

The Impact of ESG Disclosure ESG Performance and ESG Risk on Audit Fees and Non Audit Fees in the South African Quasi Mandatory Regime

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Abstract

This study examines impact of ESG disclosure, ESG performance, and ESG risk affect audit fees and non-audit fees in South Africa quasi-mandatory environment. Using panel data of Johannesburg Stock Exchange listed firms from 2006 to 2024, we employ OLS, fixed effects, and random effects estimation to analyse the relationships. We find that higher ESG disclosure is associated with higher audit fees, suggesting expanded audit scope, greater verification effort, and increased engagement complexity tied to more comprehensive ESG information. Conversely, ESG disclosure is negatively associated with non-audit fees, indicating that transparent reporting reduces reliance on external advisory and assurance services. Similarly, stronger ESG performance is associated with higher audit fees, consistent with auditors perceiving sustainability activities and disclosures as more complex to assess, but is negatively associated with non-audit fees. In addition, higher Sustainability ESG risk is associated with lower audit fees, implying that ESG-exposed firms strengthen internal controls and governance oversight. Conversely, ESG risk is positively associated with non-audit fees, as weak governance compliance increases demand for external advisory services. Firms should consider ESG factors when pricing advisory services fees, and academics should consider the regulatory environment when assessing ESG factors and auditing pricing.

Keywords: ESG disclosure, ESG performance, ESG risk, Audit Fees, Non-Audit fees, Corporate Governance, South Africa, Johannesburg Stock Exchange (JSE).

1. Introduction

In recent years, Environmental, social, and governance (ESG) considerations have become integral to corporate reporting, investment decision-making, and governance evaluation (Paulo Câmara and Filipe Morais, 2022; Siti Nur Aqilah Ab Wahab et al., 2024). ESG that began as voluntary corporate social responsibility has evolved into an institutionalised element of integrated reporting. Investors, lenders, regulators, employees, customers, and civil society organisations now routinely demand ESG information to assess long-term value creation, operational resilience, exposure to non-financial risks, and governance quality. The growing

demand for ESG information within integrated reporting has profound implications for firm audit costs, as auditors must address ESG matters alongside financial statement assertions, internal control quality, the risk of material misstatement, accounting estimates, and broader business risks(Rm Ammar Zahid et al., 2022;Mark Babington et al., 2024;David Hay et al., 2024).

Traditional audit pricing models posit that audit costs are primarily influenced by factors such as client size, operational complexity, inherent risk, control risk, auditor characteristics, and the extent of engagement effort(Dan A Simunic, 1980;Irwan Adimas Ganda Saputra et al., 2024). As stakeholders demand for non-financial information accountability increases, firms face pressure to disclose comprehensive ESG information (Li Li et al., 2024) and auditors must contend with this expanded scope. Extensive ESG reporting requires firms to collect, consolidate, and communicate sustainability data across business units, supply chains, geographic locations, and information systems, and auditors may need to devote additional effort to understanding these processes and assessing the associated reporting risks, thereby influencing audit costs(Bright Asante-Appiah and Tamara A Lambert, 2023). The auditor's information complexity facing auditor may arise from environmental remediation obligations, climate-related transition risks, labour disputes, and governance risk and thus influence provisions, asset impairments, contingent liabilities, fraud risk, related-party transaction risks, and the risk of management override(Bright Asante-Appiah and Tamara A Lambert, 2023). In particular, differences in the ESG-related regulatory environment may also be associated with variation in firms audit pricing.

Regulators in developed and emerging markets such as the UK, US, Japan, Singapore, Hong Kong, Australia, New Zealand, Brazil, Thailand, and Malaysia, among others, have progressively tightened ESG reporting expectations, shifting many jurisdictions from “apply and explain” voluntary regimes toward “comply-or-explain” mandatory reporting requirements(Ahmed Saber Moussa, 2024;Akio Nakashima and Kimitaka Nishitani, 2026). Unlike jurisdictions that rely solely on voluntary ESG reporting or impose a purely statutory mandatory ESG reporting regime, South African listed firms operate within an “apply and explain” governance framework shaped by the King Code on Corporate Governance and the Johannesburg Stock Exchange (JSE) Listings Requirements (Phumzile Langeni, 2018;Anna Ramalho, 2020;Lebohlang Mofokeng, 2023;Emmerson Chininga et al., 2024;Mbalenhle Khatlisi and Prince Enwereji, 2025). While South Africa ESG reporting is not mandated by

standalone statutory law, the JSE listing directives require listed entities to apply the principles of the King Code, comply with the Companies Act (No. 71 of 2008) provisions on Social and Ethics Committees, and have regard to the JSE Sustainability and Climate Disclosure Guidance (2022) as a condition of maintaining listing status (Federica Doni et al., 2019; Tesfaye T Lemma et al., 2024). Consequently, South Africa's governance environment has evolved through a combination of listing obligations, governance codes, and statutory mechanisms that promote a quasi-mandatory ESG reporting environment, thereby increasing audit complexity and influencing audit fees.

The King Reports have been central in shaping institutional and governance framework in South Africa. The King Report on Corporate Governance was first issued in 1994 and substantially revised through King II (2002), King III (2009), and King IV (2016), progressively embedding stakeholder-inclusive governance, integrated reporting, and sustainability accountability into the corporate governance norm (Institute of Directors in Southern Africa, 2016). King III Report introduced an "apply or explain" pivotal of integrated reporting for JSE listing firms, a requirement that was further refined by King IV to emphasise stakeholder inclusivity, sustainability, and integrated thinking (King IV Report, 2016; Ruizhe Wang et al., 2020; Dusan Ecim, 2024; Warren Maroun and Dannielle Cerbone, 2024). This regulatory framework is complemented by Regulation 43 of the Companies Act 71 of 2008, which mandates the establishment of Social and Ethics Committees for listed entities, thereby institutionalising the oversight of non-financial risks (Minga Negash and Tesfaye T Lemma, 2020). Responding to investors demand for robust and comparable ESG information, the JSE has also issued voluntary Sustainability Disclosure Guidance and Climate Disclosure Guidance in 2022, aiming to enhance the consistency and comparability of sustainability-related reporting (Minga Negash and Tesfaye T Lemma, 2020). The JSE listings requirements on King Code, Companies Act mechanisms, and voluntary JSE guidance collectively exert normative and coercive pressures on listed companies to adopt governance practices (Paul J Dimaggio and Walter W Powell, 1983). Firms may respond to these pressures to maintain legitimacy, meet investor expectations, and secure continued access to capital markets. Notably, the King IV Code broadens corporate accountability beyond shareholders to encompass employees, communities, customers, regulators, creditors, and the natural environment, thereby reinforcing stakeholder inclusivity (R. Edward Freeman, 1984). These ESG accountability expectations may influence the nature of corporate reporting, the scope of assurance-related activities and

the audit effort required where ESG matters affect financial reporting and risk assessment thereby impacting audit costs.

This study contributes to the existing literature in three distinct ways. First, we examine the impact of ESG disclosure, ESG performance, and ESG risk on audit fees and non-audit fees within South Africa's quasi-mandatory governance environment. The sustainability reporting governance regime is a critical but under examined when moderating the ESG factors and audit fee relationship. Ricky Chung et al. (2024) comparing voluntary and mandatory regimes in Hong Kong, find that concentrated ownership is negatively associated with ESG disclosure quantity only during the voluntary period, suggesting that agency problems are attenuated once reporting becomes mandatory. South Africa's quasi-mandatory regime creates de facto compliance pressure that may compel auditors to expand verification procedures, while broader stakeholder accountability demands wider assurance coverage. At the same time, quasi-mandatory reporting may generate incomplete disclosures and reporting inconsistency (Gianluca Vitale et al., 2025), and greenwashing risks that may increase audit costs (Mckenna Bailey et al., 2025; Niu Zixin, 2025). Accordingly, the South African corporate environment adds multidimensional complexity to the relationship between ESG disclosure, ESG performance, ESG risk, and audit fees.

Second, this study extends the literature by examining the impact of ESG factors on non-audit fees. The growing demand for high-quality ESG information may increase the need for specialised non-audit services, including tax-related work, transaction support, due diligence, agreed-upon procedures, risk and governance services, systems-related assistance, and other permitted engagements. (Brandon Gipper et al., 2025; Gabriela Borges Silveira and Hans Michael Van Bellen, 2025). South African firms face pressure from investors, regulators, and other stakeholders to substantiate ESG claim (Phemelo Magau, 2024; Wilfreda Indira Chawarura et al., 2025). and may therefore extend engagements beyond the statutory audit to include ESG assurance, sustainability reporting advisory, B-BBEE compliance advisory, and related governance consulting (Adebiyi Sunday Adeyanju and Fumilola Adebunmi Iyiola, 2025). While ESG factors influence traditional audit fees through enhanced governance signals and verification complexity (Zaky Machmuddah and Ratna Wardhani, 2020; Bright Asante-Appiah and Tamara A Lambert, 2023; Mithilesh Gidage and Shilpa Bhide, 2025), they may also increase demand for non-audit services as firms seek external validation and expertise to strengthen ESG credibility and stakeholder confidence. Accordingly, South African firms are

likely to engage auditors and other service providers for advisory support on ESG-related matters, thereby affecting both audit and non-audit fees.

Third, this study addresses ESG disclosure, ESG performance, and ESG risk, unlike prior studies that often focus on single dimensions, making it difficult to distinguish between ESG communication, ESG outcomes, and ESG exposure. This provides a more nuanced assessment of how different ESG characteristics relate to audit fees and non-audit fees.

Our findings reveal that ESG disclosure is positively associated with audit fees, supporting the view that expanded disclosure amplifies audit scope and complexity. In contrast, ESG disclosure exhibits a negative association with non-audit fees, suggesting that improved transparency and governance may reduce reliance on external advisory and assurance services. Similarly, ESG performance is positively linked to audit fees, reflecting broader verification requirements, yet negatively associated with non-audit fees, indicating reduced demand for advisory consulting and assurance services. Notably, unmanaged ESG risk is negatively associated with audit fees, implying that lower perceived risk does not necessitate incremental audit effort or litigation-related premiums; however, higher ESG risk corresponds to elevated non-audit fees, likely driven by increased demand for external validation and advisory support to substantiate sustainability reporting.

The remainder of this paper proceeds as follows. Section 2 presents the literature review and hypothesis development. Section 3 describes the data, variable definitions, and methodological approach. Section 4 presents the empirical results and discussions. Section 5 presents the conclusions and recommendations.

2 Literature Review and Hypothesis Development

2.1 ESG and Audit Fees

The relationship between ESG factors and audit fees has attracted significant research attention in corporate governance evaluation and integrated reporting quality (Meiying Hua and Pervaiz Alam, 2021; Kaimeng Zhang et al., 2023; Wanlin Zhang and Shi Yin, 2025). The audit pricing model posits that auditors adjust their pricing in response to perceived engagement risk and ESG disclosure, performance, and risk often introduce non-standardised information that expands the scope of potential misstatement, thereby elevating audit risk assessments (Jj Burke et al., 2016; Thorsten Sellhorn and Victor Wagner, 2024). As stakeholders increasingly require

ESG accountability, firms face pressure to disclose more ESG claims, and auditors must respond to the expanded informational that such disclosures create (Li Li et al., 2024). Information asymmetry theory suggests that while greater disclosure can reduce information gaps between firms and stakeholders, the process of verifying such disclosures imposes additional costs on auditors who must assess the completeness and accuracy of sustainability data (Wayne Guay et al., 2016). However, fragmentation across the governance information environment remains a significant gap in understanding the mechanisms through which ESG factors influence audit costs, particularly in South Africa's quasi-mandatory governance environment.

2.1.1 ESG Disclosure and Audit Fees

The relationship between ESG disclosure and audit fees has emerged as a critical part of integrating reporting for sustainability standards in corporate governance practices. Empirical studies have demonstrated that ESG information disclosure significantly affects audit risk, information asymmetry, regulatory requirements, and firm-specific characteristics that impact audit fees (Kaimeng Zhang et al., 2023; Ahmed Saber Moussa, 2024; Mithilesh Gidage and Shilpa Bhide, 2025). Zhang et al. (2023) explored the relationship between corporate ESG information disclosure and audit fees using a fixed effects model and panel data of Chinese non-financial A-share listed companies. They found that firm-level ESG disclosure information increases audit fees due to enhanced audit complexity and the risk of reducing information asymmetry, suggesting higher auditing costs deter voluntary ESG disclosures. In another emerging market, Mithilesh Gidage and Shilpa Bhide (2025) found that strong ESG disclosure is associated with higher audit fees, suggesting that emerging market characteristics influence the cost of ESG assurance. In developed markets, Ahmed Saber Moussa (2024) examined the cost implications of ESG reporting in the UK market for non-financial firms and demonstrated that expanded disclosure requirements lead to increased audit fees with differential impacts based on firm size. These ESG disclosure and audit fees findings align with the audit pricing model, which posits that audit fees increase audit engagement effort, audit complexity, and audit perceived risk. Expanded ESG disclosure increases the scope of information subject to auditor scrutiny, requiring additional verification procedures to assess the completeness, accuracy, and consistency of sustainability data with financial statement assertions.

While the literature converges on a positive relationship between ESG disclosure and audit fees in voluntary or mandatory ESG reporting regimes, the mechanisms underlying the quasi-mandatory governance environment may differ. In South Africa, the King IV Code and JSE Sustainability Disclosure Guidance compel listed firms to provide integrated reports that link ESG matters to long-term value creation, thereby increasing the scope of information subject to auditor verification. Moreover, quasi-mandatory regimes may introduce additional complexities, such as incomplete disclosures, reporting inconsistencies, and greenwashing risks, which require auditors to perform additional substantive testing.

Drawing on information asymmetry theory and the empirical evidence synthesised above, we anticipate that ESG disclosure in South Africa's quasi-mandatory governance environment will be positively associated with audit fees due to an expanded scope that requires auditor verification, increasing engagement effort, and the "apply and explain" regime that demands additional substantive testing and the potential for greenwashing in a quasi-mandatory rather than fully mandatory regime that elevates auditors' reputational and litigation risk exposure. Hence, we hypothesise the following:

H1: ESG disclosure is positively associated with audit fees in quasi-mandatory governance environments.

2.1.2 ESG Performance and Audit Fees

While ESG disclosure impacts audit fees (Kaimeng Zhang et al., 2023; Ahmed Saber Moussa, 2024; Mithilesh Gidage and Shilpa Bhide, 2025), variation in audit fees may reflect not only disclosure but also actual ESG performance. The relationship between ESG performance and audit fees remains a subject of significant divergence, characterised by risk mitigation mechanisms. The predominant view in recent empirical literature is that high ESG performance serves as a proxy for effective corporate governance and superior internal control systems, thereby reducing audit effort and fees. Empirical literature studies suggest that higher ESG performance is often associated with lower audit fees due to decreased audit engagement, reduced audit risks, better internal controls, and lower information asymmetry (Hongman Hou et al., 2022; Wenbing Wang et al., 2022; S Zou, 2023; Chun Cai et al., 2024; Li Zhang and Caixia Guo, 2024). A Chinese A-share listed companies study demonstrated a robust negative correlation between ESG performance and audit fees, suggesting that firms with strong ESG practices exhibit lower financial misstatement risk and business risk (S Zou, 2023). In another

Chinese study, Hongman Hou et al. (2022) found a strong negative correlation between ESG performance and audit fees among Chinese firms, indicating that superior ESG practices reduce perceived audit risk, particularly for NSOEs and firms audited by Big Four auditors. Similarly, Mithilesh Gidage and Shilpa Bhide (2025) Indian study confirmed that firms with higher ESG scores incur lower audit costs, driven primarily by the social and governance pillars, which enhance transparency and reduce information asymmetry. Similarly, Yunling Song et al. (2023) confirmed that better ESG performance leads to lower audit fees, with social and governance pillars driving this relationship.

Firms with robust ESG performance exhibit better internal controls, increased transparency, and a lower likelihood of material misstatements, which decrease audit engagement effort and fees. Ahmed Diab and Aref M Eissa (2023) noted that higher ESG performing firms are less likely to receive qualified audit opinions. Li Zhang and Caixia Guo (2024) found that superior ESG performance leads to shorter audit delays, as high ESG standards reduce information asymmetry and business risk, thereby decreasing audit effort. Mithilesh Gidage and Shilpa Bhide (2025) found a significant negative relationship between ESG performance and audit fees in Indian firms.

While the negative relationship between ESG performance and audit fees is mostly originated from voluntary or mandatory ESG reporting regimes, South Africa has a quasi-mandatory governance environment. The specific institutional characteristics of JSE listing requirements and the King Code may introduce improvements that are associated with high-performance ESG initiatives and reduce auditing fees. Therefore, this study hypothesises that:

H2: ESG performance is negatively associated with audit fees in quasi-mandatory governance environment

2.1.3 ESG Risk and Audit Fees

While ESG performance affects audit fees, ESG disclosure in a quasi-mandatory regulatory environment may introduce ESG risk due to compliance factors that amplify verification challenges, including inaccurate ESG disclosures, failure to meet reporting deadlines, and greenwashing (Meiying Hua and Pervaiz Alam, 2021; Niu Zixin, 2025). Studies have shown that higher ESG risk is associated with increased audit fees (Bright Asante-Appiah and Tamara A Lambert, 2023; Dongliang Yuan, 2025). A UK study demonstrated that firms with higher

ESG risks incur higher audit fees, as auditors charge a premium for the increased effort required to validate sustainability claims and assess associated financial statement risks (Bright Asante-Appiah and Tamara A Lambert, 2023). This finding is consistent with the audit risk model, which posits that higher inherent risk leads to greater detection risk unless compensated by increased substantive testing (Ammad Ahmed et al., 2024). Meiying Hua and Pervaiz Alam (2021) demonstrated that firms with higher ESG risks pay higher audit fees to obtain higher-quality audit services, indicating a positive association between ESG risk and audit fees in developed markets.

However, the mechanism underlying this ESG risk and audit fees positive association is often attributed to the prevalence of greenwashing or ESG rating disagreement. In emerging markets, Niu Zixin (2025) used OLS to examine ESG greenwashing's impact on audit fees, suggesting that higher greenwashing leads to higher audit fees, as auditors need more time and effort to verify the accuracy of ESG information and charge risk premiums due to increased litigation and reputation risks. Dongliang Yuan (2025) found that ESG rating disagreement, which signifies higher uncertainty and potential risk, increases audit fees. This indicates that when ESG ratings are inconsistent or when firms engage in symbolic rather than substantive ESG practices, auditors perceive a higher risk of material misstatement. In such cases, auditors must devote additional resources to verifying the accuracy of ESG information, leading to higher fees (Kaimeng Zhang et al., 2023). The presence of greenwashing introduces estimation uncertainty, forcing auditors to expand their verification scope to detect potential overstating of ESG performance or understating of environmental liabilities. This is particularly relevant in the governance environment where regulatory enforcement may be less stringent and the potential for opportunistic reporting is higher.

In South Africa, the King Code on Corporate Governance and the Johannesburg Stock Exchange (JSE) listing requirements create a coercive environment in which integrated reporting is de facto mandatory. In such quasi-mandatory regimes, where the expectation for comprehensive ESG reporting is high, the uncertainty associated with high ESG risk is particularly pronounced, leading to a significant increase in audit fees. Most existing studies focus on jurisdictions with either purely voluntary or strictly statutory mandatory regimes, leaving the dynamics of "apply and explain" frameworks under-explored. The King Code's emphasis on integrated thinking and stakeholder inclusivity creates a distinct institutional pressure that differs from other countries' jurisdictions (Nicholas Otu Mantey, 2021).

Furthermore, the role of the Social and Ethics Committee mandated by Regulation 43 of the Companies Act also adds a layer of internal governance complexity that auditors must evaluate (Minga Negash and Tesfaye T Lemma, 2020). While studies highlight the general trend of higher fees for higher risk, they do not account for the specific institutional mechanisms that amplify this effect in South Africa, such as the JSE's Sustainability Disclosure Guidance and the broader socio-economic expectations for corporate transformation (Adebiyi Sunday Adeyanju and Fumilola Adebunmi Iyiola, 2025). Auditors may perceive management overstating ESG performance, environmental liabilities, or governance weaknesses, and ESG risk-related exposure. Therefore, the complexity and risk associated with high ESG exposure are expected to outweigh any potential signalling benefits, leading to a positive association between ESG risk and audit fees. Hence, we hypothesise that:

H3: ESG risk is positively associated with audit fees in quasi-mandatory governance environments.

2.2 ESG and Non-Audit Fees

The relationship between ESG and non-audit fees has received less attention than audit fees, despite its importance in understanding ESG advisory and assurance-related services. The impact of ESG on statutory audit fees has garnered significant empirical attention but often overlooks the underlying complexities in risk assessment and assurance services that impact non-audit fees. Non-audit fees, which encompass services ranging from tax advisory and consulting to sustainability assurance and regulatory compliance assistance, are increasingly influenced by the complexity and risk profile of a firm's ESG reporting (Kaleemullah Abbasi et al., 2023). As regulatory frameworks evolve from voluntary guidelines to de facto mandatory requirements, firms face heightened pressure to secure external validation for their sustainability claims, thereby altering the demand dynamics for non-audit services provided by external auditors (María Consuelo Pucheta-Martínez et al., 2019).

ESG-related advisory and assurance services are growing rapidly as mandatory reporting expands worldwide. ESG factors influence the demand for these services, which has important implications for auditors' business models and strategic positioning. Firms committed to high-quality ESG reporting may seek external validation and expertise in ESG-related services, impacting non-audit fees. The rapid growth in mandatory ESG reporting requirements evolving

from voluntary practice will require firms to seek additional ESG-related services to enhance the transparency and credibility of their reports.

2.2.1 ESG Disclosure and Non-Audit Fees

Studies indicate that ESG information disclosure reduces information asymmetry and business risk, leading to higher audit fees (Joseph Mc Cahery et al., 2020; Ahmed Saber Moussa, 2024; Mithilesh Gidage and Shilpa Bhide, 2025). However, the provision of non-audit services by external auditors remains debated, but provides ESG risk management expertise. Evidence shows that high-quality ESG disclosure increases operational complexity and reporting structure, raising audit fees, but does not address non-audit fees (Yunling Song et al., 2023; Kaimeng Zhang et al., 2023; Ahmed Saber Moussa, 2024; Mithilesh Gidage and Shilpa Bhide, 2025).

As firms improve ESG disclosure quality, auditors may need to expand their scope to verify this information, potentially increasing non-audit fees (Ahmed Saber Moussa, 2024). Non-audit services may include sustainability report assurance, ESG strategy advisory, and regulatory compliance assistance (Bright Asante-Appiah and Tamara A Lambert, 2023). The growing importance of ESG factors suggests that credible disclosures require specialised expertise from external auditors (Hui Wen et al., 2022). While audit fees reflect statutory obligations, non-audit fees reflect the discretionary demand for services. Due to the increasing demand for corporate governance in sustainability reporting, ESG disclosure is expected to increase non-audit fees.

However, the relationship may differ in South Africa's quasi-mandatory environment. Firms that disclose extensively are likely to have developed internal capabilities for ESG data collection, monitoring and reporting (e.g. via Social and Ethics Committees under Regulation 43 of the Companies Act). These internal capabilities may substitute for external advisory services, reducing the need for non-audit services in sustainability reporting, B-BBEE compliance, or governance consulting. Transparent ESG reporting signals stronger internal governance, better risk management, and lower information asymmetry, which can reduce reliance on external consultations. Accordingly, we anticipate that ESG disclosure will reduce non-audit fees in South Africa's quasi-mandatory governance environment because of enhanced internal capability and reduced demand for external advisory. Hence, we hypothesise the following:

H4: ESG disclosure quality is positively associated with non-audit fees in quasi-mandatory governance environments.

2.2.2 ESG Performance and Non-Audit Fees

Studies show that stronger ESG performance often reduces audit fees because auditors perceive less inherent risk in the client's operations and financial reporting, but does not address non-audit fees (Hongman Hou et al., 2022; Yunling Song et al., 2023; Li Zhang and Caixia Guo, 2024). Mithilesh Gidage and Shilpa Bhide (2025) demonstrate that stronger ESG performance incurs lower non-audit fees, suggesting stronger corporate governance structures and a reduced need for additional advisory services from auditors.

Firms with better ESG performance are generally viewed as more stable and less prone to regulatory penalties because they signal effective governance and management competence, which can translate into lower business risk (Ahmed Diab and Aref M Eissa, 2023; S Zou, 2023). These capabilities may reduce reliance on external advisory services from auditors. While high ESG performance can mitigate audit fees, this may potentially require fewer non-audit services for firms because of a less intensive audit process. The mechanisms through which ESG performance influences non-audit fees are unexplored.

In South Africa's quasi-mandatory environment, this relationship is likely to be reinforced. High-performing firms are likely to have internalised sustainability capabilities, including dedicated ESG teams, integrated reporting systems, and robust internal controls. These capabilities reduce the need for external advisory services on ESG-related matters such as sustainability reporting frameworks, carbon accounting, and governance compliance. Moreover, high-performing firms may face less pressure from investors and regulators to seek external validation of their ESG claims, as their performance is already credible and verifiable. Therefore, ESG performance is expected to reduce non-audit fees. Thus, we hypothesise the following:

H5: ESG performance is negatively associated with non-audit fees in quasi-mandatory governance environments.

2.2.3 ESG Risk and Non-Audit Fees

Studies have established that firms with higher ESG risk face greater exposure to ESG-related issues that impact their operations, financial stability, or reputation, leading to increased audit fees but not non-audit fees (Meiying Hua and Pervaiz Alam, 2021; Carlos Francisco Alves and Lilian Lima Meneses, 2024; Niu Zixin, 2025). Bright Asante-Appiah and Tamara A Lambert (2023) showed that firms with higher ESG risks require auditors to perform more extensive procedures to assess and manage these risks, leading to increased non-audit fees for the auditors.

Such ESG risks include potential ethical governance failures, environmental liabilities, labour disputes, and increased scrutiny from regulators and civil society (Zihao Wu et al., 2023; Shufei Huang and Jianping Ge, 2024). These advisory services have the potential to substantially increase non-audit fees. The demand for additional non-audit services, particularly in relation to ESG issues, and their impact on the effectiveness of auditor services have not been thoroughly explored.

In South Africa's quasi-mandatory environment, this relationship is likely to be amplified. Firms facing ESG controversies or regulatory scrutiny often require external advisory services to remediate compliance gaps (environmental permits, employment equity reporting), enhance ESG credibility through third-party assurance or sustainability consulting, and navigate complex regulatory requirements such as B-BBEE verification and carbon tax compliance. In South Africa, where stakeholder expectations are high and regulatory oversight is intensifying, firms with elevated ESG risks are likely to engage auditors and other service providers for advisory support to restore legitimacy and preserve access to capital markets. Consequently, the increased ESG risk associated with additional external assurance and advisory services is expected to drive up non-audit fees. Therefore, we propose the following hypothesis:

H6: ESG risk is positively associated with non-audit fees in quasi-mandatory governance environments.

3. Methodology: Sample Selection & Data Sources, Variable definitions & measurement and Regression Models

3.1 Data Sources and Sample Selection

The panel data for firms listed on the Johannesburg Stock Exchange (JSE) were sourced from the Bloomberg terminal, which provides audited financial data and ESG factors, including disclosure, performance, risk, and audit costs. South African companies must disclose audit and non-audit fees in annual reports, making these variables accessible. Control variable data were obtained from Bloomberg to analyse the impact of ESG on audit costs. The sample includes JSE-listed South African companies from 2006 to 2024, covering voluntary and mandatory adoption of King IV ESG integrated reporting requirements. The initial population comprised all JSE Main Board companies during this period. Companies lacking data are excluded as audit fees and ESG data availability improved over time. The final sample included 199 companies for panel data analysis.

3.2. Variable Definitions and Measurement

Table 1 presents the variable definitions of ESG factor and audit costs, including the dependent variables of audit and non-audit fees, independent variables of ESGD disclosure, performance, and risk, and control variables of firm size, board size, audit committee size, return on assets, and firm leverage. The measurements of these variables are explained below.

3.2.1 Audit Fees Measure

Audit fees are measured as the natural logarithm of audit fees paid to external auditors for financial statement audit services disclosed in annual reports (Markus Widmann et al., 2021; Alex Frino et al., 2023; Mithilesh Gidage and Shilpa Bhide, 2025). Audit fees represent the remuneration received by auditors for services including financial statement analysis, internal control evaluation, and auditing tasks (Markus Widmann et al., 2021; Alex Frino et al., 2023). Audit fees are a significant component of the audit market, reflecting the relationship between audited entities and audit quality, and influencing auditor independence (C Xiwang, 2016). Inappropriate audit fees can undermine the independence and quality of external audit services, creating conflicts between managers and stakeholders (C Xiwang, 2016; Alex Frino et al., 2023). Audit fee determination is influenced by factors categorised into client nature, audit work, and engagement-specific factors (Markus Widmann et al., 2021). Therefore, we

examine the impact of ESG factors on audit fees, following the approaches of Kaimeng Zhang et al. (2023) and Mithilesh Gidage and Shilpa Bhide (2025), among others.

3.2.2 Non-Audit Fees Measure

Non-audit fees are the natural logarithm of non-audit fees paid to external auditors for services other than financial statement audits including tax, advisory, assurance, and other permitted services (Yangyang Chen et al., 2017; Linna Shi et al., 2023; Mithilesh Gidage and Shilpa Bhide, 2025).

3.2.3 ESG Disclosure Measure

The ESG disclosure score is a direct measure of a company's transparency and the quality of its reporting on ESG factors (Zaky Machmuddah and Ratna Wardhani, 2020; Ellen Pei-Yi Yu and Bac Van Luu, 2021). A widely used ESG disclosure score in academic studies is employed in this study, derived from robust databases of Bloomberg and quantifies the extent to which a company openly shares its ESG-related data and adheres to established reporting standards (Riadh Manita et al., 2018; Zaky Machmuddah and Ratna Wardhani, 2020; Ellen Pei-Yi Yu and Bac Van Luu, 2021). It serves as a comprehensive indicator of a firm's commitment to sustainability and responsible practices, providing valuable insights for investors and stakeholders (Ruhaya Atan et al., 2018).

3.2.4 ESG Performance Measure

The ESG performance score is a company's overall ESG performance rating for sustainability and ethical impact (Rajagopal Rajesh, 2020; Yunling Song et al., 2023; Li Zhang and Caixia Guo, 2024; Mithilesh Gidage and Shilpa Bhide, 2025). The ESG performance composite score is derived from the Bloomberg database, which contains numerous data points encompassing a firm's environmental practices, social responsibility, and governance structures, and is widely used in academic studies (Rajesh and Chandrasekharan Rajendran, 2020; Mithilesh Gidage and Shilpa Bhide, 2025). ESG performance has become increasingly important for various firms, investors, regulators, and overall corporate governance practices (Yunling Song et al., 2023; Li Zhang and Caixia Guo, 2024; Wanlin Zhang and Shi Yin, 2025).

3.2.5 ESG Risk (Sustainalytics Risk) Measure

The Sustainalytics ESG risk score evaluates a company's exposure to material ESG risks (Carlos Francisco Alves and Lilian Lima Meneses, 2024;Mahelet G Fikru et al., 2024). It functions as an absolute risk measure, showing the unmanaged ESG risk a company faces rather than ranking against industry peers (Mahelet G Fikru et al., 2024). A lower score indicates better ESG risk management, while a higher score suggests greater vulnerability to penalties, reputational damage, or disruptions from poor sustainability practices, according to the Bloomberg database. The Sustainalytics ESG Risk Score remains a transparent tool for quantifying corporate sustainability risk, making it crucial for modern risk-adjusted valuation frameworks (Carlos Francisco Alves and Lilian Lima Meneses, 2024). This study used Sustainalytics ESG risk as a measure of ESG risk.

3.2.6 Firm Size

Firm size is a critical determinant of audit costs (Jeslyn Susgian Christlim et al., 2024;Irwan Adimas Ganda Saputra et al., 2024). Larger firms incur higher audit fees because they require more detailed scrutiny owing to their operational complexity and advisory services (Churong Yu, 2020;Millicent Selase Afenya et al., 2022). Larger audit firms are associated with higher audit costs, and both audit and non-audit fees serve as proxies for higher-quality audits(Ayman Bader et al., 2019). In the context of ESG factors, large firms may face greater information asymmetry and higher auditing costs. Thus, we control for firm size when examining the relationship between ESG factors and audit costs.

3.2.7 Board Size

The relationship between board size and audit costs is complex and influenced by governance mechanisms and firm characteristics. Board size affects audit fees, which serve as a proxy for audit quality (Ahmed A Sarhan et al., 2019;Agil Novriansa et al., 2022). Larger boards increase decision-making complexity, requiring more extensive audit procedures to ensure financial report integrity (Markus Widmann et al., 2021). In the context of ESG factors, larger boards may offer broader stakeholder representation, enhancing ESG information reporting. Therefore, we control for board size in the relationship between ESG and audit costs.

3.2.8 Audit Committee Size

The audit committee size is the number of directors on the company's audit committee (Anjana Rani, 2018; Rebecca Abraham et al., 2024; Mandy Jayne Wigglesworth et al., 2024). The audit committee oversees financial reporting and internal controls, influencing audit and non-audit fees (Anjana Rani, 2018; Mandy Jayne Wigglesworth et al., 2024). A larger committee enhances monitoring through expertise, improving governance and potentially increasing audit costs (Anthony Moungh Yin Chan et al., 2013; Rebecca Abraham et al., 2024). In the ESG context, audit committee oversight affects ESG information reporting and assurance. Committee characteristics influence ESG disclosure and performance (Amina Mohammed Buallay and Esra Saleh Aldhaen, 2018; Matteo Pozzoli et al., 2022). Consequently, we control for audit committee size in the relationship between ESG and audit costs.

3.2.9 Return on Assets

The return on total assets is the ratio of net income to total assets. Companies with higher total assets incur higher audit fees (Markus Widmann et al., 2021). This is because larger firms have more complex operations and subsidiaries, which increase audit efforts and fees. Firms with better financial performance and higher ROA may be perceived as less risky by auditors, potentially leading to lower audit fees (Xuan Sean Sun et al., 2020). In the context of ESG factors, firm profitability may correlate with ESG information because sustainable practices enhance long-term value. Therefore, we control for return on assets (ROA) in the relationship between ESG and audit costs.

3.2.10 Firm Leverage

Firm leverage, the ratio of debt to assets, may influence audit costs through its effects on financial distress risk, information asymmetry, and complexity (Abhijit Barua et al., 2019; Ahmad Dahiyat and Ahmad Bawaneh, 2021). Auditors view highly leveraged firms as having greater inherent and control risks, requiring increased audit effort, testing of liabilities and covenants, and scrutiny of going-concern assumptions, leading to higher fees (Ahmad Dahiyat and Ahmad Bawaneh, 2021). Therefore, we return on assets for audit committee sizes while analysing ESG and audit costs.

3.2.11 Big Four Auditor

The Big4 is an indicator variable that takes the value of 1 when the external auditor belongs to the Big Four categories (Deloitte, EY, KPMG, PwC), and 0 otherwise. Following prior audit cost fee studies, Big Four auditors are expected to command a fee premium relative to non-Big Four auditors, reflecting their perceived reputation, expertise, and market power (Jong-Hag Choi et al., 2008;Emmanouil Taxiarchis Gazilas et al., 2025;Nidhin Mathath et al., 2025). This premium is more pronounced for larger firms and may vary across institutional settings, particularly where legal liability regimes differ (Jong-Hag Choi et al., 2008). Therefore, BIG4 is included as a control variable in the audit fee and non-audit fees model to account for well-documented audit cost differentials between Big Four and non-Big Four auditors.

Table 1: Variable Definition

Variable	Definitions
<u>Dependent variable</u>	
AF	Audit fees is the natural logarithm of audit fees paid to external auditors for financial statement audit services disclosed in annual company reports.
NFA	Non-audit fee is the natural logarithm of non-audit fees paid to external auditors for services other than financial statement audits, including tax, advisory, assurance, and other permitted services.
<u>Explanatory variable</u>	
ESGD	ESG disclosure score measures a company's ESG transparency and reporting quality.
ESGP	ESG performance score representing the overall ESG performance rating of a company
ESGR	Sustainalytics ESG risk score measuring the absolute risk level of a company.
<u>Control variable</u>	
FS	Firm size measured as the natural logarithm of total assets
BS	Board size measured as the number of directors in the company
ACS	Audit committee size measured as the number of directors serving on the company's audit committee
ROA	Return on assets calculated as the ratio of net income to total assets
FL	Firm leverage calculated as the ratio of total debt to total assets
BIG4	Big4 is dummy variable equal to 1 if the firm is audited by one of the Big Four audit firm(Deloitte, EY, KPMG, and PwC) and zero Otherwise

This table reports the representation and detailed definitions of the variables used in the study. A detailed description of these variables is presented in Table 1.AF-Audit Fees, NAF- Non-Audit Fees, ESG factor (ESGD-ESG Disclosure, ESGP-ESG Performance and ESGR-ESG

3.3 Models Specification

This study employs panel data to investigate the relationships between dependent variables (audit and non-audit fees) and independent variables (ESG disclosure, ESG performance, and ESG risk). We employ pooled Ordinary Least Squares (OLS), fixed effects (FE), and random effects (RE) estimation techniques. The linear regression model is as follows:

$$y_{it} = \beta_0 + \beta_1 x'_{it} + w_i + v_t + \varepsilon_{it} \quad (\text{EQ1})$$

Where i represent the firm and t represent the time, β_0 is the constant term, β_1 is the coefficient, y_{it} is the dependent variable of firm i at time t , x'_{it} represents vector of explanatory variables of firm i at time t , w_i captures unobserved firm-specific effect, v_t represents time-variants and ε_{it} is the error term.

OLS provides consistent and efficient estimates of the intercept and slope vector with unobserved heterogeneity. When firm-specific effects correlate with regressors, pooled OLS estimators become biased and inconsistent. These firm-specific effects capture time-invariant heterogeneity, such as corporate culture, management quality, reputation, and efficiency. One firm may show higher audit complexity due to multinational operations, whereas another maintains stronger internal controls reflecting its structure.

According to Badi H. Baltagi (2005), fixed and random effects models address unobserved heterogeneity. The FE model assumes that is correlated with by transforming data through within-group demeaning, eliminating time-invariant firm-specific effects, making FE suitable when firm characteristics, such as industry-specific audit risk and governance structures, relate to explanatory variables. The random effects model assumes that is uncorrelated with treating firm-specific effects as random draws from a distribution. The RE estimator is consistent and efficient, using generalised least squares (GLS) for composite error structure. The RE suits when individual effects are independent of regressors and provides more efficient estimates than the FE by using both between-firm and within-firm variations.

In the presence of heteroscedasticity or serial correlation, standard OLS inference requires robust standard errors or alternative estimators. The Breusch-Pagan Lagrange Multiplier (LM) test determines the choice between pooled OLS and RE (Trevor Stanley Breusch and Adrian

Rodney Pagan, 1980) testing for heteroscedasticity in linear regression. The Hausman test selects between FE and RE (Jerry A Hausman, 1978) to determine whether explanatory variables are orthogonal to individual effects. When the Hausman test p-value exceeds 0.1, the null hypothesis is accepted, indicating RE model appropriateness; otherwise, with a p-value below 0.1, the FE model is more suitable. Therefore, this study adopted OLS, fixed effect, and random effect in accordance with Mithilesh Gidage and Shilpa Bhide (2025) for the appropriateness of the model estimations.

To examine the impact of ESG disclosure (ESGD), performance (ESGP), and risk (ESGR) on audit fees, we specified the following model:

$$AF_{it} = \beta_0 + \beta_1 ESGD_{it-1} + \beta_2 FS_{it} + \beta_3 BS_{it} + \beta_4 ACS_{it} + \beta_5 ROA_{it} + \beta_6 FL_{it} + \beta_7 BIG4_{it} + \varepsilon_{it} \quad (\text{Model 1})$$

$$AF_{it} = \beta_0 + \beta_1 ESGP_{it-1} + \beta_2 FS_{it} + \beta_3 BS_{it} + \beta_4 ACS_{it} + \beta_5 ROA_{it} + \beta_6 FL_{it} + \beta_7 BIG4_{it} + \varepsilon_{it} \quad (\text{Model 2})$$

$$AF_{it} = \beta_0 + \beta_1 ESGR_{it-1} + \beta_2 FS_{it} + \beta_3 BS_{it} + \beta_4 ACS_{it} + \beta_5 ROA_{it} + \beta_6 FL_{it} + \beta_7 BIG4_{it} + \varepsilon_{it} \quad (\text{Model 3})$$

Furthermore, to investigate the impact of ESG disclosure, performance, and risk on non-audit fees,

$$NAF_{it} = \beta_0 + \beta_1 ESGD_{it-1} + \beta_2 FS_{it} + \beta_3 BS_{it} + \beta_4 ACS_{it} + \beta_5 ROA_{it} + \beta_6 FL_{it} + \beta_7 BIG4_{it} + \varepsilon_{it} \quad (\text{Model 4})$$

$$NAF_{it} = \beta_0 + \beta_1 ESGP_{it-1} + \beta_2 FS_{it} + \beta_3 BS_{it} + \beta_4 ACS_{it} + \beta_5 ROA_{it} + \beta_6 FL_{it} + \beta_7 BIG4_{it} + \varepsilon_{it} \quad (\text{Model 5})$$

$$NAF_{it} = \beta_0 + \beta_1 ESGR_{it-1} + \beta_2 FS_{it} + \beta_3 BS_{it} + \beta_4 ACS_{it} + \beta_5 ROA_{it} + \beta_6 FL_{it} + \beta_7 BIG4_{it} + \varepsilon_{it} \quad (\text{Model 6})$$

In these models, the dependent variable of AF_{it} denotes the audit fees for firm i in year t and NAF_{it} represents the non-audit fees firm i in year t . The independent variable of $ESGD_{it-1}$ is the lagged of ESG disclosure for firm i in year t , and $ESGP_{it-1}$ denotes the lagged of ESG performance for firm i in year t , $ESGR_{it-1}$ represents the lagged of ESG risk for firm i in year t . The control variable of FS_{it} is the firm size for firm i in year t , BS_{it} is the board size for firm i in year t , ACS_{it} is the audit committee size for firm i in year t , ROA_{it} represents the return on assets for firm i in year t , and FL_{it} represents the firm leverage for firm i in year t .

4 Analysis of the Findings

4.1 Descriptive Statistics

Table 1 presents the descriptive statistics of ESG factors and audit costs with 2401 firm-year observations, including audit fees, non-audit fees, ESG disclosure, performance, risk, and firm-specific control variables.

The natural logarithms of audit fees show a mean of 1.7575, indicating a right-skewed distribution and confirming the necessity of log transformation. Non-audit fees display a negative mean of -0.1574, suggesting variation in the scope of non-audit services. The mean ESG disclosure score (ESGD) is 44.866, ranging from 8.2386 to 78.171, which suggests substantial variation in the extent of ESG reporting among firms. ESG performance (ESGP) has a mean of 3.2683, with values between 0.84 and 6.89, indicating differences in firms' ESG performance levels. ESG risk (ESGR) has a mean of 23.659, ranging from 6.53 to 52.2, reflecting variation in firms' exposure to unmanaged ESG-related risks.

Table 2: Descriptive Statistics Test

Variable	Observation	Mean	Std. dev.	Min	Max
Audit Fees	2 401	1.7745	1.7101	-5.8091	6.5510
Non-Audit Fees	2 401	-0.1450	2.0683	-7.6009	4.4308
ESGD	2 401	44.447	11.823	8.2386	78.171
ESGP	2 401	3.2175	1.1047	0.8400	6.8900
ESGR	2 401	23.841	8.7849	7.8300	52.200
FS	2 401	8.7897	2.3121	-2.6737	15.009
BS	2 401	11.081	3.2959	6	24
ACS	2 401	3.7309	0.9214	1	8
ROA	2 401	-3.0919	228.22	-8166	165.71
FL	2,401	22.067	113.38	0	5740.1
BIG4	2 401	0.7151	0.4514	0	1

This table provides summary statistics of the variables used in the regressions of the full sample, which consists of firm-year observations. The definitions of the variables are provided in Table 1

Among the control variables, the average firm size of 8.8020 indicates differences in the scale of firms in the sample. The board size (BS) averages 11.18 members, with a range of 6 to 24, suggesting variation in board structures across firms. The mean of the audit committee size of 3.7284 members, ranging from 1 to 8, which reflects differences in the intensity of board-level oversight. The average return on assets of -2.8074, indicating that average profitability is weak and that firms in the sample experience substantial performance variation. The means of financial leverage (FL) is 22.070, suggesting that the sample includes firms with relatively high debt dependence. Finally, the mean of Big4 auditor is 0.7151, implying that approximately 71.5% of the firms in the sample are audited by Big Four audit firms.

4.2 Correlation Coefficient

Table 3 presents the Pearson correlation coefficient matrix for ESG factors and audit costs in emerging markets. The analysis shows the relationships between audit costs (audit fees and non-audit fees), ESG factors (disclosure, performance, and risk), and control variables, including firm size, board size, audit committee size, return on assets, firm leverage, and Big4.

Audit fees show positive associations with ESG factors, with coefficients of 0.3528, 0.1337, and 0.2092 for ESG disclosure, performance, and risk. Non-audit fees correlate positively with audit fees (0.5627), ESG disclosure (0.2520), and risk (0.1983), suggesting that firms with comprehensive ESG reporting and risks tend to procure additional non-audit services. This indicates that firms with ESG reporting incur higher audit costs, better ESG performance is linked to increased pricing, and higher ESG risks increase audit fees. Firm size shows the strongest correlation (0.7969) with audit fees, indicating that it primarily determines audit complexity. The Big 4 average shows that 71.5% of the firm-year observations in the sample were audited by a Big4 firm in South Africa.

Correlations ranged between -0.2066 and 0.7969, below the multicollinearity thresholds. Big Four affiliation was excluded because of perfect multicollinearity with ESG risk. VIF diagnostics generated a mean of 1.59, with all values below the threshold of 5 (Robert M O'Brien, 2007). These diagnostic results confirm that multicollinearity does not significantly affect coefficient estimation or statistical inference in analyses examining ESG factors and audit costs in this market.

Table 3:

Correlation Coefficient matrix

	AF	NAF	ESGD	ESGP	ESGR	FS	BS	AUC	ROE	FL	BIG4
AF	1.0000										
NAF	0.5623***	1.0000									
ESGD	0.3468***	0.2428***	1.0000								
ESGP	0.1201***	0.0358	0.5948***	1.0000							
ESGR	0.2498***	0.2298***	0.0301	-0.0803	1.0000						
FS	0.7941***	0.5221***	0.3717***	0.1652***	0.0677	1.0000					
BS	0.3774***	0.3570***	0.2394***	0.1044***	0.0458	0.6011***	1.0000				
AUC	0.3178***	0.2541***	0.3240***	0.1905***	0.1177**	0.3333***	0.4175***	1.0000			
ROA	0.0670***	0.0817***	-0.0586**	-0.0209	-0.0276	0.1573***	-0.0539**	-0.1258***	1.0000		
FL	-0.0382*	-0.0335	0.0214	0.0642*	-0.2241***	-0.0919***	-0.0071	0.0460**	-0.0396**	1.0000	
BIG4	0.4015***	0.2766***	0.2852***	0.2158***	-0.0802	0.5029***	0.2775***	0.1531***	-0.0032	-0.0481**	1.0000

This table provides a matrix of correlation coefficients for the key variables employed in the regressions of the entire dataset, which includes firm-year observations. A detailed description of these variables is presented in Table 1. Dependent variable: AF-Audit Fees and NAF-Non-Audit Fees, Independent variable: ESG factor (ESGD-ESG Disclosure, ESGP-ESG Performance and ESGR-ESG Risk (lagged one period). The control variable: FS-Firm Sizes, BS-Board sizes, ACS-Audit committee sizes, ROA-Return on Asset, FL-Firm Leverage, BIG4-Big Four Auditor. The coefficients marked with *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

4.3 Main Empirical Results and Discussion.

4.3.1 Regression Model: ESG Disclosure, Performance & Risk and Audit Fees

This section presents the results on the association between ESG disclosure, ESG performance, ESG risk, and audit fees, as reported in Table 4. In Model 1, lagged ESG disclosure (ESGD) is positively and statistically significantly associated with audit fees ($\beta=0.0232$, $p<0.001$ under the fixed-effects specification, which is the preferred estimation method ($\chi^2 = 24.30$, $p = 0.0010$). This finding suggests that enhanced ESG information reporting increases audit fees due to expanded audit scope and complexity. Auditors require more effort to verify ESG-related information as firms incur higher audit fees to mitigate information asymmetry and inherent business risks to corporate reputation in the emerging South African market. This is consistent with Kaimeng Zhang et al. (2023), Ahmed Saber Moussa (2024); Mithilesh Gidage and Shilpa Bhide (2025) studies, demonstrating that ESG disclosure can raise audit fees through greater audit complexity and verification effort.

In Model 2, lagged ESG performance (ESGP) demonstrates a statistically significant positive impact on audit fees ($\beta= 0.1544$ $p<0.001$), under fixed effect model estimation as most appropriation method ($\chi^2 = 15.96$, $p = 0.0254$). This finding indicates that stronger ESG performance is associated with higher audit fees rather than lower audit fees, as anticipated in Hypothesis 2. This implies that enhanced ESG commitments increase audit complexity and scope rather than reduce them. As South African firms face greater stakeholder scrutiny from investors, regulators, and civil society organisations demanding credible ESG claims, firms incur higher audit fees to ensure consistent verification of ESG performance. In response to heightened stakeholder accountability, auditors appear to expand audit scope and increase fees to address ESG-related assurance requirements. As firms pursue stronger ESG credentials, more comprehensive audits may signal a commitment to transparency and help reduce information asymmetry with stakeholders (William H Meckling and Michael C Jensen, 1976). The positive association also reflects more complex stakeholder and management structures, requiring auditors to assess a wider set of governance and disclosure risks beyond traditional financial statement risk. This finding contrasts with Hongman Hou et al. (2022), S Zou (2023), Song et al. (2023), and Li Zhang and Caixia Guo (2024), who find that stronger ESG performance is associated with lower audit fees due to reduced perceived audit complexity and effort.

In Model 3, lagged Sustainalytics ESG risk (ESGR) is negatively and statistically significantly associated with audit fees ($\beta = -0.0310$, $p < 0.001$) under the fixed-effects specification, which is preferred ($\chi^2 = 28.49$, $p = 0.0002$). This finding that higher ESG risk is associated with lower audit fees suggests that auditors may not be fully incorporating unmanaged ESG risk into engagement pricing of audit costs. This result shows that firms with greater ESG risk exposure, operating within an emerging market where quasi-mandatory ESG reporting is required, responded by strengthening internal controls, board oversight, and compliance monitoring, which lowers auditors' assessed control risk and offsets any expected fee premium. In addition, auditors may not yet systematically price ESG risk into audit fee models. This finding contrasts with Meiyang Hua and Pervaiz Alam (2021), who reported that higher ESG risk was associated with higher audit fees, reflecting the additional effort auditors require to verify ESG-related information and account for litigation and reputational risk. This suggests a decoupling between sustainability risk disclosure and auditor-assessed engagement risk in the South African emerging market, where ESG risk has not yet been fully integrated into audit planning frameworks, consistent with the KPMG report (Kpmg, 2022). Auditors do not yet appear to have systematically priced ESG risk into the audit fee model, instead treating it as outside the traditional financial-statement risk assessment framework, consistent with Dongliang Yuan (2025) observation that ESG-audit fee relationships are still evolving in less mature markets.

The control variable firm size is positively and significantly associated with audit fees across all models, with coefficients ranging from 0.0882 to 0.6908. This suggests that larger firms incur higher audit fees due to greater complexity and a broader audit scope, consistent with Churong Yu (2020) and Millicent Selase Afenya et al. (2022). Board size is negatively associated with audit fees under the fixed effects specification, indicating that larger boards correspond to lower audit fees, reflecting stronger monitoring and more effective oversight (Markus Widmann et al., 2021). Audit committee size is positively and significantly related to audit fees, with coefficients between 0.1306 and 0.3241, suggesting that larger audit committees increase audit scrutiny and the demand for assurance, consistent with (Anthony Mung Yin Chan et al., 2013; Rebecca Abraham et al., 2024). Return on assets (ROA) is negatively and significantly associated with audit fees in most model specifications, implying that more profitable firms tend to pay lower audit fees, as stronger firm performance is associated with reduced audit risk (Xuan Sean Sun et al., 2020). Firm leverage (FL) shows no significant association with audit fees, suggesting that the debt-to-assets ratio does not

Table 4: The Regression Results of The Impact of ESG Disclosure, Performance & Risk on Audit Fees

Audit Fees	Model 1			Model 2			Model 3		
	OLS	FE	RE	OLS	FE	RE	OLS	FE	RE
ESGD	0.0086*** (0.0024)	0.0232*** (0.0018)	0.0212*** (0.0018)						
ESGP				-0.0017 (0.0386)	0.1544*** (0.0250)	0.1274*** (0.0236)			
ESGR							0.0291*** (0.0066)	-0.0310*** (0.0096)	-0.0033 (0.0077)
FS	0.5890*** (0.0210)	0.3285*** (0.0320)	0.4028*** (0.0290)	0.6908*** (0.0332)	0.4241*** (0.0641)	0.5542*** (0.0460)	0.5509*** (0.0470)	0.0882*** (0.0959)	0.4566*** (0.0565)
BS	0.0176 (0.0124)	-0.0257*** (0.0081)	-0.0251*** (0.0081)	-0.0210 (0.0209)	-0.0368*** (0.0116)	-0.0339*** (0.0114)	-0.0080 (0.0326)	-0.0199*** (0.0192)	-0.0302 (0.0190)
AUC	0.0647** (0.0321)	0.0243 (0.0181)	0.0285 (0.0182)	0.1773*** (0.0469)	0.0369* (0.0221)	0.0395* (0.0220)	0.1085* (0.0648)	-0.0142 (0.0328)	0.0178 (0.0335)
ROA	-0.0086*** (0.0025)	-0.0065*** (0.0013)	-0.0068*** (0.0013)	-0.0079** (0.0037)	-0.0022* (0.0015)	-0.0033** (0.0015)	-0.0146* (0.0076)	-0.0072** (0.0034)	-0.0103*** (0.0034)
FL	0.0023 (0.0016)	0.0014 (0.0014)	0.0003 (0.0014)	-0.0004 (0.0027)	0.0013 (0.0023)	-0.0001 (0.0022)	-0.0009 (0.0038)	-0.0021 (0.0057)	-0.0049 (0.0044)
BIG4	-0.1645* (0.0906)	-0.2773 (0.3268)	-0.0847 (0.2139)	-0.5179*** (0.1581)	0.0830 (0.4099)	-0.0896 (0.2475)	-0.0908 (0.3180)	-0.0153 (0.3153)	-0.0306 (0.2774)
CONS	-4.0519*** (0.1851)	-1.3362*** (0.4023)	-2.2364*** (0.3076)	-4.3530*** (0.3026)	-1.9133*** (0.7446)	-3.0174*** (0.4545)	-3.5910*** (0.5891)	3.2911*** (1.0919)	-1.2069* (0.6990)
Obs	2 401	2 401	2 401	2 401	2 401	2 401	2 401	2 401	2 401
F-test	237.52	104.42		115.69	26.76		42.35	2.85	
P-Chi2	0.0000	0.0000		0.0000	0.0000		0.0000	0.0078	
W-test			833.15			289.82			77.01
P-Chi2			0.0000			0.0000			0.0000
Hausman Test		24.30			15.96			28.49	
P Chi2		0.0010			0.0254			0.0002	

This table presents the results of regression models 1, 2, and 3 analysing impacts of ESG Disclosure (1), ESG Performance (2), and ESG Risk (3)) on Audit Fees using OLS, fixed effects (FE), and random effects (RE) estimation. The definitions of the variables are provided in Table 1. The Coefficients marked with *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively

influence audit costs, contrary to Abhijit Barua et al. (2019). Big4 status is negatively but insignificantly related to audit fees, indicating that clients of Big4 auditors do not pay significantly different fees compared with clients of non-Big4 auditors, contrary to the Big4 audit fee premium reported by (Emmanouil Taxiarchis Gazilas et al., 2025; Nidhin Mathath et al., 2025).

4.3.2 Regression Model: ESG Disclosure, Performance & Risk and Non-Audit fees

Table 5 presents the regression results of the impact of ESG disclosure, ESG performance, and ESG risk on non-audit fees in Models 4, 5, and 6, respectively. In Model 4, the lagged ESG disclosure (ESGD) is negative and statistically significantly associated with non-audit fees ($\beta = -0.0113$ $p < 0.001$), under the random effects model as the most appropriate estimation ($\chi^2 = 6.48$, $p = 0.3712$). This result, consistent with expectations, suggests that more extensive ESG disclosure lowers the demand for advisory and assurance services related to sustainability reporting by reducing information asymmetry between management and stakeholders. This finding aligns with the broader institutionalisation of corporate governance and integrated reporting, as firms with stronger ESG disclosure tend to exhibit more transparent internal controls and governance structures, thereby reducing their reliance on external advisory support. While prior studies by Yunling Song et al. (2023), Ahmed Saber Moussa (2024), and Mithilesh Gidage and Shilpa Bhide (2025), find that higher ESG disclosure is associated with higher audit fees, these studies do not examine non-audit fees. This study extends this body of literature by demonstrating that high-quality ESG disclosure reduces the demand for advisory and assurance services and, in turn, lowers non-audit fees.

In Model 5, lagged ESG performance (ESGP) demonstrates a statistically significant negative impact on non-audit fees with a coefficient of -0.1024 ($p < 0.10$), under the random effects model as the most appropriate estimation ($\chi^2 = 8.24$, $p = 0.3118$). This finding demonstrates that stronger ESG performance reduces the firm's non-audit fees for services, suggesting that ESG performance functions as a substitute for externally required advisory and consulting expertise. Stronger ESG performance reduces the demand for external consulting, advisory, and assurance services, leading to lower non-audit fees. Firms with stronger ESG performance tend to exhibit more robust internal controls and governance compliance, which lowers perceived business and compliance risk and reduces reliance on external advisory and consulting services. Higher ESG performance also serves as a signal of effective risk management to stakeholders demanding credible ESG claims within the South African corporate environment, which

reduces the need for external non-financial assurance. This result aligns with Mithilesh Gidage and Shilpa Bhide (2025), who similarly find that stronger ESG performance is associated with lower non-audit fees.

In Model 6, the lagged Sustainalytics ESG risk (ESGR) demonstrates a statistically significant positive impact on non-audit fees with a coefficient of 0.0337 ($p < 0.001$), under the random effects model as the most appropriate estimation ($\chi^2 = 5.14$, $p = 0.5258$). This finding indicates that higher ESG risk is associated with higher non-audit fees, as firms with unmanaged ESG risk exposure require more extensive advisory services for risk mitigation, compliance consulting, and ESG reporting assurance beyond standard audit work. This reflects auditors' sensitivity to reputational and business risk within South Africa's emerging market context, requiring additional advisory resources to verify ESG-related information. This demonstrates that auditors charge an audit fee premium when dealing with ethical lapses or ESG greenwashing because the operational and legal exposure demands extra advisory and investigative resources. This finding is consistent with that of Bright Asante-Appiah and Tamara A Lambert (2023), who find that firms with higher ESG risk require more extensive advisory procedures, resulting in higher non-audit fees. South African firms with elevated unmanaged ESG risk face pressure from regulators and investors to comply with prevailing sustainability reporting standards, prompting them to procure more extensive non-audit advisory services to demonstrate legitimacy and institutional compliance, consistent with institutional theory (Paul J Dimaggio and Walter W Powell, 1983). This further indicates that firms with greater ESG risk exposure actively manage the divergent expectations of a broad stakeholder base, in line with stakeholder theory (Freeman, 1984).

The control variable of firm size coefficients (0.5188 to 0.6755) shows significant positive relationships with non-audit fees in the majority of the models, suggesting that larger firms incur higher non-audit fees owing to increased organisational complexity, as suggested by prior evidence from Churong Yu (2020) and Millicent Selase Afenya et al. (2022).

Overall, the findings between ESG factors and audit costs reveal that higher ESG disclosure and stronger ESG performance incur higher audit fees due to the expanded audit scope and increased complexity inherent in verifying integrated reporting and corporate governance practices in South Africa. Conversely, higher ESG disclosure and stronger ESG performance associate with lower non-audit fees suggesting that quality ESG framework demonstrate reduced reliance on external consulting, advisory, and assurance services for sustainability

Table 5: The regression results of the impact of ESG Disclosure, Performance & Risk on Non-Audit Fees

Non-Audit Fees	Model 4			Model 5			Model 6		
	OLS	FE	RE	OLS	FE	RE	OLS	FE	RE
ESGD	0.0067* (0.0036)	-0.0124*** (0.0040)	-0.0113*** (0.0036)						
ESGP				-0.0787 (0.0529)	-0.0596 (0.0714)	-0.1024* (0.0572)			
ESGR							0.0324*** (0.0091)	0.0816** (0.0398)	0.0361*** (0.0120)
FS	0.5235*** (0.0306)	0.6229*** (0.0673)	0.6557*** (0.0503)	0.6509*** (0.0481)	0.2077 (0.2026)	0.6167*** (0.0718)	0.5294*** (0.0680)	0.0438*** (0.3888)	0.5321*** (0.0851)
BS	0.0774*** (0.0168)	0.0187 (0.0178)	0.0272 (0.0169)	-0.0157 (0.0283)	0.0280 (0.0350)	0.0203 (0.0303)	0.0452 (0.0465)	0.0194 (0.0741)	0.0461 (0.0499)
AUC	-0.0281 (0.0446)	-0.0070 (0.0387)	-0.0088 (0.0379)	0.0820 (0.0628)	-0.0225 (0.0640)	-0.0077 (0.0588)	0.0303 (0.0921)	-0.0567 (0.1266)	-0.0113 (0.0956)
ROA	-0.0012 (0.0039)	-0.0039 (0.0033)	-0.0035 (0.0032)	0.0067 (0.0062)	0.0058 (0.0052)	0.0046 (0.0050)	-0.0080 (0.0106)	-0.0129 (0.0131)	-0.0090 (0.0102)
FL	-0.0034 (0.0024)	0.0024 (0.0030)	0.0015 (0.0028)	-0.0050 (0.0039)	0.0072 (0.0068)	-0.0004 (0.0050)	0.0031 (0.0056)	-0.0101 (0.0220)	0.0017 (0.0074)
BIG4	-0.1781 (0.1397)	-0.1353 (0.7156)	0.2776 (0.3074)	0.4224* (0.2548)	0.1102 (1.0139)	0.5382 (0.3667)	1.8163** (0.7061)	0.0784 (1.0606)	1.3296* (0.7081)
CONS	-5.6062*** (0.2684)	-5.3073*** (0.8794)	-6.3318*** (0.4820)	-6.5126*** (0.4271)	-1.9665 (2.2535)	-6.3352*** (0.6530)	-8.2573*** (0.9619)	-1.6868 (4.4136)	-7.7247*** (1.1376)
Obs	2 401	2 401	2 401	2 401	2 401	2 401	2 401	2 401	2 401
F-test	105.96	16.72		55.76	0.61		22.15	0.93	
P-Chi2	0.0000	0.0000		0.0000	0.7451		0.0000	0.4855	
W-test			240.97			118.20			84.08
P-Chi2			0.0000			0.0000			0.0000
Hausman Test		6.04			8.24			7.43	
Prob > Chi2		0.5348			0.3118			0.3858	

This table presents the results of regression models 1, 2, and 3, analysing the impact of ESG disclosure (4), ESG performance (5), and ESG risk (6)) on non-audit fees using OLS, fixed effects (FE), and random effects (RE) estimation. The definitions of the variables are provided in Table 1. The Coefficients marked with *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively

reporting. Also, higher unmanaged ESG risks associated with lower audit fees reflect reduced auditor scrutiny of traditional financial risk assessment, while higher ESG risk leads to higher non-audit fees, indicating increased demand for ESG-related consulting and advisory services. Institutional pressure from Kings Code III and IV drives ESG disclosure and performance to be priced by auditors as complexity costs, consistent with coercive isomorphism (Paul J Dimaggio and Walter W Powell, 1983) and stakeholder-driven assurance demands (R. Edward Freeman, 1984). Also, the ESG risk remains substantively decoupled from audit risk pricing, reflecting an institutional maturity gap between governance code compliance and audit costs.

To address potential endogeneity concerns arising from reverse causality, simultaneity, and omitted variable bias, this study employed the Durbin Wu Hausman test using the residual inclusion method (Russell Davidson and James G Mackinnon, 1993). The first-stage residuals from regressing each lagged ESG variable on exogenous controls were incorporated into the structural equations, with the F-statistic on the residual coefficient serving as the formal endogeneity diagnostic. Table 6 presents the Durbin Wu Hausman (DWH) post-estimation endogeneity test results for all six models. The null hypothesis (H_0) posits that the ESG variable is exogenous; a p-value below 0.05 would reject H_0 , confirming endogeneity and necessitating instrumental variable estimation, while a p-value exceeding 0.05 fails to reject H_0 , validating the consistency of pooled OLS, fixed effects, and random effects estimators.

Table 6: Post estimation test of the Impact of ESG Disclosure, Performance & Risk on Audit fees and Non-Audit Fees

Model	Dependent	ESG Variable	Estimator	Test Statistic	Df	p-value
Model 1	AF	ESGD	Fixed Effects	F = 0.57	F (1, 123)	0.4514
Model 2	AF	ESGP	Fixed Effects	F = 0.06	F (1, 121)	0.8146
Model 3	AF	ESGR	Fixed Effects	F = 1.11	F (1, 97)	0.2945
Model 4	NAF	ESGD	Random Effects	$\chi^2 = 0.51$	$\chi^2 (1)$	0.4730
Model 5	NAF	ESGP	Random Effects	$\chi^2 = 0.73$	$\chi^2 (1)$	0.3940
Model 6	NAF	ESGR	Random Effects	$\chi^2 = 0.62$	$\chi^2 (1)$	0.4314

This table presents the post-estimation results of models 1, 2, 3, 4, 5, and 6 on the relationship between ESG factor (ESGD-ESG disclosure, ESGP-ESG performance, and ESG-R ESG risk) and Audit Fees and Non-Audit Fees. if the p-value is <0.05 is reject Hypothesis and conclude endogeneity exists p-value 0. If the p-value is >0.05, we fail to reject the hypothesis and conclude that the most appropriate model from OLS, Fixed effects, or Random Effect is properly adopted.

As reported in Table 6, all six models return p-values exceeding the 5% significant threshold, ranging from 0.294 to 0.8146. The null hypothesis of exogeneity is therefore retained across all six specifications, indicating that ESG disclosure, ESG performance, and ESG risk are exogenous with respect to both audit fees and non-audit fees. These results support the consistency and unbiasedness of the fixed-effects estimator adopted for the audit fee models (Models 1 to 3) and the random-effects estimator adopted for the non-audit fee models (Models 4 to 6), as determined by the corresponding Hausman test results reported in Tables 5 and 6. The one-period lag applied to all ESG variables provides an additional safeguard against simultaneity bias, further reinforcing the appropriateness of the estimation strategy adopted across all six models.

5. Conclusion, Recommendations, and Policy Implications

This study investigates the relationship between ESG factors and audit costs, focusing on the impact of ESG disclosure, performance, and risk on audit fees and non-audit fees in the emerging market of South Africa. We find that higher ESG disclosure is associated with higher audit fees because of the expanded audit scope and complexity, which reduces information asymmetry and business risk. Conversely, higher ESG disclosure leads to lower non-audit fees, as improved ESG reporting quality reduces the demand for additional external specialised consulting, advisory, and assurance services related to sustainability reporting. Similarly, the relationship between ESG performance and audit costs reveals that stronger ESG performance leads to increased audit fees. This is because auditors perceive heightened ESG efforts as increasing client complexity and risk, necessitating more extensive audit work in a mandatory ESG corporate reporting environment. However, stronger ESG performance results in lower non-audit fees, as it enhances the quality of sustainability reporting and reduces the demand for supplementary external consulting, advisory, and assurance services. Furthermore, the analysis of ESG risk and audit costs demonstrates that stronger Sustainability ESG risk is associated with lower audit fees, as the perceived audit risk does not necessitate increased audit effort and litigation exposure in traditional financial audits. In contrast, stronger ESG risk leads to higher non-audit fees, as poor corporate governance compliance heightens the demand for external consulting, assurance, and advisory services for the approval of sustainability reporting.

Overall, the findings regarding the interplay between ESG factors and audit costs highlight that ESG disclosure and performance enhance corporate transparency in sustainability reporting,

thereby reducing the demand for external consulting, advisory, and assurance services, while simultaneously increasing traditional audit fees due to audit complexity and scope. However, ESG risk does not result in higher audit fees but rather drives an increased demand for specialised non-audit services due to the firm unmanaged ESG risk.

Firms in emerging South African markets should enhance ESG disclosure and performance in integrated reporting to signal quality and reduce reliance on costly external non-audit services. They should also acknowledge that strong ESG practices increase core audit fees, contributing to long-term value through enhanced stakeholder trust and operational resilience. Importantly, firms with significant unmanaged ESG risk must proactively prioritise risk remediation, especially when engaging external consultants to address governance and unresolved sustainability issues. Consequently, JSE firms should invest in ESG risk management structures that include board-level sustainability oversight, materiality assessments, and integrated reporting frameworks. Such investments in ESG will impact audit costs and enhance long-term stakeholder confidence.

Auditors operating in South Africa's emerging markets should refine their risk assessment methodologies for firms with unmanaged ESG risks. This refinement is important because a high Sustainability ESG risk does not currently lead to an expanded audit scope, which may cause auditors to underestimate unresolved sustainability risks during planning. Additionally, auditors should consider systematically incorporating third-party ESG risk ratings into engagement risk models to ensure that firms with higher unmanaged ESG risks receive appropriate scrutiny rather than reduced audit attention.

Policymakers in South Africa's emerging market should mandate integrated assurance standards that require auditors to assess financially material ESG risks within statutory audit engagements. This will narrow the non-audit fee market for sustainability advisory services by channelling those services into regulated assurance engagements. Importantly, this will extend auditor responsibilities to cover material ESG risk assessments, ensuring that high-risk firms face structured, verifiable accountability mechanisms rather than discretionary advisory arrangements. This approach prevents risk compartmentalisation and strengthens the alignment between sustainability performance and financial statement reliability in integrated reporting.

This study examines the relationship between ESG factors (ESG disclosure, performance, and risk) and audit costs (audit and non-audit fees). However, this study had some limitations. Our

investigation focused on the South African emerging market, which has quasi-mandatory reporting due to its socio-economic transformation agenda. Other studies may observe ESG factors and audit costs in voluntary regulatory environments and other emerging market countries.

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