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BOARD QUALITIES AND EARNINGS MANAGEMENT: THE INTERMEDIARY ROLE OF COMPANY SIZE

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Abstract:
This paper aims to uncover board qualities, namely size, meetings, autonomy, gender diversity, and administrative ownership. Thus, it also investigates how far these qualities can affect the practices used in earnings management. To this end, the paper focuses on the companies which are involved in four different business sectors and that are listed on Iraq's stock exchange. Therefore, this paper questions how far the determination of board qualities can help reduce the opportunistic practices used to fix earnings. The sample is 35 non-financial share-holding companies listed on Iraq's stock exchange from 2010 to 2021. Additionally, 420 views per study variable were conducted to verify the hypotheses, focusing on the correlation between board qualities and earnings management with the company size as an intermediary role. Concerning study variables, earnings management was considered a dependent variable, board qualities an independent variable, and the company size an intermediate variable. Furthermore, the control variables, represented by the company performance and the company history, were also added to the variables. This study finds that board qualities, considering how big some boards are, had no effect on earnings management. Also, the size of the boards in these companies neither reduces executive managers' opportunistic practices nor does it cut earnings managements. Moreover, board qualities do impact earnings management by as many board meetings as possible. Finally, the paper proposes several recommendations. It is highly necessary that the Iraqi stock exchanges urge companies listed thereon to appoint independent, skilled, and financially experienced members to boards, provided they hold no executive and independence-curbing positions. Legislations to regulate earnings management must be enacted. Finally, companies are urged to use experts from large audit firms on account of their physical, financial, and technical potentials.

Keywords: Corporate boards, Earnings managements, Company potentials, Iraqi economy, Economic accountability.

INTRODUCTION

Financial reporting, along with accounting data contained therein, is the basis on which the various parties involved in a business rely to assess management's performance and make appropriate economic decisions. In present-day businesses, companies are increasingly pressured from various stakeholders to achieve outstanding and sustainable financial performance. To achieve these expectations and in a way that serves the interests of the companies, some companies turn to managing earnings. Managing earnings is fixing financial data to improve the company's financial image. In addition, earnings management is a means through which managers ill-design earnings so that the earnings published in the financial reports serve boards' objectives and meet their ambitions. Although earnings management may yield short-term benefits, it may lead to long-term adverse repercussions, including mistrust and incredibility among investors and other stakeholders as well.

Thus, the board plays an important role in the direction and management of the company; by protecting share-holders' interests and ensuring transparency and integrity in financial reporting. Stakeholders associated with the company rely on the company-informed financial reports and accounting data to assess management performance. Transparency and credibility in financial reporting are key elements of a financially effective market and sustainable economic growth. Therefore, limiting earnings management is essential to ensuring integrity and confidence in businesses. Although financial reporting is prepared following integrated accounting standards, and its publication to its users is subject to accounting disclosures, this does not prevent managers from releasing financial data, especially earnings, in line with their objectives and interests. These practices occur as a result of the separation of ownership from management, which is the basis of acting management. Such practices may result in managers taking opportunistic actions for personal interests at the expense of others. Hence, this study is significant in that it shows how impactful board qualities can be as reducers of earnings management. Hence, board qualities, which are size, meetings, autonomy, gender diversity, and administrative ownership, are important actors particularly in demonstrating the way executive managers are monitored and directed.

Section One: Methodology and Previous Literature

1. Methodology

1.Problem

The statement of the problem highlights how the determination of board qualities helps reduce managers' practices. In other words, how such factors in boards as diversity, size, meetings, autonomy, and administrative ownership influence transparency and integrity in financial reporting. Furthermore, how these factors reduce earnings fixing. Therefore, these research questions have been formulated:

1.Do board qualities, mainly gender diversity, size, meetings, autonomy, and administrative ownership, effectively reduce opportunistic practices used to fix earnings?

2.Does the company size affect board qualities, mainly size, meetings, autonomy, gender diversity, and administrative ownership, on the one hand, and earnings management on the other hand?

2.Aim

The paper is set to achieve the following:

1.Identifying board qualities as well as their impacts on earnings management, particularly regarding the potential roles of the respective companies.

2.Recognizing how far these qualities can enhance financial transparency and reduce financial ill-reporting.

3.Considering the effects of earnings management on companies' performances.

3.Significance

This study can be significant, particularly due to the following:

1.Examining how board qualities reduce earnings management will help improve intra-company governance structure.

2.This study contributes to enhanced transparency and credibility by factors underlying earnings management.

3.Less earnings management increases investor-stakeholder confidence in companies' financial reporting, thereby improving long-term financial performance as well as reducing financial malpractice-related risks.

4.This study is particularly important not only as an academic paper but also as a practical investigation. It provides insights that can benefit policymakers and managers to promote corporate governance and ensure sustainable financial performance.

4.Hypothesis

Drawing on the problem elaborated on above, two hypotheses have been presented.

The first main hypothesis. Board qualities, mainly size, meetings, autonomy, gender diversity, and administrative ownerships, are statistically significant in earnings management. Furthermore, the following subhypotheses are drawn:

1.Board qualities, measured by size, are impactful in reducing earnings management.

2.Board qualities, measured by meetings, are impactful in reducing earnings management.

3. Board qualities, measured by autonomy, are impactful in reducing earnings management.
4. Board qualities, measured by gender diversity, are impactful in reducing earnings management.
5. Board qualities, measured by administrative ownership, are impactful in reducing earnings management.

The second main hypothesis. Board qualities, including size, meetings, autonomy, gender diversity, and administrative ownerships, are statistically significant in earnings management as far as company size is concerned. Additionally, the following sub hypotheses are drawn:

1.Board qualities, measured by size, are statistically significant in reducing earnings management.

2.Board qualities, measured by meetings, are statistically significant in reducing earnings management.

3. Board qualities, measured by autonomy, are statistically significant in reducing earnings management.
4. Board qualities, measured by gender diversity, are statistically significant in reducing earnings management.
5. Board qualities, measured by administrative ownership, are statistically significant in reducing earnings management.

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5.Methodology and Data Collection

To identify how board qualities reduce earnings management in non-financial share-holding companies listed on the Iraqi stock market, the study adopts both the descriptive and the deductive approach. Thus, statistical analysis has been used to verify whether there is an inter-variable correlation. To collect data for practical analysis, the study surveyed financial lists, board reports, accounting controllerships, and audits of the companies investigated at this study, which are released on the Iraqi stock exchange website from 2010 to 2021.

To collect, extract, sort, and classify the required data, the sampled data have been transformed into an Excel sheet. A statistical software, Eviews 13, has been used to analyze and verify hypotheses. As for practical analysis, the study consulted different Arabic as well as foreign bibliographies and reference materials, including books, theses, dissertations, periodicals, published and reviewed articles, laws and regulations issued by the competent authorities, and websites.

6.Data and Sample

The data consisted of 35 non-financial share-holding companies that engaged in various business sectors, mainly industry, agriculture, public services, hotels, and tourism, all of which are listed on the Iraq stock exchange as published on the respective websites from 2010 to 2021.

7.Limits

There are two main limits considered in this study.
1.Spatial limits: they cover physical or spatial scopes represented by the non-financial share-holding companies listed in the Iraq stock exchange.
2.Time Limits: they cover financial lists and reports of these companies as engaged in various businesses from 2010 to 2021.

2.Previous Literature

There have been many studies that investigated the correlation between board qualities and earnings management. Below are some of these.

1.Al-Bahrawi (2021)

"Analysis of the correlation between board qualities and earnings management using real activities: Applied study on the Egyptian stock market"

This study investigated the correlation between board qualities and real earnings management in companies listed on the Egyptian stock market. To this end, the study developed research questions to realize any potential correlations in these companies. The study found that there is a statistically significant correlation between board qualities and earnings management in sale-based real activities. Thus, the study proposed the creation of a national governance authority to control businesses and government offices in order to counter state-level financial and administrative corruption. Also, the study underlined the critical need for accountability standards to foster innovative accounting and avoid profit management-related corruption.

2.Zegoud (2019)

"Impact of board qualities on earnings management: A pilot test on selected family-owned share-holding companies in Algeria from 2010 to 2016"

The study recognized how impactful board qualities can be on earnings management in certain family-owned share-holding companies in Algeria from 2010 to 2016. Drawing on Dynamic Panel Data Model, the study designed a dynamic data-extracting model. The study designated board size, ownership, and executive managers' ownership as independent variables, and earnings management as a dependent variable. Zegoud's study concluded that there is an inverse correlation between board size and managers' ownership on the one hand and earnings management on the other hand. The study also uncovered an reverse correlation between executive managers' ownership and earnings management in Algerian family-owned share-holding companies.

3.Ghareeb (2015)

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"Effect of company qualities and the extent of audit facilities on earnings management in Saudi share-holding companies: Applied study"

This study identified how the company qualities and the extent of audit facilities affected earnings management in some Saudi non-financial share-holding companies whose shares are listed in the Saudi stock market. To achieve this, the study practically analyzed these companies from 2010 to 2014, drawing on their comprehensive inventories and annual financial reports published on their websites. Additionally, the study questioned whether company qualities and the extent of audit facilities had any effect on earnings management in these companies. The study found that both company size and the extent of audit facilities negatively impacted, in a rather reverse correlation, earnings management. The study recommended that accounting decisions be reconsidered and some Islam-inspired ethical measures be emphasized to reduce earnings management.

4.Hosam et al. (2019)

This study highlighted the influential role of board qualities in earnings management in selected global gas and petroleum companies. The board qualities selected in this study are autonomy, size, gender diversity, and the double roles of executive managers. To this end, the study selected 71 gas and petroleum companies engaged in these businesses world-wide in 2016. The study found that autonomy in these companies significantly reduced earnings management, likely to protect share-holders' interests and ensure transparent financial reports. Also, the study found no correlation between size and earnings management given that the larger the board is, the harder it will be for board members to control earnings management. The study concluded that gender diversity helped reduce earnings management as diversity fosters creativity and innovation in board members. Furthermore, the separation of executive managers and board chairmen greatly reduced earnings management.

5.Imoleayo et al. (2016)

This study investigated the role of the board in reducing earnings management. The study was conducted on 137 Nigerian non-financial companies from 2003 to 2010. Drawing on board qualities, the study designated board qualities as independent variables and earnings management as a dependent variable. The study found that there is a reverse correlation between size and earnings management and an inverse correlation between meetings and earnings management in Nigerian companies.

6.Mehmet et al. (2014)

This study investigated how ownership structure and board size can affect earnings management in 230 Istanbul stock exchange-listed companies from 2009 to 2021. Thus, while institutional ownership and administrative ownership have been considered basic structures, ownership structure has been adopted as an independent variable. Board size was measured by the member of numbers. Earnings management, being a dependent variable, was measured by optional entitlements. The study found a reverse correlation between institutional ownership and board size on the one hand and earnings management on the other hand. Also, there is an inverse correlation between administrative ownership and earnings management in Turkish companies.

Section Two: Theoretical Framework of Board Qualities and Earnings Management

1.Board

The board is a mechanism to boost governance in businesses; thereby, it deals with the supervisory and monitoring roles assigned by share-holders. Therefore, the board is the link between investors and executive managers (Ibraheem, 2022). It can be argued that the board's core function is to cut the costs arising from the owner-manager separation. Thus, boards ensure that directors work for share-holders and safeguard the interests of other parties associated with the company.

Accordingly, the board manages businesses as authorized by the general meeting. Furthermore, the board is the ultimate authority responsible for the company (Al-Bahrawi, 2021). In terms of membership, the board often consists of executive members, non-executive members, and independent members, all of whom are committed to developing policies, plans, and procedures to achieve the company's objectives, maximizing the company's value, and managing any negative and survival-related risks. Also, board members are to establish the necessary procedures to protect investors' funds as agents of investors (Emuron & Yixiang, 2021). Therefore, any inaction by board members or failure to discharge their mandated duties will hold them accountable before investors (Chee et al., 2022).

To sum up, the board is the cornerstone of successful business. As an agent of share-holders, the board matters as it develops an integrated control. The relationship between boards and executive officers ensures quality performance, transparency, accountability, and maximum investor-centered benefits (Hassan, 2022).

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Based on these premises, the board is to regulate the financial and administrative matters, determine executive managers' tasks, responsibilities, and powers, monitor and evaluate executive managers' performance and verify how far executive managers are committed to making effective the strategies, policies, and plans designed to reduce costs, maximize the capital, and strengthen the company's competitiveness to ensure continuous businesses.

2.Board Qualities

Many studies have elaborated on the qualities that must be available in every single board, as these can help control earnings management. The following are some of these qualities.
1.Board size: Size is an important quality used to measure the board's effectiveness as a corporate governance mechanism. Therefore, size means the number of the executive and non-executive members, thus representing the two main actors managing the board. Governance statutes in financial institutions provided that board members are commensurate with the size and nature of businesses. Similarly, the relevant instructions and regulations stipulate that the basic regulations of financial institutions shall specify the number of board members by not going below five and not exceeding eleven.

To achieve best practices in banks, board members must not be less than nine and not more than eleven (Al-Mukheimer and Al-Jugayman, 2024). In the same vein, another study posited that the larger the size of the board, the less efficient it will be in running businesses and controlling managers. As the board is not interconnected, a reverse correlation between size and performance is likely to develop (Al-Bahrawi, 2021).

2.Autonomous members: Autonomy is a key determinant given its qualitative characteristics. Board members are autonomous when they are away from any self-interests (Zegoud, 2019). The presence of autonomous board members means greater control over performance than executive managers. Not only do autonomous members add expertise to their companies, but they also provide them with direct knowledge and rare and difficult-to-obtain information from other sources (Mohammed, 2021).

The regulations on basic governance in financial institutions stipulate that the number of autonomous members should not be less than one third of the board. Also, the board must annually assess how autonomous those members are and ensure that there are no relationships or circumstances affecting their positions. Thus, an autonomous member is duly required to inform their boards when any of the manifestations of autonomy have been met. In banks, it is highly preferable that the chairman be autonomous, following the relevant practices (Zegoud, 2019).

Following relevant theories, autonomous members (in boards), given their experience, contribute to the protection of business interests from potential opportunistic actions that could benefit a handful of share-holders. When a board is increasingly autonomous, conflicts of interest between managers and share-holders decrease (Al-Mukheimer and Al-Jugayman, 2024). Thus, more autonomous members curb managers' actions towards earnings management. Likewise, a board may fail to reduce earnings management even if autonomous members increase. This is due to the fact that earnings management is complex and difficult to detect, especially if board members are not experienced sufficiently (Bahrawi, 2021).

3.Administrative ownership: Administrative ownership is the amount of the managers' share in business ownership. Managers' ownership is the ownership of business shares measured by the division of shares owned by managers over total shares. Therefore, acting management has been a problem with owners being separated from managers. Additionally, this separation has led to conflicts of interest between acting managers (board managers) and managers (owners).

Historically, this managerial disharmony has been driven by two main reasons. There are different ends by acting managers and owners, not to mention data mismatch between managers and share-holders. While owners maintain their wealth, maximize their benefits, and boost the long-term business values, managers go after personal benefits and maintain their short-term positions. Having not cared for their businesses, managers neither preserved their business values nor did they maintain the long-term rights of the coming generations (Yousif, 2012).

Jensen and Meckling (1976) suggested that the higher the administrative ownership is, the less conflict of interests there will be between managers and share-holders. Also, they found that administrative ownership reduces managers' misusing positions for personal ends and decreases share-holders' wealth. Thus, managers' ownership in business assets

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may encourage them to make value-boosting decisions. Moreover, managers having a large proportion of capital shares will serve share-holders' interests and better utilize resources (Zagood, 2019,

4.Board meetings: The number of board meetings is essentially significant as it highlights the position of the board as an active and efficient performer. Hence, the frequency of meetings varies from a business to another, considering how complex and multiple these businesses can be. Therefore, regular board meetings enable members to exercise their duties for share-holders because the board, if meetings held frequently, will have sufficient time to monitor any opportunistic practices and actions (Mohammed, 2021). Also, it is the board's responsibility to schedule meetings periodically to deliberate business conditions and activities, provided that they are not held less than twice per quarter. In this respect, board membership should not exceed two consecutive sessions with six years as the maximum (Al-Bahrawi, 2021).

5.Gender diversity in boards: Following acting management, demographic and ethnic diversity contributes to the autonomy of boards and enhances oversight. Boards with gender diversity are evident that female members control business performance more than their male colleagues, owing to the fact that female managers are more present than male managers and that female managers are more effective in oversights. Henceforth, boards with gender diversity devote more control to businesses (Elzahar & Hussainey, 2012) (Adams & Ferreira, 2009).

Many studies have stated that women's representation, if independently ensured, is a good indicator of effective oversight and control over executive managers. This is positively reflected in transparent accounting data, quality earnings, fewer opportunistic actions by executive managers, less damage to share-holders, less vulnerability to financial failure, and low share prices on the stock exchange (Zeta et. al., 2022) (Garcia et. al., 2021).

Furthermore, several studies posited that the number of females on boards is small with women's contribution still low, especially in the Arab world. Women's representation in boards varies by states, laws, legislation, and beliefs. Although women's acceptance is embraced thanks to competence, experience, and culture, women's participation, however, in boards is still poor and underrepresented (Al-Bahrawi, 2021).

3. Earnings Management

1.Emergence and Concept

Accounting scandals have long drawn public attention and negatively affected public trust in institutions, including equity markets, bank owners, auditors, economic unit managers, and governments (Riaz, 2016). Social prejudice caused by profit management can be observed in scandals. Examples of profit-driven scandals are the Enron or Parmalat scandal (Wu, 2010) and the Pescanova or Gowex scandal. Given these consequences, there are two existing research pathways that focused on gimmicks or accounting scandals:

Firstly, there have been studies that investigated who was involved in profit management, why they were involved in these practices, and what motives they had in these malpractices. Furthermore, these studies addressed managers' behavior, managers' qualities, and fraud detectors. Having been fashionable in psychological approaches, their studies stressed fraud perpetrators to counter such actions, particularly using audits (Brazel et. al., 2009).

Secondly, there are studies that were concerned with the outcomes of earnings management, as, for example, in the way equity markets react, which often adopt economic theories relating to acting management or market efficiency. Following acting management theory, which arises when there are parties with different ends, managers may run earnings for personal aims, taking advantage of owner-manager splits (Riaz, 2016). Therefore, managers influence annual reports that serve share-holders' decision-making. In this respect, studies on accounting have related the definition of profit management with fraud- and accounting malpractice-focused research (Cooper et. al., 2013).

Scott (2009) defined earnings management as a choice of accounting policies that can affect profits to achieve specific ends. In the same vein, (Riaz, 2016) defined earnings management as a strategy to generate accounting profits through administrative delegation related to accounting options and cash flows. Furthermore, earnings management can be seen as an administrative routine performed intentionally or opportunistically to report desired results different from real results.

International Public Sector Accounting Standards, known shortly as IPSAS, have enabled boards to use their provisions when following these standards. For example, to estimate impairment (depreciation), different impairment tehniques and the like, boards may use discretion in estimating the required accounts to manage earnings in favor of a certain move (Marinakis, 2011).

Most relevant literature has underpinned two commonly recognized methods, or ways, to manage earnings; the first is entitlement-based fixing and the second is real fixing. Literature focusing on entitlement-based fixing has been more outstanding than other previous studies (Riaz, 2016). Likewise, Zang (2012) detailed how managers can mismanage earnings using real activities throughout the fiscal year and adjust business results to certain ends after profits have been released to counter any legislative reforms. Whether entitlement-based or in real fixing, earnings management should depend on remedies be they voluntary or mandatory (Zang, 2012).

Additionally, there have been extensive studies on the relationship between earnings management and business governance, including ownership structure. As the findings of the said studies are controversial and contradictory, no consensus has been made on how ownership structure affected earnings management, owing to the fact that most previous literature on earnings management has largely focused on discretionary entitlement as a proxy of earnings management.

Therefore, previous studies stressed only entitlement-based profit management (Swai & Mbogela, 2016). It has been found that, following the Sarbanes-Oxely Act, managers have shifted from entitlement-based management to real profits. Surveys submitted to senior executive officers have proven that managers prefer real fixing to entitlement-based fixing. This is justified by the fact that managers, when managing earnings, choose between two strategies to weigh on changes in earnings (Al-Hammashi, 2021).

2.Motives of Earnings Management

Boards may face conflicting motives that lead to earnings management. Some motives are opportunistic, only to achieve managers' self-benefits, whether in the present or in the future. Some motives achieve business efficiency to maintain survival and continuous competition. Generally, these motives can be subdivided into three, each of which may involve opportunistic ends, informational ends, or both. Below is a detailed interpretation of these motives (Zegoud, 2019) (Al-Louzi, 2013).

-Contractual Motives

Accounting data helps businesses and multiple owners enter into agreements. Whether entered explicitly or implicitly, equivalency-based contracts are concluded to accommodate managers' interests and other stakeholders. Thus, when contracts between businesses and various stakeholders are concluded on accounting-informed data, managers present results consistent with contractual clauses to increase personal incentives, highlight their reputations, comply with lending terms, achieve benefits in labor-related negotiations, and create career stability.

-Regulatory Motives

Various previous studies have posited that the more likely a business is to exposed to external pressures and government interventions, the more their boards dopt low-earning accounts. Many managers believe that earnings influence government decisions, which motivates them to manage earnings in a way to reduce taxes levied on earnings. Where companies are less targeted by any possible legislation, political costs are therefore low.

-Capital Market Motives

This motive usually influences stock prices, especially prior to initial public offers and share offers to increase business capital. Furthermore, this motive has to do with the release of certain earnings consistent with the estimates purportedly predicted by analysts or managers to prevent any fluctuant stock prices in the predictable future.

3.Earnings management strategies

When managing earnings, boards often take three main strategies. As explained earlier, managers manage earnings on the account of certain motives (Al-Tamimi & Al-Saadi, 2015). Below is a detailed elaboration of these strategies.

-Earnings maximization

Managers maximize earnings to reach targeted levels. Also, boards maximize earnings to avoid losses in their financial reports. Therefore, when boards target earnings, they usually meet financial analysts' predictions, increase their gains in the financial markets, or achieve their own benefits.

-Earnings minimization

Managers minimize earnings to several considerations. Earnings might be minimized to create tax gains, avoid political and government-imposed duties, and address labor unions' demands of higher wages. As far as the strategies are concerned, companies take certain policies to minimize earnings and retain current earnings to improve future earnings.

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-Fluctuation reduction (income smoothing)

Income smoothing is a means used by boards to reduce anomalous and fluctuant incomes. Managers reduce fluctuation when they gain revenues and identify expenses, administrate reserves, and design current and innovative income-related tabulations. Fluctuation reducers are thus followed either to recognize taxable earnings or to signal to investors that earnings are stable. Notwithstanding these advantages, such strategies can affect investors' expectations in preditible profits, thereby harming the position of the company in financial markets.

4.Methods of earnings management

Most previous studies held that earnings management can be classified into two main methods: real management and earning management accounting (Al-Uday & Suquur, 2014).

-Earning management accounting

These strategies are informed by accounting decisions regarding estimation, measurement, and tabulation. Thus, boards are relatively flexible to choose between accounting alternatives and certain personal estimates in some cases.

-Real managements

Real management is based on managers' decisions made regarding production, investment, and sales. Therefore, such earnings management may alter expected incomes and expenditures. Ultimately, these procedures and decisions are aimed mainly at influencing net cash flows from different businesses, which affect earnings, as well.

Applied Framework
Study Variables
First: Dependency

For convenience, earnings management in this study is considered a dependent variable. Thus, drawing on previous studies, this study adopts a modified version of Jones' (1991) model to estimate predictable benefits and measure earnings management (Dechow et al., 1995). Thus,

$$\frac{\mathrm{TA_{it}}}{\mathrm{Asset_{it-1}}} = \beta_0 + \beta_1 . \frac{1}{\mathrm{Asset_{it-1}}} + \beta_2 . \frac{\Delta\mathrm{Rev_{it}} - \Delta\mathrm{Rec_{it}}}{\mathrm{Asset_{it-1}}} + \beta_3 . \frac{\mathrm{PPE_{it}}}{\mathrm{Asset_{it-1}}} + \varepsilon_{\mathrm{it}}$$

where

$TA_{i.t}$ is total receivables: measured by the difference between operating profits and operating cash flows from activities

$Asset_{i.t-1}$ is the total assets at the beginning of the year

$\Delta Rev_{i.t}$ is change in incomes: measured by difference between current and prior year's incomes.

$\Delta Rec_{i.t}$ is change in debtors' account: measured by the difference between current year debtors and prior year debtors

$PPE_{i.t}$ is assets in account journals

$\varepsilon_{i.t}$ Ill-estimation (remainders) stands for optional receivables, that is, absolute remainders refer to the amount of earnings management

Second: Independent variables: board qualities (size, meetings, autonomy, gender diversity, and administrative ownership)

Third: Intermediate variable: company size
Fourth: Control variables: company history and company performance

Regression models and data analysis

To test the proposed hypotheses formulated earlier in this study, the following multiple linear regression models have been adopted:

$$EM_{it} = \beta + \beta_1\, BS_{t.i} + \beta_2\, BM_{t.i} + \beta_3\, BI_{t.i} + \beta_4\, BGD_{t.i} + \beta_5\, AO_{t.i} + \beta_6\, FSIZE_{t.i} + \beta_7\, FAGE_{t.i} + \beta_8\, ROA_{t.i} + \varepsilon_{t.i}$$

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$$EM_{it} = \beta + \beta_1 BS_{t.i} + \beta_2 BM_{t.i} + \beta_3 BI_{t.i} + \beta_4 BGD_{t.i} + \beta_5 AO_{t.i} + \beta_6 FSIZE_{t.i} + \beta_7 FSIZE_{t.i} * BS_{t.i} + \beta_8 FSIZE_{t.i} * BM_{t.i} + \beta_9 FSIZE_{t.i} * BI_{t.i} + \beta_{10} FSIZE_{t.i} * BGD_{t.i} + \beta_{11} FSIZE_{t.i} * AO_{t.i} + \beta_7 FAGE_{t.i} + \beta_8 ROA_{t.i} + \varepsilon_{t.i}$$

EM_{it}: earnings management, BS_{it}: board size, BM_{it}: board meetings, BI_{it}: board independence, BGD_{it}: gender diversity, $AO_{t.i}$: management ownership; represented by the shares owned by board members, $FS_{t.i}$: company size: represented by regular logarithm of the company's assets, $FAGE_{t.i}$: company age: represented by the regular logarithm of years since establishment, $ROA_{t.i}$: asset return: represented by the net profit/ total assets: $\varepsilon_{t.i}$: random error (remainders).

Findngs of Statistical Analysis

1.Descriptive Analysis

Table (1) below demonstrates the descriptive statistics of 35 companies during a 12-year survey from 2010 to 2021, thus 420 views per study variable have been achieved.

Table (1) Descriptive statistics of variables

S.D	Min	Max	Median	Mean	Variable
0.178	0.000	1.221	0.101	0.156	EM
0.146	1.609	2.398	1.946	1.918	BS
0.453	0.693	3.178	2.303	2.257	BM
0.094	0.571	1.000	1.000	0.917	BI
0.465	0.000	1.000	0.000	0.314	BGD
0.201	0.000	0.992	0.100	0.178	AO
1.384	19.321	27.049	22.475	22.518	SIZE
11.989	9.000	68.000	28.000	31.614	AGE
0.398	-4.339	0.349	0.029	-0.030	ROA

As shown in Table (1) above, the mean rate of EM variable amounted to 0.156, at its highest, is (1.221) and at its lowest, is (0.000), with a 0.178 standard deviation. The mean rate of board size variable amounted to 1.918, at its highest, is (2.398) and at its lowest, is (1.609), with a 0.146 standard deviation. The mean rate of board meetings variable amounted to 2.257, at its highest, is (3.178) and at its lowest, is (0.693), with a 0.453 standard deviation.

The mean rate of autonomy amounted to 0.917, at its highest, is (1.000) and at its lowest, is (0.571), with a 0.094 standard deviation. The mean rate of gender diversity amounted to as low as 0.314, at its highest, is (1.000) and at its lowest, is (0.000), with a 0.465 standard deviation. This indicates that almost 69% of these companies had no women represented on their boards. The mean rate of administrative ownership amounted to 0.178, at its highest, is (0.992) and at its lowest, is (0.000), with a 0.201 standard deviation.

2.Findings of Hypothesis Verification

1.Verification of Hypothesis (1) and Subitems

The impact of board qualities, namely size, meetings, autonomy, gender diversity, and administrative ownership, on earnings management. The multiple linear regression model has been adopted to test board qualities, as independent variables and earnings management, as a dependent variable, as shown in Table (2) below.

Table (2) Hypothesis verification

VIF	Prob.	t-Statistic	Std. Error	Coefficient	Variable
-	0.189	1.317	6.614	8.711	C
1.593	0.456	0.746	0.084	0.063	BS
1.401	0.032	2.159	0.025	0.055	BM
1.414	0.244	-1.168	0.122	-0.142	BI

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1.236	0.283	-1.075	0.023	-0.025	BGD
1.342	0.324	-0.988	0.056	-0.055	AO
1.497	0.044	-2.028	0.009	-0.017	SIZE
1.618	0.714	-0.367	0.001	0.000	AGE
1.276	0.000	-5.312	0.027	-0.146	ROA
0.142		Adjusted R-squared		0.171	R-squared
0.000		Prob (F-statistic)		5.828	F-statistic
1.601				Durbin-Watson stat	

The results of the statistical analysis detailed in the table above show that the model is significant. The probabilistic value of the F-statistic test is less than 0.05, thus amounting to 0.000, which indicates that the model is adaptable and its results are reliable. Additionally, the Durbin-Watson value amounted to 1.601, which is perfect having ranged between 2.5 and 1.5.

These figures indicate no subjective association and false regression have been detected in the temporal series of the samples. Also, practical analysis demonstrated that the R-squared value is 0.171. In other words, the interpretive power of independent variables in the dependent variable is 17 %. As for the adjusted R-squared value, it is 0.142, which indicates that the independent variable affects the dependent variable by 14 %, while 86 % left is due to other non-model factors. Again, these figures show that all Variance Inflation Factor (or VIF, for short) values in the model did not exceed 10 degrees, where the large value amounted to as high as (1.618). This finding indicates no linear correlation in independent variables has been detected in the model.

Interpretation of the Findings of Hypothesis (1)

The results of the statistical analysis show that the probabilistic value of the independent variable (board qualities), namely size, meetings, autonomy, and gender diversity, is higher than 0.05, having amounted to 0.456. This is evident that this hypothesis is invalid. In other words, board qualities, measured by size, had no impact on profit management. Thus, board sze in these companies neither reduces executive managers' opportunistic actions nor does it cut earnings management.

Interpretation of the Findings of Hypothesis (2)

The results of the statistical analysis show that the probabilistic value of the independent variable (board qualities), namely meetings, is less than 0.05, having amounted to 0.032. This is evident that this hypothesis is valid. In other words, board qualities, measured by meetings, impacted earnings management.

Interpretation of the Findings of Hypothesis (3)

The results of the statistical analysis show that the probabilistic value of the independent variable (board qualities), namely autonomy, is higher than 0.05, having amounted to 0.244. This is evident that this hypothesis is invalid. In other words, board qualities, measured by size, had no impact on earnings management. Thus, board autonomy in these companies neither reduces executive managers' opportunistic actions nor does it cut earnings management.

Interpretation of the Findings of Hypothesis (4)

The results of the statistical analysis show that the probabilistic value of the independent variable (board qualities), namely gender diversity, is higher than 0.05, having amounted to 0.283. This is evident that this hypothesis is invalid. In other words, board qualities, measured by gender diversity, had no impact on earnings management. Thus, gender diversity in these companies neither reduces executive managers' opportunistic actions nor does it cut earnings management. This is due to women underrepresentation in these companies.

Interpretation of the Findings of Hypothesis (5)

The results of the statistical analysis show that the probabilistic value of the independent variable (board qualities), namely administrative ownership, is higher than 0.05, having amounted to 0.324. This is evident that this hypothesis is invalid. In other words, board qualities, measured by administrative ownership, had no impact on earnings management. Thus, ownerships in these companies neither reduce executive managers' opportunistic actions nor do they cut earnings management.

2.Verification of Hypothesis (2) and Subitems

The impact of board qualities, namely size, meetings, autonomy, and gender diversity, on earnings management given the size of these companies. The multiple linear regression model has been adopted to test board qualities, as

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independent variables, earnings management, as a dependent variable, and company size as an intermediate variable, as shown in the table below.

Table (3) Verification of hypothesis (2) and subitems

Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.011	2.551	6.793	17.327	C
0.311	-1.016	1.195	-1.214	BS
0.125	1.541	0.402	0.619	BM
0.019	-2.368	2.054	-4.865	BI
0.204	-1.274	0.414	-0.528	BGD
0.042	-2.039	0.977	-1.991	AO
0.308	1.021	0.053	0.054	SIZE*BS
0.157	-1.418	0.018	-0.025	SIZE*BM
0.020	2.341	0.095	0.221	SIZE*BI
0.208	1.261	0.018	0.023	SIZE*BGD
0.048	1.990	0.043	0.086	SIZE*AO
0.013	-2.490	0.119	-0.296	SIZE
0.820	0.228	0.001	0.000	AGE
0.000	-4.755	0.030	-0.144	ROA
0.161	Adjusted R-squared		0.205	R-squared
0.000	Prob (F-statistic)		4.746	F-statistic
1.648			Durbin-Watson stat	

As shown in the table above, the findings of statistical analysis suggest that the model is significant. The probabilistic value of the F-statistic test is less than (0.05), thus amounting to (0.000), which indicates that the model is adaptible and its results are reliable. Additionally, the Durbin-Watson value amounted to 1.648, which is perfect having ranged between 2.5 and 1.5. These figures indicate no subjective association and false regression have been detected in the temporal series of the samples.

Moreover, practical analysis found that the R-squared value is 0.205. In other words, the interpretive power of independent variables, in the dependent variable, is 21%. As for the Adjusted R-squared value, it is 0.161, which indicates that the independent variable affected the dependent variable by 16 %, while 84 % left is due to other non-model factors.

Interpretation of the Findings of Hypothesis (1)

The results of statistical analysis indicate that the probabilistic value of independent variable, namely board size, board meetings, autonomy, administrative ownerships, and gender diversity, is higher than 0.05, thus amounting to 0.308. This indicates that the hypothesis is invalid. In other words, board qualities, measured by size, had no affect whatsoever on earnings management considering how big these companies are.

Interpretation of the Findings of Hypothesis (2)

The results of the statistical analysis illustrate that the probabilistic value of the independent variable of board qualities, measured by meetings, is higher than 0.05, thus amounting to 0.157. This indicates that the hypothesis invalid. In other words, board qualities, measured by board meetings, had no affect whatsoever on earnings management considering how big these companies are.

Interpretation of the Findings of Hypothesis (3)

The results of the statistical analysis indicate that the probabilistic value of the independent variable in board qualities, measured by autonomy, considering how big these companies can be, is less than (0.05), thus amounting to (0.020). This indicates that the hypothesis is invalid. In other words, board qualities, measured by board autonomy, affected earnings management considering how big these companies are.

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Interpretation of the Findings of Hypothesis (4)

The results of the statistical analysis suggest that the probabilistic value of the independent variable in board qualities, measured by gender diversity, considering how these companies are, is higher than (0.05), thus amounting to (0.208). This indicates that the hypothesis is invalid. In other words, board qualities, measured by gender diversity, had no affect whatsoever on earnings management considering how big these companies are.

Interpretation of the Findings of Hypothesis (5)

The results of the statistical analysis suggest that the probabilistic value of the independent variable in board qualities, measured by administrative ownrship, considering how these companies are, is higher than (0.05), thus amounting to (0.048). This indicates that the hypothesis is valid. In other words, board qualities, measured by management ownrship, affected earnings management considering how big these companies are.

Conclusions

Following the discussions and analyses elaborated on above, the following conclusions have been drawn:

1.The board, being a representive body acting on the behalf of share-holders, is instrumental in monitoring executive managers' actions. The board aims to protect stakeholders' rights, improve the quality of financial performance, and earnings management.

2.Stakeholders in companies should form strong and effective boards to reduce the risks of earnings management.

3.The results of the statistical analysis conducted here found no impact of board qualities, measured by the size of the board, on earnings management. Therefore, the size of the board in these companies neither reduces executive managers' opportunistic behaviors, nor does it reduce earnings management.

4.The results of the statistical analysis found an impact of board qualities, measured by meetings, on earnings management.

5.The results of the statistical analysis found that gender diversity in boards neither reduces executive managers' opportunistic behaviors, nor does it reduce earnings management. This is caused by women underrepresentation in these companies.

6.The results of the statistical analysis found no impact of board qualities, measured by the size of the board, on earnings management considering how big these companies are.

7.The results of the statistical analysis found an impact of board qualities, measured by autonomy, on earnings management.

Recommendations

In the light of the findings of the theoretical and applied analyses, this study proposes the following:

1. The Iraqi stock exchange should urge the companies listed thereon to appoint independent board members who are competent, financially experienced, and who hold no executive, independence-reducing positions.
2. Companies should increase board meetings. Board meetings, being an effective means of communication, boost data exchange and decrease incompatible data.
3. Gender diversity in boards and increased representation of women in boards should be prioritized. Also, seminars and conferences on women's roles in boards should be held considering women's active participation in reducing earnings management.

4.The Iraqi stock exchange should not only enact legislation to cut earnings management, but also guide companies to consult experts of large audit offices given their physical, technical, and skillful potentials.

5. The impact of board qualities in various other businesses should be investigated. That is, how far these qualities affect earnings management. This is can be achieved by investigating how these practices can be influentially significant in different businesses.

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