes. I2. Lebanon: Modern Book Foundation.

20. Talib, Alaa, Mashhadani, Iman. (2011). Corporate Governance and Strategic Financial Performance of Banks. Dr. A.R. Safaa for Publishing and Distribution. Jordan. Oman.

Appendix
Questionnaire

To the esteemed auditors and banking experts,

We present to you this questionnaire as part of a Ph.D. dissertation titled:
"The Role of Governance in Enhancing Internal Control and Combating Money Laundering in Banks Listed on the Iraq Stock Exchange."
The objective is to gather your perspectives and opinions on matters relevant to the research topic.

Please kindly respond to the questionnaire items, which contain no personal information and are intended solely for academic research purposes.
With our sincere thanks and appreciation.

Prepared by the researcher:
Ahmed Abdulkarim Hussein
Supervised by Professor Dr. Moufida Ben Saada
Section One: Demographic Data
Please mark (✓) in the appropriate box for your answer.
Educational Level:
- Bachelor's
- Diploma or Professional Certificate
- Master's
- Doctorate
Administrative Level:
- Employee
- Department Manager
- Division Head
- General Manager
Years of Experience in the Banking Sector:
- Less than 5 years
- 5–10 years
- 11–15 years
- More than 15 years
Section Two: Research Variables
Independent Variable: Governance
For each of the following items, please indicate your level of agreement:

Item	Strongly Agree	Agree	Somewhat Agree	Disagree	Strongly Disagree
The bank's Board of Directors possesses the					

qualifications and expertise to manage risk.					
The Board Chairman is fully independent from executive management, avoiding conflicts of interest.					
The internal auditor has broad authority to independently assess internal controls.					
The bank applies transparent and fair standards to determine executive compensation based on performance and risk management.					
Shareholders have voting rights, access to information, and active participation in decision-making.					
The bank ensures the periodic and accurate publication of financial reports, including governance reports.					
The bank has a clear and detailed organizational structure that defines responsibilities and authorities at all administrative levels.					
The bank relies on objective criteria to select Board members based on competence, experience, integrity, and other professional considerations.					
The bank has an independent audit committee with the authority to access all information and assess risks.					
The bank complies with all laws and instructions issued by the Central Bank of Iraq and international recommendations regarding anti-money laundering and terrorism financing.					

Intermediate Variable: Internal Control System

For each of the following items, please indicate your level of agreement:

Item	Strongly Agree	Agree	Somewhat Agree	Disagree	Strongly Disagree
The bank has a detailed internal control system covering all financial operations and is regularly updated.					
The bank applies strict procedures to verify customer identities and assess their risk (KYC).					
The bank has an effective system for reporting suspicious transactions and provides					

	Strongly Agree	Agree	Somewhat Agree	Disagree	Strongly Disagree
protection for whistleblowers.					
The bank maintains accurate documentation of all financial transactions and securely stores the documents.					
The bank strictly separates duties among employees to avoid conflicts of interest and manipulation.					
The bank has an effective risk assessment system covering all types of risk (credit, operational, market).					
The bank periodically reviews its internal control system through internal or external audits.					
The bank regularly trains its employees on internal control procedures and anti-money laundering principles.					
The bank has clear and detailed procedures for addressing violations discovered in the internal control system.					
The bank keeps up with ongoing developments and continuously updates its internal control system.					

Dependent Variable: Money Laundering

For each of the following items, please indicate your level of agreement:

Item	Strongly Agree	Agree	Somewhat Agree	Disagree	Strongly Disagree
The bank is aware of the importance of combating money laundering and considers it a priority to maintain financial system integrity.					
The bank has a specialized anti-money laundering unit managed by highly trained staff.					
The bank promotes awareness of money laundering and terrorism financing risks through training programs for employees and customers.					
The bank reports all detected suspicious transactions to the Financial Intelligence Unit at the Central Bank of Iraq.					
The bank applies the penalties stipulated in Anti-Money Laundering and Terrorism Financing Law No. (39) of 2015 to those involved in money laundering.					

The bank periodically assesses money laundering risks associated with its activities and services.					
The bank periodically reviews its anti-money laundering procedures to ensure effectiveness and alignment with international developments.					
The bank keeps up with ongoing developments in money laundering methods.					
Bank management faces challenges in implementing anti-money laundering procedures due to lack of training or unclear instructions.					
Bank management recognizes that implementing governance principles contributes effectively to combating money laundering.					