Corporate governance mechanisms and earnings management: The moderating role of female directors

Emmanuel Mensah & Christopher Boachie

Published online: 01 Feb 2023.

Submit your article to this journal ↗

Article views: 3522

View related articles ↗

View Crossmark data ↗

Citing articles: 2 View citing articles ↗

cogent business & management

ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

Corporate governance mechanisms and earnings management: The moderating role of female directors

Emmanuel Mensah[1]* and Christopher Boachie[2]

Abstract: The current study investigates how board gender diversity moderates the relationship between corporate governance mechanisms (CG) and earnings management (EM) practices of firms in sub-Saharan Africa. The study samples annual reports and financial statements of 52 firms from nine sub-Saharan African countries over a period of 2007 to 2019 giving a total of 676 observations. Panel data models are used in the analyses. The study finds that, board gender diversity matters and significantly moderates the relationship between CG and EM practices of firms in sub-Saharan Africa. The findings of the study support the agency theory proposition that the constraining effect of firms' EM practices may be contingent on CG systems, particularly board gender diversity. The current study is the first African multi-cross-country study to introduce gender diversity as a moderating variable in the CG—EM nexus, thus extending the agency theory. It further contributes to the emergent advocacy for competent female representation on corporate boards so as to benefit from their essential characteristics and skills that drive their superior monitoring abilities, including EM monitoring.

Subjects: Gender Studies - Soc Sci; Economics; Finance; Business, Management and Accounting

Keywords: earnings management; corporate governance mechanisms; board gender diversity; firm-performance; panel data models; sub-Saharan Africa

JEL CLASSIFICATIONS: C33; C38; G30; G34; M41

ABOUT THE AUTHORS

Christopher Boachie has a PhD in finance and a background in finance, economics, corporate social responsibility and chartered accountancy. His current research interests are in corporate governance, financial performance, microfinance, banking, ethics, development finance and corporate social responsibility. He has worked in Goldfields, IE Insurance and currently at Central university

Emmanuel Mensah holds a BSc and MPhil degrees in accounting from University of Ghana Business School (UGBS), and is currently a PhD Candidate with Open University of Malaysia. His background is largely in accounting and finance with interest in econometrics. He currently is a Lecturer at the University of Professional Studies, Accra. His current research interests are in sustainability accounting and reporting, financial reporting quality, earnings management, corporate governance, financial literacy and accounting education in general. He has attended and presented papers at international conferences organised in Ghana, Liberia, Netherlands, Croatia, Germany and the UAE. Emmanuel has held adjunct positions at Maranatha University College, and is an independent reviewer for some international journals. He has worked with companies in the financial services as well as architectural and construction services industry in Ghana.

Christopher Boachie

1. Introduction

The role of female directors has become increasingly important in recent times. Previous research findings generally suggest that female directors tend to favourably affect corporate outcomes including firms' performance (Carter et al., 2003; Gul et al., 2013, 2011; Kirsch, 2018; Srinidhi et al., 2011). There is a global call for women's presence on corporate boards to improve corporate decision-making and governance (R.B. Adams & Ferreira, 2009; Cumming et al., 2015; T. H. H. Nguyen et al., 2020). Following the changes in legislative instruments, some countries have a predetermined representation of female directors on corporate boards (Terjesen & Sealy, 2016; Terjesen et al., 2009). For instance, Norway requires 40% of women's representation on corporate boards, with penalties for non-compliance. Following this, Spain and Sweden have considered female representation on corporate boards of 40% and 25%, respectively, and, consequently, the EU recently proposed women's board representation of 25% for large listed firms (Terjesen & Sealy, 2016; Terjesen et al., 2009). While some developed countries have proposed women's board representation, Sub-Saharan Africa has made little progress. The current study investigates the role played by female directors on corporate boards concerning the earnings management (EM) behaviour of firms in Africa. The study examines the association between a firm's corporate governance mechanisms and managerial earnings management in the African context. It then examines whether female directors moderate the association between EM and the other CG mechanisms. Previous research suggests that CG plays a vital role in monitoring managers' actions and restricting possible opportunistic behaviour; hence, CG mechanisms will reduce agency costs (González & García-Meca, 2014). The board of directors (BoDs) is a crucial CG mechanism responsible for aligning the interest of stockholders and managers and mitigating the inherent agency problems. Moreover, it has been contended that the BoDs and block ownership concentration are effective deterrents to managerial opportunistic behaviour (Marra et al., 2011; T. Nguyen et al., 2015; Park & Shin, 2004). E. F. Fama and Jensen (1983a, b.) have long argued that the BoDs play a leading role in CG, especially in monitoring top management. However, when ownership is concentrated among the management class, monitoring weakens and the tendency for managerial opportunism flourishes (Healy, 1985). Thus, this study examines the governance role of the BoDs as well as managerial ownership concentration in mitigating earnings management (EM). More importantly, the study takes particular interest in investigating whether female directors among the BoDs do matter and may play a moderating role in the CG—EM nexus.

This study extends the agency theory by demonstrating how a gender-diverse board is able to effectively constrain earnings management through its moderating role on other CG mechanisms, which usefully reflects in the quality of firms' financial reports. In Africa, progress in terms of gender diversity on corporate boards has been slow and rife with tokenism despite the universal appeal of its rhetoric and regular policy conversations. Suppose the association of female directors and executives with the level of earnings management is successfully determined, it will certainly add more evidence to help corporations to realize the vital role of female top-level leadership, including female directors and supervisors on boards. Moreover, the public is paying more attention to firms with increasing female participation. Many researchers have explored how female directors and executives might improve firms' value. However, the role of gender diversity in the relationship between corporate governance and earnings management is inconclusive. Some studies fail to prove the relationship between gender diversity on boards and within executive roles to earnings management (Hili & Affes, 2012; Joecks et al., 2013; Kuo et al., 2014; Peni et al., 2010). The incorrect reporting of numbers in financial statements would impair investors' confidence and misguide them, deterring them from investing in stock markets and damaging the economy (Arioglu, 2019).

There are many studies about the association of gender diversity on boards and executive and earnings management (Alqatan, 2019; R. B. Adams & Ferreira, 2007; Davies, 2011; Hillman et al., 2007). Also, many scholars have contributed to research on the level of earnings management under good or bad economic conditions (Cimini, 2015; Demirkan et al., 2009; Habib et al., 2013; Jahmani et al., 2016; Kumar & Vij, 2017). However, the studies relating earnings management to

gender diversity on boards and executives have limited scope in the literature. Following this knowledge gap, this study examines the relationship between CG mechanisms, including board gender diversity and earnings management, and any potential differences that result after board gender diversity is used in a moderating role with other CG mechanisms in the CG—EM nexus.

The paper contributes to earnings management and governance literature by studying current corporate governance practices in developing countries. Further, it investigates the moderating role of gender diversity in the CG and EM relationship. Most companies in Sub-Saharan Africa are closely held, either state-owned or privately owned, and the number of women on board is limited. Further, there is a general acknowledgement of the need for the independence of corporate boards in Africa to be stronger. Moreover, the financial and governance systems in Africa need to be better developed to check earning management and fraudulent activities primarily reported in developing countries. Again, the disclosure practices of firms in Africa are also not standardized. While African businesses are starting to appreciate the need for robust corporate governance mechanisms, we argue that weakness in the economic structure, lack of females on corporate boards and awareness of corporate governance concepts and benefits, hinder the development of corporate governance and encourages earning management in Africa. The study's sample companies involve fifty-two listed companies from nine African countries, thus enhancing the generalizability of the empirical results. Again, the results of this research may be helpful for regulators in developing and emerging nations with similar characteristics as they continue to deliberate on appropriate corporate governance requirements and the benefits of gender diversity on corporate boards in their countries. Although some under-study nations are classified as developing countries by the World Bank (2001), they lie in the middle to upper-income brackets, making it a good subject for examining how corporate governance practices are applied in these environments. African countries have unique historical backgrounds resulting from the cultural influences of countries that either occupied Africa or had business dealings with Africa, making the African context an interesting one for a study such as this.

The structure of the remainder of this paper is as follows. A brief literature review is provided in Section 2, from which research hypotheses are developed. The next section, Section 3, follows with an introduction of the study method, a description of the sources of data collection and an analysis approach. Section 4, after that, presents the empirical results and discussions. The final section, Section 5, concludes the paper by indicating its limitations with some suggestions for further studies.

2. Literature review and hypotheses development

2.1. Theoretical review
Theoretically, the agency theory is used to explain the relationship between CG mechanisms and managerial EM practices of firms. The theory *stresses the interconnected relationships between a business and its* stakeholders, such as customers, suppliers, employees, and investors. The primary objectives of CG are to monitor the behaviours of different interested parties and to reduce the agency costs underlying various principal-agent relations (Karpoff et al., 1996; Lemmon & Lins, 2003). In particular, corporate governance enables stakeholders to monitor managers' behaviours and business operations. They safeguard shareholders' investment, reduce information asymmetry between managers and other stakeholders, and ensure the reliability of managerial performance reports (e.g., the financial statements; Denis & McConnell, 2003; Huson et al., 2012; Kanagaretnam et al., 2007; Shleifer & Vishny, 1997; Wilkinson & Clements, 2006).

The appointment of female directors will likely enhance board independence and improve shareholder value in many ways. The number of female directors on corporate boards in Africa has recently been increasing, although it is still relatively low. Most firms recently have female directors on their boards (Gul et al., 2011). It is broadly accepted that gender differences do exist, and harnessing this on corporate boards adds value to corporate boards and firms. For example,

diversity in skills, knowledge and experience is recognised as a prerequisite for better decision making from the perspectives of agency and organisational theories. Appointing female directors has been demonstrated to facilitate more informed decisions, enhance decision-making, and improve board members' communication (Bear et al., 2010; Rose, 2007). The economic and social theoretical literature also provide convincing evidence that females might have better monitoring skills than their male counterparts (Lara et al., 2017). The board monitors management actions to reduce agency problems (Finegold et al., 2007; Reguera-Alvarado et al., 2017). Female directors add another facet to the oversight lens since the diversity of backgrounds is argued to increase monitoring effectiveness (Low et al., 2015). The effectiveness in the monitoring abilities of a gender-diverse board is expected to limit EM practices and translate to enhanced quality of financial reports. In addition, and from moral development and social role theory view (Chizema et al., 2015; Kohlberg, 1984), female directors can influence better discussion and deliberations, particularly those related to challenging issues (Huse et al., 2006; Srinidhi et al., 2011). Information asymmetry at the board could be reduced through close monitoring and encouraging more public disclosure by curbing earnings management (Gul et al., 2011; Srinidhi et al., 2011). Female directors are more conservative and risk-averse than their male counterparts (Harris et al., 2019; Kao et al., 2020; Tang et al., 2020; Zalata et al., 2019a, 2019b); therefore, they are less likely to allow managerial opportunism for fear of being caught.

2.2. Corporate governance and earnings management

Managers often use earnings management when preparing and presenting financial statements for specific purposes. There are two perspectives on earnings management. The opportunistic perspective holds that managers seek to mislead investors by manipulating periodic earnings to maximise their utilities (Burgstahler & Dichev, 1997; Healy & Wahlen, 1999). On the contrary, the information perspective holds that managerial discretion is a means for managers to communicate their expectations about the firm's future cash flows or profitability (Burgstahler et al., 2006; Guay et al., 1996; Holthausen & Leftwich, 1983).

In the quest for interest alignment and goal congruence between managers and shareholders to minimise or mitigate potential adverse consequences of managerial opportunism, researchers have studied the association between CG mechanisms and EM, and certain CG mechanisms have been observed and touted as much more effective. Prominent among these is board gender diversity (R. B. Adams & Ferreira, 2007; Davies, 2011; Francis & Wang, 2008; Hillman et al., 2007). Many empirical studies demonstrate that competent female representation on corporate boards with leading roles can mitigate management's opportunistic behaviour, to enhance the quality of earnings (X. Li et al., 2021; Vuong, 2021; Yousuf & Aldamen, 2021). However, contrasting evidence regarding the ability of female directors to constrain EM exists (Dakhli, 2022; Kyaw et al., 2015; Lakhal et al., 2015; Mnif & Cherif, 2021; Zalata et al., 2021). This calls for more investigations on this subject from different perspectives and contexts to help explain the possible divergencies in prior empirical evidence. The current study thus examines the CG and EM nexus and the possible moderating effect of board gender diversity in the African context, which generally is not pro-gender diversity.

The theoretical studies published by Jensen and Meckling (1976) and E. F. Fama and Jensen (1983a), E. Fama & Jensen (1983b) demonstrate the essence of CG to monitor top management and decrease agency costs effectively. Based on the above argument, the current study would test its first hypothesis as follows:

H1: CG mechanisms are significantly related to the EM practices of firms in sub-Saharan Africa.

2.3. The moderating role of female directors

For directors to be efficient monitors of managers, Beekes et al. (2004) argued that they should have a sufficient monitoring incentive and understand the consequences of financial reporting

decisions. Economic and social theory, on the other hand, suggests that while female directors have sufficient monitoring incentives, they would better understand the outcomes of financial reporting decisions if they had a financial background.

The extant literature shows that directors' efficacy partially depends on their experience (Faleye et al., 2018; Al Lawati et al., 2021), which plays a crucial role in constraining aggressive accounting practices. In essence, firms with more outside directors possessing relevant financial backgrounds are characterised by fewer earnings management and less probability of financial reporting restatement (Abbott et al., 2004; Badolato et al., 2014; Bedard & Johnstone, 2004; Dhaliwal et al., 2010; Xie et al., 2003). This is because the financial background enables directors to deal with the complexity of financial reporting, understand the financial reporting decisions and auditors' judgment, and support auditors in auditors-management disputes (DeZoort & Salterio, 2001; Kalbers & Fogarty, 1993; J. Li et al., 2012; Mangena & Pike, 2005). Besides the presence of a diversified board, diversity in skills, knowledge and experience is recognised as a prerequisite for better decision-making. Representation of females on corporate boards has been argued from the agency's theoretical perspective to bring balance in decision-making in the boardroom, provide effective monitoring of board governance and curb opportunistic behaviour (Abang'a et al., 2022; Catalyst, 2004; Finegold et al., 2007; Khidmat et al., 2022). Further, female directors are noted to be more sensitive to ethical issues (Bernardi & Arnold, 1997), exhibit greater risk aversion (Sunden & Surette, 1998) and have better board meetings attendance records (R.B. Adams & Ferreira, 2009) than male directors. The participation of female board members is likely to create formal and informal discussions between the board of directors and result in greater accountability for managerial decisions (R.B. Adams & Ferreira, 2009). Moreover, female board participation can assist boards by benefiting from a wide pool of talents. Consequently, different skills and experiences will be displayed in the boardroom, including soft but intelligent feminine beliefs, emotions, experiences, feelings and values, which can improve the boards' professionalism in evaluating firms' financial reports and detecting any financial reporting irregularities (Nielsen & Huse, 2010). Following the agency theory, we posit that board gender diversity would significantly moderate other CG mechanisms and enhance the quality of firms' earnings. Ullah et al. (2020) noted that board diversity disciplines management, reduces agency conflicts, and improves CG, resulting in higher efficiency.

From the above review, gender diversity on corporate boards is likely to improve CG and affect the quality of earnings; hence, we endeavour to test a second hypothesis as follows:

H2: Board gender diversity significantly moderates the relationship between CG and EM practices of firms in sub-Saharan Africa.

3. Data and methods

3.1. Data collection and data sources
The choice of a suitable EM model adopted for non-financial firms may not be appropriate for financial firms. A sample is drawn from listed non-financial firms in nine Stock Exchanges within sub-Saharan Africa. Following previous studies (Dittmar & Mahrt-Smith, 2007; Schultz et al., 2010), we exclude insurance companies and banks from our sample. The choice of the study's final sample of 52 was guided by the availability and adequacy of firms' annual reports and corresponding financial data for thirteen years spanning from 2007 to 2019. Table 1 shows how the study's final sample was arrived at.

Digital information sources such as the databases of the *Africanfinancials* and *Machameratios* were consulted to obtain annual reports data on the nine selected countries. These were further supplemented by information from the respective *Stock Exchanges* of the nine selected countries

cogent • business & management

Table 1. Sample selection			
Country of sampled firms	Number of non-financial firms whose annual reports data were sourced from Africanfinancials and Machameratios databases for the study period	Number of firms with missing annual reports data over the study period	Number of firms annual reports data retained in the study sample
Ghana	5	0	5
Kenya	11	5	6
Malawi	2	0	2
Mauritius	5	3	2
Nigeria	40	27	13
Namibia	2	0	2
South Africa	35	18	17
Tanzania	3	0	3
Zambia	4	2	2
Total	**107**	**55**	**52**

Source: Authors' compilation of annual reports from Africanfinancials and Machameratios websites

to minimise the possibility of missing data which could not be obtained from the study's sourced databases. Data on firm-level CG mechanisms were hand-collected from firms' annual reports. The variables specified and analysed via the study's models are widely supported in the literature. These have been summarised along with their attendant measurements in Table 2.

3.2. Model specification
The following three models are specified for the study's investigation:

$$DA_{it} = \alpha_0 + \alpha_1 ROA_{it} + \alpha_2 SIZE_{it} + \alpha_3 LEV_{it} + \alpha_4 GROP_{it} + \alpha_5 AGE_{it} + \alpha_6 IFRS_{it} + \alpha_7 AT_{it} + \nu_t + \mu_t + \eta_t + \varepsilon_{it} \quad (1)$$

$$DA_{it} = \alpha_0 + \alpha_1 ROA_{it} + \alpha_2 SIZE_{it} + \alpha_3 LEV_{it} + \alpha_4 GROP_{it} + \alpha_5 AGE_{it} + \alpha_6 IFRS_{it} + \alpha_7 AT_{it} + \alpha_8 BSIZE_{it} + \alpha_9 BINDE_{it} + \alpha_{10} BMEET_{it} + \alpha_{11} MOC_{it} + \alpha_{12} BGENDIV_{it} + \nu_t + \mu_t + \eta_t + \varepsilon_{it} \quad (2)$$

$$DA_{it} = \alpha_0 + \alpha_1 ROA_{it} + \alpha_2 SIZE_{it} + \alpha_3 LEV_{it} + \alpha_4 GROP_{it} + \alpha_5 AGE_{it} + \alpha_6 IFRS_{it} + \alpha_7 AT_{it} + \alpha_8 BSIZE_{it} + \alpha_9 BINDE_{it} + \alpha_{10} BMEET_{it} + \alpha_{11} MOC_{it} + \alpha_{12} BGENDIV_{it} + \alpha_{13} BGENDIV\#BSIZE_{it} + \alpha_{14} BGENDIV\#BINDE_{it} + \alpha_{15} BGENDIV\#BMEET_{it} + \alpha_{16} BGENDIV\#MOC_{it} + \nu_t + \mu_t + \eta_t + \varepsilon_{it} \quad (3)$$

3.3. Estimation approach
The study employs the Pooled OLS with a robust standard error estimator (POLS-RSE) as its baseline estimation approach. In selecting a suitable panel data estimation approach for the study, the authors first considered whether any explanatory variables of the models are endogenous and the possibility of utilizing a dynamic modelling approach by considering the time dimension ($t = 13$) and the size of the panel ($n = 52$) being studied (Sohag et al., 2018). According to the CG literature, CG variables are endogenous (Tang & Chang, 2015). Accordingly, the Durbin-Wu-Hausman (DWH) test for the endogeneity of all the regressors is executed under the null

hypothesis that the endogenous regressors may be treated as exogenous variables (Baum et al., 2007). We follow Schultz et al. (2010) and conduct the test based on the firm discretionary accruals and CG equation with the other independent variables. A one-year lagged difference of the regressors is employed as instrumental variables. Only firm age (*AGE*) was treated in the test specification as exogenous.

The null hypothesis of exogeneity of regressors [$\chi2(11) = 9.12626$; *p* = 0.6102] is accepted, suggesting that endogeneity is not a problem in the models. The classical Hausman test was conducted to choose between fixed effect (FE) and random effect (RE). The Hausman test selected the FE estimator over its RE counterpart [$\chi2(16) = 28.05$; *p* = 0.0312]. However, the FE estimator exhibits a poor goodness-of-fit to the data [i.e., *F* test that all u_i = 0, F(47, 559) = 0.90, *p* = 0.6551]. As Olson (2015) rightly noted, just because the t-statistic related to X is significant does not mean that X helps to explain Y. Addressing this issue requires a goodness-of-fit analysis that evaluates the incremental contribution of X. Such tests can show that X effectively acts as noise though X's

Table 2. Measurement of variables used in the study's models			
Variable	**Scale**	**Source**	**Expected Sign**
Dependent Variables: **DA** Discretionary Accruals (Proxy for Earnings Management)	This is measured using the Pae (2005) Discretionary Accrual's Model; $NDA_t = \alpha_1 1/TA_{t-1} + \alpha_2 \Delta Rev_t/TA_{t-1} + \alpha_3 PPE_t/TA_{t-1} + \alpha_4 CFO_t/TA_{t-1} + \alpha_5 CFO_{t-1}/TA_{t-1}$ Where: NDA_t = non-discretionary accruals in the year t TA_{t-1} = total assets in the year t-1 ΔRev_t = the change in revenues from the preceding year PPE_t = the gross value of property, plant and equipment in the year t CFO_t = operating cash flows in the year t CFO_{t-1} = operating cash flows in the year t-1 a_1, a_2, a_3, a_4, a_5 = firm-specific parameters Estimates of the firm specific parameters are done via the model: $TACC_t/TA_{t-1} = \alpha_1 1/TA_{t-1} + \alpha_2 \Delta Rev_t/TA_{t-1} + \alpha_3 PPE_t/TA_{t-1} + \alpha_4 CFO_t/TA_{t-1} + \alpha_5 CFO_{t-1}/TA_{t-1} + \varepsilon_t$ Where: Total accruals (TACC) is defined as income before extraordinary items and discontinued operations minus operating cash flows, that is, $TACC_t = NOPI_t — CFO_t$ ε_t is discretionary accruals (DA) in the year t.	Annual reports of firms	±
Independent Variables: **BGENDIV** Gender-diversity	This is measured as the proportion of female directors on the board to the total size of the board (see, Finegold et al., 2007; Low et al., 2015; Alqatan, 2019)	Annual reports of firms	±
BINDE Board independence	This is measured as proportion of non-executive directors on the board to the total board size (Al-Thuneibat et al., 2016; Zhou et al., 2017).	Annual reports of firms	±
BMEET Board Meetings	This is measured as the number of times the board meets in a year (R.B. Adams & Ferreira, 2009; Almasarwah, 2015).	Annual reports of firms	±
MOC Managerial Ownership Concentration	This is measured as the proportion of shares owned by management members for firm i in year t. It has been represented in logarithmic form (Bhuiyan et al., 2010).	Annual reports of firms	±
BSIZE Board size	This is measured as the number of members on company boards for firm i in year t (Sow & Tozo, 2019; Almasarwah, 2015).	Annual reports of firms	±

(Continued)

Table 2. (*Continued*)			
Variable	**Scale**	**Source**	**Expected Sign**
Control Variables:			
ROA Return on Assets (Proxy for Firm-Performance/ Profitability)	This is measured by $ROA_{i,t}$= $EBIT_{i,t}$ /$TA_{i,t}$ Where: $EBIT_{i,t}$ = Profit before interest and tax for firm i in year t; $TA_{i,t}$ = Total assets for firm i in year t (Sow & Tozo, 2019).	Annual reports of firms	
LEV Leverage	This is measured by the total liabilities to total assets. It is represented in logarithm form (Sow & Tozo, 2019).	Annual reports of firms	-
SIZE Firm size	This is measured as the logarithm of a firm's total assets (Zhou et al., 2017; Pham et al., 2019).	Annual reports of firms	+
GROP Growth Opportunities	This is measured as the price-to-book ratio for firm i in year t (Kothari et al., 2002; Pham et al., 2019).	Annual reports of firms	+
IFRS IFRS Adoption	This is a dummy variable measured as 1 since a firm's adoption of IFRS and 0 otherwise (Bakker, 2017).	Annual reports of firms	±
AT Asset Tangibility	This is measured as the ratio of tangible assets to total assets of firm i in year t (Bakker, 2017).	Annual reports of firms	+
AGE Age of Firm	The is measured as the age of a firm from the date of listing on the stock market to the end of the sample period. It is represented in logarithm form (Lin and Fu, 2017).	Annual reports of firms	+
$\varepsilon_{i,t}$ Error term	The error term		

Source: Authors' Compilation, 2022.

t-statistic is significant. Consequently, for the overall goodness-of-fit test (i.e., *F*-test) of the FE estimator, we dropped the FE estimator as the baseline estimator. We then employed the Lagrangian multiplier test to select between random effect and pooled OLS. The results of this test pointed towards the pooled OLS estimator [i.e., there was no evidence to reject the fact that var(u) = 0]. Therefore, the study settled on the pooled OLS estimator as the most suitable for its investigation. Our pooled OLS specification, which employs the cluster-robust-standard errors, can address heteroscedasticity issues common with large panel datasets. Our study applied the FE with robust standard errors and the Prais-Winsten panel-corrected standard errors (PCSE) estimator for robustness test purposes. These are feasible and consistent estimators when the off-diagonal elements of the Pesaran test of cross-sectional dependence differ from zero. In our case, the absolute value of the off-diagonal elements of the Pesaran test is 0.246, which justifies our use of the PCSE estimator for the robustness test.

cogent ·· business & management

Table 3. Descriptive statistics of study variables					
	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	Mean	SD	Min	Max
SIZE	676	5.294	0.724	3.705	7.183
GROP	676	3.724	5.620	−0.0900	62.34
IFRS	676	0.846	0.361	0	1
AT	676	0.364	0.213	0.00140	0.995
MOC	624	−0.0734	3.033	−10.36	4.484
AGE	676	3.802	0.745	0	5.136
ROA	676	8.029	15.63	−122.1	295.7
DA	676	0.0159	0.250	−2.268	4.131
LEV	676	3.814	0.685	−1.643	4.553
BSIZE	676	9.834	3.030	4	25
BMEET	676	4.817	1.334	2	12
BINDE	676	0.668	0.160	0	1
BGENDIV	676	0.139	0.122	0	0.667
Number of groups	48	48	48	48	48

Note: This table reports descriptive statistics based on a balanced panel with 676 observations. The variables are as defined in Table 2. For interpretation purposes, the descriptive statistics are calculated on the basis of levels with the exception of *IFRS* which was computed from a dummy scale. *MOC, AGE, LEV* and *SIZE* were calculated on the basis of logarithmic form.

4. Results and discussions

4.1. Descriptive statistics

Table 3 summarises the descriptive statistics for the study's sample firms. The mean ROA is 8.03%, suggesting that the returns generated for providers of finance of listed firms in sub-Saharan Africa during the sample period are low relative to returns on government securities in these countries. This reflects the firms' failure to exploit resources to generate appropriate returns for investors. The average level of discretionary accruals (DA), or the proportion of managed earnings, was about 1.59%, comparable to those reported in other jurisdictions (Tang & Chang, 2015; Zimon et al., 2021). The average size of sampled firms was 5.29 with a standard deviation of 0.72, whereas leverage was 3.81 with a standard deviation of 0.67. The firms showed high growth opportunities, as revealed by a mean market-to-book ratio of 3.72 with a standard deviation of 5.62. The average firm age was 3.80, asset tangibility was 0.36, and the proportion of firm years wherein IFRS had been adopted as the financial reporting standard was 85%. Regarding CG characteristics, we observe the averages for board size, board meetings, board independence, and gender diversity to be 10, 5, 0.67 and 0.14, respectively. Managerial ownership concentration for sampled firms also showed a mean of −0.0734. Evidently, female representation on corporate boards is still low in Africa.

Table 4 shows that almost all the independent variables, except ROA, do not appear to correlate with the dependent variable DA. This evidence refutes the popular notion of these variables being widely touted as having an association with the EM practices of firms (Bhuiyan et al., 2010; Elkalla, 2017; Vuong, 2021). The study's subsequent regression analysis would shed light on whether these variables affect earnings management. Multi-collinearity seems an unlikely problem in the regression models as none of the correlation coefficients among the independent variables is larger than the value of .80 (Damodar, 2004). The variance inflation factors confirm this.

Table 4. Correlation coefficients among study variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	VIFS
(1) DA	1.000													
(2) BSIZE	−0.031 (0.418)	1.000												1.57
(3) BGENDIV	0.036 (0.345)	0.103*** (0.008)	1.000											1.40
(4) BINDE	0.019 (0.615)	0.139*** (0.000)	−0.002 (0.969)	1.000										1.23
(5) BMEET	−0.021 (0.590)	0.118*** (0.002)	0.097** (0.011)	0.226*** (0.000)	1.000									1.13
(6) MOC	−0.041 (0.304)	−0.202*** (0.000)	−0.286*** (0.000)	−0.134*** (0.001)	−0.095** (0.017)	1.000								1.98
(7) ROA	0.585*** (0.000)	0.005 (0.887)	0.010 (0.786)	0.029 (0.453)	−0.125*** (0.001)	−0.072* (0.071)	1.000							1.17
(8) SIZE	−0.008 (0.842)	0.579*** (0.000)	0.215*** (0.000)	0.253*** (0.000)	0.205*** (0.000)	−0.153*** (0.000)	−0.029 (0.458)	1.000						2.21
(9) GROP	−0.061 (0.116)	0.051 (0.188)	0.088** (0.022)	−0.099** (0.010)	−0.100*** (0.009)	−0.204*** (0.000)	0.304*** (0.000)	0.027 (0.486)	1.000					1.23
(10) AGE	0.007 (0.849)	0.102*** (0.008)	0.156*** (0.000)	0.232*** (0.000)	0.196*** (0.000)	−0.360*** (0.000)	0.007 (0.851)	0.290*** (0.000)	0.043 (0.260)	1.000				1.42
(11) IFRS	0.023 (0.551)	−0.030 (0.434)	0.281*** (0.000)	0.019 (0.624)	0.123*** (0.001)	−0.048 (0.228)	−0.065* (0.090)	0.126*** (0.001)	−0.073* (0.058)	0.053 (0.167)	1.000			1.44
(12) AT	−0.033 (0.390)	0.090** (0.019)	−0.158*** (0.000)	0.275*** (0.000)	0.033 (0.393)	−0.218*** (0.000)	0.142*** (0.000)	0.055 (0.154)	0.165*** (0.000)	0.160*** (0.000)	−0.129*** (0.001)	1.000		1.27
(13) LEV	−0.027 (0.480)	0.000 (0.996)	0.069* (0.073)	−0.017 (0.655)	0.099*** (0.010)	−0.154*** (0.000)	−0.033 (0.391)	−0.025 (0.515)	0.116*** (0.002)	0.174*** (0.000)	0.013 (0.732)	0.064* (0.098)	1.000	1.09

Note: This table presents pair-wise correlation coefficients which are based on a balanced panel with 676 observations. The variables are as defined in Table 2. Asterisks indicate significance at 10% (*) 5% (**) and 1% (***).

cogent · business & management

	(1)	(2)	(3)
Table 5. Baseline models of the role and moderating effect of gender diversity in the CG—EM nexus using the pooled OLS estimator			
VARIABLES	**Pooled OLS with RSE Model**	**Pooled OLS with RSE Model**	**Pooled OLS with RSE Model**
BSIZE		−0.00390	0.000135
		(0.00293)	(0.00316)
BGENDIV		0.0389	−0.595*
		(0.109)	(0.348)
BINDE		−0.0243	−0.0320
		(0.0544)	(0.0644)
BMEET		0.00265	−0.0152
		(0.00955)	(0.0129)
MOC		−0.00310	0.00742*
		(0.00207)	(0.00399)
ROA	0.0108***	0.0110***	0.0117***
	(0.00254)	(0.00257)	(0.00220)
SIZE	0.0148	0.0220	0.0217
	(0.0120)	(0.0192)	(0.0185)
GROP	−0.0115*	−0.0122*	−0.0130*
	(0.00617)	(0.00663)	(0.00656)
AGE	−0.00184	−0.00514	−0.00325
	(0.0101)	(0.0111)	(0.0102)
IFRS	0.0190	0.0194	0.0362*
	(0.0159)	(0.0209)	(0.0186)
AT	−0.112***	−0.101***	−0.0809***
	(0.0317)	(0.0295)	(0.0260)
LEV	0.0107	0.00742	0.00844
	(0.0131)	(0.0137)	(0.0134)
BSIZE#BGENDIV			−0.0274
			(0.0243)
BINDE#BGENDIV			0.287
			(0.375)
BMEET#BGENDIV			0.125**
			(0.0589)
MOC#BGENDIV			−0.0794***
			(0.0235)
Constant	0.511	3.108	5.409
	(5.188)	(5.715)	(5.484)
Country fixed-effects	*Yes*	*Yes*	*Yes*
Year fixed-effects	*Yes*	*Yes*	*Yes*
Observations	676	624	624
R-squared	0.418	0.424	0.447
F-statistic	7.08***	6.29***	8.38***

Note: This table reports empirical results from estimating equation (1), (2) and (3) through the pooled OLS technique with cluster robust standard errors. Asterisks indicate significance at 10% (*), 5% (**) and 1% (***). The notations in all the regression tables are as defined and measured in Table 2.

Table 6. Robustness test models of the moderating role of gender diversity in the CG—EM nexus using the PCSE estimator

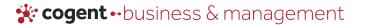| VARIABLES	(1) PCSE with PSAR1	(2) PCSE with PSAR1	(3) PCSE with PSAR1
BSIZE		−0.00467	0.000543
		(0.00284)	(0.00312)
BGENDIV		−0.0243	−0.577**
		(0.0908)	(0.282)
BINDE		−0.00747	−0.0319
		(0.0397)	(0.0555)
BMEET		−0.00109	−0.0197***
		(0.00592)	(0.00730)
MOC		0.00105	0.00608
		(0.00358)	(0.00436)
ROA	0.0111***	0.0113***	0.0113***
	(0.000821)	(0.000878)	(0.000848)
SIZE	0.0200*	0.0303**	0.0189
	(0.0114)	(0.0140)	(0.0129)
GROP	−0.00803**	−0.00825**	−0.00922**
	(0.00398)	(0.00415)	(0.00421)
AGE	−0.0102	−0.00757	−0.00864
	(0.0107)	(0.0105)	(0.0107)
IFRS	0.0440*	0.0434*	0.0604***
	(0.0228)	(0.0235)	(0.0234)
AT	−0.138**	−0.134**	−0.114*
	(0.0564)	(0.0638)	(0.0659)
LEV	0.0218*	0.0188	0.0150
	(0.0121)	(0.0122)	(0.0129)
BSIZE#BGENDIV			−0.0438***
			(0.0157)
BINDE#BGENDIV			0.445
			(0.352)
BMEET#BGENDIV			0.145***
			(0.0428)
MOC#BGENDIV			−0.0568*
			(0.0304)
Constant	8.131	9.635	13.43*
	(6.300)	(8.138)	(8.002)
Country fixed-effects	*Yes*	*Yes*	*Yes*
Year fixed-effects	*Yes*	*Yes*	*Yes*
Observations	676	624	624
R-squared	0.480	0.482	0.488
Number of groups	52	48	48
Wald chi-square statistic	250.04***	250.91***	267.71***

Note: This table reports robustness test results from estimating equation (1), (2) and (3) through the Prais Winsten PCSE estimation technique with panel-specific AR(1). Asterisks indicate significance at 10% (*), 5% (**) and 1% (***). The notations in all the regression tables are as defined and measured in Table 2.

Table 7. Additional robustness test models of the moderating role of gender diversity in the CG—EM nexus using the FE estimator

VARIABLES	(1) FE with RSE Model	(2) FE with RSE Model	(3) FE with RSE Model
BSIZE		−0.00685	−0.000315
		(0.00526)	(0.00402)
BGENDIV		−0.0399	−1.004**
		(0.0801)	(0.448)
BINDE		0.0115	−0.0797
		(0.0679)	(0.0825)
BMEET		0.000730	−0.0208
		(0.0142)	(0.0183)
MOC		−0.00953	2.24e-05
		(0.00630)	(0.00716)
ROA	0.0118***	0.0121***	0.0125***
	(0.00263)	(0.00255)	(0.00229)
SIZE	0.115	0.142	0.101
	(0.131)	(0.137)	(0.108)
GROP	−0.0138	−0.0139	−0.0155
	(0.0121)	(0.0127)	(0.0127)
AGE	−0.0395	−0.0337	−0.0343
	(0.0672)	(0.0664)	(0.0533)
IFRS	0.00782	0.0152	0.0346
	(0.0199)	(0.0237)	(0.0273)
AT	−0.0349	−0.0445	−0.0300
	(0.0613)	(0.0678)	(0.0559)
LEV	−0.00753	−0.0223	−0.00246
	(0.0648)	(0.0655)	(0.0616)
BSIZE#BGENDIV			−0.0228
			(0.0238)
BINDE#BGENDIV			0.739**
			(0.341)
BMEET#BGENDIV			0.128**
			(0.0556)
MOC#BGENDIV			−0.0807**
			(0.0377)
Constant	−2.194	1.325	4.605
	(8.074)	(9.678)	(10.16)
Country fixed-effects	*Yes*	*Yes*	*Yes*
Year fixed-effects	*Yes*	*Yes*	*Yes*
Observations	676	624	624
R-squared	0.424	0.433	0.452
Number of groups	52	48	48
F-statistic	4.98***	3.53***	4.05***

Note: This table reports additional robustness test results from estimating equation (1), (2) and (3) through the fixed effect (FE) estimation technique with robust standard errors. Asterisks indicate significance at 10% (*), 5% (**) and 1% (***). The notations in all the regression tables are as defined and measured in Table 2.

4.2. Multiple regression analysis

4.2.1. The effect of CG on EM—the moderating role of board gender-diversity

The results of the POLS-RSE estimator are reported in Table 5. Table 6 and 7 also presents the robustness test results with the PCSE and FE estimators. The estimations were done in three steps following Equations (1), (2) and (3) and reported in three columns of the tables. The first column presents the results of the estimation without any CG variables. The second column presents the results with CG variables. Again, the third column presents the results of estimations with all variables and the moderating role of gender diversity in the CG—EM relationship. Board gender diversity matters if the coefficient on the *BGENDIV* variable is statistically significant. However, the role of board gender diversity cannot be fully explained without assessing its interaction effects with CG mechanisms on EM. From Table 5, CG mechanisms statistically seem unrelated to the EM practices, although all the CG mechanisms, except managerial ownership, exhibit a negative relationship with EM. These findings may be due to sample firms' weak corporate governance practices. These findings corroborate Coskun and Sayilir (2012) and Subhasinghe and Kehelwalatenna's (2021) studies whiles contradicting others such as Al-Zaqeba et al. (2022). We reckon that the weak relationship is due to biased accounting numbers that often become the measurement of company performance. Companies with better governance report earnings more conservatively than those with aggressive discretionary accounting procedures.

Besides, Table 5 shows that board gender diversity has a negative (constraining or limiting) effect on EM practices. Gender diversity positively moderates board meetings and managerial ownership concentration negatively towards EM practices. This shows that gender diversity, through its moderating role on managerial ownership, can restrain managerial opportunism or EM. Independently, managerial ownership promotes EM. Healy (1985) found that CEOs manage earnings to maximise their bonus (Holthausen et al., 1995). However, through the moderating effect of gender diversity on managerial ownership, there appears to be interest alignment, and hence EM tends to decrease. Our findings agree with Piosik and Genge (2020), who reported a negative relationship between earnings management and managerial ownership, confirming the alignment of interest hypothesis.

On the contrary, gender diversity, through its moderating effect on board meetings, is counter-productive in constraining EM. The mere representation of women in the boardroom without clearly-defined leading roles or institutional support for active participatory roles could lead to weaker EM monitoring. Female representation on corporate boards based on tokenism and not on merit with clearly-defined institutional support systems to allow them function accordingly makes them unable to contribute meaningfully to board discussions and exert any positive effect on board and corporate performance. Thus, they fail to constrain EM practices (see, also, Mazzotta et al., 2020; Zalata et al., 2021).

Our findings regarding the significance of gender diversity and its moderating effect on board meetings and managerial ownership are robust across different econometric estimators. Thus, gender diversity moderates board meetings and managerial ownership concerning EM. While gender diversity moderates board size and independence, the result is not robust across different econometric estimators. Besides, profitability, firm growth opportunities, IFRS adoption, asset tangibility, and firm size are determinants of firms' earnings EM practices. However, firm size is more robust across different estimators. Whiles growth opportunities and asset tangibility are negatively related to EM, firm performance, and IFRS adoption are positively related to EM. Firm age and leverage are insignificant determinants of EM across all estimators.

5. Conclusions and limitations

This study sought to investigate female directors' moderating role on corporate boards in mitigating firms' earnings management practices. By following the pooled OLS with cluster-robust

standard errors estimation approach, coupled with the Prais-Winsten PCSE and FE estimators, the study tests its two hypotheses regarding the CG—EM relationship and the moderating role of gender diversity in this nexus.

First, given the robustness of our empirical evidence to alternative estimation approaches, we conclude that, individually, CG mechanisms are not significantly related to the EM practices of firms, refuting our hypothesis 1 (*H1*) that *CG mechanisms are significantly related to the EM practices of firms in sub-Saharan Africa*. Again, we find and conclude that gender diversity moderates CG mechanisms, thus supporting our hypothesis 2 (*H2*) that *board gender diversity does matter and significantly moderates the relationship between CG and EM practices of firms*. The significant associations assessed from the interaction of gender diversity with the other CG mechanisms presupposes that, gender diversity is a necessary condition for other CG mechanisms to exert an impact on EM and consequently, the quality of firms' financial reports.

We make a theoretical contribution by explaining how female representation on boards influences the relationship between CG and EM which derives from their essential characteristics and skills driving their superior monitoring abilities. In doing so, we address the call of Tang and Chang (2015) for more work to draw on agency theory to better understand how CG mechanisms like gender diversity influences EM. Again, by providing robust empirical evidence from sub-Saharan Africa, we support the agency theory proposition that the constraining effect of EM practices may be contingent on the CG systems of firms. Therefore, shareholders and regulators may observe that encouraging a gender-diversified board where female directors, through their unique skills and competencies, are actively engaged in leading and active participatory roles could effectively constrain managers' EM behaviour.

Similar to other studies, this study suffers from some limitations. Although the sample size was deemed acceptable, a larger sample would have allowed us to run a more robust analysis and generalize our findings. Our study observes that CG mechanisms play an insignificant role in the EM practices of firms. CG structures are still underdeveloped in Sub-Saharan Africa. Moreover, we note that the relationship between CG and EM may be non-monotonic (Tang & Chang, 2015). Thus, there may be a point at which CG mechanisms could significantly affect EM practices or a transmission mechanism through which CG would effectively translate to mitigating EM. Further studies are welcomed to validate this study's findings in other jurisdictions, including pro-diversity contexts, to compare results for any cues and significant differences. Finally, we invite future research, especially from an emerging market perspective, to probe the characteristics and skills of female directors on corporate boards (such as financial skills) that drive their superior monitoring abilities about EM and other opportunistic behaviour of managers. By taking cues from Zalata et al. (2021), we suspect that consideration of female directors with financial backgrounds on corporate boards would likely enhance their superior monitoring abilities to improve earnings quality. Hence future research should look into this.

Author details
Emmanuel Mensah[1]
E-mail: emmanuel.mensah@upsamail.edu.gh
ORCID ID: http://orcid.org/0000-0002-3080-3598
Christopher Boachie[2]
ORCID ID: http://orcid.org/0000-0002-2660-1176
[1] University of Professional Studies, Accra, P.O. Box LG149, Accra.
[2] Central University, Accra, Ghana.

Disclosure statement
The authors report there are no competing interests to declare.

Data availability
Data for the study is obtained from publicly available sources and can also be made available upon request.

References

Abang'a, A. O., Tauringana, V., Wang'ombe, D., & Achiro, L. O. (2022). Corporate governance and financial performance of state-owned enterprises in Kenya. *Corporate Governance, 22*(4), 798–820. https://doi.org/10.1108/CG-01-2021-0007

Abbott, L. J., Parker, S., & Peters, G. F. (2004). Audit committee characteristics and restatements. *Auditing: A Journal of Practice & Theory, 23*(1), 69–87. https://doi.org/10.2308/aud.2004.23.1.69

Adams, R. B., & Ferreira, D. (2007). A theory of friendly boards. *The Journal of Finance, 62*(1), 217–250. https://doi.org/10.1111/j.1540-6261.2007.01206.x

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics, 94*(2), 291–309. https://doi.org/10.1016/j.jfineco.2008.10.007

Al Lawati, H., Hussainey, K., & Sagitova, R. (2021). Disclosure quality vis-à-vis disclosure quantity: Does audit committee matter in Omani financial institutions? *Review of Quantitative Finance and Accounting, 57*(2), 557–594. https://doi.org/10.1007/s11156-020-00955-0

Almasarwah, A. (2015). *Earnings management and its relationship with corporate governance mechanisms in Jordanian industrial firms* [Doctoral thesis, Loughborough University].

Alqatan, A. (2019). The association between board diversity, earnings management and firm performance in Kuwait: A research agenda. *Corporate Governance: Search for the Advanced Practices*, 254–274.

Al-Thuneibat, A. A., Al-Angari, H. A., & Al-Saad, S. A. (2016). The effect of corporate governance mechanisms on earnings management: Evidence from Saudi Arabia. *Review of International Business and Strategy, 26*(1), 2–32. https://doi.org/10.1108/RIBS-10-2013-0100

Al-Zaqeba, M. A. A., Hamid, A. S., Ineizeh, N. I., Hussein, O. J., & Albawat, A. H. (2022). The effect of corporate governance mechanism on earnings management in Malaysian manufacturing companies. *Asian Economic and Finance Review, 12*(5), 354–367.

Arioglu, E. (2019). *Female directors and earnings management: Director characteristics and affiliation.* https://ssrn.com/abstract=3291150

Badolato, P. G., Donelson, D. C., & Ege, M. (2014). Audit committee financial expertise and earnings management: The role of status. *Journal of Accounting and Economics, 58*(2–3), 208–230. https://doi.org/10.1016/j.jacceco.2014.08.006

Baum, C., Scaffer, M., & Stillman, S. (2007). Enhanced routines for instrumental variables/generalized method of moments estimation and testing. *Stata Journal, 7*(4), 465–506. https://doi.org/10.1177/1536867X0800700402

Bear, S., Rahman, N., & Post, C. (2010). The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics, 97*(2), 207–221. https://doi.org/10.1007/s10551-010-0505-2

Bedard, J. C., & Johnstone, K. M. (2004). Earnings manipulation risk, corporate governance risk, and auditors' planning and pricing decisions. *The Accounting Review, 79*(2), 277–304. https://doi.org/10.2308/accr.2004.79.2.277

Bernardi, R. A., & Arnold, D. F. (1997). An examination of moral development within public accounting by gender, staff level, and firm. *Contemporary Accounting Research, 14*(4), 653–668. https://doi.org/10.1111/j.1911-3846.1997.tb00545.x

Bhuiyan, M. B., Roudaki, J., & Clark, M. (2010). Firm characteristics and corporate governance: Evidence from New Zealand. *Proceedings of the Corporate Governance and Global Financial Crisis*, Wharton School, Philadelphia, USA, September 24-25. In: Bhuiyan, M.B. *Determinants and Consequences of Corporate Governance Regulation – New Zealand Evidence*, [Doctoral thesis, Lincoln University].

Burgstahler, D., & Dichev, I. (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics, 24*(1), 99–126. https://doi.org/10.1016/S0165-4101(97)00017-7

Burgstahler, D. C., Hail, L., & Leuz, C. (2006). The importance of reporting incentives: Earnings management in European private and public firms. *The Accounting Review, 81*(5), 983–1016. https://doi.org/10.2308/accr.2006.81.5.983

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate governance, board diversity, and firm value. *Financial Review, 38*(1), 33–53. https://doi.org/10.1111/1540-6288.00034

Catalyst. (2004). *The bottom line: Connecting corporate performance and gender diversity.*

Chizema, A., Kamuriwo, D. S., & Shinozawa, Y. (2015). Women on corporate boards around the world: Triggers and barriers. *The Leadership Quarterly, 26*(6), 1051–1065. https://doi.org/10.1016/j.leaqua.2015.07.005

Cimini, R. (2015). How has the financial crisis affected earnings management? A European study. *Applied Economics, 47*(3), 302–317. https://doi.org/10.1080/00036846.2014.969828

Coskun, M., & Sayilir, O. (2012). Relationship between corporate governance and financial performance of Turkish companies. *International Journal of Business and Social Science, 3*(14), 59–64.

Dakhli, A. (2022). Do women on corporate boardrooms have an impact on tax avoidance? The mediating role of corporate social responsibility. *Corporate Governance, 22*(4), 821–845. https://doi.org/10.1108/CG-07-2021-0265

Damodar, G. (2004). *Basic econometrics* (4th) ed.). The McGraw-Hill.

Davies, E. M. (2011). *Women on boards.* Department for Business, Innovation & Skills.

Demirkan, S., Platt, H., & Hutchinson, M. (2009). Financial status, corporate governance quality, and the likelihood of managers using discretionary accruals. *Accounting Research Journal, 22*(2), 93–117. https://doi.org/10.1108/10309610910987475

Denis, D. K., & McConnell, J. J. (2003). International corporate governance. *Journal of Financial and Quantitative Analysis, 38*(1), 1–36. https://doi.org/10.2307/4126762

DeZoort, F. T., & Salterio, S. E. (2001). The effects of corporate governance experience and financial-reporting and audit knowledge on audit committee members' judgments. *Auditing: A Journal of Practice & Theory, 20*(2), 31–47. https://doi.org/10.2308/aud.2001.20.2.31

Dhaliwal, D. A. N., Naiker, V. I. C., & Navissi, F. (2010). The association between accruals quality and the characteristics of accounting experts and mix of expertise on audit committees. *Contemporary Accounting Research, 27*(3), 787–827. https://doi.org/10.1111/j.1911-3846.2010.01027.x

Dittmar, A., & Mahrt-Smith, J. (2007). Corporate governance and the value of cash holdings. *Journal of Financial Economics, 83*(3), 599–634. https://doi.org/10.1016/j.jfineco.2005.12.006

Elkalla, T. (2017). *An empirical investigation of earnings management in the MENA Region.* [PhD Thesis, University of the West of England].

Faleye, O., Hoitash, R., & Hoitash, U. (2018). Industry expertise on corporate boards. *Review of Quantitative*

Finance and Accounting, *50*(2), 441–479. https://doi.org/10.1007/s11156-017-0635-z

Fama, E. F., & Jensen, M. (1983a). Agency problems and residual claims. *Journal of Law and Economics*, *26*(2), 327–349. https://doi.org/10.1086/467038

Fama, E., & Jensen, M. (1983b). Separation of ownership and control. *Journal of Law and Economics*, *26*(2), 301–325. https://doi.org/10.1086/467037

Finegold, D., Benson, G. S., & Hecht, D. (2007). Corporate boards and company performance: Review of research in light of recent reforms. *Corporate Governance: An International Review*, *15*(5), 865–878. https://doi.org/10.1111/j.1467-8683.2007.00602.x

Francis, J. R., & Wang, D. (2008). The joint effect of investor protection and big 4 audits on earnings management quality around the world. *Contemporary Accounting Research*, *25*(1), 157–191. https://doi.org/10.1506/car.25.1.6

González, J. S., & García-Meca, E. (2014). Does corporate governance influence earnings management in Latin American markets? *Journal of Business Ethics*, *121*(3), 419–440. https://doi.org/10.1007/s10551-013-1700-8

Guay, W. R., Kothari, S. P., & Watts, R. L. (1996). A market-based evaluation of discretionary accrual models. *Journal of Accounting Research*, *34*(s), 83–105. https://doi.org/10.2307/2491427

Gul, F. A., Hutchinson, M., & Lai, K. M. (2013). Gender-diverse boards and properties of analyst earnings forecasts. *Accounting Horizons*, *27*(3), 511–538. https://doi.org/10.2308/acch-50486

Gul, F. A., Srinidhi, B., & Ng, A. C. (2011). Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting and Economics*, *51*(3), 314–338. https://doi.org/10.1016/j.jacceco.2011.01.005

Habib, A., Bhuiyan, U. B., & Islam, A. (2013). Financial distress, earnings management and market pricing of accruals during the global financial crisis. *Managerial Finance*, *39*(2), 155–180. https://doi.org/10.1108/03074351311294007

Healy, P. M. (1985). The effect of bonus schemes on accounting decision. *Journal of Accounting and Economics*, *7*(1–3), 85–107. https://doi.org/10.1016/0165-4101(85)90029-1

Healy, P. M., & Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, *13*(4), 365–383. https://doi.org/10.2308/acch.1999.13.4.365

Hili, W., & Affes, H. (2012). Corporate boards gender diversity and earnings persistence: The case of French listed firms. *Global Journal of Management and Business Research*, *12*(22), 51–59.

Hillman, A. J., Shropshire, C., & Cannella, A. A. (2007). Organizational predictors of women on corporate boards. *Academy of Management Journal*, *50*(4), 941–952. https://doi.org/10.5465/amj.2007.26279222

Holthausen, R. W., Larcker, D., & Sloan, R. (1995). Annual Bonus Schemes and the Manipulation of Earnings. *Journal of Accounting and Economics*, *19*(1), 29–74. https://doi.org/10.1016/0165-4101(94)00376-G

Holthausen, R. W., & Leftwich, R. W. (1983). The economic consequences of accounting choice implications of costly contracting and monitoring. *Journal of Accounting and Economics*, *5*, 77–117. https://doi.org/10.1016/0165-4101(83)90007-1

Huse, M., Solberg, A. G., & Broadbridge, A. (2006). Gender-related boardroom dynamics: How Scandinavian women make and can make contributions on corporate boards. *Women in Management Review*, *21*(2),

113–130. https://doi.org/10.1108/09649420610650693

Huson, M. R., Tian, Y., Wiedman, C. I., & Wier, H. A. (2012). Compensation committees' treatment of earnings components in CEOs' terminal years. *The Accounting Review*, *87*(1), 231–259. https://doi.org/10.2308/accr-10164

Jahmani, Y., Niranjan, S., & Toney, S. (2016). Earnings management in recession and recovery periods. *Margin: The Journal of Applied Economic Research*, *10*(2), 264–280. https://doi.org/10.1177/0973801015625274

Jensen, C. M., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Joecks, J., Pull, K., & Vetter, K. (2013). Gender diversity in the boardroom and firm performance: What exactly constitutes a "critical mass?". *Journal of Business Ethics*, *118*(1), 61–72. https://doi.org/10.1007/s10551-012-1553-6

Kalbers, L. P., & Fogarty, T. J. (1993). Audit committee effectiveness: An empirical investigation of the contribution of power. *Auditing*, *12*(1), 24.

Kanagaretnam, K., Lobo, G. J., & Whalen, D. J. (2007). Does good corporate governance reduce information asymmetry around quarterly earnings announcements? *Journal of Accounting and Public Policy*, *26*(4), 497–522. https://doi.org/10.1016/j.jaccpubpol.2007.05.003

Kao, E. H., Huang, H. C., Fung, H. G., & Liu, X. (2020). Co-opted directors, gender diversity, and crash risk: Evidence from China. *Review of Quantitative Finance and Accounting*, *55*(2), 461–500. https://doi.org/10.1007/s11156-019-00850-3

Karpoff, J. M., Malatesta, P. H., & Walkling, R. A. (1996). Corporate governance and shareholder initiatives: Empirical evidence. *Journal of Financial Economics*, *42*(3), 365–395. https://doi.org/10.1016/0304-405X(96)00883-5

Khidmat, W. B., Habib, M. D., Awan, S., & Raza, K. (2022). Female directors on corporate boards and their impact on corporate social responsibility (CSR): Evidence from China. *Management Research Review*, *45*(4), 563–595. https://doi.org/10.1108/MRR-09-2020-0560

Kirsch, A. (2018). The gender composition of corporate boards: A review and research agenda. *The Leadership Quarterly*, *29*(2), 346–364. https://doi.org/10.1016/j.leaqua.2017.06.001

Kohlberg, L. (1984). *Essays on moral development/2 The psychology of moral development*. Harper & Row.

Kumar, M., & Vij, M. (2017). Earnings management and financial crisis: Evidence from India. *Journal of International Business and Economy*, *18*(2), 84–101. https://doi.org/10.51240/jibe.2017.2.4

Kuo, J. M., Ning, L., & Song, X. (2014). The real and accrual-based earnings management behaviors: Evidence from the split share structure reform in China. *The International Journal of Accounting*, *49*(1), 101–136. https://doi.org/10.1016/j.intacc.2014.01.001

Kyaw, K., Olugbode, M., & Petracci, B. (2015). Does gender diverse board mean less earnings management? *Finance Research Letters*, *14*, 135–141. https://doi.org/10.1016/j.frl.2015.05.006

Lakhal, F., Aguir, A., Lakhal, N., & Malek, A. (2015). Do women on boards and in top management reduce earnings management? Evidence in France. *Journal of Applied Business Research (JABR)*, *31*(3), 1107–1118 .

Lara, J. M. G., Osma, B. G., Mora, A., & Scapin, M. (2017). The monitoring role of female directors over accounting quality. *Journal of Corporate Finance, 45,* 651–668. https://doi.org/10.1016/j.jcorpfin.2017.05.016

Lemmon, M. L., & Lins, K. V. (2003). Ownership structure, corporate governance, and firm value: Evidence from the East Asian financial crisis. *The Journal of Finance, 58*(4), 1445–1468. https://doi.org/10.1111/1540-6261.00573

Li, J., Mangena, M., & Pike, R. (2012). The effect of audit committee characteristics on intellectual capital disclosure. *The British Accounting Review, 44*(2), 98–110. https://doi.org/10.1016/j.bar.2012.03.003

Li, X., Than, E. T., Ahmed, R., Ishaque, M., & Huynh, T. L. D. (2021). Gender diversity of boards and executives on real earnings management in the bull or bear period: Empirical evidence from China. *International Journal of Finance and Economics, 2021,* 1–19. https://doi.org/10.1002/ijfe.2562

Low, D. C., Roberts, H., & Whiting, R. H. (2015). Board gender diversity and firm performance: Empirical evidence from Hong Kong, South Korea, Malaysia and Singapore. *Pacific-Basin Finance Journal, 35,* 381–401. https://doi.org/10.1016/j.pacfin.2015.02.008

Mangena, M., & Pike, R. (2005). The effect of audit committee shareholding, financial expertise and size on interim financial disclosures. *Accounting and Business Research, 35*(4), 327–349. https://doi.org/10.1080/00014788.2005.9729998

Marra, A., Mazzola, P., & Prencipe, A. (2011). Board monitoring and earnings management pre-and post-IFRS. *The International Journal of Accounting, 46*(2), 205–230. https://doi.org/10.1016/j.intacc.2011.04.007

Mazzotta, R., Ferraro, O., Al-Zaqeba, M. A. A., S, A. H., Ineizeh, N. I., Hussein, O. J., & Albawwat, A. H. (2020). Does the gender quota law affect bank performances? Evidence from Italy. *Corporate Governance: International Journal of Business in Society, 20*(6), 1135–1158. https://doi.org/10.1108/CG-08-2019-0252

Mnif, Y., & Cherif, I. (2021). Female board directorship and earnings management. *Pacific Accounting Review, 33*(1), 114–141. https://doi.org/10.1108/PAR-04-2020-0049

Nguyen, T., Locke, S., & Reddy, K. (2015). Does boardroom gender diversity matter? Evidence from a transitional economy. *International Review of Economics and Finance, 37*(C), 184–202. https://doi.org/10.1016/j.iref.2014.11.022

Nguyen, T. H. H., Ntim, C. G., & Malagila, J. K. (2020). Women on corporate boards and corporate financial and non-financial performance: A systematic literature review and future research agenda. *International Review of Financial Analysis, 71,* 101554. https://doi.org/10.1016/j.irfa.2020.101554

Nielsen, S., & Huse, M. (2010). The contribution of women on boards of directors: Going beyond the surface. *Corporate Governance: An International Review, 18*(2), 136–148. https://doi.org/10.1111/j.1467-8683.2010.00784.x

Olson, J. (2015). Accounting Research and Common Sense. *Abacus, 51*(4), 525–535.

Pae, J. (2005). Expected accrual models: The impact of operating cash flows and reversals of accruals. *Review of Quantitative Finance and Accounting, 24*(1), 5–22. https://doi.org/10.1007/s11156-005-5324-7

Park, Y. W., & Shin, H. H. (2004). Board composition and earnings management in Canada. *Journal of Corporate Finance, 10*(3), 431–457. https://doi.org/10.1016/S0929-1199(03)00025-7

Peni, E., Vahaamaa, S., & Yu, S. (2010). Female executives and earnings management. *Managerial Finance, 36*(7), 629–645. https://doi.org/10.1108/03074351011050343

Pham, H. Y., Chung, R. Y. M., Roca, E., & Bao, B. H. (2019). Discretionary accruals: Signalling or earnings management in Australia? *Accounting & Finance, 59*(2), 1383–1413. https://doi.org/10.1111/acfi.12275

Piosik, A., & Genge, E. (2020). The influence of a company's ownership structure on upward real earnings management. *Sustainability, 12*(1), 152. https://doi.org/10.3390/su12010152

Rose, C. (2007). Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review, 15*(2), 404–413. https://doi.org/10.1111/j.1467-8683.2007.00570.x

Schultz, E. L., Tan, D. T., & Walsh, K. D. (2010). Endogeneity and the corporate governance-performance relation. *Australian Journal of Management, 35*(2), 145–163. https://doi.org/10.1177/0312896210370079

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The Journal of Finance, 52*(2), 737–783. https://doi.org/10.1111/j.1540-6261.1997.tb04820.x

Sohag, K., Bamanga, U., & Alam, M. M. (2018). *Stata Command for Panel Data Analysis.* https://doi.org/10.13140/RG.2.2.13812.45444/1

Sow, I., & Tozo, K. W. (2019). The impact of corporate governance on firms' performance and earnings management: The case of China's listed firms. *International Journal of Science and Business, 3*(1), 84–96. https://doi.org/10.5281/zenodo.2550622

Srinidhi, B. I. N., Gul, F. A., & Tsui, J. (2011). Female directors and earnings quality. *Contemporary Accounting Research, 28*(5), 1610–1644. https://doi.org/10.1111/j.1911-3846.2011.01071.x

Subhasinghe, J., & Kehelwalatenna, S. (2021). Impact of corporate governance on earnings management: Evidence from Sri-Lankan listed companies. *Global Review of Accounting and Finance, 12*(1), 58–74.

Sunden, A. E., & Surette, B. J. (1998). Gender differences in the allocation of assets in retirement savings plans. *The American Economic Review, 88*(2), 207–211.

Tang, H. W., & Chang, C. C. (2015). Does corporate governance affect the relationship between earnings management and firm performance? An endogenous switching regression model. *Review of Quantitative Finance and Accounting, 45*(1), 33–58. https://doi.org/10.1007/s11156-013-0427-z

Tang, C. H., Lee, Y. H., Lee, M. C., & Huang, Y. L. (2020). CEO characteristics enhancing the impact of CEO overconfidence on firm value after mergers and acquisitions — A case study in China. *Review of Pacific Basin Financial Markets and Policies, 23*(1), 2050003. https://doi.org/10.1142/S0219091520500034

Terjesen, S., & Sealy, R. (2016). Board gender quotas: Exploring ethical tensions from a multi-theoretical perspective. *Business Ethics Quarterly, 26*(1), 23–65. https://doi.org/10.1017/beq.2016.7

Terjesen, S., Sealy, R., & Singh, V. (2009). Women directors on corporate boards: A review and research agenda. *Corporate Governance: An International Review, 17*(3), 320–337. https://doi.org/10.1111/j.1467-8683.2009.00742.x

Ullah, I., Zeb, A., Khan, M. A., & Xiao, W. (2020). Board diversity and investment efficiency: Evidence from China. *Corporate Governance, 20*(6), 1105–1134. https://doi.org/10.1108/CG-01-2020-0001

Vuong, P. T. (2021). *The relationship between corporate governance, earnings management and stock price*

informativeness. *Empirical studies in a Vietnamese context* [PhD thesis, Grenoble Alpes University].

Wilkinson, B. R., & Clements, C. C. (2006). Corporate governance mechanisms and the early-filing of CEO certification. *Journal of Accounting and Public Policy, 25*(2), 121–151. https://doi.org/10.1016/j.jaccpubpol.2006.01.001

Xie, B., Davidson, W. N., III, & DaDalt, P. J. (2003). Earnings management and corporate governance: The role of the board and the audit committee. *Journal of Corporate Finance, 9*(3), 295–316. https://doi.org/10.1016/S0929-1199(02)00006-8

Yousuf, A., & Aldamen, H. (2021). Female representation on the board of directors and accrual quality within the context of cultural dimensions and accounting values. *Managerial Auditing Journal, 36*(4), 535–563. https://doi.org/10.1108/MAJ-06-2020-2723

Zalata, A. M., Ntim, C., Aboud, A., & Gyapong, E. (2019a). Female CEOs and core earnings quality: New evidence on the ethics versus risk-aversion puzzle. *Journal of Business Ethics, 160*(2), 515–534. https://doi.org/10.1007/s10551-018-3918-y

Zalata, A. M., Ntim, C. G., Alsohagy, M. H., & Malagila, J. (2021). Gender diversity and earnings management: The case of female directors with financial background. *Review of Quantitative Finance and Accounting, 58*(1), 101–136. https://doi.org/10.1007/s11156-021-00991-4

Zalata, A. M., Ntim, C. G., Choudhry, T., Hassanein, A., & Elzahar, H. (2019b). Female directors and managerial opportunism: Monitoring versus advisory female directors. *The Leadership Quarterly, 30*(5), 101309. https://doi.org/10.1016/j.leaqua.2019.101309

Zhou, F., Fan, Y., An, Y., & Zhong, L. (2017). Independent directors, non-controlling directors, and executive pay-for-performance sensitivity: Evidence from Chinese non-state owned enterprises. *Pacific-Basin Finance Journal, 43*, 55–71. https://doi.org/10.1016/j.pacfin.2017.02.003

Zimon, G., Appolloni, A., Tarighi, H., Shahmohammadi, S., & Daneshpou, E. (2021). Earnings management, related party transactions and corporate performance: The moderating role of internal control. *Risks, 9*(8), 146. https://doi.org/10.3390/risks9080146

Cogent Business & Management (ISSN: 2331-1975) is published by Cogent OA, part of Taylor & Francis Group.

Publishing with Cogent OA ensures:

- Immediate, universal access to your article on publication
- High visibility and discoverability via the Cogent OA website as well as Taylor & Francis Online
- Download and citation statistics for your article
- Rapid online publication
- Input from, and dialog with, expert editors and editorial boards
- Retention of full copyright of your article
- Guaranteed legacy preservation of your article
- Discounts and waivers for authors in developing regions

Submit your manuscript to a Cogent OA journal at www.CogentOA.com