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Corporate board, assurance and sustainability reporting practices: a focus on selected African countries

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Abstract

Purpose – In recent times, stakeholders have called on corporate organizations especially those charged with governance to embrace full disclosure on non-financial issues, especially sustainability reporting. Based on this premise, this study aims to examine the influence of corporate board and assurance on sustainability reporting practices (SRP) of selected 80 firms from 8 countries in sub-Saharan Africa.

Design/methodology/approach – To measure the corporate board, the authors use both board variables and audit committee variables. Also, the authors adapted the sustainability score model as used by previous authors in the field of sustainability disclosure to measure SRPs. The analysis was done using both ordered logistic regression and probit regression models.

Findings – The results show that the combination of board corporate and assurance has a positive and significant impact on the sustainability reporting practice of selected firms in sub-Saharan Africa.

Practical implications – The study places emphasis on the need for strong collaboration between the corporate board and external assurance in evaluating and enhancing the quality of sustainability disclosure.

Originality/value – The study bridged the gap in the literature in the area of corporate board, assurance and SRP of corporate firms which has received little attention within sub-Saharan Africa.

Keywords Assurance, Board size, Corporate board, Stakeholder theory, Sustainability reporting practices

Paper type Research paper

1. Introduction

In recent times, studies have shown the importance of external assurance and corporate boards in enhancing the quality of SRP of corporate organizations (Liao *et al.*, 2016; Alshbili *et al.*, 2019; Maroun, 2019). It is observed that placing assurance on sustainability reports helps in validating their credibility and enhancing stakeholders' confidence. Research on the corporate board explains that the commitment of the corporate board to sustainability issues cannot be undermined especially as it relates to sustainability reporting (Sethi *et al.*, 2017). Indeed, studies have linked sustainability performance to the influence of corporate executives (Dienes *et al.*, 2016; Al-Shaer and Zaman, 2016; Hassan and Guo, 2017). Corporate executives view sustainability issues has a key driver of business value for stakeholders. Therefore, the role of the corporate board has been a major discourse in academic and professional literature and will continue to receive attention due to the evolving issues relating to sustainability, especially in this period of sustainable development goals (Martínez-Ferrero and García-Sánchez, 2017; Sethi *et al.*, 2017). More so, the oversight role of board-level sustainability committees has provided additional governance on sustainability-related information and disclosure.

The concept of sustainability reporting is about meeting stakeholders' needs, especially on issues relating to economic, social and governance (ESG) matters and how sustainability affects business environment. The sustainability of our planet is a growing concern for academics, scientists, governments and citizens, and the 17 Sustainable Development Goals (SDGs) created by the United Nations clearly outline the primary areas that need to be urgently addressed. Businesses must commit to achieving these goals, and one crucial aspect of their responsibility is to "communicate clearly about the results" (Ban Ki-Moon, UN Secretary-General, emphasis added). Erin *et al.* (2021) observed that sustainability reporting that is externally assured is a critical communication tool for demonstrating transparency and also signifies an effective governance mechanism for meeting stakeholders' concerns. Pressures from stakeholders and the demands for more non-financial information have increased rapidly in recent years, and companies are expected to meet these demands. Tilt *et al.* (2021) stated that in Africa, the issue of sustainability reporting should be taken serious due to high levels of greenhouse gas emissions, environmental degradation and climate change issues. In addition, the study of Erin and Bamigboye (2022) reiterated the need for corporate executives and external assurance from independent consultants to add credibility to sustainability reports within the African setting. In response to Tilt *et al.* (2021) and Erin and Bamigboye's (2022) submission, it is important to examine the subject of corporate board, assurance and SRP within the African setting. This serves as a motivation to embark on this study and provides a new contribution to the subject of sustainability reporting from the African perspective.

Social and environmental issues have recently become high on the agenda of policymakers, firms, investors and academics in Africa (Liu *et al.*, 2019; Tilt *et al.*, 2021). The growing impact of climate change, social inequality, biodiversity loss, unemployment rates, fraud, global warming and corporate scandals on business and economic activities in Africa are critical for sustainability issues, especially for corporate entities (Kılıç and Kuzey, 2018). Investors are no longer pleased with traditional and purely commercial activities that ignore social and environmental issues. They are of the opinion that such omission is insufficient and irrelevant in contemporary times where the issues of sustainability and SDGs matters are of importance (Lauwo *et al.*, 2022). Hence, stakeholders are increasingly demanding that organizations include sustainability issues in their reporting activities. Thus, corporate entities are increasingly facing external pressure to pay attention to sustainability issues and be more socially responsible (Aggarwal and Singh, 2019). Furthermore, because stakeholders equally expect corporate entities to communicate how they deal with these non-financial issues, these entities are paying attention to sustainable reporting in the form of reporting initiatives as a means of communicating social, environmental and non-financial issues in general (Liu *et al.*, 2019). Therefore, the study of sustainability reporting becomes critical in sub-Saharan Africa.

Although there are a number of studies that have documented the development of sustainability reporting, the extent of such research in the context of sub-Saharan Africa has been less prominent. The limited research that does exist focuses more on sub-continental nations such as Bangladesh (Momin and Parker, 2013), Nigeria (Erin *et al.*, 2021) and Sri Lanka (Dissanayake *et al.*, 2016). Also, the few studies that examined the quality of sustainability reporting neglected the subject of sustainability assurance (Igwe *et al.*, 2023; Erin *et al.*, 2021). Also, in recent times, there has been a call for more research in the area of non-financial reporting in sub-Saharan Africa (Tilt *et al.*, 2021; Wachira and Mathuva, 2022).

Especially, on issues relating to how governance affects SRP. Our study responds to this call for more research on the subject of SRP in Africa.

The study makes several contributions to sustainability and governance literature. Firstly, our paper is among the first to explore the relationship between corporate board, assurance and SRP in a developing country with a focus on sub-Saharan Africa. This research fills the gap by focusing on the relationship between corporate board, assurance and SRP in Africa. Secondly, the study shows the importance of corporate executives in pushing for SRP within the organizational context. Also, the study highlights the need for placing credibility on sustainability reports through external assurance which improves the quality of non-financial reporting practices in sub-Saharan Africa. Thirdly, the findings from this study bring to fore rich and robust findings on SRP from more institutional settings and environments in sub-Saharan Africa. Lastly, investigating the relationship between assurance and its determinant factors can enhance stakeholders' confidence in sustainability and contribute to improvement in the lives of its citizens (Ullah and Rahman, 2015).

1.1 Context – sub-Saharan Africa

Black Africans predominantly dominate the sub-Saharan African continent. The area is situated south of the Sahara Desert, which is also known as the African continent. More than a billion people live in the 49 independent countries that make up the region (Wachira and Mathuva, 2022). Following the Rio Summit in 1990, environmental consciousness and sustainability took centre stage in Africa. PwC Survey (2016) disclosed a significant increase in sustainability and environmental reporting. This is largely attributed to the increase in government regulation through stock exchanges (PwC Survey, 2016). A number of African countries (Kenya, Ghana, South Africa and Nigeria) use the reporting regulation of the "comply or explain" approach. Arthur *et al.* (2017) observed the related factors associated with the increase in sustainability reporting in Africa such as regulatory demands, firm size, public trust, industry and international market demand. As highlighted by Hassan *et al.* (2020), sustainability reporting research needs to be explored further in sub-Saharan Africa due to weak regulatory structure, troubled political contexts and socio-economic differences.

The study of sustainability reporting has been predominantly dominated in South Africa, this could be due to the fact that all listed firms are required by the Johannesburg Stock Exchange to apply the King III rule to prepare integrated reporting (Maroun, 2017). However, there is less or no research about the influence of South Africa's adoption of integrated reporting on other countries in the region. However, there are few studies on SRP conducted on few countries in Africa such as Nigeria, Kenya, Uganda, Tanzania and Ghana (Lauwo *et al.*, 2022; Arthur *et al.*, 2017; Erin *et al.*, 2021). In all these studies, the role of the corporate board and external assurance is under-researched. Therefore, this study contributes to the extant literature in the area of corporate board, assurance and SRP.

2. Literature review and hypothesis development

2.1 Corporate board and sustainability reporting practices

Corporate governance refers to how companies are governed and how managers are held accountable to the companies' stakeholders (Mustafa *et al.*, 2023). Alshbili *et al.* (2019) suggested that governance takes into account the interests that affect an enterprise's viability, competence and moral character. Moreover, the corporate governance system results from a series of interrelated attributes (Buckley, 2022), all of which are relevant to ensure sound governance. Based on the idea that corporate governance refers to a series of overlapping mechanisms, corporate governance structure influences sustainability disclosure (Erin and Adegboye, 2021). How authority is divided and exerted within organizations is governed by the institutional structure known as corporate board. Power is thus the fundamental concept in corporate board (Zhan and Santos-Paulino, 2021). A system of legal rules known as corporate board defines the organizations that have the power to control the most important business decisions. Additionally, it describes the processes and procedures these groups use to make decisions (Aladwey *et al.*, 2022).

Current research on the corporate board and SRP is based on two theories (agency and stakeholder theory). Stakeholder and agency theories contend that companies must adopt a more sustainable and long-term value perspective because stakeholders are interested in a company's sustainability elements to understand where the company invests and how it does business (Atan *et al.*, 2018). For instance, the conservation of the natural environment, climate change and environmental effects brought on by corporate activity could be among stakeholders' environmental concerns.

According to agency theory, there is a particular link between shareholders and management that is marked by the existence of shared interests (Fama and Jensen, 1983). However, the interests of managers may not always coincide with those of other shareholders (Jensen and Meckling, 1976). As a result, companies give sustainability disclosure to lessen this knowledge imbalance (Erin and Adegboye, 2021). In fact, management's expanded sustainability disclosure, which includes non-financial information, enhances the information on the environment and lowers the information knowledge gap between a company and its shareholders (Buallay and Al-Ajmi, 2020). In addition to establishing non-financial goals for sustainability activities, businesses engage in and report their sustainability practices to take advantage of their strategic and financial advantages (Arayssi *et al.*, 2020). Literature from the past suggests that companies' SRP have positive effects on increasing brand loyalty and reputation, investors' perceptions of risk and performance, lowering cost of capital and maintaining social acceptance, which results in higher sales, revenues and returns (Al-Qahtani and Elgharbawy, 2020; Olojede and Erin, 2021).

According to proponents of the stakeholder theory, the board functions as a body that supports and affirms the right of all stakeholders based on the choices and actions made by the organization. According to proponents of the stakeholder theory, the main goal of a corporate board is to act as a "vehicle for coordinating stakeholder interests" (Evan and Freeman, 1988 cited in Donaldson and Preston, 1995, p. 74). The corporate board establishes platforms where stakeholders can present their arguments, mitigate the impacts of information asymmetry and include a built-in enforcement component to safeguard stakeholders' rights (Donaldson and Preston, 1995).

Therefore, the corporate board is a "balancing act" according to the stakeholder theory model because all stakeholders, including advocacy groups, are thought to have a right to be heard. Thus, the nexus of stakeholder agreement is the connotative definition of "business governance." Stakeholder theory's fundamental premise is that management uses corporate disclosure as a tool to give information to diverse stakeholders (employees, shareholders, investors, public authorities and NGOs). Calabrese and Manello (2021) also claimed that businesses attempt to obtain legitimacy from stakeholders by sharing information about their governance, social and environmental practices. According to this concept, sustainability disclosure is seen as a way to handle and address the varied needs of the many stakeholders, especially those that are thought to be important or influential. An organization's ultimate goal is to show that it lives up to the expectations of its diverse stakeholders (Erin *et al.*, 2016; Chouaibi and Affes, 2021).

2.1.1 Board size and sustainability reporting practices. Board size as described by Arayssi *et al.* (2020) is the number of directors on a board. According to Levit and Malenko (2016), it is more effective because it possesses a wide range of knowledge, skills and capacities to monitor and guide the organization's operations. Corporate transparency is strengthened by a sizable board. This means that big boards have specialists from a variety of specialties, backgrounds, religions and so on, which improves the effectiveness of problem-solving. Various studies have produced conflicting results about the impact of board size on sustainability disclosure. We contend that there is a connection between board size and sustainability disclosure. A larger board would be more diverse and have more diverse viewpoints if there were more directors.

In Olojede *et al.* (2023) study, a large board also seen to be less efficient. Husted and Sousa-Filho (2019) findings were comparable in this regard. The number of directors is influenced by a firm's complexity, which is dependent on its industry and size (Erin and Adegboye, 2021; Haladu and Bin-Nashwan, 2021). Therefore, because their inherited and corporate activities are currently more complex than those of other institutions, complex organizations such as banks, insurance companies and other financial institutions should have a larger board size. The findings of Kumar *et al.* (2022) demonstrate that the company size and board size had no effect on the bank's sustainability policies. Also, the study of Albitar *et al.* (2020) showed an insignificant relationship between board size and sustainability disclosure. The managerial implications show that board size has a big impact on sustainability disclosure. Based on various arguments by different scholars, we stated hypothesis one as:

H1. Board size is positively related to higher-quality sustainability reporting practices.

2.1.2 Board independence and sustainability reporting practices. The proportion of independent directors to all other board members is known as board independence (Arayssi *et al.*, 2020). The independent directors here are referred to as "independent non-executive directors". Increased board independence, in accordance with stakeholder theory, lessens conflict of interest between various stakeholders, pushing management to optimize long-term value and increase the level of transparency. According to agency theory, independent directors help ensure that board procedures are effectively monitored because they can make more objective assessments of management performance (Olojede *et al.*, 2020). The stakeholder theory's proponents contend that businesses with more independent directors typically satisfy their numerous stakeholders by delivering high-quality information (Mazzotta and Ferraro, 2020).

It is predicted that the independent directors will have an impact on how effective the boards are (Albitar *et al.*, 2022). To protect the interests of stakeholders, more independent board members will inspire and urge management to move towards advanced disclosure and openness (Mnif and Borgi, 2020). An alternative perspective was offered by Pucheta-Martínez and Gallego-Álvarez (2020), who stated that the independence of the board of directors does not necessarily translate to quality of sustainability disclosure and Khan *et al.* (2021) concurred with this conclusion. Based on this argument, we put forward that:

H2. Board independence is positively related to high-quality sustainability reporting practices.

2.1.3 Board gender diversity and sustainability reporting practices. Female board members' backgrounds and experience affect their participation in strategic choices that impact stakeholders and sustainability disclosure (Manita *et al.*, 2018). Background, psychological traits and capability all have a significant impact on the business (Kyaw *et al.*, 2017; Uwuigbe *et al.*, 2019). The subgroup analysis conducted on female board diversity shows that having more women on the board improves a company's willingness to disclose sustainability information voluntarily (Lagasio and Cucari, 2019). According to Rouf and Hossan (2020), men are more likely to be described as having agentic traits, whereas women are more often described as having communal traits like as gentle, understanding and supporting.

Women are therefore more interested in the welfare of others. Contrary to their male colleagues, who tend to be more focused on shareholders and economic concerns, these community traits appear to influence female directors to better address stakeholders' interests (Vitolla *et al.*, 2020). Gender diversity promotes a balanced decision because women's thinking differs from men's, according to Bakar *et al.* (2019). Additionally, female directors have different leadership philosophies, are more attentive to employees, the environment and communities, and are more giving when it comes to community issues. They are also more stakeholder-oriented (Al-Shaer and Zaman, 2016). Based on these views, we stated that:

H3. Greater board gender diversity is related to higher-quality sustainability reporting practices.

2.1.4 Board expertise and sustainability reporting practices. Board diligence and expertise encourage managers to uphold the highest standards of honesty, openness and disclosure (Habbash, 2016). Top management intends to increase board knowledge and inform its stakeholders about its sustainability initiatives as part of its business strategy to enhance corporate responsibility and the interaction between business and society (Bamahros *et al.*, 2022; Velte and Stawinoga, 2020). The average age of the board members can be used to measure the business experience of the board committee members; a board with more experienced directors have considerable knowledge in non-financial reporting issues (Anderson *et al.*, 2004). The performance of a firm's sustainability efforts is also strongly and favourably correlated with board member's professional background (Birindelli *et al.*, 2018).

According to Wahid (2019), corporate board members with international experience are more likely to focus more on long-term value-enhancing investments and improve the standard of corporate disclosure. Sandhu and Singh's (2019) study examined the impact of board average age on CSR disclosure and found no appreciable difference. Accordingly, the study suggests that younger board members are more supportive of modern business practices like CSR and sustainability disclosure than older executives. Based on these varied findings, we hypothesized that:

H4. Board with higher expertise lead to higher-quality sustainability reporting practices.

2.1.5 Audit committee size and sustainability reporting practices. The audit committee raises the standard of reporting (Beske *et al.*, 2020) and with an audit committee in place, financial and voluntary disclosure become more effective (Le and Nguyen, 2022). According to Appuhami and Tashakor (2017), audit committee size has positively influenced the level of sustainability disclosures in the context of Australia. In the UK, Al-Shaer and Zaman (2018) looked at the impact of audit committee size on the credibility of sustainability reports. They found that audit committee size had a favourable impact. The study of Al-Najjar (2020) also suggested that audit committee size have a positive impact on sustainability reporting:

H5. Larger audit committee size is related to higher sustainability reporting practices.

2.1.6 Audit committee independence and sustainability reporting practices. Asymmetry in information is reduced by the presence of independent directors on the audit committee, according to the agency theory. Accordingly, few studies suggest that a sizable audit committee with effective and knowledgeable members could be helpful in assessing the manager's performance, particularly in areas pertaining to social and environmental activities, which will improve the quality of CSR disclosure. Independent audit committee members have more autonomy and are not biased when evaluating the performance of organizations (Chebbi and Ammer, 2022). Hence, the more independent the audit committee members, the better the performance (Al-Najjar, 2020).

Additionally, studies demonstrate that audit committees with a higher proportion of independent directors support the credibility and authenticity of reporting, both financial and non-financial. (Braam and Peters, 2018). Also, the findings show that audit committee members' independence had a favourable influence on sustainability disclosure. This shows the ability of audit committee independence for Gulf Cooperation Council-listed banks to fully use governance, CSR and environmental information. As a result, sustainability disclosures are influenced by independent audit committee members (Buallay and Al-Ajmi, 2020):

H6. Greater audit committee independence is related positively to higher-quality sustainability reporting practices.

2.1.7 Audit committee expertise and sustainability reporting practices. According to Marzouk (2016), audit committee members with financial background matters when it comes to sustainability disclosure and reporting. According to Arumona *et al.* (2019), who support this argument, the audit committee educational background has a critical role to play regarding non-financial disclosure. Audit financial experience reflects the calibre of the board members in relation to their age, experience and educational background. According to Miihkinen (2012), dealing with complex difficulties in the sustainability reporting requires more than just professional experience. They discovered that financial education and professional experience have a positive impact on business and corporate strategic decision-making. Psychology research indicates that educational diversity enhances business effectiveness (Olojede *et al.*, 2020). According to Lu *et al.* (2015), corporate executives educational backgrounds have an impact on organizational strategic decisions, which inevitably have an effect on corporate disclosure and performance. As a result, the hypothesis claims that:

H7. Greater audit committee expertise is related positively to higher-quality sustainability reporting practices.

2.1.8 Audit committee meeting and sustainability reporting practices. Aggarwal and Singh (2019) considered the number of meetings as a measurement of the diligence of an audit committee. The effort and diligence of the committee may be affected by how frequently the audit committee meets (Hammami and Hendijani Zadeh, 2020). Audit committee meetings enhance sustainability reporting (Al-Shaer and Zaman, 2018). The likelihood that audit committee members are knowledgeable and actively manage disclosure-related concerns increases with the frequency of audit committee meetings. Directors have time and opportunities to oversee corporate disclosures during audit committee sessions (Karamanou and Vafea, 2005).

The number of audit committee meetings has a positive relationship with non-financial disclosure (Chairiri and Januarti, 2017), prudence in accounting (Sultana *et al.*, 2015) and the scope of auditing (Goodwin-Stewart and Kent, 2006). Al-Shaer and Zaman (2018) examined the impact of audit committee independence, financial expertise, audit committee size and meeting frequency on the reliability of sustainability reports in the UK and provided evidence that these factors are beneficial.

According to Arif *et al.* (2021), audit committee activism (meeting frequency) significantly improves the quality and quantity of sustainability reporting using the Global Reporting

Initiative (GRI) reporting criteria. The frequency of meetings is a key component in the dependability and efficiency of a company's operations and processes (Olojede and Erin, 2021). Also, Kılıç and Kuzey (2019) discovered a positive correlation between voluntary disclosure and meeting frequency. Similarly, Frías-Aceituno *et al.* (2013) demonstrated that meeting frequency significantly improves the quality of sustainability reporting. Therefore, we support the hypothesis that:

H8. Audit committee meeting frequency is positively related to higher-quality sustainability reporting practices.

2.2 Assurance and sustainability reporting practices

There are few studies on assurance and sustainability reporting in literature. The study of Igwe *et al.* (2023) examined the literature review of SRP in Africa, the authors decried low studies on assurance and sustainability reporting in Africa. However, there are other studies in other countries on this study. The study of Elaigwu *et al.* (2022) examined the effect of external assurance on sustainability reporting quality of Malaysian firms. Their conclusion shows that external assurance positively influences the quality of sustainability reporting. Similarly, the study of Braam and Peters (2018) evaluated the role of external assurance on corporate sustainability performance of selected firms in Europe and North-America. The study observed that firms that sustainability reports are externally assured has better corporate sustainability performance than firms without external assurance. Without much ado, it is believed that sustainability reports that are externally assured add credibility to the value of those disclosure; which invariably enhances the confidence of stakeholders.

To further bridge the gap in literature on the emerging themes of assurance and sustainability reporting and disclosure. This study will add to existing discussion on the role of assurance in SRP in an under-investigated environment, that is, corporate firms operating in sub-Saharan Africa. This will further enhance discussion on relationship between sustainability assurance and non-financial reporting practices, especially in this period of environment, social and governance (ESG) and SDG.

3. Research methods

3.1 Design and sample selection

This study examines the effect of corporate board and external assurance on SRP of selected countries in Africa. Being a quantitative study, we used ex post facto research method as the basis of evaluating the study's variables. One of the characteristics of ex post facto research method is the ability to examine the cause-effect relationship between the dependent and independent variables. We believe this research method is more appropriate for this study because influencing the observed variables is unlikely. Also, there are quite a number of studies that used ex post facto research method when examining the relationship between dependent and independent variables in sustainability disclosure studies (Erin *et al.*, 2021; Olojede *et al.*, 2023). This study is based on balanced panel data, the rule of thumb for balanced panel data in the case of number of observation, should 100 observations and above. In our study, we have 800 observations, which qualifies the study to run regression analysis based on balanced panel data (Badi and Baltagi, 2008).

With a stratified sampling method, firms are grouped into different sectors, specifically from six sectors. Thereafter, firms representing each sector are randomly selected. We derive a total sample of 80 firms based on their market capitalization because our sample is chosen from the top 10 firms listed on stock exchanges of the selected countries. Information on sustainability reports is extracted from annual reports and corporate websites of the selected firms. Similarly, data relating to corporate characteristics (board characteristics, audit committee characteristics and other related variables) are collected from companies' annual reports.

We assume that reporting of specific features conveys evidence of the quality of sustainability reporting. These specific features include; a sustainability committee affiliated with the board of directors, which can be viewed as an important control instrument to ensure the consistency of the engagement process with stakeholders and to expand the range of sustainability disclosures (Michelon and Parbonetti, 2012), provision of an independent assurance report can improve the quality of reporting and mitigates the concern of stakeholders and will improve the quality of the reports when an audit professional provides assurance (Al-Shaer and Zaman, 2016; Al-Shaer, 2020).

The study focuses on selected African countries, especially at the firm level of the top 10 companies selected from the eight countries for the periods of 2013–2022. The selection of firms spread through the geographical zones in Africa. In the North African region, we have Morocco and Egypt; while in the West African region, the selected countries are Ghana and Nigeria. In the South African region, we have Botswana and South Africa; while from East Africa, the countries are Uganda and Kenya. We chose the top 10 listed firms because their operations may likely influence those of other businesses, can have a greater impact on the capital market, and can have a greater impact on the economy as a whole. We based our study on geographical zones/areas to ensure fair representation of nations within the African continent. The selected firms are drawn from six major sectors (see Table 2). The descriptive analysis of the distribution of the companies across the eight countries is shown in Appendix 4.

This study examines 80 firms in Africa that have taken steps to change their corporate reporting narratives using non-financial reporting to disclose information relating to sustainability reporting. We investigate 800 annual reports of 10 firms each from 8 African countries from 2013 to 2022 (10 years) by focusing essentially on how firms disclosure issues relating to sustainability reporting (see Table 1). Based on previous studies on sustainability disclosure (Tilt *et al.*, 2021; Bebbington and Unerman, 2018), we gathered pertinent data about SRP of selected firms using content analysis. Required information was sourced from each firm's sustainability reports.

3.2 Variables measurement

3.2.1 Dependent variable

3.2.1.1 Sustainability reporting practices. SRP which is the dependent variable in this study is measured using a scoring scale of 0–4 (see Appendix 1). Following prior studies on

S/N	Geographical zones	Selected country	Abbreviation	Selected firms
1	West Africa Region	Nigeria	NGR	10
2	West Africa Region	Ghana	GHA	10
3	East Africa Region	Uganda	UGA	10
4	East Africa Region	Kenya	KEN	10
5	North Africa Region	Morocco	MOR	10
6	North Africa Region	Egypt	EGY	10
7	Southern Africa Region	Botswana	BOT	10
8	Southern Africa Region	South Africa	SA	10
	Total	8		80

Source: Developed by authors

Table 1. List of selected African countries

sustainability reporting (Al-Shaer and Zaman, 2016; Al-Shaer, 2020), this study uses categorical variables based on the identified benchmark. This benchmark scores 0–4 for assessing the quality of SRP. The scores for the SRP are 0 = no sustainability report exist; 1 = sustainability report exist; 2 = where sustainability report exists and the firm has a sustainability committee affiliated with the board of directors; 3 = sustainability report exist and the non-audit firm provides assurance; 4 = sustainability report exists and assurance is provided by one of the Big 4 or other audit firms. These scores of 0–4 are used to judge the quality of information disclosed in the sustainability reports. We further consider two alternative measures for the SRP for robustness analysis using a dichotomous variable. In this light, we consider the assurance level based on whether sustainability reporting is verified by an audit firm. We also seek to identify if there is a committee linked to high-quality SRP.

3.2.2 Independent variables

3.2.2.1 Corporate board. This study evaluates the connection between corporate board and SRP. As discussed in the literature review, we measured corporate board using both the board and audit committee attributes. The variables for board include board size (measure by numbers of directors on the board) (Olayinka *et al.*, 2019), board independence (measured by the proportion of independent directors to the board) (Erin *et al.*, 2021), board gender diversity (measured by the proportion of female directors to the board) (Gulko *et al.*, 2017) and board experience (measured by the number of years of committee service) (that is, committee members with five years of experience and above) (Arumona *et al.*, 2019).

We also use audit committee as measurement for corporate board, this is in line with previous corporate governance studies (Appuhami and Tashakor, 2017; Adegboye *et al.*, 2022). We measure audit committee using (i) audit committee size (measure by numbers of directors in the committee) (Olojede and Erin, 2021); audit committee independence (measured by the proportion of independent directors in the committee) (Buallay and Al-Ajmi, 2020); audit committee meeting (measured by the number of audit committee members meet in a year (Haji and Anifowose, 2016) (see Appendix 2 for operationalization of variables).

3.2.2.2 Control variables. To control for other variables, we use four conditioning information sets based on prior studies that have examined sustainability disclosure studies. The sustainability disclosure procedures may be impacted by behavioural characteristics. We take into account (i) firm age (that is, the number of years the firm has been listed on the stock exchange); (ii) leverage (i.e. long-term debt divided by the book value of the equity) (Chairiri and Januarti, 2017); (iii) firm size (the natural logarithm of total assets) (Haji and Anifowose, 2016) and (iv) industry type (we use the industry codes to proxy the industry type).

Table 2. List of sampled sectors

S/N	Sector	Abbreviation	Total no.
1	Financials	FIN	24
2	Consumer goods	CG	18
3	Telecommunication	TEL	10
4	Industrial goods	IG	14
5	Oil and gas	OG	8
6	Health care	HLT	6
	Total		80

Source: Compiled by authors

3.3 Research model and method of data analysis

In light of the high-quality SRP measurement as earlier mentioned, it is necessary to note that when ordinary least square is used with the categorical or binary variable, they can be used to describe the linear probability model. However, the residuals (i.e. errors) from the linear probability model violate the homoskedasticity and the normality of errors assumptions of ordinary least regression that could result in invalid standard errors and hypothesis testing (Long, 1997, p. 38).

Therefore, this study uses the ordered logistic regression model to estimate relationships between an ordinal dependent variable and a set of independent variables. We adopt a five-scale ordinal variable to indicate the quality of SRP (i.e. "Poor", "Low", "Average", "Above-Average" and "Excellent"), which indicate the quality level of SRP. For robustness analysis, we then use probit analysis.

To test the formulated hypotheses, we use the following model.

Model 1 (board attributes and sustainability reporting practices):

$$SRP = f(BSIZE, BINDP, BGDIV, BEXP, FSIZE, FAGE, LEV, IND) \quad (1)$$

$$SRP_{it} = \beta_0 + \beta_1 BSIZE_{it} + \beta_2 BINDP_{it} + \beta_3 BGDIV_{it} + \beta_4 BEXP_{it} + \beta_5 FSIZE_{it} + \beta_6 FAGE_{it} + \beta_7 LEV_{it} + \beta_8 IND_{it} + \mu_{it} \quad (2)$$

Where:

SRP = sustainability reporting practices;
BSIZE = represents board size;
BINDP = represents board independence;
BDGDIV = represents board gender diversity;
BEXP = represents board expertise;
LEV = represents leverage;
IND = represents industry;
FSIZE = represents firm size;
FAGE = represents firm age;
i = representing the number of firms used in the study; and;
t = signifies the number of years selected for the study (2013–2022).

Model 2 (audit committee attributes and sustainability reporting practices):

$$SRP = f(ACSIZE, ACINDP, ACEXP, ACMEET, FSIZE, FAGE, LEV, IND) \quad (3)$$

$$SRP_{it} = \beta_0 + \beta_1 ACSIZE_{it} + \beta_2 ACINDP_{it} + \beta_3 ACEXP_{it} + \beta_4 ACMEET_{it} + \beta_5 FSIZE_{it} + \beta_6 FAGE_{it} + \beta_7 LEV_{it} + \beta_8 IND_{it} + \mu_{it} \quad (4)$$

Where:

SRP = sustainability reporting practices;
ACSIZE = audit committee size;
ACINDP = represents audit committee independence;
ACEXP = represents audit committee expertise;
ACMEET = represents audit committee meeting;
i = representing the number of firms used in the study; and
t = signifies the number of years selected for the study (2013–2022).

In this study, the dependent variable was analysed using the ordered probit regression. An ordinal dependent variable and set of independent variables are analysed using an ordered probit model. A variable that is categorical and ordered is called an ordinal variable. Examples include the terms "Poor," "Low," "Average," "Above-Average" and "Excellent," which describe the level of SRP used in this study (see Appendix 1). This estimation approach is suitable given the aforementioned range of 0–4 for this study's dependent variable.

Additionally, we use the logistic regression method to analyse how well ASSURANCE and sustainability reporting procedures work together. Also, to analyse ASSURANCE as a mediating variable, we use a dummy variable set, we attached one (1) if sustainability reports are externally assured and zero (0) if otherwise. We used the variance inflation factor (VIF) to account for correlated variables (see Appendix 3). When explanatory variables in a regression model are correlated, a multi-collinearity problem emerges. Fitting the model and interpreting the findings may be challenging when there is a high amount of correlation between the variables (Creswell, 2014). Regression model collinearity is evaluated using the multicollinearity test. The VIF is used to accomplish this.

4. Results and discussion

Table 3 shows the summary statistics of the selected variables, including the percentage distribution of the SRP. The percentage frequency of each category that influences the SRP

Scale	0	1	2	3	4
Panel A: Frequency for sustainability reporting practices: categorical variable					
SRP (%)	0 (0.00%)	215 (26.88%)	196 (24.5%)	251 (31.38%)	138 (17.25%)
Panel B: Binary variables					
Assurance (%)	411 (51.38%)	389 (48.62%)	–	–	–
Panel C: Other variables					
Variable	Obs	Mean	SD	Min.	Max.
SRP	800	2.152	0.991	0	4
ASSURANCE	800	0.486	0.316	0	1
BSIZE	800	8.592	1.381	6	15
BINDP	800	4.103	0.723	3	8
BGDIV	800	2.271	0.665	1	4
BEXP	800	9.542	1.336	4	15
ACSIZE	800	7.912	0.964	5	10
ACINDP	800	2.783	0.983	2	5
ACEXP	800	9.975	0.693	4	15
ACMEET	800	3.159	0.091	3	5
FIZE	800	7.191	3.034	4.112	14.748
FAGE	800	78.75	5.104	35	132
LEV	800	0.352	2.771	0.239	0.652
IND	800	5.751	0.437	2	10

Notes: BSIZE defines the size of the board; SRP reflects the sustainability reporting practices (i.e. scale factor 0–4) of the firm in period *t*; BINDP stands for "board independence," "BGDIV" stands for "board gender diversity," "BEXP" stands for "board expertise," "ACSIZE" stands for "audit committee size," "ACINDP" stands for "audit committee independence.", "ACEXP" stands for "audit committee experience", "ACMEET" stands for "audit meeting". "LEV is the firm's leverage" and "FAGE is the firm's age", "FSIZE is for firm size" and "IND is industry type"
Source: Developed by authors

Table 3.
Univariate analysis

is displayed in Panel A. Panel B shows the percentages of firms that externally assured their sustainability reports while Panel C shows the summary statistics of all variables.

Panel A shows that 196 (24.5%) observations have sustainability reports and maintain sustainability committees, compared to 215 (26.88%) observations with sustainability reports but no sustainability committee and 0 (0.00%) observations with no sustainability reports. It means all the selected firms have either standalone sustainability report or sustainability report included in the annual reports. In comparison to the 138 (17.25%) observations that have sustainability reports and assurance from Big 4 or other audit companies, 251 (31.38%) observations have assurance from a non-audit firm. sustainability assurance (ASSURANCE) is an additional metrics to evaluate SRP quality as shown in Panel B.

Panel C of Table 1 displays descriptive statistics for the analysed variables. The SRP has a mean value of 2.152. This suggests that the selected African firms are performing at an average level; it means SRP is at a moderate level. Considering other variables, the BSIZE shows a maximum of 15 directors and a minimum of six directors, the average number for BSIZE falls between 8 and 9. While for BINDP, an average of four independent directors are represented in the board. It indicates that 48% (4.103/8.592) of the board is made up of independent directors. The result of the BINDP shows that most of the selected firms comply with the International Code of Corporate Governance recommendation that at least 25% of the board should be independent directors. This compliance could have accounted for the increase in SRP of these firms. It is clear that the female directors ranges from one to four (BGDIV) on the board with a mean of 2.271, while the average level of board expertise (BEXP) is 9.542. This means on the average, the board members have at least nine years of business and financial experience.

Considering the audit committee variables, the result of audit committee size (ACSIZE) shows that an average of eight members, while audit committee (ACMEET) typically meet at least three times year to discuss issues relating to financial and non-financial disclosure matters. In addition, the result of ACINDP shows an average of three independent directors are represented in the committee. It indicates that 35% (2.783/7.912) of the board is made up of independent directors.

Table 4 provides the summary of the SRP scores for the 10-year period (2013–2022) examined in this study. The average/mean score of the SRP increased from 1.251 in 2013 to 1.469 in 2014. In the same vein, the mean score increased from 1.564 in 2015 to 1.645 in 2016. Similarly, an increase from 2021 (2.746) to 2022 (2.852). The overall mean for the 10-year period stands at 2.152 (see Table 3). This upward trend in the SRP demonstrates positive steps shown by African firms towards compliance with sustainability disclosure. However, there is still a need to do more to comply fully with sustainability reporting and disclosure.

Table 5 shows the correlation coefficients of the variables in question. As observed, the BSIZE is positively related to SRP. The same is observed for other explanatory and control variables except for firm size which shows a positive but not significant. The positive

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Max	4	4	4	4	4	4	4	4	4	4
Min.	1	1	1	1	1	1	1	1	1	1
Mean	1.251	1.469	1.564	1.645	1.862	1.751	2.646	2.647	2.746	2.852
SD	2.62	0.31	1.71	2.81	1.35	1.61	1.42	2.51	3.61	3.81

Source: Developed by authors

Table 4. Descriptive summary for SRP scores (2013–2022)

Table 5.
Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SRP	1												
2. BSIZE	0.337***	1											
3. BRCINDP	0.239***	0.443***	1										
4. BGDIV	0.219***	0.151***	0.145***	1									
5. BEXP	0.214***	0.425***	0.341***	0.065	1								
6. ACSIZE	0.441***	0.346***	0.289***	0.224***	0.300***	1							
7. ACINDP	0.470***	0.233***	0.213***	0.177***	0.271***	0.959***	1						
8. ACEXP	0.220***	0.345***	0.460***	0.147***	0.298***	0.278***	0.233***	1					
9. ACMEET	0.077*	−0.130***	0.0148	0.052	−0.0745*	0.0546	0.0308	0.0225	1				
10. FSIZE	0.0495	0.117**	0.0344	0.147***	0.056	−0.0461	−0.121**	0.00721	0.176***	1			
11. FAGE	0.2331**	0.099**	−0.0809*	0.0105	0.105**	0.123***	0.168***	−0.0648	0.0262	−0.0262	1		
12. LEV	0.378**	0.128***	0.2129	0.062**	0.052***	0.286**	0.124*	0.242**	−0.2423	0.121*	0.0541	1	
13. IND	0.156***	0.034**	0.168***	0.132**	0.092**	0.156**	0.057*	0.347**	0.3821	0.081**	0.171*	0.162**	1

Notes: ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$
Source: Developed by authors

relationship between BSIZE and SRP suggests that board size has positive influence on the SRP. Also, the result documents a positive association between BINDP, BGDIV and SRP. This implies that effective and strong board have direct impact on SRP; this means board member are making management accountable with respect to disclose issues relating to sustainability. All the audit committee variables show a positive correlation with SRP. Overall, the variables used to measure corporate board have a positive relationship with SRP. It is also established that there is no multicollinearity issue because no variable is greater than the benchmark of 0.5.

4.1 Baseline findings

The findings from the empirical analysis are presented in this section. The relationship between corporate board and SRP is reported in Table 6. Importantly, Panels A and B are included on each table. Six specifications are presented in Panel A, with columns 1–3 reporting findings without control variables and columns 4–6 presenting estimates with control variables for robustness testing. Estimates in Panel A could be interpreted in terms of the sign of the coefficients based on the properties of the variables used and the regression specification models. While Panel B calculates the marginal effect. The direction of the coefficients and the marginal effects at the mean, which gauge the likelihood that SRP would be of higher or lower quality based on elements of corporate board, which allow us to simply comprehend the results.

In this context, we establish the baseline coefficient in Table 6 Panel A as follows [1]. The result shows BSIZE (0.3222***) has significant impact on the SRP of selected African firms. Similarly, (BINDP) (0.5421**) and (BGDIV) (0.4242**) have significant impact on SRP. In the same vein, BEXP (0.4523**) and ACSIZE (0.7071***) do have significant influence on the SRP. All other variables have positive and significant on SRP except firm age (FAGE) which has a positive but not significant impact on SRP.

The marginal effects at mean for the overall model are reported in Panel B of Table 6. An increase in board size (BSIZE) is linked to a 28% (0.2821**) increase in the SRP while for (BINDP), there is a likelihood increase of 52% (0.5239***) on SRP. An increase in the proportion of female directors (BGDIV) is associated with an increase of 45% (0.4569*) of SRP while BEXP shows an excellent SRP of 34% (0.3429**). The audit committee size (ACSIZE) has an excellent SRP of 5% (0.051*). Three of the control variables (FAGE, LEV and IND) have a significant impact on SRP.

In conclusion, this study considers eight hypotheses of how the corporate board influences SRP. As a result, we attempt to establish a theoretical justification for the relationship between corporate board and SRP by drawing on agency and stakeholder theory. The first study hypothesis focuses on the relationship between the SRP and the size of the board (BSIZE). The findings show a significant relationship between board size and SRP. Thus, we accept the first hypothesis (*H1*). The outcome is in line with earlier research on sustainability disclosure literature (Chau and Gray, 2010; Stein and Wiedemann, 2018). This demonstrates how a strong board can enhance the quality of disclosures. This conclusion supports the notion that an effective board can persuade management to disclose pertinent sustainable information (Erin *et al.*, 2016; Gontarek, 2016). These literature suggests that companies need to strengthen their internal board mechanisms and structures. This is because, firms' sustainability performance is influenced by their governance structures, systems and processes. In that regard, corporate boards are positioned as the main mechanisms that may ensure that corporate institutions can deliver sustainable progress.

H2 focuses on the relationship between the independence of the board (BINDP) and SRP. The outcomes show that there is significant relationship between SRP and board

Table 6. Corporate board and sustainability reporting practices – order logistics regression

	1	2	3	4	5	6
Panel A: Model coefficients – baseline regression						
BSIZE	0.532*** (0.107)	–	0.8622*** (0.138)	0.8622*** (0.108)	–	0.3222*** (0.141)
BINDP	0.642*** (0.109)	–	0.421** (0.499)	0.152*** (0.111)	–	0.5421** (0.504)
BGDIV	0.272*** (0.117)	–	0.5272** (0.116)	0.853*** (0.112)	–	0.4242** (0.118)
BEXP	−0.279*** (0.102)	–	−0.318** (0.124)	−0.283*** (0.103)	–	0.4523** (0.124)
ACSIZE	–	3.108*** (0.338)	2.596*** (0.403)	–	3.146*** (0.353)	0.7071*** (0.416)
ACINDP	–	−1.752*** (0.315)	−1.292*** (0.375)	–	−1.778*** (0.328)	0.3843*** (0.391)
ACEXP	–	0.172 (0.114)	0.823* (0.499)	–	0.203* (0.112)	0.8353** (0.503)
ACMEET	–	–	–	1.720* (0.822)	1.962*** (0.853)	0.7221** (0.875)
FSIZE	–	–	–	1.952** (2.221)	1.852*** (2.372)	6.8343** (2.389)
FAGE	–	–	–	1.862 (0.691)	2.611 (0.735)	0.8232 (0.747)
LEV	–	–	–	0.672*** (1.861)	0.052** (2.642)	0.4531** (3.743)
IND	–	–	–	0.132* (2.852)	0.5312 (0.321)	0.4222*** (1.5312)
Observations	800	800	800	800	800	800
Pseudo R-squared	0.097	0.322	0.0232	0.2517	0.0012	0.1622
chi-squared	119.1	294.9	316.5	121.1	305.3	322.5
Prob > chi2	0	0	0	0	0	0
Panel B: Categorical outcome model marginal effects (dy/dx)						
				Categorical variable outcomes		
		Poor = 0	Low = 1	Average = 2	Above- Average = 3	Excellent = 4
BSIZE		0.003** (0.013)	0.032*** (0.022)	0.1175*** (0.034)	0.052** (0.001)	0.2821** (0.0004)
BINDP		0.0141** (0.049)	0.7233*** (0.077)	0.3393* (0.121)	0.7231** (0.003)	0.5239*** (0.001)
BGDIV		0.407** (0.011)	0.053** (0.018)	0.0352** (0.028)	0.012** (0.001)	0.4569* (0.0003)
BEXP		0.028** (0.012)	0.043** (0.019)	−0.069** (0.037)	−0.002** (0.001)	0.3429** (0.0003)
ACSIZE		−0.263*** (0.042)	0.412*** (0.073)	0.650*** (0.1020	0.019*** (0.005)	0.051** (0.002)
ACINDP		0.134*** (0.038)	0.210*** (0.062)	−0.332*** (0.094)	−0.010*** (0.003)	0.1222* (0.001)
ACEXP		−0.081* (0.049)	−0.127 (0.077)	0.200* (0.121)	0.006 (0.004)	0.322** (0.001)
ACMEET		0.205** (0.085)	0.321** (0.136)	−0.506** (0.218)	−0.015* (0.007)	0.004** (0.002)
FSIZE		−0.132 (0.233)	−0.206 (0.363)	0.326 (0.574)	0.009 (0.017)	0.002 (0.004)
FAGE		1.2722** (0.072)	0.812* (0.113)	0.0521 (0.179)	0.2712 (0.005)	0.3152** (0.001)
LEV	–	–	–	0.028*** (3.832)	0.282** (1.842)	0.042** (2.211)
IND	–	–	–	0.272** (1.723)	0.2621* (1.123)	0.622*** (2.961)
Observations		800	800	800	800	800

Notes: Standard errors in parentheses; ***$p < 0.01$; **$p < 0.05$; *$p < 0.1$
Source: Developed by authors

independence. Hence, we accept the second hypothesis (*H2*). While most studies (Stein and Wiedemann, 2018; Olayinka *et al.*, 2019) hold that an independent board has a beneficial impact on company disclosures, the conclusion is consistent with studies of García-Sánchez *et al.* (2022). The study of García-Sánchez *et al.* (2022) opine that robust presence of independent outside directors is able to reduce agency conflicts, by intensifying monitoring of managers on their social and environmental strategic policy and investment, which can have a positive effect on firms' sustainability performance. In the same manner, stakeholder theory indicates that an independent board is associated with diversity in skills, expertise, experience and stakeholders which may address the conflict between the varied stakeholders' group interests and thereby help maintain the balance between the financial and non-financial objectives of companies.

The third research hypothesis investigates the association between SRP and the gender diversity of the board (BGDIV). The findings show a strong correlation between SRP and board gender diversity. This result is congruent with earlier research of Jabbour and Abdel-Kader (2015). The third hypothesis (*H3*) is thus accepted. Literature on agency theory indicates that increasing the proportion of women directors is a vital internal board mechanism that is often linked to the promotion of board effectiveness which controls management opportunistic interests. Also, from the stakeholder perspective, Erin *et al.* (2021) argued that females are oriented towards social issues as compared to men. Therefore, more females on the board can drive board members towards developing effective stakeholder management via meeting a broader range of sustainability performance activities. Furthermore, the analysis of board expertise has a significant influence on SRP. This means that when it comes to disclosing relevant information about sustainability reports, the board's financial experience is important. This finding add to previous research on the impact of board experience and education on non-financial reporting practices (Lu *et al.*, 2015; Arumona *et al.*, 2019). Hence, the fourth research hypothesis (*H4*) is accepted.

The fifth hypothesis deals with the relationship between the audit committee size and SRP. The findings reveal a robust relationship between audit committee size and SRP. This highlights the significance of audit committee size in the overall process of sustainability disclosure. This supports the claims of (Erin *et al.*, 2021; Olojede *et al.*, 2023) that audit committee size plays a crucial role in determining the credibility and transparency of sustainability disclosures. Therefore, the fifth hypothesis (*H5*) is accepted. The link between audit committee independence and SRP is predicted by the sixth research hypothesis (*H6*). The results of the audit committee independence demonstrate that independent members of the audit committee could actively participate in issues related to business operations, such as sustainability and reporting. As a result, audit independence is likely to influence high-quality disclosure. This finding confirms previous research on the function of the audit independence in relation to sustainability disclosure as concluded by Arumona *et al.* (2019) and Adams (2017). Therefore, the sixth hypothesis (*H6*) is accepted. The study of Adams (2017) indicates that audit committee independence has the power to realize the full potential of governance and reporting. This means that independent audit committee members have influence over sustainability disclosures.

The seventh hypothesis (*H7*) considers the association between audit committee expertise and SRP. It is accepted audit committee members with financial and business experience would contribute positively to both financial and non-financial reporting practices of any organization. Therefore, the seventh hypothesis (*H7*) is accepted. Lastly, the eighth hypothesis considers the relationship between audit committee meeting and SRP. The findings show a positive relationship, this implies that audit committee effectiveness demonstrates that members of the audit committee actively participate in issues related to business operations, such as non-financial reporting disclosures. As a result, regular audit committee meetings will probably lead to high-quality sustainability disclosure because there will be more opportunities for them to discuss non-reporting-related issues. This finding confirms the research of other scholars (Arumona *et al.*, 2019; Adams, 2017). The eight hypothesis (*H8*) is therefore accepted.

The results above have significant implications for business reporting going forward, especially for non-financial reporting disclosures. A quick look at both the corporate board attributes and audit committee attributes reveals that they have a considerable impact on the SRP of selected African firms. Our results support the hypotheses that corporate board have impact on SRP. Particularly, the findings demonstrate that both internal and external factors contribute to SRP. In analysing the results, our findings also align with the agency and stakeholder theories. It is acceptable for firms to share important sustainability information about their corporate operations and strategies because they are constrained by social contracts within their environment. However, for this to happen, it is necessary to disclose sustainability reports and information. Additionally, to assess the credibility of sustainability disclosure, the role of stakeholders (regulatory agencies, executive management, staff, NGOs, investors and the external environment) is necessary in this regard (Deegan, 2007).

Stakeholder theory accentuates an organization's accountability and the rights of stakeholders (Olojede *et al.*, 2023). SRP aims to enhance accountability and stewardship (IIRC, 2021). Management is required by the stakeholder theory to report information to stakeholders. Sustainability reporting recognizes the importance of reporting on more than just financial information and encourages a long-term sustainable orientation that will benefit corporations and stakeholders (De Villiers *et al.*, 2017). Martínez-Ferrero and García-Sánchez (2017) confirmed that sustainability information is a response to stakeholder pressure and that companies tend to be more proactive in their decision to provide assurance to all stakeholders.

Stakeholder theory deals with the relationship between an organization and its stakeholders. This made it more suitable for this study because it addresses how corporate entities demonstrate their commitment and loyalty to various stakeholders. Management of these entities is required to report information to stakeholders. Stakeholder theory is considered more relevant to this study than the other theories because it addresses the concerns of all parties that have direct and indirect interests in corporate organizations. Companies sensitize and activate their stakeholders' responsiveness through "Accounting for Sustainability and Stakeholders", which goes beyond passive forms of accounting. To do so, corporate board use their influence by way of reporting mechanism (sustainability reporting) to sensitize stakeholders for sustainability in general as well as their connections to specific aspects of sustainability in particular. Considering the stakeholder theory perspective, stakeholders also share central interests with regards to corporate reporting. All stakeholders can be expected to be interested in whether and how a company is able to create value, which types of value it chooses to create, for whom it creates value and whether it has the ability to prevent the destruction of value.

This study's contributions are premised on both agency and stakeholder theorization. Precisely, agency theory suggests that good governance structures, comprising larger board size, independent and diverse boards, frequent meetings and longer board tenure can enhance managerial monitoring and subsequently influence managerial decision-making particularly regarding sustainability reporting mechanism. In the same vein, the stakeholder theory predicts that demonstrating accountability through the above board mechanisms, while enhancing commitment to environmental and social practices, can balance the conflicting demand of diverse stakeholders.

In conclusion, our findings show that corporate board variables have a considerable impact on SRP of selected firms in Africa. According to Gray *et al.* (2014), business entities disclose sustainable information in compliance with societal expectations. Additionally, this study supports the stakeholder theory because assurance and internal factors (board and committee attributes) are both subsets of stakeholders that have an impact on SRP. By focusing on an African setting, our study broadens the body of research on the topic of SRP and corporate board in developing nations. Overall, our findings show that African firms' SRP has improved as a result of the strong corporate board. Businesses participate in quality disclosure in compliance to expectations of stakeholders and society. This work adds to the body of knowledge on corporate board, assurance and SRP in developing countries with a focus on African firms.

We use ASSURANCE, as a dummy variable with a value of 1 if sustainability reports are externally assured and 0 otherwise. Table 7 shows the outcomes of assurance and sustainability reporting validated by independent experts. The outcomes are just marginally different from the established baseline findings in Table 6. Table 7 shows that companies with larger boards (BRCSIZE) are more likely to have higher-quality sustainability disclosures thanks to assurances from independent and external professionals. Similarly, board sustainability committee members with financial experience (BRCEXP) also have higher-quality sustainability disclosures according to the report verified by external professionals.

The results in Table 7 support the role of external assurance as a driver of SRP. This implies that regulation by itself is insufficient to raise the quality of sustainability reporting. External verification of sustainability report is necessary to support regulators efforts given the current debate among policymakers, standard-setters and other stakeholders over what influences the quality of sustainability reporting. Although, assurance may not be necessary, it could be a tool for boosting stakeholders' confidence. Al-Shaer (2020), in particular, thinks that external validation of corporate disclosure, such as sustainability reporting, enhances organizational legitimacy among larger stakeholders.

The findings of this study emphasize the importance of the corporate board *vis-à-vis* its impact on SRP. Our findings further highlight the need for external assurance in ensuring the quality of sustainability reports by firms. External auditors must independently certify sustainability reports for them to be credible and reliable. The study's overall findings reveal that the selected African firms have showed commitment to sustainability disclosure. Regulatory agencies, policymakers and standard setters must also advocate for an effective corporate board to promote sustainability disclosure in corporate annual reports.

4.2 Robustness check

In Table 8, we exclude the financial companies because they are sensitive firms and operate under a stricter regulatory regime. We then provide a robust analysis of non-financial firms, so as to know whether the results could have an effect on the overall findings. Table 8 Panel A shows the baseline regression. The result shows that BSIZE (0.5632***) has significant impact on SRP. Similarly, (BINDP) (0.339**) and (BGDIV (0.235**) have significant impact on SRP. In the same vein, BEXP (0.138***) and ACSIZE (0.463**) do have significant influence on SRP. Almost all the control variables have significant impact on SRP with the exception of firm age (FAGE). This result suggests that firms operating in the non-financial services industry have taken the issue of sustainability disclosure with all the seriousness it deserves.

Also, examining the marginal effects of Panel B in Table 8, the results show that almost all the variables have significant impact on SRP. The board size (BSIZE) shows a 12% (0.1272**) increase in the quality of sustainability disclosure, while for (BINDP), there is a likelihood increase of 19% (0.189***) for high sustainability disclosure. An increase in the

Table 7. Assurance and sustainability reporting practices – probit regression

	1	2	3	4	5	6
Panel A: Binary outcome model coefficients – baseline regression						
BSIZE	0.353*** (0.0968)	–	1.032*** (0.211)	0.370*** (0.118)	–	0.966*** (0.241)
BINDP	0.00186 (0.162)	–	−1.756 (4.389)	0.0817 (0.175)	–	1.724 (5.888)
BGDIV	0.229 (0.148)	–	0.183 (0.216)	0.302* (0.162)	–	0.224** (0.236)
BEXP	−0.172* (0.0946)	–	−0.878*** (0.189)	−0.223** (0.101)	–	0.928*** (0.214)
ACSIZE	–	−3.101 (3.48)	−4.105 (3.221)	–	−2.744 (4.61)	0.943*** (4.611)
ACINDP	–	3.982 −348	5.102 −315.2	–	3.742 −413.6	5.116*** −448.6
ACEXP	–	−0.0187 (0.205)	1.426 (470.3)	–	0.0366 (0.22)	1.481 (625.8)
ACMEET	–	–	–	−1.119 (1.207)	−4.581*** (1.481)	3.023** (1.796)
FSIZE	–	–	–	−4.125 (3.547)	4.354 (4.150)	10.26* (5.479)
FAGE	–	–	–	4.227*** (1.159)	2.661* (1.373)	3.134* (1.719)
LEV	–	–	–	0.233* (3.122)	0.428** (1.741)	0.523* (1.622)
IND	–	–	–	0.051** (3.531)	0.642*** (1.122)	0.121* (2.723)
Constant	−4.154*** −0.694	−7.607*** −1.055	−9.589*** −1.429	−5.326*** −1.04	−10.05*** −1.646	−13.23*** −2.333
Observations	800	800	800	800	800	800
Pseudo R-squared	0.124	0.34	0.499	0.22	0.421	0.543
Wald x^2	26.18	71.65	105	46.39	88.7	114.4
Prob > chi2	0	0	0	7.33E−08	0	0
Panel B: Binary outcome model marginal effects (dy/dx)						
BSIZE	0.023*** (0.0066)	–	0.040***	0.021*** (0.007)	–	0.034***
BINDP	0.00011 (0.0103)	–	−0.068	0.005 (0.012)	–	−0.062
BGDIV	0.015 (0.011)	–	0.007	0.017* (0.016)	–	0.038**
BEXP	−0.011* (0.006)	–	−0.034***	−0.013** (0.006)	–	0.033
ACSIZE	–	−0.154 (17.377)	−0.16	–	−0.125 (18.87)	0.141***
ACINDP	–	0.198 (17.377)	0.199	–	0.171 (2.87)	0.162***
ACEXP	–	−0.0009 (0.01)	0.055	–	0.002 (0.01)	0.053
ACMEET	–	–	–	−0.066 (0.071)	−0.209*** (0.07)	−0.108*
FSIZE	–	–	–	−0.243 (0.212)	0.198 (0.188)	0.366*
FAGE	–	–	–	0.642*** (1.852)	0.723* (2.272)	0.5332* (1.523)
LEV	–	–	–	0.3252** (2.821)	0.191* (1.972)	0.7821*** (2.542)
IND	–	–	–	0.623** (1.751)	0.7121** (2.812)	0.127*** (3.513)
Observations	800	800	800	800	800	800

Notes: Standard errors in parentheses; $^{***}p < 0.01$; $^{**}p < 0.05$; $^{*}p < 0.1$
Source: Developed by authors

Table 8. Corporate board and sustainability reporting practices (non-financial firms)

	1	2	3	4	5	6
Panel A: Model coefficients – baseline regression						
BSIZE	0.1229*** (0.107)	–	0.023*** (0.138)	0.583*** (0.108)	–	0.5622*** (0.141)
BINDP	0.314*** (0.109)	–	0.432** (0.499)	0.337*** (0.111)	–	0.339** (0.504)
BGDIV	0.3233*** (0.117)	–	0.282** (0.116)	0.892*** (0.112)	–	0.235** (0.118)
BEXP	0.129*** (0.102)	–	−0.318** (0.124)	−0.283*** (0.103)	–	0.138*** (0.124)
ACSIZE	–	3.108*** (0.338)	2.596*** (0.403)	–	3.146*** (0.353)	0.032*** (0.416)
ACINDP	–	1.752*** (0.315)	−1.292*** (0.375)	–	−1.778*** (0.328)	0.463*** (0.391)
ACEXP	–	0.172 (0.114)	0.823* (0.499)	–	0.203* (0.112)	0.734** (0.503)
ACMEET	–	–	–	−0.886 (0.822)	−2.646*** (0.853)	0.023** (0.875)
FSIZE	–	–	–	0.042 (2.221)	2.522 (2.372)	0.357** (2.389)
FAGE	–	–	–	0.534 (0.691)	0.47 (0.735)	0.0409 (0.747)
LEV	–	–	–	0.672*** (1.861)	0.052** (2.642)	0.234** (3.743)
IND	–	–	–	0.132* (2.852)	0.5312 (0.321)	0.623*** (1.5312)
Observations	560	560	560	560	560	560
Pseudo R-squared	0.097	0.322	0.0232	0.2517	0.0012	0.1622
chi-squared	119.1	294.9	316.5	121.1	305.3	322.5
Prob > chi2	0	0	0	0	0	0
Panel B: Categorical outcome model marginal effects (dy/dx)						
				Categorical variable outcomes		
		Poor = 0	Low = 1	Average = 2	Above- average = 3	Excellent = 4
BSIZE		0.032*** (0.013)	0.1239*** (0.022)	0.105*** (0.034)	0.0244** (0.001)	0.1272** (0.0004)
BINDP		0.071 (0.049)	0.111 (0.077)	−0.175 (0.121)	−0.005 (0.003)	0.189*** (0.001)
BGDIV		0.271** (0.011)	−0.043** (0.018)	0.068** (0.028)	0.002** (0.001)	0.455** (0.0003)
BEXP		0.028** (0.012)	0.043** (0.019)	0.069** (0.03)	0.002** (0.001)	−0.5971* (0.0003)
ACSIZE		0.263*** (0.042)	0.412*** (0.073)	0.650*** (0.102)	0.019*** (0.005)	0.259** (0.002)
ACINDP		0.134*** (0.038)	0.210*** (0.062)	0.332*** (0.094)	0.010*** (0.003)	0.5282** (0.001)
ACEXP		0.081* (0.049)	0.127 (0.077)	0.200* (0.121)	0.006 (0.004)	0.019** (0.001)
ACMEET		0.205** (0.085)	0.321** (0.136)	−0.506** (0.21)	−0.015* (0.007)	0.784 (0.002)
FSIZE		0.2171** (0.233)	0.212** (0.363)	0.326** (0.574)	0.009* (0.017)	0.092** (0.004)
FAGE		0.122** (0.072)	0.006 (0.113)	0.009 (0.179)	0.002** (0.005)	0.4232** (0.001)
LEV	–	–	–	0.028*** (3.832)	0.282** (1.842)	0.423** (2.211)
IND	–	–	–	0.272** (1.723)	0.2621* (1.123)	0.522*** (2.961)
Observations		560	560	560	560	560

Notes: Standard errors in parentheses; $***p < 0.01$; $**p < 0.05$; $*p < 0.1$
Source: Developed by authors

proportion of female directors (BGDIV) is associated with an increase of 45% (0.455**) of SRP while ACSIZE shows an excellent SRP of 26% (0.259**). The four of the control variables (FSIZE, FAGE, LEV and IND) have significant impact on SRP.

5. Conclusion and contribution

This study examines the impact of corporate board and assurance on the SRP of selected firms in sub-Saharan Africa. We used corporate board variables to assess the level of SRP of the sampled firms. Using a sample of 80 firms from 2013 to 2022, the level of SRP was found to be significantly influenced by corporate board characteristics using the ordered and probit logistics regression methods. The additional analysis demonstrates that the level of SRP of African firms is impacted by external assurance. The results of this study add to the emerging research on SRP at the corporate level in sub-Saharan Africa.

Considering the result of this study, it can be concluded that research on SRP of corporate entities in Africa is an emerging field of research. However, there is growing discipline in the private sector entities towards sustainability among practitioners and policymakers. There is need to put proper governance structure in place to harness the potentials of practitioners in these entities so as to have a robust sustainability disclosure that could influence good practices. The coming years will prove critical in the race towards achieving sustainability disclosure in developing countries with more discussion in the area of ESG activities. The results from this study provide important implications, contributions and future direction for further studies.

Most corporate organizations provide voluntary disclosure on sustainability matters which has implications for entities' stakeholders. Voluntary disclosure studies (Niemann and Hopper, 2018; Hassan *et al.*, 2020; Tilt *et al.*, 2021, Erin and Bamigboye, 2022) have contested that stakeholders most times may not understand the content of the sustainability reports prepared by these corporate entities. It is important for firms to consider and value the interest of both the internal and external stakeholders in their sustainability agendas especially as it relates to disclosure of material issues. It is becoming necessary for those charged with governance in corporate institutions to consider making disclosure of sustainability mandatory and move from a mere wish to reality. Because corporate entities are the key drivers in advancing ESG and sustainability strategy; it is pertinent that their stakeholders are well-informed in this process. Policymakers in charge of corporate entities need to respond to the issues of sustainability and take an active role in promoting the sustainability agenda. Ferrero-Ferrero *et al.* (2018) believed that stakeholder representatives should be engaged in the sustainability practices so as to cater for the general interest of the public.

Another implication is the credibility of those information disclosed. Because most organizations are yet to provide assurance, the reliability and credibility of these disclosures become doubtful. In this regard, literature has emphasized the need for assurance by external parties like consultants or auditors to verify the authenticity and reliability of those report (Farooq and De Villiers, 2017; Maroun, 2019; Pizzi *et al.*, 2021). In 2016, the International Federation of Accountants (IFAC) supported the need for external assurance on SRP. IFAC emphasized that to ensure accountability, transparency and probity by corporate entities, the need for external assurance of their sustainability issues becomes critical. To support the IFAC assertion, Francesca *et al.* (2020) suggested that in countries where the institutional framework is weak, there is a need to have their sustainability reports assured by external consultants. What this implies is that where disclosure is voluntary and not assured by an independent party, the content of those disclosure may not be relied upon. This paper is useful for policymakers and international standard-setting institutions to have a rethink on the need to canvass for external assurance of SRP especially in developing countries.

In addition, it is advised that the ranking of countries should be tied to how they have complied with sustainability disclosure for both the private and public sector entities. That is why it is necessary to have an international body or framework to regulate the sustainability reporting of both private and public sector organizations. Just like International Financial Reporting Standards (IFRS) has become a benchmark for financial reporting worldwide. At the moment, there are fragmented reporting standards and frameworks such as United Nations Global Compact and the GRI. Taskforce on Climate-related Financial Disclosures, Sustainable Accounting Standards Board and Climate Disclosure Project for non-financial disclosures. Some countries have their national policy guiding how sustainability activities should be tracked and measured. All these have resulted to lack of consistency, comparability and standardization of non-financial reporting disclosure. Therefore, it is important to have a unified standard or framework that will address all these challenges and limitations.

This study provides insight into the role of corporate board and assurance in SRP of selected entities in Sub-Saharan Africa. It offers an original insight in the field of non-financial reporting practices for corporate entities and contributes to accounting research as an emerging field. This study provides important contribution to those charged with governance and policymakers to have a rethink on how they could be bridge the gap between sustainability initiatives and increased dialogue with the public. We advise international standard-setters in the field of accounting and sustainability on the need to have a robust and effective sustainability reporting framework that will serve as a guide to all categories of practitioners. Corporate and national regulators should recognize that commitment to sustainability practices is one of the best ways to achieve the SDG 2030 agenda.

This study provides a new and interesting direction for future research on the subject of corporate board, assurance and SRP in corporate settings especially in developing countries. Future research could explore the role of stakeholders in advancing non-financial reporting practices of corporate entities, especially, how stakeholder representatives could influence ESG and sustainability practices. Also, future studies could examine the content and quality of SRP of corporate entities of countries in sub-Saharan Africa. This would further enhance discourse on whether sustainability reporting are just mere impression management or value creation process for stakeholders. Lastly, further studies could explore the use of qualitative research design to deepen the investigation into factors influencing sustainability disclosure.

Note

1. Because it accurately depicts the entire model, we particularly use column 6 as a baseline result.

References

Adams, C.A. (2017), "Conceptualising the contemporary corporate value creation process", *Accounting, Auditing & Accountability Journal*, Vol. 30 No. 4, pp. 906-931.

Adegboye, A., Erin, O. and Asongu, S. (2022), "Taxing Africa for inclusive human development: the mediating role of governance quality", *Journal of Economic and Administrative Sciences*, doi: 10.1108/JEAS-03-2022-0061.

African Financials (2023), "Press release- 2013-2022 full year result", available at: http//africanfinancials.com

Aggarwal, P. and Singh, A.K. (2019), "CSR and sustainability reporting practices in India: an in-depth content analysis of top-listed companies", *Social Responsibility Journal*, Vol. 15 No. 8, pp. 1033-1053, doi: 10.1108/SRJ-03-2018-0078.

Aladwey, L., Elgharbawy, A. and Ganna, M.A. (2022), "Attributes of corporate boards and assurance of corporate social responsibility reporting: evidence from the UK", *Corporate Governance: The International Journal of Business in Society*, Vol. 22 No. 4, pp. 748-780.

Albitar, K., Abdoush, T. and Hussainey, K. (2022), "Do corporate board mechanisms and ESG disclosure drive CSR narrative tones?", *International Journal of Finance and Economics*, Vol. 2022.

Albitar, K., Hussainey, K., Kolade, N. and Gerged, A.M. (2020), "ESG disclosure and firm performance before and after IR", *International Journal of Accounting and Information Management*, Vol. 28 No. 3, pp. 429-444.

Al-Najjar, B. (2020), "The determinants of audit committee independence and activity: evidence from the UK", *International Journal of Auditing*, Vol. 15 No. 2, pp. 191-203.

Al-Qahtani, M. and Elgharbawy, A. (2020), "The effect of board diversity on disclosure and management of greenhouse gas information: evidence from the United Kingdom", *Journal of Enterprise Information Management*, Vol. 33 No. 6, pp. 1557-1579.

Al-Shaer, H. (2020), "Sustainability reporting quality and post-audit financial reporting quality: empirical evidence from the UK", *Business Strategy and the Environment*, Vol. 29 No. 6, pp. 2355-2373, doi: 10.1002/bse.2507.

Al-Shaer, H. and Zaman, M. (2016), "Board gender diversity and sustainability reporting quality", *Journal of Contemporary Accounting and Economics*, Vol. 12 No. 3, pp. 210-222.

Al-Shaer, H. and Zaman, M. (2018), "Credibility of sustainability reports: the contribution of audit committees", *Business Strategy and the Environment*, Vol. 27 No. 7, pp. 973-986.

Alshbili, I., Elamer, A.A. and Beddewela, E. (2019), "Ownership types, corporate board and corporate social responsibility disclosures: empirical evidence from a developing country", *Accounting Research Journal*, Vol. 33 No. 1, doi: 10.1108/ARJ-03-2018-0060.

Anderson, R.C., Mansi, S.A. and Reeb, D.M. (2004), "Board characteristics, accounting report integrity, and the cost of debt", *Journal of Accounting and Economics*, Vol. 37 No. 3, pp. 315-342.

Appuhami, R. and Tashakor, S. (2017), "The impact of audit committee characteristics on CSR disclosure: an analysis of Australian firms", *Australian Accounting Review*, Vol. 27 No. 4, pp. 400-420.

Arayssi, M., Jizi, M. and Tabaja, H.H. (2020), "The impact of board composition on the level of ESG disclosures in GCC countries", *Sustainability Accounting, Management and Policy Journal*, Vol. 11 No. 1, pp. 137-161.

Arif, M., Sajjad, A., Farooq, S., Abrar, M. and Joyo, A.S. (2021), "The impact of audit committee attributes on the quality and quantity of environmental, social and governance (ESG) disclosures", *Corporate Governance: The International Journal of Business in Society*, Vol. 21 No. 3, pp. 497-514.

Arthur, C.L., Wu, J., Yago, M. and Zhang, J. (2017), "Investigating performance indicators disclosure in sustainability reports of large mining companies in Ghana", *Corporate Governance: The International Journal of Business in Society*, Vol. 17 No. 4, pp. 643-660.

Arumona, J., Erin, O., Onmonya, L. and Omotayo, V. (2019), "Board financial education and firm performance: evidence from the healthcare sector in Nigeria", *Academy of Strategic Management Journal*, Vol. 18 No. 4, pp. 1-18.

Atan, R., Alam, M.M., Said, J. and Zamri, M. (2018), "The impacts of environmental, social, and governance factors on firm performance: panel study on Malaysian companies", *Management of Environmental Quality: An International Journal*, Vol. 29 No. 2, pp. 182-194.

Badi, H. and Baltagi, T. (2008), *Econometric Analysis of Panel Data*, Wiley, London.

Bakar, A., Ghazali, N. and Ahmad, M. (2019), "Sustainability reporting and board diversity in Malaysia", *International Journal of Academic Research in Business and Social Sciences*, Vol. 9 No. 2, pp. 34-46.

Bamahros, H., Alquhaif, A., Qasem, A., Wan-Hussin, W., Thomran, M., Al-Duais, S., Shukeri, S. and Khojally, H. (2022), "Corporate governance mechanisms and ESG reporting: evidence from the Saudi stock market", *Sustainability*, Vol. 14 No. 10, pp. 1-20.

Bebbington, J. and Unerman, J. (2018), “Achieving the United Nations sustainable development goals: an enabling role of accounting research”, *Accounting, Auditing and Accountability Journal*, Vol. 31 No. 1, pp. 2-24.

Beske, F., Haustein, E. and Lorson, P. (2020), “Materiality analysis in sustainability and integrated reports”, *Sustainability Accounting Management and Policy Journal*, Vol. 11 No. 1, pp. 162-186, doi: 10.1108/SAMPJ-12.

Birindelli, G., Dell’Atti, S., Iannuzzi, A.P. and Savioli, M. (2018), “Composition and activity of the board of directors: impact on ESG performance in the banking system”, *Sustainability*, Vol. 10 No. 12, p. 4699.

Braam, G. and Peters, R. (2018), “Corporate sustainability performance and assurance on sustainability reports: diffusion of accounting practices in the realm of sustainable development”, *Corporate Social Responsibility and Environmental Management*, Vol. 25 No. 2, pp. 164-181.

Buallay, A. and Al-Ajmi, J. (2020), “The role of audit committee attributes in corporate sustainability reporting: evidence from banks in the Gulf Cooperation Council”, *Journal of Applied Accounting Research*, Vol. 21 No. 2, pp. 249-264.

Buckley, L. (2022), “The foundations of governance: implications of entity theory for directors’ duties and corporate sustainability”, *Journal of Management and Governance*, Vol. 26 No. 1, pp. 29-53.

Calabrese, G.G. and Manello, A. (2021), “Board diversity and performance in a masculine, aged and glocal supply chain: new empirical evidence”, *Corporate Governance: The International Journal of Business in Society*, Vol. 21 No. 7, pp. 1440-1459.

Chairiri, A. and Januarti, I. (2017), “Audit committee characteristics and integrated reporting: empirical study of companies listed on the Johannesburg stock exchange”, *European Research Studies Journal*, Vol. 20 No. Issue 4B, pp. 305-318.

Chau, G. and Gray, S.J. (2010), “Family ownership, board independence and voluntary disclosure: evidence from Hong Kong”, *Journal of International Accounting, Auditing and Taxation*, Vol. 19 No. 2, pp. 93-109.

Chebbi, K. and Ammer, M.A. (2022), “Board composition and ESG disclosure in Saudi Arabia: the moderating role of corporate board reforms”, *Sustainability*, Vol. 14 No. 19, p. 12173.

Chouaibi, S. and Affes, H. (2021), “The effect of social and ethical practices on environmental disclosure: evidence from an international ESG data”, *Corporate Governance: The International Journal of Business in Society*, Vol. 21 No. 7, pp. 1293-1317.

Creswell, J. (2014), “Research design: qualitative, quantitative and mixed method approaches”, 2nd edition, Sage Publications, California.

De Villiers, C., Hsiao, P. and Maroun, W. (2017), “Developing a conceptual model of influences around integrated reporting, new insights and directions for future research”, *Meditari Accountancy Research*, Vol. 25 No. 4, pp. 450-460.

Deegan, C. (2007), “Organizational legitimacy as a motive for sustainability reporting”, in Unerman, J., Bebbington, J. and O’Dwyer, B. (Ed.), *Sustainability Accounting and Accountability*, Routledge, London, pp. 127-149.

Dienes, D., Sassen, R. and Fischer, J. (2016), “What are the drivers of sustainability reporting? A systematic review”, *Sustainability Accounting, Management and Policy Journal*, Vol. 7 No. 2, pp. 154-189.

Dissanayake, D., Tilt, C. and Xydias-Lobo, M. (2016), “Sustainability reporting by publicly listed companies in Sri Lanka”, *Journal of Cleaner Production*, Vol. 129, pp. 169-182.

Donaldson, T. and Preston, L.E. (1995), “The stakeholder theory of the corporation: concepts, and evidence”, *Academy of Management*, Vol. 20 No. 1, pp. 65-81.

Elaigwu, M., Abdulmalik, S.O. and Talab, H.R. (2022), “Corporate integrity, external assurance and sustainability reporting quality: evidence from the Malaysian public listed companies”, *Asia-Pacific Journal of Business Administration*, Vol. 16 No. 2.

Erin, O. and Adegboye, A. (2021), “Does corporate attributes impacts integrated reporting quality? An empirical evidence”, *Journal of Financial Reporting and Accounting*, Vol. 20 Nos 3/4, pp. 4156-4445.

Erin, O. and Bamigboye, O. (2022), “Evaluation and analysis of SDG reporting: evidence from Africa”, *Journal of Accounting and Organizational Change*, Vol. 18 No. 3, pp. 369-396.

Erin, O., Afeisume, O. and Owodunni, K. (2016), “Sustainability reporting and quality of corporate disclosure: evidence from the Nigerian banking sector”, *ICAN Journal of Accounting and Finance*, Vol. 2 No. 1, pp. 355-376.

Erin, O., Adegboye, A. and Bamigboye, O. (2021), “Corporate board and sustainability reporting quality: evidence from Nigeria”, *Sustainability Accounting, Management and Policy Journal*, Vol. 13 No. 3, pp. 680-707.

Evan, W.M. and Freeman, R.E. (1988), “A stakeholder theory of the modern corporation: Kantian capitalism’, cited in Donaldson, T. and Preston, L.E. (1995), the stakeholder theory of the corporation: concepts and evidence”, *Academy of Management*, Vol. 20 No. 1, pp. 65-81.

Fama, E.F. and Jensen, M.C. (1983), “Separation of ownership and control”, *The Journal of Law and Economics*, Vol. 26 No. 2, pp. 301-325.

Farooq, M.B. and De Villiers, C. (2017), “The market for sustainability assurance services: a comprehensive review of the literature and future avenues for research”, *Pacific Accounting Review*, Vol. 29 No. 1, pp. 79-106.

Ferrero-Ferrero, I., Fernández-Izquierdo, M.Á., Muñoz-Torres, M.J. and Bellés-Colomer, L. (2018), “Stakeholder engagement in sustainability reporting in higher education: an analysis of key internal stakeholders’ expectations”, *International Journal of Sustainability in Higher Education*, Vol. 19 No. 2, pp. 313-336.

Francesca, G., Fonseca, L. and Carvalho, F. (2020), “The reporting of SDGs by quality, environmental, and occupational health and safety-certified organisations”, *Sustainability*, Vol. 11 No. 20, pp. 57-77.

Frías-Aceituno, J.V., Rodriguez-Ariza, L. and Garcia-Sanchez, I.M. (2013), “The role of the board in the dissemination of integrated corporate social reporting”, *Corporate Social Responsibility and Environmental Management*, Vol. 20 No. 4, pp. 219-233.

García-Sánchez, S., Aibar-Guzmán, B., Aibar-Guzmán, C. and Somohano-Rodríguez, F. (2022), “The drivers of the integration of the sustainable development goals into the non-financial information system: individual and joint analysis of their influence”, *Sustainable Development*, Vol. 30 No. 4, pp. 513-524.

Gontarek, W. (2016), “Risk governance of financial institutions: the growing importance of risk appetite and culture”, *Journal of Risk Management in Financial Institutions*, Vol. 9 No. 2, pp. 120-129.

Goodwin-Stewart, J. and Kent, P. (2006), “Relation between external audit fees, audit committee characteristics and internal audit”, *Accounting and Finance*, Vol. 46 No. 3, pp. 387-404.

Gray, R., Adams, C. and Owen, D. (2014), “Accountability, social responsibility, and sustainability: accounting for society and the environment”, Pearson Education Limited, Harlow, England.

Gulko, N., Hyde, C. and Seppala, N. (2017), “Disclosure of corporate risks and governance before, during and after the global financial crisis: case study in the UK construction industry in 2006–2009”, *International Journal of Disclosure and Governance*, Vol. 14 No. 3, pp. 207-223.

Habbash, M. (2016), “Corporate board and corporate social responsibility disclosure: evidence from Saudi Arabia”, *Social Responsibility Journal*, Vol. 12 No. 4, pp. 740-754.

Haji, A. and Anifowose, M. (2016), “Audit committee and integrated reporting practice: does internal assurance matter?”, *Managerial Auditing Journal*, Vol. 31 Nos 8/9, pp. 1-44.

Haladu, A. and Bin-Nashwan, S. (2021), “The moderating effect of environmental agencies on firms’ sustainability reporting in Nigeria”, *Social Responsibility Journal*, Vol. 18 No. 2, pp. 388-402.

Hammami, A. and Hendijani Zadeh, M. (2020), “Audit quality, media coverage, environmental, social, and governance disclosure and firm investment efficiency: evidence from Canada”, *International Journal of Accounting and Information Management*, Vol. 28 No. 1, pp. 45-72.

Hassan, A., Elamer, A.A., Fletcher, M. and Sobhan, N. (2020), "Voluntary assurance of sustainability reporting: evidence from an emerging economy", *Accounting Research Journal*, Vol. 33 No. 2, pp. 391-410.

Hassan, A. and Guo, X. (2017), "The relationships between reporting format, environmental disclosure and environmental performance: an empirical study", *Journal of Applied Accounting Research*, Vol. 18 No. 4, pp. 425-444.

Husted, B.W. and Sousa-Filho, J.M.D. (2019), "Board structure and environmental, social, and governance disclosure in Latin America", *Journal of Business Research*, Vol. 102, pp. 220-227.

Igwe, M., Khatib, S. and Bazhair, A. (2023), "Sustainability reporting in Africa: a systematic review and agenda for future research", *Corporate Social Responsibility and Environmental Management*, Vol. 30 No. 5, doi: 10.1002/csr.2494.

International Integrated Reporting Council (IIRC) (2021), "International framework", available at: http://integratedreporting.org/resource/international-ir-framework

Jabbour, M. and Abdel-Kader, M. (2015), "Changes in capital allocation practices – ERM and organisational change", *Accounting Forum*, Vol. 39 No. 4, pp. 295-311.

Jensen, M.C. and Meckling, W.H. (1976), "Theory of the firm: managerial behavior, agency costs and ownership structure", *Journal of Financial Economics*, Vol. 3 No. 4, pp. 305-360.

Karamanou, I. and Vafea, N. (2005), "The association between corporate boards, audit committees, and management earnings forecasts: an empirical analysis", *Journal of Accounting Research*, Vol. 43 No. 3, pp. 453-486.

Khan, T.M., Gang, B., Fareed, Z. and Khan, A. (2021), "How does CEO tenure affect corporate social and environmental disclosures in China? Moderating role of information intermediaries and independent board", *Environmental Science and Pollution Research*, Vol. 28 No. 8, pp. 9204-9220.

Kılıç, M. and Kuzey, C. (2018), "The effect of corporate governance on carbon emission disclosures: evidence from Turkey", *International Journal of Climate Change Strategies and Management*, Vol. 11 No. 1, pp. 35-53.

Kılıç, M. and Kuzey, C. (2019), "The effect of corporate governance on carbon emission disclosures: evidence from Turkey", *International Journal of Climate Change Strategies and Management*, Vol. 11 No. 1, pp. 35-53.

Kumar, K., Kumari, R., Nandy, M., Sarim, M. and Kumar, R. (2022), "Do ownership structures and governance attributes matter for corporate sustainability reporting? An examination in the Indian context", *Management of Environmental Quality: An International Journal*, Vol. 33 No. 5, pp. 1077-1096.

Kyaw, K., Olugbode, M. and Petracci, B. (2017), "Can board gender diversity promote corporate social performance? Corporate board", *The International Journal of Business in Society*.

Lagasio, V. and Cucari, N. (2019), "Corporate board and environmental social governance disclosure: a meta-analytical review", *Corporate Social Responsibility and Environmental Management*, Vol. 26 No. 4, pp. 701-711.

Lauwo, S.G., Azure, J.D.C. and Hopper, T. (2022), "Accountability and governance in implementing the sustainable development goals in a developing country context: evidence from Tanzania", *Accounting, Auditing and Accountability Journal*, Vol. 35 No. 6, pp. 1431-1146.

Le, T.T. and Nguyen, V.K. (2022), "The impact of corporate governance on firms' value in an emerging country: the mediating role of corporate social responsibility and organisational identification", *Cogent Business and Management*, Vol. 9 No. 1, pp. 201-219.

Levit, D. and Malenko, N. (2016), "The labor market for directors and externalities in corporate governance", *The Journal of Finance*, Vol. 71 No. 2, pp. 775-808.

Liao, L., Lin, T.P. and Zhang, Y. (2016), "Corporate board and corporate social responsibility assurance: Evidence from China", *Journal of Business Ethics*, Vol. 150 No. 1, pp. 211-225.

Liu, Z., Jubb, C. and Abhayawansa, S. (2019), "Analysing and evaluating integrated reporting: Insights from applying a normative benchmark", *Journal of Intellectual Capital*, Vol. 20 No. 2, pp. 235-263.

Long, J.S. (1997), "Regression models for categorical and limited dependent variables", Sage Publications, Thousand Oaks, CA.

Lu, Y.J., Abeysekera, I. and Cortese, C. (2015), "Corporate social responsibility reporting quality, board characteristics and corporate social reputation: evidence from China", *Pacific Accounting Review*, Vol. 27 No. 1, pp. 95-118.

Manita, R., Bruna, M.G., Dang, R. and Houanti, L. (2018), "Board gender diversity and ESG disclosure: evidence from the USA", *Journal of Applied Accounting Research*, Vol. 19 No. 2, pp. 206-224, doi: 10.1108/jaar-01-2017-0024.

Maroun, W. (2017), "Determinants of reporting", in de Villiers, C. and Maroun, W. (Eds). *Sustainability Accounting and Integrated Reporting*, Routledge, London, doi: 10.4324/9781315108032.

Maroun, W. (2019), "Does external assurance contribute to higher quality integrated reports?", *Journal of Accounting and Public Policy*, Vol. 38 No. 4, pp. 106-120.

Martínez-Ferrero, J. and García-Sánchez, I.M. (2017), "Sustainability assurance and assurance providers: Corporate board determinants in stakeholder-oriented countries", *Journal of Management and Organization*, Vol. 23 No. 5, pp. 647-670.

Marzouk, O.A. (2016), "A qualitative examination of urban vs. rural sustainable consumption behaviours of energy and water consumers in the emerging Egyptian market", *Journal of Humanities and Applied Social Sciences*, Vol. 1 No. 2, pp. 98-114.

Mazzotta, R. and Ferraro, O. (2020), "Does the gender quota law affect bank performances? Evidence from Italy", *Corporate Governance: The International Journal of Business in Society*, Vol. 20 No. 6, pp. 1135-1158.

Michelon, G. and Parbonetti, A. (2012), "The effect of corporate governance on sustainability disclosure", *Journal of Management and Governance*, Vol. 16 No. 3, pp. 477-509.

Miihkinen, A. (2012), "What drives quality of firm risk disclosure?", *The International Journal of Accounting*, Vol. 47 No. 4, pp. 437-468.

Mnif, Y. and Borgi, H. (2020), "The association between corporate governance mechanisms and compliance with IFRS mandatory disclosure requirements: evidence from 12 African countries", *Corporate Governance: The International Journal of Business in Society*, Vol. 20 No. 7, pp. 1371-1392.

Momin, M.A. and Parker, L.D. (2013), "Motivations for corporate social responsibility reporting by MNC subsidiaries in an emerging country: the case of Bangladesh", *The British Accounting Review*, Vol. 45 No. 3, pp. 215-228.

Mustafa, J., Mohd, H. and Md Noor Alam, H.S. (2023), "Addressing sustainability challenges as part of director's duty in Malaysia", *International Journal of Law and Management*, Vol. 65 No. 6, pp. 538-559.

Niemann, L. and Hopper, T. (2018), "Sustainability reporting by local governments: a magic tool? Lessons on use and usefulness from European pioneers", *Public Management Review*, Vol. 20 No. 1, pp. 201-223.

Olayinka, E., Uwuigbe, U., Eriabie, S., Uwuigbe, O. and Omoike, O. (2019), "Does enterprise risk management impact accounting quality? Evidence from the Nigerian financial institutions", *Investment Management and Financial Innovations*, Vol. 16 No. 4, pp. 16-15.

Olojede, P. and Erin, O. (2021), "Corporate governance and creative accounting practices: the role of accounting regulation", *International Journal of Disclosure and Governance*, Vol. 18 No. 3, pp. 207-222.

Olojede, P., Erin, O. and Dorcas, A. (2023), "Do corporate governance mechanism restrain earnings management? Evidence from Nigeria", *International Journal of Business Governance and Ethics*, Vol. 17 No. 5, pp. 544-572.

Olojede, P., Iyoha, F., Egbide, B. and Erin, O. (2020), "Regulatory agencies and creative accounting practices in Nigeria", *Problems and Perspectives in Management*, Vol. 18 No. 3, pp. 465-478.

Oyewo, B. and Isa, R. (2017), "Improving corporate sustainability reporting through the adoption of integrated reporting: a study of Nigerian and South African firms", *African Accounting and Finance Journal*, Vol. 1 No. 1, pp. 52-65.

Pizzi, S., Rosati, F. and Venturelli, A. (2021), "The determinants of business contribution to the 2030 agenda: introducing the SDG reporting score", *Business Strategy and the Environment*, Vol. 30 No. 1, pp. 404-421.

Pucheta-Martínez, M. and Gallego-Álvarez, I. (2020), "Do board characteristics drive firm performance? An international perspective", *Review of Managerial Science*, Vol. 14 No. 6, pp. 1251-1297.

PwC Survey (2016), "The PwC survey of corporate responsibility reporting, PwC international", available at: https://home.pwc/be/en/home/insights/2017/10/the-pwc-survey-of-corporateresponsibility-reporting

Rouf, M.A. and Hossan, M.A. (2020), "The effects of board size and board composition on CSR disclosure: a study of banking sectors in Bangladesh", *International Journal of Ethics and Systems*, Vol. 37 No. 1, pp. 105-121.

Sandhu, A. and Singh, B. (2019), "Board composition and corporate reporting on internet: Indian evidence", *Journal of Financial Reporting and Accounting*, Vol. 17 No. 2, pp. 292-319.

Sethi, S.P., Martell, T.F. and Demir, M. (2017), "Enhancing the role and effectiveness of corporate social responsibility (CSR) reports: the missing element of content verification and integrity assurance", *Journal of Business Ethics*, Vol. 144 No. 1, pp. 59-82.

Stein, V. and Wiedemann, A. (2018), "Risk governance: basic rationale and tentative findings from the German banking sector, CSR, sustainability, ethics and governance", in Idowu, S.O., Sitnikov, C., Simion, D. and Bocean, C.G. (ed.), *Current Issues in Corporate Social Responsibility*, Springer, Cham, pp. 97-110.

Sultana, N., Singh, H. and Van der Zahn, J.-L. (2015), "Audit committee characteristics and audit report lag", *International Journal of Auditing*, Vol. 19 No. 2, pp. 72-87.

Tilt, C.A., Qian, W., Kuruppu, S. and Dissanayake, D. (2021), "The state of business sustainability reporting in Sub-Saharan Africa: an agenda for policy and practice", *Sustainability Accounting, Management and Policy Journal*, Vol. 12 No. 2, pp. 267-296.

Ullah, M.H. and Rahman, M. (2015), "Corporate social responsibility reporting practices in banking companies in Bangladesh", *Journal of Financial Reporting and Accounting*, Vol. 13 No. 2, pp. 200-225.

Uwuigbe, O., Olorunshe, O., Uwuigbe, U., Ozordi, E., Asiriuwa, O., Asaolu, T. and Erin, O. (2019), "Corporate governance and financial statement fraud among listed firms in Nigeria", *IOP Conference Series: Earth and Environmental Science*, Vol. 331 No. 1, p. 12055.

Velte, P. and Stawinoga, M. (2020), "Do chief sustainability officers and CSR committees influence CSR-related outcomes? A structured literature review based on empirical-quantitative research findings", *Journal of Management Control*, Vol. 31 No. 4, pp. 333-377.

Vitolla, F., Raimo, N. and Rubino, M. (2020), "Board characteristics and integrated reporting quality: an agency theory perspective", *Corporate Social Responsibility and Environmental Management*, Vol. 27 No. 2, pp. 1152-1163.

Wachira, M.M. and Mathuva, D.M. (2022), "Corporate environmental reporting in Sub-Saharan Africa: a literature review and suggestions for further research", in Tauringana, V. and Moses, O. (Ed.) *Environmental Sustainability and Agenda 2030 (Advances in Environmental Accounting and Management*, Vol. 10 Emerald Publishing Limited, Bingley, pp. 159-182.

Wahid, A.S. (2019), "The effects and the mechanisms of board gender diversity: evidence from financial manipulation", *Journal of Business Ethics*, Vol. 159 No. 3, pp. 705-725.

Zhan, J.X. and Santos-Paulino, A.U. (2021), "Investing in the sustainable development goals: mobilization, channeling, and impact", *Journal of International Business Policy*, Vol. 4 No. 1, pp. 166-183.

Further reading

Asiriuwa, O., Adeyemi, S., Uwuigbe, O., Uwuigbe, U., Ozordi, E. and Erin, O. (2021), "Do board characteristics affect financial reporting timeliness? An empirical analysis", *International Journal of Financial Research*, Vol. 12 No. 4, pp. 191-202.

Erin, O. and Olojede, P. (2023), "Enterprise risk management and creative accounting practices: evidence from Nigeria", *International Journal of Accounting Auditing and Performance Evaluation*, Vol. 18 Nos 3/4, pp. 253-282.

Harjoto, M.A. and Jo, H. (2011), "Corporate board and CSR nexus", *Journal of Business Ethics*, Vol. 100 No. 1, pp. 45-67.

Romano, M., Cirillo, A., Favino, C. and Netti, A. (2020), "ESG (environmental, social and governance) performance and board gender diversity: the moderating role of CEO duality", *Sustainability*, Vol. 12 No. 21, p. 9298, doi: 10.3390/su12219298.

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Appendix 1

Table A1.
Scale scores and interpretation of SRP

Assigned score	Measurement	Interpretation	Results
0	No sustainability report exist	No disclosure – it is not mentioned in the report at all	Poor
1	Sustainability report exist	Disclosure to a less extent – the subject is only mentioned briefly in the report with little context provided	Low
2	Sustainability report exists, and the firm has a sustainability committee affiliated with the board of directors	Disclosure to a moderate extent – the subject and measured results are discussed, and a measurable target is provided for the current and future	Average
3	Sustainability report exists, and assurance is provided by the non-audit firm (consultant)	Disclosure to a large extent –the current year performance on the subject is discussed against the target and mitigation is provided to improve performance	Above average
4	Sustainability report exists, and assurance is provided by one of the Big 4 or other audit firms	Full disclosure – full integration is achieved by linking the risk, target and mitigation with the financial aspects on the subject	Excellent

Sources: Adapted from Al-Shaer and Zaman (2016); Oyewo and Isa (2017)

Appendix 2

Variable(s)	Symbols	Operationalization	Source
Dependent variable			
Sustainability reporting practices	SRP	We measured SRP using the scoring scale of 0–4	Annual Report and Corporate Website
Independent variable			
Corporate board			
Board size	BSIZE	Number of directors on the board	Annual Report and Corporate Website
Board independence	BINDP	The proportion of independent directors represented on the board	Annual Report and Corporate Website
Board gender diversity	BGDIV	The proportion of female directors on the board	Annual Report and Corporate Website
Board expertise	BEXP	Number of members with experience greater than five years	Annual Report and Corporate Website
Audit committee size	ACSIZE	Number of members on the board of audit committee	Annual Report and Corporate Website
Audit committee independence	ACINDP	Independent directors represented on the committee	Annual Report and Corporate Website
Audit committee financial expertise	ACFE	Number of members with experience greater than five years	Annual Report and Corporate Website
Audit committee meeting	ACMEET	Number of meetings held in a year	Annual Report and Corporate Website
Control variables			
Leverage	LEV	Long-term debt/book value of equity	Annual Report and Corporate Website
Industry	IND	Non-sensitive sectors = 0, sensitive sectors = 1	Annual Report and Corporate Website
Firm size	FSIZE	Natural log of firm’s total assets	Annual Report and Corporate Website
Firm age	FAGE	Number of listed years	Annual Report and Corporate Website

Source: Compiled by authors

Table A2.
Description of variables used

Appendix 3

Variable	Coefficient variance	Uncentered VIF	Centered VIF
BSIZE	0.129085	109.4423	4.094435
BINDP	0.116149	136.7418	3.430158
BGIDIV	0.410843	469.9366	5.013016
BEXP	0.120812	197.1442	2.153256
ACSIZE	0.092319	208.0975	3.552856
ACINDP	0.179142	333.7813	3.184675
ACEXP	0.120914	352.2471	3.452202
ACMEET	0.168169	202.8282	2.872952
FSIZE	0.186252	281.4721	3.082622
FAGE	0.128521	310.8051	4.197199
LEV	0.118511	137.2331	3.174212
IND	0.147202	197.1272	3.125856
C	0.031248	229.2859	2.752011

Source: Developed by authors

Table A3. Variance inflation factor (VIF)

Appendix 4

Table A4.
Descriptive analysis of the selected 80 listed firms and their sectors

	South Africa	Botswana	Nigeria	Ghana	Kenya	Uganda	Morocco	Egypt
1	Standard Bank Group (FIN)	Anglo American (IG)	Dangote Cement (IG)	Aluworks Ltd (IG)	B.O.C Kenya (HLT)	BAT Uganda (IG)	Aluminum Du Maroc (IG)	Ajwa Food Coy (CG)
2	Naspers (TEL)	Botswana Insurance Holdings (FIN)	First Bank Plc (FIN)	Access Bank (FIN)	BAT Kenya (IG)	Jubilee Holdings (TEL)	Auto Nejma (TEL)	Egypt Gas Coy (OG)
3	FirstRand (FIN)	Investec (FIN)	Zenith Bank Plc (FIN)	Unilever Ghana Ltd (CG)	Kurwitu Ventures (IG)	East African Breweries (IG)	Ciments du Maroc (CG)	Vodafone Egypt (TEL)
4	Sasol (OG)	Sechaba Brewery Holdings (CG)	Nestle Nigeria Plc (CG)	MTN Ghana (TEL)	Limuru Tea (HLT)	Airtel Uganda (TEL)	HPS (TEL)	Alexandria Pharmaceutical (HLT)
5	Absa Group (FIN)	Sefalana Holding Coy. (IG)	Unilever Nig. Plc (CG)	Nestle Ghana Plc (CG)	Standard Chartered Bank (FIN)	KCB Group (FIN)	Label Vie (CG)	Saudi Egyptian Inv. (OG)
6	Nedbank (FIN)	Engen Botswana (OG)	PZ Cussons (CG)	Standard Chartered Bank (FIN)	Stanbic Holdings (FIN)	Bank of Baroda (Uganda) (FIN)	Itissalat (TEL)	Rowad Misr Inv. (OG)
7	MTN Group (TEL)	Chobe Holdings (IG)	UBA Plc (FIN)	Benso Oil Palm Plantation (IG)	Jubilee Holdings (HLT)	Centum Investment (FIN)	Wafa Assurance (FIN)	Nile City Inv. (OG)
8	Sanlam (FIN)	Barclays Bank of Botswana (FIN)	Guinness Nig. Plc (CG)	Ecobank (FIN)	East African Breweries (CG)	Nation Media Group (TEL)	Saham Assurance (FIN)	Middle and West Delta Flour Mill (CG)
9	RMB Holdings (FIN)	First National Bank of Botswana (FIN)	Seplat Energy (OG)	Ghana Commercial Bank (FIN)	Bamburi Cement (IG)	DFCU (CG)	AFMA (CG)	East Delta Flour Mills (CG)
10	Life Heatlh care (HLT)	Lucara Diamond Corp. (IG)	Nigerian Breweries (CG)	Tullow Oil (OG)	Unilever Kenya Ltd (CG)	Umeme (CG)	Akidital (HLT)	El Ezz Aldekhela Steel (IG)

Notes: FIN = financials; CG = consumer goods; TEL = telecommunication; IG = industrial goods; OG = oil and gas; HLT = health care
Sources: Developed by authors; African Financials (2023)