
Moderating Effect of IFRS on Ownership-Structures–Audit-Quality Relationship for Listed Firms in Saudi Arabia

EMAD MOHAMMED FALLATAH¹, NUR ASHIKIN MOHD SAAT²,
SABARINA MOHAMMED SHAH³, CHOO WEI CHONG⁴

¹Putra Business School, 43400 Serdang, Selangor, Malaysia. Affiliated with College of Business Administration, Taibah University, Madinah 42353, Saudi Arabia

^{2,3,4}School of Business and Economics, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia

*Corresponding Author

Email ID : emadcho@live.com

Abstract: This research investigates the moderating effect of the IFRS adoption on the link between ownership structures and audit quality for listed non-financial firms in Saudi Arabia. Data were collected from 165 listed non-financial firms in Saudi Arabia over six-year periods that represent the pre-IFRS adoption period of 2013 to 2015 and post-IFRS adoption period of 2016 to 2018. Managerial ownership and concentrated ownership were interacted with IFRS adoption for discretionary accruals, a proxy of audit quality, factoring in instrumental variables in the constructs. Dynamic panel model estimation utilizing the two-stage generalized moment method (2SGMM) was used to analyze the data because of its efficacy in mitigating possible endogeneity problems. The study's findings reveal that ownership structure weakens audit quality in the pre-IFRS adoption period and that the interaction effect of IFRS with ownership structure leads to high audit quality for listed non-financial firms in Saudi Arabia post-IFRS adoption period. The study concludes that firms' convergence with IFRS for reporting purposes provides better audit quality through the instrumentality of ownership structures. The study recommends that, for companies under managerial ownership, the Capital Market Authority of Saudi Arabia should create rules that allow managers to have a maximum defined percentage of ownership stake. If enshrined in the Saudi Arabian corporate governance code of best practices for firms, this will lead to a reduction in the incidence of opportunistic managerial behavior. The findings of this study suggest that the decision of adopting the IFRS carries multiple consequences on ownership structures of firms and should always be considered by regulators in Saudi Arabia and other emerging markets in order to reach a reasonable audit quality level. Emerging markets that have adopted the IFRS like Saudi Arabia, as well as those that are planning to adopt it, should, therefore, consider the potential changes of the right shares of managers and owners as an indication of audit quality level.

Keywords: IFRS adoption, Managerial ownership, Ownership concentration, Government ownership, Foreign ownership, Audit quality.

INTRODUCTION

Managers are prone to pursuing their own goals in the form of rent extraction and meeting earnings targets. The pursuit of these goals predisposes managers in firms to the misuse of discretion accruals and earnings management. The minimization of adverse discretionary accruals is often achieved through less dispersed ownership concentration and managerial ownership. Shareholders with a large stake in a firm are more likely to diligently monitor all aspects of operations and financing, leading to transparency, quality information disclosure, and expected levels of audit quality in firms (Nelson and Rusdi, 2015). The effect on audit quality of the concentration of ownership and more managerial stake in the ownership depends on the alignment of the interests of the minority and majority stakeholders. When these stakeholders' interests are aligned, they are more likely to pursue quality auditing, with an aim of monitoring the firm, which then has a positive effect on all stakeholders (Guedhami and Pittman, 2006). In a world characterized by information that is imperfect and costly monitoring especially in emerging markets, a divergence of interests between management and shareholders could lead to suboptimal decisions by management. Such decisions are possible due to the actions of managers are largely unobservable, and the goals of the managers and their shareholders are not necessarily aligned. Managers are posited to opportunistically manage earnings to maximize their utility at the expense of other stakeholders.

Agency theory suggests that the monitoring mechanisms can improve the alignment of management and shareholders' interests and mitigate any opportunistic behavior resulting from conflict of interests (Kazemian and Sanusi, 2015).

Conversely, when shareholders' interests are not aligned, they may engage less in the monitoring of firms' operations. Yasser et al. (2017) argued that, while ownership concentration can lead to better audit quality, the value of added incentives for owners to monitor the activities and performance of agents, as well as the pursuit of International Financial Reporting Standards (IFRS) goals through the instrumentality of the firm's owners should not be underestimated. Managers and resource owners with a high ownership stake, whose interests are linked to a firm through investment resources, embrace quality accounting standards such as IFRS in financial statements. Compliance with IFRS adoption in the preparation of financial statements, with the aim of ensuring the provision of reasonable assurances from external auditors, is primarily the responsibility of managers. Often, however, external auditors may not demonstrate independence and objectivity in the course of carrying out audit assignments in firms. External auditors might be unduly influenced by managers who have less investment stakes. This can lead to litigation, reputational damage to the external auditors, and the eventual loss of wealth for shareholders. Moreover, investors' investment decision making and confidence in the market can be damaged due to malpractices and misconducts. The need to ameliorate these malpractices and misconducts led to the development of the development of international accounting standards (IFRS) by the International Accounting Standard Board (IASB). Globally, various firms were mandated to adopt the IFRS in different jurisdictions. Different companies across different continents converged towards it over varying periods. For firms in the non-financial sector of Saudi Arabia, the adoption of IFRS was effective in 2016. This was in part due to inadequacies associated with the local GAAP in Saudi Arabia despite corporate governance reforms by the Capital Market Authority in the Kingdom of Saudi Arabia.

IFRS adoption was predicted to affect ownership structure in Saudi listed firms. Nurunnabi (2017) posited that there was a high expectation that the adoption of new principal-based standards may have unexpected side-effects on audit quality in developing regions due to the complexity of the IFRS and the limited number of professionals and tools to handle them. One of the outcomes of the 2016 conference organized by Saudi Organization of Certified Public Accountants on the transition to IFRSs from local standards in Saudi Arabia was the observed potential changes in the number of shares because of several accounting IFRS-based estimates. On June 27, 2019, the Saudi Capital Market Authority announced its decision to remove ownership caps in publicly listed firms, with the sole stated aim of diversifying investors' ownership and encouraging no maximum limits for international investors' stakes in companies.

In 2019, the Kingdom's second biggest telecom company (Mobily) and its chairman were penalized for offences related to insider trading and failure to disclose several pieces of information related to IFRS implementation for the fiscal year ending December 31, 2018. The firms Tabuk Agricultural Development Company and Al-Ahsa Development were made to pay a fine as a result of violation of the Capital Market Authority law and a Capital Market Authority board circular. In Saudi environments, managers and directors seemed to have little knowledge of, or training on, IFRS at the time of its adoption. This made its implementation somewhat difficult in the preparation of financial statements.

Following the problems associated with the IFRS, Zureigat (2015) stated that IFRS adoption could have a negative effect on audit quality. Zureigat (2015) and Hessayri, and Saihi (2015) emphasized that, to understand the relationship between IFRS, ownership structure, and audit quality, it is essential to adequately comprehend the logic underlying the nexus. Al-Najjar and Clark (2017) noted that ownership structure is the very impetus for the effectuation of ethical values, instilling discipline in the management of firms. Verriest et al. (2012) posited that firms with effective managerial ownership and concentrated ownership comply more with IFRS implementation to enhance the quality and transparency of financial statements devoid of earnings manipulation. Several reported scandals and reputational damage for some firms based on their audited financial statements led the government of Saudi Arabia to launch its Vision 2030, effectively waging war against corruption. IFRS adoption lacks the capacity to influence audit quality if the structure of ownership does not understand global accounting standards for firms' financial reporting.

However, policy makers, academics, and market players are expected to continually examine the effect of IFRS interaction with ownership structures (i.e. managerial ownership, institutional ownership, government ownership, and foreign ownership) on audit quality in the Saudi Arabian corporate environments. IFRS interaction with ownership structure on discretionary accruals in the emerging market of Saudi Arabia, however, lacks empirical evidence; hence, this study is undertaken with a view to contributing to accounting and auditing literature.

MOTIVATION FOR THE STUDY

This study's aim is to examine and contribute to the debate on the link between ownership structure and the audit-quality moderation of the IFRS mechanism in Saudi Arabia. While there are extensive researches regarding IFRS convergence on the relationship between ownership structure and audit quality in developed economies, literature ignores this area of research in the emerging market of Saudi Arabia, where the ownership structure among listed

firms is completely different (Al-Bassam et al., 2018). Further investigation is crucial to understand how IFRS adoption moderates the relationship between concentrated or managerial ownership and audit quality. The role of managerial/concentrated ownership structures in enhancing audit quality is inconclusive due to a lack of professional proficiency in IFRS implementation in relation to detecting earnings manipulation in emerging countries (Bashir et al., 2018; Zureigat, 2015). Since legal protection for shareholders is relatively poor in emerging markets generally, including the Middle East, ownership concentration has become an effective internal mechanism in firms in relation to IFRS adoption (Kasai, 2014;) (Abu, Nyor, & Okpanachi, 2018).

There are limited studies that empirically have analyzed the relationship between ownership structure and audit quality in Saudi Arabia since mandatory IFRS adoption (Al-Matari et al., 2017; Alsahlawi and Ammer, 2017; Gaynor et al., 2016; Katmon and Farooque, 2015; Zureigat, 2011). There are also few academic works that have studied IFRS adoption and its effect on audit quality (Nurunnabi, 2017). Khelif et al. (2016) demonstrated the ambiguity relating to how audit quality is affected by IFRS adoption, especially in the context of emerging markets; their research, however, failed to consider Saudi Arabian listed firms. According to Bafel (2015) and Alsubaie et al. (2012), it is essential for researchers to further investigate the efficacy of IFRS adoption in Saudi Arabia, as finding could help modern managers cope with the prevailing challenges affecting corporate environments. Hay et al. (2017) stated that audit quality after IFRS adoption among listed firms in Saudi Arabia needs further examination and assessment to help Saudi Organization for Certified Public Accountants (SOCPA; a regulatory body) take further corrective actions in the adoption processes in relation to enhancing financial reporting quality and audit quality within the country.

The present research makes several meaningful theoretical and empirical contributions to accounting and auditing literature in Saudi Arabia. Mainly, it adds to the limited existing literature that has investigated ownership structures (managerial ownership) and ownership concentration components (institutional, government, and foreign ownerships) on audit quality among Saudi Arabia firms with and without IFRS convergence.

LITERATURE REVIEW

Theoretical framework

This study is founded on institutional theory and agency theory. In assessing the influence of IFRS interaction on ownership structure and audit quality in firms, institutional theory stresses the role of institutions in the accounting transformation process (Vellam, 2012). It suggests that the institutional perspective of IFRS adoption is an outcome of coercive pressure by transitional institutions or powerful states in the form of conditions or recommendations (Aburous, 2018). In the context of a theoretical framework, previous research has applied institutional theory to address the implementation/adoption of IFRS (Aburous, 2018; Alon and Dwyer, 2016; Hassan et al., 2014; Pricope, 2015; Vellam, 2012). While considering institutional theory, previous research has empirically established that the moderating role of IFRS adoption influences the positive relationship between ownership structure and audit quality (Komalasari, 2017).

Agency theory is a dominant and well-known theory for any corporate organization and its management (Jensen and Meckling, 1976). Agency theory aims to analyze the problems raised by the resource owners regarding the managers entrusted with the affairs of a firm. Managers appointed by shareholders do pursue their own interests (Desai et al., 2007). This pursuit of self-interest by managers arises due to the separation of ownership. This kind of relationship between managers and resource owners predisposes managers to indulge in rent extraction and thus heighten agency costs. Most importantly, one of the ways in which rent extraction and opportunistic behavior can be curtailed is to allow the board of directors, managers, and other core committee members to own a certain fraction of the company's shares/investments. This tends to inhibit carefree attitudes they would otherwise demonstrate in the firm, which should in turn entrench IFRS compliance in financial reporting and, consequently, higher audit quality in the firm. Agency theory thus explains the degree of compliance, with reference to IFRS, by ownership structure, firm size, board diversity, ownership diffusion, leverage, and auditor's role (Samaha and Khelif, 2016).

Empirical Review

IFRS Adoption Moderation with Managerial Ownership on Audit Quality

Managerial ownership is one of the key corporate governance indicators commonly examined in companies. The levels of ownership in companies will to a great extent decide the conflict level and thus heightens agency cost or mitigate it. You et al., (2003), however were of the view that managerial ownership and audit quality are correlated to affect the quality of the reported accounting numbers. C. Lennox, (2005) investigated the relation between audit quality and management ownership in the United Kingdom. The author found a negative correlation between shares held by managers and audit quality.

Lately, there is a considerable amount of literature devoted to understanding the impact of managerial ownership on audit quality. Saona, Muro, & Alvarado (2020) stated that managerial ownership and discretionary accruals, as an audit quality indicator; are correlated in affecting the quality of the reported accounting numbers. In firms with concentrated ownership, large shareholders can affect management, especially when they become board members

and they have much, beyond board membership, to offer the firm (Zureigat, 2011). Managers' ownership alone cannot impact on audit quality without them having the requisite knowledge and training in the content and application of the international financial reporting standard (IFRSs). W. Z. W. Abdullah et al., (2008) argued that few empirical studies investigated the nexus between managerial ownership and how it impacts on audit quality in emerging markets, inclusive of Saudi Arabia.

Moreover, Shan, Troshani, and Tarca (2019), for example, stressed that greater managerial ownership benefits shareholders because it increases managers' incentives to increase firm value and audit quality. However, when managerial ownership becomes too large, it enables managers to entrench themselves so that the firm's value falls as managerial ownership increases beyond a certain point; consequently, audit quality also decreases, owing to the inability to properly monitor the top management (Alqadasi and Abidin, 2018). Wahyuningrum and Rizqi (2019) study pointed out that the influence of managerial ownership is moderated by IFRS on audit quality in Indonesia. Kantudu and Samaila (2015) study revealed that managerial share ownership is significant in determining quality financial reporting and audit quality of listed companies in the oil & gas sector of Nigeria.

Ramadan (2015) research indicates that managerial shareholding, given the influence of IFRS adoption, is inversely related with audit quality. While Kurawa and Abdulrahman (2014) study also showed that insider ownership and management of equity holding exert positive and significant effect on audit quality in the light of IFRS adoption moderation. Limited studies in general have found on the effect of ownership on audit quality through moderation of IFRS adoption demonstrated a negative relationship with audit quality though the association was not significant (Zureigat, 2011). While another study in the effect of IFRS adoption and ownership structures relationship found that the equity holdings have increased following IFRS adoption in terms of alleviating information asymmetry and granting trustworthiness to the firm (Hessayri and Saihi, 2018). Empirical research involving IFRS adoption moderation effect with managerial ownership on audit quality in Saudi Arabia is yet to gain evidence. Since the adoption of IFRS in Saudi Arabia has taken place in 2016, the Saudi Organization of Certified Public Accountant (SOCPA) was willing to assess the pre and post IFRS adoption's seniors to make a judgment about the decision related to the movement from the Saudi local standards to IFRS adoption in terms of reducing information asymmetry between managerial ownership and the owners to enhance audit quality practices. Following this gap, this study reaches the hypotheses that:

H1a: There is a significant effect of managerial ownership on audit quality of listed non- financial firms in pre-IFRS adoption in Saudi Arabia.

H1b: IFRS adoption has a significant moderation effect with managerial ownership structure on audit quality of listed non- financial firms in Saudi Arabia.

IFRS Adoption Moderation with Ownership Concentration on Audit Quality

The association between ownership concentration and audit quality has been a controversial in the past decades. It has so much arguments and counter arguments in audit literature (Odudu, Terzungwe, and Joshua, 2018). Ownership concentration just like every other variable, interconnects with accounting standards to determine the level of audit quality. Basically, IFRS adoption lacks the capacity to influence audit quality if the structure of ownership does not understand and embrace global accounting standards in firm financial reporting and in assurance of high audit quality. Byard et al. (2011) found that firms implementing IFRS mechanisms, irrespective of ownership concentration, demonstrate more timely loss recognition, offer credible relevance of earnings, and engage in less earnings management.

While myriad studies have investigated the nexus between ownership level and audit quality but with mixed empirical findings. Very few studies have been carried out in Saudi Arabia and other GCC. On the empirical fronts, Jusoh et al., (2013) ascertained the association between ownership concentration and audit quality among the Malaysian listed companies in pre-IFRS adoption period. The result shows that there exists a positive and significant association between ownership concentration and audit quality. The research of Peyman and Mina, (2013) revealed that without IFRS adoption, ownership concentration has no significant effect on audit quality among 36 sample of listed firms in Nigeria in the period from 2007 to 2017. Yeung and Lento, (2018) posit that ownership structure and audit quality are correlated in the presence of IFRS adoption. In their empirical research, they reported that stronger ownership structure is associated with higher audit quality after the IFRS adoption in China. Moreover, IFRS adoption and ownership structures relationship existed in previous studies that found that the equity holdings have increased post IFRS adoption in terms of reducing information asymmetry, granting trustworthiness, and minimizing earning management (Hessayri and Saihi, 2015; Hessayri and Saihi, 2018). The study of Odudu et al., (2018) showed that block ownership (concentrated ownership) is positively correlated with audit quality after IFRS adoption. To the best of the researcher's knowledge, there is limited researches linking IFRS moderation with ownership concentration on audit quality of listed firms in the Kingdom of Saudi Arabia. Following this, this study hypothesizes that:

H2a: There is a significant effect of ownership concentration on audit quality of listed non- financial firms without IFRS adoption in Saudi Arabia.

H2b: IFRS adoption has a significant moderation effect with ownership concentration on audit quality of listed non-financial firms in Saudi Arabia.

Hossain et al. (2007) found a negative relationship between ownership structure and external audit quality, with institutional investors appearing to have the incentive and ability to control managers by themselves. Kao and Wei (2014) considered firms' IFRS compliance as one of the main metrics by which institutional investors can examine audit quality. Mullins and Schoar (2016) highlighted a negative relationship between institutional ownership and the quality of the external audit. Kane and Velury (2004) suggested a positive relationship between institutional ownership and audit quality. Excessive government ownership can lead to different levels of IFRS compliance, as was the case in China, where corporate governance structure was marked by excessive government interference. Foreign investors, however, play a huge part in seeking high-quality audits (Gill-de-Albornoz and Rusanescu, 2018). Foreign investors are inclined to choose high-quality audits to stop managers from gaining personal advantages in situations of high agency problems. Consequently, the effect of foreign checks on the auditing process can vary according to the extent of the agency problems between managers and stockholders. Similarly, Bova and Pereira (2012) argued that foreign investors are likely to induce superior IFRS compliance in the companies they invest in for two reasons (to lessen information asymmetries and to increase checking), both of which are more significant for foreign investors compared to native investors.

The above literature indicates that limited studies to date have investigated the moderating effect of IFRS adoption on ownership structure and audit quality relationships for listed non-financial firms in emerging market, with Saudi Arabia being inclusive. This study thus hypothesizes that IFRS adoption has a significant moderating effect on the relationship between ownership structure (managerial ownership and ownership concentration) and audit quality for listed non-financial firms in Saudi Arabia.

METHODOLOGY

This study seeks to examine the impact of IFRS adoption in moderating the relationship between ownership structures and audit quality of Saudi Arabian listed non-financial firms. Figure 1 displays the framework which explains the interrelationship among this study's independent, dependent, and moderating variable. The research framework links relationships between managerial ownership structure and ownership concentration and audit quality. Moreover, the interaction effect of IFRS adoption and the ownership structures is illustrated.

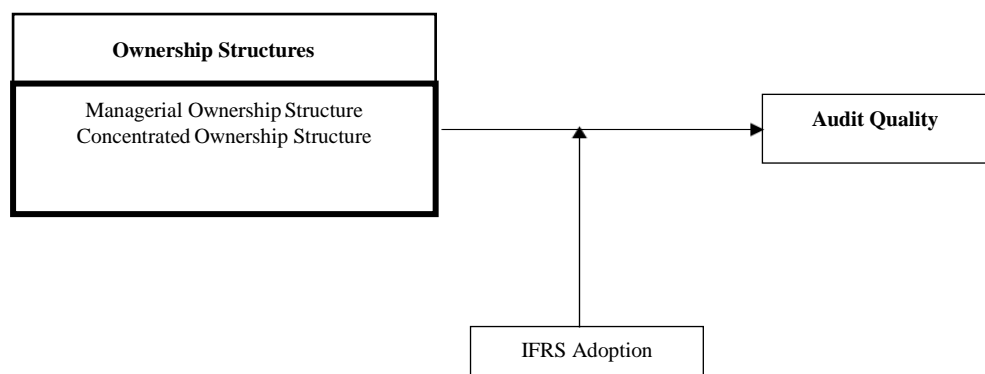


Figure 1: Research framework of the study

The focus of this study is to determine how IFRS adoption moderates the relationship between ownership structures and audit quality for listed firms in Saudi Arabia. Following this, an ex-post-facto research design is employed. A total of 165 listed non-financial firms were selected using the simple random sampling technique for the period 2013–2018 for the pre IFRS adoption periods (2013-2015) and post IFRS adoption periods (2016- 2018). This represents 990 firm-year observations. Descriptive statistics, correlation matrices, and the two-stage generalized moment method (2 SGMM) were employed to analyze the data after applying diagnostic tests. The 2 SGMM, unlike the standard GMM estimator, explicitly provides consistent estimates even if endogeneity, heteroscedasticity, and serial correlation problems occur in the analysis (Alhadi et al., 2018). It provides more efficient results than first difference GMM even with unbalanced panel data since it employs more instruments and consists of both level and first difference regression (Roodman, 2009). The 2 SGMM takes care of endogeneity problems and fixes effects; additionally, it also removes dynamic panel bias (Nickell, 1981, cited in Dahir et al., 2018). 2 SGMM is also more appropriate for small times series data. Therefore, 2 SGMM was preferred for data analysis in this study. Direct effect or pre IFRS adoption and moderating panel models were used in this study. The first model relates to direct effect of ownership structure on audit quality of the listed firms pre IFRS adoption, while second model concerns IFRS moderation on the nexus between ownership structure and audit quality post IFRS adoption.

$$DA_{it} = \beta_0 + \beta_1 DA_{it-1} + \beta_2 MO_{it} + \beta_3 OC_{it} + \beta_4 \sum_{it} \text{control variables} + \beta_5 \sum_{it} \text{ownership control variables}_{it} + \varepsilon_{it} \quad (1)$$

$$DA_{it} = \beta_0 + \beta_1 DA_{it-1} + \beta_2 MO * IFRSdummy_{it} + \beta_3 OC * IFRSdummy_{it} + \beta_4 \sum_{it} \text{control variables}_{it} + \beta_5 \sum_{it} \text{ownership control variables}_{it} + \varepsilon_{it} \quad (2)$$

where: DA_{it} is the discretionary accruals of earnings management as a measurement for audit quality of company i in period t; IFRSdummy_{it} is the level of implementation or adoption, coded as 0 for pre IFRS adoption period and coded as 1 for post IFRS adoption period; MO_{it} is managerial ownership of company i in period t; OC_{it} is the ownership concentration of company i in period t; MO * IFRSdummy is the moderation of IFRS adoption with managerial ownership; OC * IFRSdummy is the moderation of IFRS adoption with ownership concentration; i is the individual company in the sample size; t is the period the study covers; ε is the error term acting as a surrogate in the models; β₀ is the intercept; ∑control variables_{it} consists of audit firm size (AFS), leverage (LEV), and company size (CS) of company i in period t; and ∑ownership control variables_{it} consists of institutional ownership, government ownership, and foreign ownership of company i in period t.

MEASUREMENT OF THE VARIABLES

Dependent variable

Audit quality is used as the dependent variable in this study and is measured by the discretionary accruals of the Modified Johns Model of earnings management. This measurement explained the managers' discretions to manipulate the financial statements of firms to mislead the stakeholders (Alhadi et al., 2018). Following the extant literature on earnings management and other previous studies (e.g., Jiang, Wang, and Wang, 2018; Ernstberger, Koch, Schreiber, and Trompeter, 2020), the discretionary accruals of sample firms are estimated by applying regression control for performance:

$$TACC_{it} = \beta_1 + \beta_2 \Delta REV_{it} + \beta_3 PPE_{it} + \beta_4 ROA_{it} + \varepsilon_{it} \quad (3)$$

Where; TACC is total accruals, Δ is change in revenue, PPE is property, plant, and equipment, ROA is return on total assets, i is firm, t is year, and ε is error. The above equation is normalized by calculating the lag of total assets (TA). As a result, the normalized version of the above equation is as follows:

$$\frac{TACC_{it}}{TA_{it-1}} = \beta_1 \left(\frac{1}{TA_{it-1}} \right) + \beta_2 \left(\frac{\Delta REV_{it}}{TA_{it-1}} \right) + \beta_3 \left(\frac{PPE_{it}}{TA_{it-1}} \right) + \beta_4 \left(\frac{ROA_{it}}{TA_{it-1}} \right) + \varepsilon_{it} \quad (4)$$

Explanatory variables

- Managerial ownership (MO): it equals to the percentage of shareholding in a firm by management of the firm.
- Ownership concentration (OC): it is measured by the percentage of the sum of shareholding by five largest shareholders.

Moderating variable

IFRS is a dummy variable which gives 0 to pre-IFRS adoption period (2013-2015) and 1 to post-IFRS adoption period (2016-2018) in Saudi Arabia; MO and OC (t-1) * IFRS are interaction terms to measure the ownership structures namely (Managerial ownership and ownership concentration) and IFRS adoption, aiming to capture better the moderating role that IFRS adoption could play on the relationship between the ownership structures and audit quality (Komalasari, 2017).

Control variables

General Control Variables

- The Audit Firm Size (AFS): it is measured as a dummy variable whether the firm is audited by one of the Big-4 auditing firms "1", and "0" otherwise (Alareeni, 2018).
- The Leverage (LEV): it is proxied by the percentage ratio of total debt to total equity (Mokoaleli-et al., 2017).
- Company Size (CS): it is measured by the percentage of the logarithm of total asset Komalasari, 2017; Singh et al., 2019).

Ownership Structures' Control Variables

Following the existence literature Al-janadi, Rahman, and Omar (2015); Al-Bassam, Ntim, Opong, & Downs (2018), this study applies some control variables related to some important forms of ownership structures namely (governmental ownership, institutional ownership, and foreign ownership structures) on understanding audit quality. From the empirical point of view, ownership structures are apparently varied across listed firms based on their size. The Saudi government owned in each listed a firm a percentage of shares named "public investment

fund " that aims to financing strategic projects that enhance the economy of the country and protect investors against crisis. Hence, it was necessary in this study to be controlled to avoid the biasness as well of examining the managerial and concentrated ownerships effect on audit quality.

Additionally, the study has used institutional ownership as control variable due to being present in some Saudi listed firms and being effective in forming the structure of ownership in different firms. The study as well controlled for the foreign ownership since some firms in the Saudi environment are multinational and their structure of ownerships could have a critical role in shaping the overall ownership structures in a certain firm (Hashim, 2015; Alzeaideen and Al, 2018).

- Government ownership structure (GOS): it is measured by the percentage of shareholding in a firm by the government or its agency. Firms are not the same in terms of their sizes, which affects the investments of the government within a certain firm (Fan et al., 2019).
- Institutional Ownership Structure (IOS): it is proxied by the percentage of shareholding in a firm by different institutions. Firms are not the same in terms of their sizes, which affects the investments of different institutions within a certain firm (Fan et al., 2019).
- Foreign Ownership Structure (FOS): it is measured by the percentage of shareholding in a firm by foreigners (group or individual). Some firms allowed foreigners either group or individual to invest while others do not (Fan et al., 2019)

RESULTS AND DISCUSSION

Diagnostic Tests, Descriptive Statistics, and Correlation Analysis

Table 1 relates to the multicollinearity of the variables. The value of the individual explanatory variables' variance inflation factor (VIF) were all less than the benchmark of 10, with the mean of the centered VIF being 2. These results confirm the absence of multicollinearity problems among the independent variables.

Table 1: Multicollinearity Test Results

Variable	VIF	1/VIF
MO	1.03	0.972
OC	1.22	0.823
FOS	3.78	0.265
GOS	3.41	0.294
IOS	3.35	0.298
CS	1.11	0.904
AFS	1.05	0.950
LEV	1.05	0.948
Mean VIF	2.00	

Notes: MO=managerial ownership structure; OC=ownership concentration; FOS= foreign ownership structure; GOS=government ownership structure; IOS=institutional ownership structure; CS=company size; AFS=audit firm size; LEV=leverage.

Table 2 represents a summary of the descriptive statistics. Managerial ownership in the sample of firms accounted for 0.1% of the total, indicating less than average managerial ownership among the firms. The average proportion of managerial ownership in the firms has the propensity to decrease opportunistic behavior, which otherwise would have been capable of snowballing into earnings manipulations in firms. Ownership concentration accounted for 28.9% of the total firms. For the control variables related to ownership structures (government ownership structure, institutional ownership, and foreign ownership) the mean values were 24.8%, 22.6%, and 8.8%, respectively. Discretionary accruals averaged approximately 14% across the firms.

Table 2: Descriptive Statistics

Variable	Observations	Mean	Std. dev.	Min.	Max.
DA	990	0.144	0.215	-0.006	1.192
MO	990	0.001	0.016	0.000	0.360
OC	990	0.289	0.259	0.000	0.950
GOS	990	0.248	0.149	0.000	0.550
IOS	990	0.226	0.130	0.000	0.600
FOS	990	0.088	0.055	0.000	0.500
AFS	990	0.518	0.500	0.000	1.000
LEV	990	0.298	0.230	0.000	0.959
CS	990	0.064	0.009	0.036	0.087

Notes: DA=discretionary accruals; MO=managerial ownership structure; OC=ownership concentration; GOS=government ownership structure; IOS=institutional ownership structure; FOS= foreign ownership structure; AFS=audit firm size; LEV=leverage; CS=company size.

Table 3 presents the correlation matrix of ownership structure and audit quality for Saudi Arabian listed non-financial firms. Perfect or imperfect multicollinearity was absent between ownership structure and the discretionary accruals (DA) as a proxy of audit quality, excluding audit firm size, leverage, and company size control variables. Managerial ownership (MO) was positively associated with discretionary accruals (DA) (0.042). This positive association between managerial ownership with audit quality of the firms is a reflection of higher agency costs and managerial opportunistic behavior in the listed firms. While the result conforms with the agency theory, it also not in align with the research finding of Abdullah et al. (2008), which established a negative relationship between managerial ownership and audit quality for firms in Gulf Cooperation Council countries. Ownership concentration (OC) was positively correlated with discretionary accruals as a measurement for audit quality audit quality (0.026).

Table 3: Ownership Structure and Audit Quality

	DA	MO	OC	GOS	IOS	FOS	AFS	LEV	CS
DA	1								
MO	0.042	1							
OC	0.026	0.0427	1						
GOS	-0.053	-0.012	-0.247*	1					
IOS	-0.053	-0.015	-0.297*	0.785*	1				
FOS	-0.068*	-0.019	-0.336*	0.805*	0.805*	1			
AFS	-0.042	-0.059	0.123*	-0.049	0.036	0.802*	1		
LEV	0.006	-0.048	0.042*	-0.126*	-0.093*	-0.0164	0.158*	1	
CS	-0.142*	0.142*	0.246*	-0.049	-0.0461	-0.109*	0.086*	0.112*	1

Notes: DA=discretionary accruals; MO=managerial ownership structure; OC=ownership concentration; GOS=government ownership structure; IOS=institutional ownership structure; FOS= foreign ownership structure; AFS=audit firm size; LEV=leverage; CS=company size. * 5% level of significance.

These findings are consistent with the research outcome of Yeung and Lento (2018) and Jusoh et al. (2013). While components of ownership concentration (government ownership, institutional ownership, and foreign ownership) have a negative association (-0.053, -0.053, and -0.068), with discretionary accruals. This result suggests that government, institutions, and foreign investments in shares have less effect on discretionary accruals, although government ownership has been recognized to mitigate earnings manipulation in China (Habib and Jiang, 2015). The presence of foreign ownership in the firms contributes to discretionary accruals. Multicollinearity is generally not a critical issue as the extent of correlation among the independent variables is low.

Dynamic Panel Regression Result

Tables 4, 5, and 6 reveal that the specification tests [AR(2) and Hansen] and test are economically insignificant and thus valid. This suggests that the empirical models are properly specified and hence fit for interpretation purposes. The diagnostic test results indicate the absence of heteroscedasticity and serial autocorrelation effects.

Table 4: Effect of Ownership Structure on Audit Quality Pre-IFRS Adoption

	(1)	(2)	(3)	(4)
	DGMM1	DGMM2	SGMM1	SGMM2
L.DA	-0.609	0.508	0.498***	0.852***
	[0.61]	[0.39]	[0.14]	[0.08]
MO	2.972	-4.726**	0.173	0.558***
	[9.12]	[2.11]	[0.69]	[0.08]
OC	-0.929	-0.071	0.095	0.287***
	[0.96]	[0.54]	[0.20]	[0.09]
GOS	2.104	-0.075	0.120	-0.340**
	[1.83]	[0.64]	[0.41]	[0.15]
IOS	-2.717*	-0.592	-0.080	0.367
	[1.51]	[0.87]	[1.10]	[0.22]
FOS	0.875	1.546	-0.945	-0.401
	[3.49]	[1.85]	[2.69]	[0.40]
AFS	0.069	0.035	0.205***	0.017
	[0.04]	[0.05]	[0.08]	[0.02]
LEV	0.048	0.764***	0.349***	0.135***
	[0.14]	[0.20]	[0.11]	[0.03]
CS	-14.288***	-13.392***	-13.219***	-10.011***
	[2.42]	[2.84]	[3.47]	[1.08]
Constant			0.960**	0.571***
			[0.38]	[0.10]
Observations	165	165	330	330
No. of instruments	14	27	28	46
No. of groups	165	165	165	165
Arellano-Bond: AR(1)	0.148	0.132	0.041	0.033
Arellano-Bond: AR(2)	0.834	0.616	0.882	0.356
Hansen test (p-val)		0.839		0.616

Notes: DA=discretionary accruals; MO=managerial ownership structure; OC=ownership concentration; GOS=government ownership structure; IOS=institutional ownership structure; FOS= foreign ownership structure; AFS=audit firm size; LEV=leverage; CS=company size. Standard errors in brackets. * p<0.1, ** p<0.05, *** p<0.01.

Table 4 examines the effect of ownership structure on audit quality of listed non- financial firms in the period prior to IFRS adoption in Saudi Arabia. The main variables examined in this model which are related to ownership structure are the proportion of shares held by managers (MO) and the proportion of shares held by the five largest owners in listed non-financial firms in Saudi Arabia (Concentrated Ownership) (OC) in the period before IFRS adoption. The other ownership structures are Government ownership structure (GOS), Institutional Ownership Structure IOS, and foreign ownership structure FOS). These were used to control the main variables in this model. Finally, the general control variables in this model are Audit firm size AFM, Client size CS, and Leverage Lev.

To check the Dynamic Panel Model, the result emphasizes several tests to check the consistency of the GMM estimator. As shown in Table 4 in Columns (1 – 4). The second system general method of moment (SGMM2) has superiority over other dynamic panel models, which are the first difference general method of moment (DGMM1), second difference general method of moment (DGMM2); first system general method of moment (SGMM1) for two reasons. First, its number of instruments (46) is less than the number of firms (165). Second, it meets the condition of the significant p-value of the first-order serial correlation AR (1), the absence or insignificant results of both the second-order serial correlation AR (2) and the Hansen test. This confirms that the validity of the instrumental variables and they were uncorrelated with error term in the empirical model (Blundell and Bond, 2001). As indicated in Table 4, the AR (2) and Hansen test results indicate absence of serial correlation in the model and that the model correctly specified. The ownership structure employed were managerial ownership and ownership concentration. Managerial ownership structure coefficient value (0.558) is positive and significant at 99% level. The alternative hypothesis, (H1a) which states that there is a significant effect of managerial ownership on audit quality of listed non- financial firms in the period before IFRS adoption in Saudi Arabia is supported. It confirms the expected a-priori sign and, by inference, it implies that ownership by managers increases discretionary accruals and causes low audit quality under the generally accepted accounting principles (GAAPs) in listed non- financial

firms in Saudi Arabia.

The coefficient value of ownership concentration is positive (0.287) and significant on discretionary accruals. The hypothesis, (H1b) that there is a significant effect of concentrated ownership on audit quality of listed non- financial firms prior to IFRS adoption in Saudi Arabia is accepted. Ownership concentration in the absence of accounting standard knowledge worsen earnings management and decreases audit quality of listed non- financial firms before the adoption of IFRS in Saudi Arabia. The coefficient of components of ownership structures like government, institutional and foreign ownership maintained a positive and significant effect on discretionary accruals. The findings are in tandem with Adam and Bala (2015); Jusoh et al. (2013); Peyeman and Mina (2013; Ogbonnaya et al (2016).

Table 5: Effect of IFRS Interaction with Ownership Structures on Audit Quality

	(1)	(2)	(3)
	IFRS (additive)	MO	OC
L.DA	0.686***	0.698***	0.737***
	[0.00]	[0.01]	[0.02]
MO	-0.506***	-1.689***	
	[0.01]	[0.08]	
OC	0.062***		-0.047***
	[0.00]		[0.01]
IFRS	-0.002***	-0.005***	-0.004*
	[0.00]	[0.00]	[0.00]
IFRS*MO		-1.102***	
		[0.07]	
IFRS*OC			-0.025***
			[0.01]
GOS	0.036***	0.047***	0.033*
	[0.00]	[0.00]	[0.02]
IOS	-0.089***	-0.029***	0.035
	[0.01]	[0.00]	[0.04]
FOS	0.102***	0.025**	-0.112
	[0.01]	[0.01]	[0.08]
AFS	0.002*	-0.003***	-0.012**
	[0.00]	[0.00]	[0.01]
LEV	-0.010**	-0.027***	0.111***
	[0.00]	[0.01]	[0.02]
CS	-10.003***	-9.806***	-5.468***
	[0.16]	[0.25]	[0.43]
CONSTANT	0.672***	0.670***	0.322***
	[0.01]	[0.02]	[0.03]
Observations	330	330	330
No. of instruments	145	127	64
No. of groups	165	165	165
Arellano-Bond: AR(1)	0.046	0.036	0.026
Arellano-Bond: AR(2)	0.944	0.972	0.925
Hansen test (p-val)	0.690	0.376	0.370

Notes: DA=discretionary accruals; GOS=government ownership structure; IOS=institutional ownership structure; FOS=foreign ownership structure; AFS=audit firm size; LEV=leverage; CS=company size; MO=managerial ownership structure; IFRSMO=IFRS adoption's interaction with managerial ownership; OC=ownership concentration; IFRSOC=IFRS adoption's interaction with ownership concentration. Standard errors in brackets. * p<0.1, ** p<0.05, *** p<0.01.

Table 5 examines the effect of IFRS moderation with ownership structures' impacts on audit quality of listed non-financial firms in Saudi Arabia. IFRS is moderated with ownership structure components which include the proportion of shares held by managers (managerial ownership) (MO) and the proportion of shares held by the five largest owners in listed non-financial firms in Saudi Arabia (Concentrated Ownership) (OC). The other ownership structures moderated with IFRS are government ownership structure (GOS), institutional ownership structure (IOS), and foreign ownership structure (FOS) are used to control the main variables in this model. Lastly, the general control variables in this model are Audit firm size (AFS), Client size (CS), and Leverage (LEV). The result shows that IFRS moderation with managerial ownership (IFRS*MO) is negative (-1.102) and significant at 99% level on discretionary accruals (DA), portraying that IFRS moderates with managerial

ownership to enhance audit quality of listed non- financial firms in Saudi Arabia. The hypothesis (H6a) in Table 5.14 which states IFRS adoption has a significant moderating effect with managerial ownership on audit quality of listed non- financial firms in Saudi Arabia is supported. IFRS moderation with ownership concentration (IFRS*OC) coefficient value is negative (-0.025) and significant at 99% level on discretionary accruals (DA). The alternative hypothesis (H6b) in Table 5.14 which states that IFRS adoption has a significant moderation effect with ownership concentration on audit quality of listed non- financial firms in Saudi Arabia is accepted. The finding implies that IFRS moderation with ownership structure causes high audit quality of listed non- financial firms in Saudi Arabia. Suggesting that, in the presence of IFRS adoption, firms experience better overall audit quality than during the Saudi local Standards that were based on GAAP. This result clearly illustrates that the IFRS adoption matter when considering the impact of ownership structures on audit quality of listed firms in the context of Saudi Arabia. The results are in line with Hessayri, and Saihi (2015).

Table 5 reveals as well that IFRS moderation with managerial ownership (IFRS*MO) have the highest coefficient value effect of (-1.102) on audit quality of listed non- financial firms in Saudi Arabia. This could mean that managers who have an ownership stake in the sample firms have the requisite accounting standard knowledge to assess the quality of financial reporting and audit of the non- financial firms in Saudi Arabia.

Table 5 displays as well further analysis to test the validity of the analysis performed. Column one in the Table 5 shows the IFRS adoption as an additive time dummy variable post IFRS in Saudi Arabia that took place in 2016. The other independent variables were present in the model estimation, while IFRS adoption were controlled. The table demonstrates that the coefficients of managerial ownership (MO) (-0.506), ownership concentration (OC) (-0.062), and IFRS adoption (-0.002) were statistically significant with discretionary accruals of earnings management. This analysis supports further the need to test the moderating effect of IFRS adoption on ownership structures and audit quality relationships in Saudi Arabia post IFRS adoption.

Table 6: Robustness Check

	OS
DA	0.255***
	[0.03]
OSCOM	-0.001***
	[0.00]
OSCOMIFRS	-0.006***
	[0.02]
AFS	-0.005***
	[0.02]
LEV	0.027*
	[0.80]
CS	-5.51***
	[0.05]
CONSTANT	0.385***
	[10.94]
Observations	330
No. of instruments	62
No. of groups	165
Arellano–Bond: AR(1)	0.062
Arellano–Bond: AR(2)	0.984
Hansen test (p-value)	0.217

Notes: DA=discretionary accruals; OSCOM= represents the components of ownership structures (Managerial ownership , concentrated ownership structure, government ownership structure; institutional ownership structure; and foreign ownership structure) ; OSCOMIFRS= represents IFRS adoption interaction with the components of ownership structures (Managerial ownership , concentrated ownership structure, government ownership structure; institutional ownership structure; and foreign ownership structure); AFS=audit firm size; LEV=leverage; CS=company size. Standard errors in brackets. * p<0.1, ** p<0.05, *** p<0.01.

Table 6 was generated to check the robustness of the main findings and the sensitivity and the aggregate of alternative measures related to ownership structures used in this study. The moderation of IFRS with ownership components (OSCOM*IFRS) such as managerial ownership, ownership concentration, government ownership, institutional ownership, and foreign ownership have a significant negative coefficient value (-0.001) on

Discretionary Accruals (DA). It shows that IFRS adoption has a significant moderation effect with ownership structures on audit quality of listed non-financial firms in Saudi Arabia. Ownership structures decrease the potential discretionary accruals of earnings management and enhance the audit quality level of listed non-financial firms in Saudi Arabia in the post-IFRS adoption unlike during the GAAPs.

Thus, the empirical analysis confirms the existence of complementarities between the fit of ownership structures and IFRS adoption within firms in Saudi Arabia supporting the view that both variables need to be examined jointly when exploring their efficiency and consequences. Remarkably, having introduced the moderating function in the regression, managerial and concentration ownership structures were found to exert significant effect at 99% significance level, inversely to the initial model.

Conclusion and Recommendations

This study examined the moderating effect of IFRS on the association between ownership structure and audit quality for listed firms from 2013 to 2018 in Saudi Arabia. The research contributes significantly to literature in the context of the emerging market of Saudi Arabia regarding how IFRS adoption moderates ownership structures to strengthen audit quality in the light of prevailing managerial turbulence in firms and corruption in the environment generally. The study concludes that, while ownership structure weakens audit quality in the absence of IFRS convergence, the moderating effect of IFRS with ownership structure leads to high audit quality for listed firms in Saudi Arabia. The research findings have several implications for future studies and policy makers. The study recommends that, for companies under managerial ownership, the Capital Market Authority of Saudi Arabia should create rules that allow managers have a maximum defined percentage of ownership stake. This should reduce managerial opportunistic behaviors and discretionary accruals among listed firms in Saudi Arabia.

Regarding the limitations of the study and directions for future research, this study did not examine other ownership structure attributes, such as family ownership or domestic ownership, and how IFRS moderates them in relation to audit quality for listed firms in Saudi Arabia. The study suggests that future researchers focus attention in this direction at the cross-country level, specifically other Gulf Cooperation Council countries, using other estimation models.

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