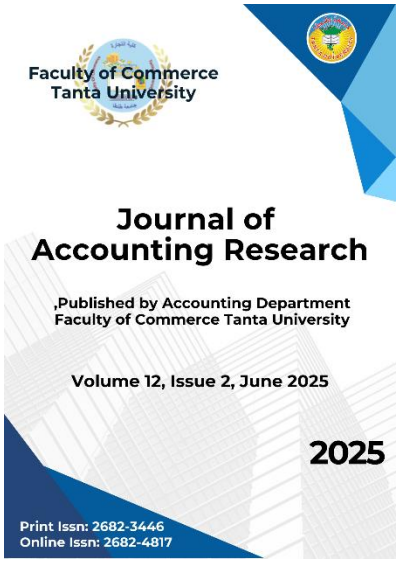

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Earnings Quality and its Determinants in the Saudi Capital Market: Evidence from Accrual-Based Models under IFRS Reform

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Earnings Quality and its Determinants in the Saudi Capital Market: Evidence from Accrual-Based Models under IFRS Reform

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Abstract

This study investigates the determinants of earnings quality (EQ) among non-financial firms listed on the Saudi Stock Exchange (Tadawul) from 2009 to 2017. In light of Saudi Arabia's regulatory transformation under Vision 2030 and the adoption of International Financial Reporting Standards (IFRS), the study applies the Ball and Shivakumar (2006) model, to evaluate the reliability of reported earnings. Using panel data from 742 firm-year observations across 79 firms and employing fixed effects (FE) regression, the study explores how firm-specific characteristics, such as financial leverage, profitability, size, growth, dividend policy, firm age, accounting losses, and IFRS adoption, affect EQ.

The results reveal that operational profitability (OROA) and accounting losses are the most significant predictors of EQ, with higher profitability improving reporting integrity and losses increasing the likelihood of earnings management. Firm size also shows a consistent positive relationship with EQ. Conversely, financial leverage, firm age, and revenue growth do not exhibit significant impacts. The adoption of IFRS is found to enhance EQ, although the effect is more evident in the ordinary least squares (OLS) model than in the FE model.

These findings contribute to the accounting literature by extending the application of global EQ models to the Saudi context and offering policy recommendations for regulators and practitioners. The study underscores the importance of internal performance and regulatory reforms in promoting financial transparency and improving investor confidence in emerging markets.

Keywords: Accrual Models, Earnings Quality, Financial Reporting, IFRS Adoption, Profitability, Saudi Arabia.

1. Introduction

In recent years, earnings quality (EQ) has become an increasingly relevant topic in the literature focused on accounting and finance because of its considerable implications for informing investment decisions, debt contracting, corporate governance, and compliance with securities regulations. Users of earnings reports include investors, creditors, and policymakers, who use such reports to evaluate managerial performance, firm value, and capital allocation (Schipper & Vincent, 2003). Importantly however, not all reported earnings are created equal: some are a fair representation of economic performance, while others potentially reflect accounting decisions and even managements' own opportunistic behavior (Dechow et al., 2010).

Profitable earnings are recognized for having persistence, predictability, and positive relationships with future cashflows (Francis et al., 2004). In contrast, low-quality earnings can arise from such phenomena as "aggressive accruals," "earnings smoothing," or other forms of opportunism, resulting in managers' misallocation of resources, investor misjudgments, and a loss of confidence in financial markets. Consequently, researchers and practitioners have attempted to derive reliable models of EQ and measure determinants of EQ in their various institutional settings.

Although a significant amount of research has been produced on this topic in developed economies, particularly the US and Europe (Liu & Skerratt, 2018; Schipper & Vincent, 2003), there has been less literature on emerging markets such as Saudi Arabia. The present study fills this gap by focusing on the measurement and determinants of EQ for listed firms in the Saudi capital market during the time period of 2009–2017. By taking previous empirical frameworks and applying them to the Saudi context, the study provides a timely and context-specific contribution.

1.1 Research Problem

The credibility of reported earnings in Saudi Arabia has recently been questioned. While Saudi capital markets have undergone transformational reforms in response to Vision 2030 (improving financial transparency and changing corporate governance), uncertainty remains around the reliability and usefulness of earnings reporting. Reports of earnings management (EM), the lack of clarity around accruals, and some variation in the quality of audits of published earnings have raised the question of whether reported earnings can be taken to represent economic reality.

While developed markets have regulations and mechanisms to address issues of disclosure and enforcement, the Saudi market continues to face challenges in aligning management incentives with reporting quality, specifically factors surrounding family ownership, Sharia-based finance structures or contracts, and concentrated ownership that might otherwise distort the ways in which EQ is created and judged (Abed et al., 2022; Obeid & Akbar, 2016).

Thus, this research is interested in whether firm-specific characteristics—particularly leverage, size, profitability, dividends, age of firm, and accounting losses—affect EQ in the Saudi environment. More broadly, the study is interested in the adequacy of models that are premised on accruals: we model quality from the accruals perspective of the Ball and Shivakumar (2006) model.

1.2 Research Questions

To address the research problem, the study poses the following key questions:

1. What are the most appropriate models for measuring EQ in Saudi-listed firms?
2. How do firm-specific factors—such as leverage, profitability, size, age, and growth—affect the quality of reported earnings?
3. Does higher leverage negatively influence EQ?
4. Does profitability increase the risk of earnings manipulation?
5. Do older or larger firms produce higher-quality earnings?
6. Is there a significant relationship between dividend yield and EQ?
7. Do accounting losses serve as a signal of lower EQ?

8. How do Saudi market-specific factors (e.g., compliance with Islamic finance or local accounting standards) influence the effectiveness of EQ measures?

1.3 Research Objectives

This study aims to:

- Analyze and compare different models of EQ measurement, particularly accrual-based models.
- Investigate the determinants of EQ among Saudi-listed firms from 2009 to 2017 using panel data analysis.
- Assess the impact of financial leverage, profitability, firm size, age, growth rate, dividend yield, and accounting losses on EQ.
- Provide empirical insights that support the development of accounting and financial reporting standards in the Kingdom.
- Offer policy recommendations for improving the reliability and transparency of earnings reports in the Saudi market.

1.4 Significance of the Study

This research holds significance from both theoretical and practical perspectives. From a theoretical standpoint, it enriches the literature by extending EQ research to an underrepresented yet economically significant market. Saudi Arabia's unique institutional, regulatory, and cultural characteristics provide fertile ground for testing the applicability of global EQ models in local settings (Alshehri, 2019).

From a practical perspective, this research offers potential benefits to investors, regulators, auditors, and policymakers. The results provide a means for assessing risk, assessing capital allocation and regulating actions, by identifying which firm-specific attributes are associated with high- or low-quality earnings. In addition, this research adds to the drive towards Vision 2030, which aims to improve market efficiency, confidence, and transparency.

Further, the results may provide guidance to the Saudi Organization for Chartered and Professional Accountants (SOCPA) and the Capital Market Authority (CMA) and suggestions to enhance reporting requirements and promote best practices for disclosures in corporate reporting. Overall, a better understanding of the quality of earnings will contribute to the sustainable development of Saudi Arabia's financial marketplace in an increasingly competitive environment.

2. Theoretical Background and Literature Review

2.1 Overview of EQ

EQ represents the extent to which reported earnings accurately portray a firm's true economic performance and usefulness in predicting future cash flows (Dechow et al., 2010; Schipper & Vincent, 2003). Accountability is multidimensional due to the lack of a single, broadly accepted definition characterized by accrual reliability, persistence, smoothness, and usefulness for stock valuation (Francis et al., 2004).

High-quality earnings are characterized by:

- Low levels of discretionary accruals,
- Consistency and persistence over time,
- Strong correlation with future operating cash flows.

Conversely, poor EQ may arise from aggressive EM, either via accrual manipulation (e.g., changing estimates or provisions) or real activities manipulation (e.g., altering sales timing or R&D expenditures) (Roychowdhury, 2006).

2.2 Accounting-Based Measures

Under the accounting-based approach to measuring EQ, metrics are derived primarily from two components of earnings: the cash component and accounting accruals. While the cash portion is realized, the accrual-based component is subject to a high degree of uncertainty, as it depends on estimations and managerial discretion (Francis et al., 2005).

2.2.1 Accrual Quality

Despite the potential bias introduced by managerial judgments and estimates—potentially leading to misleading representations of economic phenomena—accruals remain a critical source of information for investors. As such, various researchers have developed models to evaluate the reliability of earnings using accruals.

According to DeAngelo (1986) and Schipper and Vincent (2003), changes in total accruals can reflect the degree of EM, which implies an inverse relationship between accrual variation and EQ. Based on DeAngelo's model, Friedlan (1994) incorporated revenue to control for changes in performance. These models are represented as follows:

$$\Delta TAC = TAC_{it} - TAC_{it-1} \qquad (1)$$

$$\Delta TAC = \frac{TAC_{it}}{REV_{it}} - \frac{TAC_{it-1}}{REV_{it-1}} \qquad (2)$$

Where:

- TAC_{it}: Total accruals for firm i at time t, calculated as net income minus operating cash flows.
- REV_{it}: Revenue for firm i at time t.

Alternatively, studies by Jones (1991), Dechow et al. (1995), and Kothari et al. (2005) proposed a series of linear regression models (Equations 3–5) to distinguish discretionary (or abnormal) accruals resulting from deliberate accounting manipulation. These models regress total accruals on non-discretionary components such as changes in revenue, accounts receivable, and property, plant, and equipment (PPE), controlling for firm performance via return on assets (ROA):

$$\frac{TAC_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{\Delta REV_{it}}{TA_{it-1}} + \beta_2 \frac{PPE_{it}}{TA_{it-1}} + \varepsilon_{it} \qquad (3)$$

$$\frac{TAC_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{\Delta REV_{it} - \Delta AR_{it}}{TA_{it-1}} + \beta_2 \frac{PPE_{it}}{TA_{it-1}} + \varepsilon_{it} \qquad (4)$$

$$\frac{TAC_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{\Delta REV_{it} - \Delta AR_{it}}{TA_{it-1}} + \beta_2 \frac{PPE_{it}}{TA_{it-1}} + \beta_3 ROA_{it-1} + \varepsilon_{it} \qquad (5)$$

Where:

- ΔAR_{it}: Change in accounts receivable from t–1 to t.
- PPE_{it}: Net book value of fixed assets for firm i at time t.
- ROA_{it-1}: Return on assets for firm i in the prior period.

Expanding on the accrual-based framework, Dechow and Dichev (2002) evaluated EQ by assessing the standard deviation or absolute value of the residuals from a regression of working

capital accruals on cash flows from past, current, and future periods (Equation 6). Higher residuals signal lower EQ:

$$\frac{\Delta WCA_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{CFO_{it-1}}{TA_{it-1}} + \beta_2 \frac{CFO_{it}}{TA_{it-1}} + \beta_3 \frac{CFO_{it+1}}{TA_{it-1}} + \varepsilon_{it} \quad (6)$$

Where:

- ΔWCA_{it}: Change in working capital accruals between t–1 and t.
- $CFO_{it-1}, CFO_{it}, CFO_{it+1}$: Operating cash flows from the previous, current, and next periods.

Recognizing the role of accruals in conservative (asymmetric) loss recognition, Ball and Shivakumar (2006) introduced a model that incorporates conservatism more directly. Their Modified Jones model (1991) includes interaction terms for negative cash flows, thus improving explanatory power. This model often explains up to three times more variation in accruals than conventional linear models:

$$\frac{TAC_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{\Delta REV_{it} - \Delta AR_{it}}{TA_{it-1}} + \beta_2 \frac{PPE_{it}}{TA_{it-1}} + \beta_3 \frac{CFO_{it}}{TA_{it-1}} + \beta_4 DCFO + \beta_5 \frac{DCFO * CFO_{it}}{TA_{it-1}} + \varepsilon_{it} \quad (7)$$

Where:

- $DCFO$: Dummy variable equal to 1 if cash flow from operational activities (CFO) is negative, and 0 otherwise.

2.2.2 Temporal Properties of Earnings

In addition to accrual quality, researchers also evaluate EQ through temporal characteristics. Earnings are considered of higher quality when they are persistent across periods and possess predictive power. Persistence is captured by the coefficient β_1 in the following autoregressive model, while predictability is assessed through the standard deviation of its residuals:

$$\frac{EARN_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{EARN_{it-1}}{TA_{it-1}} + \varepsilon_{it} \quad (8)$$

Where:

- $EARN_{it}$: Earnings before extraordinary items for firm i at time t.

Earnings smoothness, another indicator of quality, is measured using the ratio of the standard deviation of earnings to that of operating cash flows (Leuz et al., 2003). Lower values may suggest EM rather than genuine smooth performance:

$$Earnings\ smoothness = \frac{\sigma\left(\frac{EARN_{it}}{TA_{it-1}}\right)}{\sigma\left(\frac{CFO_{it}}{TA_{it-1}}\right)} \quad (9)$$

2.2.3 Market-Based Measures

The second category of EQ indicators comprises market-based measures, including value relevance, timeliness, and conservatism.

2.2.3.1 Value Relevance

Value relevance reflects the extent to which earnings explain variations in stock price or returns. Greater explanatory power is interpreted as evidence of higher EQ (Cheng et al., 2005; Collins

et al., 1997; Dumontier & Labelle, 1998). The widely used Edward Bell Ohlson model captures this through two specifications:

$$P_{it} = \beta_0 + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \beta_3 \Delta EPS_{it} + \varepsilon_{it} \quad (10)$$

$$RET_{it} = \beta_0 + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \beta_3 \Delta EPS_{it} + \varepsilon_{it} \quad (11)$$

Where:

- P_{it}: Closing stock price.
- RET_{it}: Stock return.
- $BVPS_{it}$: Book value per share.
- EPS_{it}: Earnings per share (EPS).
- ΔEPS_{it}: Change in EPS.

Higher R^2 values indicate greater value relevance and, by extension, better EQ.

2.2.3.2 Timeliness and Conservatism

Timeliness and conservatism assess how quickly accounting earnings reflect economic gains and losses. Ball et al. (2000) defined conservatism as the asymmetric recognition of bad news over good news. Basu's (1997) model formalizes this as follows:

$$X_{it} = \beta_0 + \beta_1 N + \beta_2 RET_{it} + \beta_3 N * RET_{it} + \varepsilon_{it} \quad (12)$$

Where:

- X_{it}: Earnings scaled by beginning-of-period stock price.
- N: Dummy variable equal to 1 if RET_{it} is negative (bad news), 0 otherwise.

A significantly positive β_3 indicates quicker recognition of losses than gains, consistent with conditional conservatism and, consequently, higher EQ.

2.2.4 Comparative Evaluation of Models

In assessing EQ, researchers have adopted various accrual-based models, each offering distinct theoretical underpinnings and practical implications. Among these, the Modified Jones model (1991) and the Ball and Shivakumar (2006) model have become particularly influential in both developed and emerging markets.

The Modified Jones model is very popular for its straightforward nature and its ability to be empirically applied. It adds some value by removing change in accounts receivable from revenue, which allows the model to mitigate the risk of income manipulation on the part of firms. This improvement increases the model's ability to extract discretionary accruals in cases where firms are recording revenues by recognizing revenues in advance. However, one major downside of this model is that it assumes that all deviations of estimated normal accruals must indicate that the firm is engaging in EM. In practice, this means that the model has the potential to mis-categorize discretionary accruals. Some discretionary accruals may indeed be justified legitimate management approaches to deal with firm-specific issues rather than opportunism.

The Ball and Shivakumar (2006) model represents a conceptual improvement by endowing the estimation of accruals with conditional conservatism. The authors involve an interaction term, operating cash flows and an indicator for a loss, to relate the asymmetric timeliness presented by the accruals; essentially, the model looks at the tendency for the firm to report bad news quicker than good news. The Ball and Shivakumar model is appropriate in contexts of little protection of investors and low litigation risk, which tends to be part of the context in emerging markets, like Saudi Arabia. Because the model uses operating cash flow

data, it lessens the exposure to accounting estimates and judgement, which can lead to ease in deployment in low transparency spaces.

Nonetheless, the Ball and Shivakumar model has its limitations. Specifically, it requires good cash flow data, and the model assumes a uniform rate of conservatism from firm to firm and from industry to industry. In developing markets, or where cash flow is sporadically reported, these assumptions may not hold.

Taken together, these two models provide complementary strengths. The Modified Jones model is effective for identifying accrual manipulation, particularly when applied to a large sample with consistent reporting; however, the Ball and Shivakumar model describes a richer understanding of firm behavior when asked to report economic reality through earnings, especially when regulatory environments are not as mature. Ultimately, the researcher's decision to use either approach (or both in a comparative framework) should depend on access to data, market characteristics, and research objectives.

For this study, both methods will examine EQ in Saudi listed firms. A comparative approach using both models provides a more nuanced understanding of discretionary accrual and a basis for comparison with previous research in other emerging and developed economies.

2.3 Determinants of EQ

EQ is not only shaped by accounting decisions or reporting standards but also heavily influenced by attributes specific to a firm. A growing amount of empirical literature, with respect to financial structure, operational characteristics, and governance characteristics, has evaluated what influences the reliability and informational value of earnings. This section surveys the most studied determinants of EQ in mainstream research from both global and emerging markets, with an attempt to identify the theoretical rationale or empirical justification behind them.

2.3.1 Financial Leverage

Financial leverage, which is defined as total liabilities divided by total assets, is generally assumed to have a negative relationship with EQ. From the perspective of agency theory, firms with high leverage encounter significant incentives for engaging in EM in order to remain in compliance with debt covenants or to avoid breaching financial ratios. There are empirical studies to support this position. Ramadan (2015) found that firms with high leverage in Jordan exhibited lower EQ, measured using voluntary extreme accruals.

In the Saudi context, where Islamic finance principles impose restrictions on interest-bearing debt, the relationship may differ. However, the shift toward more diversified capital structures under Vision 2030 increases the relevance of leverage as a factor potentially affecting EQ. Thus, this variable remains critical in assessing reporting behavior in Saudi-listed firms.

> ***H1:*** *There exists a negative relationship between financial leverage and EQ of listed firms in Saudi Arabia.*

2.3.2 Firm Growth

Firm growth, often measured in terms of the annual percentage change in sales or total assets, is another determinant that has received considerable attention. High-growth firms may manage earnings to signal sustained performance and attract investors. Anam (2023) found that in Indonesia, firms with aggressive growth strategies were more prone to earnings manipulation, particularly through real activity management.

Growth-oriented firms in the Saudi market—especially those listed during the post-2017 market liberalization—may also resort to EM to stabilize investor perceptions amid rapid expansion and limited historical performance data.

H2: There is a relationship between growth and EQ of listed firms in Saudi Arabia.

2.3.3 Profitability

Profitability, commonly proxied by Return on Assets (ROA), may influence EQ in two opposite directions. On the one hand, more profitable firms may have less incentive to manipulate earnings, as they already perform well. On the other hand, high profits can create pressure to sustain performance, leading to accrual manipulation to meet expectations (Barton & Simko, 2002). Sargsyan and Seissian (2024) found that highly profitable European SMEs tended to exhibit smoother earnings, potentially at the expense of EQ.

In Saudi Arabia, firms with consistently high profitability may face social and political expectations related to dividend distribution or public image, potentially motivating earnings smoothing.

H3: There exists a relationship between EQ and profitability of listed firms in Saudi Arabia.

2.3.4 Accounting Losses

Loss firms are of particular concern in EQ studies. According to Burgstahler and Dichev (1997), firms are more likely to manage earnings to avoid reporting losses, especially when they are close to zero. Loss incidence may therefore signal poor EQ. Dechow et al. (2010) emphasized the need to control for firm performance when measuring accrual quality, as loss-making firms tend to have noisier accrual processes.

In the Saudi context, firms with repeated accounting losses often face public and regulatory attention, especially if they approach thresholds that trigger delisting warnings from the CMA. Thus, losses may act as both a cause and a consequence of lower EQ.

H4: There exists a negative relationship between accounting losses and EQ of listed firms in Saudi Arabia.

2.3.5 Dividend Policy

Dividend yield serves as a signal of firm stability and is often negatively related to EM. Firms that consistently pay dividends are less likely to manipulate earnings, as dividend payments reduce free cash flow and managerial discretion (La Porta et al., 2000). In Vietnam, firms with higher dividend yields were found to exhibit higher EQ (Hieu & Do Quyen, 2021).

In Saudi Arabia, dividend-paying firms enjoy favorable public perception and often face pressure to maintain consistent payouts. This may increase the cost of earnings management, thus enhancing reporting discipline.

H5: There is a positive relationship between dividend yield and EQ of listed firms in Saudi Arabia.

2.3.6 Firm Age

Firm age reflects the number of years since establishment or listing. Older firms are generally expected to have more stable operating environments and established reporting practices, contributing to higher EQ. However, in some cases, entrenched management in older firms may exploit opacity to manipulate earnings. In the Gulf region, empirical findings are limited.

Abu Orabi (2023) emphasized that institutional memory in older firms can either improve or hinder transparency depending on governance structures.

H6: Firm age and EQ of listed firms in Saudi Arabia are positively related.

2.3.7 Firm Size

Firm size is typically measured as the natural logarithm of total assets. Larger firms are expected to produce higher-quality earnings due to their greater public visibility, stronger internal controls, and more rigorous external auditing (Dechow & Dichev, 2002). However, empirical results are mixed. Liu and Skerratt (2018) found that in the UK, listed firms generally had better accrual quality than smaller private companies. Conversely, some studies in emerging markets argue that large firms may exploit their complexity and political connections to engage in more sophisticated EM (Alves, 2012).

Saudi Arabia's corporate environment—where ownership is often concentrated among families or government-affiliated entities—adds complexity to this relationship. Large firms may be subject to more scrutiny, but they may also have more room to manage earnings under weaker enforcement mechanisms.

H7: Firm size and EQ of listed firms in Saudi Arabia are positively related.

2.3.8 The Impact of IFRS Adoption on EQ in Saudi Arabia

The Kingdom of Saudi Arabia adopted IFRS for all listed companies starting from January 1, 2017, replacing the former Saudi GAAP (Generally Accepted Accounting Principles). This transition, driven by SOCPA, aligned the Kingdom's financial reporting framework with global standards and aimed to enhance transparency, comparability, and investor confidence in support of Vision 2030.

Empirical evidence highlights a generally positive impact of IFRS on EQ in Saudi Arabia. Trabelsi (2022) reported a significant decline in both accrual-based and real EM among Saudi banks post-IFRS, reflecting enhanced transparency. This effect is attributed to IFRS's principle-based structure, which restricts discretionary accounting practices more effectively than previous local standards.

Similarly, Alomair et al. (2022) observed improved value relevance of accounting information, particularly in book value equity, indicating that IFRS-based financial reports had become more informative for investors. They also found that IFRS adoption reduced real EM, especially in firms with higher audit quality, suggesting a stronger alignment between reported earnings and actual performance.

Other studies reinforced these findings. Trabelsi (2023) noted improved informational content of reported earnings, while Alnodel (2015) documented increases in market liquidity, reduced stock volatility, and enhanced comparability—all indicators of higher EQ. The minimal modifications in Saudi Arabia's IFRS adoption further support these improvements (Al-Faryan, 2020; Ebaid, 2022).

Nonetheless, some studies revealed more complex outcomes. While Al Barak (2025) reported positive perceptions from financial statement preparers regarding IFRS benefits, Nurunnabi et al. (2022) found mixed results in information relevance. More critically, Chehade (2020) observed increased income smoothing, raising concerns about the representational faithfulness of reported earnings under IFRS.

H8: The adoption of IFRS is positively associated with the EQ of listed firms in the Kingdom of Saudi Arabia.

2.4 Summary of Literature Review and Research Gap

The preceding review highlighted the multidimensional nature of EQ and the range of models developed to measure it. From the Modified Jones model (1991) to the Ball and Shivakumar (2006) approach, scholars have continuously sought to capture the degree to which reported earnings reflect firms' underlying economic reality. These models, particularly those emphasizing discretionary accruals, have served as foundations for evaluating EM across various institutional contexts.

Empirical findings suggest that EQ is not a static feature of financial reporting, but rather one shaped by firm-specific characteristics such as leverage, profitability, size, and growth. The evidence, however, remains inconclusive and often context-dependent. While studies in developed markets emphasize the role of corporate governance, audit quality, and regulatory enforcement, research from emerging markets reveals that cultural, institutional, and market-specific factors also play a critical role. For instance, in Indonesia, firm growth and information asymmetry emerged as major contributors to reduced EQ (Anam, 2023), while in Jordan, leverage and firm size were more prominent determinants (Ramadan, 2015).

Despite the extensive literature on EQ, several critical gaps remain, particularly in relation to the Saudi Arabian context:

First, most prior studies have concentrated on markets with high regulatory enforcement and developed investor protection systems, such as the US, the UK, or the EU. In contrast, Saudi Arabia represents a distinctive environment with a hybrid financial reporting landscape—one shaped by Islamic finance principles, a historically bank-dominated capital structure, and rapid transformation under Vision 2030. These unique characteristics may significantly alter the behavior of accruals and the incentives for EM.

Second, existing research on EQ in Saudi Arabia is limited in both scope and depth. Few studies have systematically tested widely accepted accrual models (such as the Modified Jones or the Ball and Shivakumar model) within the Saudi market. Even fewer have attempted to compare the explanatory power of these models or assess their adaptability to local accounting practices and governance dynamics.

Third, firm-level determinants of EQ remain underexplored in the Kingdom. While global studies have frequently examined the effects of profitability, size, leverage, and dividends, there is limited empirical validation of these relationships in Saudi Arabia. Moreover, important contextual variables—such as family ownership, board composition, compliance with SOCPA or IFRS standards, and exposure to foreign investors—are often absent from local research.

Fourth, the influence of regulatory and structural reforms associated with Vision 2030 has yet to be fully examined in relation to financial reporting behavior. The Saudi capital market has undergone significant liberalization, including the inclusion of the Tadawul in the Morgan Stanley Capital International Emerging Markets Index, which may have implications for transparency and EQ. However, this transition is recent, and its impact on accrual behavior remains largely undocumented.

These gaps underscore the need for a comprehensive, model-based analysis of EQ in the Saudi setting. This study responds to that need by applying both the Modified Jones and

the Ball and Shivakumar model to a panel of Saudi-listed firms from 2009 to 2017. It not only assesses the quality of earnings using robust estimation techniques but also examines how key firm characteristics shape EM behavior.

2.5 Contribution of this Study

This study aims to contribute to the growing literature on EQ by addressing the conceptual and empirical gaps identified in both international and regional contexts. It provides a multidimensional contribution along methodological, contextual, and policy-related lines.

To begin, this paper employs two leading accrual-based models—the Modified Jones model (1991) and the Ball and Shivakumar (2006) model—to assess EQ in the Saudi capital market. Although both models have received significant validation within Western economies, their comparative application in an emerging market context, and more specifically in Saudi Arabia, is rare. The inclusion of both models allows the research to create a robust methodological approach and a comparative aspect, which allows it to assess and compare the performance of the model in a distinct institutional setting.

Secondly, this research enables the understanding of firm-specific characteristics affecting EQ and discretionary accruals specific to a Middle Eastern context. The current study investigates the effects on discretionary accruals of financial leverage, profitability, firm size, growth, dividend yield, firm age, and accounting losses. These characteristics have been explored in other emerging markets but have not been fully examined in Saudi Arabia, despite the increasing complexity of the Saudi Arabian corporate world and the continuing regulatory paradigm shift.

Third, the research is among the first to investigate EQ in light of Saudi Arabia's ongoing economic reform in the spirit of Vision 2030. Saudi Arabia has undergone substantial regulatory changes in the Kingdom that have targeted reporting standards, investor confidence, and financial market integration. Given the political economy of a decade-long panel that extends from 2009 to 2017, the study offers a timely assessment of the extent to which this has been converted into reporting behavior and an increase in EQ.

Fourth, the implications of this study lead to practical recommendations for policymakers, regulators, and investors alike. The CMA and SOCPA will be able to utilize the current findings and support current initiatives to improve financial transparency and minimize earnings manipulations. Institutional investors and stakeholders will benefit from the current findings to help detect risk factors of poor-quality earnings and determine their decision-making strategies in the Saudi Capital Market.

Lastly, this research provides an initial platform for future study. The holistic framework founded on models and firm-level variables could be replicated or further developed to include other Gulf Cooperation Council countries, allowing comparisons across the region. Additionally, the findings may create the impetus for linking EQ to other outcomes, such as earnings return volatility, cost of capital, and audit quality.

In sum, this research extends the global EQ literature to a strategically important but underexplored setting. It not only enhances the theoretical understanding of how EQ behaves under different institutional conditions but also provides empirical evidence that can inform regulatory development and corporate governance reform in Saudi Arabia.

3. Data Collection and Research Methodology

3.1 Data Collection

This study utilized data obtained from the audited financial statements of companies listed on the Saudi Stock Exchange (Tadawul) from 2009 to 2017, sourced from the official Tadawul database. Three sectors within the financial domain—Banking, Insurance, and Real Estate—were omitted from the research sample due to their unique characteristics in financial reporting and accounting practices, as classified by the Global Industry Classification Standard. Additionally, entire industries or individual companies within industries that did not meet the minimum requirement of 20 firm-year observations per year (required to apply the Ball and Shivakumar (2006) model) were also excluded from the sample. The final sample comprised 79 enterprises from the remaining sectors between 2009 and 2017, yielding 742 firm-year observations.

The Ball and Shivakumar (2006) model was chosen due to its relevance for environments characterized by lower investor protection and less mature capital markets. As Saudi Arabia, during the period under investigation (2009–2017), was undergoing significant regulatory and financial market transformation, this model provides a suitable framework for assessing accrual-based earnings quality. Its emphasis on distinguishing between conditional and unconditional conservatism makes it especially appropriate for emerging market contexts, where informational asymmetries and earnings management incentives may be more prevalent.

3.2 Research Methodology

This study utilized a quantitative research methodology. Multiple regression analysis was deemed a suitable method to examine the influence of firm variables on EQ. Furthermore, the dataset utilized in this study was characterized as panel data. Consequently, to account for the influence of all individual-specific variables that remain constant over time, panel data analysis was utilized, with Fixed Effects (FE) regression serving as the primary model. FE regression is an effective method for addressing omitted variable bias in panel data and has been employed in research concerning EQ and EM, as demonstrated by Nguyen and Bui (2018) and Bui and Ngo (2017).

To determine the appropriate panel data estimation technique, the study conducted a Hausman specification test to compare the Fixed Effects (FE) model with the Random Effects (RE) model. The test yielded statistically significant results ($p < 0.05$), indicating that the FE model is the more suitable estimator for this dataset. This finding supports the use of the FE approach in controlling for unobserved heterogeneity across firms and provides more consistent and efficient estimates for the research objectives.

3.3 Research Model

3.3.1 Measurement of EQ

Under the circumstances of the Saudi stock market, equity measurements utilizing market-based methodologies are often unsuitable, as fluctuations in stock prices or returns are predominantly influenced by the psychological factors of individual investors or potential market manipulation, rather than by accounting metrics such as EPS or book value per share. Consequently, the accounting-based metric is more suitable than the market-based alternative.

Numerous prior studies in Saudi Arabia have failed to account for CFO and the influence of accruals in the asymmetric recognition of timely gains and losses. Consequently, we utilized the methodology proposed by Ball and Shivakumar (2006) to assess EQ, as we

consider it a suitable technique for evaluating EQ in the context of the Saudi stock market. The model was structured as follows:

$$\frac{TAC_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{\Delta REV_{it} - \Delta AR_{it}}{TA_{it-1}} + \beta_2 \frac{PPE_{it}}{TA_{it-1}} + \beta_3 \frac{CFO_{it}}{TA_{it-1}} + \beta_4 DCFO + \beta_5 \frac{DCFO * CFO_{it}}{TA_{it-1}} + \varepsilon_{it}$$

Where:

- $\boldsymbol{TAC_{\{i,t\}}}$: total accruals of firm *i* at time *t*, equal to net income minus CFO.
- $\boldsymbol{TA_{\{i,t-1\}}}$: total assets of firm *i* at time (*it−1*).
- $\boldsymbol{\Delta REV_{\{i,t\}}}$: changes in revenue of firm *i* from time (t−1) to time *t*.
- $\boldsymbol{PPE_{\{i,t\}}}$: book value of property, plant, and equipment of firm *i* at time *t*
- $\boldsymbol{CFO_{\{i,t\}}}$: cash flow from operating activities of firm *i* at time *t*.
- $\boldsymbol{DCFO_{\{i,t\}}}$: dummy variable equal to 1 when $CFO_{\{it\}}$ is negative, and 0 otherwise.
- **β_0:** intercept coefficient of regression model.
- **β_1 to β_5:** estimated slope coefficients of regression model.
- **$\epsilon_{\{i,t\}}$:** Error term

We quantified EQ by employing the absolute value of the residuals from the aforementioned regression model. This methodology has also been utilized in studies by Cohen (2008) and Li and Wang (2010). In accordance with Chen et al. (2010), we multiplied the absolute values of the residuals by -1 (R). Consequently, elevated residual values indicate increased EQ. Specifically, EQ was defined as follows:

$$EQ_{it} = -|\varepsilon_{it}|$$

3.3.2 Empirical Model

The study utilized an FE regression model, adjusting for firm-specific factors, based on 742 firm-year observations from 79 businesses listed on the Tadawul between 2009 and 2017, as detailed in the research methodology. The regression model designed to examine the degree of influence of factors on EQ was as follows:

$$EQ_{it} = \beta_0 + \beta_1 LEV_{it} + \beta_2 GROWTH_{it} + \beta_3 OROA_{it} + \beta_4 LOSS_{it} + \beta_5 DIV_{it} + \beta_6 AGE_{it} + \beta_7 SIZE_{it} + \beta_8 IFRS_{it} + \epsilon_{it}$$

Where:

- $\boldsymbol{EQ_{it}}$**:** EQ of firm i at time t.
- $\boldsymbol{LEV_{it}}$**:** financial leverage of firm i at time t.
- $\boldsymbol{GROWTH_{it}}$**:** revenue growth rate of firm i at time t.
- $\boldsymbol{OROA_{it}}$**:** return on assets of firm i at time t.
- $\boldsymbol{LOSS_{it}}$**:** dummy variable equal to 1 if net income is negative, and 0 otherwise.
- $\boldsymbol{DIV_{it}}$**:** dividend yield of firm i at time t.
- $\boldsymbol{AGE_{it}}$**:** the age of firm i at time t.
- $\boldsymbol{SIZE_{it}}$**:** the size of firm i at time t.
- $\boldsymbol{IFRS_{it}}$**:** dummy variable, equal to 1 if the year of observation is greater than 2016 (implementation year of IFRS in Saudi Arabia), and 0 otherwise.
- $\boldsymbol{\beta_0}$**:** intercept coefficient of regression model.
- $\boldsymbol{\beta_1 - \beta_8}$**:** estimated slope coefficients of regression model.
- $\boldsymbol{\epsilon_{it}}$**:** residual of regression model.

4. Research Results

4.1 Descriptive Statistics

Upon removing firms or companies within firms that did not meet the minimum requirement of 20 yearly observations necessary for the application of the Ball and Shivakumar (2006) model, the final sample comprised eight industries, encompassing 79 companies listed on the Saudi Stock Exchange (Tadawul) from 2009 to 2017. This resulted in a total of 742 yearly firm-year observations after aggregating the available financial data and disclosed financial statements. Rigorous data quality assurance was conducted by removing extreme outliers and ensuring consistency in the variable definitions over the years.

Table 1: *Descriptive Statistics of the Main Study Variables*

Variable	Obs.	Mean	Std. Dev.	Min	Max
EQ	742	0.0602	0.1735	0.00007	3.9357
LEV	742	0.4017	0.2120	0.0076	1.0002
GROWTH	742	0.4217	5.5666	-0.9990	134.0000
OROA	742	0.0518	0.2360	-5.8153	0.4398
LOSS	742	0.1671	0.3733	0.0000	1.0000
DIV	742	-0.0322	0.0353	-0.1678	0.0000
SIZE	742	6.4102	1.5804	1.6273	11.6857
AGE	742	29.7763	14.1870	2.0000	65.0000
IFRS	742	0.1456	0.3529	0.0000	1.0000

From the Table 1, EQ has an average value of approximately 0.060, with significant variation indicated by the standard deviation (0.174). The considerable maximum value (3.936) suggests that some companies exhibit notable discrepancies between accruals and operating cash flows. The mean leverage (LEV) is approximately 0.40, showing considerable variation among companies in their debt structures. Revenue growth (GROWTH) reveals considerable variability, reflecting both significant expansions and revenue contractions.

Operating return on assets (OROA) averages about 0.052, but with wide fluctuations. Approximately 16.7% of observations represent loss-making companies. The negative dividend yield (DIV) indicates minimal or no dividends by numerous companies. The logarithm of total assets (SIZE) indicates a broad range in firm sizes, and company age (AGE) ranges between newly established companies (2 years) and older, established companies (65 years). IFRS adoption, represented as a binary variable, covers 14.55% of observations following mandatory IFRS implementation after 2017.

4.2 Visual Representation of EQ

Figure 1 demonstrates the temporal evolution of average EQ between 2009 and 2017. The chart illustrates noticeable fluctuations, with dips observed in 2014 and 2016, followed by a pronounced peak in 2017. These variations align with the macroeconomic trends, market sentiment, and regulatory adjustments reported by Jadwa Investment (2025), PwC (2025), and the International Monetary Fund (IMF, 2025).

Figure 1: *Annual average of EQ for listed Saudi firms. A marked improvement in EQ is observed in 2017, possibly linked to IFRS implementation and post-recession recovery.*

Figure 2 presents the cross-sectional distribution of average EQ by industry. It is evident that firms in the *Industrials*, *Consumer Staples*, and *Communication Services* sectors exhibit relatively higher EQ. In contrast, the *Energy* and *Utilities* sectors show notably lower EQ scores. These differences reflect industry-specific accounting practices, regulatory oversight, and investment cycles. The findings align with similar cross-sector analyses conducted by Alzahrani et al. (2024).

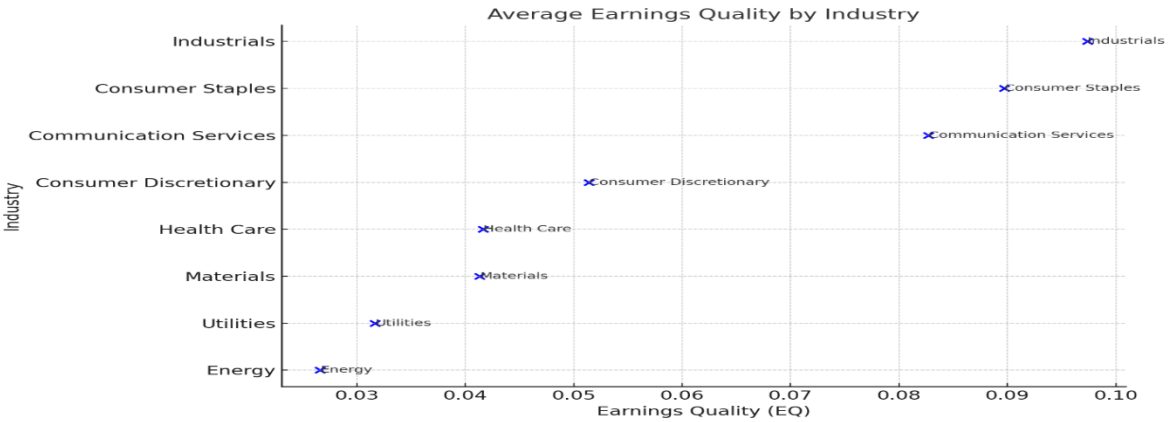

Figure 2: *Average EQ by industry for Saudi-listed firms, highlighting the superior EQ observed in the industrial and consumer sectors.*

4.3 Correlation Matrix

Table 2, below, provides a correlation matrix of all the primary variables. The matrix reveals preliminary ideas about the direction and strength of bivariate relationships between EQ and potential determinants.

Table 2: *Correlation Coefficients among Key Variables*

	EQ	LEV	GROWTH	OROA	LOSS	DIV	SIZE	AGE	IFRS
EQ	1.00								
LEV	0.00	1.00							
GROWTH	0.15	-0.03	1.00						
OROA	-0.80	-0.14	-0.19	1.00					
LOSS	0.18	0.26	-0.01	-0.32	1.00				
DIV	0.10	0.14	0.05	-0.18	0.26	1.00			
SIZE	-0.23	0.48	-0.05	0.12	-0.08	-0.14	1.00		
AGE	-0.03	-0.16	0.04	0.07	-0.09	-0.22	-0.21	1.00	
IFRS	0.05	0.04	0.08	-0.13	0.07	-0.03	0.00	0.05	1.00

4.4 Regression Results

To investigate the determinants of EQ of Saudi listed firms, the study employed an FE regression model as its main estimation method. The FE model has the benefit of controlling for unobserved heterogeneity across firms while dealing with time-invariant characteristics. In consideration of econometric robustness, ordinary least squares (OLS) regression was also performed as a comparison to the FE model. Both models incorporated Huber-White robust standard errors to account for potential heteroskedasticity. Table 3 reports the estimation results for both the FE and the OLS model, including the coefficients and robust standard errors for all explanatory variables.

Table 3: *Regression Estimates – FE vs. OLS Models*

Variables	FE Coefficient (Robust SE)	OLS Coefficient (Robust SE)
LEV	0.003 (0.039)	-0.033* (0.020)
GROWTH	0.0002 (0.0002)	-0.00003 (0.0004)
OROA	-0.601*** (0.018)	-0.603*** (0.053)
LOSS	-0.031* (0.017)	-0.030*** (0.011)
DIV	0.187** (0.079)	-0.205** (0.086)
SIZE	-0.039* (0.021)	-0.013*** (0.004)
AGE	-0.002 (0.003)	-0.0001 (0.0002)
IFRS	-0.019 (0.013)	-0.025*** (0.007)
Constant	—	0.197*** (0.037)
R^2	0.703	0.662
Observations (N)	742	742
Significance	*p<0.1; **p<0.05; ***p<0.01	

The impact of firm-specific attributes associated with EQ by using the estimation results from FE and OLS models provides important insight into the findings related to listed Saudi companies. While the coefficient of financial leverage (LEV) was statistically insignificant in the FE model, indicating minimal effects on EQ, the associated coefficient in the OLS model

produced a weakly negative relationship which was statistically significant at the 10% level. Further, these findings were congruent with previous evidence from Saleh et al. (2020) and Aldoseri and Hussein (2024), which demonstrated inconclusive effects of leverage on EQ in the Saudi context. Variations in results could probably be explained by the variety of financial structures and risk tolerances utilized by the firms.

In terms of revenue growth rate (GROWTH), results indicated that GROWTH did not produce statistically significant effects on EQ for either model, which suggests that merely experiencing growth does not necessitate earnings manipulation or earnings transparency, but can moderated internally or sector ally. The results concur with Franceschetti's (2018) discussion of the non-linear complicated growth–EQ relationships associated with emerging markets.

Both models indicated a strong and statistically significant negative relationship between OROA and EQ, with coefficients approximately equal to -0.601 and -0.603, respectively, and significant at the 1% level. Together, these results suggest that firms with greater operational performance have lower residuals from the accruals model, indicating higher EQ and a lower likelihood of incentives for EM. This result is in line with previous research by Hanif et al. (2023), which indicated that profitability can enhance the integrity of reporting.

Accounting losses (LOSS) were also found to be negatively related to EQ, significant at the 10% level in the FE model and at the 1% level in the OLS model. The presence of losses appears to be associated with greater accrual-based distortions, possibly due to pressures to mask weak performance. This outcome is consistent with the theoretical expectation that loss-making firms are more likely to engage in income-increasing EM practices, as documented by Saleh et al. (2013).

The dividend yield (DIV) variable presented diverging results across models. In the FE model, a positive and significant coefficient was obtained, indicating that firms with higher dividend payouts tend to exhibit higher EQ. Conversely, the OLS model produced a negative and significant coefficient, implying that some dividend-paying firms may still resort to EM. These contrasting results may reflect differences in firm-level dividend policy discipline and align with sectoral practices observed in the Saudi market, in line with Aljazira Capital (2024).

Firm size (SIZE) showed a negative relation with EQ residuals for both models at the 10% level of significance for FE, with strong significance in OLS. The negative sign means that, in general, larger firms are associated with better EQ, perhaps because large firms have better internal control systems, are better governed, or are subject to more external scrutiny. This result is consistent with prior empirical work by Al Shetwi (2020).

In contrast, firm age (AGE) did not show a statistically significant relationship to EQ in either model, supporting previous findings by Al-Shammari et al. (2008), who suggested that the organization's maturation process does not necessarily imply better financial reporting quality, particularly in the presence of entrenched managerial behavior or inertia within an industry.

Ultimately, the adoption of IFRS indicated a negative coefficient in both models—implying enhanced EQ—but statistical significance was recorded only in the OLS model. The results allow for partial evidence that IFRS adoption may improve transparency and reduce discretionary accruals, potentially indicating that the results were reflective of limitations in

the short run, or differences in the effectiveness of compliance, dependent on variations from firm to firm. Given these results, we concur with Trabelsi (2023) and Alomair et al. (2022), who highlighted the gradual and conditional nature of IFRS benefits in emerging markets.

4.5 Post-Estimation Tests and Robustness Checks

Several diagnostic and specification tests were conducted post-estimation to ensure the reliability and robustness of the panel data estimation. These tests confirmed that an FE model is appropriate and addressed potential econometric concerns, including multicollinearity, heteroskedasticity, autocorrelation, cross-sectional dependence, and model misspecification.

4.5.1 Multicollinearity Test (Variance Inflation Factors)

Variance Inflation Factors (VIFs) were computed to evaluate potential multicollinearity among the independent variables. Table 4 indicates that all VIF values varied from 1.03 to 1.54, much below the widely recognized threshold of 10. This signifies the lack of significant multicollinearity problems, guaranteeing that coefficient estimations remain unbiased due to correlated predictors.

Table 4: *VIF Statistics*

Variable	VIF	X1.VIF
LEV	1.53	0.65
GROWTH	1.05	0.95
OROA	1.22	0.82
LOSS	1.26	0.80
DIV	1.20	0.83
SIZE	1.54	0.65
AGE	1.13	0.88
IFRS	1.03	0.97

4.5.2 Breusch-Pagan Test (Heteroscedasticity)

The Breusch-Pagan test was employed to detect heteroskedasticity in the panel data. The test statistic (BP = 19.17, $p = 0.014$) indicates the presence of heteroskedasticity, thus justifying the use of Huber-White robust standard errors to produce reliable inference. This supports the methodological adjustment already implemented in the main regression analysis.

4.5.3 Wooldridge Test (Autocorrelation)

To test for serial correlation, the Wooldridge test was conducted. The test result ($\chi^2 = 7.037$, $p = 0.008$) confirms the existence of first-order autocorrelation within panel units. This reinforces the decision to apply robust standard errors to correct for autocorrelated disturbances in the error term.

4.5.4 Pesaran's Cross-Sectional Dependence Test

Pesaran's Cross-Sectional Dependence test yielded a statistically significant result ($z = 5.447$, $p < 0.001$), implying interdependence across firms within the panel. This supports the selection of the FE estimator coupled with robust standard errors to mitigate the bias arising from contemporaneous correlation.

4.5.5 Ramsey RESET (Model Specification)

The Ramsey Regression Equation Specification Error Test (RESET) was performed to examine potential model misspecification or omitted variable bias. The RESET statistic (137.45, $p < 0.001$) indicates the likelihood of omitted variables that may not have been captured in the model. While this does not invalidate the model, it suggests that results should be interpreted

with caution, and that future research may benefit from the inclusion of additional explanatory variables or alternative functional forms.

4.5.6 Summary of Diagnostic Tests

Table 5 provides a summary of the post-estimation tests and their corresponding statistical outcomes.

Table 5: *Summary of Post-Estimation Tests*

Test	Statistic	df1	df2	p-value	Conclusion
Breusch-Pagan (Heteroskedasticity)	BP = 19.17	8		0.01398	Evidence of heteroskedasticity
Wooldridge (Autocorrelation)	χ^2 = 7.0371	1		0.007984	Serial correlation detected in errors
Pesaran's Cross-Sectional Dependence	z = 5.4473			5.115e-08	Evidence of cross-sectional dependence
RESET (Omitted Variables)	RESET = 137.45	1	732	< 2.2e-16	Evidence of omitted variable bias

Despite evidence of heteroskedasticity, autocorrelation, cross-sectional dependence, and potential omitted variable bias, these issues were addressed appropriately through the application of robust standard errors and the use of FE modeling. Notably, the FE model demonstrated superior explanatory power (R^2 = 0.703) compared to the OLS model (R^2 = 0.662), reinforcing its suitability for panel data analysis involving Saudi-listed firms. Furthermore, the reported R^2 of 0.703 corresponds to the within-entity variation explained by the Fixed Effects model. The adjusted within R^2 was also calculated to account for the number of predictors and sample size, yielding a value of 0.700. This confirms the model's robust explanatory power even after adjusting for degrees of freedom, and reinforces the reliability of the panel estimation approach employed in this study.

4.6 Discussion

The empirical results suggest that OROA and accounting losses are the most significant variables in determining EQ among Saudi listed companies. The statistically significant negative coefficients for OROA across both regression models suggest that firms with good operational performance exhibit fewer discretionary accruals, therefore exhibiting higher EQ. This is congruent with the theory that strong cash flows are expected to mitigate management's motivation to manipulate earnings, thus engaging in fewer accruals. Hanif et al. (2023) and Saleh et al. (2013) found that internal performance may moderate this effect on EQ.

Similarly, firms with accounting losses exhibited a negative association with EQ, as there was the potential for income-increasing manipulation in periods of poor accounting performance. This outcome is consistent with the literature on "loss avoidance" behavior, particularly in emerging markets, where negative financial results may compromise investor trust or access to financing (Habbash and Alghamdi, 2015).

In contrast, the relationship between LEV and EQ was found to be statistically insignificant, which may reflect sectoral differences in debt usage and regulatory practices within the Saudi economy. Given the cultural and religious constraints surrounding excessive borrowing, as well as the availability of non-debt-based financing, the anticipated pressure to manipulate earnings under high leverage may be less prominent (Hashed and Almaqtari, 2021).

Revenue growth (GROWTH) similarly showed no significant influence on EQ. While international studies have suggested that high-growth firms are more prone to EM due to the

pressure to sustain investor expectations (Dechow et al., 2012; Franceschetti, 2018), the Saudi context may differ. Many firms operate under government-supported expansion schemes or utilize internal financing, which may limit the need for manipulative reporting.

The relationship between DIV and EQ yielded conflicting results across models. While the FE model indicated a positive but statistically insignificant relationship, the OLS model showed a significant negative coefficient. These inconsistencies may stem from methodological differences or firm-level variability in dividend policy, as some Saudi companies continue to pay dividends despite unstable earnings, driven by shareholder expectations or state-linked policies (Alzomaia and Al-Khadhiri, 2013). Therefore, the hypothesized positive impact of dividends on EQ cannot be conclusively supported.

Firm size (SIZE) demonstrated a consistent and negative association with EQ residuals, implying improved EQ among larger firms. This relationship was marginally significant in the FE model and strongly significant in the OLS model. Larger firms may benefit from more sophisticated accounting systems, greater scrutiny by institutional investors, and heightened public visibility, contributing to stronger reporting practices. These findings support earlier work by Al Shetwi (2020), though some studies, such as the work of Aldoseri and Hussein (2024), have reported less robust results.

Conversely, the effect of firm age (AGE) was statistically insignificant. This outcome may reflect the diverse managerial capacities of older versus newer firms. The possibility of older companies having legacy systems, which are more prone to manipulation compared to younger companies, which might employ new governance and compliance systems, is conceivable. Al-Shammari et al. (2008) and Fadilah et al. (2022) also stressed that improvements to EQ cannot be simply attributed to firms' age.

Finally, in the OLS, the results exhibit evidence of a significant positive impact from the implementation of the IFRS, which allow some credibility to the assertion that global standards increases financial transparency and that it mitigates discretion reporting and accounting estimates. The lack of significance in the FE may further suggest that certain companies with sophisticated practices and disclosure have appropriately aligned their practices and reporting to comply with IFRS before the implementation, thus guaranteeing their disassociation from the observationally significant proposition once the adoption of IFRS was in effect. Nonetheless, the general findings support the notion that the adoption of IFRS is associated with improvements in reporting quality and financial transparency in the context of this study, as reflected by positive trends and aligned reporting practices. This is consistent with the findings of Trabelsi (2023) and Alomair et al. (2022), who reported that IFRS adoption contributed to enhanced reporting standards in the Saudi context.

5. Conclusion

This study investigated the determinants of EQ among non-financial firms listed on the Saudi Stock Exchange from 2009 to 2017. By employing FE and OLS panel regression models, the analysis provides evidence that OROA plays a central role in enhancing EQ, with higher operating returns associated with reduced discretionary accruals. Additionally, the presence of accounting losses was found to be negatively associated with EQ, indicating that firms experiencing financial distress are more prone to earnings manipulation.

Firm size emerged as a positive factor influencing EQ, probably due to enhanced public oversight and the capacity to implement effective internal controls. In contrast, the expected

associations between EQ and financial leverage, revenue growth, and firm age were not statistically supported, reflecting unique institutional, cultural, and market dynamics in Saudi Arabia. While the impact of dividend yield was inconclusive, the findings emphasize the heterogeneity in corporate dividend practices.

Regarding IFRS adoption, the results suggest a positive contribution to EQ, particularly among firms newly subject to compliance. However, the limited impact in the FE model indicates that improvements may not be uniform across all sectors or firms.

Overall, the study enhances empirical understanding of EQ in the Saudi context and highlights the importance of internal operational strength and firm-level governance. Policymakers are advised to strengthen regulatory enforcement, promote accounting transparency, and invest in the capacity-building of accountants and auditors, particularly in the consistent application of IFRS. These steps are crucial to improving the reliability of financial information and reinforcing investor confidence in the Kingdom's evolving capital markets.

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المستخلص

تهدف هذه الدراسة إلى تحليل محددات جودة الأرباح في الشركات غير المالية المدرجة في السوق المالية السعودية (تداول) خلال الفترة من 2009 إلى 2017. وتأتي هذه الدراسة في سياق التحولات التنظيمية التي تشهدها المملكة في إطار رؤية السعودية 2030، إلى جانب تبني المعايير الدولية لإعداد التقارير المالية .(IFRS) وقد تم تطبيق نموذج Ball and Shivakumar (2006) لتقييم مدى موثوقية الأرباح المُبلّغ عنها، وذلك من خلال بيانات مقطعية Panel Data مكونة من 742 مشاهدة سنوية لشركات موزعة على 79 شركة، مع الاعتماد على أسلوب الانحدار باستخدام نموذج التأثيرات الثابتة (FE).

كشفت النتائج أن الربحية التشغيلية (OROA) والخسائر المحاسبية تُعدّان من أبرز العوامل المؤثرة في جودة الأرباح؛ إذ تؤدي الربحية المرتفعة إلى تحسين مستوى الشفافية والموثوقية في التقارير المالية، في حين تزيد الخسائر من احتمالية اللجوء إلى التلاعب في الأرباح .كما أظهرت النتائج وجود علاقة إيجابية ذات دلالة إحصائية بين حجم الشركة وجودة الأرباح .وعلى النقيض من ذلك، لم تُظهر المتغيرات الأخرى كالمرفقات المالية (الرافعة المالية)، وعمر الشركة، ونمو الإيرادات تأثيرًا معتبَرًا من الناحية الإحصائية.

وأظهرت الدراسة أن تبني معايير IFRS يسهم في تحسين جودة الأرباح، إلا أن هذا التأثير كان أكثر وضوحًا في نموذج الانحدار باستخدام الطريقة الاعتيادية (OLS) مقارنة بنموذج التأثيرات الثابتة.

تُسهم هذه الدراسة في إثراء الأدبيات المحاسبية من خلال تطبيق نموذج عالمي لجودة الأرباح ضمن السياق السعودي، وتقديم توصيات عملية لصانعي السياسات والممارسين في القطاع المالي .وتؤكد النتائج على أهمية الأداء الداخلي والإصلاحات التنظيمية في تعزيز الشفافية المالية وزيادة ثقة المستثمرين في الأسواق الناشئة.

الكلمات المفتاحية: نماذج الاستحقاق؛ جودة الأرباح؛ التقارير المالية؛ تطبيق المعايير الدولية لإعداد التقارير المالية، الربحية؛ المملكة العربية السعودية.