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Assuring Sustainability: Enhancing Environmental, Social and Governance (ESG) Ratings in Top-40 Johannesburg Stock of Exchange Companies

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Abstract – Sustainability reporting has become increasingly common as companies respond to stakeholders' expectations, pressures, and criticisms demanding better information about the Environmental, Social and Governance (ESG) scores impacts of business activities. To build stakeholders' confidence, firms are increasingly seeking independent third-party assurance on their sustainability reports. Despite this trend, little is known about the impact of assurance levels provided on the SRs on ESG performance of firms in South Africa. This paper focuses on exploring the effect of different assurance levels on ESG ratings for the top 40 Johannesburg Stock Exchange listed companies. A quantitative approach was used to establish the relationship between assurance levels on sustainability reports and sustainability performance measured using ESG scores. The sustainability performance was measured using ESG ratings from London Stock Exchange Group and Bloomberg rating agencies. Data was collected from reports of the firms listed at JSE for the financial years 2022 and 2023. The results establish a significant and positive relationship between the levels of assurance on SRs and ESG ratings of firms listed on the JSE. This study contributes to the literature by providing insights into the relationship between external assurance and the quality of ESG reports.

Keywords – Assurance Levels, Environmental, Social and Governance (ESG), Johannesburg Stock Exchange (JSE), Rating Agencies, Sustainability Reporting (SR)

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1 Introduction

The recent interest in sustainable development goals (SDGs) has put companies under the intense scrutiny of governments, communities, and society in general (Sustainable Development Goals, 2019; Shayan, Mohabbati-Kalejahi, Alavi & Zahed, 2022). As key agents in the attainment of these international objectives, companies' activities, policies, actions and strategies are now being closely scrutinized and evaluated (Velte & Stawinoga, 2017; Jayarathne, Sachithra & Dewasiri, 2021; Oware & Moulya, 2022). This heightened scrutiny highlights the increasing demand for sustainable responsibility in shaping a better future (Shayan et al., 2022). Investors and stakeholders are no longer just focused on financial returns; they are increasingly demanding that companies take responsibility for environmental and societal impact of their decisions and activities (Parikh, Kumari, Johann & Mladenovic, 2023). This shift reflects a growing awareness that sustainable practices are not only ethically important but also essential for long-term business success. Companies that fail to address these concerns risk losing investors' confidence and market relevance (Pfajfar, Shoham, Malecka & Zalaznik, 2022). Therefore, embracing accountability in ESG performance matters is not just a moral obligation; it is a strategic imperative for maintaining a competitive edge in today's market.

In response to stakeholder demands, companies are being urged to publish comprehensive and credible sustainability information in their reports (Ahmad, Yaqub & Lee, 2023). To address the growing concerns about the credibility of the ESG information in SRs, many companies are now opting to have their SRs voluntarily assured by an independent third party (Darnall, Ji, Iwata & Arimura, 2022). This move is crucial as it directly strengthens stakeholder confidence, enhancing public accountability and elevating the quality of sustainability information disclosed (Braam & Peeters, 2018). By ensuring transparency and reliability through independent assurance, companies not only demonstrate their commitment to responsible practices but also solidify thrust with their stakeholders, ultimately contributing to long-term sustainability success.

The importance of independent assurance services in ensuring credibility and transparency in SRs cannot be overstated. Evidence from various studies supports this assertion. For example, Hazaea, Zhu, Khatib, Bazhair and Ekamer (2022) indicates that companies with assurance on their SRs are perceived more credible, particularly when assurance is provided by reputable independent third parties. However, without stringent regulations governing SR and assurance levels, the decision to engage such services is left to managers. Consequently, SRs can vary significantly in scope and levels of assurance, ranging from reasonable assurance to limited assurance or no assurance at all (Quick & Inwinkl, 2020). According to Braam and Peeters (2018), the decisions that managers make about the scope and levels of assurance levels on SRs can significantly impact a firm ESG scores. Management might self-servingly engage third party assurance providers to bolster the credibility and legitimacy of their SRs, especially when they need to deflect attention from poor ESG performance. For instance, Piyathilaka (2024) found that companies may select specific assurance providers or limit the scope of assurance to control the narrative around their sustainability practices. However, it is important to note that the literature consistently points out that the mere presence of third-party assurance does not necessarily improve ESG performance. For example, Garcia-Meca, Ruiz-Barbadillo and Martinez-Ferrero (2024) argue that while assurance may enhance the credibility of reports, it does not guarantee sustentive improvement in ESG practices. The assurance might improve perceptions of transparency and reliability but does not necessarily lead to better ESG outcomes.

This study hypothesizes that the usage of third-party to provide assurance on sustainability reports of listed companies result in better ESG performance than companies without assurance on their sustainability reports. Previous studies have been conducted on the impact of sustainability assurance on sustainability information (Braam & Peeters, 2018; Giudice & Rigamonti, 2020), but this study is first study that investigates the relationship between assurance levels on sustainability reports and ESG performance using top 40 companies listed on the JSE in South Africa. Therefore, this study aims to contribute to the understanding of assurance levels provided on sustainability information by investigating the impact of assurance levels on sustainability reports on ESG performance in the top 40 JSE listed companies.

2 Theoretical Framework and Literature Review

This study is based on the three foundational theories that inform our understanding of corporate accountability and sustainability practices: Stakeholder Theory, Legitimacy Theory, and Agency Theory. By exploring how these theories intersect and complement each other, insights are gained into the importance of transparent and credible ESG reporting in aligning organizational practices with societal expectations and stakeholder interests.

2.1 Stakeholder theory

Stakeholder theory has long been hailed as the go-to framework for understanding SR and Integrated Reporting (IR) because it recognizes that organisations are not just accountable to shareholders but to all stakeholders impacted by their operation (Sun, Davey & Arunachalam, 2022). This theory encourages firms to consider the broader societal impact of their actions, emphasizing a more inclusive approach to responsibility (Alessa, Akparep, Sulemana & Agyemang, 2024).

To acknowledge their stakeholders, companies are increasingly integrating sustainability practices into their corporate strategies and reporting of ESG matters (Kuzey & Uyar, 2017; Benvenuto, Aufiero & Viola, 2023).

This approach not only reduces information asymmetry but also addresses agency problems by enhancing the credibility of ESG reports through third-party assurance. Moreover, this theory builds on legitimacy theory, which emphasizes ethical behavior and transparency (Alatawi, Ntim & Elmagrhi, 2023). Companies that fail to align their actions with societal values risk negative reactions from stakeholders, making it crucial for firms to explain their responses to community concerns.

2.2 Legitimacy theory

Legitimacy theory hinges on the concept of a social contract between a company and its community (Martens & Bui, 2023). According to this theory, the community in which a business operates grants the business the ability to function and access resources (Hahn & Kuhnen, 2013). For a business to thrive, it must be viewed as legitimate by society. This legitimacy is earned by adhering to societal norms and values, not only through appropriate behavior but also by transparently communicating its actions to stakeholders. When companies fall short of public expectations, they face increased scrutiny and pressure, threatening their legitimacy (Torelli, 2020). Firms with poor ESG performance and unverified ESG reports are particularly vulnerable to reputational damage and financial instability, as evidenced by recent study linking ESG shortcomings to declining investor confidence and legal penalties (Liu & Jin, 2023). Poor ESG scores and unverified SRs signal a lack of transparency and accountability, which can erode public trust and stakeholder support. Therefore, firms that fail to meet ESG standards or provide credible ESG reporting risk losing their social license to operate, ultimately jeopardizing their long-term viability in the market. In this scenario, assuring ESG reports becomes a crucial risk-management tool, enhancing public perception and safeguarding legitimacy by aligning with societal expectations of sustainability. This theory intersects with stakeholder theory, which advocates for transparent communication of ESG performance to stakeholders.

2.3 Agency theory

The agency theory, which is grounded in the principal-agent relationship between the insiders (managers) and outsiders (shareholders) of an organization, highlights the potential conflicts that can rise when the interest of managers diverges from those of shareholders (Kuzey & Uyar, 2017). According to Vitolla, Raimo and Rubino (2019), this theory underscores how managers, as agents, may act in their own self-interest rather than in the best interest of shareholders, who are the principals. This misalignment of interest may lead to inefficiencies and reduced value for shareholders if not properly monitored and incentivized.

However, agency theory focuses exclusively on shareholders as the primary stakeholders in an organization. This narrow focus can be problematic because it overlooks the interests of other crucial stakeholders, such as employees, customers, suppliers, and society. To address this limitation, integrating stakeholder theory with agency theory extends its scope to include all relevant stakeholders, thereby offering a more comprehensive framework that accounts for the interest of all parties involved in the organization. This broader perspective is supported by evidence suggesting that third-party assurance of ESG reports can enhance the credibility of these disclosures (Guidice & Rigamonti, 2020). By increasing the credibility of ESG disclosures, this integration helps align the interests of both owners and other stakeholders, thereby mitigating the agency problem. Stakeholder theory and legitimacy theory intersect by emphasizing the need for organisations to balance stakeholder interests and adhere to societal norms, enhancing their legitimacy through transparent ESG reporting. This intersection is supported by the view that firms enhance their legitimacy and trust within community by adhering to these norms, as evidenced by prior research that companies with transparent ESG practices are perceived as more credible and trustworthy by their stakeholders (Guidice & Rigamonti, 2020). Agency theory complements this perspective by addressing the principal-agent relationship, demonstrating that credible ESG disclosures can align the interests of managers and stakeholders, reducing agency problems. Therefore, the combined application of these theories advocates for comprehensive ESG practices, ensuring firms are accountable to all stakeholders and maintaining their legitimacy and trust in the community.

2.4 Literature review

Sustainability reporting

Sustainability reporting (SR), which focuses on the impact of organizational activities of ESG factors, has become increasingly common. According to Lakhani and Herbert (2022), the growing adoption of SR reflects a broader trend towards greater transparency. This trend aims to provide stakeholders with a comprehensive and realistic view of a company's positive and negative impacts, reflecting the growing demand for accountability in corporate practices. By adopting SR, firms align with the increasing demand for transparency, enhancing their ability to communicate the full spectrum of ESG impact to stakeholders. However, this practice has faced criticism from many researchers who argue that ESG reporting often serves to manipulate stakeholders, presenting an overly positive image of corporate operation that may not reflect reality (Garcia-Sanchez, Suarez-Fernandez & Martinez-Ferrero, 2019; Cure, Esen & Caliskan, 2020; Kanbaty, Hellmann & He, 2020; Martins, Gomes & Branco, 2021; Sandulescu, 2021; Chopra, Senadheera, Dissanayake, Withana, Chib, Rhee and Ok, 2024).

The reliability and credibility of ESG reporting, therefore, remain contentious issues. To address these concerns, the practice of external independent verification has grown significantly over the past decade. Many companies now seek assurance for their ESG reports to boost stakeholders' confidence and enhance the perceived credibility of the information, thereby improving social legitimacy (Du & Wu, 2019; Giudice & Rigamonti, 2020).

However, a significant gap persists in understanding how different levels of assurance impact ESG performance, especially in regions like South Africa. Current literature fails to comprehensively explore whether higher assurance levels can enhance EGS reporting, leaving this issue inadequately addressed. This lack of clarity is particularly evident in the context of the top 40 Johannesburg Stock Exchange (JSE) companies, where the relationship between assurance levels and ESG ratings remain unclear. Consequently. It is

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imperative to investigate the extent to which assurance of ESG reports can improve the quality of ESG ratings in this context.

The assurance of sustainability and assurance levels

The voluntary and unregulated practice of sustainability has raised significant concerns about the reliability and credibility of information provided in ESG reporting (Alsahali & Malagueno, 2021). Evidence shows that firms may engage in greenwashing as a corporate strategy. This involves the deliberate manipulation of ESG disclosures to obscure poor ESG performance and mislead stakeholders. According to Alsahali and Malagueno (2021), the lack of standardized regulations allows companies to selectively disclose information or provide misleading data. Supporting this, Yu, Luu and Chen (2020) highlight that organisations often use extensive but strategically chosen ESG disclosures to deceive investors and mask their true performance. The absence of regulatory external verifications in ESG reporting enables companies to use greenwashing tactics, thereby compromising the trustworthiness of ESG information. According to agency theory, this misalignment of interests between management and stakeholders highlights the need for stricter oversight and governance to ensure transparency and accountability in ESG reporting (Alsahali & Malagueno, 2021). Implementing such measures is crucial to prevent deceptive practices and to restore trust in ESG disclosures.

Consequently, third-party assurance of sustainability reports has become a standard practice among companies to enhance ESG reporting (KPMG, 2020). Despite this, sustainability assurance remains voluntary undertakings in many countries, including South Africa, leaving room for managers to choose whether to have their reports assured. This lack of uniform requirements for assurance creates a gap in the consistency and reliability of ESG reporting (KPMG, 2027). As a result, even in South Africa, where integrated reporting is mandatory, external auditors are only required to express an opinion on financial statements and review integrated reports for inconsistencies, rather than providing comprehensive assurance on ESG performance (Dilla, Janvrin, Perkins & Raschke, 2023). This underscores the need for more rigorous and standardized assurance practices to bolster investor confidence and ensure the accuracy of ESG disclosures (Farooq and de Villiers, 2020).

ESG assurance can be classified into two levels, each corresponding to established financial reporting terminology: limited assurance and reasonable assurance. Limited assurance offers a lower level of confidence compared to reasonable assurance. According to Kuhle and Quick (2024), in a reasonable assurance engagement, auditors minimize risk to a very low level. Conversely, in limited assurance engagements, risk is only reduced to an acceptable level. This difference in assurance levels is reflected in the nature, timing, and extent of the procedures performed, which are less comprehensive in limited assurance engagements (Kuhle & Quick, 2024).

Research on the sustainability reports of the world's largest publicly traded companies reveals that analysts' forecasts are more precise when based on reports with reasonable assurance, compared to those with limited or no assurance (Cuadrado-Ballesteros, Martinez-Ferrero & Garcia-Sanchez, 2017). This suggests that reasonable assurance enhances the reliability of SRs, leading to more accurate forecasts by analysts. For example, a study by Quick and Inwinkl (2020) indicates that German bankers favor companies with assured SRs, with a notably stronger preference for reports with reasonable assurance. This preference translates into financial analysts being more likely to recommend shares for purchases when higher levels of assurance are present (Riviere-Giordano, Giordano-Spring & Cho, 2018; Hoang & Trotman, 2021). Thus, higher assurance levels positively influence investment decisions and analyst recommendations

These findings underscore the significant impact of assurance levels on the credibility and influence of SR. As firms strive to improve transparency and reliability, understanding the nuances of limited and reasonable assurance becomes increasingly vital for investors, analysts, and stakeholders. However, there is no consensus on the assurance level sufficient for sustainability reports. Companies may obtain limited or reasonable assurance on their entire ESG performance report or, in some cases, reasonable assurance for other sections of sustainability reports and limited assurance for others (Singer, 2018; Prinsloo & Maroun, 2021). This variability in assurance levels further complicates the reliability of ESG reports and highlights the need for standardized assurance practices.

Although many studies have investigated the role of assurance in improving the reliability and transparency of ESG disclosures (Boiral, Brotherton & Talbot, 2023), few have especially explored how different assurance levels impact ESG performance, particularly in South Africa context. This study aims to bridge this gap, by exploring how different assurance levels - limited, reasonable and combined assurance affect the of ESG scores, offering valuable insights into the effectiveness of assurance practices in this region.

Empirical Literature Review

Prior research has investigated the effects of assurance on ESG reports, revealing mixed evidence regarding the association between the levels of assurance and ESG performance. For instance, Hay, Subramaniam, Sierra-Garcia and Kend (2021) examined this relationship and reported varying outcomes, indicating that while some studies find a positive association, others do not. Giudice and Rigamonti (2020) explored whether firms with assured ESG reports exhibit higher quality ESG scores, concluding that a relationship does exist between assurance levels and ESG performance. Their findings suggest that a relationship does exist between levels of assurance and ESG performance, indicating that firms with higher levels of assurance tend to have better ESG ratings.

Responding to concerns from investors and stakeholders about the credibility of ESG information, Braam and Peeters (2018) analyzed data from 21 European and North American countries between 2009 and 2014. Their study found that companies employing third parties to provide reasonable assurance on sustainability reports achieved higher ESG scores compared to those with limited assurance. This finding underscores the importance of robust assurance mechanisms in improving ESG performance.

Despite the valuable insights provided by these studies, the existing literature on the relationship between levels of assurance and ESG performance remains sparse, leading to weak evidence supporting the definitive association between these variables. The mixed results reported in prior research suggest inconsistencies that require further investigation to understand the underlying factors influencing this relationship.

Moreover, while significant research has been conducted in European and North American contexts. There is a notable gap in the literature concerning the impact of levels of assurance on ESG performance in South Africa. Braam and Peeters (2018) emphasized that importance of country-specific characteristics in understanding the relationship between levels of assurance and ESG performance, suggesting that the findings from one region may not necessarily apply to another. This gap is particularly relevant given the unique regulatory and market environment in South Africa, which may influence the dynamic between levels of assurance and ESG ratings differently than in other regions.

To address this gap, this research aims to explore the impact of levels of assurance on ESG performance by examining the top 40 companies listed on the Johannesburg Stock Exchange (JSE). This paper intends to provide more robust evidence and insights into how levels of assurance influence ESG performance within the South African context, thereby contributing to the global understanding of this relationship and offering practical implications for companies and stakeholders in the region.

3 Methodology

The current study adopted the quantitative method, which is widely recognized for its ability to produce objective, replicable, and generalizable results, particularly in the context of financial and sustainable research. This approach was deemed appropriate due to its alignment with the study's positivist paradigm, which emphasizes the measurement and analysis of quantifiable data to derive conclusions. The study employed secondary data obtained from the top 40 JSE listed companies from 2022 to 2023 based on market capitalization, all of which practices ESG investing as qualifying criterion for JSE inclusion, reflecting a purposive sampling strategy. ESG scores used in this study were obtained from reputable sources, including London Stock Exchange Group (LSEG) and Bloomberg database, which are known for providing publicly available and verifiable data.

ESG data were collected from LSEG and Bloomberg database. The data from the LSEG and Bloomberg comprises of ESG scores for all listed firms and its three pillars. Sustainability reports/ integrated reports were gathered from company websites and the JSE website. Companies that were tested are reflected in table one. Company names were anonymized and replaced by company numbers (number 1 to 40), which also indicates ESG rating scores, level of assurance (no assurance, limited assurance, reasonable assurance and combined assurance), and the sectors.

Data was measured using STATA software version 15, employing the one-way analysis of variance (ANOVA) test and the independent t test together with the Kruskal-Wallis and Mann-Whitney U tests. The Kruskal-Wallis and

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Mann-Whitney U test were used to supplement the ANOVA and independent t tests after normality test was violated.

Table 1: Top 40 companies and their ESG ratings from LSEG and Bloomberg

Company No.	Sector	LSEG ESG Overall Ratings	Bloomberg ESG Overall ratings	Assurance level
1	Metals & Mining	89	73	Limited
2	Software & IT Services	63	48	Limited
3	Beverages	79	55	Limited
4	Textiles & Apparel	72	57	Limited
5	Food & Tobacco	89	70	Limited
6	Metals & Mining	89	74	Limited
7	Software & IT Services	36	46	Limited
8	Metals & Mining	81	81	Combined
9	Banking Services	31	48	No Assurance
10	Banking Services	65	64	Limited
11	Metals & Mining	85	75	Reasonable
12	Banking Services	43	43	No Assurance
13	Metals & Mining	75	65	combined
14	Telecommunications	70	71	No Assurance
15	Telecommunications	66	60	Limited
16	Metals & Mining	78	70	Combined
17	Metals & Mining	74	71	Limited
18	Containers & Packaging	82	74	Combined
19	Food & Drug Retailing	43	43	Limited
20	Food & Drug Retailing	64	59	No Assurance

21	Food & Drug Retailing	62	48	Reasonable
22	Metals & Mining	73	68	Combined
23	Banking Services	69	61	Limited
24	Chemicals	79	68	Reasonable
25	Banking Services	74	66	Limited
26	Insurance	63	60	Limited
27	Pharmaceu-ticals	73	67	Limited
28	Investment Banking & Investment Services	63	58	Combined
29	Banking Services	10	22	No Assur-ance
30	Consumer Goods Con-glomerates	35	54	No Assur-ance
31	Investment Holding	43	53	No Assur-ance
32	Real Estate Operations	59	63	No Assur-ance
33	Food & Drug Retailing	62	60	No Assur-ance
34	Metals & Mining	70	68	Limited
35	Diversified Retail	54	53	No Assur-ance
36	Diversified Retail	75	67	Reasonable
37	Coal	70	61	Reasonable
38	Metals & Mining	75	72	Combined
39	Metals & Mining	71	67	No Assur-ance
40	Insurance	28	39	No Assur-ance

Source: Source: Fieldwork (2024)

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3.1 Hypotheses and Variables

This section defines the hypotheses and variables relevant to studying ESG scores among the top 40 companies listed on the JSE. It establishes the framework for the study by identifying the independent and dependent variables. This clarification ensures a clear understanding of the factors influencing ESG scores and the data being analyzed.

Null Hypothesis (H0): The sample mean of ESG scores from companies that have conducted independent assurance on their ESG reports is not different from those of the companies that did not conduct independent assurance. (H0: *M*a = *M*u)

Alternative Hypothesis (Ha): The sample mean of ESG scores from companies that have conducted assurance on their ESG reports is different from those of companies that did not conduct assurance, or the difference between the mean ESG scores from companies with assured reports and those without is greater than zero. (Ha: *M*a ≠ *M*u or *M*a – *M*u > 0)

The independent variable is whether the ESG report is assured by external auditors (a) or not assured (u). The mean ESG scores are denoted as *M*. The dependent variable is the ESG overall scores of the top 40 companies. Companies that conducted assurance on their reports (whether limited, reasonable, or combined) are considered independent from those that did not conduct any assurance. The samples are, therefore, independent.

The ESG rating is scaled in percentages from 0% (worst rating) to 100% (best rating).

4 Results

4.1 Descriptive statistics

Table 2 and Table 3 provide descriptive statistics for the ESG scores of the top 50-JSE listed companies, sourced from LSEG and Bloomberg based on different levels of assurance. Table 2 and 3 compare ESG scores across three assurance categories: limited, reasonable, combined and no assurance. Table 2 displays ESG scores from LSEG, while Table 3 shows ESG scores from Bloomberg. Mean (*M* = 69.63) in Table 2 represents the average ESG performance score for the companies under limited assurance. A mean score of *M* = 69.63 indicates that, on average, these companies have a moderate level of ESG performance. Standard deviation (*SD* = 14.68) in Table 2 means that the ESG score of the companies differ by about *SD* = 14.68 points from the average score of *M* = 69.63. This means that companies with limited assurance in the sample generally perform moderately in terms of ESG, but there is a fair amount of variation in how individual companies score.

However, companies with both reasonable and combined assurance reflect consistent higher ESG scores (*SD* = 6.10; *M* = 76.00) and tendency for scores to be higher (K = 3.06). Table 2 also shows that companies with no assurance reflect significantly weaker ESG scores (*M* = 48.62), some performing better or worse than others (*SD* = 18.63) and some companies with no assurance

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may perform particularly poor in ESG scores (K = 2.35). Table 3 provides that companies with no assurance have significantly lower ESG scores (*M* = 52.35), with *(SD* = 12.94) indicating that some may perform poor in ESG scores. In both tables, higher levels of assurance (reasonable & combined) are associated with higher ESG scores. This suggests that companies providing higher assurance tend to have better ESG performance as measured by both LSED and Bloomberg. Conversely, companies with no assurance have significantly lower ESG scores.

Both LSEG and Bloomberg scores show that most values are above the mean as shown by a negative skew and Kurtosis above three. The Jarque Bera normality tests on LSEG and Bloomberg scores indicate the scores are not normally distributed, $X^2(40) = 8.23$, $p = .012$ for LSEG and $X^2(40) = 8.23$, $p = .015$ for Bloomberg. Since the sample is small, Shapiro-Wilk test was conducted to assess normality the scores, $W(40) = .895$, $p = .001$ for LSEG scores and $W(40) = .938$, $p = .030$ for Bloomberg scores.

Table 2: LSEG Descriptive Statistics Summary

	N	***M***	**SD**	**Skewness *(X)***	**Kurtosis (K)**
Limited assurance	16	69.63	14.68	-0.76	3.40
Reasonable and Combined assurance	11	76.00	6.10	-0.62	3.06
No assurance	13	48.62	18.63	-0.59	2.35
Total	**40**	**64.55**	**18.20**	**-1.08**	**3.74**

Source: Fieldwork (2024)

Table 3 Bloomberg Descriptive Statistics Summary

	N	***M***	***SD***	**Skewness**	**Kurtosis**
Limited assurance	16	61.41	9.61	-0.52	2.17
Reasonable and Combined assurance	11	69.02	6.41	0.12	2.57
No assurance	13	52.35	12.94	-0.82	3.53
Total	**40**	**60.56**	**11.85**	**-0.98**	**4.21**

Source: Fieldwork (2024)

4.2 Inferential Statistics

Parametric tests

The effect of assurance levels on ESG scores was first analyzed using analysis of variance (ANOVA). ANOVA shows that the effect of assurance levels had a significant impact on LSEG ESG scores, $F(2,40) = 12.28$, $p < .001$. A Bartlett's test for equal variances confirmed this results, χ^2 (2, 40) = 10.50, p = .005, indicating that the variance across groups was not equal. Similarly, ANOVA for Bloomberg ESG scores showed that assurance levels were also significant, $F(2,40) = 8.14$, $p = .001$. However, the Bartlett's test for Bloomberg scores revealed no significant differences in variance across groups, χ^2 (2, 40) = 10.50, $p = .092$.

Further analysis using an independent samples t-test demonstrates that companies with assured reports had significantly higher LSEG ESG scores (M = 72.22, SD = 12.20) than those that did not conduct any assurance on their reports (M = 48.62, SD = 18.63), t (38) = 4.81, $p < .001$. The extremely low p-value indicates that the difference between groups is highly unlikely to have occurred by chance. This suggests a strong association between assurance on ESG reports and higher LSEG ESG scores. A similar pattern was observed for Bloomberg ESG scores, where companies with assured ESG reports revealed significantly higher ESG scores (M = 64.51 and SD = 9.14) than those that did not conduct any assurance on their reports (M = 52.35, SD =12.94), $t(38)$ = 3.43, $p < .001$. The statistical significance of these results underscores the potential impact of the assurance process on reported ESG performance.

However, when comparing difference levels of assurance, the results for LSEG ESG scores show insignificant differences between companies that conducted reasonable or combined assurance (M = 76.00, SD =6.10) and those that conducted only limited assurance (M = 69.63, SD =14.68), t (25) = 1.36, p = .094. This suggests that LSEG scores, the type of assurance may not significantly influence the ESG performance. In contrast, Bloomberg ESG scores with companies that conducted reasonable assurance or combined assurance on their reports reveal significantly higher ESG scores (M = 69.02 SD = 6.41) outperforming those with limited assurance on their reports (M = 61.41, SD = 9.61), t (25) = 2.29, p = .015. This finding implies that higher levels of assurance are associated with improved Bloomberg ESG scores.

These results highlight the importance of external assurance in enhancing reported ESG performance, particularly for LSEG and Bloomberg ESG scores. However, the level of assurance seems to have a more pronounced effects on Bloomberg than on LSEG scores.

Non-parametric tests

A Kruskal-Wallis test was conducted to determine whether there were significant differences in ESG scores across different levels of assurance.

A Kruskal-Wallis test indicates a significant difference in the ESG scores across the three groups of assurance levels: χ^2 (2, 40) = 18.371, $p < .001$ for LSEG scores and χ^2 (2, 40) = 12.386, p = .002 for Bloomberg scores. The mean rank of LSEG scores was 370 for companies with limited assurance, 324 for those with reasonable or combined assurance, and 126 for companies without any assurance. Similarly, Bloomberg ESG scores had mean rank of 330 for limited assurance, 325 for reasonable or combined assurance, and 165 for companies with no assurance.

These results suggest that ESG scores are generally higher for companies that engage in some form of assurance (limited or reasonable/combined) compared to those without assurance. Notably, companies that conducted no assurance consistently had the lowest ESG scores, indicating that assurance activities may contribute to improved ESG scores.

To further investigate, a Mann-Whitney U test was performed to evaluate whether ESG scores differed based on the level of assurance. The results reveal a significant difference in ESG scores between companies conducted assurance and those that did not: $z = 4.06$, $p < .001$ for LSEG and $z = 2.93$, $p = .003$ for Bloomberg scores.

However, this test shows no significant difference between companies that performed reasonable or combined assurance and those that performed limited assurance for LSEG scores ($z = 1.56$, $p = .119$). In contrast, for Bloomberg scores, there was a moderate difference between reasonable/combined and limited assurance, $z = 2.07$, $p < .004$.

The Mann-Whitney U test results confirm that companies with any form of assurance- whether limited or reasonable/combined- tend to have higher ESG scores than those without assurance. For Bloomberg scores, there is also evidence that reasonable/combined assurance may lead to slightly higher ESG scores compared to limited assurance, although this effect was not observed in LSEG scores.

The findings reveal that assurance levels significantly impact ESG scores, with companies that conduct any form of assurance, whether limited or reasonable/combined, consistently achieving higher scores compared to those without assurance. Notably, reasonable or combined assurance leads to significantly higher Bloomberg ESG scores than limited assurance. These results align with previous studies (Braam and Peeters, 2018; Giudice & Rigamonti, 2020), confirming that assurance activities generally contribute to improved ESG performance across companies.

5 Discussion of results

This study examined the impact of assurance on ESG scores of the top 40 JSE listed companies. The findings from descriptive statistics indicate that mean scores of companies that assured their reports are higher than those that did not. These results indicate a positive relationship between the level of assurance and ESG performance, with companies providing higher levels of assurance generally scoring better in ESG scores. These findings align with previous research (Elaigwu, Abdulmakil & Talab, 2021; Boira & Heras-Saizarbitoria, 2020), reinforcing the link between robust assurance practices and improved ESG outcomes. Based on these findings, the null hypothesis which stated that the sample mean of ESG scores from companies that have

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conducted independent assurance on their ESG reports is not different from those of the companies that did not conduct independent assurance is rejected.

Given the non-normal distribution of the dependent variables, ANOVA test and independent sample t-test could not yield conclusive evidence regarding the hypotheses. To address this limitation, the one-way ANOVA test and independent-t tests were supplemented by non-parametric tests which are Kruskal-Wallis and Mann-Whitney U tests.

The results from all the inferential statistic tests indicate that higher assurance levels significantly impact LSEG and Bloomberg ESG scores. These findings are consistent with previous studies such as Braam and Peeters, 2018, Mans-Kemp & van der Lugt (2020) and Giudice & Rigamonti (2020). The fact that companies with higher assurance levels are viewed more favorably supports the legitimacy theory's argument that firms must continuously align their actions with societal values to remain legitimate and avoid scrutiny.

However, when comparing different levels of assurance (reasonable/combined, limited), the findings from LSEG ESG scores reveal no significant differences between companies that conducting reasonable or combined assurance and those that performing only limited assurance. This discrepancy may be explained by the differences between Bloomberg and LSEG ESG scores, which can be attributed to variations in their methodologies, data sources, and scoring criteria. Although the LSEG scores do not exhibit a significant difference based on the level of assurance, the overall results indicate that the assurance of ESG reports significantly enhances ESG performance when compared to companies that do not provide assurance. This suggests that assurance plays a crucial role in improving ESG transparency and reliability. The results suggest that companies with assured ESG reports are more transparent and responsive to stakeholder needs, this aligns with stakeholder theory's premise that companies must manage the expectations of various stakeholders. The significant effect of assurance on ESG performance supports agency theory's argument that third-party assurance mitigates agency problems by aligning the interests of both managers and shareholders. ESG assurance makes managers more accountable and reduces the opportunity for them to provide misleading or biased information about their sustainability efforts.

The findings of this study underscore the significant role of assurance of ESG reports in enhancing ESG performance, reinforcing its importance for aligning corporate practices with stakeholder expectations and societal values.

6 Conclusion

The assurance of sustainability reports is becoming an important topic for businesses, society, and researchers. However, there are still few studies that look at how assurance helps improves ESG performance, especially in South Africa. This study aimed to fill that gap by examining how different levels of assurance affect the ESG performance of the top 40 companies listed on the JSE from 2022 to 2023.

The findings reveal a statistically significant positive correlation between levels of assurance and enhanced ESG performance. The findings for the LSEG indicate no statistically significant association between the combined assurance and limited assurance levels on sustainability reports and ESG performance. On the other hand, Bloomberg scores show an enhanced outcome when the combined assurance is used instead of limited assurance.

This study demonstrates that assurance on sustainability reports significantly impacts ESG performance among the top 40 companies listed on the JSE from 2022 to 2023. These findings underscore the critical role of assurance in elevating ESG performance, emphasizing the necessity for rigorous assurance practices to enhance corporate sustainability metrics. The study showed that assurance of ESG reports does not only enhance the ESG performance but also adds tangible by improving originations' accountability, reliability and transparency, while boosting investor confidence and attracting investment.

The findings of the study may be useful for investors and other stakeholders since the study highlights the importance of examining the level of assurance on sustainability reports when assessing a company's ESG performance. Practitioners in corporate governance and sustainability reporting can also draw from these findings to develop better strategies for improving ESG performance through assurance. For policymakers, the findings call for development of regulatory standards that mandate higher levels of assurance on sustainability reports, particularly in developing markets like South Africa. Implementing such standards could lead to more reliable sustainability disclosures, helping firms to attract international investment while also improving their long-term sustainability performance. Finally, from a theoretical perspective, the study highlights the importance of assurance as a mechanism that not only verifies sustainability reporting but also acts as a driver for improved ESG practices.

This study focuses on a small sample of 40 companies, which may not be representative of the broader market. This limited size restricts the generalizability of the findings and may not capture the full spectrum of variations in ESG scores and assurance practices across all JSE-listed companies. The study's findings are influenced by the unique economic, regulatory, and market conditions of this region. Consequently, the results may not be applicable to other developing or developed countries with different socio-economic landscapes. The lack of extensive literature and comparative data make it challenging to contextualize the findings within a broader global framework and may affect the robustness of the conclusion drawn.

To build upon the findings of this study, future studies should include a larger and more diverse sample of companies, possibly covering the entire JSE or even extending to other emerging and developed markets. The future study should extend the analysis period beyond the two years (2022 – 2023) covered in this study to provide deeper insights into the long-term trends and impacts of assurance of sustainability reports on ESG performance. A longer time frame could also help in identifying more robust patterns and reducing the influence of short-term fluctuations. The similar studies in other developing countries or regions would allow for comparative analysis and help identify whether the observed trends are unique to South Africa or prevalent in other developing markets. Such comparative studies could also shed light on the role of different regulatory and market environments in shaping ESG performance.

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