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The Determinants and Level of Voluntary Disclosure in Corporate Annual Reports: An Empirical Analysis of Ghanaian Listed Firms

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ABSTRACT

Today's global economy is dependent on large corporations. When governance mechanisms fail and owners and management are unaware of the company's financial and non-financial status, the repercussions are felt not only locally but globally as well. Using a longitudinal non-parametric method, this study investigates the factors influencing the level of transparency of Ghanaian publicly traded companies from 2016 to 2020. Data was collected from audited annual reports accessible on corporate websites and checked against SEC data. Twenty-two (22) listed companies met the inclusion criteria for the sample. The Arellano-Bond and Hansen-difference tests necessitated the employment of the two-step forward orthogonal deviation mandated by GMM regression. The results demonstrated that lagged dependent variable, board size, audit type, business age, and corporate social responsibility (CSR) have a positive effect on voluntary disclosures in Ghana. The institutional ownership connection is negative. When demanding voluntary disclosure, regulatory authorities must create policies that include these crucial aspects. The study is a useful guide to practitioners, policymakers, stakeholders, and academics with policy development, investment, and the promotion of intuitive studies.

Keywords: Voluntary disclosures, Hansen-difference test, Integrated theories, transparency, Stakeholders.

1.0 INTRODUCTION

Today's global economy is predicated on the viability of major and vibrant corporations. When governance processes fail, the repercussions are felt not just in the home country, but globally (United Nations Conference on Trade and Development,2011). For more than 40 years, various international organizations (International Accounting Standard Board (IASB), Standard & Poor's), regulatory agencies and accounting researchers have focused on ways of increasing corporate transparency through the creation of practical tools and useful research (Bank of Ghana (BOG),2020; Securities and Exchange commission (SEC),2020; Saha & Kabra,2022; Elmarzouky & Hussainey,2021; Adjei-Mensah,2019; Elfeky,2017; Albitar,2015). Ghana, for example, adopted international financial accounting standards (IFRS) in 2007 to address the need for greater transparency, international conformity, and the provision of meaningful disclosures that aid in boosting investor and potential investor confidence (Boateng, Arhin & Afful,2014). Nonetheless, ten (10) years after adopting IFRS, Ghana suffered a series of corporate failures due to lack of transparency and inadequate disclosures (see, SEC,2020, BOG, 2016;2019;2020). Arguably, information disclosure in annual reports has been regarded as one of the pillars upon which a company's

survival is predicated (Albitar ,2015). Insufficient information leads to knowledge asymmetry, which increases capital costs and poor resource allocation, according to Albitar (2015). It is imperative to note that, separation of powers in corporate administration causes information imbalance (Jensen & Meckling, 1976), which breeds distrust and anxiety among managers and those seeking corporate information (Adjei-mensah,2019). To put it bluntly, information asymmetry serves as a trigger for increased uncertainty among parties to financial and non-financial information disclosures. Therefore, to dispel this ambiguity, proponents of agency theory (Jensen & Meckling,1976) suggested that voluntary disclosure of relevant information that exceeds what is required by law (mandatary disclosure) has the potential to assuage the agency problem and its related cost. Moreover, research have shown that when the amount of voluntary disclosure increases, the level of information asymmetry lowers, and as a result, trading volumes and stock market liquidity grow while the cost of capital drops (Abubakar et al.,2021; Mansulu,2021; Adjei-mensah,2019; Habbash et al.,2016; Kim &Verrachia,1994).

Reminiscing on the well-publicized failures of vibrant companies such as Enron, WorldCom, Xerox, Tyco, Parmalat, and Leeman Brothers, as well as the more shocking and devastating episode of 2007/2008 global financial crisis, perhaps justifies the clarion-call by investors, regulatory bodies, for transparency in the preparation, audit and communicating financial and non-financial results through annual reports to stakeholders (Adjei-Mensah,2019).Transparency and stakeholder behavior are improved by strong disclosure (Albitar,2015) and it maintains investor confidence and prevents corporate malfeasance (Adjei-mensah,2019; Albita,2015). In this respect, scholars, accountants, policymakers, and researchers are studying disclosure and corporate governance as a hot topical area. When contemplating on voluntary corporate disclosure, they examine firm size, profitability, and board independence (Desta, Bishagazi & Kifle, 2019 as cited in Elmarzouky & Hussainey,2021). The importance of this field is further evidenced by a plethora of work done by scholars around the world to discover and provide investors and other stakeholders with corporate features that influence the extent of voluntary disclosure of listed firms on a number of stock markets for decision making (See, Saha & Kabra,2022; Bishagaz(2022); Boateng, Tawiah, & Tackie(2022); Borgi & Mnif(2021); Elmarzouky & Hussainey(2021); Koduah(2020); Amartey et al., 2019; Agyei-mensah(2019); Mansulu & Anarfi(2019); Shaibu et al. (2019); Hossain, Khan, & Haque (2018).

Corporate governance, ownership structure, and firm characteristics are factors of voluntary disclosure (Herath and Altamini ,2017). While it is important to have a holistic view of the elements that affect firm disclosure level, most scholars and researchers have focused on either corporate governance, ownership structure, or firm characteristics in selecting explanatory variables, which has led to contradictory results in the existing literature (see Boateng, Tawiah, & Tackie, 2022; Mansulu, 2021; Amartey et al., 2010). In this regard, the unanswered question for readers is whether there is a holistic view of the major determinants impacting the voluntary disclosure level of Ghanaian listed firms and if, a multi-theoretical framework can account for this search. Also, whether there is disparity in the information provided across these firms. This gap has prompted this study and as such, uses Herath and Altamini's guide of three segment design to have a holistic picture of the factors that influences voluntary disclosure practices in Ghana’s corporate space. Theoretically, unlike previous studies that used only a single theoretical framework (See, Boateng, Tawiah, & Tackie, 2022; Gyamerah & Agyei, 2016) to arrive at inconsistent results due to a single theory's inability to correctly predict voluntary disclosure level (Waleed,2014), this study uses integrated theories underpinned by agency, signaling, and stakeholder theory to ascertain and know the main determinants that offer much predictive prowess. Also, the time span of some older

Ghanaian investigations presents a methodological vacuum. Adjei-Mensah (2016), Gyamerah & Agyei (2016), and Mansulu & Anarfi (2019) all analyzed 2013, 2005-2015 respectively, and found similar but contradictory results. Numerous events occurred between 2016 and 2020, including BOG's recapitalization exercise and the indomitable covid-19 pandemic, which displays no care for any sector. Therefore, in light of Ghana's current condition, a major concern is that, some of the previous conclusions may no longer apply, justifying this investigation. This study may be the first in Ghana to use a multi-theoretic framework to evaluate voluntary disclosure by publicly traded corporations. This effort was motivated by the fact that a single theory lacks the ability to explain voluntary disclosure which is a multidisciplinary concept, let alone anticipate its level (Waleed, 2014).Again, over ten (10) years after the adoption of IFRS, disclosure issues have become a major concern for the Ghanaian economy, as evidenced by BOG's recent recapitalization exercise, which unearthed riots, weak corporate governance structures, loss of investor confidence, and improper disclosures, resulting in the collapse of 16 banks in Ghana (BOG, 2020; Koduah, 2020). It is believed that, sound and transparent disclosures have what it takes to restore investor confidence (BOG,2020, SEC,2020). Further, voluntary disclosures in annual reports of companies, especially listed ones, has become a hotly debated topic for scholars and academicians presently, due to its ability to reduce investor and stakeholder uncertainty regarding listed firms' future prospects. Finally, lessons leant under agency theory (Jensen&Meckling,1976), capital requirements theory (Spencer, 1973), and stakeholder theory (Freeman,1984) motivate this research. The study has three objectives: I) Determine, using a multi-theoretic framework, the primary determinants influencing Ghanaian listed firm's voluntary disclosure. II)Measure each listed firm's voluntary disclosure and Ghana's total disclosure level in recent times. III)To determine whether listed firms' voluntary disclosure significantly differs statistically. The findings will contribute to the literature on voluntary disclosure discourse and help understand how integrated theories explain voluntary disclosure practices of listed companies in Ghana. Investors would profit from significant information disclosures to improve their investment decisions, which would benefit the government by reducing stakeholder conflict, unemployment, and other social vices (Jahan, Qamruzzaman, and Karim, 2021). What is more? Contemporary scholars, researchers, and analysts will know the primary drivers of voluntary disclosure level from a multi-theoretic perspective, as opposed to a single theory that has produced conflicting results in the literature.

This study continues as follows. Section 2 reviews the literature (conceptual and theoretical) and develops hypotheses using a multi-theoretical lens (Agency theory, Signaling theory and stakeholder theory). The third section describes the study's methodology. Section 4 discusses results; section 5 draws conclusions, limitations, and research recommendations.

2.0 Literature Review and Hypotheses Development

2.1.0 Conceptual Review

Uncovering ambiguity and pushing for transparency and sustainable growth in companies are possible via voluntary disclosures, which are non-mandatory released information. Mansulu & Anarfi(2019), describe voluntary disclosure as managers' discretion to provide information. Firms do it on purpose because it indicates openness and transparency, which boosts their image. Despite being external, it reduces agency costs caused by managers' and stakeholders' knowledge asymmetry (Herath and Altamimi, 2017). Bishagaz(2022) indicates that studies into voluntary disclosure factors will be a long-term source of disagreement in emerging markets (such as Ghana). The annual reports published by listed firms provides

useful, reliable, and relevant information for economic decision making and highlight the company's future prospects (Adjei-mensah,2019). According to prior study, the annual report is where influential aspects like firm size, liquidity, leverage, profitability, and other criteria may be found to gauge transparency. In Ghana, the SEC and IFRS require all publicly traded companies' annual reports to include a statement of financial position, a statement of profit and loss and other comprehensive income, a statement of changes in equity for the reporting period, a cash flow statement, and notes to significant accounting policies and other explanatory information (Marfo-Yiadom, Asante& Tackie, 2015, p.20).To ensure transparency and disclosure, listed companies must submit annual reports electronically via the SEC's database on a regular basis, as well as hard copies to stakeholders. The appropriate level of disclosure depends on the costs and advantages of voluntary disclosure. Rating agencies and creditors need information to analyze businesses' financial health (Nilehn & Toresson,2014). Both disclosing and not disclosing have ramifications for management. Public organizations are conservative about sharing anything that could damage their competitive advantage, such as technology breakthroughs, strategy, and operational statistics (Elliott & Jacobson 1994). Higher disclosure enhances stock market liquidity, cutting equity capital costs and raising demand for a company's shares (Botosan ,1997). This idea sees voluntary disclosure as a way to raise capital cheaply.

2.1.2 Disclosure Requirement for Ghanaian Listed Firms

Currently, in addition to other pieces of legislation, the primary pieces of legislation affecting the governance of publicly traded companies in Ghana are the Companies Act, 2019 (Act, 992), the Securities and Exchange Commission's (SEC), 2020 code of best practices, and the Ghana Stock Exchange's listing rules (GSE). Additionally, there are sector-specific legislation such as the Banks and Specialized Deposit Taking Institutions Act, 2016 (Act, 930) and the Insurance Act, 2021 (Act, 1061), which contain significant provisions affecting listed companies operating in the relevant sectors, particularly with regard to board composition and governance and also, to operate in conformity with international standard and to increase their competitiveness on the international market. Despite this, the SEC, in collaboration with the GSE and the registrar of companies, is responsible for the primary oversight of Ghana's listed company system. In other words, regardless of the field in which a listed business operates, it must eventually adhere to the SEC's code of best practices and ethics, not forgetting the IFRS requirements.

2.2 Multiple Theories That underpins Voluntary Disclosure Variations

Corporate disclosure studies have recently gained prominence in intellectual debate due to their ability to alleviate information asymmetry in corporate functionality. Due to its multi-disciplinary nature, researchers claim that a single theory cannot explain the predictive value of disclosure level changes (see, Waleed, 2014). Thus, unlike Boateng, Tawiah & Tackie(2022); Gyamerah & Agyei (2016), who employed a single theory to determine the determinants of voluntary disclosure among Ghanaian listed businesses have led to inconsistent findings in the existing literature. This study employs agency, signalling, and stakeholder theories, which is consistent with prior empirical research (see, Waleed, 2014). The author feels that these three theories are critical in Ghana due to the ease with which variable measurement can be applied. Additionally, it is a response to recent requests for alternative or complementary theories in empirical corporate disclosure research, which can contribute to theoretical diversity (Ntim & Soobaroyen, 2013).

2.2.1 Agency Theory and Voluntary Disclosure

According to agency theory, corporations should supply investors with accurate, complete, and timely bu-

siness information to reduce information asymmetry and agency costs, resulting in increased operational efficiency and shareholder value (Jensen & Meckling,1976). Profitable managers provide more information to illustrate their management skills and agree on incentives and rewards (Gyamerah & Agyei, 2016). The agency connection contributes to information asymmetry because managers have more information than shareholders (Jensen & Meckling,1976). Conflicts of interest prevent full transparency (Adjei-mensah,2019; Elfeky,2017; Samuels,1990). Other than effective contracting, voluntary disclosure can reduce agency costs (Barako et al.,2006; Healy & palepu,2001). In order to show their strength, managers disclose additional information to minimize agency expenses and achieve goal congruence.

2.2.2 Signalling Theory and Voluntary Disclosure

Managerial signalling theory is a subset of agency theory (Jensen & Meckling, 1976), and it was designed to account for the knowledge asymmetry between managers and shareholders (Spencer,1973). According to Adjei-Mensah (2017), management's motivation for voluntarily publicizing better performance is to increase the company's reputation and market position at the expense of competitors and to access capital at a lower cost. Signalling is a response to market information asymmetry via corporate reporting (Ross,1977). As a result, high-quality business leaders will want to differentiate themselves from low-quality competitors. Companies with a high level of voluntary disclosure reduces information asymmetries and indicate the quality and genuine worth of the organization by providing additional knowledge to those who lack it (Adjei -Mensah, 2017, Morris, 1987; Ross, 1977). Habbash et al., (2016), demonstrate that firm size and age are positively and significantly connected with voluntary disclosure and that larger firms or those that have been in business for a long period of time are more able to afford the higher voluntary disclosure costs than small enterprises. The signalling theory is pertinent to the study since listed companies in Ghana want to improve their trustworthiness. As a result, they would educate investors and other accounting information users about their superiority.

2.2.3 stakeholder Theory and voluntary disclosures

According to stakeholder theory, business involves interdependent connections between customers, employees, suppliers, and communities (Mansulu,2021). Organizations must accommodate all stakeholders, not just shareholders, writes Freeman (1984). In Ghana, Social disclosures are used to manage stakeholder relationships by affecting the level of demand from various stakeholders. The more vital stakeholders' resources are to the organization's performance and viability, the more likely the organization will meet their expectations (Maama& Mkhize,2020). Corporate social responsibility (CSR) is a proactive strategy used by businesses to manage stakeholders and the business environment. The sharing of CSR information minimizes the knowledge asymmetry between the business and its stakeholders, and Perseus a major objective to gain their support and permission (Danisch,2021). This results in a number of possible benefits, including an enhanced reputation, easier access to financing, and increased staff and customer loyalty (Danisch,2021). In the United Kingdom for instance, Investors have placed premium on broad disclosure of environmental, social and governance (ESG)-related issues; hence, enterprises have sufficient motivation to engage in ESG disclosure to satisfy stakeholder demands (Albitar et al., 2020). This demonstrates how critical it is to consider the requirements and preferences of stakeholders when disclosing information (Maama& Mkhize,2020). According to Ofoegbu et al. (2018), as referenced in Mansulu (2021), the surest approach to ensure a long-lasting relationship between the firm and the firm's surroundings is for the former to offer enough information on a consistent basis. The disclosure of CSR activities is a process of communicating the firm’s economic activities to its interest

groups and to society as a whole (Gray et al.,1987). That is, managers would consider it more prudent to spend and disclose on CRS information than never.

2.2.4 Multi-theoretic framework

Voluntary disclosure, as mentioned previously and as guided by the selected theories, is assumed in this study to be influenced by board characteristics, ownership characteristics, corporate social responsibility, and firm-specific characteristics variables. The figure below illustrates the theories(integrated) and their associated factors that were considered for this investigation.

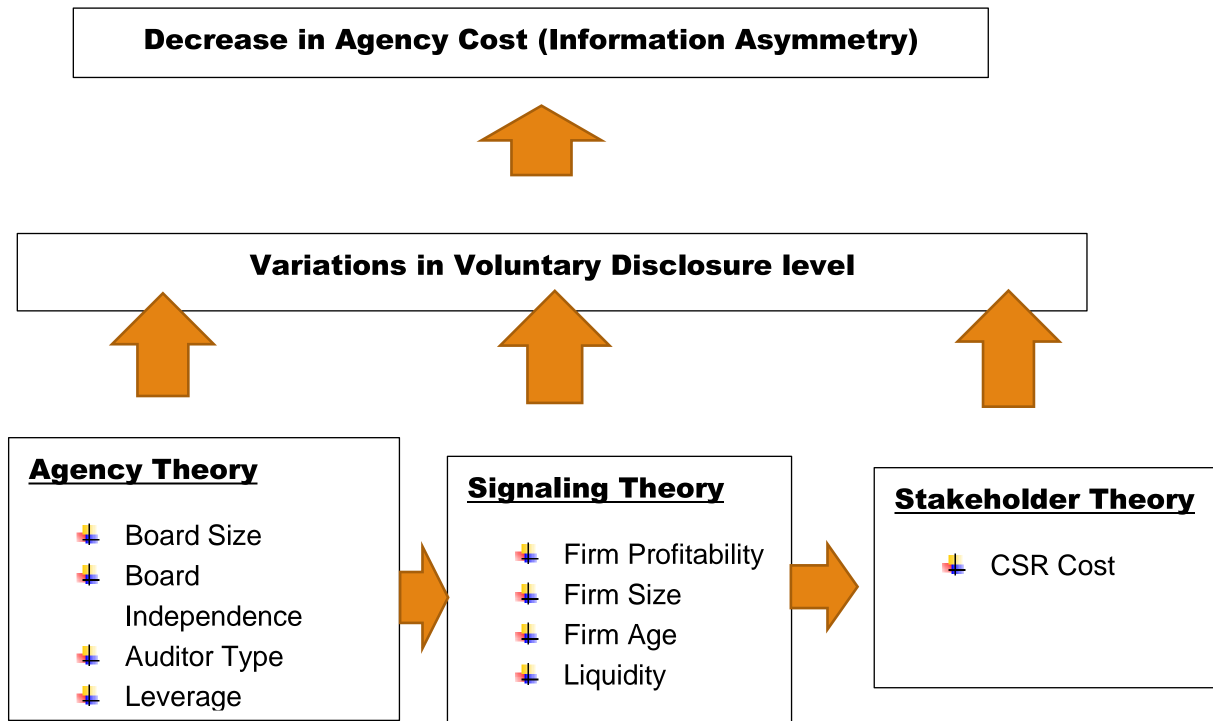


Fig 1. The factors that explains variations in voluntary disclosure in Ghana

As shown in fig.1 above, the three theories need not be seen in silos, but intertwined and as such, jointly explains the variations in voluntary disclosure level and its ultimate aim of addressing the problem of information asymmetry.

2.4 Empirical Review and Hypothesis Development

Board Size and Voluntary Disclosure

The phrase "board size" refers to the number of directors on the board of a corporation. It is determined by the number of individuals listed as board members in annual reports of businesses. Mansulu(2021) says companies desire input to effect their environment and Long-term strategic decisions may depend on the board's skills. The literature questions board size and disclosure. A larger board decreases information asymmetry and promotes voluntary disclosure, according to Akhtaruddin et al (2009). Allegrini and Greco (2013) suggested a broader board to monitor managerial actions based on agency theory. However, Jensen (1993) posited that smaller boards improve focus and detail. Mansulu(2021) analyzed ten non-financial firms on the Prague stock exchange to determine the impact of corporate governance on voluntary disclosures. Board size was found to hinder voluntary disclosure where as Mansulu & Anarfi(2019) discovered a positive link between board size and firm disclosure levels in a study of 17 non-financial firms listed on the Ghana Stock Exchange between 2013 and 2016. In their five-year research period

(2014-2018) of 100 non-financial and non-utility firms listed on the Bombay Stock Exchange (BSE), Saha & Kabra(2021) determined that board size does not have a substantial influence on voluntary disclosure. In view of the above submissions and other studies (See, Boateng, Tawiah & Tackie, 2022; Borgi & Mnif, 2021; Amartey et al., 2019; Elfeky,2017; Albita, 2015; Bopkin & Isshaq, 2009; Barako, 2007 and Tsamey et al., 2007), the results are inconsistent and mixed. This study therefore aims to established whether:

H1: *The size of Ghanaian listed company boards positively correlates with level of voluntary disclosures*

Board Independence and Voluntary Disclosure

A corporate board of directors is often comprised of executives and non-executive directors (NEDs). NEDs of companies are those who serve as a control mechanism by performing an independent monitoring function (Adjei-mensah,2016). According to agency theory, the presence of independent directors on a board may have a material effect on the effectiveness of the board's monitoring activities (Majumder et al., 2017; Fama & Jensen,1983). Patelli and Principe (2007), on the other hand, argue that outside directors are typically appointed by dominant shareholders and therefore, in the event of collaboration with them, the independent directors' oversight position gets diminished (Demb & Neubauer, 1992. Most Ghanaian directors are appointed by dominant shareholders, so their independence is a concern. They may lack the independence to make disclosure policy decisions or make private disclosures for dominant shareholders. High proportions of independent directors may inhibit voluntary disclosure. Boateng, Tawiah, and Tackie(2022) investigated the link between corporate governance parameters (Board size, Board composition, Audit style, and control variables) and voluntary disclosures. Their analysis found a 32% average mean correlation between non-executive directors and voluntary disclosures. Other studies (Saha & Kabra(2021), Elmarzoky et al., 2021; Borgi & Mnif, 2021; Herath & Altamini,2017; Elfeky,2017; Albita,2015; Amran et al., 2014; Michelon & Parbonetti, 2012; Barako et al., 2006) had contradictory results. This study posits, along with agency theory and other studies, that increasing the number of NEDs may boost corporate legitimacy by increasing voluntary reporting to please stakeholders. The scientist hypothesizes that:

H2: *Firms having a higher percentage of non-executive directors on their board of directors make more voluntary disclosures.*

Audit Type and Voluntary Disclosures

In the existing literature, empirical data on the relationship between audit type and voluntary disclosure is inconclusive. Large audit firms(big4) are expected to be more sensitive about what their clients reveal (Adjei-Mensah,2019). Moreover, External auditors play a significant part in governance mechanisms because they are tasked with providing an objective assessment of the quality of revealed information (Jensen & Meckling, 1976). For example, the Auditors' reports give certification, which helps agencies save money by increasing consumers' impressions of the legitimacy of the material contained in yearly reports (Jensen & Meckling,1976). As a result, it might be claimed that larger audit companies have more bargaining leverage to demand better disclosures from their customers (Adelopo, 2011). This indirectly provides stakeholders with sufficient and transparent commercial and economic information to help them make decisions. Elfeky(2017), hypothesis that firms audited by big audit firms disclose more information voluntarily. To affirm this, Elfeky(2017), provides evidence on the effect of an inclusive set of corporate governance variables to analyze traded companies in Egypt. The report disclosed an average score of 40.70% as extent of disclosure using 2013-2016 annual reports of listed firms as source of information and posited that, there is significantly positive association between audit type and voluntary disclosure. Several researchers have shown similar faith in their respective investigations (see, Boateng, Tawiah &

Tackie(2022); Abubarkar et al., 2021; Al-Mosh & Khatib,2021; Hereath & Altamini, 2017;Habbash et al., 2016). In this respect, the researcher ague and hypothesis that:

H3: *A positive relationship exist between audit-type and extent of voluntary disclosure among listed firms in Ghana.*

Ownership Structure and Voluntary Disclosures

"Ownership" refers to a company's shareholders, or owners. Agency theory shows how ownership is different from control, causing conflict of interest and purpose misalignment. Management lacks the incentive to provide further information to equity and debt holders (Gyamerah and Agyei ,2016). Government, foreign, management, director, institutional, and shareholder count are all types of ownership (see, Gyamerah & Agyei,2016; Rouf & Haram,2011). This study considers institutional ownership and total shareholdings. Institutional ownership is when big institutions or groups own 5% or more of ordinary shares. Institutional ownership can urge managers to disclose more to improve share prices and the firm's value. Several studies have found a negative association between institutional ownership and voluntary disclosure (see, Gyamerah & Agyei,2016; Adelopo,2011). This study hypothesizes that:

H4: *Institutional ownership has a negative effect on level of voluntary disclosure by the firms listed on the Ghana stock exchange.*

The term "shareholders" refers to the aggregate of individuals, businesses, and other entities that own shares in a specific publicly traded company. The greater the number, the more inclined managers are to reveal additional information in their firms' annual reports in order to reduce agency costs in response to increased shareholder demand for information (Jensen,1986). Gyamerah & Agyei (2016) evaluated the association between ownership structure and corporate transparency levels in annual reports of firms listed on the Ghana stock exchange and discovered that there is no statistically significant relationship between these two terms. As a result of this investigation, it is hypothesized that:

H5: *There is no association between number of shareholders and level of voluntary disclosure among the firms listed on the Ghana stock exchange*

Aside the aforementioned and hypothesized independent variables, there are other control variable(s) that affect disclosure levels in an emerging economy such as Ghana. This emanates from the lessons drawn from signaling theory and more importantly, stakeholder theory. For the purpose of this study, variables such as firm profitability, firm size, leverage, firm age, liquidity and corporate social responsibility are considered in order to control for firm specific characteristics.

2.5 Conceptual Framework

Based upon the literature review and the hypothesis developed above, the diagram below (fig. 2), shows the nexus between the explanatory variables and the dependent variable designed purposely for this study:

Independent Variable(s) **Dependent Variable**

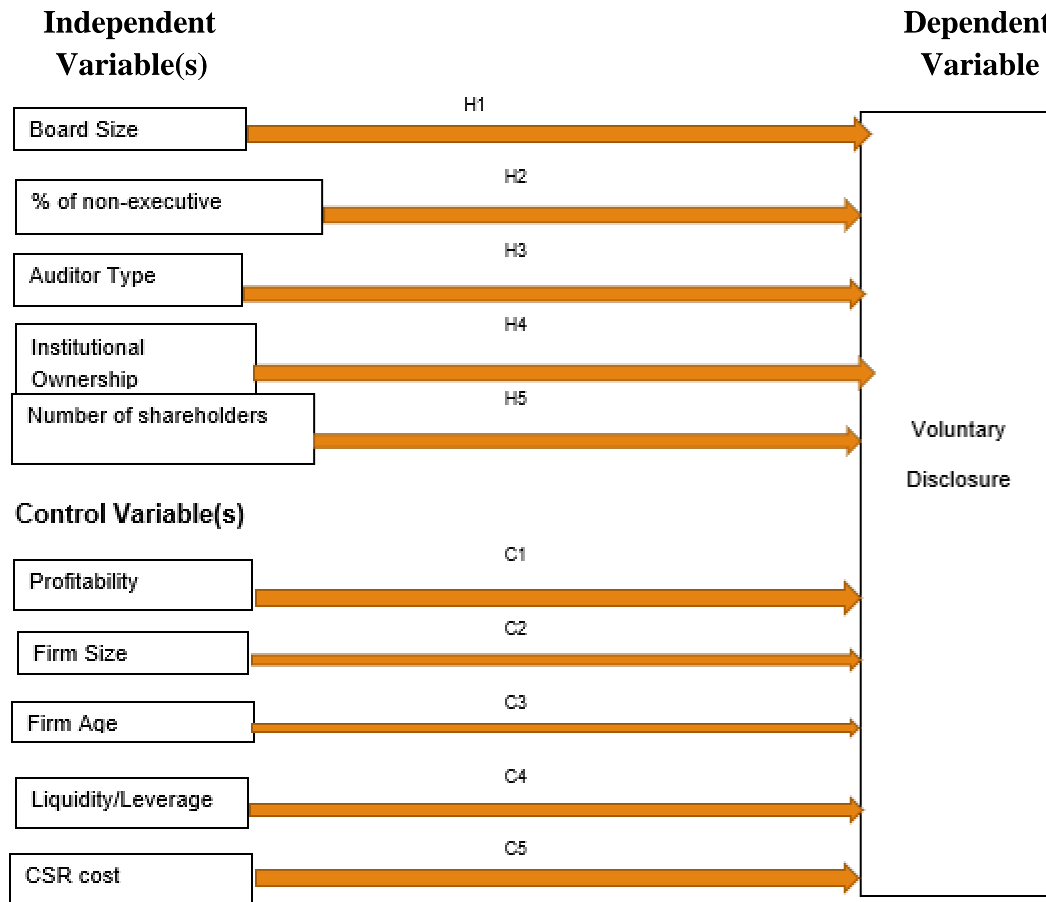


Fig.2 Conceptual framework showing the linkage between the factors that influence voluntary disclosure level of listed firms in Ghana.

3. Data and Methodology

Methodologically, this analysis was modelled after the work of Gyamerah and Agyei (2016), which utilized panel data, as opposed to the work of Adjei-Mensah (2016 and 2012), which utilized cross - sectional or time series data. This is because panel data contain more information, have a greater degree of variability, and are more efficient than time series or cross-sectional data apart (Eric, 2019 and 2021). The study employed the Generalised Method of Moment (GMM) to examine the effect of the identified factors on the degree of voluntary disclosure. GMM is a dynamic panel approach developed by Arellano & Bover(1995).

3.1 Study Population

The study population is made up of all the firms listed on the Ghana Stock exchange (GSE). Currently there are thirty-seven (37) firms listed, composed of fifteen (15) industries in Ghana.

3.2 Study Sample and Data Source

Twenty-two (22) of the 37 GSE companies were chosen based on the following criteria: availability of data on all variables for the purpose of the study, listing on the GSE before 2015, adoption of IFRS

reporting standards, and operational presence in Ghana. These factors help meet balanced panel data analysis standards (Henry, 2008; Ntim et al., 2012a). Balanced panel data combines cross-sectional and time-series observations, increases degrees of freedom, and reduces multicollinearity and firm-level heterogeneity (Henry, 2008; Gujarati, 2003). The 22 selected firms' panel data on all variables were obtained by analyzing audited annual reports on the SEC database or the firms' websites between 2016 and 2020(5 years).

3.3 Measurement of Variables:

A. Voluntary disclosure index

In this study, the dependent variable is voluntary disclosure (VD). Due to the absence of a universal proxy for VD (See, Cossoni & Colauto, 2016, Barako, 2007; Botosan, 1997). The index was developed using the checklist used by (Barako,2007). This is based on the notion that a study by professionals from the institute of chartered accountants (Ghana), the Securities and Exchange Commission, the Ghana Stock Exchange, and the major four (audit firms) confirmed the appropriateness and suitability for the Ghanaian context (Barako,2007). The voluntary disclosure was computed using an equal weighting system for each checklist item and dividing the total number of items actually and willingly disclosed by a given firm by the total number of relevant items expected to be disclosed (see, Cossoni & Colauto, 2016; Yusuf,2016; Barako, 2007).

As a result, the unweighted voluntary disclosure index (VOLUDISC) was calculated using the formula below:

$$VOLUDISC_j = \frac{\mathrm{T} = \sum_{\mathrm{i}=1}^{\mathrm{n}} \mathrm{d_i}}{\mathrm{M} = \sum_{\mathrm{i}=1}^{\mathrm{m}} \mathrm{d_i}}$$

Where: $VOLUDISC_j$ =the total voluntary disclosure score for each company and falls within $0 \leq VOLUDISC_j \leq 1$

$T = total\ number\ of\ items\ disclosed\ (d_i)$ by company i

M =the maximum number of applicable disclosure items for company i

that should have been disclosed.

B. Independent Variables

The table below (table 1) depict how the comprehensive and all-inclusive explanatory variables were measured. It consists of corporate governance variables (Board size, percentage of non-executive directors and Audit type); Ownership structure (institutional ownership and Number of shareholders) and firm-specific variables (leverage, profitability, firm size, firm age and CSR cost).

Table 1: Denotation and measurement style of independent variables and their expected sign

Independent Variables & Control Variables	Denotation	Measurement Style	expected sign
Board Size	BDZ	Number of persons serving on as directors on the company's board at end year t.	+

% of Non-Executive Directors	NED	Number of non-executive directors divided by the total number of directors on the board.	+
Audit Type	ADT	Using a dummy variable technique, an indicator of **1** if the firm is audited by big4 audit firms at year end t, otherwise **0**	+
Institution Ownership	IOW	The number of those shareholders disclosed as those who owns the largest proportion of shares	-
Number of Shareholders	NOS	The total number of shareholders at year end t	+/-
CSR cost	CSR	The natural log of firm's total expenditure on CSR	+ /-
Leverage	LEV	The respective firm's total assets divided by its total liability	+/-
Profitability (ROA)	ROA	Firm's profit after tax divided by its total assets at year-end t	+
Firm Size	FMZ	The natural log of the total assets of firms	+
Firm Age	FAG	Calculating from date of listing to year 2020	+
Liquidity	LQT	Ratio of firms' current assets to current liabilities	+

The study analyzed data using the two-step forward orthogonal deviation under system Generalised Methods of Moments (GMM) technique. Arellano and Bover created the GMM as a dynamic panel approach to data analysis (1995). The system GMM aided in addressing the impact of prior year voluntary disclosure level on the current one. Additionally, this method was used because it enhances the estimation efficiency when dealing with data with a short sample period, the desire to test the impact of lagged dependent variable and tackles endogeneity issues**.**

3. 4 Model Specification

The static model is as stated below:

$$\boldsymbol{VDIC_{it}} = \boldsymbol{\Gamma_0} + \sum_{i=1}^{n} \Gamma_i \boldsymbol{BOARDX'TICS_{it}} + \sum_{j=1}^{n} \Psi_j \boldsymbol{OWNERSHIPX'TICS_{it}} + \sum_{k=1}^{n} \Phi_k \boldsymbol{CSR_{it}} + \sum_{k=1}^{n} \Upsilon_k \boldsymbol{Firm - Specific\ Variables_{it}} + \boldsymbol{\varepsilon_{it}} \ \ldots\ldots\ldots\ldots\ldots (1)$$

And also, the dynamic panel is as shown below

$$\boldsymbol{VDIC_{it}} = \mathbf{VDIC_{t-1}} + \sum_{i=1}^{n} \Gamma_i \boldsymbol{BOARDX'TICS_{it}} + \sum_{j=1}^{n} \Psi_j \boldsymbol{OWNERSHIPX'TICS_{it}} + \sum_{k=1}^{n} \Phi_k \boldsymbol{CSR_{it}} + \sum_{k=1}^{n} \Upsilon_k \boldsymbol{Firm - Specific\ Variables_{it}} + \boldsymbol{\varepsilon_{it}} \ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where:

$\boldsymbol{BOARDX'TICS_{it}} = Board\ Characteristics$ defined as;

$NED_{it} = Proportion\ of\ Independent\ Directors$

$BDZ_{it} = Board\ Size$

ADT_{it} =*Audit Type*

$$\boldsymbol{OWNERSHIPX'TICS_{it}} = Ownership\ Characteristics\ defined\ as;$$

$$IOW_{it} = Institutional\ Ownership\ ;\ NOS_{it} = Number\ of\ Shareholders$$

$$\boldsymbol{Firm - Specific\ Variables(CONTROLS)_{it}} = Control\ variables\ defined\ as;$$

i)FMZ= Size of the firm; ii) ROA=Firm Profitability; iii) LEV= leverage of the firm; iv) FAG=Firm Age; v) LIQ= Liquidity.

$$\boldsymbol{CSR_{INDEX}} = log\ of\ individual\ firms'\ total\ expenditure\ on\ CSR.$$

$$\boldsymbol{VDIC_{it}} = Voluntary\ Disclosure\ measured\ for\ the\ period\ under\ study.$$

$\mathbf{VDIC_{t-1}}$ = Lagged dependent variable

$$\boldsymbol{\Gamma_0} = Contant\ term$$

$$\boldsymbol{\epsilon_{1it}} = Stochastic\ Error\ term$$

$\boldsymbol{i} = firms\ ;\ \boldsymbol{t} = year$

3.5 Empirical Estimation Technique

This study uses the generalized methods of moments (GMM) estimator to estimate the coefficients in the dynamic equation (2) as against the static regression (1). This is because, it can handle lagged-dependent variables, unobserved heterogeneity, exogenous and endogenous explanatory variables. According to Baltagi (2008), the GMM technique is preferable to static equation estimators, which produce inconsistent results in the presence of dynamic and endogenous explanatory factors in panel estimation. In addition, Arellano and Bover (1995) and Blundell and Bond (1998) documented that, for small sample estimations, the system GMM variate of the GMM techniques outperforms static equation estimators and the first difference GMM technique. Due to the small sample size of the data utilized in this study, the system GMM was used instead of the first-difference, as recommended by Roodman (2009). Again, the coefficients in the dynamic equation for this study were derived using Windmeijer's (2005) two-step system GMM to account for probable autocorrelation and heteroscedasticity, and to compensate for least biases in small samples. Furthermore, to satisfy the requirement for the system GMM model, firm profitability (ROA) and leverage were assumed to be endogenous explanatory variables rather than other independent variables for voluntary disclosure, and their lags were included in the two-step system GMM model as a collapsing instrument. The first and third lags of firm profitability and leverage respectively were used to avoid over-fitting of the endogenous variables and to restrict the number of instrument counts in the system GMM computations by ensuring that the instrumental variables are fewer than or equal to the number of groups. This technique, according to Roodman (2009), will allow for more trustworthy

estimation. To determine the correctness of the instruments employed in the GMM system for the dynamic equation, the difference in Hansen and second-order autocorrelation (AR 2) tests were applied.

4. RESULTS AND DISCUSSION

4.1 Descriptive statistics

The statistical features of the variable(s)in this study are described in Table 1 using descriptive statistics and D'Agostino Pearson normality test. In effect, the author provides the mean, standard deviation, minimum and maximum values for each variable, as well as skewness and kurtosis tests. The overall voluntary disclosure score is 0.719 on average, with minimum and maximum values of 0.33 and 0.98, respectively, demonstrating a broad range in the amount to which Ghanaian listed corporations provide voluntary information. This finding contradicts the findings of other researchers who did comparable investigations. For example, Boateng et.al (2022), generated an average score of 32%, whereas Mansulu's work (2021) generated an average score of 50.5 percent for overall disclosure. The study's average score of 0.719 indicates space for improvement, since the introduction of IFRS ten (10) years down the line, has cleared the path for increased optional disclosures in the annual reports of Ghanaian publicly traded companies. Additionally, this finding illustrates the superiority of a multi-theoretic framework over a single theory, which is incapable of accurately predicting the extent of voluntary disclosure, a multidisciplinary concept (waleed,2014). On average, the sampled firms revealed approximately 45 out of the 64 elements on the disclosure checklist, forcing a drive for a higher score in the next horizon. Again, the data indicates an average board size of roughly eight members, ranging from five to thirteen. In terms of auditor type, information indicates that approximately 61% of Ghanaian publicly traded companies retain the services of the so-called "Big4 Audit firms." The study documented a mean of six non-executive directors on company boards, with minimum and maximum values of three and ten, respectively.

Table 1. Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Dev	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
VDIC	110	0.33252	0.981248	0.7199	0.1666	-0.799	0.23	-0.517	0.457
BDZ	110	5	13	8.3	2.285	0.384	0.23	-0.432	0.457
NED	110	3	10	6.36	1.962	-0.264	0.23	-0.782	0.457
ADT	110	0	1	0.67	0.471	-0.746	0.23	-1.47	0.457
IOW	110	1	39	5.37	6.673	2.498	0.23	6.341	0.457
NOS	110	114	93195	13349	21021	2.689	0.23	7.216	0.457
CSR	109	0	10.43	0.9922	2.1944	2.945	0.231	8.098	0.459
LEV	110	0.00199	1.4262	0.0489	0.1897	7.15	0.23	50.787	0.457
ROA	110	0.00732	0.41539	0.0527	0.061	4.606	0.23	23.399	0.457
FMZ	110	19.5825	26.25573	21.787	1.2123	1.062	0.23	2.369	0.457
FAG	110	6	24	16	3.697	-0.444	0.23	1.089	0.457
LQT	110	0.19401	0.76587	0.4695	0.1365	0.484	0.23	-0.701	0.457

This finding indicates that board independence has gained significance among Ghana's publicly traded companies. However, out of about 13,349 shareholders, just five are institutional or block holders owning more than 5% of company's shares. The normality test (skewness and kurtosis) demonstrates that none of the predictive variables are normally distributed, therefore justifying the employment of a non-parametric

test to determine the correlation between the variables (Boateng, Tawiah & Tackie, 2022). In this respect, the spearman (Rho) correlation was employed to test and measure the strength of association between the study variables to allay the fear of multicollinearity.

4.2 Correlation Analysis of the Study variables

Using the Spearman's rho correlation analysis, this segment shows the data and discusses the findings. Thus, the type of link between the level of voluntary disclosure and its corresponding variables could be accurately identified. Table 2 below, shows the Spearman's rho correlation matrix. The sample consists of 110 firm-year observations.

Table 2 . Spearman's rho Correlations Matrix on Voluntary disclosure determinants

	Variable(s)	VDIC	BDZ	NED	ADT	IOW	NOS	LEV	ROA	FMZ	FAG	LQT	CSR
Spearman's rho	VDIC	1.00											
	BDZ	0.40	1.00										
	NED	0.37	0.51	1.00									
	ADT	0.73	0.50	0.62	1.00								
	IOW	-0.10	0.04	0.06	-0.12	1.00							
	NOS	0.48	0.40	0.68	0.58	0.15	1.00						
	LEV	0.15	0.03	0.18	0.16	0.02	0.15	1.00					
	ROA	0.15	0.18	0.00	0.04	0.01	-0.06	0.01	1.00				
	FMZ	0.25	0.25	0.09	0.25	-0.17	-0.06	0.04	0.23	1.00			
	FAG	0.28	0.16	-0.01	0.24	-0.20	-0.17	0.02	0.21	0.96	1.00		
	LQT	-0.32	-0.04	-0.27	-0.26	-0.08	-0.22	-0.30	-0.17	0.18	0.19	1.00	
	CSR	0.39	0.32	0.62	0.41	0.10	0.60	0.12	-0.08	-0.25	-0.34	-0.48	1.00

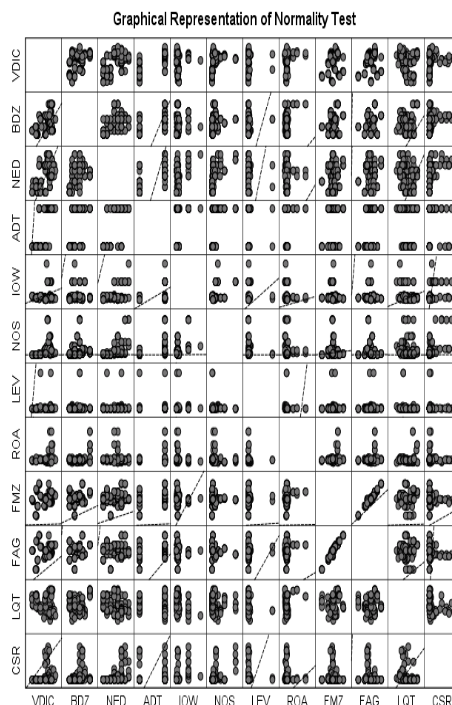


Fig. 1 Monotonic Relationship Between the Determinants of Voluntary Disclosure

Fig.1 illustrates a monotonic relationship between the study variables, which justifies the use of spearman's rho rank correlation to quantify the strength of association between the determinants of voluntary disclosures as this investigation progresses. For example, the above correlation matrix shows

the relationship of voluntary disclosure with board size, audit type, board independence, institutional ownership and CSR. Board size and CSR shows a positive relationship of 3.2% where as audit type and institutional ownership displays a negatively correlated value of 1.2%. A positive spearman's correlation coefficient corresponds to an increasing monotonic rather than linear trend between the study variables and vice-versa.

4.3 Stochastic Dominance Test

In assessing whether a statistically significance difference exists among the sampled firms with regards to disclosing information voluntarily, the Kruskal-Wallis H -test (named after William Kruskal and W. Allen Wallis) was employed. This test is the nonparametric equivalent of the one-way ANOVA and is typically used when the normality assumption is violated. The H-test was used to test whether disclosure differences exist within or among the drawn sampled firms. A significant Kruskal -Wallis (H-test) indicates at least one sample stochastically dominates other samples.

The test statistic for the Kruskal Wallis test is denoted H and is defined as follows:

$$H = \left(\frac{12}{N(N+1)} \sum_{j=1}^{k} \frac{{R_j}^2}{n_j} \right) - 3\,(N+1)$$

where k=the number of comparison groups, N= the total sample size, n_j is the sample size in the jth group and R_j is the sum of the ranks in the jth group.

As shown in table 3(a) and (3b) below, depict the results of Kruskal-Wallis H test performed to satisfy the study's quest of knowing whether statistically significant difference exist among listed firms with respect to voluntary disclosures. Indications are that statistically significant difference exist with X^2=103.939; P=0.0000, N=110. Hence the rejection of the null hypothesis that no difference exists in voluntary disclosure among listed firms in Ghana. In support of this point of view, Fig.2 depict the disperse nature of voluntary information disclosure among listed firms in Ghana.

Table 3(a). Independent Sample Kruskal-Wallis Test

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
Non-parametric test (1)	The distribution of VDIC is the same across categories of Firms.	Independent-Samples Kruskal-Wallis Test	0.000	Reject the null hypothesis.

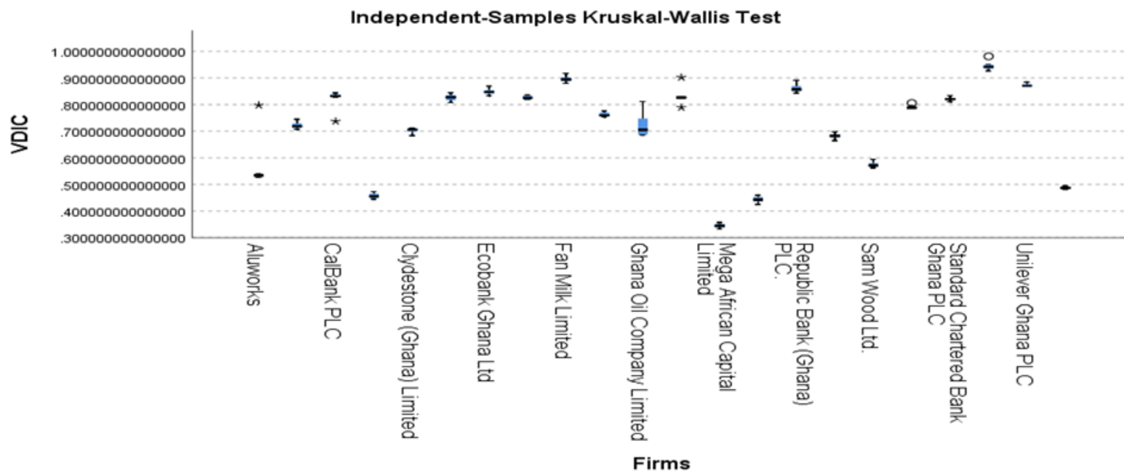
Asymptotic significances are displayed. The significance level is .050.

Table 3(b). Voluntary Disclosure Across Firms

Independent-Samples Kruskal-Wallis Test Summary	
Total N	110
Test Statistic	103.939[a]
Degree of Freedom	21
Asymptotic Sig. (2-sided test)	0.000

a. The test statistic is adjusted for ties.

Fig. 2. Graphical Representation of Voluntary Disclosures across firms in Ghana



4.4 GMM Regression Results

The regression coefficients in the dynamic panel model were estimated using the two-step system GMM estimator. According to table (4), the Arellano-Bond; AR2 (P-value=0.895) test statistic, which is not significant at, even 10% significance level, support the null hypothesis that no serial correlation exists in the error term. Further, the number of groups (22 firms) equals the number of valid instruments used (i.e. IV=22), fulfilling one of the fundamental requirements of two-step system GMM application. Furthermore, the p-value of the Hansen-test (p-value=0.456) indicates that the instruments used in this study are valid and reliable, which is supported by the test-statistic of the difference-in-Hansen test of exogeneity score of 0.467. The significance of these two tests (Hansen test and difference-in-Hansen test indicate to the fact that the instruments employed for this study worked in tandem with system GMM, the level's equation, and the error term, confirming the validity of the dynamic panel specification for this critical duty. The determinant results, as shown in table (4), reveal the significance of the lagged dependent variable with a (p-value=0.004 < 0.05). Furthermore, audit type, board size, and CSR have been demonstrated to have a considerable favorable impact on voluntary disclosure in Ghana.This is consistent with prior research by Boateng et .al (2022), Abubakar et .al (2021), Mansulu and Anafi (2019), Habbash et al (2016) and Albitar et al. (2020) who found a favorable link between audit type, board size, CSR and voluntary disclosure level in their respective studies. Thus, among listed corporations, a rise in board size and the engagement of big4 audit firms boosts voluntary disclosure by 0.7 percent and 7.4 percent, respectively. In terms of institutional ownership, the findings of this study supplement the findings of Gyamerah and Adjei (2016), who discovered a negative link. In other words, increasing institutional ownership reduces voluntary disclosure by 0.2 percent. This conclusion, however, contradicts Mansulu's(2021) findings, which revealed a favorable link between institutional ownership and voluntary disclosure.

Table 4. Determinants of Voluntary disclosures in Ghana

variable(s)	Regression Model(s)							
	OSL Model		FE MODEL		RE MODEL		D. System GMM	
	Coef	*P-val*	*Coef*	*P-val*	*Coef*	*P-val*	*Coef*	*P-val*
Lagged Variable t_1	-	-	-	-	-	-	0.609***	0.004
ADT	0.185	0.000	0.189	0.000	0.053	0.062	0.074**	0.049
BDZ	0.007	0.209	0.007	0.235	0.008	0.247	0.007**	0.036
CSR	0.007	0.256	0.008	0.208	0.002	0.585	0.005**	0.034
FAG	0.012	0.293	0.011	0.310	0.044	0.000	0.009*	0.094
IOW	-0.003	0.064	-0.003	0.059	-0.004	0.010	-0.002**	0.008
LEV	0.042	0.374	0.049	0.316	-0.007	0.669	0.0006	0.917
LogFMZ	-0.138	0.328	-0.134	0.346	-0.53	0.000	0.0962	0.129
LogNOS	0.054	0.000	0.054	0.000	0.05	0.000	0.018	0.198
LQT	-0.225	0.004	-0.236	0.003	-0.009	0.837	-0.124	0.149
NED	-0.026	0.003	-0.027	0.002	0.001	0.818	-0.009	0.166
ROA	0.258	0.127	0.287	0.102	0.002	0.976	-0.021	0.559
C	0.963	0.126	0.956	0.132	2.621	0.000	0.562	0.007
R-Squared	0.730							
F-Statistics		0.000		0.001		0.000		0.000
No. of firms(groups)	22		22		22		22	
No. of Observations	110		110		110		88	
Hausman Test						0.000		
No. of Valid instruments							22	
Hansen-J P-Value								0.458
Arellano-Bond Test: AR (2)								0.895
Difference in Hansen test:								
P-value								0.467

*** = 1%, ** = 5% and *= 10% level of significance.

5. Conclusion and Recommendation

Voluntary disclosures boost shareholder and investor confidence. Various factors affect voluntary disclosures, according to the research. This study uses dynamic panel data to analyze voluntary disclosure in Ghanaian corporate annual reports from 2016 to 2020. A dynamic panel regression estimator was used to assess and uncover the underlying factors of disclosure in Ghana across the study period. The study found that voluntary disclosures of publicly traded Ghanaian corporations average 71.9%, but vary substantially between organizations. This implies that Ghanaian firms' executive management openly discloses information, which could lessen information discrepancies and restore investor confidence over

the research period. Despite positive associations between auditor type, CSR, firm age, board size and voluntary disclosure level, institutional ownership has a negative influence.

In terms of policy, the SEC, GSE, and other authorities should do more to enforce reporting criteria for solid corporate governance and corporate social responsibility. In addition, the central government should provide these regulators with appropriate resources to help them in carrying out their supervisory duties to promote excellent corporate governance and sustainable growth in Ghana. Further, corporations could boost their corporate governance processes by hiring one of the four largest auditing firms in an effort to increase the disclosure of crucial financial and non-financial information in order to manage and resolve conflicts between shareholders and their delegates. For the academic community and practitioners, this study would serve as a reference hub from which aspiring scholars and practitioners could extract knowledge. The study does have certain drawbacks. Due to the study's exclusive focus on companies listed on the Ghana Stock Exchange, it is inapplicable to other business environments, such as unlisted corporations, small and medium-sized enterprises (SMEs). Again, the study assumed that annual reports are the sole means of sharing company information, despite the existence of newspapers, press conferences, and press meetings. In addition, the study concentrated on particular criteria as opposed to others that were as relevant, such as foreign ownership, director ownership, board activity intensity, shareholder right and research and development expenditures. Besides, the study's focus is restricted to Ghana. In this spirit, it is proposed that future research analyze unlisted enterprises and SMEs in Ghana, as well as selecting samples from around Africa in order to promote a comparative study on voluntary disclosures across the continent or Sub-Saharan Africa. In addition, variables such as director ownership or research and development expense can be evaluated for their moderating or mediating effect on corporate governance and voluntary disclosures in the foreseeable future.

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