
Effect of corporate governance on income persistence and value relevance of quoted Nigerian firms

Cosmas Ikechukwu Asogwa*,
Grace Nyereugwu Ofoegbu and Uche Modum

Department of Accountancy,
University of Nigeria, Nigeria
Email: cosmasasogwa@gmail.com
Email: grace.ofoegbu@unn.edu.ng
Email: uche.modum@unn.edu.ng
*Corresponding author

Abstract: This paper examined the effect of corporate governance structures on earnings persistence and value relevance of Nigerian firms. Analysis was made using multivariate and multiple regression analytic tools with sample of 148 audited financial statements of quoted Nigerian firms in Nigerian Stock Exchange between 2014 and 2017. We found that CEO duality positively but insignificantly affected income persistence and positively and significantly affected value relevance. Board size significantly and negatively affected earnings value relevance while it negatively and significantly affected earnings persistence. Audit committee had a significant positive effect on earnings value relevance and accrual persistence. Thus, audit committee plays a vital constraining role while board expansion does not necessarily increase earnings quality. Overall, we can infer that the analyses involving all key earnings quality proxies could yield a better conclusion. Investors should rely largely on models that examined various impacts on earnings quality proxies.

Keywords: corporate governance; earnings persistence; earnings predictability; value relevance; CEO duality; audit committee; board size.

Reference to this paper should be made as follows: Asogwa, C.I., Ofoegbu, G.N. and Modum, U. (2020) 'Effect of corporate governance on income persistence and value relevance of quoted Nigerian firms', *African J. Accounting, Auditing and Finance*, Vol. 7, No. 1, pp.42–65.

Biographical notes: Cosmas Ikechukwu Asogwa is a Lecturer in the Department of Accountancy, Renaissance University, Nigeria and has completed his PhD in Accountancy from University of Nigeria, Nsukka, Nigeria. He is also a Qualified Associate Chartered Accountant with the Institute of The Chartered Accountants of Nigeria (ICAN) and has vast industry experience in private sector. His research interest is in a broad area of corporate finance, corporate strategies, sustainability accounting, corporate governance and reporting, earnings management and small business lending. He is a reviewer of some top ranking journals indexed in Scopus and Clarivate Analytics.

Grace Nyereugwu Ofoegbu is a Senior Lecturer in the Department of Accountancy, University of Nigeria and holds a PhD in Accountancy. She is a Fellow of the Institute of Chartered Accountants of Nigeria (ICAN). Her research interest includes corporate financial reporting, taxation and corporate governance.

Uche Modum is a Professor Emeritus from the Department of Accountancy, University of Nigeria, Nsukka, Nigeria. She has vast experience in research and has supervised several PhD students including Cosmas Ikechukwu Asogwa. Her research areas include corporate governance, earnings management, and quality, sustainability accounting and forensic audit.

1 Introduction

Corporate governance ensures accountability and transparency in organisations. In turn, such corporate governance driven accountability and transparency can ensure earnings quality (Jensen and Meckling, 1976; Ewert and Wagenhofer, 2015). Income quality for instance earnings persistence and earnings value relevance has remained a complex phenomenon. Yet, it is highly essential in decision making processes. Investors depend on information regarding quality of income to efficiently allocate their resources. Therefore, a higher quality earnings reporting could mitigate the risk of information asymmetries, which bring about ‘economic frictions such as moral hazard and adverse selection’ (Leuz and Verrecchia, 2000; Bushman and Smith, 2001). Market participants could place a higher premium on firms stock if corporate governance is considered effective. This means that corporate governance could influence earnings value relevance.

Research on the effect of corporate governance on financial reporting quality and performance has over four decade history (Subhrendu and Lan, 2008). However, in recent times, the emphasis on the effect has been heightening following spates in institutional accounting frauds and corporate-governance-related scandals (Ewert and Wagenhofer, 2015; Subhrendu and Lan, 2008). There is also emphasis on how corporate governance affects firms’ financial performance (Ndjanyou et al., 2015). The failures of several well-known corporate organisations around the world such as Enron (the USA), Balsam (Germany), and Fortune Bank (Nigeria) were all consequences of accounting issues attributed to poor corporate governance mechanisms that negatively influenced the firms’ earnings quality and the investors’ decision processes. Enron (a US-based energy corporation) manipulated profit and derivatives to make their stock rise significantly in short space of time (Lemus, 2014). This manipulation lured investors, who eventually lost their hard earned capital. It is, therefore, very important for investors to ascertain the extent to which firms’ corporate governance mechanisms influence financial statements to avert accounting malpractices, such as those experienced at Enron in which the investors lost over \$591 million and acquired a total debt of \$628 million. The idea of corporate governance is that such a loss could have been mitigated if effective boards had played their role by monitoring managers.

However, efforts to model the true effect of corporate governance on earnings quality have been met with some difficulties (Ewert and Wagenhofer, 2015; Dechow et al., 2010). The main problem is how to determine earnings quality and obtain one proxy that embodies all the attributes of income that make it qualitative (Lehmann, 2016; Ewert and Wagenhofer, 2015). Therefore, the main objective of this study is to examine the effect of corporate governance on income quality by using a multivariate model that examines the key earnings quality proxies namely earnings persistence, and value relevance concurrently taking evidence from Nigeria.

Based on the above main objective, the study argues that focusing on the key and essential attributes of earnings is very important because if a researcher focuses on a single earnings quality proxy, such as earnings predictability, and draws his or her conclusions based on the response of only one proxy, an investor may misunderstand its true effect. Such an investor would be misled (Dechow et al., 2010). Such a misconception will occur if an investor makes an investment decision based on the fact that predictable earnings have a strong positive correlation with earnings persistence or value relevance. Earnings might map-out consistent characteristics in the second period due to good corporate governance mechanisms (e.g., separating the role of CEO from the role of the board chairperson). In this case, earnings could suggest persistence, which can also imply that the earnings are predictable. However, if the map-out from the second period is due to a smoothening incentive created by corporate governance, it would be wrong to assume that the firms' earnings embody predictability quality given that, if the smoothening continues, the market could react negatively against the predictability property. Thus, an investor who forecasts a firm's stock using the persistence attribute without considering the true predictability of the earnings may suffer a great loss when the market reacts against his prediction following the smoothening reversal. Therefore, if two proxies correlate perfectly or fairly positively or negatively, you can use one result to interpret the other; if they do not, the proxies need to be analysed together to give a better view of how each responds to governance mechanisms. This implies that one will obtain a better result if all key earnings quality proxies are analysed concurrently with the aid of a multivariate analytic model, which better reads correlations among quality variables compared to multiple regressions.

Consistently, in their survey of earnings quality measures, Dechow et al. (2010) recommend that the best approach to fixing the problem imposed by lack of income quality proxy correlation and attribute divergence is to take and study all the proxies together. They conclude that, taken as a whole, earnings quality proxies should not be treated as substitutes for each other. Similarly, Ewert and Wagenhofer (2015) explain that the complexity of earnings quality measures requires that all the proxies should be studied together so that researchers can gain a better understanding of the proxies' drivers and their responses to such determinants.

Prior studies in Nigeria, however, did not make use of a model that used all the essential attributes of income in their studies. Furthermore, the correlation concern in particular on the weak correlation among the earnings quality measures was not addressed by previous empirical studies in Nigeria. Rather than using all the key earnings quality proxies, they used one or two weakly-correlated earnings quality proxies. For example, Akeju and Babatunde (2017) used one earnings quality proxy: predictability. With that, they concluded that corporate governance mechanism in Nigeria is positively associated with earnings quality. But then, it cannot be ascertained how corporate governance mechanisms affect other quality variables – namely, earnings persistence, value relevance, and discretionary accrual – to warrant such a conclusion. Bala and Kumai (2015) used only predicted discretionary accrual and found a negative relationship between corporate governance mechanisms and earnings quality in Nigeria. Yet, the study failed to explain how corporate governance, for example, CEO duality influences earnings persistence, and predictability when concurrently analysed for investors to have in-depth and broad views of the effect.

Therefore, since none of the above studies concurrently examined the impact of corporate governance on earnings quality using all key earnings quality measures, there remains a lacuna in the literature, which this present study seeks to fill in Nigeria.

2 Review of related literatures

2.1 Corporate governance

Corporate governance is an important control measure for any organisation, and it can influence every facet of an organisation's accounting system (Martínez-Ferrero et al., 2015). Corporate governance can be defined as the process in which corporate boards oversee and monitor the running of a company by the company's managers (OECD, 1999). It can also be seen as the manner the board members are in turn accountable to shareholders and the organisations. Corporate governance specifies the link and sharing of rights and roles among the shareholders, the boards, the agents and several other interest holders including employees, consumers, suppliers, the community and the state. Corporate governance is seen as encompassing interactions between firms' management, their boards, and all their financial stakeholders such as shareholders and debenture holders. In another perspective, corporate governance is defined as the effectiveness of mechanisms that minimise agency conflicts that affect agents, with focus on legal mechanisms that contain minority interest holding expropriation (Shleifer and Vishny, 1997). Based on the above concept, it possesses implications for the action of companies towards their investors, employees, customers and other external stakeholders such as banks and insurance companies. When corporate governance is good and well structured, it plays a very essential role in underpinning the integrity and efficiency of capital (financial) markets. On the other hand, corporate governance that is weak and poor could reduce a company's potential for sustainability. In addition, weak corporate governance can permit financial difficulties including fraudulent practices. If companies are well governed, they will usually outperform other companies and will be able to attract investors whose support can help to finance further growth.

2.2 Earnings quality

Earnings quality has been one of the most complicated constructs for researchers as earnings quality is not easily observable. As such, it has been defined based on various characteristics of reported earnings. This implies that there is no unanimous definition of earnings quality. Therefore, researchers have used various measures to indicate earnings quality. These measures include persistence, accruals discretion, smoothness, timeliness, loss avoidance, investor responsiveness, and external measures such as restatement and SEC enforcement releases. Higher quality earnings provide more information about the features of a firm's financial performance that is relevant to a specific decision made by a specific decision-maker (Dechow et al., 2010). Based on the above view, earnings quality is dependent on the decision relevance of the accounting information. Therefore, earnings quality can be defined as that kind of earnings that provide more information about the features of a firm's financial performance that is also relevant to a specific decision made by a specific decision-maker (Dechow et al., 2010). This carries decision-usefulness perspective, which considers earnings as higher quality solely because such earnings

enhance resource allocation decision. Earnings quality also describes any earnings that are free from earnings management and this highlight why terms such as discretionary accrual carries negative connotation of earnings quality. According to Dechow and Schrand (2004), earnings quality describes that kind of earnings that conformed to the generally accepted accounting principles while Schipper and Vincent (2003) describes earnings quality as “the extent to which reported earnings faithfully represent Hicksian income where representational faithfulness means correspondence or agreement between a measure or description and the phenomenon that it purports to represent.” Research also highlights that reported earnings possess higher quality attribute if they embody more information with respect to terminal cash flow (Ewert and Wagenhofer, 2015). In this case, earnings quality is seen as the average reduction of the market’s uncertainty about the terminal value due to earnings report in the first period (Ewert and Wagenhofer, 2015).

2.2.1 Earnings persistence

Earnings persistence is one of the key proxies used for earnings quality and it is based on the ability of reported earnings to persist and reoccur in the future (Ewert and Wagenhofer, 2015). Lack of persistence suggests that the earnings are transitory, which is a bad characteristics of earnings for investment purposes (Sloan, 1996). According to Richardson et al. (2001), earnings persistence describes the degree to which earnings performance of firms persists into the second period. However, if there are no such mappings, then such earnings are poor. Persistence also suggests sustainability and generally, there is a consensus that sustainability is a desirable attribute of earnings. Thus, earnings that embody such feature are highly qualitative (Ismail, 2011; Yo, 2009). Ewert and Wagenhofer (2015) and Fischer and Verrecchia (2000) found that high persistence is regarded as a desirable attribute by investors because it suggests a stable, sustainable, and low-risk earnings process—a view shared by Beneish and Vargus (2002).

2.2.2 Value relevance

Value relevance, which is another key earnings quality proxy, captures the notion that earnings are of high quality if they are capable to explain the firm’s market price and/or market returns (Ewert and Wagenhofer, 2015). Therefore, earnings are considered to have higher quality attribute if they are of more value relevant. Value relevance is purely an investor perspective to the quality of earnings. In most earnings quality research, earnings quality is determined by how relevant earnings are to investors in terms of equity measurement. It was highlighted in Ismail (2011) that when quality of earnings is improved; such improvement also directly and positively affects the relationship between the value of the firms and the reported earnings. Technically, the market value of a firm is driven by the coefficient of the reported earnings. Therefore, the lower the coefficient is the lower the value of the firms, hence the lower the quality of the earnings.

2.3 Theoretical framework

Theories explaining the relationship between corporate governance and earnings management have emerged over the decades. For the purpose of this study, we shall briefly highlight few of them and explain how each relates to our present studies.

The first theory which highlights the relationship between corporate governance and earnings quality is the agency theory. Agency theory first started as the theory firm. However, it was formerly integrated into corporate governance study by Jensen and Meckling (1976). This theory is based on the view that where ownership and control are separated that there appears a very high likelihood that the conflict of interests will occur. In this theory, the owners are called the principals who mandate the managers – the agents – to run the firms for the owners. The conflict of interests will always lead to one party misleading the other through the manipulation of financial statements for their selfish interests. The bulk of the game is carried out by the agents, who are insiders and who control the investors' resources. Most often, these conflicts reflect on the contractual relationship (Ewert and Wagenhofer, 2015; Lehmann, 2016). In this case, the managers manipulate the accounts to promote and achieve their contractual relationship based on firms' performance. Such actions affect firms' earnings quality.

Another theory is the stewardship theory. It contends that managers are good stewards that do not need strict monitoring before they discharge their contractual roles (Yusoff and Idris, 2012; Borlea and Achim, 2013). The basic assumption is that the managers will always run the firms in the best interest of the shareholders (Yusoff and Idris, 2012) that guarantee earnings quality. That means they are good administrators of the resources committed to their care and trust. Under the stewardship theory, managers work to maximise corporations' value and do not make any decision inconsistent with the interest of the shareholders. Therefore, unlike agency theory, it advocates that as good stewards, managers do not exhibit conflict of interests that will jeopardise the quality of firms' earnings and the value of shareholders. The reason they do not manage firms carelessly is built on the managers' belief that the progress of the shareholders means their own progress too (Smallman, 2004).

Stakeholder theory emerged with increasing desire for firms to factor all their interests groups. The firms' interests groups are those that firms influence and are being influenced by the firms. The major interests groups of the organisations are the shareholders, creditors, debtors, managers, government, the community and the general public (Borlea and Achim, 2013). This theory rose following the emergence of Friedman's shareholder theory (Friedman, 1970 in Borlea and Achim, 2013), where it was stated that the only responsibility of the firms or the managers is to maximise shareholders' value. In reaction, Freeman (1984) proposed alternative theory – the stakeholders' theory to highlight that corporate has a duty to all their stakeholders. The stakeholder theory argues that firms should pattern their behaviour including their governance rules to satisfy all parties that have stakes in them. In this context, stakeholder theory believes that presenting qualitative accounting information is a social responsibility of firms.

Another important theory that explains the relationship between earnings quality and corporate governance is hazard moral theory. This theory is an off-shoot of agency theory and addresses the opportunistic behaviour of managers in relation to earnings quality. It postulates that guided by their private interests, managers are prone to moral hazards (Hendrik, 2003 in Borlea and Achim, 2013). Moral hazards define hidden actions of the managers, which emerge as a result of information asymmetry. The tendency of hidden action is usually high because of the privilege position given to managers to prepare accounting documents. Most of often, they take the opportunity to manipulate accounting information at the detriment of shareholders. The moral hazards can arise based on the

contractual performance incentives. When managers' compensation is based on the performance target, there arises the tendency to manipulate accounts in order to maximise the performance-contractual-based compensation (Ramzi, 2009; Borlea and Achim, 2013). The researchers identify moral hazards as being determined by two main factors namely the conflict of interests of counterparties (principals and agents), what he called hidden action, and opportunistic behaviour as a result of asymmetric information. Unless minimised or checked by the effective corporate mechanisms, it could decrease performance including the quality of earnings quality.

Another theory is the resource dependency theory. This theory highlights the facts that the firm must be connected to their external environment to succeed, hence it looks at firms as institutions that need external resources to survive or to forge ahead. As suggested in Borlea and Achim (2013), firms are open loop systems and the environments in which they operate are critical to their decision processes about their resource allocation and utilisation. The theory highlights that the directors function as connection between the organisations and external factors by co-opting the resources required to make the firms successful (Yusoff and Idris, 2012). In this perspective, the boards of directors are vital factors in absorbing external risks. Environmental and network governance mitigate high transaction cost that has to do corporation's interdependence with the environment (Yusoff and Idris, 2012). Hence, directors bring resources such as information, skills, key constituents namely suppliers, buyers, public policy decision-makers and social groups. Directors also bring legitimacy that minimises uncertainty in the firms (Gales and Kesner in Yusoff and Idris, 2012). Resource dependency theory supports the institution of multiple directors to multiple boards in corporate organisations as doing so pools resources that will help in successful administration of the firms, which can positively affect firms' reporting quality.

2.4 Review of empirical literature

The empirical evidence on the effect of corporate governance on earnings quality including persistence and value relevance is vast. Some empirical research provide direct evidence by examining the effect on the key earnings quality proxies while other researchers focused on indirect effect by inferring from the effect of corporate governance on earnings management (Man and Wong, 2013; Ramzi, 2009; Xie et al., 2003).

Empirical evidence shows that that board size limits the ability of the board to monitor effectively managers' practices and then limit their accounting information bias (Man and Wong, 2013; Xie et al., 2003). Xie et al. (2003) found that that having a larger board affects earnings management negatively because diversification of board members brings useful skills and monitoring ideas that could help run the business in a more effective way than when the business is directed by few hands. They found that big boards are well equipped in terms of knowledge mix, which improves better monitoring.

Lu et al. (2018) found that compliance with the code improved investee companies' income quality in the UK. Demirkan and Platt (2009) found that corporate governance impacts managers' decisions to engage in discretionary earnings and thereby artificially affects company financial reporting quality. However, their evidence shows that governance index positively affects accrual because strong governance appears to reduce the incidence of mid-range firms that engage in accruals manipulation. Habib and Azim (2008) analysis using Australia evidence shows that companies with strong governance

model exhibit higher value-relevance of accounting information. As such, their evidence provides support that significant regulatory reforms regarding corporate governance around plays a key role in promoting quality financial reporting.

Mashayekhi and Bazaz (2008) found that a larger board size results in weaker earnings quality and that higher independent directors and frequency of board meetings improves earnings quality. Moreover, they found that board size negatively affect discretionary accrual. Mashayekhi and Bazaz (2008) found evidence that larger board size makes monitoring less efficient because corporate communication will be less efficient, which translates into poor accounting information. Peasnell et al. (2005) found that there was a positive relationship between board size and accrual quality.

Chambers and Payne (2011) found that accrual persistence increased significantly in the post-SOX period and that post-SOX the firms audited by big-N auditors with lower-independence resulted in the highest improvement in earnings persistence. Alzoubi (2016) used a sample of 62 companies listed on the Amman Stock Exchange and found that insider managerial ownership, institutional ownership, external block holder, family ownership and foreign ownership yield greater impact on financial reporting quality. Egbunike and Odum (2018) found that board size and board composition positively and significantly influenced income quality in Nigeria for selected manufacturing firms. Their analysis shows that the proportion of non-executive directors was negative and significant on income quality; while, CEO duality was significantly positive on income quality. Klein (2002) found that board size and independent do not influence abnormal accruals positively. Ismail (2011) discovered that board size is positively associated with non-family firms and negatively associated with the board size.

Yasser and Al Mamun (2015) provide evidence that unitary or dual leadership structure has no impact on public listed companies' performance and reporting quality. They also found that female CEOs negatively impact on firms' performance and reporting quality in Malaysia and Pakistan. Hili and Affess (2012) found evidence that earnings persistence is not enhanced by the presence of women directors on the board among French listed firms. Damagum et al. (2014) found evidence that the presence of women in the board did not lead to financial reporting credibility in Nigeria. On the contrary, Gravious et al. (2012) found that earnings management decreases when either CEOs or the chief financial officers are women. They found positive relationship between the ratio of female to male in the board and firms' value. Kreder (2016) evidence shows that the relationship between gender and the quality of earnings is positive and that as the proportion of women in the board increases, the credibility of financial reporting improves in the USA.

Baatwah et al. (2019) found that the audit committee chair with accounting experience is associated with a reduction in audit delay, which could enhance credibility in reporting in Malaysian firms. However, they found that the evidence was more pronounced when the chair is a shareholder of the firms. Nelson and Davis (2013) investigation shows that the presence of non-accounting experts and accounting experts is significant to minimise accrual manipulations, which improves income persistence and value relevance.

Hutchinson et al. (2008) found that board independence and audit committee independence negatively influenced performance-adjusted discretionary accruals in Australia. Marzuki et al. (2016) found evidence that the revised Malaysian Code on Corporate Governance promotes income conservatism. They also reported that audit

committee financial knowledge and independence positively affected income conservatism. Their evidence also showed that board financial expertise combination influenced income conservatism.

Iyengar et al. (2010) found that that significant negative association existed between reported income quality and the proportion of CEO incentive pay. They also reported that board independence does significantly associate with earnings quality. Their analysis suggests that the emphasis on board independence as an effective monitoring device may be wrong. Based on Suyono and Al Farooque (2018) analysis, institutional ownership, managerial ownership and independent boards yield a significant containment effect on earnings manipulation, which invariably leads to higher reporting quality.

Yasser and Al Mamun (2016) found that the relationship between CEO duality attributes and earning discretion is not significant among Asian-Pacific firms. As such, CEO duality is not associated with firms' earnings quality. They also found that unitary leadership pattern has no significant effect on companies in the Asia-Pacific. Baatour et al. (2017) found that the effect of multiple directorships on accrual-based earnings management and real earnings management in Saudi Arabia is positive on earnings quality. However, they found evidence that the effect is insignificant on discretionary accrual. For a sample of 1,500 American, Canadian, British, and French firm-year observations, Joubert and Fakhfakh (2014) found that firms from countries within the Anglo-American corporate governance structure, which provides greater protection of shareholder rights, and enhances strict enforcement of law scores high on board oversight and tend to maintain lower degree of discretion over income.

Siagian and Tresnaningsih (2011) found that both discretionary accrual and earnings response coefficients improved significantly after firms acquired independent directors and independent audit committees in Jakarta. Yo (2009) used a pooled-OLS, and found that earnings quality depends on the background of outside directors in Korea. According to the researcher, there is negative relationship between outside directors having high profile background and earnings quality for instance politicians, and lawyers. Based on their result, this relationship also holds for outside directors, who are professors and foreigners. However, his analysis shows that outside directors, who are finance expert and former employees are positively associated with income quality. Liu et al. (2013) found that the separation of the office of CEOs, and the board chairperson positively associates with income quality.

2.5 Hypotheses development for corporate governance and income persistence and value relevance quality relations

2.5.1 The board size and earnings quality: persistence and value relevance

Corporate governance best practices codes encourage firms' effectiveness (Khiari and Lajmi, 2018) consistent with the theory. The proposition of the agency theory is that managerial incentives to bias accounting report for their selfish interest could be limited by the presence of the third party in the form of monitoring board. In theory, the board is an effective corporate governance mechanism (Man and Wong, 2013). This assertion is supported by resource dependency theory where it is highlighted that the presence of board links the business with its environment and reduces business operational risks. The board plays the monitoring roles (Kukah et al., 2016) and makes sure that managers follow the established control measures in running the firms. Such a control measure can

curb fraudulent behaviour (Imoniana et al., 2016). Hence, in essence, the board represents the actual interests of the shareholders. However, it is feared that the ability of the board to monitor effectively managers' practices and then limit their accounting information bias is limited by the size or composition of the board (Man and Wong, 2013; Ramzi, 2009; Xie et al., 2003). Xie et al. (2003) highlight that having a larger board is associated with less earnings management. This is because diversifying in term of board membership brings useful skills and monitoring ideas that could help run the business in a more effective way than when the business is directed by few hands (Yusoff and Idris, 2013). However, Lehmann (2016) maintains that even the strongest boards in terms of board size can be associated with low earnings quality. In this regard, it is argued that increasing the board membership may result in having many external board leaders who may not rise to the challenge of the firms because they do not have the real knowledge of the firms like the managers. Mashayekhi and Bazaz (2008) used discretionary accrual, earnings predictability and earnings persistence, and found that a larger board size results in weaker earnings quality and an increase in the number of independent directors and frequency of board meetings add value to firms' earnings quality status. For the discretionary accrual, the above variables negatively impact on it. It was discovered in Mashayekhi and Bazaz (2008) that a significant positive correlation occurred between board size and financial performance. They confirm the argument that a larger corporate board representation yields more valuable resources to organisations. Consistent with this, Xie et al. (2003) make case that big boards in terms of representation are well equipped in terms of knowledge mix, which enhances better monitoring. Mashayekhi and Bazaz (2008) suggest that larger board size makes monitoring less efficient because corporate communication will be less efficient, which translates into poor accounting information. Nkanbia-Davies et al. (2016) found that there was a positive relationship between board size and accrual quality. There exists positive relationship between board size and accrual quality (Peasnell et al., 2005). However, Klein (2002) shows that board size and independent do not influence abnormal accruals positively. Ismail (2011) follow a partial multi-proxy approach and discover that board size is positively associated for non-family firms' earnings persistence and earnings value relevance. Egbunike and Odum (2018) also confirmed this empirical evidence when they found that board size and board composition positively and significantly influenced income quality in Nigeria for selected manufacturing firms. Based on this, we postulate the following hypotheses:

- 1 Board size significantly affects earnings quality measured in persistence.
- 2 Board size significantly affects earnings quality measured in terms of value relevance.

2.5.2 CEO duality and earnings quality

In the board, both the executive and non-executive members gather together to take deliberations on how to direct the affairs of the firms to the best interest of shareholders. While the executive managers are the agents that have their own interest in the firms, non-executive members are usually independent members that represent the shareholders. The idea of duality is whether from the governance perspective the post of the chairman of the board should be in the hand of the independent members or to be held by the CEOs. There are arguments for and against the duality of CEO. Jensen (1993) argues that the board chair should serve to monitor CEO since the CEO who also hold the board

chair person exert undue influence on the board, which may result in compromising. Where the two leadership positions are in hand of one person, in this case CEO, there is going to be a lack of independence (Mashayekhi and Bazaz, 2008). To enhance independence for more effectiveness of the board, there should be a separation between the persons that carry out the two roles. Mashayekhi and Bazaz (2008) highlight that a separation of CEO and chairman positions brings about better corporate governance, which invariably leads to improved financial reporting quality. Liu et al. (2013) found that the separation of the office of CEOs, and the board chairperson positively associates with earnings quality. Egbunike and Odum (2018) found that CEO duality was significantly positive on income quality. This means that the mechanism promotes earnings quality. Liu et al. (2013) also found supportive evidence that the separation of the office of CEOs, and the board chairperson positively associates with income quality. However, there is also negative evidence. Yasser and Al Mamun (2015) provide evidence that unitary or dual leadership structure has no impact on public listed companies' performance and reporting quality. Thus, the effect is a matter empirical test, thus we state the following hypotheses:

- 3 CEO duality significantly affects income persistence quality of Nigerian quoted firms.
- 4 CEO duality significantly affects income value relevance quality of Nigerian quoted firms.

2.5.3 Audit committee and earnings quality

The link between audit committee and income quality is based on the fact that audit committee is a part of firms' watchdog team. Apart from making sure that firms accounting system is in accordance with the established control, they work with external auditors. They meet regularly to discuss the internal control system of the firms. As such, their compositions can enhance firms' earnings quality. Market can place a premium on the stocks of firms with strong audit committee. This means that the earnings of such firms can be highly value relevant.

Based on Nigerian governance code, there are six audit committee members – three members representing the board while the other three represent the shareholders. However, because the code is a recommendation, some firms use higher composition while others use lower compositions. This variation can differently affect earnings quality. Bala and Kumai (2015) examined how audit committee characteristics affect earnings quality of the listed food and beverages firms in Nigeria. Using Jones' (1991)-based discretionary accrual model, the study found that audit committee size negatively relate with discretionary accrual. This means that as the audit committee members improve upon their knowledge, the tendency to manipulate earnings decreases. On the contrary, audit committee meeting and audit committee independent positively affect discretionary accrual. Akeju and Babatunde (2017) provided evidence audit committee composition improves earnings quality in Nigeria between 2006 and 2015. Ismail (2011) found that independent of audit committee is positively associated with non-family firms' earnings quality. Hutchinson et al. (2008) found a link between board independence and audit committee independence in which case the association negatively influenced performance-adjusted discretionary accruals in Australia, thus leading to

higher earnings quality. Based on the above discovered link, we propound the following hypotheses:

- 5 Audit committee significantly enhances income persistence.
- 6 Audit committee significantly enhances income value relevance.

3 Methodology

This study made use of secondary data. Therefore, an ex post facto research design and a two-stage regression analysis approach were used. The study followed a firm-year approach to determine its population and purposely selected a four-year period between 2014 and 2017 to provide the latest evidence. There were 170 firms in the Nigerian Stock Exchange (NSE) as of April 23, 2018. However, this study dealt with only 37. Of the 170 firms in the NSE, 82 service firms, which included 57 financial firms, 25 service firms and 51 other firms, were excluded because their operational activities do not fit the model used in this study to derive earnings quality. In addition, there are high regulation and specific disclosure requirements in financial services firms that permit little chance for accrual manipulation. Although most firms filed their account with SEC between 2014 and 2017, some of their financial statements are not comprehensive. For instance, some were in abridged forms, which left no room for the disclosure of information about a firm's board structure. As such, it cannot be ascertained from the financial report content analysis whether for example a CEO of a firm is also the chairman of that firm's board. Therefore, the sample size of this study is made up of 37 firms \times 4 firm-years, resulting in 148 financial statements. The data used was sourced from NSE database. The data was analysed using two multiple regressions and multivariate regressions used for the second stage regression. Data were analysed with the aid of SPSS and EViews statistical software.

3.1 Model specifications

The key model was adopted from the studies of Fischer and Verrecchia (2000) and Ewert and Wagenhofer (2015). These authors demonstrated in clear ways the earnings quality relation in their models.

3.1.1 Earnings value relevance

Value relevance captures the notion that earnings are of high quality if they are capable of explaining the firm's market price and/or market returns. The model for value relevance follows rational expectation equilibrium (Fischer and Verrecchia, 2000; Ewert and Wagenhofer, 2015). Therefore, to construct equilibrium to reporting bias game, the researchers restrict the analysis to linear equilibrium. In linear equilibrium, price is linear in r and bias is linear in c and x . c is the intercept and x is the earnings. This relation is shown in equations below:

$$I(c, x) = \lambda_c c + \lambda_x x + \delta \tag{3.1}$$

Equation (3.1) now translates into a linear model thus:

$$P^a(r) = \beta r + \alpha \quad (3.2)$$

The bias is treated as the realised difference between economic earnings and reported earnings, which means, the bias is captured in the model by the intercept term. The intercept α is the market participants' adjustment for the expectation of the difference between the earnings realisation and the earnings report, scaled by the market response to marginal changes in the report.

Therefore, to determine value relevance of earnings report, we use a model that estimates regression coefficient from the regression of market price on earnings. The response coefficient is β from the equilibrium. Therefore, value relevance equals:

$$\beta = \frac{\text{Cov}(x, r_1)}{\text{var}(r_1)} \quad (3.3)$$

where x and r are earnings and equity prices respectively. When this is determined, we test the extent value relevance together with other proxies is a function of CEO duality.

3.1.2 Earnings persistence

Persistence measures the extent current earnings persist, or recur in the future. In the model, the nature of the gradient of the regression of the first period earnings on second period earning indicates how persistent earnings are. If we denote r_1 and r_2 as the first and the second period earnings respectively, we have a general model, thus:

$$r_2(\text{Earnings}_t) = \alpha + \beta(r_1)(\text{Earnings}_{t-1}) \quad (3.4)$$

$$\text{Persistence (PS)} = E[r_1, r_2] = [r_2] + \frac{\text{Cov}(r_1 r_2)}{\text{var}(r_1)} * (r_1 - E[r_1]). \quad (3.5)$$

The above model simplifies to

$$PS = \frac{\text{Cov}(r_1 r_2)}{\text{var}(r_1)} = \beta - 1. \quad (3.6)$$

3.2 Corporate governance and income persistence-value relevance effect model

We followed a two-stage regression analysis approach as recommended by Dechow et al. (1995) and Kothari et al. (2005) in determining the influence of corporate governance on earnings quality. The first stage has been previously described which are the regression analyses where we determined earnings persistence and value relevance. In the second stage, we carry out a regression of earnings quality conditioned on corporate governance mechanisms while controlling for firm specific factors that can also influence earnings quality. The second stage regression model following Dechow et al. (1995), takes the following form:

$$EQ_{it} = \alpha + \beta GOV_{it} + \delta Control + er \quad (3.7)$$

where EQ_{it} represents earnings quality. EQ_{it} is proxied by earnings persistence, and earnings value relevance. GOV_{it} stands for corporate governance mechanism namely CEODUA, board size composition and audit committee composition. $Control$ stands for control variables, which include firm size and leverage. β is the coefficient of corporate

governance mechanism and δ is the coefficient of the control variables. α stands for constant while er is the stochastic and measurement error.

Therefore, to be able to test the stated hypotheses, we use the following multivariate model:

$$EQ_{it}(E_1, E_2) = \alpha_{a,b} + (\beta_{a1}, \beta_{a2})CEODUA_{it} + (\beta_{b1}, \beta_{b2})BDSZ_{it} + (\beta_{c1}, \beta_{c2})AUDCC_{it} + (\delta_{a1}, \delta_{a2})FSZ_{it} + (\delta_{b1}, \delta_{b2})LEV_{it} + er \quad (3.8)$$

EQ_{it} stands for earnings quality namely earning persistence, and value relevance represented by E_1 and E_2 , respectively. β_{a1} and β_{a2} are $CEODUA$ gradients that relate to earnings quality proxies E_1 and E_2 , respectively. β_{b1} and β_{b2} are gradients of $BDSZ$ for earnings quality proxied by E_1 and E_2 . β_{c1} and β_{c2} are coefficients of $AUDCC$, which respectively relate to E_1 and E_2 . δ_{a1} and δ_{a2} and δ_{b1} and δ_{b2} are control variable gradients of FSZ (firm size) and LEV (leverage), which respectively associate with E_1 and E_2 . α is the measure of the intercept of the earnings quality.

$CEODUA$ is a dummy independent variable that stands for CEO duality. $CEODUA$ takes value 1 for firms where the chairman of the board is not the same as the CEO. Where, one person plays the role of CEO and the board chairman, $CEODUA$ takes value 0. Thus, we measure the variable from dichotomous perspective.

$BDSZ$ represents board size measured in terms of the number of firms' board members. This variable is a good choice because it is assumed that as the number of directors in the board increases, earnings quality is likely to be enhanced. Increase in the number of board members brings diversity of expertise that can translate into earnings quality. However, board size increment can negatively impact earnings quality because as the board size increases, timeliness, which is an essential attribute of earnings may be compromised. Moreover, agency cost may rise, which may push managers to compromise reported earnings in order to meet performance target. Board size is deflated with total gross assets.

$AUCC$: this variable stands for audit committee composition. Its inclusion is on assumption that the composition of audit committee affects firms' earnings quality. The higher the number is, the higher the chances that issue relating to firms' reporting will be discussed and treated well. Moreover, increase in audit committee creates higher chances of audit committee meeting and shareholder representation.

FSZ stands for firm size. It is a measure of the effect of changes in gross total assets on earnings quality. Big firms are assumed to report higher earnings quality. FSZ is deflated by the natural logarithm to remove multi-co linearity issue.

LEV is a control variable that measures the effect of debt on earnings quality. Firms are assumed to manage earnings upwards to avoid violation of debt covenant, which in turn affects the quality of their reported earnings. It is deflated with natural logarithm.

4 Results

4.1 Data presentation and analyses

We present the data in Tables 1–4. These data were grouped into two. The raw data and data deflated with total assets and logarithm as operational measures. The later are used for the main regression analyses, thus it is a transformation of the raw data.

4.2 Descriptive statistics

In Table 1, we examined the mean and standard deviation statistic for the purpose of multivariate analysis.

Table 1 Descriptive statistics for corporate governance mechanisms and earnings quality

<i>Variables</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. dev.</i>
REC	148	2.000	13.664	0.38890	0.1438397
REV	148	30.0000	107.335	2.875034	0.10337636
FSZ	148	4.0000	9.2216	7.184735	0.1116980
LEV	148	1.00000	2.32066	0.147744	0.28925495
AUCC	148	0.6021	1.3424	0.789944	0.1305446
CEODUA	148	0.0000	1.0000	0.731034	0.4449590
BDSZ	148	0.6021	1.2788	0.956698	0.1546875
RELV	148	-62.370	108.771	89.0227	0.12490962
PERS	148	-993.08	468.378	-16.9529	0.26365100
Valid N (listwise)	148				

Notes: RELV = relevance, PERS = persistence, PRED = predictability and DEPR = depreciation.

The descriptive statistics in Table 1 show low deviation from the mean. Thus, the variables are good for regression analysis. Standard deviation of 1 and above is considered risky for regression analysis. We have CEODUA of 1 and 0, which means there are firms that follow Nigerian Corporate Governance Code of separating the post of CEOs from the post of the board chairperson. We have discretionary accrual with maximum value of 10.5 and minimum value of -6.01. This means accrual is being managed upwards and downwards.

Source: Author

Table 2 Correlation matrix for dependent, independent and control variables

<i>Variables</i>	<i>FSZ</i>	<i>LEV</i>	<i>AUCC</i>	<i>CEODUA</i>	<i>BDSZ</i>	<i>RELV</i>	<i>PERS</i>
<i>FSZ</i>	1						
Sig.							
<i>LEV</i>	-.088	1					
Sig.	.297						
<i>AUDC</i>	.046	.025	1				
Sig.	.583	.761					
<i>CEODUA</i>	.150	-.191*	-.047	1			
Sig.	.073	.021	.572				
<i>BDSZ</i>	.300**	.109	.138	.052	1		
Sig.	.000	.192	.099	.534			
<i>RELV</i>	-.072	.035	.026	.109	-.170*	1	
Sig.	.394	.678	.760	.195	.041		
<i>PERS</i>	.089	.059	.028	.114	.181*	-.365**	1
Sig.	.292	.484	.743	.178	.031	.000	

Note: *Significant at 5%; **significant at 1%.

Source: Author

We examined the existence or otherwise of the problem of multicollinearity in Table 2 to ensure that the final model is very reliable and consistent. We used correlation analysis to test this. The analysis showed the results of all possible bivariate combinations of the variables of the explanatory variables have correlation coefficients that were very low for the existence of multicollinearity. A correlation coefficient that is very high (greater than 0.9) may indicate a strong linear association, which may be potentially harmful for explanatory variables' model. It can also be observed that variables do not correlate in a uniform direction. For example, CEO duality positively correlates with discretionary accrual and value relevance. However, it negatively correlates with predictability. The correlations are significant, which means it should be taken into consideration in determining the nature of the effect of corporate governance on the variables.

4.3 Regression analyses

In this section, we present the first stage regression, where we derived the data for earnings quality proxies namely earnings predictability, earnings persistence, earnings value relevance and discretionary accrual.

The statistics in the models in Table 3 were used to derive data for earnings quality. Thus, the statistics were fit in the various models outlined in the methodology section. Model 1 was specifically used for deriving normal accruals from which discretionary accrual was obtained. Model 2 is a regression of earnings conditioned on firms' equity market price. Thus, individual value relevance for each firm at a given year was obtained by making the gradient of the equation the subject. In model 3, we used the statistics to obtain the persistence-value of the earnings. The quotient of the variance of the both first earnings and second earnings periods were taken from the persistence equation to obtain the predictability value of the sampled firms. The statistics reveal that models used for the derivations are fit. This can be seen from the R and R-square statistics. Using 0.789, it can be seen that 78.9% of the discretionary accrual was explained by the manipulation of PPE, and sales including receivables. DW values as well prove that there was no autocorrelations problems among the variable residuals as the values are above 2, which is a benchmark.

Table 3 Regression output used for deriving earnings quality

<i>Variables</i>	<i>Model 1 (value relevance)</i>	<i>Model 2 (persistence)</i>	<i>t-stat.</i>	<i>Sig. value</i>
Constant	72.914	-0.203	0.709	0.480
<i>PPE</i>	-	-	3.536	0.001
	-	-	-1.624	0.107
$\Delta(REV - REC)$				
<i>EARN_t</i>	2.366	-	0.772	0.444
<i>EARN_{t-1}</i>	-	0.002	0.027	0.978
Durbin-Watson	2.2	2.8	-	-
R(R ²)	0.5 (0.25)	0.7 (0.49)	-	-

Source: Author

4.4 Multivariate regression analyses

Both statistics – Wilks' lambda and Pilai's trace in Table 4 show that the variations in the earnings quality proxies are contributed by the changes in the corporate governance variables. This is also confirmed by the R statistics. The statistic shows that the model is fit and the variations in dependent variables are very well explained by the independent variables. The values of DW revealed that there were no autocorrelation problems. Thus, we accept the hypothesis that there is no serial correlation problem among the residuals. This also suggests the absence of omitted variable problem otherwise known as an endogeneity issue.

Table 4 Multivariate regression output for all the four earnings quality proxies

<i>Variables</i>	<i>Model 1 (RELV)</i>	<i>Model 2 (PERS)</i>
Intercept	98.41***	-178.53**
BDSZ	-15.401**	115.053*
CEODUA	4.06300*	28.754*
AUCC	5.66500*	7.710*
FSZ	-0.36100	2.883
LEV	3.39900	25.707
Wilks' lambda	0.212	0.0911
Pilai's trace	0.9202	0.752
R	0.82	0.755
R-squared	0.6724	0.57
Durbin-Watson	2.76	3.01

Note: *Significant at 10%, **significant at 5% and ***significant at 1%.

Source: Author

4.5 Discussion of findings

4.5.1 Corporate governance board leadership (CEO duality) and earnings persistence-value relevance quality

Based on our analyses, we found that CEO duality has a significant positive effect on both earnings persistence (28.754, p -value < 0.05) and value relevance (4.063, p -value < 0.05). Based on this result, we accept Hypotheses 3 and 4 which stated that respectively that 'CEO duality significantly affects income persistence quality of Nigerian quoted firm' and that 'CEO duality significantly affects income value relevance quality of Nigerian quoted firms'. Thus, earnings of firms in Nigeria persist into the second period if the role of board chairperson is separated from the role of CEOs of the same firm. Some firms do not separate these roles. However, we found that this inability undermines firms' earnings quality in terms of persistence and value relevance. The effect for the value relevance is significantly positive, which means that CEO duality mechanism enhances firms' earnings quality in terms of capital market value relevance. As firms structures their leadership model, market participants place higher value to firms' stock as they consider such firms as less risky. This finding is consistent with Liu et al. (2013) who found that the separation of the office of CEOs, and the board

chairperson positively associates with earnings quality. Our analysis also supports Egbunike and Odum (2018) that CEO duality was significantly positive on income quality. Overall, this means mechanism promotes earnings quality. Our finding is inconsistent with Yasser and Al Mamun (2015) that provided evidence that unitary or dual leadership structure has no impact on public listed companies' performance and reporting quality. Our analysis also does not agree with the finding of Lehmann (2016) that boards do aid accrual manipulation in some circumstances for example during corporate mergers and acquisitions that can negatively affect income quality. Thus, the effect of CEO duality on earnings quality should not be taken in isolation of other quality variables. As such, to make decisions based on how CEO duality affect persistence without considering how it reflects on earnings value relevance could lead to corporate failure.

4.5.2 Corporate governance board size and earnings persistence and value relevance quality

Furthermore, our analysis shows that variation in board size negatively and significantly affects earnings value relevance (coefficient = -0.15 , sig = $0.04 < 5\%$). However, the effect on earnings persistence is significantly positive (coefficient = 115.053 , p -value < 0.05). Based on these results, we accept Hypotheses 1 and 2 that 'board size significantly affects earnings quality measured in persistence' and that 'board size significantly affects earnings quality measured in terms of value relevance'. Thus, we conclude that based on multivariate approach, board size significantly affect earnings quality though the effect is negative. As such, it is not likely that board size would increase earnings value relevance. This means that the market does not price in board composition in asset prices. This is consistent with the argument that increase in board size increases agency costs, which translates into CEO's earnings manipulation to mitigate the cost and meet their compensation target. Market does not capture the benefit of higher board of increasing board membership. It could see it as cost inefficient that would result in corporate earnings' compromise.

However, board composition does affect income persistence positively significantly. Thus, earnings transitory behaviour of managers can be mitigated through higher board representation. This means that board has a role in ensuring accrual quality in terms of persistence. Overall, we found board size to be more relevant to decision making in terms of persistence. This is basically because the effect is positive and significant from this perspective. Our findings are consistent with Xie et al. (2003) who made case that big boards in terms of representation are well equipped in terms of knowledge mix, which enhances better monitoring that increases earnings persistence power. We found consistent evidence in terms of board size and income value relevance with Mashayekhi and Bazaz (2008) that found that larger board size makes monitoring less efficient because corporate communication will be less efficient, which translates into poor accounting information. Market participants take care of such board in evaluating firms' stock. In terms of persistence our evidence corroborates Nkanbia-Davies et al. (2016) and Egbunike and Odum (2018) that found that there was a positive relationship between board size and earnings quality. Our study is also consistent with Peasnell et al. (2005), Klein (2002) and Ismail (2011) that found that there exists positive relationship between board size and accrual persistence quality. Our evidence partially corroborates Ismail

(2011) that discover that board size is positively associated for non-family firms' earnings persistence and earnings value relevance.

4.5.3 Corporate governance audit committee composition and earnings persistence-value relevance quality

Audit committee composition has significant positive effect on earnings value relevance (coefficient = 5.66500, p -value < 0.05) and earnings persistence (coefficient = 7.710, p -value < 0.05). Therefore, we accept Hypotheses 5 and 6 that 'audit committee significantly enhance income persistence' and that 'audit committee significantly enhances income value relevance'. This means that audit committee can mitigate risks associated with poor earnings quality by ensuring that firm's earnings are qualitative. Thus, it plays a constraining effect on earnings discretion, which would have negatively impacted the earnings quality. Market participants as well value audit committee composition and are placing higher prices on the stocks of firms with good audit committee. By constraining accrual manipulation, audit committee helps to mitigate transitory earnings reports. Our analysis is consistent with Akeju and Babatunde (2017) that provided evidence that audit committee composition improves earnings quality in Nigeria between 2006 and 2015. We found evidence consistent with Ismail (2011) that independent of audit committee is positively associated with non-family firms' earnings persistence quality that could influence value relevance of earnings. Hutchinson et al. (2008) found a link between board independence and audit committee independence in which case the association negatively influenced performance-adjusted discretionary accruals in Australia, thus leading to higher earnings quality. Our analysis corroborates their results.

4.6 Managerial policy implications and conclusions

The findings of this study are consistent with the problem we stated in the prior chapters. There, we argue that judging the effect of corporate governance on earnings quality should be based on assessment of the overall effect on earnings quality proxy. Decision based on one parameter would be misleading and this is not inconsistent with reason why several firms failed within the recent past. Following that, we stated the efforts to model the true effect of corporate governance on earnings quality have been met with some difficulties (Ewert and Wagenhofer, 2015; Dechow et al., 2010) because how to determine earnings quality and obtain one proxy that embodies all the attributes of income that make it qualitative (Lehmann, 2016; Ewert and Wagenhofer, 2015) has not been easy for researchers. Thus, researchers focus on one parameter. However, our result shows that this approach is not good for decision making. All the earnings quality measures are not uniformly affected. It has become evident from our analyses that if a researcher focuses on a single earnings quality proxy, such as earnings predictability, and draws his or her conclusions based on the response of only one proxy, such an investor would misunderstand the true effect of corporate governance on earnings quality. The overall consequence is that the investor would be misled. Take for example, in our analysis, if an investor is seeking to ascertain the quality of firms' governance structure and its effect on earnings quality, if he or she focused on board size effect on discretionary accrual, he or she would conclude that board size has a negative and non-significant influence on earnings quality. That may deter him or her from making

investment. However, if the potential investor had considered the effect on other quality proxies such as value relevance and predictability, he would have made a better decision and not be deterred. This finding is consistent with our argument that a misconception would most likely occur if an investor makes an investment decision based on the fact that persistence earnings have a strong positive correlation with earnings value relevance. This is quite clear when you consider the behaviour of certain mechanisms with regards to each proxy. Board size for instance has negative effect on earnings persistence. However, the effect on value relevance is positive and significant. An investor that examines the effect of corporate governance on earnings quality using only persistence would have arrived at wrong conclusions. Earnings could suggest persistence, which can also imply that the earnings are value relevant. However, we found the possibility that if the map-out from the second period is due to a smoothening incentive created by corporate governance and board enhancement, it would be wrong to assume that the board enhancement would not positively affect firms' value relevance because board size effect is negative. If the smoothening continues, and boards keep diversifying, the market could react negatively against the persistence quality but the reaction of market could be as well positive.

This study proved our postulation that an investor who forecasts a firm's stock as driven by firms' governance mechanism using the persistence attribute without considering the true value relevance may suffer a great loss when the market reacts against his prediction following the smoothening reversal. Therefore, our postulation is correct that if two proxies correlate perfectly or fairly positively, you can use one result to interpret the other; if they do not, the proxies need to be analysed together to give a better view of how each responds to governance mechanisms. We examined both persistence and value relevant and found the evidence. This finding implies that one will obtain a better result if all key earnings quality proxies are analysed concurrently with the aid of a multivariate analytic model. This model reads correlations among quality variables better compared to multiple regressions. Our correlation analyses show that the proxies do not perfectly correlate. Thus, it would be very risky to use the effect on one variable to reach conclusion. Little wonder, in their survey of earnings quality measures, Dechow et al. (2010) recommend that the best approach to fixing the problem imposed by lack of income quality proxy correlation and attribute divergence is to study all the proxies together with a given sample size and economic setting. As a result of their findings, Dechow et al. (2010) conclude that, taken as a whole, earnings quality proxies should not be treated as substitutes for each other. Similarly, based on their rational expectation equilibrium model, Ewert and Wagenhofer (2015) explain that the complexity of earnings quality measures requires that all the proxies should be studied together so that researchers can gain a better understanding of the proxies' drivers and their responses to such determinants. Our analyses provide evidence of such argument.

We conclude that the effect of corporate governance on earnings quality is positive, negative and complex. However, to understand the complexity and the nature of the effect, the key earnings quality variables should be integrated in the model of analyses. We recommend that investors should not rely on one earnings quality measure in ascertaining the effectiveness of corporate governance on ensuring firms' earnings quality. This is because one proxy may indicate an embodiment of positive effect for a given corporate governance mechanism while the mechanism may show negative effect for another quality measure.

Limitation of the study is that other key variables were not analysed to see clearly the effect on all key earnings quality including discretionary accrual, smoothing and predictability. Thus, further study that would examine all the key variables rather than two should be carried out for an in-depth view. Evidence involving survey is also needed in order to assess the perception on board leaders on how earnings quality is affected with regards to different income qualities.

References

- Akeju, B.J. and Babatunde, A.A. (2017) 'Corporate governance and financial reporting quality in Nigeria', *International Journal of Information Research and Review*, Vol. 4, No. 2, pp.3749–3753.
- Alzoubi, E.S.S. (2016) 'Ownership structure and earnings management: evidence from Jordan', *International Journal of Accounting & Information Management*, Vol. 24, No. 2, pp.135–161.
- Baatour, K., Othman, H.B. and Hussainey, K. (2017) 'The effect of multiple directorships on real and accrual-based earnings management: evidence from Saudi listed firms', *Accounting Research Journal*, Vol. 30, No. 4, pp.395–412.
- Baatwah, S.R., Salleh, Z. and Stewart, J. (2019) 'Audit committee chair accounting expertise and audit report timeliness: the moderating effect of chair characteristics', *Asian Review of Accounting*, Vol. 27, No. 2, pp.273–306.
- Bala, H. and Kumai, B.G. (2015) 'Audit committee characteristics and earnings quality of listed food and beverages firms in Nigeria', *International Journal of Accounting, Auditing and Taxation*, Vol. 2, No. 8, pp.216–227.
- Beneish, M.D. and Vargus, M.E. (2002) 'Insider trading, earnings quality, and accrual mispricing', *The Accounting Review*, Vol. 77, pp.755–791.
- Borlea, S.N. and Achim, M. (2013) 'Theories of corporate governance', *Economics Series*, Vol. 23, No. 1, pp.117–127.
- Bushman, R. and Smith, A. (2001) 'Financial accounting information and corporate governance', *Journal of Accounting and Economics*, Vol. 31, Nos. 1–3, pp.237–333.
- Chambers, D. and Payne, J. (2011) 'Audit quality and accrual persistence: evidence from the pre- and post-Sarbanes-Oxley periods', *Managerial Auditing Journal*, Vol. 26, No. 5, pp.437–456.
- Damagum, Y.M., Oba, V.C., Chima, E.I. and Ibikunle, J. (2014) 'Women in corporate boards and financial reporting credibility: evidence from Nigeria', *International Journal of Accountancy and Financial Management Research*, Vol. 4, No. 1, pp.1–8.
- Dechow, P., Ge, W. and Schrand, C. (2010) 'Understanding earnings quality: a review of the proxies, and their determinants and their consequences', *Journal of Accounting and Economics*, Vol. 50, Nos. 2–3, pp.344–401.
- Dechow, P.M. and Schrand, C.M. (2004) *Earnings Quality*, Research Foundation of CFA [online] <http://csiinvesting.org/wp-content/uploads/.../defining-earnings-quality-CFA-publication.pdf> (accessed 5 January 2018).
- Dechow, P.M., Sloan, R.G. and Sweeney, A.P. (1995) 'Detecting earnings management', *Accounting Review*, Vol. 70, No. 2, pp.193–225.
- Demirkan, S. and Platt, H. (2009) 'Financial status, corporate governance quality, and the likelihood of managers using discretionary accruals', *Accounting Research Journal*, Vol. 22, No. 2, pp.93–117.
- Egbunike, C.F. and Odum, A.N. (2018) 'Board leadership structure and earnings quality: evidence from quoted manufacturing firms in Nigeria', *Asian Journal of Accounting Research*, Vol. 3, No. 1, pp.82–111.
- Ewert, R. and Wagenhofer, A. (2015) 'Economic relations among earnings quality measures', *ABACUS*, Vol. 51, No. 3, pp.311–355.

- Fischer, P.E. and Verrecchia, R.E. (2000) 'Reporting bias', *The Accounting Review*, Vol. 75, No. 2, pp.229–245.
- Freeman, R.E. (1984) *Strategic Management: A Stakeholder Approach*, Pitman, Boston, MA.
- Gravious, I., Segev, E. and Yosef, R. (2012) 'Female directors and earnings management in high technology firms', *Pacific Accounting Review*, Vol. 24, No. 1, pp.4–32.
- Habib, A. and Azim, I. (2008) 'Corporate governance and the value-relevance of accounting information: evidence from Australia', *Accounting Research Journal*, Vol. 21, No. 2, pp.167–194.
- Hili, W. and Affess, H. (2012) 'Corporate boards gender diversity and earnings persistence: the case of French listed firms', *Global Journal of Management and Business Research*, Vol. 12, No. 22, pp.51–59.
- Hutchinson, M.R., Percy, P. and Erkurtoglu, L. (2008) 'An investigation of the association between corporate governance, earnings management and the effect of governance reforms', *Accounting Research Journal*, Vol. 21, No. 3, pp.239–262.
- Imoniana, J.O., DeFeitas, E.C. and Perera, L.C.J. (2016) 'Assessment of internal control systems to curb corporate fraud-evidence from Brazil', *African Journal of Accounting, Auditing, and Finance*, Vol. 5, No. 1, pp.1–24.
- Ismail, W.A.B.W. (2011) *Earnings Quality, Family Influence and Corporate Governance: Empirical Evidence from Malaysia*, PhD thesis, Victoria University of Wellington.
- Iyengar, R.J., Land, J. and Zampelli, E.M. (2010) 'Does board governance improve the quality of accounting earnings', *Accounting Research Journal*, Vol. 23, No. 1, pp.49–68.
- Jensen, M.C. (1993) 'The modern industrial revolution, exit, and the failure of internal control system', *Journal of Finance*, Vol. 4, pp.831–880, DOI: 10.1111/j.1540-6261.1993.tb04022.x.
- Jensen, M.C. and Meckling, W.H (1976) 'Theory of the firm; managerial behaviour, agency costs and ownership structure', *Journal of Financial Economics*, Vol. 3, No. 4, pp.306–360.
- Jones, J.J. (1991) 'Earnings management during import relief investigation', *Journal of Accounting Research*, Vol. 29, No. 2, p.1.
- Jouber, H. and Fakhfakh, H. (2014) 'The association between CEO incentive rewards and earnings management: do institutional features matter?', *EuroMed Journal of Business*, Vol. 9, No. 1, pp.18–36.
- Khiari, W. and Lajmi, A. (2018) 'Towards the implementation of corporate governance best practices for Tunisian listed firms: an empirical approach using the artificial neural networks', *African Journal of Accounting, Auditing and Finance*, Vol. 6, No. 1, pp.21–42.
- Klein, A. (2002) 'Audit committee, board of directors characteristics, and earnings management', *Journal of Accounting and Economics*, Vol. 33, No. 3, pp.375–400.
- Kothari, S.P., Leon, A.J. and Wasley, C.E. (2005) 'Performance matched discretionary accruals', *Journal of Accounting and Economics*, Vol. 39, No. 1, pp.23–49.
- Kreder, R. (2016) *Board Diversity and Earnings Quality; The Association Between Female Board Presence and the Magnitude of Discretionary Revenue Activities, Evidence from US-listed Firms*, Erasmus University Rotterdam thesis.
- Kukah, M.A., Amidu, M. and Abor, J.Y. (2016) 'Corporate governance mechanisms and accounting information quality of listed firms in Ghana', *African Journal of Accounting, Auditing and Finance*, Vol. 5, No. 1, pp.38–58.
- Lehmann, N. (2016) 'The role of corporate governance in shaping accruals manipulation prior to acquisitions', *Accounting and Business Research*, Vol. 46, No. 4, pp.327–364.
- Lemus, E.M.I.B.A. (2014) 'The financial collapse of the Enron Corporation and its impact in the United States capital market', *Journal of Management and Business Research: D Accounting and Auditing*, Vol. 14, No. 4, pp.41–50.
- Leuz, C. and Verrecchia, R. (2000) 'The economic consequences of increased disclosure', *Journal of Accounting Research*, Supplementary, Vol. 38, pp.91–124.

- Liu, J., Harris, K. and Omar, N. (2013) 'Board committees and earnings management', *Corporate Board: Role Duties & Composition*, Vol. 9, No. 1, pp.6–17.
- Lu, C., Christensen, J., Hollindale, J. and Routledge, J. (2018) 'The UK Stewardship Code and investee earnings quality', *Accounting Research Journal*, Vol. 31, No. 3, pp.388–404.
- Man, C.K. and Wong, B. (2013) 'Corporate governance and earnings management; a survey of literature', *Journal of Applied Business Research*, Vol. 29, No. 2, pp.391–418.
- Martínez-Ferrero, J., García-Sánchez, I.M. and Cuadrado-Ballesteros, B. (2015) 'Effect of financial reporting quality on sustainability information disclosure', *Corporate Social Responsibility and Environmental Management*, Vol. 22, No. 1, pp.45–64.
- Marzuki, M.M., Abdul Wahab, E.A. and Haron, H. (2016) 'Corporate governance and earnings conservatism in Malaysia', *Accounting Research Journal*, Vol. 29, No. 4, pp.391–412.
- Mashayekhi, B. and Bazaz, M.S. (2008) 'Corporate governance and firm performance in Iran', *Journal of Contemporary Accounting and Economics*, Vol. 4, No. 2, pp.156–172.
- Ndjanyou, L., Omenguele, G.R. and Nkemtang, F.F. (2015) 'Corporate governance mechanisms: interactions and impact on the financial performance of enterices in Cameroon', *African Journal of Accounting, Auditing and Finance*, Vol. 4, No. 2, pp.87–106.
- Nelson, P. and Davis, S. (2013) 'Audit committee experts and earnings quality', *Corporate Governance: The International Journal of Business in Society*, Vol. 13, No. 4, pp.335–351.
- Nkanbia-Davies, L.O., Gberegbe, F.B., Ofurum, C.O. and Egbe, S. (2016) 'Corporate governance and earnings quality of listed banks in Rivers State', *International Journal of Business and Management Invention*, Vol. 5, No. 7, pp.29–33.
- Organization for Economic Cooperation and Development (OECD) (1999) *OECD Principle of Corporate Governance*, OECD Publications No. 80411, 2 Rue Andre-Pascal Paris CREDEX 16.
- Peasnell, K.V., Pope, P.F. and Young, S. (2005) 'Board monitoring and earnings management: do outside directors influence abnormal accruals', *Journal of Business Finance and Accounting*, Vol. 32, Nos. 7/8, pp.1311–1328.
- Ramzi, B. (2009) 'Does the presence of independent directors influence accruals management?', *The Journal of Applied Business Research*, Vol. 25, No. 6, pp.77–86.
- Richardson, S., Sloan, R., Soliman, M. and Tuna, I. (2001) *Information in Accruals About the Quality of Earnings*, Working paper, The University of Michigan, Ann Arbor.
- Schipper, K. and Vincent, L. (2003) 'Earnings quality', *Accounting Horizons Annual*, Supplement, Vol. 17, pp.97–111.
- Shleifer, A. and Vishny, R.W. (1997) 'A survey of corporate governance', *Journal of Finance*, Vol. 52, No. 2, pp.737–783.
- Siagian, F.T. and Tresnaningsih, E. (2011) 'The impact of independent directors and independent audit committees on earnings quality reported by Indonesian firms', *Asian Review of Accounting*, Vol. 19, No. 3, pp.192–207.
- Sloan, R.G. (1996) 'Do stock prices reflect information in accrual and cash flow about future earnings', *Accounting Review*, Vol. 71, No. 3, pp.289–315.
- Smallman, C. (2004) 'Exploring theoretical paradigm in corporate governance', *International Journal of Business Governance and Ethics*, Vol. 1, No. 1, pp.78–94.
- Subhrendu, R. and Lan, S. (2008) 'The development of earnings management research', *International Review of Business Research Papers*, Vol. 4, No. 2, pp.265–277.
- Suyono, E. and Al Farooque, O. (2018) 'Do governance mechanisms deter earnings management and promote corporate social responsibility?', *Accounting Research Journal*, Vol. 31, No. 3, pp.479–495.
- Xie, B., Davidson, W.N. and DaDalt, P.J. (2003) 'Earnings management and corporate governance: the role of the board and the audit committee', *Journal of Corporate Finance*, Vol. 9, No. 3, pp.295–316.

- Yasser, Q.R. and Al Mamun, A. (2015) 'The impact of CEOs duality attributes on earnings management in the East', *Corporate Governance*, Vol. 15, No. 5, pp.706–718.
- Yasser, Q.R. and Al Mamun, A. (2016) 'The relationship between board leadership structure and earnings management in Asia-Pacific', *Accounting Research Journal*, Vol. 29, No. 4, pp.413–510.
- Yo, H.A. (2009) *The Effect of Corporate Governance on Earnings Quality; Evidence from Korea's Corporate Governance Reform*, Doctoral thesis, College of Business, RMIT University, [online] <http://researchbank.rmit.edu.au>.
- Yusoff, W.F.W. and Idris, A.A. (2012) 'Insight of corporate governance theory', *Journal of Business & Management*, Vol. 1, No. 1, pp.52–63.