

## Does board structure influence firm disclosure? Evidence from selected sub-Saharan Africa countries

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### ABSTRACT

This study examines the effects of board structure on information disclosure in annual reports of the listed firms in Sub-Saharan Africa countries' stock exchanges. Findings indicate that board size is positive and significantly related to information disclosure. However, findings indicate that the percentage of outside directors is not significantly related to information disclosure. This study contributes to corporate governance literature, especially in regard to the association between attributes of board structure and information disclosure. Findings of this study provide some practical benefits to regulators and policymakers in understanding the nexus between board structure and information disclosure in Sub-Saharan Africa. This would help policymakers and regulators to formulate policies and regulations with regards to board structure and good corporate governance practices, specifically those related to information disclosure.

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## 1. Introduction

Corporate voluntary disclosure attracts attention of researchers and practitioners in fields such as corporate governance, accounting, finance and general management. This attention is based on the importance of corporate disclosure as means to reduce information asymmetry (Mohamed et al., 2017) which exist between stakeholders of firms because of inadequate disclosure and transparency. Therefore, firms disclose information to reduce information asymmetry, improve confidence among stakeholders and reduce agency costs (Samaha et al., 2012b). Following the importance of corporate disclosure, different studies examine drivers and effects of firm disclosure (Katmon & Farooque, 2020). However, firm disclosure varies across different firms both in terms of types, quantity and quality of information disclosed. For this reason, different theoretical frameworks such as agency theory, legitimacy theory, resource dependence theory, capital need theory, stakeholder theory and signalling theory are employed to explain drivers and effects of firm disclosure (Elfeky, 2017; Healy & Palepu, 2001).

A major stream of research on firm disclosure focuses on association between different corporate governance structures and firm disclosure (García-Meca & Sánchez-Ballesta, 2010). The focus of this research stream is founded on a view that corporate governance structure is one of main drivers of firm disclosure (Saha & Kabra, 2022). One of the key governance structures of firms is board of directors (Jensen, 1993). Board of directors plays important roles of monitoring management and advising management (Munisi et al., 2017) on various matters including matters related to information disclosure. However, effectiveness of board in performing these roles depends largely on-board structure and other specific characteristics (Khan et al., 2021). Board structure and characteristics refer to board size and composition. Board size and

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composition are key characteristics of the board which affect performance of the board and consequently affects decisions made by firms including decisions related to disclosure (Vitolla et al., 2020). Indeed, information disclosure is related to the board role of monitoring (García-Meca & Sánchez-Ballesta, 2010; Fama & Jensen, 1983). Accordingly, high monitoring may lead to high disclosure as managers choose to disclose more comprehensive information about different attributes of a firm to reduce monitoring costs (Enache & Hussainey, 2020).

Moreover, a stream of research that focuses on board and disclosure of information is based on the assumption that board is a fundamental firm's internal control mechanism for monitoring and advising management (Eng & Mak, 2003; Fama, 1980) particularly in a circumstance in which external governance is ineffective. This assumption is more relevant in countries with a relatively underdeveloped institutional environment. Institutional environment is the pillar of external governance mechanisms. In this regard, the strength of the institutional environment is directly related to the strength of external governance mechanisms. External governance works as a complement or substitute of internal governance mechanisms. Therefore, the existence of a strong institutional environment implies presence of strong external governance mechanisms which in turn support internal control governance mechanisms to address agency problems. However, since Sub-Saharan Africa countries' institutional environment is considered weak, firms depend on internal governance to overcome agency problems.

One way of addressing agency problems is to reduce degree of information asymmetry and related agency costs through disclosure of more information (Mohamed et al., 2017). Therefore, board of directors being representatives of firms' stakeholders and key internal governance of firms, is expected to influence firms' decision on information disclosure. Therefore, given the weak institutional environment in Sub-Saharan Africa, board of directors as key internal governance mechanisms, is an important means that firms can use to monitor and control agency problems. Board of directors can monitor and control agency problems by using a variety of measures including requiring firms to disclose more information. In this regard, Sub-Saharan Africa countries provide an interesting context to study the relationship between board of directors and information disclosure.

In regards to the above discussion, this study investigates the association between board structure and firm disclosure. Specifically, the study examines the association between board of directors and disclosure in the listed firms in Sub-Saharan Africa by concentrating on board size and board composition.

This study makes contributions in the literature of corporate governance research. First, it makes a contribution to research debate on the relationship between board structure and information disclosure by focusing on the Sub-Saharan Africa context which is characterised by a weak institutional environment relative to other countries, mainly developed countries, which are the focus of this research stream. In addition, environmental settings in Sub-Saharan Africa are different compared to other regions in terms of economic development, political landscape and enforcement of rule of laws which have implications on the effectiveness of corporate governance. These warrant further research on antecedents and consequences of corporate governance mechanisms in Sub-Saharan Africa context. Second, according to the author's knowledge there is no study which has utilized a dataset comprising firms from eleven countries in Sub-Saharan Africa to examine association between board structure and information disclosure.

The remaining part of the study is structured as follows. Section 3 describes literature review and hypothesis formulation. Section 3 discusses data and methodology. Section 4 presents data analysis. Section 5 presents discussion of results. Section 6 provides a conclusion.

## **2. Literature review and hypotheses formulation**

Users of annual reports are investors, financial analysts, regulators, management members, creditors and other stakeholders who utilise information presented in reports to make various business decisions (Karajeh, 2019). Therefore, the objective of a firm to disclose information is to convey information with regard to financial, governance and other attributes of the firm to its stakeholders who use information disclosed to make informed decisions (Cooke, 1989; Donnelly & Mulcahy, 2008; Darmadi & Sodikin, 2013). Therefore, disclosure of well detailed, accurate, time, relevant and reliable information helps stakeholders to be more informed about the market which reduces uncertainty in decision making, thus resulting in more efficient financial markets (Pivac et al., 2017). Accordingly, the type, quantity and quality of information presented and disclosed in annual reports influence decisions made by a variety of stakeholders, in particular external investors who mainly depend on information presented in public domain through annual reports.

Despite the importance of information disclosure to stakeholders in decision making, management does not always choose to disclose detailed information. Management sometimes has the motive to falsify the information presented and disclosed to the stakeholders by concealing both negative and positive organizational outcomes (Donnelly & Mulcahy, 2008). Management conceals information either to avoid scrutiny pressure from outside stakeholders monitoring (Eng & Mak, 2003) or to obtain personal benefits from the firm at expenses of other stakeholders, particularly outsiders who may be less

informed about the firm than insiders. Concealment of information by management creates an information gap between management and outside stakeholders. This creates information asymmetry which is one of key causes of agency problems between management and other stakeholders. Existence of agency problems have negative effects on various firm's outcomes such as performance and actual survival.

Agency theory proposes some governance mechanisms that may reduce the agency problems (Fama & Jensen, 1983; Jensen & Meckling, 1976; Fama, 1980). Literature highlights a number of these mechanisms and categorize them into internal mechanisms and external mechanisms (Munisi & Randøy, 2013; Weir et al., 2002). On the one hand, internal mechanisms include ownership concentration, boards of directors, executive compensation, debt financing, executive director shareholdings and other internal practices of good governance found within the firm (Munisi & Randøy, 2013). On the other hand, external mechanisms consist of product market competition, executive labour market and market for corporate control (Munisi & Randøy, 2013; Weir et al., 2002). These mechanisms work either as substitutes or complements to one another to overcome agency problems (Cremers & Nair, 2005). External mechanisms are considered more effective in an environment with strong institutions that support good governance. However, Sub-Saharan Africa countries are known for weak institutional environments (Kaufmann et al., 2009). As a result, external mechanisms are relatively inadequate and ineffective in helping firms to handle agency problems. Therefore, in this context of a weak institutional environment, firms depend on internal governance to deal with agency costs.

One of the important internal mechanisms which a firm can depend upon in a weak institutional environment is board of directors. According to Jensen (1993) the board, being at the top of the firm control environment, has vital responsibility to ensure effective functioning of other internal controls of the firm. Akhtaruddin et al. (2009) argue that as the top management body of a firm, the board ensures sound and effective policies and strategies are prepared and implemented by the firm. These policies and strategies include those related to the firm's internal controls, as a result, effectiveness of internal controls depends on the board.

According to Cadbury (1992), the board has a fiduciary responsibility to advise firms by providing leadership in setting strategic objectives and ensuring the same are implemented effectively by management. Members of the board are expected to represent the interests of shareholders as well as other stakeholders of the firm. Accordingly, the board has responsibility to supervise management and subsequently report performance and status of the firm's affairs to shareholders (Cadbury, 1992). This suggests that the board has responsibilities to monitor and advise management on various matters and most importantly the board has to ensure shareholders are well informed about the firm. One way to inform shareholders is to ensure firms present and disclose comprehensive and accurate information.

Arguments above suggest that board affects information disclosed in annual reports (Abad & Bravo, 2018). Accordingly, this study examines the association between board structure and firm disclosure. This study uses agency theory and resource dependence theory (Pfeffer, 1972; Pfeffer & Salancik, 1978; Hillman et al., 2002; Ullah et al., 2020; Jensen & Meckling, 1976; Fama, 1980; Fama & Jensen, 1983; Jensen, 1993; Hillman et al., 2009) as theoretical foundation to formulate hypotheses on association between board structure and firm disclosure. This study uses board size and outside directors as proxies of board structure.

### *2.1 Board size and firm disclosure*

Association between board size and disclosure can be explained based on roles of board as representatives of shareholders. Shareholders, the owners of firms, delegate control of firms to managers. In this situation, there is the possibility of managers pursuing their own agendas. According to agency theory this situation creates conflict of interests and agency problems (Jensen & Meckling, 1976) which may have significant negative consequences to firms. This implies that agency problems need to be well monitored and controlled to reduce negative consequences. Therefore, some mechanisms are recommended to be established and implemented to control and monitor agency problems. These mechanisms are either in forms of monitoring of management or giving some incentives to management to align their interests to those of shareholders (Ward et al., 2009). According to agency theory, the board of directors is mostly seen as monitoring mechanisms (Fama, 1980; Fama & Jensen, 1983; Jensen & Meckling, 1979). Therefore, in this regard, the board should have specific characteristics which allow the board to execute its monitoring role more effectively. One of these characteristics is board size. Board size plays a key role in promoting firm disclosure and transparency (Samaha et al., 2015). This is because disclosure is related to monitoring which in turn is affected by board size.

Practices of good governance recommend that a board should have a reasonable number of directors which can have positive effects on efficiency of performance of board (Gandía, 2008). In this regard, the relationship between board size and firm outcomes is not conclusive whether it is a small or a large board which has required effects on various outcomes of a firm. It is argued that direction and significance of this relationship depend on the theoretical framework used to analyse the relationship. Main theoretical frameworks used to analyse functions of board of directors are agency theory and resource dependence theory. On the one hand, agency theory emphasizes that the board of directors has a role to protect the interests

of shareholders through effective monitoring of management (Jensen & Meckling, 1976). On the other hand, resource dependence theory emphasizes that the role of board is to bring vital resources to firm in form of external network connections which help firms to reduce dependence on resources from external environments (Pfeffer, 1972; Hillman et al., 2002; Hillman et al., 2000). In other words, resource dependence theory is concerned with advising role of the board (Hillman et al., 2000; Hillman et al., 2009).

Large board is considered to be ineffective in monitoring management. Large boards are easily overpowered by entrenched and powerful management who may use divide and rule to make boards disorganized and less effective in monitoring (Jensen, 1993). Furthermore, a large board is ineffective to monitor management due to additional costs caused by poor communication and inefficiencies in decision making which is normally associated with a group of individuals like a large board of directors (Cheng, 2008; Guest, 2009). Moreover, a large board of directors suffers from a free-riding problem (Guest, 2009), whereby some directors may not be very active in executing their responsibilities with expectation that other directors will be more vigilant. As a result, no director takes any serious attention to execute the responsibilities of the board, which in turn causes the whole board to be ineffective.

Contrary to the proposition of ineffectiveness monitoring associated with large boards, small boards are considered to be better than large boards in monitoring (Yermack, 1996). This is because a small board forms a more cohesive unit than a large board. In this situation, entrenched management finds it difficult to use divide and rule to override small boards. Also, due to few directors found in small boards, it is easy for small boards to communicate, coordinate and make effective decisions as a group.

Despite arguments supported by agency theory which favour small boards as effective in monitoring, resource dependence theory assumption supports that large boards has more benefits to firms than small boards both in monitoring and advising management. Resource dependence theory assumes that firms are connected in networks of interdependencies and social relationships which require firms to depend on resources obtained from its environment (Pfeffer & Salancik, 1978). Additionally, Pfeffer (1972) argues that board is a mechanism which helps firms to deal with its environment. Therefore, the structure of the board in terms of its size and composition should reflect the environment in which the firm operates. This structure enables the board to play roles of reducing environmental uncertainty and transaction costs associated with environmental interdependencies (Hillman et al., 2000; Pfeffer, 1972).

Members of board are endowed with a variety of resources in terms of skills, knowledge, competence and experience. Board utilises these resources to play a key role in protecting the interests of shareholders through monitoring and advising management. This is in agreement with arguments grounded on resource dependence theory which suggests that directors bring different resources to boards in form of expertise, diverse perspectives, expertise and connections from external environments (Hillman et al., 2002). Based on this view, theoretical literature based on resource dependence theory suggests that large boards improve the ability of boards in performance of their roles (Hillman et al., 2002). Accordingly, Ullah et al., (2020) argue that large boards provide different types of resources and benefits to firms. These benefits and resources are in forms of professional advice, networks and connections, legitimacy, channels of information communication between firms and its external environment (Fernandez et al., 2019). This is possible because a large board has many directors with diversity in gender, skills, knowledge, competence, experience, independence and external networks (Fernandez et al., 2019). These attributes of a large board enhance the capability of the board to play its roles of monitoring and advising management more effectively. In regard to information disclosure, large boards are more inclined to monitor management to reduce agency costs caused by information asymmetry by requiring management to disclose detailed information. Therefore, it is argued that having many directors on board reduces likelihood of information asymmetry (Akhtaruddin et al., 2009). Additionally, Akhtaruddin et al. (2009) suggest that the existence of many members of directors expands the diversity of expertise possessed by the board because of collective experiences and a variety of perspectives of members. Therefore, as a result of the diverse expertise, experiences and perspectives of the board, information disclosed by firms with a large board is likely to be more comprehensive.

Large board is composed of many directors who represent diverse interests of various stakeholders. One of the purposes of firms to disclose information is to reduce uncertainty which is created by information asymmetry between internal and external stakeholders (Munisi, 2023). Board of directors serves as a bridge that links firms with an external environment which is a source of uncertainty (Hillman et al., 2000). Uncertainty can have negative effects on firm performance and survival. Therefore, firms must cope effectively with uncertainty to survive in its environment. In this regard, it is essential for the board to have members who can connect the firm to its external environment and assist the firm to reduce uncertainty (Hillman et al., 2000). Firm can reduce uncertainty by being more transparent to its stakeholders through disclosing more information about its various aspects. This suggests that large board, which represents and connects to many stakeholders, is more likely to demand and advise management to disclose more information to address uncertainty associated with information asymmetry. In this regard, lack of information and uncertainty facing firms may be reduced by large boards (Akhtaruddin et al., 2009). Uncertainty is more apparent in weak institutional environment settings. In this regard, the issue of uncertainty and its negative effects is very relevant to countries in Sub-Saharan Africa which have weak governance

institutions (Kaufmann et al., 2009). In these countries stakeholders are more likely to face high levels of environmental uncertainty. Therefore, board of directors as one of key internal governance mechanisms of firms is expected to advocate firms to disclose more information.

Agency theory is regarded as an appropriate theoretical framework that can explain behaviour of firms regarding disclosure which aims to address agency costs (Jensen & Meckling, 1976; Fama, 1980; Fama & Jensen, 1983; Jensen, 1993). However, theory is not very appropriate to explain behaviour of firms concerning disclosure done with intention to attract more resources from the external environment (Hillman et al., 2000). In contrast, resource dependence theory is a better theoretical framework which can be applied to analyse the relationship between board and information disclosure with aims to link firms with resources found in the external environment (Hillman et al., 2009). In this regard, resource dependence theory is most relevant when firms want to disclose information as strategy to signal its good attributes to external stakeholders (Hillman et al., 2009; Connelly et al., 2011). This strategy allows firms to differentiate itself from other firms which in turn enables the firms to be in the best position to attract resources from the external environment.

According to resource dependence theory, a board is a strategic unit of organisation structure which acts as a link between a firm and its environment. In this regard, therefore, Pfeffer and Salancik (1978) argue that the board is a mechanism of linking firms with other organizations which the firm depends on to operate its business more effectively. Therefore, composition of the board reflects particular firm external dependencies (Pfeffer, 1972) as well as its stakeholders. As linkage of a firm to key external organizations, the board provides or secures important resources needed by firms from external environments (Hillman et al., 2000).

Firms use disclosure as means of linking itself with the external environment by communicating its various attributes to its stakeholders. Accordingly, the board links firms to external stakeholders, therefore, this makes board one of key determinants of disclosure required by a variety of stakeholders. As a result, it is argued that the large the board the diverse the group of stakeholders represented and connected with the board. Therefore, a large board is likely to demand that firms disclose detailed information to meet the expectations of various stakeholders. Indeed, empirical studies such as Abeysekera (2010) and Allegrini and Greco (2013), suggest positive association between board size and disclosure. Accordingly, the following hypothesis is suggested.

*H1: Board size is positively associated with firm disclosure.*

## *2.2 Outside directors and firm disclosure*

Separation of ownership and control of a firm implies that shareholders relinquish control of the firm to management. According to agency theory, this situation creates conflict of interests between management and shareholders as management may choose to pursue activities which have no benefits to shareholders (Jensen & Meckling, 1976). To safeguard their interests, shareholders appoint a board as their representatives with expectation that the board will be closely involved in control of the firm for the benefit of shareholders. One of the key responsibilities of the board is to monitor managers and provide some incentives to managers that can align the interests of managers and shareholders. This induces managers to pursue strategies and actions which enhance the value of the firm. Board also ensures the firm establishes and implements various practices of good governance to reduce costs associated with agency problems. This implies, for firms to have effective governance practices, the board has to advise management on types of governance practices to establish and most importantly thereafter monitor management to ensure good governance practices are properly implemented for the benefits of shareholders and other stakeholders. In this regard, it is argued that the ability of governance practices implemented by firms to reduce agency problems depends on board structure (Akhtaruddin et al., 2009).

More often than not, boards are formed by outside and inside members. Outside members are non-executives and are affiliated with firms only through their directorships while inside members are nominated among executives of the firm (Akhtaruddin et al., 2009). Inside directors are considered to be more obedient to top management and hence dependent on top management while outside directors are independent of management. However, codes of practices of good governance suggest the board should be independent of management for it to play its monitoring roles more effectively (Moursli, 2020). This implies outside directors, who are more independent of management, have a vital role to play to improve the quality of good governance practices.

Agency theory proposes that outside directors have significant influence on board performance of its monitoring role (Fama & Jensen, 1983). Accordingly, Fama and Jensen (1983) suggest that existence of more outside directors in board increases independence of board which in turn enhances board monitoring. This is because outside directors who are non-executive directors play an important role in limiting management discretionary behaviour and protecting shareholders' interests (Leung & Horwitz, 2004). Therefore, characteristics and composition of the board are crucial for quality of good governance practices including practices that are related to disclosure. Role of board, as internal governance mechanism, on disclosure



is particularly important to firms which operate in environments where external governance is less developed (Fuente et al., 2017) such as Sub-Saharan Africa countries which have weak institutional governance setting (Kaufmann et al., 2009).

Literature on boards and firm disclosure suggest that outside directors like to maintain and demonstrate to external stakeholders their reputation and legitimacy as good monitors and advisers of management by disclosing more information to external stakeholders (Samaha et al., 2012a). In this respect, the existence of outside directors is associated positively with disclosure. This is possible for the reason that outside directors are less affiliated with management. Therefore, outside directors are more likely to encourage and demand firms to make more disclosure. Furthermore, the existence of more outside directors in boards improves both quality and quantity of disclosure (Chen & Jaggi, 2000; Akhtaruddin et al., 2009). In this regard, it is anticipated that having many outside directors on board leads to more disclosure (Eng & Mak, 2003; Donnelly & Mulcahy, 2008).

In addition, some empirical studies (e.g., Cheng & Courtenay, 2006; Donnelly & Mulcahy, 2008; Lim et al., 2007) suggest positive association between outside directors and firm disclosure. Accordingly, non-executive directors in boards of the firms listed in Sub-Saharan Africa are expected to influence disclosure. Therefore, the following hypothesis is proposed.

*H2: Outside directors are positively associated with firm disclosure.*

### 3. Data and Methodology

#### 3.1 Sample and data

This study utilizes the dataset of non-financial firms listed in eleven Sub-Saharan Africa countries. Data were collected manually from the firms' annual reports which were obtained from respective firms' websites and from <http://www.africanfinancials.com>, which has a collection of reports of the several firms listed in Africa countries' stock exchanges. Data for each individual firm was collected from 2005 to 2009 which forms an unbalanced panel dataset with a total of 531 firm-year observations. Unbalanced panel dataset is the result of lack of complete data for all firms for all five years. This is because some firms were found not to be listed in all five years covered in the sample. In addition, although some firms were listed in all five years, annual reports for all years were not available. Financial statements in each respective country were found to be prepared using the respective country's domestic currency, therefore, to reduce impact of outliers and heterogeneity in data analysis, all monetary data were changed into US dollar by using yearly average exchange rates obtained from the central bank of each respective country. Table 1 shows summary of the firms' observations panel dataset by country and year.

**Table 1**  
Sample Distribution by country and year

| Country      | Year       |            |            |            |           | Total      |
|--------------|------------|------------|------------|------------|-----------|------------|
|              | 2005       | 2006       | 2007       | 2008       | 2009      |            |
| Botswana     | 9          | 9          | 11         | 10         | 7         | 46         |
| Mauritius    | 12         | 13         | 13         | 16         | 16        | 70         |
| Kenya        | 19         | 20         | 23         | 22         | 14        | 98         |
| Ghana        | 7          | 11         | 14         | 11         | 6         | 49         |
| Malawi       | 4          | 4          | 5          | 5          | 5         | 23         |
| Tanzania     | 3          | 4          | 5          | 5          | 3         | 20         |
| Nigeria      | 32         | 36         | 39         | 30         | 10        | 147        |
| Namibia      | 2          | 2          | 2          | 2          | 2         | 10         |
| Mozambique   | 0          | 0          | 1          | 1          | 1         | 3          |
| Uganda       | 4          | 4          | 3          | 3          | 2         | 16         |
| Zambia       | 12         | 14         | 10         | 7          | 6         | 49         |
| <b>Total</b> | <b>104</b> | <b>117</b> | <b>126</b> | <b>112</b> | <b>72</b> | <b>531</b> |

Notes: This table presents summary of panel data of firms' observations by country and year in the period 2005–2009.

Table 1 indicates 531 number of total observations. Also, Table 1 shows stock exchanges in selected countries are still relatively small with a few numbers of firms. This suggests that more effort is required to have more firms listed in stock exchanges if benefits associated with large and developed financial markets are to be realized in Sub-Saharan Africa.

Table 2 presents samples by industrial sectors, whereby the significant number of firms included in the sample are from the manufacturing industrial sector.

**Table 2**  
Sample Distribution over different industrial sector and year

| Industrial Sector                   | Year       |            |            |            |           | Total      |
|-------------------------------------|------------|------------|------------|------------|-----------|------------|
|                                     | 2005       | 2006       | 2007       | 2008       | 2009      |            |
| Accommodation and food services     | 8          | 8          | 9          | 7          | 5         | 37         |
| Administrative and support services | 0          | 1          | 3          | 2          | 0         | 6          |
| Agriculture, forestry and fishing   | 6          | 7          | 5          | 4          | 3         | 25         |
| Construction                        | 3          | 3          | 3          | 3          | 3         | 15         |
| Electricity, gas, etc.              | 9          | 11         | 10         | 10         | 9         | 49         |
| Information and communication       | 3          | 4          | 7          | 7          | 4         | 25         |
| Manufacturing                       | 56         | 62         | 66         | 59         | 33        | 276        |
| Wholesale and retail trade          | 1          | 1          | 1          | 1          | 1         | 5          |
| Transportation and storage          | 4          | 4          | 5          | 5          | 3         | 21         |
| Real estate activities              | 5          | 6          | 6          | 5          | 4         | 26         |
| Others                              | 9          | 10         | 11         | 9          | 7         | 46         |
| <b>Total</b>                        | <b>104</b> | <b>117</b> | <b>126</b> | <b>112</b> | <b>72</b> | <b>531</b> |

Notes: This table present the summary firms observations by industrial sector classification and year in the period 2005–2009.

### 3.2 Model specification and variables measurements

Effect of board size and outside directors on disclosure index is analysed by using the following specified equation.

$$\begin{aligned}
 \text{Disclosure Index}_{it} &= \beta_0 + \beta_1 \text{Boardsize}_{it} + \beta_2 \text{Outsidedirectors}_{it} + \beta_3 \text{Managerialowneship}_{it} \\
 &+ \beta_4 \text{Concentratedownership}_{it} + \beta_5 \text{Foreignowneship}_{it} + \beta_6 \text{Governmentowneship}_{it} \\
 &+ \beta_7 \text{Firmsize}_{it} + \beta_8 \text{Leverage}_{it} + \beta_9 \text{Profitability}_{it} + e_{it}
 \end{aligned}$$

In the equation, the dependent variable is the disclosure index for each firm. Disclosure index measures level of disclosure of governance practices and performance information in annual reports. The index is measured by using statements which represent various attributes of firms in relation to practices of good governance and performance as indicated in Table 3. Information related to each statement was traced in each firm's annual reports and when information existed in the annual report, the respective statement was assigned “Yes” with score of one(1) while when information did not exist in the annual report, the statement was assigned “No” with zero score. Thereafter, all scores were summed and percentage score for each firm was obtained. Therefore, a dependent variable is the fractional variable which ranges from 0 to 1, that is, it cannot take the value of zero.

**Table 3**  
Disclosure Index Statements

| S/N | Statements for disclosure                                      |
|-----|--|
| 1   | Firm released annual reports within 3 months after end of year |
| 2   | Firm disclosed composition of audit committee                  |
| 3   | Firm disclosed composition of remuneration committee           |
| 4   | Firm disclosed remuneration of CEO                             |
| 5   | Firm disclosed senior management officers remunerations        |
| 6   | Firm disclosed senior management academic qualifications       |
| 7   | Firm disclosed each director remuneration                      |
| 8   | Firm disclosed seniors management professional qualifications  |
| 9   | Firm disclosed directors professional qualifications           |
| 10  | Firm disclosed directors appointment dates                     |
| 11  | Firm disclosed directors academic qualifications               |
| 12  | Firm disclosed directors ages                                  |
| 13  | Firm disclosed financial statements prepared by using IFRS     |
| 14  | Firm released annual reports within 3 months after end of year |
| 15  | Firm presented five-year summary of financial trends           |
| 16  | Firm reported stock prices and stock performance               |
| 17  | Firm disclosed commentaries on financial results               |
| 18  | Firm used big four audit firm as auditor                       |
| 19  | Firm disclosed commitment to effective corporate governance    |
| 20  | Firm reported Corporate Social Responsibility activities       |
| 21  | Firm disclosed ownership of shares                             |

Source: Munisi and Randøy (2013)

Notes: This table presents statements used to develop Disclosure Index.

Independent variables are board size and outside directors. Board size is represented by the number of board members. However, following extant literature, natural logarithm is used instead of actual number of directors to reduce effect of outliers. Outside directors, is measured by percentage of non-executive directors in board of directors.

The study controls for variables related to ownership structure of firms. Ownership structure is considered as a control variable because various ownership structures have varieties of preferences which have different effects on firm propensity to disclosure (Munisi, 2023). For instance, firms with a wide number of shareholders need to disclose more comprehensive information to decrease information asymmetry among its shareholders (Cao et al., 2019; Puri & Kumar, 2018; Gamerschlag et al., 2011). In other words, firms with many shareholders produce more information to enable shareholders and other stakeholders to make well-informed decisions (Haddad et al., 2020). However, firms with large concentrated ownership may not need to disclose more information because large shareholders can access firms' information by using other means because they are closely involved in operations of firms (Munisi, 2023). In this regard, firms which have high ownership concentration are expected to disclose less voluntary information in annual reports because concentrated and controlling shareholders can obtain information from other sources than annual reports (Munisi, 2023). Besides the suggested relationship between concentrated ownership and disclosure, previous studies (e.g., Huafang & Jianguo, 2007; Sepasi et al., 2016; Md Zaini et al., 2020; Raimo et al., 2020; Zaid et al., 2020) suggest other ownership structures such as managerial ownership, foreign ownership and government ownership, are associated with information disclosure. Following these studies, this study includes these ownership structures as control variables.

Managerial ownership is the proportion of a number of shares held by the Chief Executive Officer at the end of year. Concentrated ownership is the ratio of shares held by shareholders owning no less than five per cent of all shares at the end of year. Foreign ownership is per cent of shares held by foreign shareholders at the end of year. Government ownership is the ratio of shares owned by government at the end of year.

Also, this study recognizes there are other specific-firm characteristics which affect firm disclosure. Therefore, following extant literature (e.g., Abdullah et al., 2015; Giacomini et al., 2020; Haddad et al., 2020), this study controls for firm size, leverage and profitability.

Firm size is controlled because large firms have complex structure and connections with various stakeholders which require these firms to have more information disclosure (Zamil et al., 2021). However, information disclosure is a costly activity (Karajeh, 2019); therefore, firms need to have sufficient resources to finance these activities. Large firms have more resources, in terms of time and human and financial capital (Giacomini et al., 2020) which enable large firms to perform tasks related to information disclosure. Previous studies (e.g., Barako et al., 2006; Aerts et al., 2007; Akhtaruddin & Haron, 2010; Vitolla et al., 2020; Abdullah et al., 2015; Grüning, 2007) suggest that firm size is associated with disclosure. Measurement of firm size is the natural logarithm of total assets.

Firm leverage is controlled because high leverage firms are subjected to high scrutiny pressure from debt holders which in turn increase monitoring costs. According to Jensen and Meckling (1976) highly leveraged firms attempt to reduce monitoring costs by increasing disclosure. Accordingly, previous studies (e.g., Raimo et al., 2020; Vitolla et al., 2020; Abdullah et al., 2015) suggest that firm leverage is associated with information disclosure. Firm leverage is measured by ratio of total debts to total assets.

The study controls for firm profitability because most profitable firms disclose more information to highlight good performance to various stakeholders (Haddad et al., 2020). Also, most profitable firms incline to disclose detailed information to attract more investors which as a result reduces cost of capital which eventually enhances firms market value (Abdullah et al., 2015; Francis et al., 2005). Furthermore, most profitable firms disclose more information because they can generate more income which can be used as resources to finance disclosure activities (Giacomini et al., 2020). However, contrary to the preference of more profitable firms to have more disclosure of information, less profitable firms may be reluctant to disclose information to hide reasons of low performance (Haddad et al., 2020) and avoid more scrutiny from various stakeholders. Previous studies (e.g., Abdullah et al., 2015; Francis et al., 2005; Giacomini et al., 2020) suggest that firm profitability is associated with information disclosure. Firm profitability is represented by ROA which is the ratio of operating profit before tax to total assets.

## **4. Data analysis**

### *4.1 Descriptive statistics*

Table 4 provides an overview of descriptive statistics for each variable used in the study. The statistics indicate that the disclosure index is 54 per cent. This suggests that most firms have disclosure scores above 50 per cent.



**Table 4**  
Descriptive statistics

| Variable | No. of Obs. | Mean  | Standard Deviation | Minimum | Maximum |
|----------|-------------|-------|--------------------|---------|---------|
| DISINDEX | 421         | 0.54  | 0.18               | 0.13    | 0.92    |
| BFSIZE   | 458         | 8.87  | 2.59               | 3.00    | 15.00   |
| LnBFSIZE | 458         | 2.14  | 0.31               | 1.10    | 2.71    |
| OUTDIR   | 448         | 0.24  | 0.16               | 0.00    | 1.00    |
| MANOWN   | 463         | 0.03  | 0.08               | 0.00    | 0.48    |
| CONCOWN  | 470         | 0.62  | 0.22               | 0.00    | 1.00    |
| GOVOWN   | 433         | 0.05  | 0.16               | 0.00    | 0.88    |
| FOROWN   | 479         | 0.31  | 0.32               | 0.00    | 0.96    |
| SIZE     | 531         | 17.92 | 1.79               | 6.76    | 21.61   |
| LEV      | 520         | 0.53  | 0.28               | 0.00    | 3.19    |
| ROA      | 531         | 0.14  | 0.17               | -0.69   | 0.96    |

Abbreviations: DISINDEX: Disclosure Score; BFSIZE: Inboard size; OUTDIR: Ratio of external directors; MANOWN: Managerial Ownership; CONCOWN, Concentrated Ownership; GOVOWN: Government Ownership, FOROWN: Foreign Ownership; SIZE: Firm size; LEV: Leverage; ROA: Return on Assets

Table indicates that the average board size is about 8 members of directors with the smallest board having 3 directors while the largest board has 15 directors. The table indicates that on average 24 per cent of directors are outside directors. This indicates that about one-quarter of board members are outside directors. This suggests that inside directors are the majority in boards of the listed firms in Sub-Saharan Africa. On average, 3 percent of shares are held by Chief Executive Officers. Furthermore, the table indicates that on average, 62 per cent of shares are held by concentrated shareholders. This suggests significant shares of firms are in hands of shareholders who have more than 5 percent of shareholding. This may have effects on various aspects of firms including those related to disclosure. Table 4 indicates government ownership averaged 5 per cent. Furthermore, Table 4 shows that average shares held by foreign shareholders is 31 per cent. This suggests that almost one-third of shares are owned by foreign shareholders. This implies that foreign ownership may have influence on information disclosed by firms.

In addition, Table 4 indicates that average firm size is 17.19. Leverage of firms has a mean of 53 per cent. This implies total capital employed by firms is financed by debts by more than fifty per cent on average which implies that creditors have significant interests in these firms, as a result, they may influence information disclosed by firms. Mean firm profitability is 14 per cent which suggests that on average many firms have positive return on assets.

**Table 5**  
Correlation Analysis of Variables

|          | DISINDEX | BFSIZE    | OUTDIR    | MAOWN     | CONCOWN  | GOVOWN    | FOROWN   | SIZE    | LEV       | ROA   |
|----------|----------|-----------|-----------|-----------|----------|-----------|----------|---------|-----------|-------|
| DISINDEX | 1.000    |           |           |           |          |           |          |         |           |       |
| BFSIZE   | 0.326*** | 1.000     |           |           |          |           |          |         |           |       |
| OUTDIR   | -0.009   | -0.044    | 1.000     |           |          |           |          |         |           |       |
| MAOWN    | -0.101** | -0.197*** | 0.222***  | 1.000     |          |           |          |         |           |       |
| CONCOWN  | -0.009   | -0.213*** | -0.034    | -0.0894*  | 1.000    |           |          |         |           |       |
| GOVOWN   | 0.205*** | 0.0750    | -0.239*** | -0.091**  | 0.085*   | 1.000     |          |         |           |       |
| FOROWN   | -0.083*  | -0.064    | 0.120**   | -0.207*** | 0.456*** | -0.184*** | 1.000    |         |           |       |
| SIZE     | 0.408*** | 0.423***  | 0.029     | -0.199*** | 0.064    | 0.210***  | 0.154*** | 1.000   |           |       |
| LEV      | -0.072   | -0.029    | -0.012    | 0.062     | -0.022   | -0.022    | 0.049    | 0.112** | 1.000     |       |
| ROA      | 0.0416   | -0.133*** | -0.058    | -0.141*** | 0.101**  | -0.026    | 0.210*** | -0.082* | -0.290*** | 1.000 |

Abbreviations: DISINDEX: Disclosure Score; BFSIZE: Inboard size; OUTDIR: Ratio of external directors; MAOWN: Managerial Ownership; CONCOWN, Concentrated Ownership; GOVOWN: Government Ownership, FOROWN: Foreign Ownership; SIZE: Firm size; LEV: Leverage; ROA: Return on Assets. Significance level \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

#### 4.2 Correlation analysis

Table 5 presents correlations of variables. Results show positive correlation between board size and disclosure index. This suggests that board size is significantly positively associated with the disclosure index. This provides preliminary support on hypothesis one which proposes that board size is positively associated with disclosure. Regarding, outside directors, results indicate that the ratio of outside directors is negative but not significantly correlated with the disclosure index. Therefore, hypothesis two is not supported by these results.

With regard to ownership control variables, results indicate managerial ownership and foreign ownership are both negative and significantly correlated with disclosure while government ownership and disclosure has positive and significant correlation. Furthermore, results indicate that correlation between concentrated ownership and disclosure index is negative but not significant.

As for other firm characteristics, results indicate that firm size is positive and significantly correlated with disclosure. Firm leverage is negative but not significantly correlated with disclosure index while profitability is positive but not significantly correlated with disclosure index. Furthermore, results indicate that coefficients of correlations are less than 0.5 which

implies there is no issue of multicollinearity. Furthermore, to identify the existence of multicollinearity, Variation Inflation Analysis (VIF) was carried out and results, which are not presented here, indicate multicollinearity is of no concern in this study.

#### 4.3 Regression analysis

Dependent variable is the disclosure index which varies between zero and one. This is a fractional dependent variable, therefore, as recommended by Papke and Wooldridge, (1996), association between board structure and firm disclosure is examined by using fractional probit regression model. Table 6 presents the results of the fractional probit regression. As indicated in Table 6, separate analysis is carried out for each independent variable. Separate estimation model for each independent variable is carried out to eliminate effects of one independent variable on another independent variable. Model 1 shows results of association between board size and disclosure while model 2 shows results of association between outside directors and disclosure. Model 3 shows results of model which include both independent variables simultaneously. Results indicate that board size is positive and significantly related to the disclosure index both in model 1 and model 3. As for outside directors, results indicate that the ratio of outside directors is positive but not significantly related to the disclosure index in both model 2 and 3.

Among control variables of ownership structure, results indicate managerial ownership is not significantly related to the disclosure index in any model presented in Table 6. Results indicate that concentrated ownership and government ownership are significantly associated with the disclosure index in all three models indicated in Table 6, but the association of concentrated ownership is negative whereas that of government ownership is positive. Results of foreign ownership indicate positive association, but association is marginally significant only in model 2 which includes board structure independent variables simultaneously. As for control variables in relation to firm-specific characteristics, results presented in all models in Table 6 indicate firm size and profitability are significantly positive related to disclosure index. Leverage is positively related to the disclosure index in all three models, but results are significant only in model 3 which includes both the two board structure independent variables simultaneously.

**Table 6**  
Fractional Probit regression results

| VARIABLES                          | [1]                  | [2]                  | [3]                  |
|------------------------------------|----------------------|----------------------|----------------------|
| BSize                              | 0.248***<br>(0.081)  |                      | 0.239***<br>(0.078)  |
| OUTDIR                             |                      | 0.151<br>(0.122)     | 0.149<br>(0.118)     |
| MAOWN                              | 0.154<br>(0.396)     | -0.013<br>(0.423)    | 0.077<br>(0.396)     |
| CONCOWN                            | -0.380**<br>(0.156)  | -0.561***<br>(0.145) | -0.508***<br>(0.135) |
| GOVOWN                             | 0.313**<br>(0.131)   | 0.261**<br>(0.126)   | 0.323**<br>(0.130)   |
| FOROWN                             | 0.143<br>(0.093)     | 0.140<br>(0.090)     | 0.160*<br>(0.091)    |
| SIZE                               | 0.067***<br>(0.018)  | 0.087***<br>(0.016)  | 0.064***<br>(0.018)  |
| LEV                                | 0.076*<br>(0.045)    | 0.064<br>(0.046)     | 0.093**<br>(0.046)   |
| ROA                                | 0.324***<br>(0.108)  | 0.304***<br>(0.111)  | 0.328***<br>(0.109)  |
| Constant                           | -1.243***<br>(0.272) | -0.958***<br>(0.271) | -1.149***<br>(0.258) |
| Country, year and industry dummies | Yes                  | Yes                  | Yes                  |
| Obs                                | 289                  | 286                  | 286                  |

Abbreviations: DISINDEX: Disclosure Score; BSize: Inboard size; OUTDIR: Ratio of external directors; MAOWN: Managerial Ownership; CONCOWN, Concentrated Ownership; GOVOWN: Government Ownership, FOROWN: Foreign Ownership; SIZE: Firm size; LEV: Leverage; ROA: Return on Assets. Significance level \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

#### 4.4 Sensitivity analysis

Board performs both monitoring and advising roles. As noted in previous sections of the study, monitoring and advising roles are associated with board size. Small board is regarded as better for monitoring while large board is considered as better for advising (Desai, 2016). However, it is also generally accepted that influence of board composition on various outcomes of a firm is associated with firm specific characteristics. One of such characteristics is firm size. Monitoring function is related to firm size because increase in firm size increases agency costs which necessitate more monitoring activities. This is in line with an argument put forward by Jensen and Meckling, (1976) which suggests that increase of firm size increases agency costs and monitoring. Accordingly, board monitoring function is less salient in small firms as small

firms do not have critical resources and complex operations. This leads to lower agency risks and monitoring than those associated with large firms. This suggests the monitoring role is relatively more important to large firms than small firms.

Small firms need to grow; therefore, resource provision is more important to small firms than large firms (Hillman et al., 2009). Since small firms need more resources to grow and survive (Munisi, 2017), boards of small firms are expected to play more of an advising role than monitoring role (Hillman et al., 2009). Advising role played by boards in small firms enables small firms to enhance capacity to attract more resources from the external environment. One way that firms can use to connect to the external environment and obtain more resources is to be more transparent to its stakeholders through disclosing more information. By disclosing more information, firms send signals of quality of their good governance practices and performance to external stakeholders which enable firms to attract more resources (Munisi, 2023). In this regard, a large board, which is considered better in advising roles (Desai, 2016), is expected to advise firms, among other things, to disclose more information to external stakeholders to reduce information asymmetry (Louie et al., 2019). Reduction of information asymmetry allows stakeholders to be more informed about affairs of firms. This enhances the confidence of stakeholders when they are dealing with firms (Abousamak & Shahwan, 2018). Furthermore, reduction of information asymmetry and resulting improved stakeholders' confidence help firms to reduce agency costs and cost of capital (Balakrishnan et al., 2014; Lambert et al., 2007).

Therefore, following the results presented in Table 6, which indicates there is positive and significant association between board size and firm disclosure, further analysis is carried out to determine whether these results are different between samples of small firms and samples of large firms. In other words, further analysis is carried out to assess whether results presented in Table 6 are affected by firm size. In this regard, the analysis is conducted by dividing the sample into two sub-samples by using the mean value of firm size as presented in Table 4. One sub-sample is sample of small firms which comprises firms whose sizes are less than mean of firm size while another sub-sample is sample of large firms which includes firms whose sizes are larger than mean of firm size presented in Table 4. Results of Fractional Probit regression of these sub-samples are presented in Table 7. Results of positive and significant association between board size and firm disclosure presented in Table 6 is maintained in samples of small firms while in samples of large firms, results indicate the direction of association is positive but the significance presented in Table 6 is lost. Variation of results between sub-samples suggests that association between board size and disclosure is affected by firm size. Furthermore, results suggest that large boards play a more significant role in firm disclosure when firms are small in size. This supports the argument that small firms need more resources for their growth and survival (Munisi, 2017), therefore, the board is more likely to advise these firms to have more information disclosure to external stakeholders such as investors and lenders to attract more resources.

Table 7 indicates that results of association between outside directors and firm disclosure remain positive but insignificant in both samples. This is consistent with results presented in Table 6, which show a positive but insignificant relationship between outside directors and firm disclosure. These results suggest that firm size does matter in association of outside directors and firm disclosure. Overall results suggest that outside directors do not have significant effects on firm disclosure.

**Table 7**  
Firm size sensitivity analysis results

| VARIABLES                                 | [1] - (Small firms) | [2] - (Large firms) |
|---|---------------------|---------------------|
| BSIZE                                     | 0.232**<br>(0.114)  | 0.075<br>(0.096)    |
| OUTDIR                                    | 0.154<br>(0.302)    | 0.136<br>(0.107)    |
| MAOWN                                     | 0.084<br>(0.431)    | 1.191<br>(3.546)    |
| CONCOWN                                   | -0.583**<br>(0.239) | 0.059<br>(0.193)    |
| GOVOWN                                    | 1.105***<br>(0.224) | -0.097<br>(0.163)   |
| FOROWN                                    | 0.202<br>(0.131)    | -0.337**<br>(0.146) |
| SIZE                                      | 0.0250<br>(0.029)   | 0.038<br>(0.037)    |
| LEV                                       | 0.187<br>(0.132)    | 0.023<br>(0.059)    |
| ROA                                       | 0.355**<br>(0.142)  | 0.770***<br>(0.157) |
| Constant                                  | -0.348<br>(0.595)   | -0.241<br>(0.000)   |
| <i>Country, year and industry dummies</i> | Yes                 | Yes                 |
| Obs                                       | 125                 | 161                 |

DISINDEX: Disclosure Score; BSIZE: Inboard size; OUTDIR: Ratio of external directors; MAOWN: Managerial Ownership; CONCOWN, Concentrated Ownership; GOVOWN: Government Ownership; FOROWN: Foreign Ownership; SIZE: Firm size; LEV: Leverage; ROA: Return on Assets. Significance level \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

## 5. Discussion of results

Fractional Probit regression results indicate that association between board size and disclosure is positive and significant. This implies that increasing board size improves level of information disclosure (Zamil et al., 2021). Theoretically, positive and significant findings on association between board size and disclosure is consistent with proposition based on resource dependence theory which suggests large boards are good in both monitoring and advising management (Hillman et al., 2009). This is because more directors in boards bring with them more diverse and new attributes in terms of skills, knowledge, experience and competencies (Hillman et al., 2000). This means that a large board can utilize these attributes to enhance firms' governance practices by effectively monitoring and advising management to disclose more information which is an essential and integral component of good corporate governance practices. Furthermore, as the number of directors increases, the number of connections and stakeholders of firms from external environments increase as well (Desai, 2016). This implies that more directors have more connections to different stakeholders from external environments (Hillman et al., 2000). Therefore, directors as representatives of different stakeholders, are likely to prefer firms to disclose more information to external stakeholders to enable directors and firms to maintain legitimacy and reputation among stakeholders (Hillman et al., 2000).

Theoretically, a large board is more relevant to small firms which need access to more resources than large firms which have already established strong networks and flow of resources (Huggins & Johnston, 2010). Small firms need to establish new and more connections and flow of resources which can enable them to grow and survive. Large boards are more likely to inspire small firms which need more resources from external environments to disclose more information as means to reduce costs associated with information asymmetry. Firms provide more information about their positive attributes concerning governance and performance to differentiate themselves from other firms (Munisi, 2023). Furthermore, more disclosure makes external stakeholders more informed about firms which in turns reduces information asymmetry and enhances external stakeholders' confidence (Abousamak & Shahwan, 2018). This has positive implications on firms because it helps firms to reduce agency costs and cost of capital which is associated with the existence of information asymmetry between firms and external stakeholders.

Results indicate that association between outside directors and firm disclosure is not significant. These results suggest that the structure of the board in terms of inside and outside directors does not significantly influence information disclosure in this study. These results deviate from arguments based on agency theory which suggests that outside directors being more independent of management are better in monitoring and therefore are more likely to associate positively with firm disclosure. Results of lack of significant association between outside directors and firm disclosure may be attributed by the existence of a small proportion of outside directors in boards of sampled firms, which as indicated in Table 4, outside directors in boards makes only 24 per cent of all directors. Presence of a small number of outside directors on board implies that influence of outside directors on firms' decisions and actions may be limited by their number, particularly in circumstances where the principle of "majority rules" is applied as it is common in many meetings of boards. In addition, the existence of a weak institutional environment in Sub-Saharan Africa can weaken the effectiveness of internal governance mechanisms such as outside directors because of the lack of enforcement of rules and regulations that could hold boards accountable and responsible.

## 6. Conclusions, implications and limitations

This study examines association between board structure and firm disclosure. The study utilizes data collected manually from listed firms' annual reports in eleven Sub-Saharan Africa countries for the period 2005 to 2009. The study uses agency theory and resource dependence theory as its theoretical frameworks to develop hypotheses which are tested by using the Fractional Probit regression model. Overall, results show that firm disclosure is improved with increase of board size. However, outside directors are not significantly associated with firm disclosure. This study, therefore, supports arguments that increase of board size improves board ability to perform its monitoring and advising roles more effectively. Board size therefore, is significantly associated with firm disclosure which is the outcome of effective monitoring and advising performed by a large board.

This study contributes to corporate governance literature specifically on board structure and firm disclosure in developing countries, in particular, Sub-Saharan Africa countries. Results are more in agreement with the assumption of resource dependence theory which proposes that having many members of directors enhances the ability of the board to perform roles of monitoring and advising management more successfully. This corresponds with Hillman et al. (2009) argument that though resource dependence theory is less often used than agency theory to study boards, empirical evidence suggests that resource dependence theory is a more useful lens to understand implications of roles performed by boards. This suggests that since the board performs both monitoring and advising roles, its impact is better explained by using resource dependence theory. These results suggest that large boards monitor and advise management to disclose more information

which acts both as means of reducing agency costs and cost of capital as more stakeholders including investors are expected to be more confident in dealing with more transparency firms.

Furthermore, results of positive and significant association between board size and disclosure supports arguments based on resource dependence theory which suggests that small firms need more resources in form of advising than monitoring. Since firms disclose more information to reduce agency costs and cost of capital, boards of small firms may strategically require firms to use information disclosure to demonstrate their good qualities in various aspects as means to attract attention of external stakeholders including providers of important resources such as financial capital which is more needed by small firms.

Findings have implications on interplay between board structure and information disclosure especially in the firm's operating in Sub-Saharan Africa countries which are characterised with weak governance institutional environment (Kaufmann et al., 2009). Findings suggest that large boards perform the role of monitoring and advising management more effectively. Large board has more capability to monitor and advise management because of a variety of perspectives, skills, knowledge, experience and competence found in a large group of its members. Effectiveness of a large board in monitoring and advising management is manifested in the quality of practices of good governance of the firm. Practices of good governance include those related to disclosure as firms disclose more information to reduce agency problems which in turn reduce agency cost and cost of capital. Furthermore, findings of this study suggest that advising roles that aim to reduce costs of capital is more relevant to small firms which require access to more resources from external environments to support their growth.

The results of this study should be considered with some limitations. First, dependent variable use in this study is the disclosure index constructed using some attributes of disclosure related to good governance practices and firm performance. Attributes included in the disclosure index may not be an exhaustive representation of information which some firms and external stakeholders considered to be most important. This is based on the reason that different firms and stakeholders have different preferences on types and level of information that need to be disclosed. Second, the study uses information collected manually from annual reports which are available on the internet. This approach assumes that annual reports are the only medium of communication of information used by firms to communicate to external stakeholders. However, firms may use other media of communication such as newsletters and conference meetings to communicate critical information to stakeholders. Future research is suggested to address these limitations.

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