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# Corporate governance and the use of external assurance for integrated reports

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## Abstract

**Research Question/Issue:** This paper investigates the relationship between the use of external assurance for testing integrated reports (ESG assurance) and firm-level governance features: the board of directors, the audit and/or risk committee, and the internal audit department. Data are collected from South Africa where integrated reporting and corporate governance practices are mature and listed companies have had more time to implement ESG assurance than in other countries.

**Research Findings/Insights:** Monitoring attributes of boards of directors promotes the use of ESG assurance which provide both limited (moderate) and reasonable (high) assurance. The monitoring attributes of the audit and risk committees limit the use of limited assurance but are associated with the greater use of reasonable assurance. In contrast, internal audit functions are not affecting the use of ESG assurance.

**Theoretical/Academic Implications:** The study provides one of the first accounts of how firm-level governance promotes or reduces the use of external assurance in an integrated reporting context. The research also frames ESG assurance as part of the broader corporate governance machinery rather than seeing assurance and governance as separate issues.

**Practitioner/Policy Implications:** Overall, the findings suggest that ESG assurance is an important part of a combined assurance model. As those charged with governance become more proactive in ensuring the credibility of their organizations' corporate reports, they not only choose to appoint an external assessor but also rely on more extensive testing designed to provide higher levels of assurance.

## KEYWORDS

corporate governance, assurance, integrated reporting, nonfinancial reporting, proactivity

## 1 | INTRODUCTION

The environmental, social, and governance (ESG) information contained in sustainability and, more recently, integrated reports has become a valuable source of information for investors and other stakeholders (Barth et al., 2017; de Villiers et al., 2020; Martínez-Ferrero & García-Sánchez, 2017). These types of reports (referred to collectively as ESG reports) are usually prepared voluntarily. They

reduce information asymmetry, lower the cost of capital, and play an important role in addressing stakeholder expectations for transparent reporting on ESG performance (de Villiers et al., 2020; Grewal et al., 2021; Schiehl & Kolahgar, 2021).

For ESG reports to be relevant for investors and other stakeholders, the information they contain must be reliable. Consequently, as the use of ESG reporting grows, so too does the demand from investors, regulators, and other stakeholders for these reports to be

subject to what this paper refers to collectively as “ESG assurance”<sup>1</sup> (Adams & Evans, 2004; Datt et al., 2021; KPMG, 2020; Simnett et al., 2009).

Companies purchase ESG assurance to indicate the quality of their ESG reporting, demonstrate commitment to managing underlying ESG issues, and bolster reputations in the eyes of important constituents (de Villiers et al., 2020; de Villiers & Maroun, 2018; Farooq & De Villiers, 2017; Simnett et al., 2009; Wang et al., 2019). In addition to these legitimacy-related factors, ESG assurance serves as an important monitoring and control tool (Gray, 2000; Wong & Millington, 2014) which enables higher quality ESG reporting (Wang et al., 2019) and reduces information asymmetry (Grassmann et al., 2021; Zhou et al., 2019). Like the audit of financial statements, ESG assurance can substitute for weakness in the control mechanisms which would otherwise mitigate agency-related costs, allow managers to be held accountable for social and environmental performance, and support the functioning of the broader corporate governance system (Choi & Wong, 2007; Farooq & de Villiers, 2017; Herda et al., 2014).

The current paper builds on the role of ESG assurance as a tool for ensuring the reliability of ESG reporting and lowering information asymmetry by considering how the use of ESG assurance interacts with other governance functions designed to mitigate agency-related costs. The objective is to examine how the monitoring capabilities of (1) the board of directors, (2) the audit and risk committee, and (3) the internal audit department influence the use of ESG assurance by listed companies. This line of inquiry is timely. Research on the design, monitoring functions, and financial consequences of corporate governance is vast (e.g., Ammann et al., 2011; Boone et al., 2007; Bozec & Bozec, 2012; Gompers et al., 2003; La Porta et al., 1999; Monem, 2013). In contrast, studies focusing on the connection between ESG disclosures, assurance, and corporate transparency are rare. This is despite the proliferation of codes of best practice which stress the importance of the governance of social and environmental performance (King & Atkins, 2016; Solomon, 2020) and the related increase in the use of ESG assurance among the world's most prominent organisations (see KPMG, 2017, 2020).

The current paper makes an important contribution by connecting two areas of corporate governance research. The first deals with the influence of firm- or national-level governance features on corporate social responsibility (Barako et al., 2006; Kim & Jo, 2021; Ntim & Soobaroyen, 2013a) and the value relevance of ESG reporting (e.g., Ntim et al., 2012; Schiehl & Bellavance, 2009; Schiehl & Kolahgar, 2021). The second is concerned with how audits mitigate the effects of a separation of ownership and control by principals and lower information asymmetry (Abdel-Khalik, 1993; Blackwell et al., 1998; Carey et al., 2000; Watts & Zimmerman, 1983). The two bodies of research have been developed separately. “Assurance” is traditionally understood as concerned only with financial statements and distinct from other firm-level governance mechanisms. The interconnection between corporate social responsibility and corporate governance has been evaluated (Jamali et al., 2008), but the role

which ESG assurance plays in enabling existing governance mechanisms to improve the reliability of ESG disclosures is largely overlooked by the mainstream corporate governance research.

As a result, this paper takes a broader position inspired by the idea that the board of directors, supported by internal and external assurance providers, works to ensure the integrity of the financial and ESG information being reported to stakeholders (King, 2018). The findings suggest that more proactive monitoring by boards of directors promotes the use of more ESG assurance. Conversely, an audit committee's monitoring activities may substitute for the use of some ESG assurance services, especially those which do not employ extensive test methodologies to verify ESG disclosures. Internal audit does not affect the use of ESG assurance, possibly because internal auditors are not as independent as external assurance providers. Testing the relationship between the three well-known governance mechanisms and the use of ESG assurance demonstrates how assurance should be understood as an integral part of corporate governance systems rather than as an ancillary consideration.

There has been some work on how firm-level governance influences the decision to purchase ESG assurance. Kend (2015) and Peters and Romi (2015) find that active sustainability committees and environmental experts on board committees are associated with the use of ESG assurance in Australia and the United States. Two international studies find that the strength of a board's monitoring functions (proxied by board size, board diversity, board independence, and support from a sustainability committee) have a similar effect (see also García-Sánchez et al., 2021; Martínez-Ferrero & García-Sánchez, 2017; Simoni et al., 2020; Wang et al., 2019). A study based on Chinese firms reports comparable findings (Liao et al., 2018). The current paper complements these efforts by using a composite governance score to evaluate internal monitoring holistically rather than testing select firm-governance features. In addition, the focus is not only on the presence or absence of ESG assurance (as is the case with Liao et al., 2018; Martínez-Ferrero & García-Sánchez, 2017; Peters & Romi, 2015) but also on the number of subject matters<sup>2</sup> being tested and the level of assurance being provided. An important empirical contribution is made by collecting data from South Africa. This expands on the work dealing with the interconnection between corporate social responsibility and governance in an African setting (e.g., Barako & Brown, 2008; Ntim & Soobaroyen, 2013b) and provides insights into the link between ESG assurance and firm-level governance from a jurisdiction where different types of ESG reporting and related assurance services are well established but not mandated by law.

The remainder of this paper is organized as follows: Section 2 provides background and develops hypotheses. Section 3 discusses briefly corporate governance and ESG assurance in a South African context followed by the method in Section 4. Section 5 presents the findings. The discussion, conclusions, and areas for future research are in Section 6.

## 2 | LITERATURE, BACKGROUND, AND HYPOTHESES

Unlike financial statements audits, the use of ESG assurance is not mandatory. While a growing number of companies elect to use ESG assurance, many do not (see Cho et al., 2014; Conradie et al., 2020; Simnett et al., 2009). As a result, this section examines the determinants of ESG assurance per the prior research and explores how firm-level governance may influence the use of ESG assurance with a focus on South African listed companies.

### 2.1 | The demand for ESG assurance

The starting point in the link between corporate governance and ESG assurance is the value relevance of ESG reporting. In most jurisdictions, this type of reporting is voluntary rather than regulated and standardized like the preparation of financial statements. Voluntary disclosures are only provided if the benefits of additional disclosure exceed the cost of collecting and reporting the information. In this context, the prior research argues that voluntary disclosures are an important mechanism for disseminating firm-specific information and lowering agency costs (Verrecchia, 1983). For example, Diamond and Verrecchia (1991), Kim and Verrecchia (1994), and Healy and Palepu (2001) advocate for voluntary disclosure to contextualize financial performance, address adverse selection, and lower information asymmetry. de Villiers and van Staden (2011) reach a similar conclusion concerning the voluntary reporting of ESG information that the benefits of voluntary disclosures exceed the cost of additional reporting supported by a growing body of work which associates ESG reporting with improved liquidity, more robust cash flow forecasts, and higher investment efficiency (Barth et al., 2017; Zhou et al., 2017). ESG reporting can contribute to higher firm values and reduce the costs of capital (Plumlee et al., 2015). Disclosing ESG information may also provide insights into internal management processes (Barth et al., 2017) and enhance stock price informativeness, especially when financial materiality is emphasized in ESG disclosures (Grewal et al., 2021; Schiehl & Kolahgar, 2021).

ESG reports are, however, prepared by managers with the result that their credibility cannot be presumed (Adams & Evans, 2004; Cohen & Simnett, 2015; Martínez-Ferrero & García-Sánchez, 2017). To maximize the value relevance of these voluntary disclosures, additional monitoring, control, and review are required to ensure that ESG reports are accurate, complete, and reliable. ESG assurance offers an effective and practical means of doing exactly this because the relevant disclosures and the underlying systems and controls used to prepare an ESG report can be verified by an independent expert exercising due care and skill.

Like a financial statement audit, ESG assurance culminates in a formal opinion on the faithful representation of the respective parts of an ESG report which can lower information asymmetry and boost confidence in the veracity of the report.<sup>3</sup> By highlighting errors,

omissions, and control deficiencies, ESG assurance can be used to hold managers accountable for their ESG performance and the quality of their ESG reports (Adams & Evans, 2004; Clarkson et al., 2019; Cohen & Simnett, 2015; Quick & Inwinkl, 2020; Simnett et al., 2009; Wang et al., 2019; Zhou et al., 2019). This is because the methods and processes used to test ESG information are similar to those employed during an audit of financial statements. Conceivably, if a financial statement audit supports internal control systems and contributes to more reliable financial reporting (Abdel-Khalik, 1993; Blackwell et al., 1998; Carey et al., 2000), the same should apply in the context of ESG reporting.

Nonexperts can place confidence in the fact that an independent expert has tested and expressed an opinion on ESG disclosures (e.g., Dando & Swift, 2003; Hodge et al., 2009; Quick & Inwinkl, 2020; Reimsbach et al., 2018; Simnett et al., 2009). Empirical evidence suggests that ESG assurance can enhance the credibility of ESG reports, particularly when existing regulatory measures are lacking (Herda et al., 2014; Kolk & Perego, 2010), companies are operating in stakeholder-centric environments (Simnett et al., 2009), and ESG disclosures are strategically relevant (Cheng et al., 2015; Reimsbach et al., 2018). Archival research also shows that, by lowering information asymmetry, ESG assurance is associated with lower costs of capital and less forecast inaccuracy (Coram et al., 2009; Pflugrath et al., 2011; Zhou et al., 2019).

Earlier studies identify several drivers of the demand for ESG assurance. Examples include firm size, leverage, profitability, and ownership structures (see Branco et al., 2014; Clarkson et al., 2019; Kend, 2015; Zorio et al., 2013). Collectively, these firm characteristics can be understood as indicators of the complexity of organizations' operating and business environments and the possibility of greater information asymmetry between companies and their stakeholders. For example, the effects of a separation of owner and management functions will be most pronounced for larger firms and those in complex industries because these firms are more challenging to coordinate and control and difficult for stakeholders to understand than other organisations. It follows that larger and more complex firms purchase more ESG assurance (see Farooq & de Villiers, 2018; Maroun, 2020; Simnett et al., 2009) which operate as an internal monitoring and control tool (Forte & Barac, 2015; Prinsloo & Maroun, 2021) and promotes more accurate and reliable reporting to stakeholders (see Wang et al., 2019; Zhou et al., 2019). That ESG assurance plays an important transparency and credibility enhancing role (Zhou et al., 2019) which lowers information asymmetry is consistent with findings that early forms of voluntary financial statement audits<sup>4</sup> were a useful within-company control mechanism which mitigated agency costs (Abdel-Khalik, 1993; Blackwell et al., 1998; Carey et al., 2000).

### 2.2 | Hypothesis development

As discussed in Section 2.1, for voluntary disclosures to be value relevant, they must be reliable. It is usually a board of directors which is responsible for ensuring that the information being reported to

stakeholders is valid, accurate, and complete. It follows that, in South African and other codes on corporate governance, boards are expected to play an active monitoring role to ensure that information reported to investors and other stakeholders can be relied upon (King, 2018; Solomon, 2020). How ESG assurance, which also contributes to more reliable ESG reporting, may enable a board's monitoring role is less clear and is considered in more detail below.

### 2.2.1 | The monitoring role of the board of directors

Monitoring by boards of directors is an effective means of moderating opportunistic behavior by management and reducing information asymmetry in both a financial (see, e.g., Boone et al., 2007; Coles et al., 2008; Linck et al., 2008) and ESG setting (consider Ntim & Soobaroyen, 2013b; García-Sánchez, 2020; Martínez-Ferrero & García-Sánchez, 2017). For example, boards which meet frequently and show greater interest in voluntary disclosures often play a more proactive monitoring role which covers financial and other information (García-Sánchez, 2020). Larger boards which are more diverse and have multidisciplinary skills can appreciate the strategic and operational importance of environmental and social issues (Ntim & Soobaroyen, 2013b) and the need to oversee the reliability of voluntary ESG disclosures (García-Sánchez, 2020; Haniffa & Cooke, 2005; Liao et al., 2018; Martínez-Ferrero & García-Sánchez, 2017; Peters & Romi, 2015). Nonexecutive and independent directors temper the self-interests of managers, are sensitive to the demands of non-shareholding stakeholders, and may be more committed to the broader social and environmental responsibility agenda than executive directors (García-Sánchez, 2020; Martínez-Ferrero & García-Sánchez, 2017).

The research on the interdependence between firm-level governance and sustainability performance or commitment to corporate social responsibility is not conclusive. Nevertheless, the general position is that boards of directors can increase an organization's focus on environmental and social issues and the credibility of associated ESG disclosures (Martínez-Ferrero & García-Sánchez, 2017; Ntim & Soobaroyen, 2013b). This is supported by empirical evidence confirming that well-constituted and resourced boards are associated with a reduction of information asymmetry and are better placed to balance economic, environmental, and social imperatives than other governing bodies (see Barako & Brown, 2008; Haniffa & Cooke, 2005; Ntim & Soobaroyen, 2013b).

### 2.2.2 | The relationship between monitoring by the board and the use of ESG assurance

Prior research confirms that firm-level governance can substitute for weaknesses in investor protection (Durnev & Kim, 2005) and that

ESG assurance can do the same (Choi & Wong, 2007; Herda et al., 2014). Equally possible is the position taken by King IV (see Section 3) that ESG assurance safeguards the credibility of voluntary disclosures and investors' interests by complementing the monitoring capability of boards of directors.

For example, as explained above, larger boards with a greater proportion of nonexecutive members are more inclined to take stakeholder interests into account, prioritize ESG reporting, and counter management self-interests. ESG assurance can be used to respond to stakeholders' expectations for more accurate and complete ESG reporting (Simnett et al., 2009). Appointing an ESG assessor can improve internal controls and demonstrate commitment to the management of and reporting on ESG issues (Farooq & de Villiers, 2019; Gray, 2000; Kolk & Perego, 2010). Similarly, if more proactively monitored firms strive for improved social and environmental accountability and assurance can bolster the quality of ESG reporting, it follows that these organizations should make greater use of ESG assurance than other firms (Liao et al., 2018; Martínez-Ferrero & García-Sánchez, 2017).

In practical terms, the monitoring role played by boards of directors in an ESG setting may necessitate the use of third-party assurance. Directors may not have the expertise, time, and resources to test ESG reports and oversee the controls which contribute to better ESG performance. As a result, they can rely on ESG assessors to identify errors, omissions, and inconsistent application of laws and best practices (see Adams & Evans, 2004; Moroney et al., 2012). ESG assessors can also support a board's monitoring processes by identifying material risks, reviewing controls designed to mitigate those risks, and providing recommendations for improving internal processes (consider Gray, 2000; Moroney et al., 2012; Wang et al., 2019). This is the position taken in South Africa where—as discussed in Section 3—King IV calls for the use of external experts to aid the board with its reporting and monitoring roles as part of a combined assurance model.

ESG assessors can give boards of directors confidence in the strategic, management, and operating systems for which they are responsible (King, 2018). Well-constituted and proactive boards will be better equipped than others to engage with environmental or social issues (Ntim & Soobaroyen, 2013b) and appreciate the complementary role which ESG assurance plays in monitoring these concerns (see Liao et al., 2018; Zhou et al., 2019). This is especially the case when the value relevance of this type of reporting is growing and boards are coming under increased scrutiny for the credibility of their ESG reporting (see de Villiers et al., 2020; Simnett et al., 2009) or organizations are transitioning to the use of combined assurance (King, 2018; Prinsloo & Maroun, 2021). With these points in mind, the first hypothesis is as follows:

**H1.** The monitoring attributes of boards of directors are positively associated with the use of ESG assurance.

### 2.2.3 | The relationship between monitoring by audit and/or risk committees and the use of ESG assurance

Kend (2015) finds that sustainability committees are inclined to engage an ESG assessor. Peters and Romi (2015) report similar findings. An environmental committee comprising directors specializing in environmental issues contributes to the demand for ESG assurance. These types of committees are associated with more diligent monitoring of and control over environmental and social issues. Their interest in promoting ESG reporting goes hand in hand with the use of external assurance to safeguard the credibility of voluntary disclosures found in these reports (see also García-Sánchez et al., 2021; Martínez-Ferrero & García-Sánchez, 2017). The same is expected to apply when it comes to an audit and/or risk committee vested with the responsibility for managing economic, environmental, and social risks and overseeing the operation of combined assurance models (see Section 3).

ESG assessors can assist audit and risk committees with evaluating different types of financial and other information. Assurance providers can make recommendations for how social and environmental issues can be better managed (Gray, 2000; Jones & Solomon, 2010). They enable a thorough risk monitoring process and are essential for identifying and remedying weaknesses in accounting systems and internal controls (Forte & Barac, 2015). Without an ESG assessor, it can be practically difficult for an audit or a risk committee to conclude on the adequacy of the systems and controls put in place to ensure the accuracy, completeness, and reliability of ESG disclosures. The quality of information used for internal management purposes may also be questionable if material data are not tested by an independent expert.

Finally, an audit or a risk committee should be able to understand the technical nature of assurance services and cases in which ESG assurance can complement internal systems. Better resourced and more experienced committees are also better placed to challenge management and to insist on evidence to corroborate accounts of economic, environmental, and social performance, behavior which should increase the use of ESG assurance (see Carcello et al., 2011; Kend, 2015; Peters & Romi, 2015). This is especially the case when committees dealing with social and environmental concerns are also responsible for reviewing financial statements and, as a result, are well accustomed to relying on assurance providers to support their monitoring role (Peters & Romi, 2015).

**H2.** The monitoring attributes of audit and/or risk committees are positively associated with the use of ESG assurance.

### 2.2.4 | The relationship between monitoring by internal auditors and the use of ESG assurance

If boards and committees are already expending sufficient effort to oversee ESG disclosures and to reduce information asymmetry, there

may be no need to purchase costly third-party assurance. The importance of internal audit should not be overlooked.

Internal audit can play a vital role in risk identification and management (Coetzee & Lubbe, 2014; Sarens et al., 2009; Trotman & Trotman, 2015). Similar to the work performed by external assurance providers, internal auditors can test the systems, processes, and controls which support management functions and the integrity of reporting to stakeholders. Their expertise and position in an organization should leave internal auditors well placed to identify emerging risks and to develop risk management plans. They can inform a board's strategic decisions, develop practical solutions for implementing risk management and operating policies, and ensure compliance with applicable laws and regulations (Decaux & Sarens, 2015; Forte & Barac, 2015; Trotman & Trotman, 2015).

Internal auditors perform similar test procedures to those executed by external assurance providers. Although they are members of an organization, they must discharge their duties according to professional standards which include independence and quality control requirements (Coetzee & Lubbe, 2014). Similar to external ESG assessors, internal auditors can also draw on multidisciplinary teams of experts to test both financial and nonfinancial information. As a result, internal auditors may substitute for other ESG assurance services. This is valid when considering the cost of purchasing ESG assurance (Park & Brorson, 2005) and the inherent limitations of external assurance reports. These include focusing predominantly on historical and quantitative information, providing only high-level recommendations, and restricting the use of assurance reports (Mock et al., 2013; O'Dwyer & Owen, 2007).

**H3.** The monitoring attributes of internal auditors are negatively associated with the use of ESG assurance.

The role played by internal audit in an ESG reporting context has not been investigated in detail but experiences in a financial reporting setting cast doubt on the ability of internal audit to substitute for ESG assurance provided by external parties. Most notably, internal auditors do not have the same level of independence from managers as external assurance providers have (IAASB, 2014). Clear reporting lines, access to audit committees, and inadequate support from governing bodies may further undermine the monitoring capabilities of internal audit (see, e.g., Zain & Subramaniam, 2007). It can also be difficult to coordinate the activities of internal and external auditors because of differences in the approach followed by the assurance providers, their respective standing at organizations and the technical hurdles which must be overcome when one assurance provider seeks to place reliance on another (Khelil & Khelif, 2021; Kok & Maroun, 2021; Mubako & Muzorewa, 2019; Roussy & Brivot, 2016). Equally relevant is the fact that professional standards have been developed for external assurance providers to test different parts of ESG reports. The same may not be the case when it comes to internal auditors, especially at organizations where internal auditors have been focused predominantly on financial controls and do not have in-house expertise to deal with ESG issues (Engelbrecht et al., 2018; Trotman & Trotman, 2015).

### 3 | INTEGRATED REPORTING, GOVERNANCE, AND ESG ASSURANCE IN SOUTH AFRICA

The South African context is used to examine the interconnection between corporate governance mechanisms, ESG reporting, and ESG assurance in more detail. The country follows an approach to corporate governance which emphasizes the need to balance social and environmental matters with economic concerns (Maroun & Cerbone, 2020; Rossouw et al., 2002; West, 2006). The country's first code on corporate governance was issued in 1994 and followed an integrated approach to governance intended to reintroduce South Africa to the global market, following decades of isolation because of Apartheid (Institute of Directors in Southern Africa [IOD], 1994; West, 2009).

Stakeholder-centrism was entrenched in the second King Code (2002) which followed an inclusive approach to governance grounded in principles such as transparency, accountability, social responsibility, and environmental protection (IOD, 2002). The third King Code was released in 2009 and called for ethical leadership, corporate citizenship, and long-term sustainability. It was followed by King IV in 2016.

King IV stresses that the governing body must provide strategic direction, oversee the implementation of that strategy by managers, and ensure accountability for long-term performance (IOD, 2016, p. 21). The governing body's activities are informed by an integrated thinking philosophy which "takes account of the connectivity and interdependencies between the range of factors that affect an organisation's ability to create value over time" (IOD, 2016, p. 23). These include economic, environmental, or social considerations which King IV refers to as the "triple context" or the "combined context of the economy, society and environment in which the organisation operates" (IOD, 2016, p. 24).

The governing body's strategic and monitoring activities are not limited to financial considerations: There must be a thorough assessment of the organization's dependence on and the interconnections among different types of resources or capitals necessary for sustaining an organization's activities (IOD, 2016, p. 61; King & Atkins, 2016). These include financial, manufactured, intellectual, human, social and relationship, and natural capitals<sup>5</sup> (IIRC, 2021).

To give an account of and to ensure accountability for the organization's performance across the different capitals, the governing body oversees the preparation of an integrated report (IOD, 2016). The integrated report should explain how the organization manages different capitals to generate value over the short, medium, and long term. The report should include an explanation of how the governance function works in conjunction with the organization's strategy and business model to generate value and balance stakeholders' expectations (IOD, 2016).

To assist those charged with governance with meeting their strategic, monitoring, and reporting responsibilities, King IV calls for the use of combined assurance. "Combined assurance":

incorporates and optimises all assurance services and functions so that, taken as a whole, these enable an

effective control environment; support the integrity of information used for internal decision-making by management, the governing body and its committees; and support the integrity of the organisation's external reports. (IOD, 2016, p. 10)

The governing body must ensure that assurance functions bolster the overall control environment, contribute to effective internal decision making, and support the preparation of reliable integrated reports (IOD, 2016, pp. 68–70). Combined assurance does not replace the monitoring functions of a board of directors and its committees. Assurance is used to assist the governing body to identify and to manage risks more effectively, to operate a robust system of internal control, and to increase confidence in the data included in external reports and used by managers to make decisions (ibid).

Responsibility for the implementation of combined assurance is usually delegated to an audit committee<sup>6</sup> which can use different types of internal controls, management systems, and monitoring activities as part of a combined assurance model. These are complemented by more formal sources of assurance provided by internal auditors and external assurance providers who, in addition to testing financial statements, also deal with the other information contained in integrated reports (Conradie et al., 2020).

Figure 1 highlights how the South African governance context informs an approach to overseeing and monitoring an organization's operations and reporting, mindful of the triple context. Combined assurance is used to support the governing body's activities.

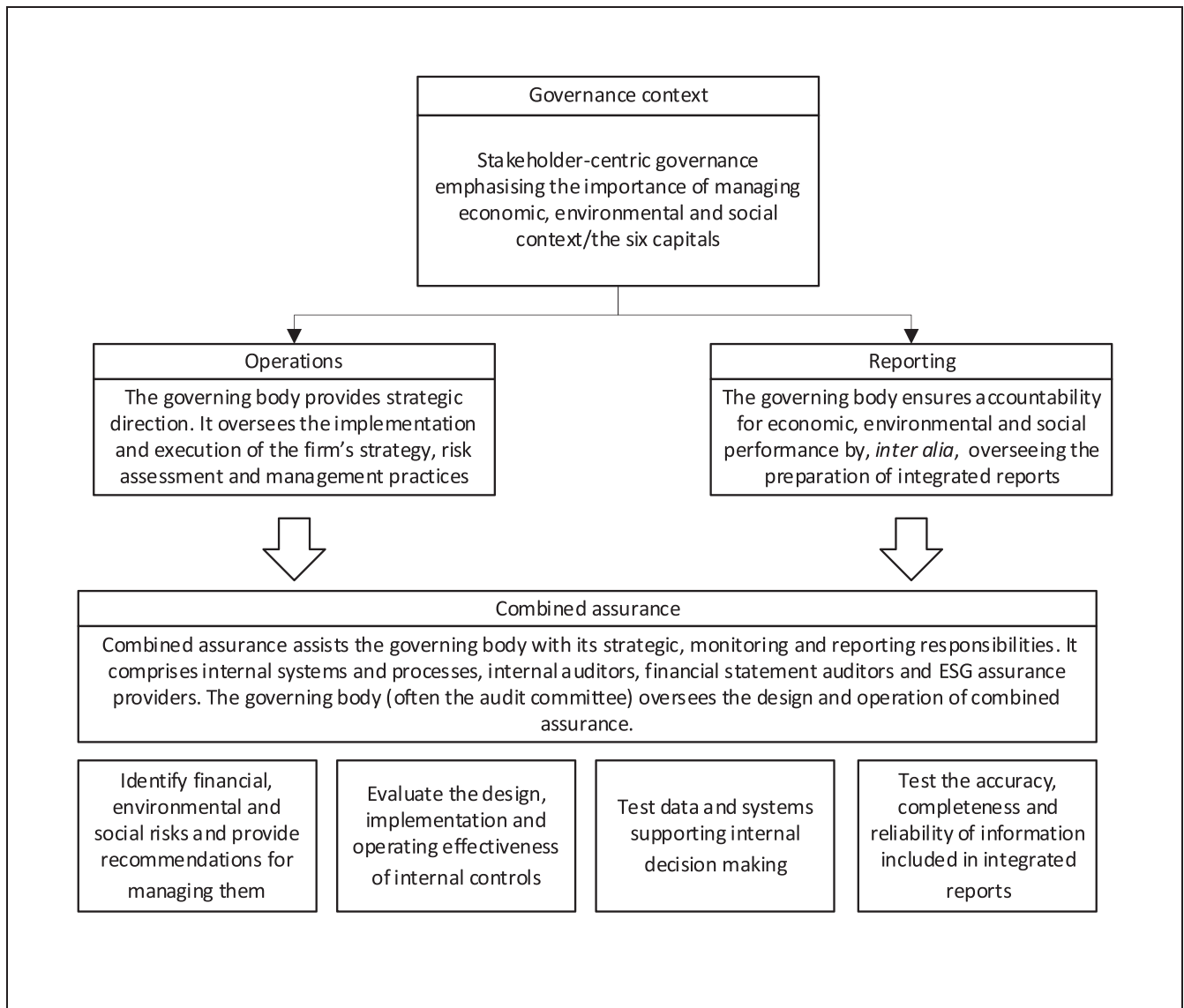
King IV does not have the direct force of law. It cannot mandate the preparation of and the use of ESG assurance for an integrated report.<sup>7</sup> Even if this were not the case, the code does not detail the minimum components of a combined assurance model. Consequently, combined assurance is understood and applied differently by South African companies (see Conradie et al., 2020; Forte & Barac, 2015; Prinsloo & Maroun, 2021). Of particular interest for this research is whether or not the monitoring attributes of boards of directors, audit and risk committees, and internal audit departments are associated with the greater use of ESG assurance.

### 4 | METHODS

Similar to the approach followed by Simnett et al. (2009), and Cho et al. (2014), a regression model is used to test H1, H2, and H3. The regression model is stated as follows:

$$\text{ESG\_ASSURANCE}_{it} = \alpha_1 + \beta_1 \text{DIRECTORS}_{it} + \beta_2 \text{COMMITTEE}_{it} + \beta_3 \text{INTAUDIT}_{it} + \beta_x \text{CONTROL VARIABLES}_{it} + e_{it}$$

ESG\_ASSURANCE measures the amount of external assurance provided, based on the number of subject matters which are subject to ESG assurance at company *i* in year *t*. DIRECTORS, COMMITTEE, and INT\_AUDIT measure the monitoring attributes of boards of



**FIGURE 1** Governance model

directors, audit and risk committees, and internal auditors, respectively. Several control variables, based on prior research, are also introduced. The measurement of the independent, dependent, and control variables are discussed in more detail in Section 4.2.

Results from the regression model control for time-series and firm effects. A Heckman two-stage model controls for selection and omitted variable bias associated with the decision to engage or not to engage an external assurance provider (Bozec & Bozec, 2012; de Villiers et al., 2017). Several other sensitivity tests are also performed (see Section 5.3).

#### 4.1 | Data

The analysis focuses on integrated reports prepared by the top 50 companies (by market capitalization) listed on the JSE which have

published an integrated report from 2013 to 2016.<sup>8</sup> The final sample provided 200 separate observations (firm-years) with an integrated report prepared in each year. Of these, 122 reported the use of, at least, some ESG assurance (61%). The remaining 78 firm years (39%) reported no use of ESG assurance. The use of ESG assurance is higher than the 12% reported by Cho et al. (2014) and 31% found by Simnett et al. (2009). The sample of firms is consistent from year to year.

The reader's attention is drawn to the relatively small sample. While the companies represent more than 80% of the market capitalization of the JSE and volume of trade, the limited number of observations from only a single economy is a limitation. Generalizing the findings should be done with caution although key relationships between the three governance metrics and use of ESG assurance are likely to be valid in other settings where corporate governance systems, ESG reporting, and ESG assurance services are mature.



## 4.2 | Dependent and independent variables

### 4.2.1 | Measuring assurance

ESG\_ASSURANCE measures the total number of subject matters dealing with ESG issues tested for company  $i$  in year  $t$ , according to the respective professional standards. In South Africa, these are usually ISAE 3000 or AA1000AS (Ackers & Eccles, 2015). The dependent variable for the sample of  $n$  firms is determined as follows:

$$ESG\_ASSURANCE_{it} = \sum_{it=1}^{it=n} (kR_{it} + kL_{it})$$

$R_{it}$  represents the subject matters in an assurance engagement on which reasonable assurance is provided for firm  $i$  in year  $t$ .  $L_{it}$  denotes the subject matters in an assurance engagement on which limited assurance is provided for firm  $i$  in year  $t$ . The subject matters and level of assurance (high or moderate) are stated in each assurance report and are not based on a subjective assessment. Examples of subject matters include greenhouse gas emissions, water consumption, waste recycled, number of employees, health and safety statistics, and compliance with codes of best practice.

According to ISAE 3000 and AA1000AS, a reasonable assurance engagement is supported by more rigorous test procedures than is a limited assurance engagement (AccountAbility, 2008; IAASB, 2009). As a result, a reasonable assurance engagement provides a higher level of assurance than a limited assurance engagement. For clarity, this paper refers to reasonable assurance engagements providing a high (but not absolute) level of assurance and to limited assurance engagements as providing a moderate (less than high) level of assurance. In practice, differences in the levels of assurance are not quantified but can affect the extent to which users place reliance on the subject matter of an assurance report (Hodge et al., 2009). To capture the difference between the type of assurance provided,  $k = 2$  for a reasonable assurance engagement and 1 for a limited assurance engagement.<sup>9</sup>

### 4.2.2 | Monitoring attributes of the board of directors

In most codes of best practice, the board of directors assumes responsibility for a company's corporate governance. The same is true in South Africa where "the governing body" serves "as the focal point and custodian of corporate governance in the organisation" (IOD, 2016, p. 49). It must monitor management and ensure accountability by overseeing the preparation of high-quality integrated reports and taking responsibility for a combined assurance model (IOD, 2016, Principles 5 and 15).

To execute its monitoring role, the board must apply key governance principles. It must "serve as the focal point and custodian of corporate governance in the organisation" (Principle 6) and have an appropriate balance of expertise, experience, diversity, and

independence (IOD, 2016, Principle 7). It should evaluate its performance (IOD, Principle 9) and champion a culture of ethics and responsible corporate citizenship (IOD, 2016, Principles 1–3). A broad approach to the governance of risk and compliance with laws and regulations is required which takes cognizance of the triple context (Principles 10–13). This is supported by viewing the organization's strategy, risk, business model, performance, and sustainable development as "inseparable elements of the value-creation process" (IOD, 2016, Principle 4).

Drawing on the specific practices linked to King IV's governance principles, the items in Table 1a are used to construct an index which captures the monitoring attributes of a board of directors (DIRECTORS). As an additional safeguard, the index was reviewed by two research assistants to ensure that the relevant governance practices were considered. The index was also compared to firm-level governance features outlined by Ammann et al. (2011), Ntim et al. (2012), and Ntim (2013). The latter evaluate corporate governance quality in South Africa.<sup>10</sup>

### 4.2.3 | Monitoring attributes of the audit and/or risk committee

In South Africa, the establishment of an audit committee is a statutory requirement for listed companies. In addition, King IV suggests that "as a matter of leading practice," a company's board of directors should appoint an audit committee which is tasked with monitoring the integrity of any reports issued to stakeholders (IOD, 2016, p. 55). An audit committee will also be responsible for overseeing the processes followed to identify and manage both financial and non-financial risks. This should form part of an approach to risk governance which "supports the organisation in setting and achieving its strategic objectives" (IOD, 2016, p. 61). With this in mind, the items in Table 1b are included in a second index which captures the monitoring attributes of audit committees (COMMITTEE). Companies may form a separate audit and risk committee, or the audit committee may also perform risk management functions. As a result, the activities of audit and risk committees are evaluated together. Like Table 1a, the items in Table 1b are informed by King IV.

### 4.2.4 | Monitoring attributes of internal audit

In addition to ESG assurors, ensuring accurate and reliable integrated reports may involve the use of an internal audit function. To maximize the benefits of internal audit, a formal charter should be developed which defines the authority of the internal auditor and the scope of any testing performed. Ideally, internal auditors should follow a risk-based approach which focuses on testing material financial and operating systems, including those which have a direct or indirect impact on social and environmental performance (Forte & Barac, 2015; IOD, 2009). Table 1c lists the items included in an INTAUDIT index informed by King IV.

**TABLE 1a** Attributes of the board of directors

1. **Appointment and removal of directors**
  - 1.1 Members are appointed and removed following due process per King-IV and the relevant laws/regulations
  - 1.2 Formal policies are in place for determining eligibility to serve on the board including prerequisite skills in ESG-related matters
2. **Composition of the board**
  - 2.1 The majority of board members are non-executives
  - 2.2 Of the non-executive directors, the majority are independent
  - 2.3 The board is chaired by a non-executive independent director
  - 2.4 A lead independent director has been appointed if the chair is not independent
  - 2.5 The chief executive officer is a board member
  - 2.6 The financial director or chief financial officer is a board member
3. **Training and skills**
  - 3.1 The qualifications and experience of individual directors are disclosed
  - 3.2 An induction programme for new directors is in place
  - 3.3 Directors have qualifications in and experience managing different types of sustainability-related issues
  - 3.4 Ongoing training for all directors is in place including training on sustainable development
4. **Execution of functions**
  - 4.1 There is a formal charter setting out the role of the board and each director and dealing with environmental, social and governance matters. Ethics, corporate citizenship and sustainable development are also addressed
  - 4.2 Board is assisted by a competent and suitably qualified/experienced company secretary and sustainability specialists
  - 4.3 The board meets at least four times a year
  - 4.4 The board reviews economic, environmental and social performance at its meetings
  - 4.5 Reviews address strategy, risks, opportunities and compliance with laws and regulations according to the triple context
  - 4.6 Attendance of the majority of board meetings as per the attendance register
  - 4.7 The board's performance is periodically evaluated
  - 4.8 The board's performance is gauged according to economic, social and environmental indicators

#### 4.2.5 | Composite governance score

Each item in Tables 1a–1c is assigned a value of “1” when the respective item is dealt with in a company's integrated and/or sustainability report. Where an item has not been disclosed, a score of “0” is recorded. The items have the same weighting (as suggested by Bozec & Bozec, 2012). Average scores serve as composite corporate governance indices (DIRECTORS, COMMITTEE, and INTAUDIT) where a value tending to 0 implies a weaker ability to monitor.<sup>11</sup> Each variable is considered separately, but, for brevity, the three variables are referred to collectively as GOVERNANCE.

Composite scores are used rather than specific board or committee features such as the number of directors, proportion of independent members, or appointment of a sustainability officer/specialist to the board or audit committee. This is comparable to Schiehl et al. (2018) who construct board archetypes based on interdependent governance attributes which enable monitoring and investment in innovation. Using composite scores is appropriate because the membership, experience, and responsibilities of a board, an audit committee and a risk committee should work collectively to ensure effective corporate governance<sup>12</sup> (IOD, 2016; King, 2018).<sup>13</sup> No attempt is made to match the monitoring features of boards, audit committees, risk committees, and internal audit to specific economic, environmental, or social considerations. This is impractical and contrary to the holistic governance of the triple context under King IV.

Finally, interviews were conducted with 17 of the companies included in this analysis. The aim was not to perform a mixed-method study but to take cognizance of possible disconnects between how governance mechanisms are explained in corporate reports and how they function. The interviews were also useful for corroborating if governance structures include ESG considerations.

Interviews focused on how companies understand and apply the requirements of King IV including its provisions dealing with integrated reporting and assurance. Interviews were analysed for inconsistencies with the integrated report; to confirm whether the boards, audit, and/or risk committees and internal audit departments engage with ESG issues; and to confirm the extent to which ESG information is being assured. No material differences were noted between the data captured in the governance indices and the interviews.

Overall, the interviews were a useful internal validity check for the reported governance measures. Nevertheless, as with any research based on data collected from corporate reports, differences between governance practices and disclosures cannot be precluded. The test interviews were conducted several months after the corporate reports had been prepared and with only a limited number of companies. They cannot guarantee that governance measures are valid and reliable in every respect.

#### 4.3 | Control variables

Given the cost of ESG assurance, only the largest and most profitable companies may be using external assurers. As a result, this research controls for differences in the size of a firm measured according to market capitalization. ROA is used as a measure of financial performance (Branco et al., 2014; Park & Brorson, 2005). Controls are also introduced for financial risk and structure because these indicators may be associated with greater scrutiny from investors and other stakeholders and, in turn, the need to bolster the credibility of corporate reports by using ESG assurance (see de Villiers et al., 2020; Farooq & de Villiers, 2017). The former (LEV) is measured by the ratio of total debts to total assets (Simnett et al., 2009). The latter (DE) is measured by the ratio of noncurrent liabilities to total equity.

**TABLE 1b** Attributes of the audit and risk committee**5. Appointment and removal of directors**

- 5.1 Audit and risk committees are appointed by the board (through the nomination committee) and members are approved by the shareholders
- 5.2 Formal policies are in place for determining eligibility to serve on the audit or risk committee including the prerequisite skills in ESG-related matters

**6. Composition of the committees**

- 6.1 Audit committees are comprised of at least three non-executive, independent directors
- 6.2 The chairperson of the board is not a member of the audit committee
- 6.3 The audit committee is chaired by a non-executive, independent director
- 6.4 The risk committee consists of at least three directors (both executive and non-executive) with the majority being non-executive
- 6.5 If there are separate audit and risk committees, there are joint members on the committees

**7. Training and skills**

- 7.1 The risk committee is comprised of directors with a suitable mix of qualifications and experience and includes individuals with expertise in environmental and social issues
- 7.2 The committees make use of sustainability specialists as and when required
- 7.3 Collectively, the members of the audit committee have the necessary skills and experience to execute their duties effectively (including expertise in ESG matters)

**8. Execution of functions**

- 8.1 There is a formal charter setting out the role of the committees and each director. The charter deals specifically with environmental, social and governance matters. Ethics, corporate citizenship and sustainable development are also addressed
- 8.2 The committees meet at least two times a year
- 8.3 Directors attend committee meetings as per disclosed attendance registers
- 8.4 The committees' performance is periodically evaluated
- 8.5 Performance is gauged according to economic, social and environmental indicators

**9. Governance of risk**

- 9.1 The audit and/or risk committee actively monitor and review:
- the assessment of material social and environmental risks;
  - the identification of opportunities/initiatives to mitigate risks and/or any adverse outcomes;
  - the organisation's dependence on financial and non-financial resources;
  - the design and implementation of risk responses;
  - the establishment and execution of business continuity arrangements;
  - the integration of risk management in business activities and the organisation's culture;
  - the steps being taken to ensure long-term sustainability;
  - the achievement of sustainable development goals;
  - compliance with codes of best practice dealing with sustainability performance and the preparation of integrated and sustainability reports
- 9.2 The audit committee assumes responsibility for the validity, accuracy and completeness of external reports to stakeholders
- 9.3 The audit committee evaluates the effectiveness of internal controls and any assurance functions (including the independence of external assurance providers and the quality of their services)

Based on prior research, industry membership may affect the demand for ESG assurance (see de Villiers et al., 2020; Farooq & de Villiers, 2017; Maroun, 2020). Firms in the extraction/mining, paper production, and petrochemical industries have a high and direct social and environmental impact which results in a greater need to have ESG disclosures assured to maintain stakeholders' confidence in reported information (see Cho et al., 2014; Simnett et al., 2009). These companies are labeled "ESI" firms. Similarly, financial services firms can have a high social or environmental impact based on their decision to grant funding to different investments. Unlike companies in the ESI category, their impact is indirect, and they are, therefore, included in a category labeled "FSS."

The decision to have ESG disclosures externally assured may be associated with an increase in the quantity of disclosure (Cho et al., 2014). As a result, the regression model controls for the density of integrated reporting, measured as the quotient of the length of each report and the number of sections it contains.<sup>14</sup> Finally, this research distinguishes between assurance provided by a member of the Big 4 and other assurance providers based on earlier research which reports differences in the extent of testing carried out by these firms and the levels of assurance they provide (e.g., Green et al., 2017; O'Dwyer & Owen, 2007; Oware & Mallikarjunappa, 2021). A detailed review of how assurance offerings vary with the type of assurance provider is, however, deferred for future research.

**TABLE 1c** Attributes of the internal audit function

<b>10. Standing of the internal audit function</b>
10.1 The organisation has an established internal audit function
10.2 A formal charter is in place defining the function and standing of internal audit
<b>11. Internal audit operates independently of management and has a direct line of access to the audit committee</b>
11.1 The chief audit executive is appointed or approved by the governing body
11.2 The internal audit charter is not limited to testing only financial systems and controls
<b>12. Skills</b>
12.1 Internal audit is headed by an experienced and suitably qualified chief audit executive
12.2 Collectively, the internal audit team has the necessary skills and resources to evaluate both financial and ESG data, systems and processes
<ul style="list-style-type: none"> <li>• Team members are formally trained on different reporting frameworks and assurance standards applicable to ESG information</li> <li>• Team members have experience with testing ESG information and related internal controls</li> <li>• The team includes environmental and social specialists or internal audit has access to appropriate consultants/third-party service providers</li> <li>• Provision made for consultation on difficult or contentious issues with the board, audit committee and external experts as required</li> </ul>
<b>13. Functions</b>
13.1 The chief audit executive attends audit committee meetings and board meetings by invitation
13.2 A risk-based approach guides the work performed by internal audit
13.3 Internal audit assures more than the financial statements and related controls including:
<ul style="list-style-type: none"> <li>• the effectiveness of the internal control environment;</li> <li>• risk management systems and</li> <li>• other corporate governance systems</li> </ul>
13.4 Internal audit is subjected to an independent quality review

**TABLE 2** Independent and control variables

Independent variables	
DIRECTORS	The average score based on the composition and role of the board of directors for each firm-year as per Table 1a
COMMITTEES	The average score based on the composition and role of the audit and/or risk committee for each firm-year as per Table 1b
INTAUDIT	The average score based on the internal audit function for each firm-year as per Table 1c
Control variables	
Density (DEN)	The ratio of the total number of pages in an integrated report to the number of sections in the report
Type of auditor (TYPE)	A dummy variable equal to 1 if the assurance provider is one of the Big 4 and 0 for other assurance providers
Market capitalization (SIZE)	The natural log of the market capitalization as at the end of a company's reporting period obtained directly from the Johannesburg Stock Exchange
Industry membership (ESI and FSS)	Two dummy variables are included for mining companies or those in other environmentally sensitive industries (ESI = 1) and companies in the financial services sector (FSS = 1). All other companies = 0
Financial performance (ROA), leverage (LEV), and structure (DE)	Financial performance is measured by return on assets (ROA). Financial risk is depicted by the ratio of total debts to total assets (LEV), and financial structure is measured by the extent to which a company relies on debt financing relative to equity (DE)

Table 2 summarizes the independent and control variables.

## 5 | RESULTS

Table 3 presents the relevant descriptive statistics. Of the 200 firm-years, 122 reported, at least, some use of external assurance. On average, companies have approximately 11 subject matters assured. The maximum (by a single entity) was 34 with an interquartile range of 20. The quantum or amount of assurance remains consistent from 2013 to 2016 as confirmed by an un-tabulated Kruskal-Wallis test.

Table 4 reports the Spearman correlations between paired variables. At the univariate level, there is a reasonably strong positive correlation between social and environmental impact (ESI) and ESG\_ASSURANCE as found by Simnett et al. (2009). Report density

(DEN) and firm size (SIZE) are only weakly correlated with ESG\_ASSURANCE. There is a strong correlation between TYPE and ESG\_ASSURANCE, suggesting that the Big 4 provide more assurance than do their counterparts.

### 5.1 | Primary results

The regression of DIRECTORS, COMMITTEES, and INTAUDIT on ESG\_ASSURANCE is presented below. The model summaries have been prepared after running a case-wise diagnostic to test for significant outliers. An OLS regression is run first (Model A) followed by a Heckman two-stage test (Model B) to control for selection bias.

TABLE 3 Descriptive statistics

	2013		2014		2015		2016		Total	
	Mean	Std. dev	Mean	Std. dev	Mean	Std. dev	Mean	Std. dev	Mean	Std. dev
ESG_ASSURANCE	10.69	13.80	10.88	13.80	9.14	11.79	9.43	11.34	10.04	12.68
DIRECTORS	.87	.10	.87	.12	.87	.11	.88	.10	.87	.11
COMMITTEES	.85	.14	.84	.18	.85	.16	.87	.14	.85	.16
INTAUDIT	.79	.17	.77	.17	.79	.19	.81	.20	.79	.18
DEN	32.59	21.16	34.25	24.86	35.01	26.05	33.42	25.98	33.82	24.51
SIZE	13.62	18.80	17.61	23.99	18.17	24.16	18.79	31.65	17.06	24.65
ROA	.08	.11	.07	.08	.07	.11	.06	.08	.07	.10
LEV	.63	.29	.62	.31	.63	.30	.62	.29	.62	.30
DE	4.88	9.33	3.79	6.38	3.27	7.89	3.60	9.96	3.89	8.39

Notes: Statistics are reported for un-transformed variables. The scores for the number of subject matters tested weighted according to the levels of assurance provided (ESG ASSURANCE) are included as are the three GOVERNANCE measures. The density of the integrated reports (DEN), the type of ESG assurance provider (TYPE), size of the firm measured according to market capitalization (SIZE), return on assets (ROA), leverage (LEV), and financial structure (DE) are control variables. Refer to Table 2 for details.

### 5.1.1 | Model A: OLS regression results

In line with H1, the monitoring attributes of the board of directors ( $\text{DIRECTORS}_\beta = 32.504, p < .01$ ) has a positive effect on ESG\_ASSURANCE. Audit committee attributes reduce the demand for ESG assurance, contrary to H2 ( $\text{COMMITTEES}_\beta = -17.465, p < .05$ ). Overall, the governance attributes under review make a significant contribution to the model's exploratory power.<sup>15</sup> Untabulated standardized coefficients show that the positive effect of DIRECTORS ( $\beta$  (STD) = .264,  $p < .01$ ) on the use of ESG assurance is, in absolute terms, greater than the negative effect of COMMITTEES ( $\beta$  (STD) = -.205,  $p < .05$ ). These results are robust to the effects of firm size, industry classification, the amount of ESG information being reported, and the type of assurance provider.

There is insufficient evidence to support H3. The fact that audit and risk committees are associated with a reduced use of ESG assurance is not being amplified by internal audit functions ( $\text{INTAUDIT}_\beta = -.401, p > .1$ ). This may be because, in South Africa, internal audit does not have the same level of independence as an external assurance provider has. Coordinating the efforts of internal and external assurers may also be challenging. Both points are often raised in the context of internal audit's role in monitoring internal controls and supporting financial statement audits in developing economies (see, e.g., Coetzee & Lubbe, 2014; Khelil & Khelif, 2021; Mubako & Muzorewa, 2019). Equally possible is that internal auditors do not have the same expertise as do specialized external assurers tasked with testing ESG disclosures. As a result, internal audit may be less efficient as an ESG monitoring mechanism or as an indicator of the reliability of an integrated report. This is especially the case if an experienced and independent board of directors is already attending to monitoring functions. Internal audit may also be preoccupied with financial risks rather than dealing directly with the ESG issues.

### 5.1.2 | Model B: Heckman procedure

A Heckman two-stage test is used to control for self-selection concerns and omitted variable bias associated with management's decision to have their integrated reports. In the first-stage probit model, APPOINT is the dependent variable and is "1" when an ESG assurance provider is engaged (irrespective of the number of subject matters tested per Section 4.2) and "0" when this is not the case.

Possible drivers of the decision to appoint an external assurance provider are informed by the prior literature. As discussed in Section 4.3, larger firms and those in socially or environmentally sensitive industries may be more inclined to use ESG assurance because of additional stakeholder scrutiny (Simnett et al., 2009). As a result, the natural log of firm sales (SALES), ESI, and FSS are included as independent variables in the probit model. Results on the relevance of firm performance (ROA) and financial risk (LEV) are mixed (see Cho et al., 2014; Kend, 2015; Sierra et al., 2013; Simnett et al., 2009), but these are included as additional drivers of the decision to engage an external assessor.<sup>16</sup>

Cho et al. (2014) argue that the number of ESG disclosures can inform the decision to appoint an assurance provider. As a result, whether or not a separate sustainability report (SSR) is issued in addition to an integrated report is introduced as a proxy for the volume of information being reported.<sup>17</sup> Listing status (LISTING) is also considered. Companies which are primarily listed on the JSE are expected to prepare an integrated report informed by guidance provided in the King Codes. These refer explicitly to the importance of external assurance (IOD, 2009, 2016). Neither the listing requirements nor the King Codes impose a legal duty to have integrated reports assured. Nevertheless, there would be significant pressure on companies to engage an assurance provider to demonstrate compliance with codes of best practice<sup>18</sup> (de Villiers et al., 2014; JSE, 2016). The same may not apply to companies primarily listed on an alternate exchange.

TABLE 4 Correlation matrix

	DEN	TYPE	SIZE	ESI	FSS	ROA	LEV	DEN	DIRECTORS	COMMITTEES	INTAUDIT	ESG_ASSURANCE
DEN	1.000	.013	.122	.064	.218**	-.323**	.273**	.275**	0.155	.035	.051	.027
TYPE		1.000	.274**	.384**	-.233**	-.142	.243**	.159*	.225**	.281**	.047	.778**
SIZE			1.000	-.069	-.216**	-.021	.168*	-.060	-.136	.112	.185*	.068
ESI				1.000	-.522**	-.226**	-.325**	-.194*	.115	.181*	-.088	.467**
FSS					1.000	-.185*	.155*	.325**	-.019	-.323**	-.099	-.248**
ROA						1.000	-.166*	-.380**	-.056	.167	-.039	-.170*
LEV							1.000	.664**	.248**	.057	.048	.176*
DEN								1.000	.146	-.067	.021	.026
DIRECTORS									1.000	.474**	.166	.268**
COMMITTEES										1.000	.137	.170
INTAUDIT											1.000	.037
ESG_ASSURANCE												1.000

\*Significance at the 5% level.

\*\*Significance at the 1% level.

**TABLE 5a** Determinants of assurance

Model A: OLS regression DV = ESG_ASSURANCE N = 200		
Independent and control variables	Coefficients	Test statistic
DEN	-.051	-.928
TYPE	6.067	2.583**
SIZE	-.007	-1.769*
ESI	12.499	3.610***
FSS	-2.872	-.854
ROA	-3.319	-.265
LEV	11.808	2.464**
DE	-.230	-1.218
DIRECTORS	32.504	2.313***
COMMITTEES	-17.465	-1.853**
INTAUDIT	-.401	-.069
Model details		
Fixed year effects		Yes
Adjusted R <sup>2</sup>		.483

Notes: This table reports results of the OLS regression examining the effect of the monitoring attributes of directors (DIRECTORS), audit and risk committees (COMMITTEES), and internal audit departments (INTAUDIT) on ESG assurance. Controls for the density of integrated reports (DEN), the type of assurance provider (TYPE), firms' market capitalization (SIZE), industry type (ESI/FSI), financial performance (ROA), and financial structure (LEV and DE) are included. VIF scores are less than 3 for each independent and control variable. Collinearity diagnostics show that predictors are not clustered on a single dimension. This suggests that multicollinearity is not having a material effect on the models' predictive power. An un-tabulated scatter plot showed that residual errors were approximately normally distributed and gave no indication of material heteroscedasticity. Nevertheless, results were rerun using robust standard errors and bootstrapped using 1000 iterations and a bias-corrected and accelerated method. An un-tabulated ANOVA is used to test the null hypothesis that the independent and control variables do not contribute to the predicted outcome. A heteroskedastic regression model with the same dependent, independent, and control variables corroborated the OLS results. Finally, standardized measures were used to confirm that the findings are robust to the effect of variables being measured on different scales.

\*Significance at 10% level.

\*\*Significance at 5% level.

\*\*\*Significance at 1% level.

The second-stage estimation model is the same as that used in the OLS regression (Model A). Results are presented in Table 5b.

Consistent with Cho et al. (2014) and Simnett et al. (2009), the probit regression shows that ESI is positively and significantly related to APPOINT ( $B = 1.454, p < .01$ ) with the marginal effects suggesting that direct environmental impact results in 42.3 percentage point increase in the probability of an external assurance provider being engaged. Thereafter, industry only has some relevance for the amount of assurance being provided ( $ESI_{\beta} = 11.524, p < .1; FSS_{\beta} = -15.483, p < .1$ ).<sup>19</sup>

The decision to prepare an SSR is associated with an increase in the likelihood of an ESG assurance provider being appointed. Thereafter, more extensive reporting ( $DEN_{\beta} = -.121, dF/dX = -.086, p > .1$ )

is not having a significant effect on ESG\_ASSURANCE. Financial risk is positively associated with the decision to appoint an ESG assessor ( $LEV_{dF/dX} = .684, p < .01$ ) and is also significant in the estimation model ( $LEV_{\beta} = 18.141, p < .05$ ). Results for DEN, SIZE, and DE are consistent with those reported in Model A. After controlling for the decision to have an integrated report externally assured, the choice of assurance provider is not associated significantly with ESG\_ASSURANCE ( $TYPE_{\beta} = -3.552, p > .1$ ). DIRECTORS ( $\beta = 58.857, dF/dX = 41.663, p < .01$ ) still reports a statistically significant association with the amount of assurance being provided. COMMITTEES ( $\beta = -31.692, dF/dC = -22.434, p < .05$ ) continues to report a statistically significant and negative association with the dependent variable.

## 5.2 | Complementary analysis

Instead of computing a single assurance score, reasonable and limited assurance engagements are considered separately.<sup>20</sup>

### 5.2.1 | Model A: OLS regression results

More rigorous testing in reasonable assurance engagements should enable better monitoring by those charged with governance. This is supported by the fact that DIRECTORS is associated with an increased use of reasonable ( $DIRECTORS_{\beta} = 20.098, p < .05$ ) rather than limited ( $DIRECTORS_{\beta} = 17.250, p > .1$ ) assurance engagements. The monitoring attributes of an audit or a risk committee are associated with less moderate assurance ( $LIMITED ASSURANCE_{\beta} = -18.815, p < .05$ ) based primarily on inquiry and analytical review. The same does not apply when more extensive tests are carried out to provide a higher level of assurance ( $REASONABLE ASSURANCE_{\beta} = -7.033, p > .1$ ).

### 5.2.2 | Model B: Heckman procedure<sup>21</sup>

The Heckman procedure confirms the sign and significance of the relationship between DIRECTORS and COMMITTEES and REASONABLE ASSURANCE per Model A. The association between COMMITTEES and LIMITED ASSURANCE also holds (see Table 6a). DIRECTORS was not associated with greater use of limited assurance engagements in the OLS regression, but, after controlling for the decision to appoint an assurance provider, the variable reports a statistically significant positive coefficient at the 5% level ( $DIRECTORS_{\beta} = 20.258, p < .05$ ).

## 5.3 | Un-tabulated robustness checks

### 5.3.1 | Lagged measures and change analysis

Firms with weaker corporate governance systems may appoint an external assurance provider to carry out test procedures and

**TABLE 5b** Effect of the decision to engage an assurance provider

Independent and control variables	Model B: Heckman two-step			
	Final results		Marginal effects	
	Coefficients	Test statistic	dF/dX	Test statistic
Estimation/primary model		DV = ESG_ASSURANCE		
DEN	-.121	-1.623	-.086	-1.540
TYPE	-3.552	-1.061	-2.514	-.960
SIZE	-.007	-1.730*	-.005	-1.630
ESI	11.524	-2.347*	8.157	2.500**
FSS	-15.483	6.598*	-10.960	-2.130**
ROA	-25.988	-1.778*	-18.396	-1.540
LEV	18.141	2.011**	12.842	2.540**
DE	.392	0.888	.277	.900
DIRECTORS	58.857	3.494***	41.663	3.030***
COMMITTEES	-31.692	-2.541**	-22.434	-2.180**
INTAUDIT	-5.363	-1.623	-3.797	-.650
Probit model		DV = APPOINT		
SALES	.247	1.929	.020	.490
ROA	2.649	1.515	.471	.870
LEV	2.166	3.661***	.684	3.730***
ESI	1.454	3.590***	.423	3.650***
FSS	.452	1.114	.160	1.310
LISTING	.290	.772	.054	.410
SSR	1.068	3.109**	.259	2.460**
LAMBDA	3.145			
Model details				
Fixed year effect		Yes		
Rho		.294		
Wald chi-square		53.11***		

Notes: Table 5a reports first- and second-stage results from a Heckman test. The final estimation model includes the same GOVERNANCE measures and control variables as reported in Table 5a. Test performed subject to exclusion restrictions. VIF scores for a multiple regression model including the estimation variables and Inverse Mill's ratio are under 10. As a result, multicollinearity is not having a material effect on the final estimation regression. An un-tabulated plot of standardized and unstandardized predicted and residual values confirmed an approximately normal distribution. Nevertheless, results were bootstrapped for robustness based on 1000 iterations and a bias-corrected and accelerated method (un-tabulated).

\*Significance at the 10% level.

\*\*Significance at the 5% level.

\*\*\*Significance at the 1% level.

recommend improvements. Consequently, assurance may be affecting corporate governance measures. To control for reverse causality, a 1-year and 2-year lagged measure of the variables is introduced in the OLS regressions (see de Villiers et al., 2017; Klein, 1998). Results are qualitatively consistent with those reported in Sections 4.1 and 4.2.

To corroborate the above test, a change analysis of the relationship between DIRECTORS, COMMITTEES, and ASSURANCE is performed. The change in ASSURANCE is compared with changes in the applicable control and independent variables year-on-year. The same approach is used to test the robustness of the association between LIMITED and REASONABLE ASSURANCE and the independent variables.

### 5.3.2 | Governance features

The size of the board, proportion of nonexecutive, independent, and female directors are often considered separately in corporate governance studies (e.g., Liao et al., 2018; Ntim & Soobaroyen, 2013b). When a control is introduced for each (and the measure is excluded from the three governance indices), un-tabulated results are consistent with those reported in Table 5a. This is probably because ESG assurance is an integral part of the broader corporate reporting and governance processes in South Africa and not limited to only companies with the largest and most diverse boards.



TABLE 6a Results for levels of assurance

Independent and control variables	Model A: OLS regression N = 122			
	DV = LIMITED ASSURANCE		DV = REASONABLE ASSURANCE	
	Coefficients	Test statistic	Coefficients	Test statistic
DEN	-.093	-2.032	-.017	-.414
TYPE	-3.201	-2.915***	.886	.917
SIZE	-.001	-.408	-.003	-1.517
ESI	6.975	2.708***	.864	.381
FSS	-1.728	-.426	-7.139	-1.999**
ROA	10.906	1.280	-20.072	-2.678**
LEV	15.138	3.270**	-.099	-.024
DE	.314	1.149	.004	.016
DIRECTORS	17.250	1.654	20.098	2.190**
COMMITTEES	-18.815	-2.443**	-7.033	-1.038
INTAUDIT	-1.150	-.240	-2.635	-.624
Fixed year effect	Yes		Yes	
Model details	Adj R <sup>2</sup> = 431		Adj R <sup>2</sup> = 429	

Notes: This table reports results of the OLS regression examining the effect of the monitoring attributes of directors (DIRECTORS), audit and risk committees (COMMITTEES), and internal audit departments (INTAUDIT) on ESG assurance considering the levels of assurance (LIMITED and REASONABLE) separately. Controls for the density of integrated reports (DEN), the type of assurance provider (TYPE), firms' market capitalization (SIZE), industry type (ESI/FSI), financial performance (ROA), and financial structure (LEV and DE) are included. Regression results are subject to the same considerations as per Table 5a.

\*Significance at 10% level.

\*\*Significance at 5% level.

\*\*\*Significance at 1% level.

Not all the items listed in Tables 1a–1c deal directly with ESG issues. How the items have been grouped may affect the results. Following a similar approach to Peters and Romi (2015), exploratory principal component analysis is used to identify governance components and the characteristics associated with each. Two components emerge.

Component 1 describes the board of directors which is loaded most heavily with the following characteristics: (1) Directors have qualifications in and experience with managing different types of sustainability-related issues; (2) ongoing training for all directors is in place including training on sustainable development; and (3) the board reviews economic, environmental, and social performance at its meetings. Component 2 represents the overlapping activities of the audit committee, risk committee, and internal audit. The component includes the fact that these functions actively monitor different financial and nonfinancial risks (as part of an integrated approach to risk governance). Qualitatively similar results are generated when Components 1 and 2 are included in the primary regression analysis in place of DIRECTORS, COMMITTEES, and INTAUDIT.

### 5.3.3 | Effect of sustainability performance

Only companies with sound social and environmental performance may be inclined to have their disclosures assured. As a result, an ESG performance measure is introduced as a control variable. Performance

is gauged according to inclusion on the FTSE/JSE Responsible Investment Index. The index assesses a range of environmental or social performance indicators such as climate change, biodiversity impact, human rights, health and safety standards, and anti-corruption (FTSE Russell, 2015). The OLS and Heckman estimations generate comparable results to those presented in Tables 5a and 5b, respectively. The same is true when the sensitivity tests are rerun considering REASONABLE ASSURANCE and LIMITED ASSURANCE separately.

### 5.3.4 | Additional tests for year and firm-specific effects

Firstly, although the regression models in Table 5a are run after controlling for fixed year effects, the results are corroborated using a random effects model.<sup>22</sup> DIRECTORS remains positively associated with the use of additional assurance, while COMMITTEES continues to report a negative coefficient. Comparable results are reported using a between effects model to evaluate the relationship between the dependent and independent variables after controlling for multiple observations per firm per year.<sup>23</sup> Findings per Table 6a also hold when evaluating limited and reasonable assurance separately.

Secondly, a Heckman two-stage procedure has been used to control for the effects associated with the decision to purchase third-party assurance, but other unobserved firm-specific effects may be at work. As a result, observations are randomly assigned to four equal

**TABLE 6b** Effect of the decision to engage an assurance provider

Dependent and control variables	Model B: Heckman two-step							
	Final results		Marginal effects		Final results		Marginal effects	
	Coefficients	Test statistic	dF/dX	Test statistic	Coefficients	Test statistic	dF/dX	Test statistic
Estimation model	DV = LIMITED ASSURANCE				DV = REASONABLE ASSURANCE			
DEN	-.083	-2.050**	-.049	-1.860*	-.019	-.530	-.011	-0.520
TYPE	-4.544	-2.490**	-2.661	-1.880*	.496	.310	.280	.320
SIZE	-.001	-.230	-.000	-0.230	-.003	-1.670	-0.002	-1.530
ESI	10.998	3.210***	6.440	4.670***	.263	.090*	.148	.090
FSS	.103	.030	.061	0.030	-7.793	-2.460**	-4.398	-2.100**
ROA	15.644	1.830*	9.160	1.910*	-20.816	-2.980**	-11.746	-2.110**
LEV	18.580	3.580***	10.879	4.890***	-.219	-.050	-0.124	-.050
DE	.308	1.270	.180	1.270	.042	.200	.024	.200
DIRECTORS	20.281	2.180**	11.875	2.030**	19.288	2.380**	10.883	2.140**
COMMITTEES	-18.469	-2.720***	-10.814	-2.240***	-6.611	-1.100	-3.731	-1.030
INTAUDIT	1.061	.240	.621	.240	-3.212	-.840	-1.813	-.780
Probit model	DV = APPOINT				DV = APPOINT			
SALES	.247	1.929	.020	.490	.247	1.929	.020	.490
ROA	2.649	1.515	.471	.870	2.649	1.515	.471	.870
LEV	2.166	3.661***	.684	3.730***	2.166	3.661***	.684	3.730***
ESI	1.454	3.590***	.423	3.650***	1.454	3.590***	.423	3.650***
FSS	.452	1.114	.160	1.310	.452	1.114	.160	1.310
LISTING	.290	.772	.054	.410	.290	.772	.054	.410
SSR	1.068	3.109**	.259	2.460**	1.068	3.109**	0.259	2.460**
Model details								
LAMBDA	4.685 <sup>1</sup>				-.770 <sup>14</sup>			
Fixed year effect	Yes				Yes			
Rho and chi-square	Rho = .181				Rho = -.176			
	Wald chi-square = 46.65***				Wald chi-square = 42.46***			

Notes: This table reports first- and second- stage results from a Heckman test. The final estimation model includes the same GOVERNANCE measures and control variables as reported in Table 5a but with LIMITED and REASONABLE ASSURANCE considered separately. Regression results are subject to the same considerations as per Table 5b.

\*Significance at the 10% level.

\*\*Significance at the 5% level.

\*\*\*Significance at the 1% level.

groups. Group dummy variables are included in the OLS regressions (Model A) and produce consistent results for the independent variables (adapted from Ntim, 2013).<sup>24</sup> Results for DIRECTORS and COMMITTEES in the Heckman two-step tests (Model B) are also robust to fixed firm effects.

Thirdly, DIRECTORS and COMMITTEES remain significant after observations are stratified according to whether or not an SSR has been prepared.<sup>25</sup>

Finally, variances in the DIRECTORS and COMMITTEES may be capturing unobserved firm factors which account for differences in corporate reporting quality, rather than underlying governance features and functions. Consequently, firms are ranked according to scores assigned to their integrated reports by the *EY Excellence in Integrated Reporting Awards*.

The EY survey is designed to focus on the quality of reports, rather than on the quantum of disclosure (EY, 2017). The emphasis is on the guiding principles outlined by the IIRC (2021): the strategic focus of the reports and future orientation, connectivity of information, stakeholder relationships, materiality, conciseness, reliability and completeness and consistency and comparability (EY, 2016, 2017). The score awarded to each report takes into account the content elements referred to in the IIRC's framework<sup>26</sup> and "the extent to which the integrated report incorporates the <IR> Framework's fundamental concepts, dealing with how value is created with reference to the six 'capitals,' where relevant" (Graham in EY, 2016, p. 25).

Results for firms with above-average integrated report quality (scores greater than 3 per the EY awards) are considered separately from those with below-average report quality (scores of 3 or lower

per the EY awards). While the relatively small sample is an inherent limitation, the sensitivity test provides a useful additional control that unobserved firm-specific factors which affect integrated report quality are not also affecting the relationship between internal governance mechanisms and ESG assurance.<sup>27</sup>

### 5.3.5 | Use of alternate measures<sup>28</sup>

For robustness, the OLS regressions presented in Tables 5a and 6a were rerun using the natural log of sales in place of the natural log of market capitalization as a proxy for firm size. In a second test, Tobin's Q was introduced as an additional financial performance measure. Given the relatively high correlations between DE and LEV (see Table 4), the tests were performed using both variables and then excluding DE which reported a statistically insignificant coefficient in Tables 5a and 6a.<sup>29</sup>

The findings generated by the Heckman two-step tests (Tables 5b and 6b) can be sensitive to multicollinearity and the choice of variables included in the probit and estimation models. As a result, the probit model is based on the assurance prediction equation developed by Simnett et al. (2009) and Cho et al. (2014), and results are evaluated for robustness.

Firstly, a binary measure of direct environmental and social impact is used in place of ESI and FSS in the probit model.<sup>30</sup> DIRECTORS and COMMITTEES remain significant. The same is true when the natural log of sales is replaced with the natural log of market capitalizations and DEN is replaced by SSR in the probit and/or estimation regressions.

Secondly, Tobin's Q is used as an alternative to ROA and DE and added to the probit model as an additional measure of financial risk. Qualitatively similar results for DIRECTORS and COMMITTEES are generated.

Thirdly, LISTING is evaluated in more detail. Contrary to expectations, the variable was insignificant in the probit regression ( $LISTING = .290_B, p > .1$ ). As a result, it is excluded from the analysis. DIRECTORS and COMMITTEES remain statistically significant. It is, however, possible that a firm's listing status is relevant after the decision to appoint an ESG assessor has been taken. To test for this effect, LISTING is added in the estimation regression (but excluded from the probit model). The coefficient is significant but only at the 10% level. Results for DIRECTORS and COMMITTEES are in line with those presented in Table 5b.

Fourthly, results from the Heckman two-step tests are corroborated by rerunning the OLS regressions after excluding observations where no external assessor has been engaged. Finally, in addition to distinguishing between reasonable (high) and limited (moderate) assurance (see Section 5.2), the ESG assurance scores are converted into a dichotomous variable based on whether or not companies have a score above or below the median score. The relationship between the use of ESG assurance and the independent variables is tested using logistic regression. The ESG assurance scores are also weighted by the maximum number of subject matters which have been tested by

the companies under review with and without adjustment for differences between limited and reasonable assurance. Results reported in Section 5.1 continue to hold.

## 6 | DISCUSSION AND CONCLUSION

In support of H1, monitoring attributes of boards of directors are associated with an increased use of ESG assurance. This is true for both reasonable and limited assurance engagements which offer high and moderate levels of assurance, respectively. Conversely, and contrary to H2, the monitoring attributes of audit and risk committees decrease the use of ESG assurance in total and, in particular, the use of limited assurance engagements. The use of reasonable assurance is unaffected. This is probably because it is easier and more cost effective for audit and risk committees to assess ESG information internally than to use limited assurance engagements which only rely on analytical review and enquiry with management to support conclusions. In contrast, it may be impractical for a company to have the extensive testing performed during a reasonable assurance engagement replicated internally. The same may be true for internal auditors who, contrary to H3, do not lower the use for ESG assurance. Equally possible is that internal auditors do not have the necessary independence and expertise to substitute for ESG assurance provided by an external expert.

The relationship between the use of ESG assurance and the monitoring attributes of boards, audit committees, and risk committees hold after controlling for direct social or environmental impact, financial performance, sustainability performance, firm size, and extensiveness of reporting (see, e.g., Kolk & Perego, 2010; Simnett et al., 2009). Distinguishing between the decision to appoint an external auditor and the amount and level of external assurance does not alter the relationship between the governance measures and the extent to which ESG assurance is being used. Overall, monitoring by a governing body is associated with an increased use of ESG assurance, notwithstanding firm-specific differences.

These findings affirm the position that ESG assurance is a key part of the broader governance system which contributes to a reduction of information asymmetry. ESG reporting can provide value-relevant information for investors and other stakeholders (Barth et al., 2017; Grewal et al., 2021; Schiehl & Kolehgar, 2021) but only if the reporting is credible. Given that ESG reports are prepared voluntarily and by an organization's managers, appropriate checks and balances are required to ensure that information being communicated to stakeholders is valid, accurate, and complete. Monitoring by boards of directors, audit committees, and risk committees is a key example. ESG assurance is an important within-firm control mechanism which can support more proactive monitoring and review by boards and their audit or risk committees of the integrity of ESG reports issued for the benefit of investors and other stakeholders. This is especially the case when ESG assessors complete reasonable assurance engagements which provide higher levels of assurance than limited assurance engagements. The former are based on detailed risk assessments and

extensive testing of data and underlying systems which can be costly and difficult for companies to replicate or substitute with internal monitoring mechanisms. The engagements can reveal deficiencies in internal controls, errors in key disclosures, and material omissions allowing managers to be held accountable and organizations to prepare more reliable ESG reports.

South Africa provides an excellent environment for examining the interconnection between ESG assurance and other firm-level governance features because it has well-established codes of best practice which are principles based and a mature assurance market. While detailed results are jurisdiction specific, the link between ESG assurance and the monitoring role of boards and their committees should be broadly applicable in other settings where governance systems are not driven only by regulation and where ESG assurance is being used to ensure the accuracy and completeness of the information being reported to investors and other stakeholders. The paper's conclusions are also applicable where ESG assurance is still emerging, but companies, governing bodies, and regulators are concerned with enhancing the monitoring of and control over the ESG information being reported to stakeholders.

The current paper makes an important contribution to the corporate governance literature. It provides empirical evidence on how corporate governance mechanisms promote the use of ESG assurance, something which has been largely overlooked by the prior research on the determinants of ESG assurance (Kend, 2015; Liao et al., 2018; Martínez-Ferrero & García-Sánchez, 2017; Peters & Romi, 2015). The findings also provide one of the first accounts of how ESG assurance forms part of the combined assurance model which organizations can use to ensure more credible reporting to stakeholders. It responds directly to the call for additional research on the factors which encourage companies to use ESG assurance to test parts of their integrated or sustainability reports and complements earlier work on the determinants of assurance by studying a unique setting where integrated reporting and external assurance markets are established.

At the practical level, the findings provide support for the decision taken by standard setters and regulators to call for ESG assurance as a means of enhancing the reliability of integrated and sustainability reports (see, e.g., GRI, 2016; IIRC, 2021). They also highlight the need for additional guidance on assurance processes. Currently, ESG assurance is limited to specific disclosures or subject matters rather than to the integrated report in its entirety. There is no requirement for data, systems, and controls to be audited, in addition to the information being presented in an integrated report. Companies also have the discretion to determine precisely which disclosures are tested. As a result, outlining the information which should be the subject matter of an assurance engagement, the test procedures which must be performed and the level of assurance which ought to be provided will go a long way to promoting consistency of assurance practice and the benefits of having an integrated report independently assured. In addition to policymakers and standard setters, this paper's findings also have implications for preparers and investors. External assurance should not be seen as only a compliance-based or credibility exercise.

It needs to be internalized as a crucial part of the broader corporate governance environment.

Finally, as with any study of this nature, there are inherent limitations and a need for additional research. Most notably, the study is based on a relatively small sample of companies from a single jurisdiction with a sophisticated corporate governance framework in place (see de Villiers et al., 2014; Rossouw et al., 2002). Findings may not hold in cases where, for example, a stakeholder-centric approach to governance is not followed or the levels of investor protection are low (see Herda et al., 2014; Kolk & Perego, 2010; Simnett et al., 2009). Findings may also be biased because the sample of firms was selected from among the most established listed organizations in South Africa. Before results can be generalized, it will be necessary to expand the analysis to include a broader range of South African companies, coupled with a multi-jurisdictional analysis of assurance practices.

An extended econometric analysis can be supported by a more comprehensive definition of assurance. This research uses the number of subject matters in limited and reasonable assurance engagements as a type of assurance proxy. This is one-dimensional. Other indicators, such as the experience of the engagement team, use of different test procedures and the number of restatements can be considered (see, e.g., Green et al., 2017; O'Dwyer & Owen, 2005). This may yield a more refined measure of assurance than only recording the number of subject matters or elements which have been tested. Similarly, the activities of boards of directors and their audit and risk committees are gauged according to the information included in integrated reports. Despite the safeguards discussed in Section 4, a more exploratory study which engages directly with companies, observes their governance processes, and considers precisely how governing bodies are interacting with their assurance providers is required to reach more definitive conclusions. As part of this process, other governance features such as strategy development, investment in information systems, and the governance of ethics can be considered. Materiality, which has not been factored into the current paper's model and results, must also be evaluated. It will be useful for future researchers to examine whether or not and how most material disclosures (from the perspectives of different stakeholders) are being assured. As a final suggestion, how ESG can improve the effectiveness of boards and their committees from both a monitoring and strategic perspective can be examined more extensively. The composite governance scores used in the current paper have been guided by earlier research and codes of best practice but do not capture every feature of corporate governance systems.

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## NOTES

- <sup>1</sup> There are different types of reports dealing broadly with economic, social, and environmental issues. Examples include environmental and social reporting, corporate social responsibility (CSR) reporting,

- sustainability reporting, and integrated reporting. For brevity, these are referred to collectively as ESG reporting or corporate reporting. Assurance provided by an *independent external expert* over the information found in these reports, other than the statutory financial statements, is labeled “ESG assurance.”
- <sup>2</sup> These are subject matters determined according to International Standards on Assurance Engagements (ISAEs) and AccountAbility. For the purpose of this research, “subject matters” are the different elements of an ESG report or specific disclosures which have been tested by an independent expert.
  - <sup>3</sup> Typically, the assessor expresses an opinion on whether the subject matter conforms in all material respects to the respective criteria or has been materially misstated (reasonable assurance). Alternatively, the assessor indicates if anything has come to his/her attention to suggest that the subject matter may not conform to the respective criteria or has been materially misstated (limited assurance). For details, see ISAE 3000.
  - <sup>4</sup> While this work deals with financial statement audits, the demand for assurance is evaluated among private companies which are not statutorily required to have their financial statements audited.
  - <sup>5</sup> According to King IV, “the triple context is portrayed in more granular fashion by the forms of capital that the organisation uses or affects.” These are the six capitals outlined by the IIRC: financial, manufactured, intellectual, human, social and relationship, and natural capitals.
  - <sup>6</sup> Or combined audit and risk committee.
  - <sup>7</sup> Integrated reporting forms part of a King IV’s comply and explain model and is recommended by the listing requirements of the local stock exchange, but integrated reporting is not a statutory requirement.
  - <sup>8</sup> These companies account for most of the market capitalization of the JSE and the majority of trade on the JSE. They have also prepared integrated reports consistently over the period under review with the result that self-selection issues associated with the decision to prepare an integrated report are reduced.
  - <sup>9</sup> Un-tabulated sensitivity tests (see Section 5.3) confirmed that changes to the weightings did not have a material effect on the results. The relationship among the dependent and independent variables was also tested by considering reasonable and limited assurance engagements separately (refer to Section 5.2).
  - <sup>10</sup> There is a strong association between the governance quality score developed by Ntim and Soobaroyen (2013a, 2013b) and the governance measures developed in the current paper ( $X^2 = 6.671, p < .05$ ). This is consistent with the fact that both measures are grounded in the provisions of the relevant King Codes.
  - <sup>11</sup> The maximum scores for DIRECTORS, COMMITTEES, and INT\_AUDIT are 20, 26, and 19. The analysis is based on untransformed scores. Results are confirmed using percentage scores for the GOVERNANCE measures and a standardised score for each measure. These tests are un-tabulated.
  - <sup>12</sup> The use of an aggregated governance measure is also in line with the approach followed by Ntim and Soobaroyen (2013b) who develop a composite score as a measure of governance quality and use this to test the association between corporate governance and corporate social responsibility practices of South African firms in the early 2000s.
  - <sup>13</sup> Peters and Romi (2015) consider how the presence and characteristics of environmental committees and the appointment of a chief sustainability officer impact the assurance of sustainability reports. This paper takes a broader approach because, in South Africa, audit committees typically deal with environmental and social-related issues as part of a collective approach to risk management. Similarly, the role of a chief sustainability officer would be overseen or carried out by an audit committee.
  - <sup>14</sup> The length of the report is total number of pages excluding the cover page. The number of sections is obtained from the table of contents to limit the degree of subjectivity involved when quantifying density.
  - <sup>15</sup> To corroborate this finding, a two-stage hierarchical model is run using the enter method. Control variables (DEN, TYPE, SIZE, ESI, FSS, ROA, LEV, and DE) are added in Stage 1. DIRECTORS, COMMITTEES, and INTAUDIT are added in Stage 2. Collectively, the control variables account for approximately 35% of the variance in ASSURANCE. When the corporate governance scores are added in Stage 2 of the OLS regression, its exploratory power increases by approximately 13% ( $\Delta R^2 = .133, p < .01$ ). If the hierarchical model is repeated with controls added in Stage 1, DIRECTORS in Stage 2, and COMMITTEES added in Stage 3, similar results are reported. The same is the case when DIRECTORS and COMMITTEES are evaluated separately. For brevity, these results are not tabulated.
  - <sup>16</sup> Using the log of sales is consistent with the model developed by Simnett et al. (2009). The effect of using the log of market capitalization, as is the case in the OLS regression, instead of the log of sales to proxy for firm size is discussed in Section 5.3.1. The effect of excluding ROA and LEV from the probit model is also dealt with in Section 5.3.1.
  - <sup>17</sup> This is used instead of DEN because, in practical terms, a company may not know exactly how much information it is planning to disclose at the time when it is assessing if an ESG assessor may be appointed.
  - <sup>18</sup> Probit:  $APPOINT_{it} = b_1 + \lambda_1 SALES_{it} + \lambda_2 ROA_{it} + \lambda_3 LEV_{it} + \lambda_4 MIBNE_{it} + \lambda_5 BANK_{it} + \lambda_6 LISTING_{it} + \lambda_7 SSR_{it} + \epsilon$ .
  - <sup>19</sup> The negative coefficient on FSS may be because the sector is more heavily regulated when it comes to its internal controls than is the mining industry. As a result, voluntary assurance may be playing a secondary role only as part of the broader control environment.
  - <sup>20</sup> The scores are determined as the frequency of subject matters which are tested to provide either a high (REASONABLE) or moderate level of assurance (LIMITED), weighted according to the maximum number of unique subject matters identified for the sample of companies.
  - <sup>21</sup> The probit model is the same as that used in Section 5.1.
  - <sup>22</sup> A Hausman specification test confirmed the decision to use a random rather than fixed effects model.
  - <sup>23</sup> To confirm these results, a Kruskal-Wallis test is used to evaluate how ASSURANCE varies with DIRECTORS and COMMITTEES when the two dependent variables are categorized by quartile. The results hold when the sample of companies is stratified by year and choice of assurance provider.
  - <sup>24</sup> The same result is achieved when a dummy variable is introduced for each firm in the sample under review.
  - <sup>25</sup> It is also possible that the dependent variables are mainly capturing the extent of compliance with King IV. This is also addressed by considering the impact of separate sustainability reports which would include disclosures related specifically to corporate governance. Introducing a control for companies which have expressly stated compliance with King IV also does not have an effect on the results.
  - <sup>26</sup> These are organizational overview and external environment, governance, business model, risks and opportunities, strategy and resource allocation, performance, outlook, and finally basis of presentation and preparation (see IIRC, 2021).
  - <sup>27</sup> Propensity score matching was considered but not used. This was because of the small sample size and the fact that all firms under review had corporate governance systems in place. As a result, it was not practical to split the sample according to a treatment effect (being the decision to introduce a corporate governance system).
  - <sup>28</sup> When controls are introduced for share ownership by directors and large investors, results are unaltered. Consequently, these statistics are

not reported. The finding should, however, be interpreted with caution because the period under review is short and the sample is limited to the most actively traded companies on the South African stock exchange.

<sup>29</sup> These findings hold when the natural log of DEN, SIZE, ROA, LEV, and DE are used. Similarly, when the OLS regressions in Table 5a and 6a are run use the natural log of the dependent variable, findings for DIRECTORS, COMMITTEE, and INTERNAL AUDIT hold.

<sup>30</sup> Per the un-tabulated results, ESI reported the highest VIF scores.

## DATA AVAILABILITY STATEMENT

Research data are not shared.

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