

Board characteristics and earnings management in Sri Lanka

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Abstract

Purpose – The purpose of this paper is to examine the association between designated corporate governance attributes and the degree of earnings management in selected quoted companies in Sri Lanka.

Design/methodology/approach – In total, 70 listed companies in Colombo Stock Exchange (CSE) were selected based on the highest market capitalisation for the period covering from 2015 to 2017 and representing beverage, food and tobacco, diversified, hotel and travel, manufacturing, oil palms and health care sectors, which accounted for 59.9 per cent of the total market capitalisation of CSE.

Findings – This study found a positive relationship between CEO-Chair duality and earnings management.

Practical implications – The insights may also provide investors, economic analysts and regulators with early caution indicators of potential problems in a corporation regarding corporate governance failures and aid stakeholders in assessing the effectiveness and efficiency of the board and corporate governance structure and earnings management methods.

Originality/value – This study extends the extant research on board characteristics and real earnings management by adopting prominent research design and modernised data. This study offers evidence on how selected audit and board committee's characteristics influence real earnings management practices.

Keywords Corporate governance, Earnings management, Colombo Stock Exchange (CSE), Audit committee characteristics, Board committee characteristics

Paper type Research paper

1. Introduction

Several multinational organisations such as Enron, WorldCom, Nortel, Parmalat and Tyco endured corporate failure as a result of inefficient and ineffective corporate governance and accounting malpractices (Sorensen and Miller, 2017). Sri Lanka is also prone to such corporate collapses, large firms such as Pramuka Savings, Development Bank, Golden Key Credit Card Company, Vimukthi Corporation and Lanka Marine Services Ltd collapsed due to poor corporate governance mechanisms (Edirisinghe, 2015; Senarathne and Gunarathne, 2008). Prior studies provide an indication that good corporate governance attributes are related with a lower level of earnings management, thus increasing the financial reporting quality in developed markets (Klein, 2002; Xie *et al.*, 2003) and in emerging markets (Kim and Yi, 2006; Porta *et al.*, 2000). However, there are also literature that provide corroborative evidence indicating a negative relationship between corporate governance attributes and earnings management (Ramachandran *et al.*, 2015; Silva *et al.*, 2017).



Fraud is significantly higher for firms that have previously managed earnings (Perols and Lougee, 2011). Stakeholder expectation forces the management or those charged with governance to resort to value-destroying earnings management practices or fraudulent financial reporting (Zhao and Chen, 2008). The fraud triangle theory substantiates that financial statement fraud occurs because of the pressures to meet internal and external expectations, opportunity and rationalisation (Albrecht *et al.*, 2009). As per the evidence found by Roychowdhury (2006) in USA and Matsuura (2008) in Japan, managers use real earnings management and/or accrual earnings management to smooth earnings.

As indicated by Rankin (2012) the board and the board-related characteristics are critical parts of corporate structure and governance and can act as a preventive mechanism against such earnings management malpractices.

In light of the diverse and mixed evidence available and scarcity of literature relating to the Sri Lankan perspective, the problem statement of this research study could be articulated as whether there is a relationship between selected corporate governance attributes and earnings management practices in selected quoted entities in Sri Lanka. Thus, this paper mainly aims to examine how selected corporate governance attributes such as audit and board committee attributes impact earnings management in the selected Sri Lankan quoted entities. Furthermore, this study examines the selected corporate governance attributes and the level of earnings management practices.

The remainder of this study is structured as follows: the second section reviews the extant literature. The third section describes the conceptual framework and methodology adopted in this study. The fourth section elaborates the data analysis and results. The conclusions are explained in the last section.

2. Literature review

This section elaborates in depth of the academic literature on the fundamental definitions, concepts, theories, models and provisional studies conducted on the corporate governance and earnings management.

2.1 Definition of concepts

2.1.1 Corporate governance. The Cadbury committee defines “[c]orporate Governance as a system by which companies are controlled and directed, specifically focusing on establishing a framework by which stakeholder interests are balanced” (Cadbury Report, 1992, p. 14). The Cadbury report provided the foremost definition of corporate governance. “Corporate governance involves a set of relationships between a company’s management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure via which the aims of the corporation are set, and the way of achieving those aims and monitoring performance are determined. Enhanced corporate governance should provide proper incentives for the board and management to pursue objectives that are in the interests of the company and its shareholders and should facilitate effective monitoring” (OECD, 2004, p. 12).

2.1.2 Earnings management. Lev (1989) stated earnings as disposable (net) or bottom-line income, a distinct element in the financial accounts. The theoretical worth of an entity is the present value of the earnings derived in the future. Better earnings represent an increase in the entity’s value, while diminished earnings signal a decrease in the entity’s value. In contrast to Lev’s definition, Fischer and Rosenzweig (1995) stated that earnings management is a series of arrangements taken by the management of corporates to enhance the present reported earnings without a corresponding growth in the long-term lucrativeness of the corporates.

2.2 Corporate governance in Sri Lanka

Lakshan and Wijekoon (2012) stated that, in 1997, the Institute of Chartered Accountants of Sri Lanka (ICASL), jointly with Securities Exchange Commission (SEC) of Sri Lanka and Colombo Stock Exchange (CSE) developed a voluntary code of corporate governance conduct and financial management that is similar to Cadbury report 1992 with the intention of promoting transparency in corporate earnings. As of April 2008, there is the statutory requirement by SEC, for all listed companies to abide by severe corporate governance guidelines (Code of Best Practice on Corporate Governance, rep., 2017). Sri Lanka established official corporate governance codes of best practices after the 1990s through its regulatory regimes. The first real effort in codifying corporate governance practices began in 1996 when the council of the ICASL formed a committee to make recommendations on the financial aspects of corporate governance (Farooq and Werner, 2003). The evolution of corporate governance codes in Sri Lanka is presented in Table I.

In Sri Lankan listed companies, there is a high level of concentration of ownership with the existence of a controlling stakeholder and most companies are family-owned enterprises in Sri Lanka. This raises validity concerns over the standard practices of corporate governance based on the agency theory; in order to eliminate such high level of concentration and abuse of family-owned enterprises, regulators should promote an optimal ownership structure (Mapitiya *et al.*, 2016).

2.3 Corporate governance and earnings management

2.3.1 Theoretical association between the board attributes and earnings management. Davis (1973) (cited in Carlos and Nicholas, 1990) stated that during the sovereignty of Charles II, 1660–1688, England was crowned as an eminent trading country. The growth in foreign trade was due to the rise of the chartered trading entities and accompanied by the fall of controlling entities, such as Levant and Eastland companies, which had formerly conducted the European trades. Smith (1776) (cited in Carlos and Nicholas, 1990) identified two significant problems facing multilocational and multinational trading companies. The first problem of control being separated from ownership and the second is how owners or directors at home can ensure their agents are working for the benefit of the company.

Year	Code	Institutions	Implementation
1997	The Code of Best Practice: Matters relating to Financial Aspects of Corporate Governance	ICASL	Voluntary
2001	Handbook on Corporate Governance: Principles and Guidelines to Best Practice in Sri Lanka		
2002	Code of Best Practice on Audit Committees		
2002	Code of Corporate Governance for Banks and Other Financial Institutions	CBSL (Central Bank of Sri Lanka)	
2003	Guidelines for Listed Companies in respect of Audit and Audit Committees	SEC and ICASL	
2004	Standard on Corporate Governance for Listed Companies (Section 6 of Listing Rules)	CSE with the support of SEC and ICASL	Mandatory
2007	Code of Best Practice on Corporate Governance	ICASL and SEC	Voluntary
2008	Guidelines for Appointment of Auditors of Listed Companies	SEC	
2008	The Banking Act Direction No.1: Corporate Governance	CBSL	Mandatory
2008	Finance Company Direction No.3: Corporate Governance		
2013	Code of Best Practices on Corporate Governance	ICASL and SEC	Voluntary
2017	Code of Best Practices on Corporate Governance		

Source: Author constructed

Table I.
The evolution of corporate governance codes in Sri Lanka

Tricker (2012) suggested that there is a clear issue regarding the separation of ownership in modern organisations. Owner-appointed agents will not at all times perform in the best interest of their principals. Corporate governance practices will act as a mechanism between owners and agents in aligning their interests, thereby mitigating the agency problem, reducing the agency costs and improving financial performance.

2.3.2 Empirical evidence on board and audit characteristics and development of the hypotheses. Saggar and Singh (2017) stated that there is a significant probability of disclosing positive risks in the financial statements compared to disclosing negative risks, as the board size and gender diversity in the board are greater and are decisive factors of risk disclosures in the financial statements. In this study, board size is considered as a significant independent variable. Thereby, the following hypothesis is formulated:

H1. There is an association between board size and earnings management.

Uadiale and Fagbemi (2012) stated that board with the majority of external directors provides a better span of knowledge to the organisation and are in an enhanced place to supervise and govern the managers, thus curtailing earnings management. In this study, board independence is considered as a significant independent variable. Thereby, the following hypothesis is formulated:

H2. There is an association between board independency and earnings management.

Apart from inferior expenses, CEO-Chairman duality structure can improve organisational financial performance and financial statements quality as a sole leader can provide unblemished direction and be more receptive to changes with concentrated authority (Chen and Zhang, 2012). In this study, CEO-Chairman duality is considered as a significant independent variable. Thereby, the following hypothesis is formulated:

H3. There is an association between CEO-Chairman duality and earnings management.

Vafeas (1999) stated that board meets more often during the periods of turmoil, and that board meets more often, show improved financial performance, since board that meets more often can allocate more time to discuss issues regarding earnings management. In this study, the number of meetings is considered as a significant independent variable. Thereby, the following hypothesis is formulated:

H4. There is an association between board meetings and earnings management.

In respect of financial and accounting expertise, Chen and Zhang (2012) provided evidence that there is lesser earnings management due to the presence of independent non-executive directors on the board and the audit committee and the accounting/finance experts on the audit committee. In this study, the number of meetings is considered as a significant independent variable. Thereby, the following hypothesis is formulated:

H5. There is an association between board acumen/expertise and earnings management.

Carcello and Neal (2000) stated that the presence of an audit committee is anticipated to improve accounting practices. In this study, audit committee size is considered as a significant independent variable. Thereby, the following hypothesis is formulated:

H6. There is an association between audit committee size and earnings management.

Xie *et al.* (2003) supported the notion that large audit committees with a large proportion of independent directors, effective in monitoring earnings management and audit committee members with financial and accounting and background should have the experience and training to understand earnings management. In this study, audit committee

independency is considered as a significant independent variable. Thereby, the following hypothesis is formulated:

H7. There is an association between audit committee independency and earnings management.

According to Corporate Governance of Malaysia, listed entities in Malaysia require as a best practice, in addition to other meetings, to hold three or four audit committee meetings to coincide with the entity's audit cycle (Malaysian Code on Corporate Governance, rep., 2017). In this study, an audit committee meeting is considered as a significant independent variable. Thereby, the following hypothesis is formulated:

H8. There is an association between audit committee meetings and earnings management.

McMullen and Raghunathan (1996) stated that when financial experts are present in audit committees then such organisations are less likely to face financial problems. In this study, audit committee skill base is considered as a significant independent variable. Thereby, the following hypothesis is formulated:

H9. There is an association between audit committee skill base in finance and accounting and earnings management.

In the literature above, it is observed that there are several board and audit committee characteristics that influence the level of earnings management. Mainly board characteristics such as size and independence of the board of directors, CEO-Chair duality, frequency of board meetings, board finance and accounting expertise, independence and size of the audit committee, number of the meetings held by the audit committee and its acumen in accounting and finance. Conversely, the evidence found in the literature are mixed.

2.3.3 Control variables and earnings management. In relation to control variables, scholars have utilised several control variables including firm size, firm growth, leverage, being audited by the Big 4 audit firms. Evans (1987) identified that firm age is an important element in managerial dynamics where a negative association is found between firm age and corporate collapse. Lai and Tam (2017) stated that highly leveraged organisation has a strong incentive to manipulate earnings to alleviate the debt clauses in their debt agreements. Kim and Yi (2006) Suggested that there is a perception that the creditability of an organisation's financial statements is higher when Big 4 firms provide external assurance on the financial statements. Carlson and Bathala (1997) stated that multinational organisations are more probable to manipulate earnings than smaller entities, as large entities have a range of expenditures and non-periodic items and large firms are mature and have synchronised revenue and earnings. Ji *et al.* (2015) categorised firm growth as one of the control variables in terms of earnings management and cited as an important determinant. It is pertinent to note that there is mixed evidence on the effect of these control variables on earnings management practices.

2.4 Theoretical and empirical gap

The above literature review shows that most of the previous studies have examined the relationship between corporate governance and earnings management in different countries including Sri Lanka. However, each study is unique in terms of the methodology adopted and applied. There are numerous studies which have been carried out to explore the association between corporate governance mechanisms and management of earnings via discretionary accruals and real activities in developed markets. Further, another significant

change occurred corporate governance regulations in Sri Lanka. The Code of Best Practice of Corporate Governance 2017 was jointly issued by ICASL and SEC. This has led listed entities in Sri Lanka to make necessary corporate governance reforms. As to identify whether new corporate governance reforms have led to better earnings management. According to the above literature review, nine board characteristics have been identified as having a significant impact on earnings management.

3. Research methodology

This section explains the research methodology and methods adopted in this study.

3.1 Research approach

This study aims to examine the relationship between selected corporate governance characteristics and the degree of earnings management; a quantitative approach is adopted. Furthermore, prior research studies have (Alhadab *et al.*, 2016; Zang, 2012) used a similar quantitative research approach.

3.2 Population and sample

The population is all the listed entities in Sri Lanka as of 31 March 2017. The sample for the study was selected from companies quoted in Sri Lanka, excluding insurance, finance and banking institutions because they are highly governed by stringent rules and regulations and follow a diverse method of the accounting treatment for their financial statements. In selecting the sample, 100 listed companies were identified that had the highest market capitalisation as at 31 March 2017. However, it had to be ensured that at least five companies were available in an industry sector and therefore certain companies had to be dropped within the 100 companies. Accordingly, 70 companies were selected. The entities were quoted on the CSE for the period under purview (2015–2017), where the financial period ended on March 31.

As illustrated in Table II, the beverage, food and tobacco, diversified holding and hotels account to 50.2 per cent. The entire sample represents 59.9 per cent of the total market capitalisation. All the financial statement data and corporate governance data were collected from each company's annual reports, which can be obtained from the CSE website.

3.3 Conceptual framework

Figure 1 below depicts the conceptual framework of the study, which is based on the literature review discussed in Section 2. The conceptual framework explains the association between selected corporate governance attributes and earnings management.

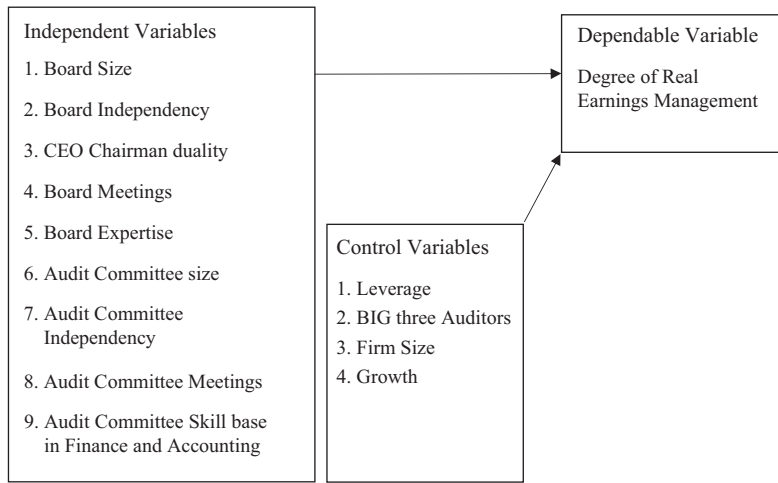
3.4 Operationalization of variable

The operationalization of the selected variables is explained in Table III.

Sector	Sector market capitalisation as a % of total market capitalisation	Number of firms
Beverage food tobacco	20.5	14
Diversified holding	18.9	16
Hotels and travel	10.8	14
Manufacturing	5.5	16
Oil palms	2.1	5
Healthcare	2.1	5
Total	59.9	70

Source: Colombo Stock Exchange (n.d.)

Table II.
Sample selection



Source: Author constructed

Figure 1.
Conceptual diagram

3.5 Analytical strategies

In order to achieve the first objective of examining the selected corporate governance mechanisms and the level of earnings management, descriptive statistics will be used. Then, to examine the relationship between the selected corporate governance characteristics and the degree of earnings management, correlation analysis, ordinary least square regression analysis and panel version of the regression analysis will be applied.

The regression model is applied as follows:

$$\begin{aligned}
 REM_{i,t} = & \alpha + \beta_1 SIZE_{i,t} + \beta_2 INDBD_{i,t} + \beta_3 CEOCHAIR_{i,t} + \beta_4 BMEET_{i,t} + \beta_5 BFAEXP_{i,t} \\
 & + \beta_6 AUDSIZE_{i,t} + \beta_7 INDAC_{i,t} + \beta_8 ACMEET_{i,t} + \beta_9 ACFEXP_{i,t} + \beta_{10} LEV_{i,t} \\
 & + \beta_{11} BIG4_{i,t} + \beta_{12} FSIZE_{i,t} + \beta_{14} GROWTH_{i,t} + \varepsilon_{i,t}.
 \end{aligned}$$

The definitions and measurement of each variable indicated in the above equation are presented in Table III on operationalization. The results and findings obtained by applying above analysis strategies are discussed in the next section.

4. Data analysis and results

This section elaborates the results obtained from the statistical analysis strategies suggested under Section 3.5. Hence, the findings of the descriptive analysis, correlation analysis, ordinary least square regression analysis and panel version of the regression analysis are provided along with resulting discussion in this section.

4.1 Descriptive statistics

Descriptive statistics findings are presented in Table IV, satisfy the auxiliary objectives of the research study, which are to evaluate the selected corporate governance attributes and the level of earnings management. Therefore, the mean value of Earnings Management value ($REM_{i,t}$) is 0.166 and the median value is 0.080, while the standard deviation is 0.210. The results show that there is a substantial variation. On average there are eight Board of Directors ($BSIZE_{i,t}$) in the board, while three are Independent Non-Executive Directors ($INDBD_{i,t}$). Accordingly, it could be claimed that the proportion of outside directors is to the

Variables and denotations	Measurement	Related studies
<i>Earnings management (dependent variable)</i>		
1. Earnings Management (REM _{<i>i,t</i>})	The dependent variable of this study is earnings management measured using three proxies; sales-based manipulations (abnormal cash flow from operations), discretionary expenses based (abnormal discretionary expenses), and production cost based (abnormal production cost). These three proxies of earnings management were based on the model established by the Dechow <i>et al.</i> (1998) and applied by Roychowdhury (2006)	Roychowdhury (2006)
<i>Corporate governance mechanisms (Independent variables)</i>		
1. Board Size (BSIZE _{<i>i,t</i>})	Total number of board of directors for firm <i>i</i> and period <i>t</i>	Yasser and Mamun (2016)
2. Board Independency (INDBD _{<i>i,t</i>})	Number of independent non-executive directors on the board for firm <i>i</i> and period <i>t</i>	Chen and Zhang (2012)
3. CEO-Chair duality (CEOCHAIR _{<i>i,t</i>})	Coded as "1", if CEO and Chairman roles are separated, and "0" otherwise, for firm <i>i</i> and period <i>t</i>	Yasser and Mamun (2016)
4. Board Meetings (BMEET _{<i>i,t</i>})	Number of board meetings for firm <i>i</i> and period <i>t</i>	Xie <i>et al.</i> (2003)
5. Board Expertise (BFAEXP _{<i>i,t</i>})	Number of members with financial or/and accounting qualifications for firm <i>i</i> and period <i>t</i>	Ebaid (2013)
6. Audit Committee size (AUDSIZE _{<i>i,t</i>})	Number of members in the audit committee for firm <i>i</i> and period <i>t</i>	Chen and Zhang (2012)
7. Audit Committee Independency (INDAC _{<i>i,t</i>})	Number of independent non-executive directors on the audit committee for firm <i>i</i> and period <i>t</i>	Abdullah and Ismail (2016)
8. Audit Committee Meetings (ACMEET _{<i>i,t</i>})	Number of audit committee meetings for firm <i>i</i> and period <i>t</i>	Xie <i>et al.</i> (2003)
9. Audit Committee Skill base in Finance and Accounting (ACFAEXP _{<i>i,t</i>})	Number of members with finance or/and accounting qualifications in the audit committee for firm <i>i</i> and period <i>t</i>	Chen and Zhang (2012)
<i>Control variables</i>		
1. Leverage (LEV _{<i>i,t</i>})	Ratio of total debt at the end of the period to the total assets at the end of the period <i>t</i> of firm <i>i</i>	Lai and Tam (2017)
2. BIG4 (BIG4 _{<i>i,t</i>})	Coded "1" if the auditor is a Big 4 audit firm, and "0" otherwise of the firm <i>i</i> for the period <i>t</i>	Chen <i>et al.</i> (2007)
3. Firm size (FSIZE _{<i>i,t</i>})	Natural logarithm of sales of firm <i>i</i> for the period <i>t</i>	Yasser and Mamun (2016)
4. Growth (GROWTH _{<i>i,t</i>})	Sales growth of firm <i>i</i> form the period <i>t</i> -1 to <i>t</i> .	Ji <i>et al.</i> (2015)
Source: Author constructed		

Table III.
Operationalization

standard recommended by the best corporate governance practices. CEO-Chair duality (CEOCHAIR_{*i,t*}) was observed in 72 per cent of the organisations in the sample. On average seven Board Meetings (BMEET_{*i,t*}) have been conducted by the firms in this study, which is in line with the stipulated baseline requirements of the code of best practice.

4.2 Association between corporate governance and earnings management

4.2.1 *Correlation matrix.* The relationship between the two variables is indicated by Pearson's correlation. Table V illustrates the findings of the Pearson analysis.

It is noted that the Number of Independent Directors in the Board (INDBD_{*i,t*}), Audit Committee Size (AUDCSIZE_{*i,t*}) and the Number of Independent Directors in Audit Committee (NINDAC_{*i,t*}) show a significant systematic negative relationship with Earnings Management (REM_{*i,t*}) at a significance level $p < 0.01$. Further, Board Size (BSIZE_{*i,t*}) shows a significant systematic negative association with Earnings Management (REM_{*i,t*}) at

Variables ^a	<i>N</i>	Minimum	Maximum	Mean
REM _{<i>i,t</i>} ^b	210	0.000	0.750	0.166
BSIZE _{<i>i,t</i>}	210	5.000	12.000	8.260
INDBD _{<i>i,t</i>} ^b	210	2.000	6.000	3.340
CEOCHAIR _{<i>i,t</i>}	210	0.000	1.000	0.720
BMEET _{<i>i,t</i>} ^b	210	2.000	20.000	7.260
BFAEXP _{<i>i,t</i>} ^b	210	1.000	6.000	3.240
AUDCSIZE _{<i>i,t</i>} ^b	210	2.000	4.000	3.100
NINDAC _{<i>i,t</i>} ^b	210	2.000	4.000	2.720
ACMEET _{<i>i,t</i>} ^b	210	2.000	8.000	4.360
ACFAEXP _{<i>i,t</i>} ^b	210	1.000	3.000	1.460
LEV _{<i>i,t</i>}	210	0.000	0.900	0.290
BIG4 _{<i>i,t</i>} ^b	210	0.000	1.000	0.930
FSIZE _{<i>i,t</i>} ^b	210	17.350	24.200	20.980
GROWTH _{<i>i,t</i>} ^b	210	-0.590	0.440	0.040

Notes: ^aDefinitions of these variables are indicated under Table III; ^bThese variables were winsorized at 5 per cent due to the presence of outliers

Table IV.
Descriptive statistics

Source: Author constructed

Variables ^a	REM _{<i>i,t</i>}
1. BSIZE _{<i>i,t</i>}	-0.175**
2. INDBD _{<i>i,t</i>}	-0.211***
3. CEOCHAIR _{<i>i,t</i>}	0.257***
4. BMEET _{<i>i,t</i>}	0.047
5. BFAEXP _{<i>i,t</i>}	0.051
6. AUDCSIZE _{<i>i,t</i>}	-0.264***
7. NINDAC _{<i>i,t</i>}	-0.188***
8. ACMEET _{<i>i,t</i>}	-0.032
9. ACFAEXP _{<i>i,t</i>}	-0.002
10. LEV _{<i>i,t</i>}	0.336***
11. BIG4 _{<i>i,t</i>}	0.103
12. FSIZE _{<i>i,t</i>}	0.348***
13. GROWTH _{<i>i,t</i>}	0.087

Notes: As per the results in Table VI, all the variables have a Variation Inflation Factor value less than 5, thereby indicating that multi-collinearity issue does not violate regression assumptions or compromise the regression model. ^aDefinitions of these variables are indicated under Table III. ** $p < 0.05$; *** $p < 0.01$

Table V.
Correlation matrix

Source: Author constructed

significant level $p < 0.05$. It shows that when there are more directors on the board and the audit committee, earnings management is less likely to occur. Furthermore, it is pertinent to note that earnings management is less likely to take place when there are more independent directors on the board and the audit committee. CEO-Chair duality (CEOCHAIR_{*i,t*}) shows a significant systematic positive relationship with Earnings Management (REM_{*i,t*}) at significant level $p < 0.01$.

4.2.2 Ordinary least square regression analysis. Ordinary least square regression findings are presented in Table VI. The regression model is developed by considering the earnings management variable as a dependent variable and corporate governance variables as independent variables.

Variables ^a	Coef.	Collinearity statistics VIF
Intercept	-0.549**	
BSIZE _{<i>i,t</i>}	-0.009	2.382
INDBD _{<i>i,t</i>}	-0.025*	2.384
CEOCHAIR _{<i>i,t</i>}	0.075**	1.206
BMEET _{<i>i,t</i>}	0.004	1.221
BFAEXP _{<i>i,t</i>}	0.033***	1.611
AUDCSIZE _{<i>i,t</i>}	-0.043	2.741
NINDAC _{<i>i,t</i>}	0.010	2.695
ACMEET _{<i>i,t</i>}	-0.004	1.036
ACFEXP _{<i>i,t</i>}	-0.004	1.472
LEV _{<i>i,t</i>}	0.285***	1.169
BIG4 _{<i>i,t</i>}	0.120**	1.169
FSIZE _{<i>i,t</i>}	0.029***	1.169
GROWTH _{<i>i,t</i>}	0.021	1.169
<i>F</i> -value	7.987	
Sig. of <i>F</i> -value	0.000	
<i>R</i> ²	0.346	
<i>N</i>	210	

Notes: ^aDefinitions of these variables are indicated under Table III. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: Author constructed

Table VI.
OLS multivariate
regression analysis

Kernel Density Curve (Figure A1) in Appendix 1 depicts that error terms of the model are normally distributed, thus Ordinary least regression assumption is not violated. Ordinary least square regression analysis shows that there is a significant systematic negative relationship between Number of Independent Directors in the Board (INDBD_{*i,t*}) and Earnings Management (REM_{*i,t*}) at significant level $p < 0.10$, as this was substantiated under the correlation analysis. In contrast, CEO-Chair duality (CEOCHAIR_{*i,t*}) and Board Financial and Accounting Expertise (BFAEXP_{*i,t*}) show a systematic positive relationship with Earnings Management (REM_{*i,t*}) at significant levels $p < 0.05$ and $p < 0.01$, respectively. This indicates that the absence of CEO-Chair duality and a smaller number of directors with financial and accounting expertise likely to lead to lower earnings management practices. Other selected board and audit committee characteristics do not show a systematic relationship with earnings management.

In terms of control variables, except Sales Growth (Growth_{*i,t*}), all other variables such as Big 4 Auditors (BIG4_{*i,t*}) at significant level $p > 0.05$, Leverage (LEV_{*i,t*}) and Firm Size (FSIZE_{*i,t*}) at significant level $p > 0.01$ show a significant systematic positive relationship with Earnings Management (REM_{*i,t*}).

From the above analysis, variables such as Number Independent Directors (INDBD_{*i,t*}), CEO-Chair duality (CEOCHAIR_{*i,t*}), Board Accounting and Financial acumen (BFAEXP_{*i,t*}), Big 4 Auditors (BIG4_{*i,t*}), Firm Size (FSIZE_{*i,t*}) and Leverage (LEV_{*i,t*}) show statistically significant association with Earnings Management (REM_{*i,t*}).

4.2.3 Panel regression. The findings of the Panel regression are presented in Table VII.

As per the results of Hausman statistics for endogeneity in Appendix 2-Statistical analyses of robustness $\text{Prob} > \chi^2$ is below the significance level of 0.05, thereby accepting the null hypothesis of H_{r0} ; random effects are independent of the independent variable (difference in coefficients not systematic). Thereby to address the issue of endogeneity, panel regression analysis is carried out with random effects and the results are presented in Table VII.

As per panel regression results in Table VII, a systematic negative association between Number of Independent Directors in the Board (INDBD_{*i,t*}) and Earnings

Variables ^a	Coef.
BSIZE _{<i>i,t</i>}	-0.009
INDBD _{<i>i,t</i>}	-0.025*
CEOCHAIR _{<i>i,t</i>}	0.075**
BMEET _{<i>i,t</i>}	0.004
BFAEXP _{<i>i,t</i>}	0.033***
AUDCSIZE _{<i>i,t</i>}	-0.043
NINDAC _{<i>i,t</i>}	0.01
ACMEET _{<i>i,t</i>}	-0.004
ACFEXP _{<i>i,t</i>}	-0.004
LEV _{<i>i,t</i>}	0.285***
BIG4 _{<i>i,t</i>}	0.120**
FSIZE _{<i>i,t</i>}	0.029***
GROWTH _{<i>i,t</i>}	0.021
Prob > χ^2	0.000
R ²	0.765
N	210

Table VII.
Panel regression
analysis

Notes: ^aDefinitions of these variables are indicated under Table III. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$
Source: Author constructed

Management (REM_{*i,t*}) at significant level $p < 0.10$. Whilst CEO-Chair duality (CEOCHAIR_{*i,t*}) and Board Accounting and Financial Acumen (BFAEXP_{*i,t*}) show a statistically significant positive relationship with Earnings Management (REM_{*i,t*}) at significant levels $p < 0.05$ and $p < 0.01$, respectively. All other board and audit committee characteristics are not systematically related to Earnings Management (REM_{*i,t*}). Big 4 Auditors (BIG4_{*i,t*}) at significant level $p > 0.05$, Leverage (LEV_{*i,t*}) and Firm Size (FSIZE_{*i,t*}) at significant level $p > 0.01$ show a systematic positive relationship with Earnings Management (REM_{*i,t*}). Control variable, Sales Growth (GROWTH_{*i,t*}), does not show a systematic relationship with Earnings Management (REM_{*i,t*}).

According to the robustness statistics results presented in Appendix 2- Statistical analyses of robustness reveal that Board Independence (INDBD_{*i,t*}), CEO-Chairman duality (CEOCHAIR_{*i,t*}), Board Meetings (BMEET_{*i,t*}) and Audit Committee Independence (NINDAC_{*i,t*}) cause an impact on the Earnings Management (REM_{*i,t*}). The results of robust standard error regression indicate that Board Independence (INDBD_{*i,t*}) and Financial and Accounting Acumen of the Board (BFAEXP_{*i,t*}) show a negative systematic relationship with Earnings Management (REM_{*i,t*}), whilst CEO-Chairman duality (CEOCHAIR_{*i,t*}) shows a positive systematic relationship with Earnings Management (REM_{*i,t*}). Hausman test provides evidence that only CEO-Chairman duality (CEOCHAIR_{*i,t*}) shows a positive systematic relationship with Earnings Management (REM_{*i,t*}).

4.3 Discussion of results and findings

The summary of statistical results in Table VIII indicates that only CEO-Chairman duality (CEOCHAIR_{*i,t*}) shows a consistent positive systematic relationship with Earnings Management (REM_{*i,t*}) in all statistical analyses.

In Sri Lanka, corporate governance stems from statutory regulations such as Companies Act No. 7 of 2007 and CSE listing rules and voluntary code of corporate governance, for instance ICASL Code of Best Practice on Corporate Governance. The selected corporate governance characteristics in this study are in line with the stipulated baseline requirements of the code of best practices; this is again substantiated from the evidence presented in Table IV. However, even though compliance to stipulated requirements is achieved, there are few

Hypotheses	Pearson correlation matrix	Ordinary least square regression	Panel regression	Granger causality Wald statistics ^a	Robust SEs regression	Hausman statistics for endogeneity
H1	-0.175** Supported	-0.009 Not supported	-0.009 Not supported	3.551*** Not supported	-0.009 Not supported	-0.002 Not supported
H2	-0.211*** Supported	-0.025* Supported	-0.025* Supported	1.307 Supported	-0.025* Supported	-0.016 Not supported
H3	0.257*** Supported	0.075** Supported	0.075** Supported	1.657 Supported	0.075** Supported	0.081* Supported
H4	0.047 Not supported	0.004 Not supported	0.004 Not supported	0.118 Supported	0.004 Not supported	0.000 Not supported
H5	0.051 Not supported	0.033*** Supported	0.033*** Supported	2.353** Not supported	0.033*** Supported	0.012 Not supported
H6	-0.264*** Supported	-0.043 Not supported	-0.043 Not supported	2.787** Not supported	-0.043 Not supported	-0.013 Not supported
H7	-0.188*** Supported	0.010 Not supported	0.01 Not supported	1.368 Supported	0.010 Not supported	0.001 Not supported
H8	-0.032 Not supported	-0.004 Not supported	-0.004 Not supported	2.791** Not supported	-0.004 Not supported	0.005 Not supported
H9	-0.002 Not supported	-0.004 Not supported	-0.004 Not supported	2.665** Not supported	-0.004 Not supported	0.018 Not supported

Notes: ^aGranger causality Wald statistics lagged variables which cause an impact on the dependent variable do not indicate significance level. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: Author constructed

Table VIII.
Summary of the results of the statistical analyses

anomalies noted. In terms of CEO-Chairman duality ($CEOCHAIR_{i,t}$), 72 per cent of the firms in the sample complied with stipulated Code of Best Practice on Corporate Governance 2017. The code clearly indicates that two key personnel chairman and chief executive officer are at the top of every public company – conducting of the business of the Board, and the Company's business. There should be a clear division of responsibilities at the head of the Company. In total, 28 per cent of the firms in the sample do not comply with this requirement. Similar studies carried out in Sri Lankan context are in accord with this finding in terms of CEO-Chairman duality in firms. Senanayake and Ajward (2017) provided evidence that only 50 per cent of the firms out of 25 firms in hotel and travel sectors over the period 2013–2016 have CEO-Chairman duality roles in the organisation which is in line with the stipulated corporate governance requirements. Silva *et al.* (2017) provided evidence that 85 per cent of the firms do not have CEO-Chairman duality roles. This may be due to the fact prominent figurehead in the firms holding both positional power and influence over the operations of the firm and does not want to dilute the positional power. This notion is supported by Mapitiya *et al.* (2016), provided evidence that most Sri Lankan firms depict a high concentration of ownership and the presence of a controlling shareholder. Esa and Ghazali (2012) found that the separation of the CEO and chairman leads to a lower level of earnings management in Malaysia. Contrary to these findings, a study conducted in China indicates that CEO-Chairman duality is not associated with earnings management (Yang *et al.*, 2012).

This section statistically analysed in what manner selected corporate governance board and audit attributes influence the level of earnings management in selected

Sri Lankan quoted entities. The statistical results above show that only CEO-Chair duality significantly affects earnings management through real activities in selected Sri Lankan quoted entities. The next section provides the conclusion of the study.

5. Conclusion

In terms of selected board characteristics, the results of descriptive statistics indicated that most of the features of the selected board characteristics have at least complied with the stipulated baseline level of corporate governance best practises in the selected companies. Further, consistent statistical results in terms of CEO-Chairman duality have affected the level of earnings management in selected Sri Lankan quoted entities. Findings support the notion that a single figurehead both CEO and chairman positions can lead to better earnings management practices in Sri Lankan listed entities.

The common conception is that segregation of duties is an effective internal control mechanism. However, this study shows a positive relationship between CEO-Chairman duality and earnings management. This may be due to the presence of a concentration of ownership and controlling shareholder in most listed Sri Lankan entities. The presence of a single figurehead holding both positions can be detrimental to the best corporate governance practices. Such organisations can easily manipulate earnings to gain short-term and long-term benefits. This can be harmful to the minority shareholders. Regulators should impose stringent corporate governance reforms to mitigate CEO-Chairman duality and protect minority shareholders.

Finally, it should be taken into consideration that this research study is subject to certain constraints and the results of the analyses should be interpreted upon considering those constraints. This study has considered only certain audit and board committee corporate attributes to assess the impact on earnings management. However, other governance attributes might have an influence on the level of earnings management. Future researchers could incorporate other corporate governance characteristics in order to examine their relationship to earnings management. Second, this study has used the popular Roy Chowdhury model to measure earnings management; future researchers can expand this model by incorporating other variables. Finally, this research used only six sectors covering a period of three years; therefore, the sectors and the period can be expanded.

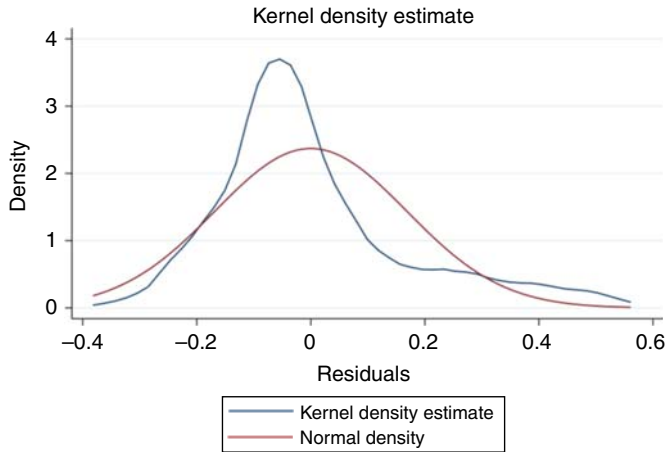
References

- Abdullah, S.N. and Ismail, K.N.I.K. (2016), "Women directors, family ownership and earnings management in Malaysia", *Asian Review of Accounting*, Vol. 24 No. 4, pp. 525-550.
- Albrecht, W.S., Albrecht, C.O., Albrecht, C.C. and Zimbelman, M.F. (2009), *Fraud Examination*, Cengage, Boston, MA.
- Alhadab, M., Clacher, I. and Keasey, K. (2016), "A comparative analysis of real and accrual earnings management around initial public offerings under different regulatory environments", *Journal of Business Finance & Accounting*, Vol. 43 Nos 7-8, pp. 849-871.
- Cadbury, A. (1992), "Report of the committee on the financial aspects of corporate governance", Cadbury report, Gee Publishing London, London.
- Carcello, J.V. and Neal, T.L. (2000), "Audit committee composition and auditor reporting", *The Accounting Review*, Vol. 75 No. 4, pp. 453-467.
- Carlos, A.M. and Nicholas, S. (1990), "Agency problems in early chartered companies: the case of the Hudson's Bay company", *The Journal of Economic History*, Vol. 50 No. 4, pp. 853-875.
- Carlson, S.J. and Bathala, C.T. (1997), "Ownership differences and firms income smoothing behavior", *Journal of Business Finance & Accounting*, Vol. 24 No. 2, pp. 179-196.

- Chen, J.J. and Zhang, H. (2012), "The impact of the corporate governance code on earnings management - evidence from Chinese listed companies", *European Financial Management*, Vol. 20 No. 3, pp. 596-632.
- Chen, K.Y., Elder, R.J. and Hsieh, Y.-M. (2007), "Corporate governance and earnings management: the implications of corporate governance best-practice principles for Taiwanese listed companies", *Journal of Contemporary Accounting & Economics*, Vol. 3 No. 2, pp. 73-105.
- Code of Best Practice on Corporate Governance, rep (2017), *Code of Best Practice on Corporate Governance*, The Institute of Chartered Accountants of Sri Lanka, Colombo.
- Colombo Stock Exchange (CSE) (n.d.), "CSE – Colombo Stock Exchange", Colombo Stock Exchange, available at: www.cse.lk/home/CSEsectors (accessed 14 July 2018).
- Dechow, P.M., Kothari, S. and Watts, R.L. (1998), "The relation between earnings and cash flows", *Journal of Accounting and Economics*, Vol. 25 No. 2, pp. 133-168.
- Ebaid, I.E.S. (2013), "Corporate governance and investors perceptions of earnings quality: Egyptian perspective", *Corporate Governance: The International Journal of Business in Society*, Vol. 13 No. 3, pp. 261-273.
- Edirisinghe, A. (2015), "Corporate governance of banks: a critical analysis of Sri Lankan law and practice", *Proceedings of 8th International Research Conference, General Sir John Kotelawala Defence University, Ratmalana*, pp. 64-71.
- Esa, E. and Ghazali, N.A.M. (2012), "Corporate social responsibility and corporate governance in Malaysian government-linked companies", *Corporate Governance: The International Journal of Business in Society*, Vol. 12 No. 3, pp. 292-305.
- Evans, D.S. (1987), "The relationship between firm growth, size, and age: estimates for 100 manufacturing industries", *The Journal of Industrial Economics*, Vol. 35 No. 4, pp. 567-581.
- Farooq, S. and Werner, W. (2003), *A Comparative Analysis of Corporate Governance in South Asia: Charting a Roadmap for Bangladesh*, Bangladesh Enterprise Institute, Dhaka.
- Fischer, M. and Rosenzweig, K. (1995), "Attitudes of students and accounting practitioners concerning the ethical acceptability of earnings management", *Journal of Business Ethics*, Vol. 14 No. 6, pp. 433-444.
- Ji, X.D., Ahmed, K. and Lu, W. (2015), "The impact of corporate governance and ownership structure reforms on earnings quality in China", *International Journal of Accounting & Information Management*, Vol. 23 No. 2, pp. 169-198.
- Kim, J.B. and Yi, C.H. (2006), "Ownership structure, business group affiliation, listing status, and earnings management: evidence from Korea", *Contemporary Accounting Research*, Vol. 23 No. 2, pp. 427-464.
- Klein, A. (2002), "Audit committee, board of director characteristics, and earnings management", *Journal of Accounting and Economics*, Vol. 33 No. 3, pp. 375-400.
- Lai, L. and Tam, H. (2017), "Corporate governance, ownership structure and managing earnings to meet critical thresholds among Chinese listed firms", *Review of Quantitative Finance and Accounting*, Vol. 48 No. 3, pp. 789-818.
- Lakshan, A. and Wijekoon, W. (2012), "Corporate governance and corporate failure", *Procedia Economics and Finance*, Vol. 2, pp. 191-198, available at: www.sciencedirect.com/science/article/pii/S2212567112000792
- Lev, B. (1989), "On the usefulness of earnings and earnings research: lessons and directions from two decades of empirical research", *Journal of Accounting Research*, Vol. 27 No. 1, pp. 153-192.
- McMullen, D. and Raghunathan, K. (1996), "Enhancing audit committee effectiveness", *Journal of Accountancy*, Vol. 182 No. 2, pp. 79-81.
- Malaysian Code on Corporate Governance, rep. (2017), *Malaysian Code on Corporate Governance*, Securities Commission of Malaysia, Kuala Lumpur.
- Mapitiya, G.S., Ajward, A.R. and Senaratne, S. (2016), "Ownership concentration and degree of compliance with corporate governance best practices of public listed companies in Sri Lanka", *NSBM Journal of Management*, Vol. 1 No. 1, pp. 103-118.

- Matsuura, S. (2008), "On the relation between real earnings management and accounting earnings management: income smoothing perspective", *Journal of International Business Research*, Vol. 7 No. 3, pp. 63-77.
- OECD (2004), *OECD Principles of Corporate Governance*, OECD, Paris.
- Perols, J.L. and Lougee, B.A. (2011), "The relation between earnings management and financial statement fraud", *Advances in Accounting*, Vol. 27 No. 1, pp. 39-53.
- Porta, R.L., Silanes, F.L.D., Shleifer, A. and Vishny, R.W. (2000), "Investor protection and corporate governance", *Journal of Financial Economic*, Vol. 33 Nos 1-2, pp. 3-28.
- Ramachandran, J., Ngete, Z.A., Subramanian, R. and Sambasivan, M. (2015), "Does corporate governance influence earnings management?: evidence from Singapore", *The Journal of Developing Areas*, Vol. 49 No. 3, pp. 263-274.
- Rankin, M. (2012), *Contemporary Issues in Accounting*, John Wiley and Sons Australia Limited, Milton.
- Roychowdhury, S. (2006), "Earnings management through real activities manipulation", *Journal of Accounting and Economics*, Vol. 42 No. 3, pp. 335-370.
- Saggar, R. and Singh, B. (2017), "Corporate governance and risk reporting: Indian evidence", *Managerial Auditing Journal*, Vol. 32 Nos 4/5, pp. 378-405.
- Senanayake, P.M.C.H.K. and Ajward, A.R. (2017), "Selected board characteristics and firm performance of listed hospitality firms in Sri Lanka", *CA Journal of Applied Research*, Vol. 1 No. 1, pp. 20-37.
- Senarathne, S. and Gunarathne, P.S.M. (2008), "Corporate governance development in Sri Lanka: prospects and problems", *International Research Conference on Management, Faculty of Management and Finance, University of Colombo*, pp. 79-89.
- Silva, A.B.S.D., Manawaduge, A. and Ajward, A.R. (2017), "The relationship between selected corporate governance mechanisms and degree of earnings management in selected Sri Lankan listed companies", *CA Journal of Applied Research*, Vol. 1 No. 1, pp. 38-56.
- Sorensen, D.P. and Miller, S.E. (2017), "Financial accounting scandals and the reform of corporate governance in the United States and in Italy", *Corporate Governance: The International Journal of Business in Society*, Vol. 17 No. 1, pp. 77-88.
- Tricker, B. (2012), *Corporate Governance: Principles, Policies and Practices*, Oxford University Press, Oxford.
- Uadiale, O.M. and Fagbemi, T.O. (2012), "Corporate social responsibility and financial performance in developing economies: the Nigerian experience", *Journal of Economics and Sustainable Development*, Vol. 3 No. 4, pp. 44-54.
- Vafeas, N. (1999), "Board meeting frequency and firm performance", *Journal of Financial Economics*, Vol. 53 No. 1, pp. 113-142.
- 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.
- Yang, C.Y., Tan, B.L. and Ding, X. (2012), "Corporate governance and income smoothing in China", *Journal of Financial Reporting and Accounting*, Vol. 10 No. 2, pp. 120-139.
- Yasser, Q.R. and Mamun, A.A. (2016), "The relationship between board leadership structure and earnings management in Asia-Pacific", *Accounting Research Journal*, Vol. 29 No. 4, pp. 413-428.
- Zang, A.Y. (2012), "Evidence on the trade-off between real activities manipulation and accrual-based earnings management", *The Accounting Review*, Vol. 87 No. 2, pp. 675-703.
- Zhao, Y. and Chen, K.H. (2008), "The influence of takeover protection on earnings management", *Journal of Business Finance & Accounting*, Vol. 35 Nos 3-4, pp. 347-375.

Appendix 1. Kernel density curve of the error terms



kernel=epanechnikov, bandwidth=0.0345

Source: Author constructed

Figure A1. Kernel density curve of the error terms

Appendix 2. Statistical analyses of robustness

Table AI provides the results of summarised statistical analyses of robustness.

Variable ^a	Granger causality Wald statistics ^b F^b	Ordinary least square regression with robust SEs			Hausman statistics for endogeneity ^c	
		Coef.	SE	Robust SE	Fixed effect	Random effect
Intercept	–	–0.549**	0.228	0.204	–	–
BSIZE _{<i>i,t</i>}	3.551***	–0.009	0.010	0.009	0.002	–0.002
INDBD _{<i>i,t</i>}	1.307	–0.025*	0.015	0.011	0.001	–0.016
CEOCHAIR _{<i>i,t</i>}	1.657	0.075**	0.029	0.025	0.115	0.081*
BMEET _{<i>i,t</i>}	0.118	0.004	0.029	0.003	–0.004	0.000
BFAEXP _{<i>i,t</i>}	2.353**	0.033***	0.010	0.009	–0.018	0.012
AUDCSIZE _{<i>i,t</i>}	2.787**	–0.043	0.030	0.030	–0.011	–0.013
NINDAC _{<i>i,t</i>}	1.368	0.01	0.027	0.025	0.039	0.001
ACMEET _{<i>i,t</i>}	2.791**	–0.004	0.009	0.001	0.010	0.005
ACFAEXP _{<i>i,t</i>}	2.665**	–0.004	0.021	0.017	0.010	0.018
LEV _{<i>i,t</i>}	0.266	0.285***	0.055	0.059	0.028	0.029
BIG _{<i>i,t</i>}	1.631	0.120**	0.052	0.049	0.015	0.032
FSIZE _{<i>i,t</i>}	1.936	0.029***	0.009	0.009	0.028	0.036***
GROWTH _{<i>i,t</i>}	1.796	0.021	0.059	0.030	–0.009	0.000

Statistical tests for Heteroscedasticity
 Breusch–Pagan/Cook–Weisberg test for heteroscedasticity $\chi^2(1) = 45.420$ Prob > $\chi^2 = 0.000$
 White's test for heteroscedasticity $\chi^2(102) = 137.500$ Prob > $\chi^2 = 0.011$

Table AI. Summary of the results of the statistical analyses of robustness

Notes: ^aDefinitions of these variables are indicated under Table III; ^bGranger causality Wald statistics lagged variables which cause an impact on the dependent variable does not indicate significance level; ^cHR₁: Random effects are independent of the independent variable (Difference in coefficients not systematic); HR₂: Random effects are not independent of the independent variable (Difference in coefficients are systematic), Prob > $\chi^2 = 0.3192$. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Source: Author constructed

As per the results in Table AI, Granger causality Wald statistics indicate that lagged values of governance attributes such as Number Board of Directors (BSIZE_{*i,t*}), Board Accounting and Financial Acumen (BFAEXP_{*i,t*}), Number of Directors on the Audit Committee (AUDCSIZE_{*i,t*}), Frequency of Audit Committee Meetings (ACMEET_{*i,t*}) and Accounting and Financial Acumen of the Audit Committee (ACFAEXP_{*i,t*}) do not cause an impact Earnings Management (REM_{*i,t*}), whereas all other attributes of corporate governance do cause an impact on Earnings Management (REM_{*i,t*}). Breusch–Pagan, CookWeisberg and White's test for heteroscedasticity indicate that Prob > χ^2 level is below significance level 0.05, indicating the presence of heteroscedasticity between the dependent variable (REM_{*i,t*}) and independent variables (Corporate governance attributes). The problem of heteroscedasticity is addressed by performing robust standard errors regression model. Both ordinary least square regression (Table VI) and ordinary least square regression with robust standard errors indicate the same coefficients; however, the standard errors are different. Low values of robust standard errors indicate that the variance does not differ across the independent variables (Corporate governance attributes). Accordingly, all the variables except control variable Leverage (LEV_{*i,t*}) indicate a higher robust standard error compared to standard errors. Endogeneity is the circumstances where the independent variables are correlated with the error term; this would violate the ordinary least square regression model. As per the results of the Hausman test, Prob > χ^2 is below the significance level of 0.05, thereby accepting the null hypothesis of H_{10} : random effects are independent of the independent variable (difference in coefficients not systematic). Thereby supporting the notion that the independent variables are not correlated with the standard errors of the model. The independent random effect coefficients indicate only CEO-Chairman duality (CEOCHAIR_{*i,t*}) at significance level 0.05 and Firm Size (FSIZE_{*i,t*}) at significance level 0.01, which have a positive impact on Earnings Management (REM_{*i,t*}).

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