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Internal control information disclosure and corporate governance: evidence from an emerging market

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Abstract

Purpose – *The purpose of this study is to increase our understanding of the impact of corporate governance factors on the disclosure of internal control information by firms in Ghana.*

Design/methodology/approach – *A data set from 110 firms in Ghana for the year ending of 2013 was used. Each annual report was individually examined and coded to obtain the disclosure of internal control information index. Descriptive analysis was performed to provide the background statistics of the variables examined. This was followed by regression analysis, which forms the main data analysis method.*

Findings – *Results of the disclosure of internal control information mean of 35 per cent indicate that most of the sampled firms did not disclose sufficient internal control information in their annual reports. The low level of internal control information disclosure cannot be used by stakeholders to determine the level of corporate governance practices in the sampled companies. The results of the regression analysis indicate that board independence is a significant variable that explains the disclosure of internal control disclosure. This supports the generally held view that independent directors help to improve the quality of disclosure and increase the transparency of information.*

Originality/value – *This is the first study in Ghana that considered the impact of corporate governance factors on internal control information disclosures. This study contributes to the literature on the relationship between corporate governance and disclosure by showing that the disclosure of internal control information in Ghana is associated with the proportion of independent board members. This findings support Sarbanes–Oxley (SOX) 404 requirements, even though this is not compulsory for Ghanaian firms unlike their US counterparts. The findings of this study will help market regulators in Ghana and Sub-Saharan Africa, Security and Exchange Commission (SEC) and the Sub-Saharan African Exchanges in evaluating the adequacy of the current disclosure regulations in their countries. Understanding the board composition and their impact on voluntary disclosure provides evidence on the sufficiency of the board of directors' guidelines in the corporate governance code in Sub-Saharan African countries.*

Keywords *Ghana, Disclosure, Corporate governance, Financial reporting*

Paper type *Research paper*

1. Introduction

The role of good corporate governance practice in the management of corporate organisations cannot be underestimated (Agyeman *et al.*, 2013). According to Elliot and Elliot (2013, p. 804), a good governance system will ensure that:

- comprehensive risk management occurs as a normal course of events; and
- there is transparent disclosure to shareholders and regulators of the nature, extent and management of these risks.

In Ghana, though there are regulations that seek to ensure good corporate governance, the regulators are not able to enforce the regulations due to several factors. According to Agyeman *et al.* (2013), though Ghana has sufficient laws and regulations with respect to

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corporate governance, the major challenge is the absence of active devices for their effective enforcement, thus leaving Ghana deficient in corporate governance practices.

According to Agyemang and Castellini (2015), a lack of good corporate governance in state-owned corporate organisations in Ghana has led to abysmal performance and failure of these corporate organisations.

Corporate governance refers to the way in which companies are governed. It can be described as the system by which companies are directed and controlled in the interest of shareholders and other stakeholders. A company should be governed in the best interests of its stakeholders, and particularly of its shareholders. According to Agyeman *et al.* (2013), a company that embarks on good corporate governance practice offers essential information to its equity holders and other stakeholders, thus minimising information asymmetry. They go on to argue that the capability of a firm to entice or attract prospective investors is subject to how effective its corporate governance practice is, as it gives investors hope that they are investing in a credible company that will safeguard their investments and in the end reward them appropriately. The government of Ghana is trying to woo foreign investors into the country; hence, there is a need to adhere to good corporate governance practices by all firms.

According to Elliot and Elliot (2013, p. 799):

> Corporations do not act in a vacuum. They are corporate citizens of society with rights and responsibilities. The way in which they exercise these rights and responsibilities is influenced by the history, institutions and cultural expectations of society. A systems perspective recognises that an entity is not independent but is interdependent with its environment.

A key issue of corporate governance relates to how a company complies with rules and principles. According to Kaen (2003), the actual value of a corporate business is what capital providers or investors will make available to the corporate business on the basis of its anticipated returns to its owners. In all countries, firms are required to operate systems of corporate governance laid down either by statute or by professional organisations, such as Securities and Exchange Commission (SEC) and the Stock Exchange. It is important to note that corporate governance has links to risks and internal controls. While good corporate governance cannot stop company failure or prevent companies failing to achieve their objectives, it is a major help, and well-run companies tend to achieve their objectives in a less risky way. As a result, it is a part of risk reduction strategy for major companies. Whenever a company collapsed unexpectedly, there is always a suspicion that the internal control system was ineffective. There usually appears to have been inadequate risk management generally.

The primary objective of financial reporting is to provide information that will be useful to financial statement users in making economic decisions. Existing and potential shareholders use company's annual reports to evaluate the investment potential of a company's shares, creditors and lenders use it to assess the creditworthiness and liquidity and government uses it to administer the company law. One of the essential aspects of providing complete and reliable information which is taken seriously by the financial community is to have a set of rigorous internal controls (Elliot and Elliot, 2013). The collapse of Enron Corporation fully exposed the malpractices of the company's internal control system by authorities and the formalism of information disclosure of internal control. According to Deumes (2004), reporting on internal control improves the quality of financial reporting and reduces governance problems.

Although different countries have different corporate governance requirements relating to internal controls and risk management, the UK guidelines provide a useful benchmark. The UK Corporate Governance Code (September 2014) states that:

> The board is responsible for determining the nature and extent of the principal risks it is willing to take in achieving its strategic objectives. The board should maintain sound risk management and internal control systems.

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> The board should monitor the company's risk management and internal control systems and, at least annually, carry out a review of their effectiveness, and report on that review in the annual report. The monitoring and review should cover all material controls, including financial, operational and compliance controls.

Transparency through the disclosure of internal control information and board monitoring plays an important role in reducing the impact of agency cost and information asymmetry problems on the market. Efforts to attract foreign direct investment will improve if listed firms can show transparency through the disclosure of internal control information. Ashbaugh-Skaife *et al.* (2008) found that markets respond negatively to internal control weaknesses.

The Committee of Sponsoring Organisations of the Treadway Commission (COSO) defines internal control as:

> A process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: Effectiveness and efficiency of operations; Reliability of financial reporting; and Compliance with applicable laws and regulations.

Effective internal control can help an organisation to achieve its performance and profitability targets and, thus, prevent loss of resources (COSO, 1992). Internal control, according COSO, consists of five interrelated components:

1. control environment;
2. risk assessment;
3. control activities;
4. information and communication; and
5. monitoring.

Bryan and Lilien (2005) examined public filing of firms with internal control weaknesses, and found that they were generally smaller, riskier and not high performers in their industry, thus confirming the importance of internal control in organisations.

The disclosure of internal control information in corporate annual reports and its determinants have attracted the attention of many researchers in the developed countries; minimal research has been done in a developing country context. The few research on corporate governance and disclosure covers a broad area of disclosure (Okeahalam, 2004; Abor, 2007; Tsamenyi *et al.*, 2007; Aboagye-Otchere *et al.*, 2012). To the best of the author's knowledge, no study has been done specifically on internal control disclosure and corporate governance in Sub-Saharan African region. This study is thus set to fill the gap.

The objective of this study is to examine whether Ghanaian firms are meeting the corporate governance requirements of internal control disclosures. Thus, this study empirically examined the influence of corporate governance structure on internal control information disclosures of the sampled firms. The presence of the board of directors in the firm is crucial for monitoring the managements' decisions and ensuring that they disclose credible rather than self-serving voluntary information according to Healy and Palepu (2001). This study will help provide some reference information for stakeholders and regulators to help improve financial reports. Lord Kelvin (nineteenth-century English physicist) once said, if you cannot measure it, then you cannot improve it. There is, therefore, the need to assess (measure) the disclosure of internal control information in these firms, so that they can be improved.

The current study is expected to contribute to the literature on internal control disclosure in corporate reports and corporate governance in different ways. First, it shows the applicability of voluntary disclosure theory in a developing country like Ghana. Second, it provides empirical evidence on a number of factors that determine the disclosure of

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internal control information in Ghana. Such evidence may help market regulators, SEC and the Ghana Stock Exchange in evaluating the adequacy of the current disclosure regulations in Ghana. Third, this study contributes to the literature on the relationship between corporate governance and disclosure by showing that disclosure of internal control information in Ghana is associated with the proportion of independent board members. This findings support Sarbanes–Oxley (SOX) 404 requirements, even though this is not compulsory for Ghanaian firms unlike their US counterparts.

1.1 Research questions

The study attempts to find answers to the following questions:

RQ1. Are firms in Ghana reporting sufficient internal control information in their annual reports? (i.e. extent of disclosure)

RQ2. Can the information be used by stakeholders to determine level of corporate governance practices in the listed companies? (i.e. effectiveness)

RQ3. What are the drivers of internal control information disclosures? (i.e. determinants)

1.2 Corporate governance in Ghana

The regulatory framework for an effective corporate governance practice in Ghana is contained in the Companies Code 1963 (Act 179), Securities Industry Law 1993 (PNDCL 333) as revised by the Securities Industry (Amendment) Act, 2000 (Act 590) and the listing regulations, 1990 (L.I. 1,509) of the Ghana Stock Exchange. Section IV of the Code of Best Practices on Corporate Governance states that "the primary responsibility for ensuring that good corporate governance prevails lies with the board of directors of the corporate body" (SEC, 2010, p. 12). The code recommends that there should be a separation between the role of the Chairman and the Chief Executive Officer. Section V states that "the annual report should contain a statement from the board as to the adequacy of the internal control mechanism and procedures of the corporate body". On the basis of disclosure and transparency, the Companies Code requires companies to prepare and submit financial statements to shareholders. The World Bank's (2005) assessment of corporate governance in Ghana made the following disparaging statement:

> The annual report does not contain company objectives, stakeholder issues, or governance policies, but must reflect risk factors, RPTs, director and executive pay, and direct (not ultimate) ownership. A Management Discussion and Analysis(MD&A) is normally covered by the Chairman report. SEC enforcement is predicated on capacity and expertise. Compliance with non-financial disclosures is weak.

Agyeman *et al.* (2013), after studying the corporate governance practice in Ghana, came out with the following conclusions:

- Though Ghana has sufficient laws and regulations with respect to corporate governance, the major challenge is the absence of active devices for their effective enforcement, thus leaving Ghana deficient in corporate governance practices.
- There is a need to protect small equity holders against abuses of large equity holders. The protection of small equity holders includes gaining access to information, as the availability of information to small shareholders will enable them to challenge both management and large shareholders. One of such informations is the internal control information.
- The issue of director independence has been identified as a major challenge in Ghana. Most of these directors are either government functionaries or retired civil servants who do not have skills in relation to private sector issues.
- Mensah *et al.* (2003) single out corruption as the major and only bane of the socio-economic and political development of Ghana. Okike (2007) extended this by stating that the issue of corruption in Africa is purely cultural. Cultural shift, good ethical

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values and moral standard with sound corporate governance practices are the only panacea that can reduce corruption in Ghana. One sure way to eliminate corruption is to be transparent, and the disclosure of internal control information is, therefore, recommended. As suggested by KPMG P.55, companies that are confident of the strength of their governance should maximise the value by informing investors through clear and meaningful disclosure.

- It is on basis of the literature reviewed above that the study was conducted to see how corporate governance does influence the disclosure of internal control information in Ghana.

2. Empirical studies on internal control disclosure and development of hypotheses

2.1 Disclosure theories

Three theories have been used to explain the disclosure of information in corporate reports. These are: agency theory, signalling theory and legitimacy theory.

Positive agency theory (Jensen and Meckling, 1976; Williamson, 1991; Fama and Jensen, 1983) provides a framework for linking corporate governance to internal control information disclosure. According to agency theory, a company with high agency costs will try to reduce them by increasing the extent of voluntary disclosure and by using an "intensive" monitoring devices, like the presence of outside directors on a corporation's board. Jensen and Meckling (1976) argued that the separation of ownership and control creates the agency problem, where management, as rational human beings, tends to set their personal interest ahead of that of shareholders. This agency problem leads to information asymmetry problem due to the information superiority that management enjoys as insiders. Myers and Majluf (1984) argued that information asymmetry gives rise to adverse selection problem which leads to undervaluing of the firm's equity in the marketplace, thus causing loss of wealth to the shareholders. Researchers like Jensen and Meckling (1976), Chow and Wong-Boren (1987) and Hossain *et al.* (1995) also argued that agency theory may explain why managers voluntarily disclose internal control information. Managers knowing that shareholders will seek to control their behaviour through bonding and monitoring activities voluntarily disclose certain information to convince the shareholders that they are acting optimally. Voluntary disclosure is a function of the governance structure of the firm, and managers' attitudes to voluntary disclosure changes according to the trade-off of the costs and benefits involved. Mitton (2002) found that better stock performance is associated with firms that have higher disclosure quality and, therefore, considered disclosure quality as an important element of corporate governance. Thus, to him, disclosure standards play a critical role in corporate governance.

Under the signalling theory, developed by Spencer, financial reporting is said to stem from management's desire to disclose its superior performance, where good performance will enhance the management's reputation and position in the market for management services, and good reporting, which includes disclosing positive internal control information, is considered as one of the aspects of good performance. Signalling is a reaction to information asymmetry in markets, as companies have more information that investors do not have. Ross (1977) then argued that firms extensively disclosed additional (voluntary) information because of the signalling theory. Thus, managers of high-quality firms will wish to distinguish their firms from low-quality firms. Legitimacy theory is based on the notion of a contract between a firm and its stakeholders on the premise that firms signal their legitimacy by disclosing certain information in the annual report (Shocker and Sethi, 1974). One important way for firms to legitimize their activities is to disclose internal control information to the public. According to the legitimacy theory, the firm tries to justify its existence in society by legitimizing its activities (Naser *et al.*, 2006).

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2.2 Determinants of internal control disclosure

2.2.1 Board size. According to Fama and Jensen (1983), monitoring and controlling management actions are the most important functions of the board of directors. In addition, increasing the number of board members improves the capability of the board in monitoring and controlling management actions, thus enhancing the transparency and the disclosure of more information by the management (Gandia, 2008). Board size could, therefore, improve the quality of disclosure. However, after studying the failure of internal control mechanisms, Jensen (1993) found that the effect of internal control is negatively related to board size.

2.2.2 Board independence (proportion of non-executive directors). Non-executive directors are members of companies boards who are not used by the firm. They are there to act as a control mechanism, as they perform an independent monitoring function. According to Abor and Biekpe (2007), the proportion of non-executive board members on the board is important in explaining the firm's performance.

The empirical results on the relationship between board independence and voluntary disclosure are mixed. For example, Song and Windram (2004) and Uzun *et al.* (2004) found that independent board committees lower the level of both financial reporting problems and corporate fraud. Most of the extant evidence indicates that voluntary disclosure increases with the number/proportion of independent directors on the board (Cheng and Courtenay, 2006; Pateli and Prencipe, 2007; Lim *et al.*, 2007; Donnelly and Mulcahy, 2008). Chen and Jaggi (2000) found a positive relationship between the proportion of independent directors and disclosure of comprehensive financial disclosure. However, there is also evidence of no significant positive relationship between the proportion of independent directors on the board and the extent of voluntary disclosure (Ho and Wong, 2001; Haniffa and Cooke, 2002) and even of higher number of independent directors reducing voluntary disclosure (Eng and Mak, 2003; Barako, 2007).

2.2.3 Institutional ownership. Institutional investors are viewed as important corporate governance mechanism (Shleifer and Vishny, 1997). Because of the large stake they own in the firm, they have the motivation to monitor management's behaviour (Jensen, 1993). They play an important role in aligning management interests with those of shareholders (Solomon *et al.*, 2002). Empirical evidence by Carson and Simnet (1997); Bushee and Noe (2000) and Barako (2007) found a significant positive relationship between institutional ownership and voluntary disclosure.

2.2.4 Board ownership concentration. It is expected that ownership concentration will influence the disclosure of internal control information. Akhtaruddin and Haron (2010) studied the effect of ownership concentration on voluntary disclosure, and found that ownership concentration reflects the influence of the majority shareholders. In their study conducted earlier on, Chau and Gray (2010) indicated that wider ownership is positively related to voluntary disclosure.

2.2.5 Firm size. Because larger firms are more exposed to public scrutiny than smaller firms, they tend to disclose more information (Alsaeed, 2006). Furthermore, information disclosures may be used to decrease agency costs, to reduce information asymmetries between the company and the providers of funds and to reduce political costs (Inchausti, 1997). Previous studies on voluntary disclosure have focused on forecasting future earnings (Clarkson *et al.*, 1994; Frankel *et al.*, 1995; Lev and Penman, 1990). Other studies established an association between forecasting future earnings with firm-specific characteristics to discover that large-sized corporations are likely to provide more supplementary and high-quality information regarding future earnings than smaller corporations (Kent and Ung, 2003; O'Sullivan *et al.*, 2009).

2.2.6 Auditor size. The research findings concerning the relationship between the size of the auditing firm and the level of corporate information disclosure are not consistent. It is expected that large audit firms will be more concerned about what their clients disclose.

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Ahmed and Karim (2005) found that companies audited by the Big Four audit firms comply more with reporting requirements than that of others. However, different results reported by Martson and Robson (1997) and Owusu-Ansah (1998) are that auditor size is not significant associated with the level of disclosure.

2.2.7 Leverage. According to the agency theory, higher monitoring costs would be incurred by firms that are highly leveraged. To reduce these costs, firms are expected to disclose more information (Jensen and Meckling, 1976). Firms which have higher debt in their capital structure are prone to higher agency cost (Alsaeed, 2006). Information disclosure may be used to avoid agency costs and to reduce information asymmetries (Inchausti, 1997). Therefore, it is argued that leveraged firms have to disclose more information to satisfy information needs of the creditors (Uyar and Kilic, 2012). Xiaowen (2013) posits that companies with large leverage face heavy debt pressure and high financial risk; therefore, they have no more energy and capital to build the internal control system. This implies that companies with high leverage are not willing to disclose internal control information.

2.2.8 Profitability. There is a general belief that a firm's willingness to disclose information is related to its profitability. According to the signalling theory, companies will be more inclined to signal their quality to investors when company performance is good (Inchausti, 1997, Watson *et al.*, 2002). That means the higher a company's profitability, the stronger the motivation to disclose internal control information. According to Xiaowen (2013 p. 631),

> [. . .] when a company reaches a certain level of profitability, the governance structure will be relatively complete and internal control will be correspondingly sound, so it will actively disclose internal control information.

2.2.9 Liquidity. Liquidity refers to a firm's ability to meet its short-term obligations when they fall due. Cooke (1989) argued that the soundness of the firm as portrayed by high liquidity is associated with greater disclosure level. Belkaoui and Kahl (1978) found no relationship between liquidity and disclosure level; Wallace *et al.* (1994), on the other hand, found a significant negative association between liquidity and disclosure level for unlisted Spanish companies.

2.3 Research hypotheses

Based on the objectives of the study and literature reviewed, the following hypotheses were tested in this study:

H1. Firms in Ghana do not report sufficient internal control information in their annual reports.

H2. The internal control information disclosed by firms in Ghana are not likely be used by stakeholders to predict the future performance of the companies.

H3. There is a significant positive association between firm size and the disclosure of internal control information.

H4. There is a significant positive association between higher ownership concentration and disclosure of internal control information.

H5. There is a significant positive association between proportion of non-executive directors and disclosure of internal control information.

H6. There is a significant positive association between proportion of institutional ownership and disclosure of internal control information.

H7. There is a significant positive association between board size and disclosure of internal control information.

H8. There is a significant positive association between the size of the audit firm and the disclosure of internal control information.

H9. There is a significant positive association between leverage and the disclosure of internal control information.

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H10. There is a significant positive association between profitability and the disclosure of internal control information.

H11. There is a significant positive association between liquidity and the disclosure of internal control information.

3. Method

3.1 Sample

The researcher collected both corporate governance and firm-specific data from annual reports of 110 members of 2011 and 2012 members of "Ghana Club 100" (based on size and performance). These 110 firms are purposely selected due to data availability. Annual reports for the financial year 2013 were used for the analysis. Only one year was selected because disclosure practices and directors of a firm are relatively stable over time. Each annual report was individually examined and coded to obtain the disclosure of internal control information. The disclosure index = Total internal control items disclosed/maximum (eight) items disclosed for each company.

3.2 Measurement of dependent and independent variables

Disclosure of internal control information (DICI) is the dependent variable in the current study. To determine the extent of internal control information disclosure, data were manually extracted from the annual reports of the 110 firms used in the study. Content analysis and design of evaluation criterion were used to calculate the internal control disclosure index (Leng and Ding, 2011). A disclosure index was then designed on the bases of whether an item/phrase is used (exist) or is not used (does not exist) in the annual reports that refers to internal control information (Uyar and Kilic, 2012). For the purpose of this article, dummy variables were assigned to represent whether or not an item is used; if an item is used, then 1 is assigned to that item and 0 if an item is not used. The values assigned are then summed up to represent the total score for each company.

The disclosure index = Total internal control items disclosed/Maximum (eight) items disclosed for each company. This can mathematically be stated as follows:

$$\text{Disclosure Index} = \frac{\text{Actual disclosure}}{\text{Total possible disclosure}} = \frac{\Sigma_1^m \, di}{\Sigma_1^n \, \text{di}}$$

Where:

d_i = 1 if the item *di* is disclosed (0 if not disclosed);
m = number of items disclosed; and
n = maximum number of disclosure items possible.

3.2.1 Independent variables. The independent variables of the study are: board size, board independence, institutional ownership and board ownership concentration.

3.2.2 Control variables. As control variables, this study used other firm-level variables that are deemed to influence internal control information disclosure. These include firm size, auditor type, leverage, profitability and liquidity.

The independent variables and their definitions and proxies used in this study are presented in Table I below.

3.2.3 Model development. The following model was used to examine the relationship between board composition and firm characteristics on the disclosure of internal control information.

$$\text{DICI} = \beta_0 + \beta_1\text{BODS} + \beta_2\text{PNED} + \beta_3\text{INSTO} + \beta_4\text{BOC} + \beta_5\text{FSIZE} + \beta_6\text{AUDT} + \beta_7\text{LEV} + \beta_8\text{PROF} + \beta_9\text{LIQDT} + \varepsilon$$

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Table I Internal control evaluation sheet

Item	*Content*	*Scores*
Internal environment	Corporate governance structure, human resources policies, corporate culture	Disclosing = 1, otherwise = 0
Risk evaluation	Identification of internal and external risk, risk analysis, risk responses	Disclosing = 1, otherwise = 0
Control activities	Internal control activities based on risk evaluation	Disclosing = 1, otherwise = 0
Information and communication	The establishment of information and communication system	Disclosing = 1, otherwise = 0
Internal supervision	Internal supervision from internal audit department	Disclosing = 1, otherwise = 0
Internal control defects	The defects or abnormal items in internal control and the improvement methods	Disclosing = 1, otherwise = 0
Internal assessment	Assessment from board of directors	Disclosing = 1, otherwise = 0
External assessment	External auditor's assessment	Disclosing = 1, otherwise = 0

Source: Adapted from Leng and Ding (2011)

Where:

DICI = disclosure of internal control information;
BODS = board size;
PNED = proportion of non-executive directors;
INSTO = institutional ownership;
BOC = board ownership concentration;
FSIZE = firm size;
AUDT = auditing firm;
LEV = firm financial leverage;
PROF = firm profitability;
LIQDT = firm liquidity;

β_O = regression coefficients; and

ε = error term (Table II).

4. Results

4.1 Descriptive statistics

Table III shows the descriptive statistics of dependent variable (DICI) and 8 independent variables of the 110 sampled firms. The DICI mean of 35 per cent (SD = 0.21) implies that voluntary the disclosure of internal control information in financial reports of sampled firms is very low. The findings are consistent with that of Cheng and Courtenay (2006), Pateli and Prencipe (2007), Lim *et al.* (2007), Donnelly and Mulcahy (2008), Chen and Jaggi (2000) and Fang *et al.* (2009), but is inconsistent with the findings of Eng and Mak (2000). The low level (35 per cent) of forward-looking information disclosure makes it very difficult for the firms'

Table II The definitions and proxies of independent variables

Variable	*Definition/proxy*
Board size	Total number of directors on the board
Board independence	The proportion of non-executive directors to total number of board members
Institutional ownership	Percentage of institutional ownership
Board ownership concentration	Total shareholding of top 20 shareholders divided by the total number of shares outstanding
Firm size	The firm's total assets
Auditor size	Dummy variable: 1 = Big Four audit firms, 0 = other audit firms
Leverage	Ratio of non-current liabilities to shareholder's equity
Profitability	Return on assets/return on capital used
Liquidity	The ratio of current assets to current liabilities

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Table III Descriptive statistics

	N	*Minimum*	*Maximum*	*Mean*	*SD*	*Skewness*	*Kurtosis*
BODS	110	4.00	18.00	9.43	2.84	0.49	0.36
PNED	110	50.00	93.33	71.27	11.93	(0.07)	(1.17)
INSTO	110	1.00	98.50	70.95	21.87	(1.20)	1.06
BOC	110	14.00	98.99	74.71	15.32	(0.97)	1.98
FSIZE	110	4,449	7,396,000,000	209,138,425	763,579,707	7.98	73.35
AUDT	110	–	1.00	0.73	0.44	(1.07)	(0.86)
LEV	110	0.03	63.44	7.30	12.65	2.29	5.34
PROF	110	(49.00)	33.00	7.70	10.19	(1.23)	8.31
LIQDT	110	0.20	16.93	2.11	2.92	3.72	14.56
DICI	110	0.14	0.71	0.35	0.21	0.52	(1.13)
Valid N (list-wise)	110						

stakeholders to determine future performance of the company. Thus, *H1* and *H2* are supported and hence accepted. The mean board size is 9, with the average 71.27 per cent of the board members being independent directors, which is good for effective corporate governance. The SEC and the Code of Best Practices on Corporate Governance require a majority of independent directors on listed companies' boards. The INSTO mean of 70.95 per cent indicates that more than two-thirds of the shares are owned by institutional shareholders.

The correlation analysis (Table IV) shows that BODS has a significant relationship with FMS at the 1 per cent level ($p = 0.000$); AUDT at the 5 per cent level ($p = 0.031$) and LQDT at the 1 per cent level ($p = 0.003$). PNED has a significant relationship with LEV at the 1 per cent level ($p = 0.010$). INSTO has a significant relationship with BOC at the 1 per cent level ($p = 0.003$); FMS at the 1 per cent level ($p = 0.008$) and LEV at the 1 per cent level ($p = 0.002$). AUDT has a significant relationship with LEV at the 5 per cent level ($p = 0.039$). The implication is that there is a need to check for multicollinearity and autocorrelation among the variables.

4.1.1 Multicollinearity and autocorrelation tests (assessment of the validity of the model). A regression analysis was performed on the dependent and independent variables to check on the existence of the multicollinearity and serial or autocorrelation problems. However, the VIF values are less than 2.000, and Durbin–Watson value of 1.985 shows that there is no econometric problem with the model.

Table V reports the results of the multiple regression analysis of the study. The table shows the association between the disclosure of internal control information, and the experimental and control variables.

According to the regression analysis, adjusted R^2 is 3.6 per cent. This means that 3.6 per cent of the variations in the DICI could be explained by this model. Durbin–Watson value is 1.468, and the average VIF is 1.010. With regards to the direction of relationship between the dependent variable (DICI) and the independent variables, the regression results show a positive relationship between the disclosure of internal control information and PNED (independent board members) ($\beta = 0.212$) and statistically significant at the 0.05 level ($p = 0.027$). Thus, *H5* is supported and hence accepted. This means that under a higher level of independent directors, there is a higher likelihood that a firm will disclose more internal control information. This finding is in consonant with that of Sun *et al.* (2012).

The results also show that the relationship between the disclosure of internal control information (DICI) and the other variables are not significant at the 5 per cent level. Thus, *H3*, *H4*, *H6*, *H7*, *H8*, *H9*, *H10* and *H11* are not supported and hence rejected. This is shown in Table VI below.

4.1.2 Robustness test. A time lag between measures of the explanatory factors and the DICI is necessary because the disclosure of internal control information might relate primarily to the past release of internal control information. To test the robustness of the results, multiple regression was performed for DICI by using lagged values for INSTO, BODS, BOC, PNED, FSIZE, CUR, PROF and LEV of 2012. As indicated in Table VII, the results using lagged

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Table IV Spearman's rho correlation

	BODS	*PNED*	*INSTO*	*BOC*	*FSIZE*	*AUDT*	*LEV*	*PROF*	*LIQDT*	*DICI*
BODS										
Correlation coefficient	1.000	−0.004	0.021	−0.081	0.486**	0.206*	0.186	0.027	−0.285**	0.006
Significance (two-tailed)		0.965	0.830	0.401	0.000	0.031	0.051	0.780	0.003	0.947
N	110	110	110	110	110	109	110	110	110	110
PNED										
Correlation coefficient	−0.004	1.000	0.165	0.026	0.062	0.031	0.246**	−0.066	−0.007	−0.126
Significance (two-tailed)	0.965		0.086	0.785	0.522	0.749	0.010	0.491	0.946	0.189
N	110	110	110	110	110	109	110	110	110	110
INSTO										
Correlation coefficient	0.021	0.165	1.000	0.284**	−0.253**	0.062	−0.291**	0.004	−0.048	−0.053
Significance (two-tailed)	0.830	0.086		0.003	0.008	0.524	0.002	0.963	0.621	0.580
N	110	110	110	110	110	109	110	110	110	110
BOC										
Correlation coefficient	−0.081	0.026	0.284**	1.000	−0.017	−0.099	−0.018	−0.064	0.001	−0.131
Significance (two-tailed)	0.401	0.785	0.003		0.858	0.306	0.855	0.507	0.994	0.172
N	110	110	110	110	110	109	110	110	110	110
FSIZE										
Correlation coefficient	0.486**	0.062	−0.253**	−0.017	1.000	−0.086	0.494**	0.133	−0.062	−0.039
Significance (two-tailed)	0.000	0.522	0.008	0.858		0.375	0.000	0.164	0.523	0.683
N	110	110	110	110	110	109	110	110	110	110
AUDT										
Correlation coefficient	0.206*	0.031	0.062	−0.099	−0.086	1.000	−0.198*	0.125	−0.030	0.176
Significance (two-tailed)	0.031	0.749	0.524	0.306	0.375		0.039	0.196	0.754	0.067
N	109	109	109	109	109	109	109	109	109	109
LEV										
Correlation coefficient	0.186	0.246**	−0.291**	−0.018	0.494**	−0.198*	1.000	0.017	−0.074	−0.084
Significance (two-tailed)	0.051	0.010	0.002	0.855	0.000	0.039		0.858	0.441	0.381
N	110	110	110	110	110	109	110	110	110	110
PROF										
Correlation coefficient	0.027	−0.066	0.004	−0.064	0.133	0.125	0.017	1.000	0.033	0.077
Significance (two-tailed)	0.780	0.491	0.963	0.507	0.164	0.196	0.858		0.732	0.426
N	110	110	110	110	110	109	110	110	110	110
LIQDT										
Correlation coefficient	−0.285**	−0.007	−0.048	0.001	−0.062	−0.030	−0.074	0.033	1.000	0.149
Significance (two-tailed)	0.003	0.946	0.621	0.994	0.523	0.754	0.441	0.732		0.120
N	110	110	110	110	110	109	110	110	110	110
DICI										
Correlation coefficient	0.006	−0.126	−0.053	−0.131	−0.039	0.176	−0.084	0.077	0.149	1.000
Significance (two-tailed)	0.947	0.189	0.580	0.172	0.683	0.067	0.381	0.426	0.120	
N	110	110	110	110	110	109	110	110	110	110

Notes: ** Correlation is significant at the 0.01 level (two-tailed); * correlation is significant at the 0.05 level (two-tailed)

Table V Regression analysis results

	B	*P*	*VIF*
Constant		0.000	
BODS	−0.043	0.660	1.044
PNED	0.212	**0.027***	1.000
INSTO	−0.019	0.840	1.003
BOC	0.124	0.192	1.000
FSIZE	0.090	0.343	1.001
LEV	−0.132	0.168	1.028
PROF	0.088	0.359	1.013
AUDT	0.110	0.840	1.001
LQDT	0.020	0.830	1.002

Notes: F = 5.055; R^2 = 0.045; adjusted R^2 = 0.036; Durbin–Watson = 1.468; *significant at 5% level

Table VI Results per hypothesis testing

Hypothesis	*Result*
H1	Accepted
H2	Accepted
H3	Rejected
H4	Rejected
H5	Accepted
H6	Rejected
H7	Rejected
H8	Rejected
H9	Rejected
H10	Rejected
H11	Rejected

Table VII Regression analysis results for DICI by lagged data of 2012

	B	*P*	*VIF*
Constant		0.000	
BODS	−0.043	0.660	1.044
PNED	0.214	**0.031***	1.016
INSTO	−0.019	0.840	1.003
BOC	0.124	0.192	1.010
FSIZE	0.086	0.343	1.001
LEV	−0.132	0.168	1.028
PROF	0.088	0.363	1.013
AUDT	0.110	0.840	1.001
LQDT	0.020	0.830	1.002

Notes: F = 6.075; R^2 = 0.045; adjusted R^2 = 0.036; Durbin–Watson = 1.568; *significant at 5% level

data appear in a pattern very similar to the original multiple regression results shown in Table V with DICI level at p = 0.000.

5. Conclusion and recommendation for further research

The purpose of this study was to examine corporate governance factors and their influence on internal control information disclosure. These factors include board size, proportion of non-executive directors, institutional ownership and ownership concentration. The study, in particular, aimed at determining the extent of internal control information disclosure by firms in Ghana for the year ending December 2013. The study also controlled for the variables suggested in prior research as significant contributors to internal control information disclosure. The control variables included: firm size, profitability, debt equity ratio, liquidity and leverage. The disclosure index developed was used to measure internal control information disclosure of 110 respondent firms. Multiple regression was used to analyse the data collected. The study provides empirical evidence in relation to the impact of these variables on the internal control disclosure level.

The results of the disclosure of internal control information, a mean of 35 per cent, indicate that most of the firms in Ghana do not disclose sufficient internal control information. Thus, compliance with internal control regulations in Ghana is not encouraging. The implication is that corporate governance in Ghana is not taken serious by the reported firms. These findings confirm the World Bank's study, which found the disclosure of non-financial information in financial reports of Ghanaian firms as weak. Low internal controls in firms imply high risk for such firms.

The finding does not support IASB's strategy of encouraging more voluntary disclosures of non-financial and internal control information to satisfy the information needs of users of financial statements. The low level of disclosure by listed firms in Ghana also does not support the *signalling theory, which suggests that firms with good performance will wish to*

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signal their quality to investors and, hence, are more likely to disclose more internal control information. It is therefore important for the SEC and Stock Exchanges in Ghana and Sub-Saharan Africa to do more by enforcing adherence to the Code of Best Practices on Corporate governance. The SEC and the other supervisory authorities should be resourced to help them meet their regulatory tasks to help firms improve on their corporate governance practices. Special attention should also be paid on the quality of information disclosed by these firms.

This study contributes to the literature on the relationship between corporate governance and disclosure by showing that disclosure of internal control information in Ghana is associated with the proportion of independent board members. These findings support SOX 404 requirements, even though this is not compulsory for Ghanaian firms unlike their US counterparts.

This paper uses the agency theory to study the relationship between corporate governance attributes and the disclosure of internal control information. The use of the agency theory in this study has shown that firms with high independent board members are likely to disclose more internal control information. This is encouraging, as they are there to act as a control mechanism by performing an independent monitoring function. Additionally, the disclosure of internal control information may be considered as a monitoring function to reduce conflicts between shareholders and management.

It is believed that this study will improve the insight of the variables that could affect internal control information disclosure in listed companies in countries south of the Sahara. The researcher on the basis of the findings suggests that firms in Ghana should improve their corporate governance and internal control systems as a way of managing their risk factors, for healthy and sustainable development of the firms.

The results of this study afford empirical evidence on the extent of internal disclosure practices in Ghana, and can be useful for those who prepare financial reports and for investors looking for profitable investment opportunities. This study, therefore, serves as an incentive for foreign investment in the country (Ahunwan, 2002), as this is the first time a paper has examined the determinants of internal control information disclosure.

Further longitudinal studies might be conducted to investigate disclosure patterns of companies across years. The results may differ across different years if multiple years are considered. This study used only the annual reports of firms as the information disclosure source; other sources such as press releases and prospectuses were not utilized. Future research can be conducted using these other sources to improve the findings.

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