# ENVIRONMENTAL, SOCIAL AND GOVERNANCE PRACTICES AND FINANCIAL PERFORMANCE OF SELECTED BANKS QUOTED IN AFRICAN SECURITIES EXCHANGES

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**A THESIS SUBMITTED TO THE SCHOOL OF BUSINESS, ECONOMICS AND TOURISM IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF DOCTOR OF PHILOSOPHY IN BUSINESS ADMINISTRATION (FINANCE OPTION) OF KENYATTA UNIVERSITY**

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## DECLARATION

This thesis is my original work and has not been presented for a degree in any other university or for any other award. No part of this thesis may be produced without prior authority of the author and/or Kenyatta University.

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## DEDICATION

This thesis is dedicated to my wife Pauline Kahwai and children Andrew, Karen and Alphonsus for their moral support, understanding and prayers. I am also grateful to my mother Elizabeth Wangare and my uncles Noah Kimani, Fredrick Njuguna, Sammy Njuguna and the late Stephen Nderu for instilling in me the spirit of focus, commitment and the urge for success from an early age.

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## OPERATIONAL DEFINITION OF TERMS

| | |
|---|---|
| **Corporate Social Responsibility** | The proactive engagement of firms in fostering positive community contributions while conscientiously addressing the environmental and societal ramifications of their operational choices. |
| **Environmental Practices** | A spectrum of initiatives ranging from physical, financial and policy-driven actions aimed at safeguarding, conserving or enhancing the natural world. Within this study, environmental practices were represented by the environmental pillar score (ENV), reflecting resource management, emission control, waste reduction, and environmental innovation. |
| **Financial Performance** | The effectiveness with which a firm generates profits and market returns to the investors. In this study, financial performance was proxied by Return on Assets (ROA) and market value (Tobin's Q). |
| **Financial Stability** | A state of assured business continuity with ability to meet short-term and long-term firm obligations and generate business growth. |
| **Firm Size** | An indicator of the growth of the total assets of a firm over a defined period. In this study, bank size was proxied by the natural logarithm of total assets of the bank. |

| | |
|---|---|
| **Green Banking** | A financing trend where banks shift their investment strategies to focus on sustainable technologies and environmentally-friendly initiatives. |
| **Governance Practices** | Activities or efforts that involve physical, financial, policy related and/or mental efforts in order to ensure a company uses accurate and transparent accounting methods, pursues integrity and diversity in selecting its leadership, and is accountable to shareholders. Governance practices were proxied by the Governance Pillar Score (GOV) which is based on management practices, shareholders rights and corporate social responsibility (CSR) strategy. |
| **Return on Assets (ROA)** | Refers to the profitability of total assets. It is computed as net income after taxes divided by total assets. |
| **Social Practices** | These are activities or efforts that involve physical, financial, policy related and/or mental efforts expended at addressing a firm's relationships with internal and external stakeholders. In this study, the social practices were proxied by the social pillar score (SOC) which is represented by workforce welfare, human rights and community welfare and product responsibility. |
| **Tobin's Q** | A measure of market value computed as the ratio of market capitalisation to book value of assets. |

## ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| **ADBG** | African Development Bank Group |
| **ASEA** | African Securities Exchanges Association |
| **CBK** | Central Bank of Kenya |
| **COP** | Conference of the Parties |
| **CSP** | Corporate Social Performance |
| **CSR** | Corporate Social Responsibility |
| **EBIT** | Earnings Before Interest and Taxes |
| **EPS** | Earnings per share |
| **ESG** | Environmental, Social and Governance |
| **FSD Kenya** | Financial Sector Deepening Kenya |
| **GRI** | Global Reporting Initiative |
| **JSE** | Johannesburg Stock Exchange |
| **KBA** | Kenya Bankers Association |
| **LSEG** | London Stock Exchange Group |
| **NSE** | Nairobi Securities Exchange |
| **OECD** | Organisation for Economic Cooperation and Development |
| **OLS** | Ordinary Least Squares |
| **P/B ratio** | Price to Book value ratio |
| **P/E ratio** | Price Earnings ratio |
| **ROA** | Return on Assets |

| | |
|---|---|
| **ROE** | Return on Equity |
| **SDGs** | Sustainability Development Goals |
| **SEC** | Securities Exchange Commission |
| **SFI** | Sustainable Financial Initiative |
| **SIDCA** | Swedish International Development Co-operation Agency |
| **S&P** | Standard and Poor's |
| **SRI** | Social Responsibility Index |
| **TFCD** | Task Force on Climate-related Financial Disclosures |
| **TRBC** | Thomson Reuters Business Classification (TRBC) |
| **UN** | United Nations |
| **UNDP** | United Nations Development Programme |

## ABSTRACT

The financial performance of banks in both developed and developing economies has been a matter of significant concern since the global financial crisis of 2008. A longitudinal analysis of the global banking industry over the past two decades reveals a recurring pattern of cyclical volatility and uneven performance. In particular, profitability within Africa's five largest banking markets—namely Egypt, Kenya, Morocco, Nigeria and South Africa—has exhibited a marked decline since 2016. A key global force shaping the operations and performance of banks today is the increasing requirement for institutions, including banks, to adopt and integrate environmental, social and governance (ESG) practices into their core operations. The objectives of this study were to evaluate the effects of environmental, social and governance practices on financial performance of selected banks quoted in African securities exchanges. In addition, the study sought to establish the moderating effect of bank size on the relationship between environmental, social and governance (ESG) practices and the financial performance of the banks. The study was guided by the shareholders value theory, stakeholders theory, legitimacy theory, slack resources theory, signaling theory and agency theory. A positivist research philosophy was adopted. The study further employed an explanatory non-experimental approach. The study utilized purposive sampling to select 15 banks from a population of 145 banks quoted in African securities exchanges. The 15 banks are the ones which had consistently provided data on ESG and financial performance from 2013 to 2022, which is the period of study. The study relied on secondary data on ESG scores and financial performance which was obtained from the London Stock Exchange Group database. Data analysis included descriptive and inferential statistics, with panel multiple regressions to account for time and cross-sectional dimensions. The regression results established that environmental practices had a statistically significant positive effect on financial performance as measured by Return on Assets (ROA). In contrast, environmental practices had a negative but statistically insignificant effect on financial performance as measured by Tobin's Q. Further, social practices had a positive but statistically insignificant effect on ROA, and a negative but statistically insignificant effect on Tobin's Q. Moreover, while governance practices exhibited a significant positive effect on ROA, they did, in contrast, exhibit a significant negative effect on Tobin's Q. The study also conducted the moderating effect analysis of bank size on the relationship between ESG practices and financial performance of the selected banks. The findings established that bank size moderated the relationship between governance practices and financial performance as measured by ROA. In contrast, bank size did not moderate the relationship between environmental and social practices and financial performance as measured by ROA, and on all the three ESG practices on financial performance as measured by Tobin's Q. Based on these findings, the study concludes that governance practices have a significant effect on ROA and Tobin's Q, while environmental practices have a significant effect on ROA. Further, both environmental and social practices have no significant effect on Tobin's Q. Although bank size moderates the relationship between governance practices and ROA, it does not significantly affect the interaction between social

and environmental practices on ROA, nor any ESG factors on Tobin's Q. Consequently, the study recommends strengthening environmental and governance frameworks to enhance financial performance. Further research is suggested to investigate the effect of ESG practices on other financial institutions, including credit unions and microfinance institutions.

# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of the Study

Financial performance of banks is key to economic growth of a country. Thirty-eight of the largest banks in Kenya representing 97% of the market share made a total tax contribution of Sh. 129.52 billion in the year 2021, representing 6.82% of the total tax receipts (PwC, 2022). In 2020, the total value of assets held by commercial banks in Kenya was estimated at approximately US$48.7 billion, with this figure rising to US$51.2 billion the following year, reflecting a growth rate of 5.1%, as reported by Maluki (2021). Consistent profitability and capacity to generate shareholder value are key for investor confidence. Maintaining this growth is essential for a resilient financial system, as underscored by the Financial Sector Regulators (2022).

From 2008 to 2022, banks globally experienced significant fluctuations in financial performance, marked by a tumultuous journey. The period commenced with instability due to the global financial crisis of 2008, which left many financial institutions struggling to regain stability. This precarious situation was further aggravated by the Covid-19 pandemic, which introduced unprecedented challenges to the sector. Nevertheless, according to the 2022 Global Banking Annual Review, the banking industry exhibited remarkable resilience, particularly between 2021 and 2022, as it began to recover from the pandemic-induced economic downturn. This phase of recovery underscored the adaptive strategies and resilience of banks in navigating periods of economic turbulence.

The banking situation in Kenya and Africa has been the same as that in the global arena. From 2016, African banks, especially those in the largest markets, saw a continuous dip in profitability, losing an average of two percentage points annually over six years (McKinsey, 2022). Kenya's banking sector mirrored this trend with a significant drop in return on equity from 30% in 2012 to 14% by 2020 (CBK, 2021). Despite facing numerous challenges, Kenyan banks managed to sustain a steady return on assets, averaging around 5% during this period. Notably, the years 2021 to 2022 marked a significant phase of growth and recovery, signaling a potential turnaround from the preceding years of decline. This period underscored the resilience and capacity for growth within the sector, even amidst adversity.

From a broader continental context, 2013 witnessed the launch of the African Union (AU) Agenda 2063, a visionary initiative aimed at steering Africa towards sustainable development and prosperity (DeGhetto, Gray & Kiggundu, 2016). This agenda, which is closely aligned with the United Nations' Sustainable Development Goals (SDGs), places particular emphasis on critical issues such as climate resilience, water security, and the sustainable management of natural resources. Kenya, demonstrating its commitment to these goals, was among the first African nations to enact comprehensive climate legislation with the Climate Change Act of 2016. This landmark law focuses on the formulation, implementation, and regulation of strategies designed to enhance Kenya's resilience to climate change while promoting sustainable, low-carbon development.

Complementing these national efforts, the Central Bank of Kenya (CBK) and the Nairobi Stock Exchange (NSE) have introduced stringent guidelines that require the active involvement of boards of directors and senior management in the development and execution of Environmental, Social, and Governance (ESG) strategies, policies, and reporting obligations.

Under the CBK guidelines, banks are mandated to disclose information related to climate-related risks and opportunities. Furthermore, the Nairobi Securities Exchange's ESG Disclosures Guidance Manual (2021) provides a detailed and strategic framework for ESG reporting, ensuring alignment with global standards and reinforcing Kenya's commitment to sustainable and responsible business practices.

According to PwC (2022), costs related to ESG are projected to increase to over 21% of total investments in 2026. Furthermore, a forecast by Deutsche Bank, Germany as shown under Figure 1.1. below shows an even further expected growth of ESG investments and costs globally, which will pass the USD 130 trillion mark by year 2030.

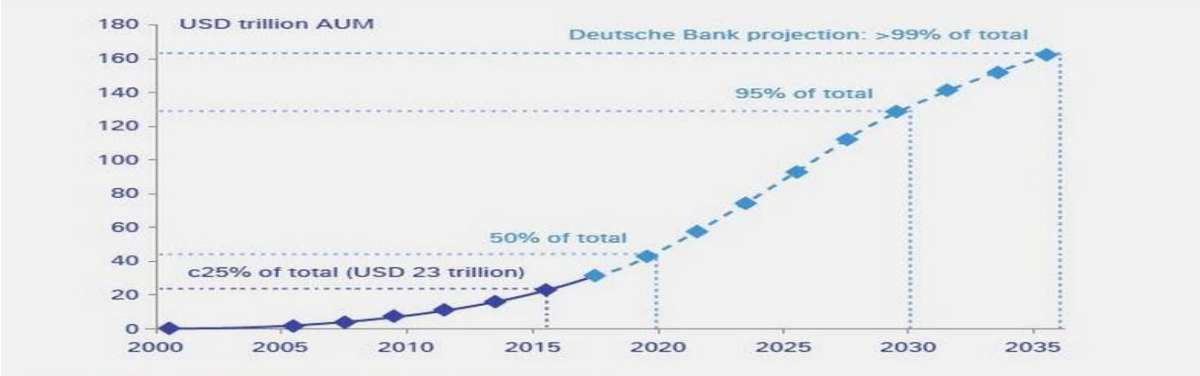


**Figure 1.1. Expected growth of ESG investments**
**Source: Deutsche Bank, 2020**

Although Buallay (2019) and other researchers have identified a favourable correlation between ESG practices and bank performance, conflicting outcomes have been detected in studies conducted by Soana (2024), El Khoury, Nasrallah and Alareeni (2023), Matuszak and Różańska (2017) and Wu and Shen (2013). Shen et al. (2016) conducted a study on banks in 18 different countries, while Cornett, Erhemjamts and Tehranian (2016) specifically analyzed U.S. banks. Both studies discovered favourable relationships between ESG practices and bank

performance. Further, studies conducted in various regions, such as Turkey (Akdogan, Selimoglu, & Turkcan, 2020), Kenya (Kimilu, 2023; Ochego, Omagwa, & Mwathe, 2019), and emerging countries (Naeem & Jan, 2021), have found significant correlations. In their study, Ofori, Nyuur and Darko (2014) found a direct correlation between ESG and financial performance in Ghanaian banks. These findings emphasize the intricate nature of the connection between ESG policies and bank performance, necessitating additional investigation and contextual analysis.

On a different front, the studies by Dragomir et al (2022), which focused on banks across Europe, the Americas and Asia, along with Elisa and Guido's (2023) investigation in Italy and Mathuva and Kiweu's (2016) study in Kenya, all identified a negative link between the adoption of ESG (Environmental, Social and Governance) strategies and bank profitability. On the contrary, Awuor's (2023) study in the Ugandan banking sector presented mixed outcomes, revealing a slight positive correlation between ESG initiatives and Return on Equity (ROE), but a slightly negative association with Return on Assets (ROA). Additional studies by Hedström and Dahlsjö (2023) concerning banks in China and Sweden, as well as by Chetty, Naidoo and Seetharam's (2015) in South Africa, did not reach a definitive conclusion regarding the effect of ESG practices on banking performance.

Research on Environmental, Social and Governance (ESG) practices in Kenya and across the African continent has often depended on the individual researcher's judgement to determine the most appropriate ESG metrics, due to the absence of universally recognized guidelines and benchmarks. The London Stock Exchange Group stands out as a pivotal source of ESG scores and related data that are acknowledged on a global scale, alongside other notable providers such as S&P Global, Bloomberg, and Moody's, as highlighted by Berg, Fabisik and Sautner (2021).

The underlying ESG metrics from the London Stock Exchange Group have been instrumental for numerous scholars examining the link between ESG practices and banking performance. Notable studies include Elisa and Guido's (2023) investigation within the Italian banking landscape, Dragomir et al's (2022) research spanning banks in Europe, America and Asia, Aleksandar and Bonić's (2022) and Batae et al's (2020) focus on European banks, Shakil et al's (2019) cross-country analysis in emerging markets, and Ramic's (2019) global study of select companies across various regions. These research efforts utilized the ESG scores as quantitative measures to assess a firm's adherence to ESG principles, with the objective of understanding how these practices influence financial performance in the banking sector (Hedström & Dahlsjö, 2021). This study underscores the critical role of standardized ESG metrics in facilitating comparative and comprehensive analyses across different geographic and economic contexts.

### 1.1.1 Financial Performance

Savić and Bonić (2022) underline that the drive for profit maximization is one of the core goals for firms, a focus that is particularly pronounced within the banking sector, according to Maluki (2021). This pursuit is not just about financial gain; it is foundational for maintaining operational continuity and spurring growth in the banking industry. The sector's performance is pivotal for its enduring strength and adaptability, with Kariuki (2020) noting the indispensable role of banks in managing financial resources and shaping the economic landscape. Banks are central to the efficient allocation of capital, the smooth execution of transactions, and the delivery of vital financial services, thereby bolstering both individual enterprises and the wider economic framework. Hence, the objective of profit maximization, while primary, is deeply connected with the larger goal of ensuring the banking industry's sustainability and dynamism, highlighting its crucial place in the economic ecosystem.

The financial performance of firms can be assessed through either internal or external measures, both of which are often interrelated (Tudose et al., 2022). Research on the determinants of firm performance generally falls into two categories: studies that utilize market-based measures such as Tobin's Q, and those that rely on accounting-based measures, primarily Return on Assets (ROA) and Return on Equity (ROE) (Kramaric et al., 2020). Internal measures, like ROA and ROE, evaluate profitability based on reported financial statements, offering insights into a firm's operational efficiency and management effectiveness. On the other hand, market-based measures, such as Tobin's Q, reflect the market's perception of a firm's performance by comparing its market value to the replacement cost of its assets. These measures provide an external perspective on a firm's valuation, which is crucial for understanding investor confidence and market expectations.

Given the limitations inherent in relying solely on internal or market-based measures, a combined approach offers a more comprehensive assessment of financial performance. This dual approach mitigates the biases associated with internal accounting policies and the potential distortions arising from market interpretations of company information (Kramaric et al., 2020). This comprehensive perspective is particularly important in the context of assessing the relationship between Environmental, Social and Governance (ESG) factors and financial performance. Previous studies, including those by Ponce and Wibowo (2023) and Awadzie et al. (2022), have shown that the effect of ESG factors can vary depending on whether ROA or Tobin's Q is used as the performance metric.

In this study, both an internal measure (ROA) and a market-based measure (Tobin's Q) were adopted to evaluate financial performance. ROA has been widely utilized in various studies to assess profitability and operational efficiency (Maranga, 2022; Odongo, 2022; Shatnawi et al.,

2021; Aliabadi et al., 2013; Gulzara et al., 2018). However, ROA and similar profit measures do not always provide a complete picture of a firm's financial performance due to differences in accounting practices and other limitations (Wolfe & Sauaia, 2003).

In contrast, Tobin's Q offers a valuable metric for assessing a firm's market value relative to its asset base, which is of particular interest to shareholders focused on long-term value creation. As noted by Dolenco, Stubelj, and Laporšek (2012), generating higher profits does not necessarily correlate with an increase in a company's overall value. Tobin's Q has therefore been preferred in several studies for its ability to capture the market's valuation of a firm (Awadzie, 2022; Gitagia, 2020; Buallay, 2019). Combining both ROA and Tobin's Q allows for a more nuanced and robust evaluation of financial performance, as demonstrated in other researches, including studies by Ponce and Wibowo (2023) and Kramaric et al. (2020). This integrated approach provides a balanced view that is crucial for accurately assessing the effect of ESG factors and other determinants on firm performance.

The financial performance of banks has been a big concern globally, especially after the banking crisis in 2008 (Timoumi, Mohamed & Zeitun, 2015). Figure 1.2 below documents the financial performance in the global banking industry over the last twenty years. The trends are based on the return on equity (ROE). The ROE is positively corelated with ROA, as dully corroborated in previous studies including by Kabajeh et al (2012). ROE can be calculated by multiplying ROA by the equity multiplier (Furhmann, 2022).

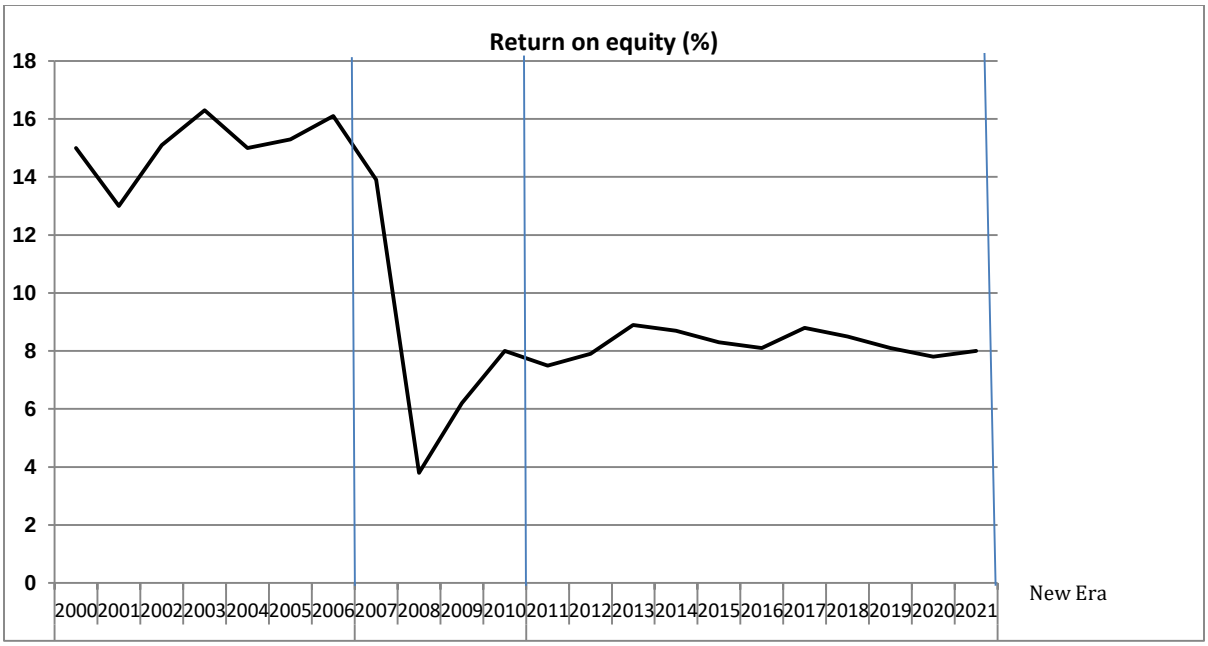


**Figure 1.2: Return on Equity (ROE) for banks at a global level**

**Source: McKinsey, 2022**

Figure 1.2 above depicts a general cyclic, unstable performance, albeit with a positive post-Covid recovery from the year 2021. From a range of between 14.5% and 16.2% from year 2000 to 2005, the global banks' ROE plummeted to about 4% in year 2008 during the global financial crisis, slowly recovering from the year 2010. The earnings thereafter to year 2021 have been up and down but almost half of those from 2000 – 2006.

Figure 1.3 below shows the price to book value of the banks in the global arena, distinguished between developed and emerging markets.

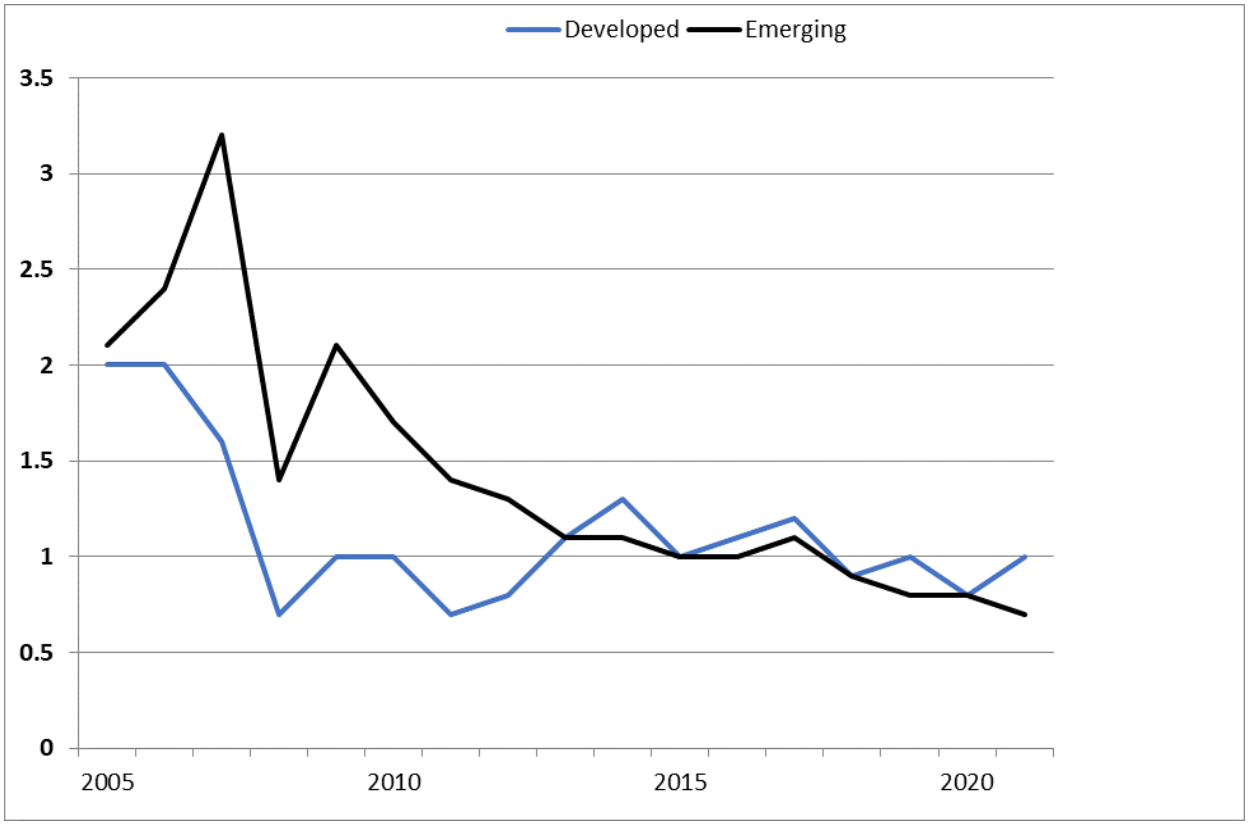


**Figure 1.3: Price-to-book (P/B) value for Developed and Emerging markets**
**Source: McKinsey, 2022**

Figure 1.3 above demonstrates a consistent decline in the price to book value ratio for banks in both developed and emerging countries. The ratio reached its peak at 3.2 for emerging markets and 2.0 for developed markets around 2006. In 2021, the value steadily decreased to approximately 0.7 for emerging markets and 1.0 for developed markets. This indicates that the overall value of banks worldwide has been decreasing. The average return on equity (ROE) for African banks has experienced a consistent reduction at the continental level, reaching 7 percent in 2020, as reported by McKinsey (2022). From 2016 onwards, the profitability of the largest banking markets in Africa (Egypt, South Africa, Morocco, Nigeria and Kenya) has consistently decreased, with an average fall of 2 percentage points over the past six years. According to McKinsey (2022), Egypt has undergone the most significant decrease, with South

Africa following closely after. Figure 1.4 below depicts the trend in market performance as measured by Tobin's Q among listed banks in Africa over the period 2013 to 2022.

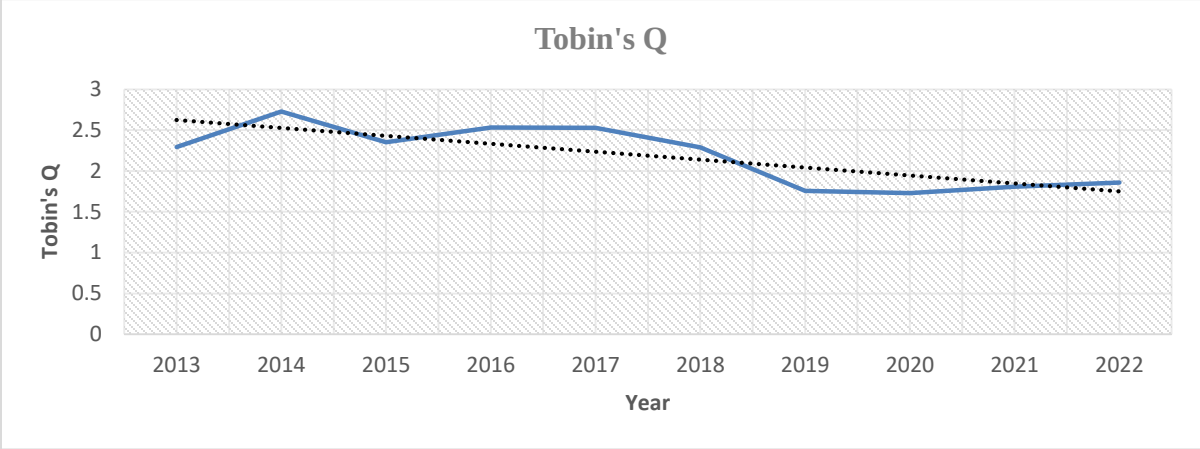


**Figure 1.4: Trend in Tobin's Q among listed banks in Africa**

**Source: LSEG, 2023**

Figure 1.4 above shows a consistent downward trend in Tobin's Q among the listed banks in Africa, declining from a high of 2.7 in 2014 to 1.8 in 2022. This is despite of the increasing investments in ESG among commercial banks in Africa. The performance trend among Kenyan banks is not significantly different from the rest of the continent. Figure 1.5 below depicts the performance of commercial banks in Kenya between the years 2012 and 2020.

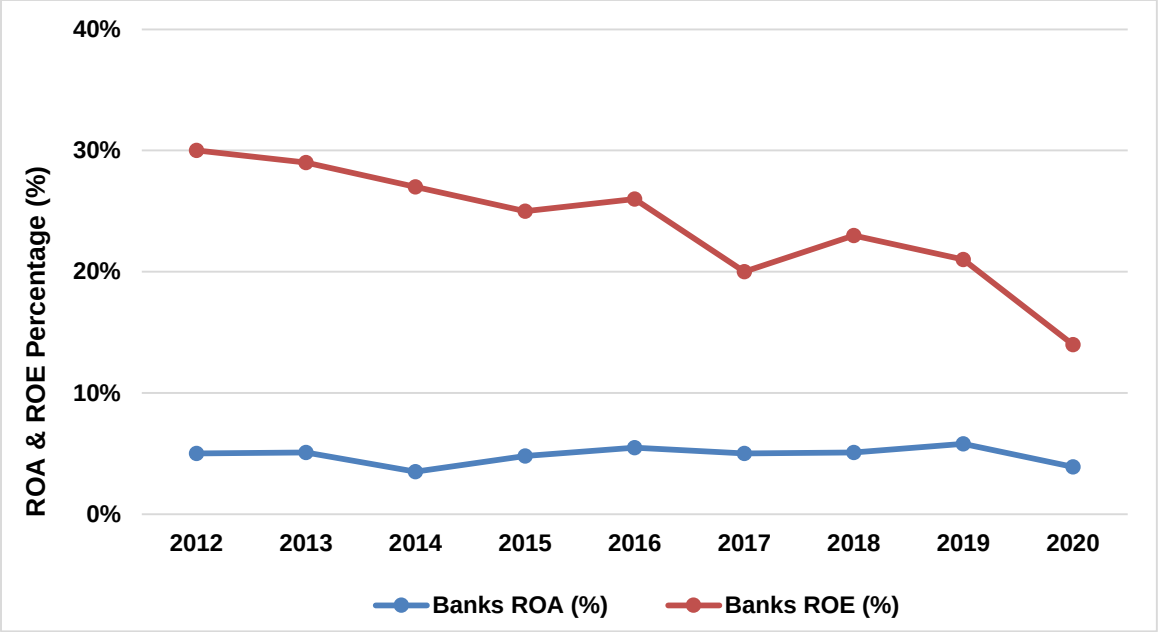


**Figure 1.5: Kenyan Banking Sector Performance**

**Source: Central Bank of Kenya, 2021**

Figure 1.5 demonstrates a consistent decline in return on equity from a high of 30% in 2012 to a low of about 14% in year 2020. The return on assets has been at a flat rate of around 5% from year 2012 to year 2020. Any unavoidable initiative that has a cost element, such as ESG adoption, has a definite effect on profits unless it can generate profits at least equal to the cost incurred.

While wealthier nations, especially in Europe and America, have shown notable advancements in adopting environmental, social and governance (ESG) standards and practices, there is still a significant gap for African nations to bridge in this regard (PwC, 2023). The shift towards integrating ESG criteria is increasingly becoming a non-negotiable aspect, particularly as foreign investors, benefactors and global development agencies start to prioritize ESG metrics in their investment choices within emerging markets (PwC, 2023). The influence of ESG factors on organizational performance and the overall value of companies is emerging as a

critically important area of research, underscoring the growing relevance of sustainable practices in today's business landscape (Ersoy et al., 2022).

ESG practices are now crucial business factors that financial services organizations cannot disregard any longer (PwC, 2022). In Kenya, notable changes have occurred in the legislative and regulatory landscapes. The Central Bank of Kenya (CBK) has introduced guidelines for addressing climate-related challenges, while the Nairobi Securities Exchange (NSE) has unveiled a handbook aimed at aiding publicly traded companies with their Environmental, Social and Governance (ESG) reporting practices (PwC, 2022). Although there might be various interpretations of what ESG encompasses, it is widely acknowledged that implementing these practices will lead to increased costs, which investors will ultimately bear (Uyeda, 2022). In the United States of America, for instance, the expenses for ESG compliance amounted to around $2 billion in 2022, and they are projected to rise to $6.4 billion in 2023 (SEC, 2022). While it is possible to estimate these costs to some degree, gauging the benefits derived from ESG investments can prove to be more complex. Even when benefits can be measured, the findings often lack clear conclusions (Uyeda, 2022).

### 1.1.2 Environmental Practices

Environmental practices encompass the proactive measures implemented by businesses to generate positive effects, both financially and non-monetarily, within their surroundings (Dragomir, 2018). These initiatives span a spectrum of activities aimed at mitigating environmental risks and promoting sustainability. Such practices encompass a wide array of efforts, including the formulation of corporate climate policies, prudent management of energy consumption, effective handling of toxic waste, conservation of natural resources, and adherence to stringent environmental regulations (S&P Global, 2019). These actions

collectively contribute to minimizing adverse environmental effects while fostering ecological stewardship and corporate responsibility.

In this study, the environment pillar score (ENV) served as a proxy for assessing the efficacy of environmental practices within the banking sector. Computed as an aggregate score derived from various individual environmental efforts, the ENV score encapsulates the overarching commitment of banks towards environmental sustainability. By quantifying the multifaceted aspects of environmental engagement, this metric facilitates a comprehensive evaluation of banks' environmental performance and underscores their contributions towards fostering a greener and more sustainable future.

The growing global interest over resource depletion and pollution has led firms to review their strategies to incorporate the society and environment (Khurshid et al., 2013). Since the financial crisis of 2008, firms have embraced ESG to enhance their corporate image. As the banks' role in the economy comes under sharp focus, shareholders and other stakeholders are increasingly demanding transparency on the effects of a company actions on the society and environment (Senyigit & Shuaibu, 2017). A bank shows its dedication to caring for the environment by including environmental factors in its loan-making rules, along with other actions (Gangi et al., 2019; Scholtens, 2009). Taking steps to help the environment can give banks an edge over others because these extra efforts can lead to better earnings for the bank (Finger et al., 2019). Paying attention to environmental issues encourages banks to work on reducing their negative effects on the environment, which can give them a competitive edge.

### 1.1.3 Social Practices

The social component of ESG emphasizes the incorporation of the wider community, consumers and employees' interests into a company's strategic goals and its efforts to enhance

shareholder value (Zaman & Ellili, 2020). In the banking industry, maintaining a strong reputation and securing customer loyalty are crucial for gaining a competitive advantage, as highlighted by Shen et al. (2016). Banks are encouraged to clearly communicate their commitment to societal well-being, indicating that their objectives extend beyond mere profit generation, to foster positive public perception and trust (Gangi et al., 2019). Mirales-Quiros and Hernández (2019) argue that a company's social score is enhanced by prioritizing the welfare of both customers and employees, adhering to ethical practices in all operations, engaging in corporate social responsibility efforts, supporting human rights, and ensuring the safety and health of employees. These actions contribute significantly to the social aspect of ESG.

Social practices advocate for community interests beyond the shareholders' interests (McWilliams & Siegel, 2001). Chai et al. (2019) argue that the reason why some managers in the banking sector fail to invest in social practices is that they do not understand how it affects business performance. According to Neszmélyi (2020), there are problems and challenges facing Africa, especially in regard to balancing between social needs and immediate profitability needs. Theodoulidis et al. (2017) add that moral considerations are highly important regarding social issues, and managers of banking institutions need to be mindful as to the impact of their corporate activities on other stakeholders, regardless of the possible pressures from shareholders.

A good business reputation is highly valuable to a firm, as it plays a big role in building customer loyalty, which indirectly increases business returns in the long run. Cochran (2007) argues that social practices can be used as a tool to promote a company's reputation, as the firm could be perceived as a good corporate citizen who considers the impact of its actions

towards society. Szegedi et al. (2020) found that disclosure on social practices improved accounting-based financial performance among the Pakistan banking sector, as indicated by return on assets (ROA) and return on equity (ROE) values. Suttipun et al. (2021) argue that the benefits of social practices can be explained by the legitimacy theory, which stipulates that firms will always strive to operate within societal norms and boundaries. Social practices also help in the management of stakeholder relationships, which motivate the investors to provide more capital to the business (Weber 2008).

In this study, the social pillar score (SOC) incorporated specific metrics related to the workforce, including safety and health standards, workplace conditions, diversity and inclusivity initiatives. Additionally, it covered aspects concerning human rights, the well-being of the community, and the responsibility towards products, including ethical marketing practices, the quality of products and services, and the protection of consumer data. This comprehensive approach ensured a holistic assessment of a company's social effect and its commitment to sustainable and responsible business practices.

### 1.1.4 Governance Practices

According to the agency theory, a firm's performance is likely to improve when its corporate governance mechanisms are effective. These governance structures are influenced by various elements, such as the process for selecting directors, their tenure, the variety of expertise within the board, the size of the board, and the interaction between the Chairman and the CEO. For companies aiming to enhance their financial outcomes and secure a competitive advantage, refining these governance practices is essential (Youssef & Diab, 2021). According to agency theory, the key to effective governance lies in ensuring that the goals of the management align with those of the shareholders, thus facilitating the achievement of this alignment (Grove et

al., 2011). In the banking sector, regulatory bodies are crucial in mandating that banks adopt and continually refine their governance strategies to maintain effective operations (John et al., 2018).

Poor governance practices by a bank may often be interpreted as a sign of unreliability by the bank (Oino, 2019). Among the key tenets of governance are transparency and disclosure, which implies that a company should adopt the applicable accounting policies and standards, and ensure shareholders, investors, regulators and other market players are kept informed and updated. Changes in key management, nature of business, composition of the Board, financial affairs among others should be duly reported (Oino, 2019). In addition, the mix of skills among board members through considerations of diversity in backgrounds contributes to more competitive decision making and strategies which in turn enhance profitability. Further, regular meetings with shareholders and engagement of external auditors by a firm opens up management decision making to scrutiny which leads to accountability. In this study, governance practices were proxied by the governance pillar score (GOV). The score incorporates measures on structure, shareholders rights and corporate social responsibility (CSR) strategy.

### 1.1.5 Size of the Bank

Firm size is predominantly measured by the total assets a firm possesses (Andaswari et al., 2019). Generally, the larger the firm, the more favorable its prospects are perceived by investors, thereby enhancing its value. Firm size is also closely linked to the capacity for pursuing innovations that boost productivity. In the banking sector, the size of a bank is often calculated as the logarithm of its total assets (Korkmaz & Nur, 2023).

The relationship between firm size and profitability has been explored through the lens of

economies of scale. Niresh and Velnampy (2014) posited that larger firms tend to be more profitable due to their ability to operate more efficiently and reduce costs by producing goods or services in larger quantities. Similarly, Akinyomi and Olagunju (2013) observed that firm size can significantly affect performance, as larger firms benefit from cost advantages through bulk production, making firm size a crucial determinant of profitability.

The influence of firm size is particularly pronounced in the context of Environmental, Social, and Governance (ESG) practices. The slack resources theory suggests that larger firms, with their more substantial financial, human, and technological resources, are better positioned to meet stakeholder demands and expectations than their smaller counterparts. Xiao et al. (2018) found that larger firms are more likely to possess the additional resources necessary to fulfill stakeholder expectations, potentially leading to enhanced performance. Thus, firm size not only influences financial outcomes but also plays a critical role in shaping a firm's ESG efforts.

However, research on the moderating effect of bank size on the relationship between ESG practices and bank performance has yielded mixed results. Nodeh et al. (2016), in a study of Malaysian banks, found that bank size does moderate the relationship between governance and financial performance. In contrast, studies by Osuji (2023) on global banks and Korkmaz and Nur (2023) on Turkish banks concluded that bank size does not moderate the relationship between ESG practices and bank performance.

This research delved into how a bank's size moderates the relationship between its ESG initiatives and its overall performance, in the context of the African banking industry.

### 1.1.6 Commercial Banks Quoted in Securities Exchanges in Africa

In Africa, the banking system is comprised of the Central Banks and institutions that accept

deposits (Ozili, 2017). The deposit taking institutions include domestic banks as well as branches or subsidiaries of international banks. There are 145 commercial banks listed on 26 securities exchanges in Africa. These banks operate under the African Securities Exchanges Association, which is the umbrella organization (ASEA, 2023; African Financials, 2023; ADBG, 2022). Listed banks are under close scrutiny from investors and must disclose extensive information, including environmental, social and governance (ESG) details (Ozili, 2017). Yet, ESG reporting among African banks is nascent (African Bulletin, 2023). According to the London Stock Exchange Group, a leading provider of ESG data (Berg, Gabisik & Sauntnes, 2021), only fifteen African banks listed across the Johannesburg, Casablanca and Egyptian Stock Exchanges have consistently reported complete ESG data over the period from 2013-2022 (LSEG, 2023).

The fifteen banks were the subject of this study. The list of the banks is appended to this thesis as Appendix II.

### 1.2 Statement of the Problem

The financial performance of the banking sector directly contributes to overall economic growth, given the critical role of banks in promoting savings and investments (Abisola, 2022). Notably, the financial performance anchors a bank's stability (Maluki, 2021). Poorly performing banks have higher risks of being delisted (Kroes & Manikas, 2014). Beyond profitability, firm value is also critical to shareholders for value maximization (Gitagia, Wamugo & Omagwa, 2020).

Globally, the financial performance of banks has experienced a general decline (Timoumi, Mohamed & Zeitun, 2015). On average, the return on assets (ROA) for banks worldwide decreased consistently from 3.7% in 2013 to 1.36% in 2020, with a gradual recovery beginning

in 2021 (Global Finance, 2023). Specifically, the banking sectors in Egypt, Kenya, Morocco, Nigeria and South Africa have witnessed a significant decline in profitability since 2016, with an average annual decrease of 2 percentage points in ROA (McKinsey, 2022). This trend reflects various challenges faced by these economies, including regulatory changes and market volatility. In Kenya, the decline has been particularly stark, with bank profitability dropping from approximately 30% in 2012 to about 14% in 2020, as reported by the Central Bank of Kenya (2021). This downturn in Kenya mirrors the broader trend across Africa's major banking markets, highlighting the urgent need for strategic adjustments and innovations within the sector to navigate the evolving economic and competitive landscape.

The decreasing profitability of banks poses a potential threat to economic growth at national, continental, and global levels, given that banks are integral to the financial systems that underpin economies (Hussein, 2010). Nevertheless, banks are expected to lead in the implementation of Environmental, Social, and Governance (ESG) initiatives. However, the costs associated with these initiatives could negatively affect the profitability and sustainability of banks unless these sustainability efforts are aligned with profit generation and shareholder value maximization.

The African banking sector is characterized by a number of unique features, including the presence of state-owned banks and relatively lower market penetration compared to developed economies (UNECA, 2022). The listed banks, which control a significant portion of the continent’s banking assets, are key players in Africa's economy (Cytonn, 2022). These banks, being publicly traded, cater to a diverse mix of shareholders and investors and are subject to more stringent compliance requirements, particularly concerning ESG practices.

During the last decade, the examination of the relationship between ESG and the performance

of companies has been the focus of researchers' and corporate managers' interest, but the topic has been less extensively researched in the banking sector, especially in Africa (Muchiri, Gally & Furcas, 2022). Most researches have focused on the effect of corporate social responsibility (CSR) and financial performance of banks, with limited specific research on the effect of Environmental, Social, and Governance (ESG) practices on banks' performance particularly in the African context (El Khoury, 2021). This gap in research persists despite Africa's increasing prominence as a focal point for global investment and development (Ngida, 2024). As the continent experiences growth, there is a rising emphasis on ESG responsibilities, especially for Multinational Corporations (MNCs) operating within its borders.

In Kenya, the status of ESG adoption and disclosure by banks is still at an early stage (Kenya Bankers Association, 2022). Only seven Kenyan banks have since published their sustainability reports between the years 2021 and 2022. None of the banks listed on the Nairobi Securities Exchange has been included in the ESG data statistics by the London Stock Exchange Group, due to the relatively short adoption period in Kenya. However, at the continental level, 15 banks have been featured by the LSEG with adequate information and disclosures to facilitate computation of ESG scores for the period 2013-2022.

Although there is sufficient ESG literature pertaining to Western economies, there is a deficiency in the ESG literature from developing economies including Africa, implying that ESG is still a new phenomenon in the majority of developing economies (Kabir & Chowdhury, 2022). Further, most studies on ESG in Kenya and across Africa have relied on the different researchers' interpretations of the measures and computation of ESG scores, due to the absence of clear guidelines and standards in this area. Few studies have referred to globally accepted standards and methods for computation of ESG scores, such as the London Stock Exchange

Group (LSEG) which is a globally recognized source of reliable data on ESG metrics (Elisa & Guido, 2023; Dragomir et al, 2022; Aleksandar & Bonić 2022; Chollet & Sandwidi, 2018; Eccles, Ioannou & Serafeim, 2012 and Velte, 2017). For example, Mumo (2022) in his study on ESG practices and stock returns at the Nairobi Securities Exchange, used ESG disclosures compiled by the Capital Markets Authority. Similarly, Kimilu (2021) relied on voluntary financial statement disclosures by Kenyan companies to assess the effect of ESG on performance, while Maana (2021) used content analysis of financial statements to evaluate ESG practices and performance of Ghanaian banks. Amadzie et al. (2022) employed audited financial statements to assess ESG compliance and performance of banks across Africa.

Available data in Africa indicate that only fifteen banking institutions have consistently reported sufficient information to facilitate the computation of ESG scores over the last eight years (LSEG, 2023). These banks are predominantly based in South Africa, Egypt and Morocco, which are among Africa's five largest banking markets, alongside Kenya and Nigeria (McKinsey, 2022). However, banks in Kenya and Nigeria are still in the early stages of adopting a comprehensive ESG reporting framework (LSEG, 2023; Kenyan Bankers Association, 2022). Despite this, there is a growing emphasis on sustainability across the African continent. Many African nations are increasingly recognizing the importance of ESG practices and integrating them into their operations (African Bulletin, 2023). Concurrently, governments are taking proactive steps, enacting legislation and regulations to address pressing environmental challenges.

The limited number of researches on ESG and bank performance and in particular in the African context, different interpretations adopted by researchers on ESG measurements occasioned by the limited access to globally recognised ESG metrics, limited disclosures by banks on ESG and

different conclusions reached in previous studies has created credible research gaps for this study. This study obtained secondary data from the LSEG, one of the globally accepted and utilised sources of ESG metrics (Berg, Gabisik & Sauntnes, 2021).

## 1.3 Research Objectives

The study was guided by the following general and specific objectives.

### 1.3.1 General Objective

The main objective of this study was to assess the effect of environmental, social and governance (ESG) practices on the financial performance of selected banks quoted in African securities exchanges.

### 1.3.2 Specific Objectives

The specific objectives of this study were:

i. To evaluate the effect of environmental practices on the financial performance of selected banks quoted in African securities exchanges.

ii. To evaluate the effect of social practices on the financial performance of selected banks quoted in African securities exchanges.

iii. To evaluate the effect of governance practices on the financial performance of selected banks quoted in African securities exchanges.

iv. To establish the moderating effect of size of the bank on the relationship between environmental, social and governance (ESG) practices and the financial performance of selected banks quoted in African securities exchanges.

## 1.4 Research Hypotheses

This study sought to test the following null hypothesis:

$H_{01:}$ Environmental practices do not have a significant effect on the financial performance of selected banks quoted in African securities exchanges.

$H_{02:}$ Social practices do not have a significant effect on the financial performance of selected banks quoted in African securities exchanges.

$H_{03:}$ Governance practices do not have a significant effect on the financial performance of selected banks quoted in African securities exchanges.

$H_{04:}$ Size of the bank does not significantly moderate the relationship between environmental, social and governance (ESG) practices and the financial performance of selected banks quoted in African securities exchanges.

## 1.5 Significance of the Study

This research will be beneficial to Boards and management of banks and other firms as they develop strategies towards sustainability reporting. The findings will assist the management in allocating resources and balancing the immediate and long-term interests of shareholders. Shareholders of banks will also be better informed of the net effects of ESG initiatives and costs and thus assist in their decision making, including approval of budgets for ESG initiatives. The study will also provide useful insights to policy makers and regulators of ESG requirements on the effect to banks of the compliance requirements. This will further guide policy makers and regulators on whether additional incentives need to be provided to banks and other companies to encourage ESG compliance, particularly where ESG costs have a significant effect on company returns.

To environmentalists, social and governance crusaders, the study findings will guide their campaign strategies in terms of how to promote and influence adoption of ESG initiatives. This will be particularly significant where the findings indicate a long-term value gain to a company and its investors from undertaking ESG activities. A determination of the relationship between ESG costs and company profitability is also critical to employees as profitability has a direct effect on sustainability and ultimately job security. Employees may not support ESG activities where they are viewed to affect profitability and thus their job security. This study will also serve to bridge a critical research gap in Kenya and Africa as relates to the relationship between ESG exertions and bank performance. The research findings will further open up areas of future research. The public is the end beneficiary of any ESG initiatives, as a safe and protected environment, social protection and governance practices ultimately are for public interest. How ESG costs affect company profits and thus the sustainability of the ESG initiatives would therefore be of direct interest to the public as it defines the future of ESG activities and thus public welfare.

### 1.6 Scope of the Study

The study focused on fifteen banks quoted in securities exchanges in South Africa, Morocco and Egypt. These are the banks which consistently maintained ESG data and published financial statements over the period from 2013 to 2022, as documented by the London Stock Exchange Group. The selection of this timeframe was based on the commencement of ESG reporting by most banks in the study, ensuring data consistency. Additionally, the nine-year duration was deemed sufficient to mitigate distortions caused by short-term internal and external variables. The rationale behind focusing on commercial banks stemmed from their substantial influence on the continent's overall economic growth. As key players in African

economies, commercial banks wield significant control as lenders, investors and holders of foreign exchange reserves. Consequently, any adverse trends in bank performance have the potential to reverberate throughout the economy, affecting employment levels and overall economic stability. Thus, by scrutinizing the ESG practices and financial performance of these banks over the selected period, the study aimed to provide insights into their broader economic implications and contribute to informed decision-making in the banking sector and beyond.

### 1.8 Organisation of the Study

This thesis is structured into five chapters. Chapter one covers the study's background, objectives and hypotheses, emphasizing its significance, and describing its scope, limitations and organizational structure. Chapter two delves into the theoretical and empirical framework, reviewing and summarizing prior research, and laying out the conceptual groundwork of the study. Chapter three outlines the research methodology, covering the approach, design, analytical model, definition and measurement of variables, data collection methods, sampling technique, and data analysis and presentation strategies. Chapter four presents the study findings and the interpretations. Finally, Chapter five summarises the study findings, conclusion and recommendations for further research.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

This chapter presents an analysis of theoretical and empirical literature underpinning this study. It provides a comprehensive overview of various theoretical perspectives that describe how ESG practices can influence a company's financial performance. The chapter also identifies and discusses the existing gaps in the research landscape on the relationship between ESG and financial performance of banks, underscoring the relevance and necessity of the current study. In addition, the chapter illustrates the conceptual framework that links the various variables to the objectives of the study.

## 2.2 Theoretical Literature Review

The theories which guided this study are the shareholders' value theory, stakeholders' theory, legitimacy theory, agency theory, signaling theory and the slack resources theory. The shareholders' value theory is particularly important in this context as it emphasizes the enhancement of a firm's value by improving profitability and maximizing the wealth of its shareholders. This theory suggests that actions taken by a company, including those related to ESG initiatives, should ultimately contribute to increasing the financial returns for its shareholders. The theory pitches for minimizing costs including ESG costs as a means of improving profits and value.

Stakeholders theory was used to explain the case for thinking beyond shareholders and bringing on board the interest of other parties such as consumers and the public through social initiatives. Concurrently, the legitimacy theory provides a basis for ESG as an institution owes

its legitimacy and existence to the society at large. Further, the agency theory was used to link governance with bank performance due to its assertion that governance structures reduce the agency conflict and can lead to improved financial performance.

The signaling theory was used to explain the information content effect of ESG on investors' and other stakeholder's perception, as ESG initiatives can send positive signals to investors keen on supporting companies that are sustainability conscious, thus linking ESG with performance. The slack resources theory is tied to the view that bigger companies ordinarily possess extra resources to address stakeholders' interest through ESG initiatives, which also influence financial performance. This theory was therefore used to justify the selection of bank size as a moderating variable due to its perceived influence on both ESG initiatives and financial performance of banks.

### 2.2.1 Shareholders Value Theory

This theory was introduced by Friedman in 1970 and provides that spending firm resources on social responsibility activities depletes company resources and hence negatively affects profitability (Saleh, Zulkifli & Muhamad, 2011). Under this theory, shareholders' interests should be the topmost priority. Proponents of this theory argue that a firm should primarily strive to increase profits for the benefit of its shareholders (Lagoarde, 2012). Ullman (1985) had also theorized that ESG activities reduce firm resources available for business activities and thus reduce profits. Margolis and Walsh (2003) strengthened the view that the overriding objective of a firm is to increase the shareholders' value.

Mertens (2013) argued that the critiques of the shareholder perspective stem from a fundamentally different set of assumptions but don't detract from the theory's logical or ethical soundness. Elrick and Thies (2018) further reinforced Friedman's viewpoint, emphasizing his

recognition of ethical conduct, particularly honesty, in profit-seeking, a point often missed by detractors. Amidst the growing momentum for Environmental, Social, and Governance (ESG) practices, alternative viewpoints challenging the shareholder-centric model are gaining traction. Saint and Tripathi (2006) maintained the traditional view that businesses are primarily designed to fulfill owner interests, a principle that underpins the value maximization concept central to this study's dependent variable.

### 2.2.2 Stakeholders Theory

The Stakeholders Theory, introduced by Edward Freeman in 1984, redefines a company's responsibilities, expanding its focus beyond shareholders to encompass a broader network of stakeholders. According to this theory, a firm's stakeholders include not only shareholders but also employees, local communities, suppliers, government agencies, and others who are directly or indirectly affected by the company's operations (Jones et al., 2018). The core principle of Stakeholders Theory is that a company's success hinges on building and maintaining strong relationships with all its stakeholders (Harrison & Wicks, 2013).

The theory posits that for a company to achieve long-term success, it must account for the interests of a diverse group of stakeholders, including suppliers, governments, employees, customers, society at large, and investors. This approach mandates that companies have a duty to address the needs and concerns of both internal and external stakeholders (Freeman & McVea, 2001). It also places a responsibility on management and board members, who are themselves stakeholders, to ensure transparency in disclosing the company's activities, as these disclosures can have significant effects on other stakeholders.

Stakeholders Theory further argues that a company's success is inherently linked to its engagement with the broader social ecosystem, highlighting the importance of fostering

beneficial relationships beyond just its shareholders. Oladipupo, Mathias, and Mohammed (2015) support this view, advocating for firms to expand their disclosures beyond financial information to include sustainability and other areas of interest to a wider stakeholder audience. This broader disclosure approach encourages companies to create value for a diverse group of stakeholders, moving away from the traditional focus on shareholder wealth maximization, a perspective critiqued by Herly and Sisnuhadi (2015).

Building on the concept of stakeholder engagement, prior research underscores the critical role of incorporating Environmental, Social and Governance (ESG) practices into business operations. For instance, Rouf (2017) illustrated how stakeholder influence drives companies to provide transparent ESG disclosures. Similarly, Cho, Roberts and Patten (2010) emphasized the importance of effective stakeholder communication and a genuine commitment to sustainability in enhancing ESG disclosure levels. This approach aligns with the current study's broader perspective of stakeholders, recognizing that ESG efforts affect not only company owners but all parties involved.

### 2.2.3 Legitimacy Theory

The Legitimacy Theory, introduced by Deegan (2002), suggests that organizations must align their actions with the societal norms and expectations within the communities they serve. This alignment is crucial because a firm's existence and success are deeply intertwined with its relationship to society, which provides the necessary environment and resources for the company's operations (Deegan, 2010). As societal norms and ethical standards evolve, companies must continually adapt to maintain their legitimacy within this shifting context.

Suchman (1995) defines legitimacy as the perception that a company's actions are consistent with the accepted standards and values of society. According to this theory, companies actively

engage in social responsibility initiatives to enhance their reputation and justify their operations within the broader community. Ignoring cultural norms, including ethical and moral standards, can lead to societal backlash, potentially damaging business operations, especially through actions like boycotts (Gupta & Nayar, 2017).

In the context of this study, Legitimacy Theory underpins the incorporation of environmental and social dimensions, emphasizing the importance of aligning corporate actions with societal expectations. This alignment not only helps in maintaining a company's legitimacy but also plays a critical role in ensuring long-term financial success and sustainability.

### 2.2.4 Agency Theory

The Agency Theory, first proposed by Jensen and Meckling in 1976, explores the relationship between the owners of a company (principals) and the company's managers (agents). This theory centers around the concept that owners entrust managers with the decision-making power, hoping that these managers will make choices that align with the owners' best interests. However, a key issue identified by the theory is the potential misalignment of priorities between managers and owners, leading to conflicts of interest. This misalignment, as noted by Miller in 2002, arises when managers prioritize their own goals over those of the owners and stakeholders, potentially leading to decisions that could be detrimental to the company's wellbeing. This divergence of interests is a key consideration in understanding the complexities of corporate governance and the mechanisms needed to align the interests of managers with those of the company's owners and broader stakeholders.

Regarding ESG activities, the theory highlights three potential problems stemming from this principal-agent relationship (Lee & Isa, 2020). First, managers might use company resources for personal gains, possibly engaging in ESG activities to enhance their own reputation at the

expense of shareholder value (Brown et al., 2006). Second, a focus on ESG could lead companies to forgo more profitable investments, thus not optimizing their financial potential (Schuler & Cording, 2006). Third, managers might engage in ESG activities as a form of window dressing—to divert attention from poor financial performance or other negative aspects of the company. In this study, agency theory underpinned the consideration of governance as a crucial independent variable, emphasizing the effect of management decisions on ESG activities and, ultimately, on the company's financial performance.

### 2.2.5 Signaling Theory

The Signaling Theory, originally put forward by Akerlof and Arrow in 1970 and further developed by Spence in 1974, suggests that high-quality firms can distinguish themselves from lower-quality ones by sending out clear, positive signals to the market. In the context of environmental, social and governance (ESG) efforts, this theory posits that companies can use their ESG performance as a means to bridge the information gap and mitigate conflicts of interest between themselves and their stakeholders, particularly creditors (Muttanachai, 2023). When creditors have access to comprehensive financial information from statements and notes, as well as non-financial insights from a company's ESG activities, they are in a better position to make informed decisions. This could lead to more favorable loan terms, mortgage approvals, and lower interest rates for the company.

In this study, signaling theory is used to explain how a company's commitment to ESG can positively affect its financial performance. By actively communicating their ESG efforts, companies send positive signals to stakeholders like creditors, who then consider this information when making funding decisions (Lo & Kwan, 2017). Companies may also publish additional reports, such as annual reports, that detail their workforce, environmental initiatives,

and CSR activities. The aim of these reports is not only to inform but also to signal the company's dedication to environmental and social responsibilities.

These signals, when received positively by the market, can influence the company's market performance, as seen in the market price of its stock. According to signaling theory, by providing such detailed reports, a company can enhance its value. Conversely, if a company fails to provide sufficient information, stakeholders might only perceive it as average, equating it with those that do not disclose such information (Fitriyani and Kristanti, 2023). This theory underpinned the connection between ESG efforts and a bank's value, as represented by measures like Tobin's Q in this study.

### 2.2.6 Slack Resources Theory

Introduced by Waddock and Graves in 1997, the Slack Resources Theory states that companies with more resources, be it financial, technical, or managerial, are in a better position to meet stakeholder demands than their smaller counterparts with limited resources. The concept of "slack resources" refers to the surplus capacities within a company that remain underutilized but can be quickly mobilized for various purposes, as described by Cyert and March (1963). Xiao et al (2018) further observe that larger firms, with their broader resource base, are more capable of addressing stakeholder expectations, often resulting in increased investments in initiatives related to environmental, social and governance (ESG) aspects.

The theory implies that when companies invest in corporate social performance activities, they aim to build and strengthen their competitive edge by improving their image and reputation, targeting specific market segments, and achieving long-term cost savings (Collett & Miles, 2013). Firms with available slack resources are, therefore, more inclined to undertake ESG initiatives. McGuire et al. (1988) argued that only those firms with extra cash flows, indicative

of slack resources, can afford to invest in social activities. Agusti-Perez et al. (2020) supported this viewpoint by linking slack resources to social initiatives such as employee training and gender inclusion efforts. This theory was used to justify the selection of bank size as a moderating variable due to its perceived influence on both ESG initiatives and financial performance of banks.

## 2.3 Empirical Review

This section reviews various studies in relation to ESG practices and financial performance.

### 2.3.1 Environmental Practices and Financial Performance

Banks are often seen as leaders in adopting environmentally friendly practices. However, there is growing societal pressure on banks to revise their business models to enhance their contributions toward environmental protection. This trend has witnessed the emergence of "green" banking products, for example car loans with lower interest rates for customers buying electric or low-emission vehicles. This section provides a glimpse on the previous studies to investigate the relationship between environmental performance and financial performance.

Awuor (2023) investigated the effect of Environmental, Social and Governance (ESG) factors on performance within the Ugandan context, focusing on all 25 licensed commercial banks in the country from 2012 to 2021. Adopting both positivist and post-positivist philosophies alongside an explanatory approach, the research revealed that ESG practices exerted a marginally positive influence on Return on Equity (ROE) and a slightly negative effect on Return on Assets (ROA). Nonetheless, the study did not delve into the specific effects of individual ESG components on banking performance. This omission is noteworthy, given emerging research suggesting that each ESG element might have distinct effects on

performance metrics. Moreover, the measurement of ESG in the study was not based on internationally benchmarked metrics.

Hedström and Dahlsjö (2023) explored the influence of ESG ratings on the financial and portfolio performances of firms in China and Sweden, employing a quantitative strategy and reviewing data from 100 companies across four portfolios during 2012-2022. Their multiple regression analysis revealed no substantial connection between ESG efforts and financial success. A critical oversight in their research was the inclusion of the Covid-19 pandemic timeframe without an in-depth evaluation of its potential effect on market performance and stock prices. Additionally, their investigation was limited to aggregated ESG scores without considering the individual contributions of Environmental, Social and Governance factors.

Further, Ponce and Wibowo (2023) explored the interaction of ESG with the profitability of banks in Indonesia between the years 2010 to 2020. Panel data on ESG was sourced from the London Stock Exchange Group (LSEG). Analysis was based on correlation and statistical analysis. Profitability was proxied by ROA, ROE and Tobin's Q. The study concluded that the relationship between ESG and ROA, ROE and Tobin's Q was negative. However, each ESG pillar yielded different results. The relationship between the social pillar and ROA and ROE was positive while governance had a significant negative effect on Tobin's Q. The relationship between business environment and ROA, ROE and Tobin's Q was insignificant. The study however used both ROA and ROE which are internal accounting measures which exhibit similar trends and are usually correlated (Al-Qudah, 2016).

Awadzie et al. (2022) investigated the effect of sustainability reporting on the performance of banks in Africa, specifically analyzing data from listed banks in Ghana, Nigeria and South Africa from 2010 to 2020. Their study employed a panel fixed effect regression model,

uncovering a positive association between environmental sustainability reporting and Return on Assets (ROA). However, they found no significant link with Tobin's Q, underscoring the complexity of measuring sustainability's effect on market-based performance indicators. A key limitation of their study was the reliance on subjective sustainability reporting measures, which lacked reference to standardized global ESG metrics.

Building on this theme, Haibo and Manu (2022) explored how financial outcomes influence environmental actions among banks in North and Southern Africa between 2000 and 2016. Using advanced panel quantile regression and panel vector autoregressive methods, they discovered contrasting outcomes: while carbon emissions were found to negatively affect financial performance in North Africa, they were surprisingly associated with positive financial outcomes in Southern Africa. This regional disparity highlights the varied effect of environmental actions on financial performance across different African contexts. However, their study's reliance on internal data sources, without verification against global ESG benchmarks, presents a significant limitation, potentially affecting the robustness of their findings.

In contrast, Shakil et al. (2019) identified a significant gap in research on the effect of environmental initiatives on the financial performance of banks, particularly in developing countries. Addressing this gap, Savić and Bonic (2022) focused on European companies, exploring the influence of environmental performance reporting on profitability from 2012 to 2020. Utilizing a descriptive research methodology, they analyzed data from 60 companies listed in the Global Reporting Initiative database, applying Multiple Linear Regression techniques. Their findings revealed a notable positive correlation between environmental performance indicators and Return on Total Assets (ROA), suggesting that transparency in

sustainability efforts can enhance profitability.

Further expanding the discourse, Buallay (2019) examined the relationship between the extent of environmental disclosures and key financial indicators, specifically Return on Equity (ROE) and Tobin's Q ratio. The study provided valuable insights, revealing a clear positive link between comprehensive environmental disclosures and improvements in critical financial performance metrics. This research not only contributed to the existing literature but also emphasized the financial benefits of integrating sustainability into core business strategies. By demonstrating that companies investing in detailed environmental disclosures may see tangible financial enhancements, Buallay's work underscores the strategic value of sustainability in driving both corporate responsibility and financial success.

### 2.3.2 Social Practices and Financial Performance

Social performance, grounded in stakeholders theory, posits that a company's success, including its product and service performance and ultimately its financial outcomes, is enhanced by effectively meeting the needs and expectations of its various stakeholders (Freeman, 2010). Social considerations in sustainable investing encompass how well a company navigates social trends, labour relations and political environments.

The relationship between social performance and profitability in banks has been a focal point of recent studies, particularly in the context of emerging markets. Aliamutu and Mkhize (2024) conducted an in-depth analysis of banks in Southern Africa, examining how social performance influences profitability. Their study, which utilized content analysis to extract data from financial statements—including Return on Assets (ROA) and Return on Equity (ROE)—alongside social performance metrics based on International Accounting principles, covered the period from 2015 to 2019. The findings suggested that social performance had no

significant effect on profitability. However, the study's reliance on accounting standards, which primarily address financial reporting rather than Environmental, Social and Governance (ESG) measurements, and the relatively short four-year period, limited the comprehensiveness of the research.

Exploring the broader relationship between Corporate Social Performance (CSP) and Corporate Financial Performance (CFP), Sultan (2024) investigated how different banking models influence this dynamic. Analyzing data from 117 financial institutions across 36 countries over an eight-year span (2013-2020), the study employed the System Generalized Method of Moments (GMM) estimation model and constructed a CSP Index as the key independent variable. The results revealed a statistically significant negative association between CSP and CFP, suggesting that increased social performance efforts may not necessarily translate into improved financial outcomes in certain banking models.

Focusing on the African banking sector, Awadzie et al. (2022) examined the effect of social and governance reporting on bank performance, with performance metrics proxied by ROA and Tobin’s Q. Drawing data from the financial records of 20 listed banks in Ghana, Nigeria, and South Africa between 2010 and 2020, the study utilized a panel fixed effect regression model. The analysis indicated a positive relationship between social and governance reporting and both Tobin's Q and ROA. However, the study's reliance on financial statement disclosures, which are inherently subjective and not based on internationally standardized sustainability metrics, was a noted limitation.

In a more global context, the influence of Corporate Social Performance and governance on market value and earnings capabilities was explored by Daszyńska-Żygadło et al. (2021). The study, which spanned banks across the Americas, Europe, the Middle East, Africa, and Asia

Pacific, used regression analysis on data sourced from the LSEG database of ESG Scores covering 2009 to 2016. The findings revealed that while social performance negatively affected banking profitability, governance performance had a positive effect on CFP. The study acknowledged that the diverse economic environments and varying stages of development across the countries included posed challenges for the uniform application of its findings.

In a localized study, Chang'kwony and Omwono (2019) explored the effect of Corporate Social Performance on the performance of banks in Baringo County, Kenya, guided by stakeholders theory. By targeting employees and customers from four local banks and utilizing a correlation research design with a sample of 80 respondents, the study highlighted the positive effects of discretionary and ethical CSP activities on firm performance. These initiatives were shown to enhance corporate image and protect against sales declines. However, the limited regional scope and potential bias from multiple respondents within the same institutions were recognized as limitations, potentially skewing the results.

Siminica et al (2019) studied the influence of corporate social performance (CSP) and Governance on financial performance of banks from the European Economic Area as measured by ROA. The study was based on a sample of 614 large companies. The study covered specific indicators published by the LSEG database, for the years 2013 to 2017. The structural equation modeling technique (SEM) was used for analysis. The study found that CSP has a negative influence on ROA while governance has a positive effect on ROA. The period of study was limited to five years which was not comprehensive enough for a holistic study.

In Nigeria, Oyewumi, Ogunmeru and Oboh (2018) assessed the relationship between CSP investments and disclosures and the financial performance of Nigerian banks from 2010 to 2014, using an explanatory research design. With ROA as a financial performance indicator

and CSR expenditure representing social investment, their findings suggested a negative correlation between CSP and financial outcomes. However, the study focused solely on CSP, neglecting the broader spectrum of ESG considerations which are increasingly seen as interconnected.

Du Toit and Lekoloane (2018) analyzed the relationship between CSP and financial outcomes among firms listed on the Johannesburg Stock Exchange (JSE) from 2009-2014, using metrics like ROE, P/E ratio and stock returns, with CSP measured by the JSE's Socially Responsible Index. Their conclusions pointed to an ambiguous relationship between CSP and financial performance during the study period, though they did observe a link between company size and inclusion in the JSE SRI, hinting at the potential influence of scale on CSP engagement and recognition.

Mohamud (2018) conducted a study on the effect of corporate social performance on financial performance in the banking sector in East African countries. Corporate social performance (CSP) score was obtained using content analysis of the annual reports of the banks for the year 2010 to 2016 and analyzed using ordinary least squares (OLS) model. Financial performance was proxied by ROA. The sample of the study consisted of 35 banks in six countries. A multiple regression model was established to determine the relationship between the two variables. Control variables of GDP and financial leverage were also introduced in the regression model. The results established a strong positive relationship between CSR and ROA, while there was a negative relationship between CSR and ROE. The study relied on subjective computation of CSP scores instead of internationally recognized metrics.

Further in India, Sinha, Sachdeva and Yadav (2018) investigated the link between CSP and financial performance among small and medium enterprises (SMEs) in Delhi, India,

considering aspects like customer and employee relations, environmental practices and community engagement. Despite identifying a slight positive correlation between CSP and financial metrics such as sales revenue and return on investment (ROI), their research also noted a general indifference towards CSP among smaller businesses, attributed to their size, unique characteristics and resource constraints, suggesting the potential value of including company size as a moderating variable in future studies.

Mwanja, Evusa and Ndirangu (2016) conducted a study to assess the influence of ethical, environmental and philanthropic considerations on the financial outcomes of firms listed on the Nairobi Securities Exchange (NSE) over the period 2010 to 2014. Utilizing a multiple linear regression analysis, the researchers evaluated how various aspects of corporate social performance (CSP) affected the financial achievements of these NSE-listed companies. The findings indicated that all three CSP facets significantly contributed to the variability in these firms' earnings, with environmental CSP showing the most pronounced effect on corporate success and philanthropic CSP having the least effect. This research underscores that different components of CSP can have diverse implications on the financial performance of firms.

Githinji (2015) delved into the effect of CSP strategies on the operational success of Equity Bank in Kenya, analyzing the bank's financial reports from 2006 to 2012. Adopting an exploratory research design, the study evaluated CSP initiatives centered around education, leadership, agriculture, innovation, entrepreneurship, financial literacy, health and the environment. With the entire network of 208 Equity Bank branches as the study population, the findings linked the bank's substantial profit growth, market expansion, enhanced reputation and stronger brand positioning directly to its comprehensive CSP engagements aimed at improving the socio-economic conditions of its stakeholders.

Ofori, Nyuur and Darko (2014) embarked on a pioneering exploration into the relationship between corporate social performance (CSP) and financial performance within Ghana's banking industry. Employing a quantitative research approach, they gathered primary data from 25 licensed banks in Ghana through survey questionnaires. Utilizing multiple regression analysis with debt ratio, size and sales growth as control variables, they assessed the effect of CSP on financial performance, measured by Return on Assets (ROA) and Return on Equity (ROE). While their findings suggested a positive correlation between CSP and financial performance, statistical significance remained elusive within Ghana's specific context. Despite recognition for their focus on CSP, criticisms arose regarding the study's narrow scope, omitting other critical Environmental, Social and Governance (ESG) dimensions, and its oversight of potential delayed effects of CSP investments on future financial performance. Nonetheless, their research serves as a catalyst for further exploration into the complex interplay between social responsibility and financial success within Africa's banking landscape.

### 2.3.3 Governance Practices and Financial Performance

The connection between governance structures and financial outcomes in organizations is often analyzed through the lens of agency theory, as noted by Ramic (2019). This theory highlights the potential for discord stemming from the distinct roles of owners and managers within a company. A considerable body of evidence supports the notion that robust corporate governance mechanisms can significantly benefit a bank's financial performance. Institutions that are governed effectively tend to be more profitable and encounter fewer issues related to conflicts of interest. This positive correlation has been substantiated by research from various scholars, including Esteban-Sanchez et al. (2017), Jamali (2008), Velte (2017) and Miras-

Rodríguez et al. (2015), who collectively underscore the critical role of sound governance practices in enhancing a firm's financial performance and minimizing internal disputes.

Similarly, Osei-Baidoo et al. (2023) delved into the realm of corporate governance practices, scrutinizing their effect on the performance of Ghanaian commercial banks listed on the Ghana Stock Exchange across a span of ten years, from 2009 to 2019. Employing a multifaceted analytical approach encompassing correlational analysis and fixed/random effect regression, their study honed in on board diversity, size and ownership structure as focal points. Although they noted limitations regarding the reliance on disclosed financial statements, their conclusions support the study findings that effective governance can enhance financial performance. However, critiques emerged regarding the reliance on secondary data from annual reports and bank websites, with a notable absence of external market validations of company value. Additionally, the subjective judgement employed in assessing governance measures without reference to internationally recognized standards raises questions about the robustness of their findings.

Boachie (2023) investigated the moderating effect of ownership on the relationship between corporate governance and financial performance of Ghanaian banks. The study used a sample of 23 banks. Multiple regression was used to analyze the data over an 18-year period. The findings revealed that governance and banks size have a positive effect on performance. The study further demonstrated that good corporate governance creates value and must be embraced for the interest of all stakeholders.

Herbert and Agwor (2021) explored the effect of corporate governance disclosure (CGD) on the financial performance of commercial banks quoted on the Nigeria Stock Exchange. The study was based on the Code of Corporate Governance for Public Companies in Nigeria. The

sample comprised of 13 Nigerian commercial banks and covered the period from 2011 to 2016. The study applied content analysis and used a checklist of mandatory disclosures to obtain information on corporate governance. The results of the hypothesized relationships showed a positive and significant association between CGD and the banks' financial performance. The study did not however use internationally benchmarked metrics for measuring governance scores.

Ochego, Omagwa and Mwathe (2019) examined how financial performance mediates the relationship between corporate governance and the value of Kenyan commercial banks from 2009 to 2018. Utilizing panel regression on data from bank financial statements and websites, they found a significant positive effect of financial performance on firm value, suggesting that better financial outcomes correlate with higher firm value. Their research was mainly grounded in agency theory, without considering other relevant frameworks like the signaling theory, which could provide additional insights into how governance practices influence stakeholder perceptions and, in turn, firm performance.

Kamau, Machuki and Aosa (2018) examined the relationship between corporate governance and the financial outcomes of Kenyan financial institutions, analyzing data from 108 firms. Using regression analysis, they discovered a positive link between governance practices and financial performance, highlighting the constructive effect of board members' skills and expertise. However, the research also indicated that an abundance of board committees might detract from efficiency, suggesting a mixed effect of governance structures on organizational performance.

Basuony et al. (2014) investigated how internal governance procedures and factors such as bank size and age influence the profitability of banks in the Arabian Peninsula, encompassing

both conventional and Islamic banks. By employing Ordinary Least Squares (OLS) regression, the researchers discovered strong associations between governance attributes such as board size, activism, and the involvement of external directors, and financial success metrics such as Tobin's Q and ROA. However, the study's investigation was confined to a narrow timeframe of only two years, specifically 2010 and 2011. This raises concerns over the reliability of the findings over time.

Moreover, Ongore and Obonyo (2011) conducted a comprehensive examination of ownership structure, board composition and management attributes within Kenya's publicly listed companies, aiming to elucidate their effect on corporate performance. Through the application of financial metrics such as Return on Assets (ROA), Return on Equity (ROE) and Dividend Yield (DY), the researchers unveiled the profound influence of corporate governance on company success. Utilizing stepwise regression analyses, the research revealed a robust positive correlation between governance practices and organizational performance, illuminating the essential role of strong governance frameworks in fostering sustainable development and prosperity in the modern corporate landscape. This pivotal study not only deepened understanding of corporate governance in the Kenyan context but also underscored the imperative for companies to prioritize the cultivation of transparent, accountable and ethical governance structures as a cornerstone of their strategic initiatives, catalyzing a paradigm shift towards heightened emphasis on governance best practices and long-term value creation.

### 2.4 Summary of Literature Review and Research Gaps

A summary of the key studies and the research gaps is presented in Table 2.1 below. Some of the key gaps noted were the failure to use internationally recognized and benchmarked metrics

to measure ESG, use of highly correlated independent variables simultaneously (ROE and ROA), short study periods, use of only company specific control variables some of which are prone to manipulation, consolidation of the ESG score instead of disaggregated score among others.

**Table 2.1: Summary of Literature Review and Research Gaps**

| Author(s) and study context | Study Objective(s) | Key Findings | Research Gaps | Addressing gaps via current study |
|---|---|---|---|---|
| Awuor (2023), Uganda | Investigated the effect of ESG adoption and bank characteristics on financial performance in Uganda | ESG has a slightly positive effect on ROE and a slightly negative effort on ROA | No reference was made to globally benchmarked measurements for ESG. The study failed to consider the effects of individual ESG components on performance of banks | The study utilized globally benchmarked measures of ESG from LSEG. This study has broken down ESG into the individual components; environmental, social and governance |
| Hedström and Dahlsjö (2023), China and Sweden | Explored the effect of ESG on financial performance in China and Sweden | No evidence was found of the relationship between ESG and financial performance | The study only focused on the combined ESG score | This study considers the individual elements (Environmental, Social ad Governance) |
| Ersoy et al (2022), USA | The relationship between ESG and the market value of U.S. commercial banks | There was a U-shaped relationship between ESG and market value of shares | Size of the bank was measured by the number of employees, both full time and part time | In this study, size was measured by total assets, whose valuation is governed by international standards |

| | | | | |
|---|---|---|---|---|
| Bătaea, Dragomira and Feleaga (2021), Europe, America and Asia. | Studied the relationship between ESG and the financial performance of banks in Europe, America and Asia. | Environmental performance negatively affected return on equity, the influence of the other ESG factors was not significant. | The dependent variable was EPS which was considered as the market indicator, which it is not as it is largely dependent on earnings as per the internally prepared financial statements and does not reflect market value | This study used Tobin's Q which incorporates market value and thus can be considered as a true market performance indicator |
| Ochego, Omagwa and Muathe (2019), Kenya | Investigated the mediating effect of financial performance on the relationship between corporate governance and firm value of commercial banks in Kenya | The study findings established that there was a statistically significant effect between financial performance and firm value of commercial banks in Kenya. | This study was only anchored on agency theory. | The current study was based on various theories linking governance and financial performance, including stakeholders theory and legitimacy theory |
| Ramic (2019), Switzerland | The relationship between ESG performance and financial performance of select companies in the globe. | The findings established that ESG positively influenced ROE, while the relationship between governance performance and Tobin's Q was negative | The study used two dependent variables that are highly correlated (based on previous studies); ROA and ROE. | This study was based on one market measure of performance (Tobin's Q) and one internal measure of performance (ROA) |
| Oyewumi et al (2018), Nigeria | The influence of CSR on financial performance of banks | Banks' investments in CSR activities affect their financial performance negatively | The research only addressed one aspect of ESG, corporate social responsibility (CSR) | This study incorporated CSR as part of the complete ESG agenda |
| Ofori et al, (2014), Ghana | The relationship between corporate social | The influence of corporate social investment on | The study did not consider the lagged effect of corporate | This study considered the lagged effect |

| | | | | |
|---|---|---|---|---|
| | investment and performance of banks in Ghana | financial performance of banks in Ghana was weakly positive. | social responsibility, where benefits, if any, are expected to be realized in the next year after the CSR has been incurred | of ESG on performance |

**Source: Various Literature Reviewed, 2023**

## 2.5 Conceptual Framework

This research examined the relationship between Environmental, Social and Governance (ESG) practices and the financial performance of banks across Africa. In this study, Tobin's Q and Return on Assets (ROA) served as proxies for firm value and profitability, respectively, with bank size, measured by the log of total assets, acting as a moderating factor.

Figure 2.1 below illustrates the relationships among these variables within the study's framework.

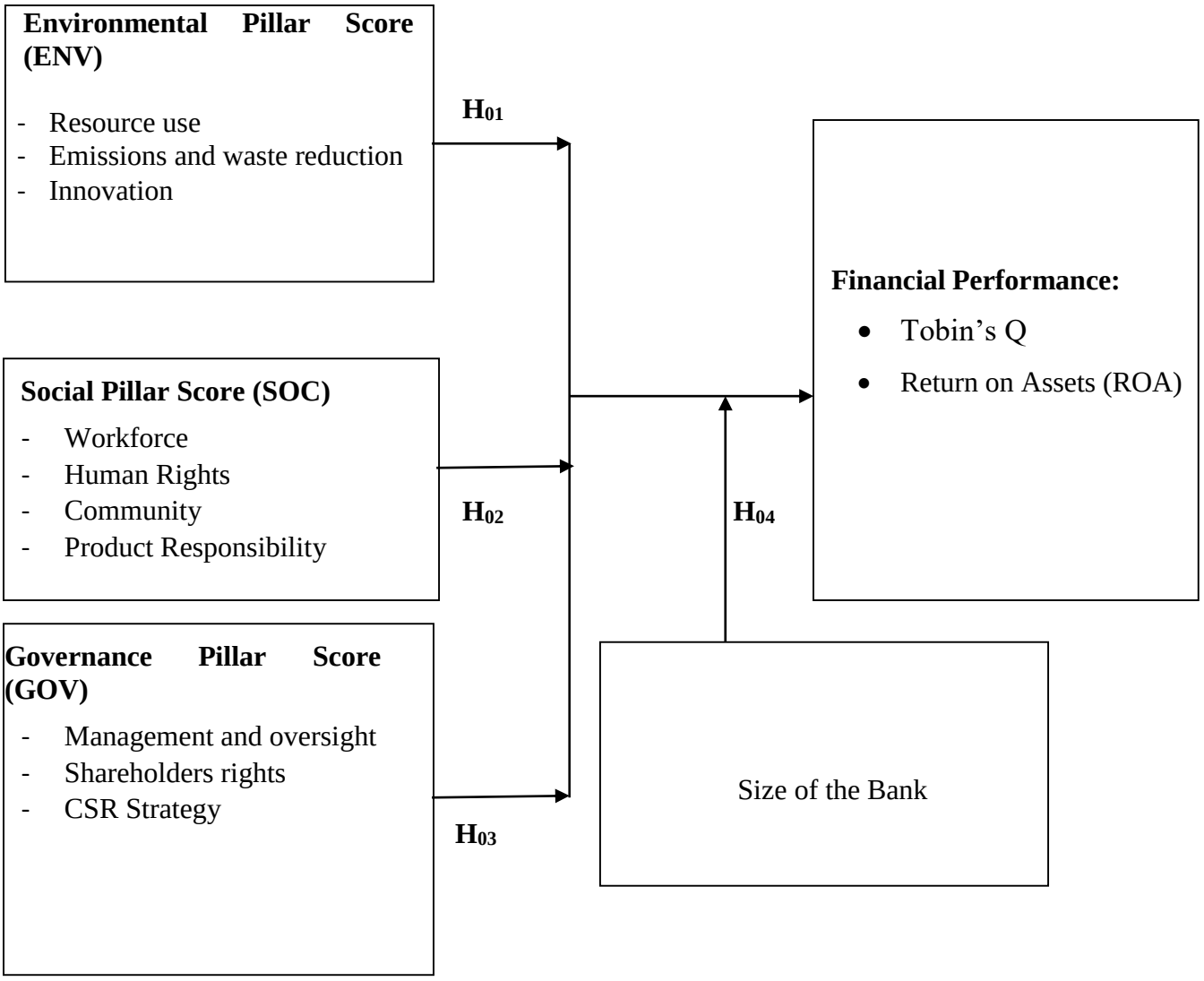


**Figure 2.1 Conceptual Framework**

**Source: Author, 2024**

Table 2.2 below provides a summary on the composition of each ESG pillar score. Additionally, a comprehensive explanation of the formula used to compute these scores is annexed in Appendix VI of the thesis.

**Table 2.2. Composition of the scores under each ESG Pillar**

| Score | Definition |
|---|---|
| **COMPONENTS OF THE ENVIRONMENTAL PILLAR SCORE (ENV)** | |
| **Resource use** | This represents a firm's performance with regard to reducing the use of materials, energy or water in its operations. |
| **Emissions reduction** | This represents a firm's commitment to reducing environmental emissions in its processes. |
| **Innovation** | This reflects a firm's capacity to reduce the environmental costs and burdens for its customers, through new environmental technologies and processes. |
| **COMPONENTS OF THE SOCIAL PILLAR SCORE (SOC)** | |
| **Workforce** | This represents a firm's effectiveness in terms of providing job satisfaction, a healthy and safe workplace, maintaining diversity and equal opportunities and creating opportunities for its workforce. |
| **Human rights** | This measures a firm's effectiveness in terms of respecting fundamental human rights conventions. |
| **Community** | This represents a firm's level of commitment to being a good citizen, protecting public health and respecting business ethics. |
| **Product responsibility** | This measures a firm's capacity to produce quality goods and services, integrating the customer's health and safety, integrity and data privacy. |
| **COMPONENTS OF THE GOVERNANCE PILLAR SCORE (GOV)** | |
| **Management** | This represents a firm's commitment and effectiveness towards following best practice corporate governance principles. |
| **Shareholders** | This measures a firm's effectiveness towards equal treatment of shareholders and the use of anti-takeover devices. |
| **CSR strategy** | The CSR strategy reflects a company's practices to communicate that it integrates economic, social and environmental dimensions into its day-to-day decision-making processes. |

**Source: LSEG, 2023**

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter presents the methodology for the study. This comprises the research philosophy and design, empirical model, target population, sample design, data collection approaches and the diagnostic tests that were conducted. In addition, the ethical considerations that were upheld during the study are explained.

## 3.2 Research Philosophy

A research philosophy is a set of fundamental beliefs that guide the design and execution of a research study (Tamminen & Poucher, 2020). Various research philosophies exist, including positivism, realism, interpretivism, and pragmatism (Hedström & Dahlsjö, 2023). These philosophical approaches are critical in research as they help develop further questions within the field and foster more comprehensive thinking (Crossan, 2003).

This study was grounded in the positivism approach. The core principle of positivism is that social reality is external and can be objectively tested, as opposed to being subjectively deduced through sense, reflection, or intuition (Hedström & Dahlsjö, 2023). Saunders et al. (2009) advocate for the positivist approach, emphasizing that research should be based on observable social reality, allowing the phenomenon under study to be observed and measured, thus producing credible data. In this study, the observer was not dependent on what was being observed; instead, measurement and analysis were conducted through objective criteria rather than inferred subjectively. The research was based on hypotheses derived from theories of finance, which were tested to either support or reject the hypotheses.

The positivist approach has been utilized in prior research exploring the relationship between Environmental, Social and Governance (ESG) factors and financial performance. Studies by Hedström and Dahlsjö (2023), Mumo (2022), Kimilu (2021), and Gitagia, Wamugo, and Omagwa (2020) demonstrated the relevance and utility of the positivist paradigm in this field of study.

This approach provided a robust framework for examining the objective reality of ESG factors and their effect on financial performance, ensuring that the study's findings were grounded in empirical evidence and aligned with established scientific principles.

### 3.3 Research Design

In this study, an explanatory non-experimental design was employed. This design was chosen because it enables the investigation of relationships between variables that have already occurred, without the researcher's influence. Prior research studies including by Abu-Taieih, El Moutasam and Hadid (2019) have demonstrated the applicability and effectiveness of this design in elucidating complex relationships within a research context similar to this study. By adopting an explanatory non-experimental design, this study aimed to provide valuable insights into the relationships between Environmental, Social and Governance (ESG) practices and financial performance in the banking sector, contributing to a deeper understanding of these dynamics.

### 3.4 Empirical Model

The general empirical equation that was used for panel data regression is expressed as follows:

$$Y_{it} = \beta_0 + \beta_i X_{it-1} + È_t \quad \text{Equation 3.1}$$

**Where:**

$Y_{it}$ represents Financial Performance (dependent variable) of bank i at time t; $\beta_0$ is the regression constant; $\beta_i$ signifies the coefficients of the explanatory variables; $X_{it-1}$ represents a vector of ESG practice (independent variable) of bank i at time t-1; i stands for the number of the 15 quoted banks in Africa with ESG data; t signifies the data collection period 2013 - 2022 (2013 is considered to the lagged effect on year 2014); while $È_t$ signifies the composite error term.

### 3.4.1 Direct Effect Model

$$ROA_{it} = \beta_0 + \beta_1 ENV_{it-1} + \beta_2 SOC_{it-1} + \beta_3 GOV_{it-1} + È_{it} \quad \text{……Equation 3.2}$$

$$TQ_{it} = \beta_0 + \beta_1 ENV_{it-1} + \beta_2 SOC_{it-1} + \beta_3 GOV_{it-1} + È_{it} \quad \text{……Equation 3.3}$$

**Where:**

$ROA_{it}$ = Return on assets of bank i at time t

$TQ_{it}$ = Tobin's Q ratio of bank i at time t

$\beta_0$ = Regression constant

$\beta_{1-3}$ = The coefficients of the explanatory variables

$ENV_{it-1}$ = Environmental practices of bank i at time $_{t-1}$

$SOC_{it-1}$ = Social practices of bank i at time $_{t-1}$

$GOV_{it-1}$ = Governance practices of bank i at time $_{t-1}$

$È_{it}$ = Error term

In this research study, Environmental, Social, and Governance (ESG) decisions were lagged by one year to observe their effect on financial performance. This methodology aligns with prior research, such as the studies by Ersoy et al. (2022) and Maranga, Jagongo, and Koori (2022). Building upon the findings of Atan et al. (2018) and Velte (2017), bank size was also

incorporated as a moderating variable in the analysis.

### 3.4.2 Moderating Effect Model

The moderating factor in this study was the size of the bank. Size has been used as a moderator in related studies, including by Maranga (2022), who examined investment decisions and financial performance of non-financial firms listed at the Nairobi Securities Exchange. To assess the moderating effect of size on the relation between ESG practices and financial performance, the following procedures by Baron and Kenny (1986) were adopted. The first procedure was to estimate equation 3.2 and equation 3.3 as the base models.

$$ROA_{it} = \beta_0 + \beta_1 ENV_{it-1} + \beta_2 SOC_{it-1} + \beta_3 GOV_{it-1} + \beta_4 SIZ_{it-1} + È_{it} \quad \text{Equation 3.4}$$

$$TQ_{it} = \beta_0 + \beta_1 ENV_{it-1} + \beta_2 SOC_{it-1} + \beta_3 GOV_{it-1} + \beta_4 SIZ_{it-1} + È_{it} \quad \text{Equation 3.5}$$

Secondly, to evaluate the moderating effect, the following two extended equations were used:

$$ROA_{it} = \beta_0 + \beta_1 ENV_{it-1} + \beta_2 SOC_{it-1} + \beta_3 GOV_{it-1} + \beta_4 (ENV_{it-1} * SIZ_{it-1}) + \beta_5 (SOC_{it-1} * SIZ_{it-1}) + \beta_6 (GOV_{it-1} * SIZ_{it-1}) + È_{it} \quad \text{Equation 3.6}$$

$$TQ_{it} = \beta_0 + \beta_1 ENV_{it-1} + \beta_2 SOC_{it-1} + \beta_3 GOV_{it-1} + \beta_4 (ENV_{it-1} * SIZ_{it-1}) + \beta_5 (SOC_{it-1} * SIZ_{it-1}) + \beta_6 (GOV_{it-1} * SIZ_{it-1}) + È_{it} \quad \text{Equation 3.7}$$

In the moderation effect analysis, two steps were employed. In the initial phase, equations 3.4 and 3.5 were employed, treating the bank's size as an independent variable. In the second analysis, equations 3.6 and 3.7 were employed, treating the bank's size as a moderator variable.

Table 3.1 illustrates the decision criteria that was used to analyze the moderating variable. The analysis was based on the F-statistics at 5% significance level.

**Table 3.1: Decision Criteria for Moderation**

| Analysis | Possible Outcome | Conclusion |
|---|---|---|
| First step: Equation 3.4 and 3.5. Running size of the bank as an independent variable | Size has a significant coefficient | Size is an explanatory variable |
| | Size has an insignificant coefficient | Size moderates the link between ESG and financial performance of banks |
| Second step: Equation 3.6 and 3.7 Size of the bank as a moderator variable | Size has a significant coefficient | Size moderates the link between ESG and financial performance of banks |
| | Size has an insignificant coefficient | Size does not moderate the link between ESG and financial performance of banks |
| | Interaction terms have a significant coefficient | Significant interaction |
| | Interaction terms do not have a significant coefficient | Insignificant interaction |

**Source: Researcher, 2023**

### 3.5 Operationalization and measurement of variables

Variable operationalization is shown in Table 3.2 below. This comprises the variable, the operationalization of the variable, its measurement and corresponding scale of measurement.

**Table 3.2: Operationalization and measurement of variables**

| Classification of variable | Name of variable | Operationalization | Measurement | Scale of measurement |
|---|---|---|---|---|
| Dependent variable (Financial Performance) | Return on assets (ROA) | The earnings realized by a bank from a unit currency of its assets | ROA=Profit before tax and interest/Total Assets | Ratio |

| Classification of variable | Name of variable | Operationalization | Measurement | Scale of measurement |
|---|---|---|---|---|
| | Tobin's Q | A measure of the bank's market value to its replacement cost of assets | Tobin's Q = Market value of a firm/Asset value (replacement cost) | Ratio |
| Independent variables (ESG practices) | Environmental pillar score (ENV) | The relative sum of category weights for resource use, emissions and waste reduction, and environmental innovation | Composite score for the three environmental categories | Ratio |
| | Social pillar score (SOC) | The relative sum of category weights for work force, human rights, community involvement, and product responsibility | Composite score for the four social scores | Ratio |
| | Governance pillar score (GOV) | The relative sum of category weights for management quality, shareholder rights, and social responsibility strategy | Composite score for the three governance categories | Ratio |
| Moderating variable | Size | A measure of the growth of the total assets of a firm over a defined period | SIZE= Natural Logarithm of total assets of the firm | Interval |

**Source: Researcher, 2023**

### 3.6 Target Population

The population, or universe, refers to a group sharing common characteristics that represent all units possessing the variable under study, allowing research findings to be generalized to this group (Shukla, 2020). In this study, the population consisted of 145 commercial banks quoted on the 26 securities exchanges in Africa. These banks are part of the African Securities

Exchanges Association (ASEA), the umbrella organization for security exchanges on the continent (ASEA, 2023; African Financials, 2023; ADBG, 2022).

The securities exchanges across Africa, where these banks are quoted, are detailed in Appendix II.

### 3.7 Sampling Design

The sample for this study was selected using purposive sampling, which was based on the availability of comprehensive data on ESG and financial performance for the period 2013 to 2022, as provided on the London Stock Exchange Group (LSEG) database. Purposive sampling involves the intentional selection of cases that are most relevant to answering the research questions or achieving the study's objectives (Saunders & Lewis, 2009). An examination of the LSEG database identified a total of fifteen banks in Africa that consistently reported on ESG metrics over the 2013-2022 period of study. Consequently, these institutions were chosen to form the sample for this study.

The inclusion criteria required banks to have consistently reported ESG data and financial performance metrics throughout the study period of 2013-2022. Therefore, the sample was comprised of fifteen banks from Africa which were the only institutions meeting these stringent criteria. These banks were selected due to their robust and continuous ESG reporting practices, which ensured completeness of data to compute ESG scores. Conversely, the exclusion criteria eliminated banks that either lacked consistent or comprehensive ESG data over the study period or were not listed in the LSEG database. This approach ensured that only banks with relevant and complete data were included in the study, thereby enhancing the validity of the research findings. The method ensured that the study sample was both representative and capable of providing meaningful insights into the relationship between ESG practices and

financial performance within the African banking sector. The detailed list of the fifteen banks selected for the study is provided in Appendix III.

### 3.8 Data Collection Instruments

Data collection refers to the combination of research activities that aim at obtaining field data considered as necessary to answer research questions in qualitative research or to test hypotheses in quantitative research (Monday, 2019). Data collection instruments are the tools used by a researcher to gather various data which are processed quantitatively or qualitatively, then arranged systematically (Salmia, 2023). The study utilized a secondary data extraction tool to obtain the individual ESG scores from the LSEG. The data collection guides were adapted from the LSEG (2023) and are presented as Appendices I(A) and I(B).

### 3.9 Data Collection Procedure

This study relied on secondary data collected from the LSEG. Secondary data saves time and costs, provides a basis for comparison for the data and can help to improve the understanding of the problem (Management Study Guide, 2022). LSEG has been relied upon by most global researchers (Elisa & Guido, 2023; Dragomir et al, 2022; Aleksandar & Bonić 2022; Chollet & Sandwidi, 2018; Eccles, Ioannou & Serafeim, 2012 and Velte, 2017). Panel data was constructed from a cross-section of 15 banks and time series data for the period 2013 to 2022. Additionally, the necessary authorization letter and permit were acquired from the Kenyatta University Graduate School and the National Commission for Science, Innovation and Technology (NACOSTI) respectively.

### 3.10 Data Analysis and Presentation

Data analysis refers to the process of applying statistical techniques to describe, illustrate and evaluate data (Northern Illinois University, 2005). Data presentation is the art of familiarizing with the data, transforming it into a visual format that is easy to understand and interpret, searching for themes, defining and producing the report (Ningi, 2022).

The study employed a statistical approach encompassing both descriptive and inferential techniques for analysis. The study began with data cleaning, creating panels in Excel, and exporting the data to STATA Version 14.0 statistical software for analysis. Descriptive analysis provided an initial overview of the dataset's characteristics, utilizing measures of central tendency, dispersion, and distribution shape to offer insights into the distributional properties of the variables under investigation.

Inferential statistics, specifically correlation and multiple regression analysis, were used to explore the associations between Environmental, Social, and Governance (ESG) practices and financial performance, considering the potential moderating factor of the size of the bank. A panel multiple regression approach was adopted for this research since the data had time and cross-sectional dimensions. Panel data analysis provides more degrees of freedom than either cross sectional or time series data (Hsiao, 1985). This study examined the panel data by use of either fixed effect method or random effects method. To determine the most suitable model for the research study, Haussmann Specification test (1978) was applied.

### 3.11 Diagnostic Tests

Diagnostic tests are important in ensuring that the assumptions of the classical linear regression model are not violated (Hickey, 2019). The diagnostic tests serve as critical checkpoints,

allowing researchers to assess the robustness of the analytical framework and validate the soundness of the findings (Maitra, 2023). For purposes of this study, the following tests were conducted; normality, multicollinearity, heteroscedasticity, autocorrelation, endogeneity, stationarity and fixed or random effect tests.

### 3.11.1 Normality Test

In the linear regression analysis, it was assumed that the data followed a normal distribution, as skewness in the data could potentially affect the accuracy, validity and reliability of the results. To ensure the validity of the regression analysis, it was essential to test for normality. In this study, the Shapiro-Wilk test for normality was employed for this purpose. The null hypothesis of this test assumes that the data follows a normal distribution, while the alternative hypothesis suggests it does not. If the p-value obtained from the test is below 0.05, it indicates evidence of non-normality in the data. In such cases, where normality assumptions are violated, non-parametric statistics are utilized as an alternative approach to address this issue. This testing procedure ensures that the assumptions underlying the regression analysis are met, thereby enhancing the robustness and reliability of the study's findings.

### 3.11.2 Multicollinearity Test

In this study, multicollinearity, which occurs when predictors in a regression model are closely linked, was addressed using the Variance Inflation Factor (VIF) method (Pennsylvania State University, 2018). A VIF exceeding 10 indicates multicollinearity, while a value below 10 suggests it is not a significant concern. Upon detecting multicollinearity, adjustments are made by centering or standardizing variables. Additionally, closely related predictors are removed, retaining only the most relevant ones. This ensures that the regression model is robust and avoids the potential bias and instability associated with multicollinearity.

### 3.11.3 Heteroscedasticity Test

Heteroscedasticity, characterized by unequal variance of residuals, could undermine the efficiency and statistical power of regression analysis (Corporate Finance Institute, 2023). To detect heteroscedasticity, the Breusch-Pagan test was employed, assuming constant variance (homoscedasticity) as the null hypothesis. A p-value above 0.05 would indicate acceptance of homoscedasticity, while a p-value below 0.05 would lead to rejection of the null, signifying heteroscedasticity. In the event of heteroscedasticity, logarithmic transformation would be used to reduce such heteroscedasticity.

### 3.11.4 Autocorrelation Test

Autocorrelation, characterized by positively correlated random errors over time, could bias standard errors within panel data, potentially leading to less efficient results (Pennsylvania State University, 2018). The Breusch-Godfrey test (1978) has been utilized in related studies to detect autocorrelation (Maranga, 2022; Gitagia, 2020). Under this test, the null hypothesis assumes no serial autocorrelation within the panel data. Rejection of the null hypothesis, indicated by a p-value below the 5% significance level, would suggest the presence of autocorrelation. In such cases, the robust standard errors method would be employed as a remedy.

### 3.11.5 Endogeneity Test

Endogeneity arises when there is a link between one of the explanatory variables and the error term in a regression model, or when unseen factors influence both the independent and dependent variables (Sande & Ghosh, 2018). This issue can cause the estimates of the model's parameters to be biased and unreliable (Elhorst, 2010). The Durbin–Wu–Hausman (DWH) test

is used in research studies to determine whether the endogenous regressors in a simulation model are truly endogenous (Rehal, 2022). This test compares alternative parameter estimates to identify potential endogeneity issues such as omitted variables, measurement errors or simultaneity (Patrick, 2020). The null hypothesis for the DWH test posits no correlation between explanatory variables and error terms, while the alternative hypothesis suggests the presence of such correlation. Where endogeneity is detected, instrumental variables (IV) techniques are utilized as a corrective measure.

### 3.11.6 Stationarity/Unit Root Test

Stationarity, essential for time series analysis, denotes constancy in mean, variance and autocorrelation structure over time, devoid of trends or periodic fluctuations (National Institute of Standards and Technology, 2023). The Augmented Dickey-Fuller (ADF) test, established by Dickey and Fuller (1979), was employed in this study to assess stationarity. The null hypothesis of ADF test is that there is a unit root in an AR model, the alternative hypothesis is generally stationarity or trend stationarity. If the p-value is below 5 percent, the null hypothesis is rejected. In the event of a violation of stationarity of time series, the data is differentiated.

### 3.11.7 Test for Fixed or Random Effects

To estimate the regression equation effectively, it is crucial to determine whether there is a correlation between the explanatory variables (Baltagi, 2024). In the context of panel data analysis, this determination informs the choice between using a fixed effects or random effects model in the regression analysis. The decision hinges on the correlation between individual effects and the independent variables (Bell & Jones, 2014). The fixed effects model assumes that firm-specific intercepts exist, capturing the effects of variables that are unique to each firm and remain constant over time. This model is particularly useful when the differences between

firms are significant and consistent, and these differences need to be accounted for in the analysis. On the other hand, the random effects model presumes that there is a single common intercept, which varies arbitrarily from firm to firm. This model is appropriate when the variations across firms are assumed to be random and not correlated with the independent variables (Princeton, 2023).

To determine the appropriate model for this study, the Hausman test was employed. The Hausman test is a robust statistical tool used to evaluate whether the fixed effects or random effects model is more suitable by examining the correlation between unique errors and the regressors (Baltagi, 2024). The null hypothesis of the Hausman test posits that the random effects model is preferable, assuming that the unique errors are not correlated with the regressors. Conversely, the alternative hypothesis suggests that the fixed effects model is more appropriate, implying that the unique errors are correlated with the regressors (Princeton, 2023).

The application of the Hausman test has been widely recognized in academic research, including in studies by Maranga (2022), Odongo (2022), Mumo (2022), Namu (2021), and Gitagia (2020). The test's outcome is determined by the p-value: if the p-value is less than 0.05, the null hypothesis is rejected, indicating that the fixed effects model is the preferred choice. Conversely, if the p-value exceeds 0.05, the null hypothesis is accepted, favoring the use of the random effects model. In summary, the Hausman test plays a critical role in determining the most appropriate model for panel data analysis, ensuring that the regression analysis accurately reflects the relationship between the explanatory variables and the dependent variable by selecting either the fixed effects or random effects model based on the correlation between unique errors and the regressors.

### 3.12 Ethical Considerations

The study prioritized ethical considerations by obtaining necessary permissions from relevant authorities before commencement. A research authorization letter (Appendix IV) was secured from Kenyatta University (Graduate School). In addition, a research permit (Appendix V) was obtained from the National Commission for Science, Technology and Innovation (NACOSTI).

# CHAPTER FOUR

# RESEARCH FINDINGS AND DISCUSSIONS

## 4.1 Introduction

This chapter provides an analysis and interpretation of the data collected for the study. It encompasses an examination of both descriptive and inferential statistics, aiming to extract meaningful insights into the research objectives. The chapter begins with an exploration of the descriptive statistics, offering statistical summaries and trend analyses to explain key patterns within the dataset. Thereafter, the results of diagnostic tests conducted to ensure the robustness and reliability of the analytical procedures employed are presented. The inferential statistics are then presented, which include correlation analysis, regression modeling and hypothesis testing, concluding with a discussion of the findings.

## 4.2 Descriptive Statistics

Table 4.1 below summarizes the descriptive statistics, including the mean, standard deviation, minimum and maximum values of the variables in the study. The sample comprised 15 banks each with 10 years of data, making a total of 150 observations.

**Table 4.1: Descriptive Statistics**

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Environmental Score | 150 | 44.58 | 31.71 | 0.00 | 96.39 |
| Social Score | 150 | 49.13 | 28.15 | 1.80 | 96.97 |
| Governance Score | 150 | 45.58 | 22.09 | 3.94 | 90.98 |
| Bank Size | 150 | 11.70 | 2.05 | 7.05 | 14.87 |
| ROA | 150 | 0.03 | 0.02 | -0.04 | 0.09 |
| Tobin’s Q | 150 | 2.19 | 2.45 | 3.68 | 15.40 |

**Source: Study data, 2024**

The environmental score, as presented in Table 4.1, reflects the degree of engagement with

environmental sustainability practices among listed commercial banks in Africa. An average score of 44.58 out of 100 suggests a moderate commitment to environmental sustainability across the sampled banks. However, the substantial standard deviation of 31.71 indicates a significant disparity in scores, revealing a wide range of engagement levels—from minimal to near-full integration of environmental practices. This variability may be attributed to differences in priorities, capabilities, or perceptions regarding environmental sustainability among the banks. Institutions with higher environmental scores are likely to have implemented initiatives such as sustainable lending, energy efficiency programs, or carbon footprint reduction strategies. In contrast, those with lower scores may have yet to fully integrate environmental considerations into their operations, indicating potential areas for improvement in their sustainability agendas.

The social score, which assesses the implementation of social practices, encompasses various dimensions such as workforce engagement, human rights initiatives, community involvement, and product responsibility among quoted banks in Africa. The average score of 49.13 suggests a moderate level of social engagement within the sampled banks. However, the notable standard deviation of 28.15, coupled with a wide range of scores from 1.80 to 96.97, highlights considerable variability in social practices across the banks. This divergence could be rooted in differences in organizational values, community engagement strategies, or the extent of social responsibility initiatives undertaken by individual banks. Banks with higher social scores may demonstrate stronger community ties, more comprehensive employee welfare programs, and a firmer commitment to ethical business practices. Conversely, those with lower scores may need to enhance their social responsibility efforts to align with best practices in the industry.

The governance score serves as an indicator of the quality of governance practices within quoted commercial banks in Africa, covering areas such as management quality, shareholder rights protection, and the implementation of social responsibility strategies. An average score of 45.58 suggests a moderate level of governance effectiveness among the sampled banks. However, the standard deviation of 22.09 points to variability in governance practices, with some banks exhibiting robust governance frameworks while others may struggle with governance-related challenges. Banks with higher governance scores are likely to have transparent decision-making processes, diverse and independent boards, and effective risk management systems. In contrast, those with lower scores may face difficulties in governance structures, potentially effecting their risk management capabilities and long-term sustainability.

Bank size, represented by the natural log of total assets of the quoted commercial banks, serves as a proxy for their scale of operations and market presence within the African banking landscape. With an average size of 11.70, the sampled banks are relatively large entities. The narrow standard deviation of 2.05 suggests a relatively homogeneous distribution of bank sizes, indicating that the market is dominated by a few major players. However, the range of bank sizes, from 7.05 to 14.87, illustrates some level of variation, with smaller banks coexisting alongside larger institutions. Bank size is a critical factor influencing market competitiveness, economies of scale, and the ability to withstand financial shocks. Larger banks, due to their greater resources and market prominence, may have more capacity to invest in ESG initiatives and are likely to face closer scrutiny regarding their environmental, social, and governance practices.

Return on assets (ROA) measures the efficiency of quoted commercial banks in Africa in generating profits from their assets. With an average ROA of 0.03, banks in the sample achieved a modest level of profitability relative to their asset base. The standard deviation of 0.02 suggests some variability in profitability performance across banks, with some achieving higher returns while others struggle to generate profits efficiently. The range from -0.04 to 0.09 indicates that while most banks are profitable, there are outliers with negative returns, indicating potential inefficiencies or financial challenges. ROA is a critical metric for investors and stakeholders, reflecting the effectiveness of banks in deploying their assets to generate earnings and sustain long-term growth.

The Tobin's Q measures the market value of a company relative to its book value. A mean of 2.19 indicates that overall, the banks had market values higher than their book values. This indicates that the banks have done well with their investment decisions and further suggests that the market believes the banks' values are more than their assets' replacement cost. It is an expression of market confidence in the banks. A maximum value of 15.40 and a minimum value of 3.68 further suggests a mix of highly valued and low valued banks within the sample.

### 4.3 Trend Analysis

This section presents the analysis of the trends of the variables. Figure 4.1 shows the trends in environmental scores across banks.

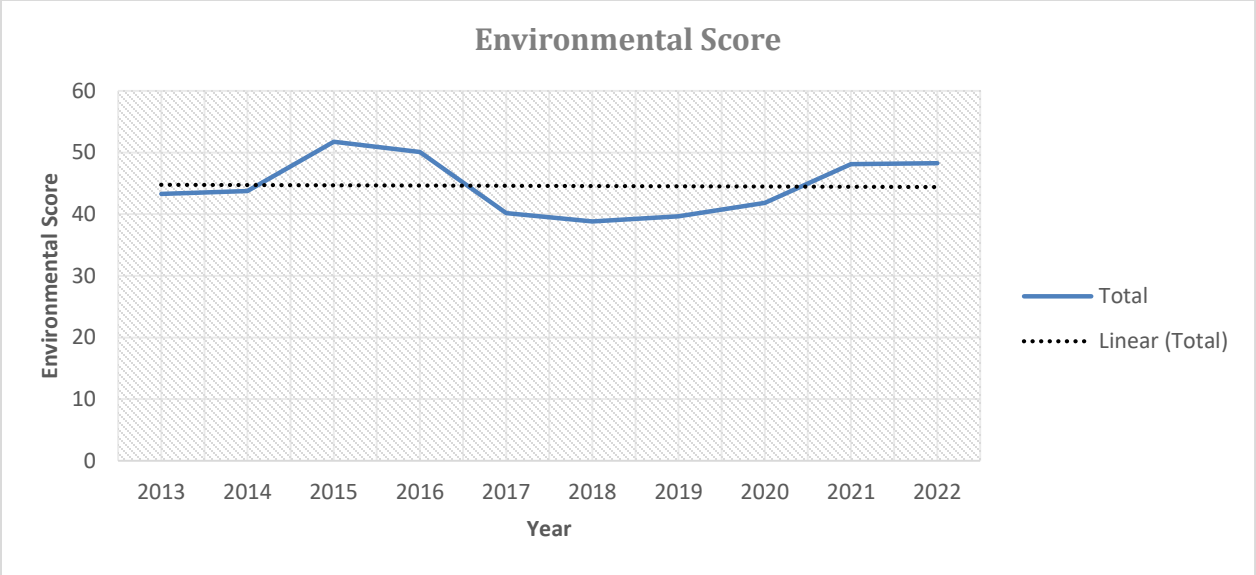


**Figure 4.1: Environmental Score Trends**

**Source: Study data, 2024**

Figure 4.1 above depicts the trend analysis of the environmental scores among listed commercial banks in Africa, revealing a fluctuating pattern over the years 2013 to 2022. The average environmental score begins at approximately 43.30 in 2013, showing an erratic trajectory with a peak of around 51.73 in 2015, followed by a decline to approximately 38.81 in 2018. After this decline, there is a gradual recovery, with the scores rising to 48.26 by 2022.

This pattern indicates a varied performance in environmental practices among listed commercial banks in Africa throughout the analyzed period. The observed fluctuations suggest a combination of advancements and setbacks, with significant peaks and troughs reflecting changes in the industry's commitment to environmental sustainability. The sharp increase from 2013 to 2015 likely signifies a period of significant improvement in environmental practices, possibly driven by increased regulatory pressures, corporate social responsibility (CSR) initiatives, or a growing awareness of environmental sustainability issues within the banking sector. However, the subsequent decline from 2015 to 2018 may indicate challenges in

maintaining or advancing these environmental standards. This downturn could be attributed to several factors, such as shifts in regulatory focus, economic pressures, or a temporary lapse in the industry's commitment to environmental goals.

The renewed upward trend observed from 2018 to 2022 suggests a re-emergence of focus on environmental sustainability. During this period, banks may have implemented new strategies to mitigate environmental risks, enhanced their green financing initiatives, or adopted cleaner and more sustainable business practices. This positive trend underscores the increasing importance of environmental considerations in the banking industry, driven by evolving regulatory requirements, growing stakeholder expectations, and a heightened recognition of the financial risks associated with environmental degradation.

Further, Figure 4.2 below shows the trends in the social score performance.

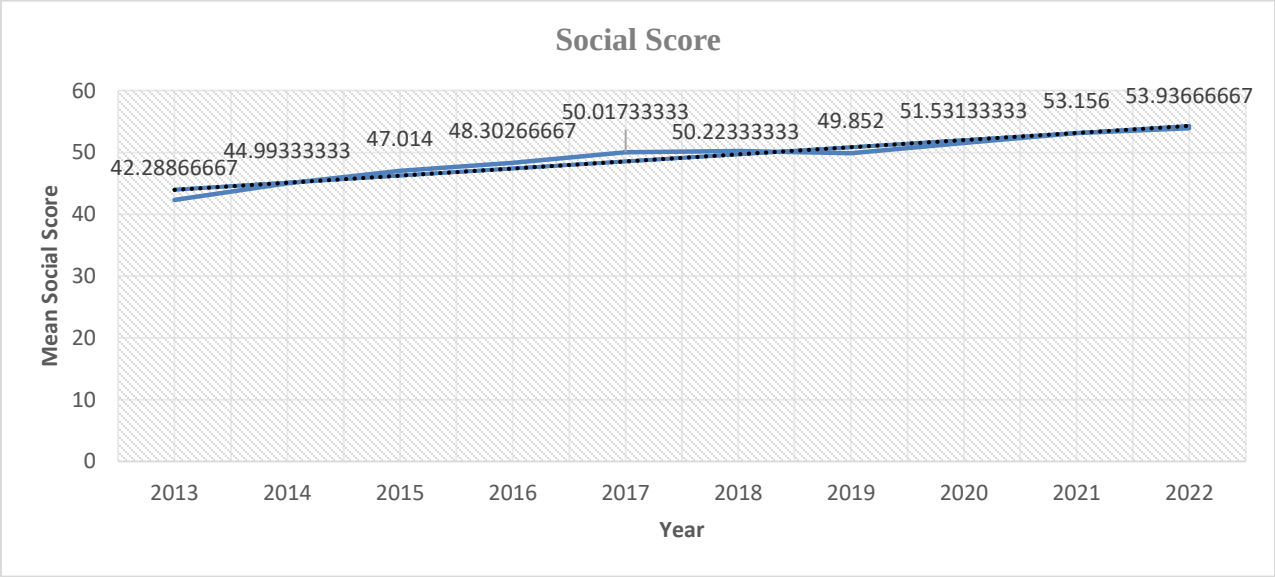


**Figure 4.2: Social Score Trends**

**Source: Study data, 2024**

Figure 4.2 above depicts the trend analysis of social score among quoted commercial banks in Africa, revealing a generally increasing trend over the years 2013 to 2022. The average social

score demonstrates consistent growth, starting at approximately 42.29 in 2013 and steadily rising to around 53.94 by 2022. This upward trend signifies a positive trajectory in the social practices of listed commercial banks in Africa over the analyzed period. The directional bias suggests a sustained effort by banks to enhance their social responsibility performance, potentially driven by regulatory mandates, stakeholder expectations and a growing emphasis on corporate citizenship.

The consistent increase in social score from 2013 to 2022 reflects a proactive approach by banks to address social issues, such as workforce welfare, human rights, community involvement and product responsibility. This upward trend may indicate a heightened awareness among banks of their role in promoting social welfare and sustainable development within the communities they operate in. The implications of this trend are significant for both banks and the markets they operate in. For banks, a higher social score signifies a stronger commitment to social responsibility practices, which can enhance their reputation, build trust with stakeholders, and mitigate social risks. It may also contribute to improved employee morale and customer loyalty, ultimately supporting long-term sustainability and resilience.

From a market perspective, the increasing social score of quoted commercial banks in Africa reflects a growing alignment between financial performance and social effect. This trend may attract socially conscious investors, bolster investor confidence and contribute to the overall development and stability of the financial sector in the region. Overall, the trend in social score among quoted commercial banks in Africa highlights the importance of social responsibility in driving sustainable business practices and fostering positive societal outcomes. It underscores the evolving role of banks as key agents of social change and reinforces the notion that financial success and social effect are mutually reinforcing objectives.

Figure 4.3 shows the trends in Governance scores.

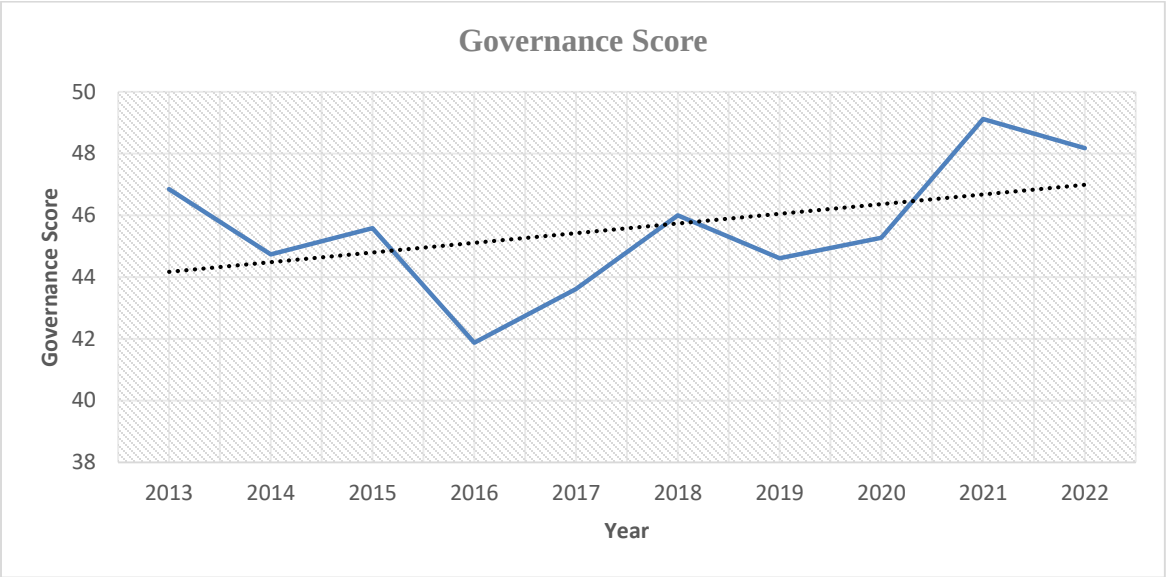


**Figure 4.3: Governance Score Trends**

**Source: Study data, 2024**

Figure 4.3 above presents a trend analysis of governance score among quoted commercial banks in Africa and reveals fluctuations over the period from 2013 to 2022. The average governance score demonstrates variability, starting at approximately 46.84 in 2013, experiencing fluctuations, and ending at around 48.17 by 2022. This trend suggests a mixed performance in governance practices among quoted commercial banks in Africa over the analyzed period. The directional bias indicates oscillations in governance standards, with notable peaks and troughs. The fluctuations in governance score may reflect changes in regulatory environments, corporate governance frameworks and internal governance structures within banks.

The decline observed from 2013 to 2016 suggests challenges or lapses in governance practices among banks during this period. This could be attributed to various factors, including regulatory reforms, leadership transitions or governance-related scandals within the banking

sector. However, the subsequent increase from 2016 to 2022 indicates efforts by banks to strengthen governance practices and enhance transparency, accountability and risk management frameworks. This upward trend may reflect improvements in governance structures, board oversight mechanisms, and compliance with regulatory requirements.

The implications of this trend are significant for banks, regulators and investors. For banks, maintaining robust governance practices is essential for ensuring sound risk management, preserving financial stability and safeguarding stakeholders' interests. Effective governance enhances trust and confidence in the banking sector, contributing to its long-term resilience and sustainability. From a regulatory perspective, monitoring governance trends among listed commercial banks is crucial for identifying areas of weakness and implementing appropriate regulatory interventions to enhance governance standards and promote market integrity.

For investors, governance considerations are paramount in assessing investment risks and opportunities. Banks with strong governance practices are perceived as more trustworthy and are likely to attract investor interest, leading to increased market capitalization and shareholder value. Overall, the trend in governance score among quoted commercial banks in Africa underscores the importance of governance excellence in driving organizational performance, regulatory compliance and stakeholder confidence. It highlights the ongoing efforts by banks to adapt to evolving governance requirements and demonstrates the critical role of effective governance in fostering trust and stability in the banking sector.

Figure 4.4 below shows the trends in bank size.

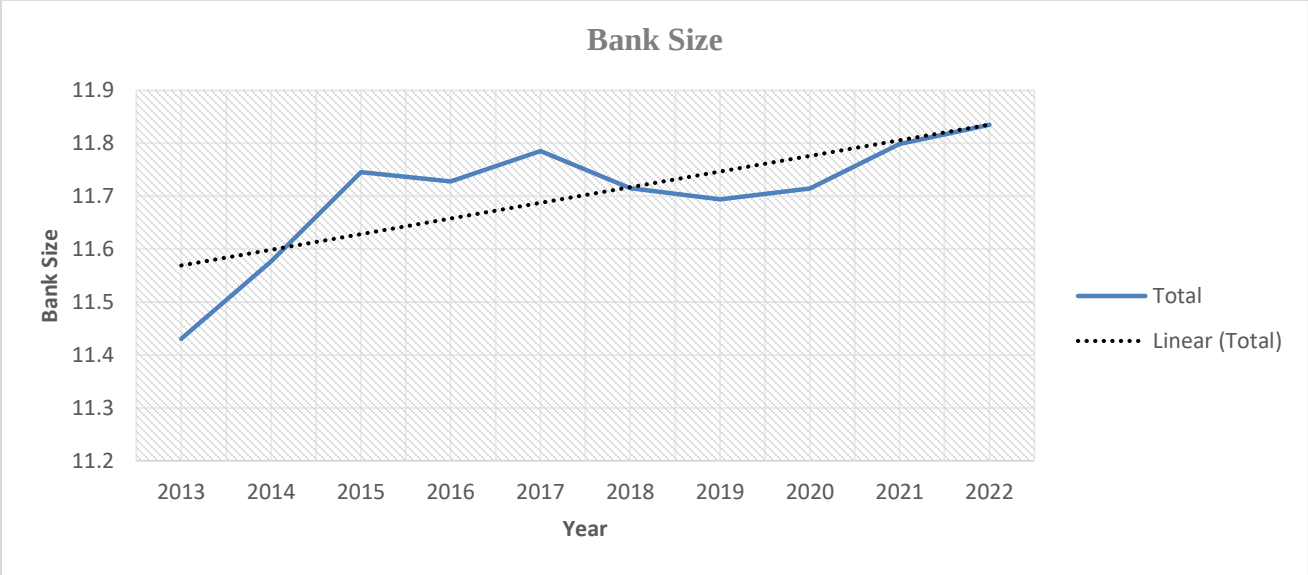


**Figure 4.4: Bank Size Trends**

**Source: Study data, 2024**

Figure 4.4 above illustrates the trend of bank size among quoted commercial banks in Africa and shows a relatively stable pattern over the years 2013 to 2022. The average bank size demonstrates consistency, with minor fluctuations, starting at approximately 11.43 in 2013 and gradually increasing to around 11.83 by 2022. This trend suggests a steady growth in the size of quoted commercial banks in Africa over the analyzed period. The directional bias indicates a consistent upward trajectory in bank size, reflecting factors such as organic growth, mergers and acquisitions and expansion into new markets.

The stability observed in Bank Size from 2013 to 2022 implies a degree of resilience and maturity in the banking sector, with banks demonstrating the capacity to adapt to changing market conditions and regulatory environments. The consistent growth in bank size may be driven by factors such as increasing market demand for banking services, population growth and economic development in the region. The implications of this trend are multifaceted. For banks, a growing size may confer competitive advantages such as economies of scale,

enhanced market presence, and increased access to funding sources. Larger banks may also have greater capacity to invest in technology, innovation and talent development, positioning them for long-term success and sustainability.

From a regulatory perspective, monitoring bank size trends is crucial for ensuring financial stability and market efficiency. Regulators need to balance the benefits of larger banks with the potential risks associated with concentration of market power and systemic importance. For investors, bank size considerations are important in assessing investment opportunities and portfolio diversification strategies. Larger banks may offer stability and resilience during periods of economic uncertainty, while smaller banks may present growth opportunities and potential for higher returns. Overall, the trend in bank size among quoted commercial banks in Africa underscores the ongoing evolution and expansion of the banking sector in the region. It reflects the dynamic nature of financial markets and the strategic imperatives driving banks to adapt, grow and innovate in response to changing market dynamics and stakeholder expectations.

Figure 4.5 below shows the trends in return on assets.

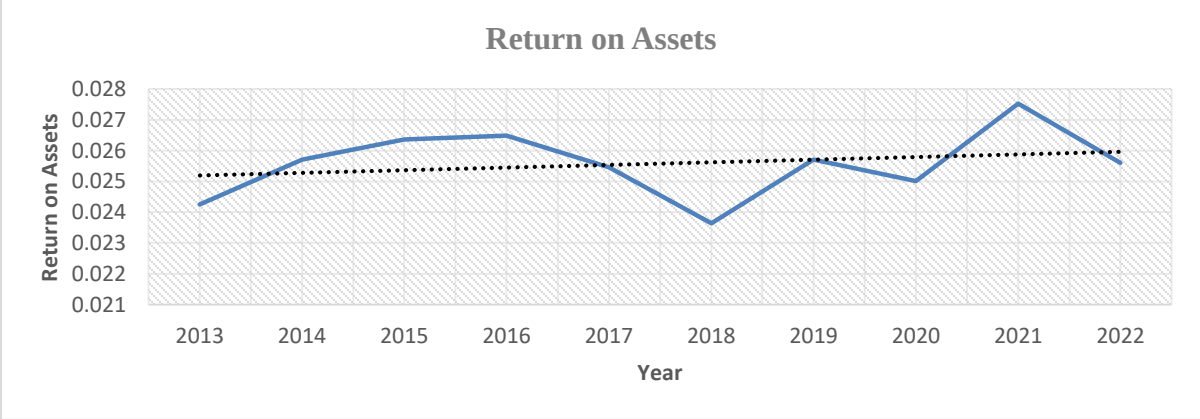


**Figure 4.5 Return on Assets Trends**

**Source: Study data, 2024**

Figure 4.5 above depicts the trend analysis of return on assets (ROA) among quoted commercial banks in Africa, spanning from 2013 to 2022, and reveals a varied performance marked by fluctuations. Beginning at approximately 0.024 in 2013, the average ROA experienced oscillations, reaching its lowest point at around 0.023 in 2018, before showing signs of recovery and peaking at approximately 0.028 in 2021. These fluctuations indicate a dynamic landscape influenced by factors such as market conditions, economic cycles and internal bank operations. The declining trend observed until 2018 suggests challenges in profitability, possibly stemming from heightened competition, interest rate volatility and regulatory shifts. However, the subsequent uptrend highlights efforts by banks to enhance efficiency, optimize asset utilization and adapt to changing market dynamics, leading to improved profitability and a positive outlook for the banking sector.

This trend in ROA underscores the critical importance of prudent management strategies, robust risk management practices and adaptive business models in navigating challenges and seizing opportunities in the evolving banking landscape. For banks, maintaining or enhancing ROA is essential not only for sustaining profitability but also for attracting investors and ensuring long-term viability. The observed fluctuations in ROA emphasize the need for agility and resilience in responding to market shifts and regulatory changes. From an investor perspective, ROA serves as a key indicator of banks' financial profitability and investment attractiveness, with higher ROA signaling greater efficiency and resilience. Likewise, for regulators, monitoring ROA trends provides valuable insights into banks' financial soundness and systemic stability, informing regulatory interventions aimed at promoting financial stability and market integrity. Overall, the trend in ROA reflects the dynamic interplay of internal and external factors shaping the performance and prospects of listed commercial banks

in Africa.

Figure 4.6 shows the trends in Tobin's Q.

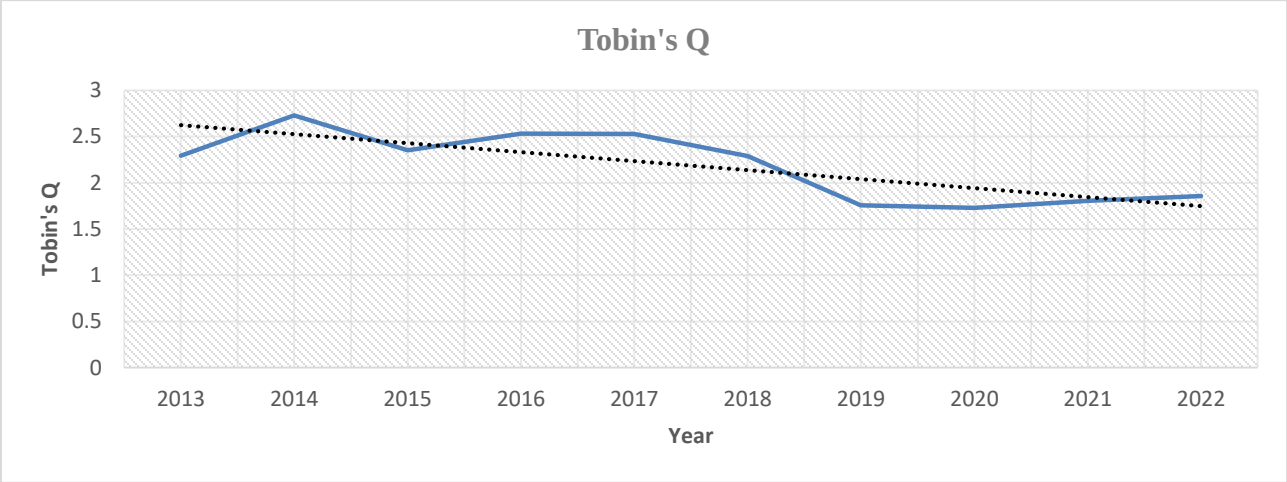


**Figure 4.6: Tobin's Q Trends**
**Source: Study data, 2024**

Figure 4.6 above shows the trend analysis of Tobin's Q among quoted commercial banks in Africa, spanning from 2013 to 2022, revealing fluctuations in market valuation over the analyzed period. Starting at approximately 2.29 in 2013, Tobin's Q experienced variability, reaching its peak at around 2.73 in 2014 before declining to approximately 1.73 by 2020. The trend subsequently shows a slight increase to around 1.86 by 2022. These fluctuations reflect changes in market sentiment, investor perceptions and macroeconomic conditions effecting banks' market valuations.

The declining trend observed from 2014 to 2020 suggests challenges in market valuation, possibly influenced by factors such as economic uncertainties, regulatory changes and shifts in investor preferences. However, the slight uptick in Tobin's Q from 2020 to 2022 may indicate improvements or stabilization in market sentiment, supported by factors such as economic recovery, regulatory reforms or strategic initiatives by banks to enhance shareholder

value. Overall, the trend in Tobin's Q underscores the dynamic nature of market valuation in the banking sector and the influence of various external factors on investors' perceptions and expectations. It highlights the importance of market resilience, strategic adaptability and effective risk management in navigating market uncertainties and maximizing shareholder value for listed commercial banks in Africa.

### 4.4 Diagnostic Tests

Diagnostics tests were conducted to ensure that the assumptions of linear regression were not violated. These tests were undertaken before regression analysis. The tests conducted were; normality, multicollinearity, heteroscedasticity, autocorrelation, endogeneity, stationarity and fixed or random effect tests. The results are presented below.

#### 4.4.1 Normality Test

The study utilized the Shapiro-Wilk test to assess whether the assumptions of normal distribution were maintained in the data. The results are presented in Table 4.2 below.

**Table 4.2: Test for Normality**

| Variable | Obs | W | V | Z | Prob>z |
|---|---|---|---|---|---|
| ROA | 150 | 0.85234 | 17.181 | 6.447 | 0.109 |
| Environmental Score | 150 | 0.64819 | 40.935 | 8.415 | 0.075 |
| Social Score | 150 | 0.84087 | 18.515 | 6.617 | 0.096 |
| Governance Score | 150 | 0.79085 | 24.335 | 7.236 | 0.084 |
| Bank size | 150 | 0.94431 | 6.479 | 4.236 | 0.067 |

**Source: Study data, 2024**

From Table 4.2 above, it was observed that the overall p-values for key variables such as Return on Assets (ROA) (p-value=0.109), Environmental Score (0.075), Social Score (0.096), Governance Score (0.084) and Bank Size (0.067) surpass the conventional threshold of 0.05. This indicates that the data does not significantly depart from a normal distribution at the aggregate level, thereby providing support for the null hypothesis of normality in the distribution of residuals. The validation of normality in the distribution of key variables is paramount as it underpins the robustness and reliability of subsequent statistical analyses. The overall adherence to normality signifies that the assumptions required for regression are largely met.

### 4.4.2 Multicollinearity Test

The study employed Variance Inflation Factor (VIF) and Tolerance Index (TI) to assess multicollinearity among key variables. The analysis aimed to identify and mitigate multicollinearity issues, ensuring the reliability of regression analysis results. The findings from the tests are revealed in Table 4.3 below.

**Table 4.3: Test for Multicollinearity**

| Variable | VIF | Tolerance Index |
|---|---|---|
| Governance Score | 6.14 | 0.20 |
| Social Score | 6.08 | 0.20 |
| Bank Size | 4.25 | 0.24 |
| Environmental Score | 2.08 | 0.48 |
| **Mean VIF** | **4.64** | |

**Source: Study data, 2024**

From Table 4.3 above, the VIF values for Social Score (6.08), Environmental Score (2.08), Bank Size (4.25) and Governance Score (6.14) are well below the conventional threshold of 10, indicating the absence of severe multicollinearity among the predictors. The tolerance

values also suggest that the variables do not significantly suffer from multicollinearity problems, as the values are not below the threshold of 0.2.

### 4.4.3 Heteroscedasticity Test

The study conducted the Breusch-Pagan test to assess heteroscedasticity and ensure the reliability of regression models in analyzing the effect of ESG practices on the financial performance of quoted commercial banks in Africa. Heteroscedasticity, if present, can lead to inefficient estimators, making it crucial to confirm constant variance in error terms for robust regression analysis. The results of the Breusch-Pagan test, presented in Table 4.4 below, provide essential insights into the suitability of the multiple regression approach for accurately examining the relationship between ESG practices and bank performance.

**Table 4.4.: Test for Heteroscedasticity**

| H0: sigma(i)^2 for all i | ROA | Tobin's Q |
|---|---|---|
| chi2 (15) = | 27090.70 | 30883.090 |
| Prob>chi2 = | 0.000 | 0.000 |

**Source: Study data, 2024**

Based on the results presented in Table 4.4, with chi-square values of 27,090.7 and 30,883.09 and corresponding p-values of 0.000 for both ROA and Tobin's Q, the null hypothesis of homoscedasticity is rejected. This indicates the presence of heteroscedasticity in the error terms of the regression models. To address this issue, the study employed robust methods to correct for heteroscedasticity. First, the regression models were re-estimated using heteroscedasticity-consistent standard errors, as proposed by White (1980). This adjustment helps to mitigate the effects of heteroscedasticity on the regression results. Following the re-estimation, diagnostic tests were conducted to confirm the robustness and reliability of the corrected models.

These steps ensured that the regression coefficients were reliable and valid, thereby enhancing

the overall rigor and accuracy of the analysis. By addressing the issue of heteroscedasticity, the study was able to provide more credible insights into the relationships being investigated.

### 4.4.4 Autocorrelation Test

Autocorrelation, particularly in the context of regression analysis, refers to the correlation of a variable with itself across different observations in time or space. It implies that the residuals from a regression model are not independent, a condition that can lead to inefficiencies in the regression coefficients and their standard errors, potentially skewing statistical tests. To ensure the reliability of the regression models used in the study, the Breuch Godfrey test for first-order autocorrelation was conducted. The results of this test are shown in Table 4.5 below.

**Table 4.5: Test for Autocorrelation**

| H0: no first order autocorrelation | ROA | Tobin's Q |
|---|---|---|
| F( 1,14)= | 0.885 | 2.977 |
| Prob>F= | 0.3639 | 0.1064 |

**Source: Study data, 2024**

Table 4.5 above presents the autocorrelation results. The null hypothesis for the test is that there is no first-order autocorrelation in the residuals. The F-statistic value obtained from the test is 0.885 and 2.977 respectively for ROA and Tobin's Q. Based on these results, the p-value of 0.3639 and 0.1064 exceeds the typical significance level (0.05), indicating insufficient evidence to reject the null hypothesis of no first-order autocorrelation. This suggests that the residuals from the regression model are independent from one another across sequential observations. Further, the absence of autocorrelation confirms the appropriateness of using standard inferential techniques on the regression results, as it ensures that the estimates of the coefficients are unbiased and the calculated standard errors are reliable. This lends further

credibility to the study's findings regarding the effects of ESG practices on the banks' financial performance.

### 4.4.5 Endogeneity Test

Endogeneity refers to a situation where a variable is correlated with the error term in a regression model, violating the assumption of exogeneity. The Durbin-Wu-Hausman test was conducted to assess for endogeneity, with the results presented in Table 4.6 below:

**Table 4.6: Test for Endogeneity**

| Return on assets | Coef. | Std. Err. | z | P>z |
|---|---|---|---|---|
| Tobin's Q | 0.036331 | 0.136643 | 0.27 | 0.79 |
| Environmental Score ENV | 0.000132 | 0.000449 | 0.29 | 0.768 |
| Social Score SOC | -0.00059 | 0.003139 | -0.19 | 0.85 |
| Governance Score GOV | 0.00104 | 0.003259 | 0.32 | 0.75 |
| _cons | -0.07466 | 0.285346 | -0.26 | 0.794 |
| Wald chi2(4) = 5.57 | | | | |
| Prob > chi2 = 0.2333 | | | | |

**Source: Study data, 2024**

From Table 4.6. above, it is concluded that there is no evidence of endogeneity between the endogenous variables—Environmental Score (ENV), Social Score (SOC), Governance Score (GOV)—and the dependent variable, Return on Assets (ROA). This conclusion is drawn from the Durbin-Wu-Hausman test, which yielded a Wald chi-square statistic of 5.57 with a corresponding p-value of 0.2333. As the p-value exceeds the conventional significance level of 0.05, the null hypothesis of no endogeneity cannot be rejected. Therefore, the study's results suggest that the relationship between ESG practices and financial performance, as measured by ROA, is not confounded by endogeneity issues.

These findings are pivotal for the robustness and reliability of the study's regression analysis, providing confidence in the validity of the estimated coefficients for the exogenous variables.

With no evidence of endogeneity, the instrumental variables used in the analysis—Tobin's Q (TQ) and the natural logarithm of total assets (LN_TA)—can be considered appropriate instruments for addressing potential endogeneity concerns. Consequently, the estimated coefficients for Environmental Score (ENV), Social Score (SOC) and Governance Score (GOV) can be interpreted as reliable indicators of the true causal effects of these ESG practices on the financial performance of listed commercial banks in Africa.

### 4.4.6 Stationarity Test

In panel data analysis, ensuring the stationarity of variables is crucial for reliable estimation and inference. The Augmented Dickey-Fuller (ADF) test was employed to assess the stationarity of time series data. By testing the presence of unit roots in the data, the ADF test helped to determine whether the series was stationary or exhibited non-stationary behavior. The results of the test are presented in Table 4.7 below.

**Table 4.7 Test for Stationarity**

| Variable | Statistic | p-value | Comment |
|---|---|---|---|
| Environmental Score | 2.154 | 0.005 | stationary |
| Social Score | 4.896 | 0.010 | stationary |
| Governance Score | -2.2999 | 0.038 | stationary |
| Returns on Assets | 1.981 | 0.050 | stationary |
| Tobin's Q | -5.1835 | 0.000 | stationary |
| Bank Size | 2.554 | 0.049 | Stationary |

**Source: Study data, 2024**

Based on Table 4.7 above, the interpretation of the statistics reveals that all variables, including Environmental Score, Social Score, Governance Score, Return on Assets and Tobin's Q, exhibit stationarity based on the statistical tests conducted. The p-values associated with each variable indicate the level of statistical significance of the stationarity test. A p-value below

the conventional threshold of 0.05 suggests statistical significance, indicating strong evidence to reject the null hypothesis of non-stationarity in favor of the alternative hypothesis of stationarity.

Consequently, variables such as Environmental Score, Social Score, Governance Score, Return on Assets and Tobin's Q all exhibit statistically significant stationarity, implying that their time series data display stable patterns over the observed period. Further, test for stationarity for bank size revealed a p-value of 0.049, indicating that the data was stationary. Overall, the confirmation of stationarity among the study variables underscored the robustness of the analytical approach and enhanced confidence in the reliability of the study's conclusions.

### 4.4.7 Test for Fixed or Random Effects

The study employed the Hausman specification test to assess the suitability of fixed or random effects specifications, ensuring robustness and accuracy in the interpretation of panel data analysis results. The test distinguishes between fixed effects, attributed to specific entity-level characteristics, and random effects, representing random fluctuations. Utilizing the chi-square test statistic, the study tested the null hypothesis of random effects against the alternative hypothesis of fixed effects, informing the choice between fixed or random effects models. The results are presented in Table 4.8 below:

**Table 4.8: Hausman Test for ROA**

| | **(b) fixed** | **(B) random** | **(b-B) Difference** |
|---|---|---|---|
| Environmental Score | 0.000182 | 0.0002032 | -.0000209 |
| Social Score | 7.40E-06 | 0.000054 | -.0000467 |
| Governance Score | 0.00013 | 0.0001583 | -.0000285 |
| Bank Size | 0.000348 | 0.0006342 | -.0002861 |
| chi2(4)=16.56 | | | |
| Prob>chi2 = 0.0024 | | | |

**Source: Study data, 2024**

Table 4.8 above presents the results for the test for fixed effects or random effects model. The test yielded a statistically significant chi-square statistic (chi2) of 16.56 with 4 degrees of freedom and a probability (Prob>chi2) of 0.0024. These results indicate that the differences in coefficients across entities are systematic, providing strong evidence against the null hypothesis. This finding suggests that fixed effects are present in the model, leading to the rejection of the null hypothesis in favor of the alternative hypothesis that these differences are indeed systematic and attributable to fixed effects.

Given the presence of systematic differences in coefficients, the study employed the fixed effects model for the analysis. The fixed effects model is particularly suited for this context as it estimates entity-specific coefficients, capturing individual characteristics that remain constant over time within each entity. By incorporating fixed effects, the model accounts for unobserved heterogeneity across entities, thereby enhancing the precision and reliability of the estimated relationships. The fixed effects model was determined to be the most appropriate for analyzing the dataset, providing a robust framework for understanding the systematic variations in coefficients across entities in this study. The results of the fixed or random effects test for Tobin's Q are presented in Table 4.9 below.

**Table 4.9: Hausman Test for Tobin's Q**

| | ---- Coefficients ---- | | |
|---|---|---|---|
| | (b) | B | (b-B) |
| | fixed | random | Difference |
| Environmental Score | 0.0012442 | 0.0022694 | -0.0010251 |
| Social Score | -0.0013298 | -0.0003033 | -0.0010265 |
| Governance Score | -0.0159118 | -0.0159425 | 0.0000306 |
| Bank size | -0.0213579 | -0.0171876 | -0.0041703 |
| chi2(4)=2.75 | | | |
| Prob>chi2 = 0.6004 | | | |

**Source: Study data, 2024**

The Hausman Test results, as displayed in Table 4.9 above, indicate the comparison between coefficients derived from fixed and random effects models for Tobin's Q. The differences between coefficients for each variable are presented, along with their standard errors. Notably, the chi-square statistic of 2.75 with a corresponding probability of 0.6004 suggests insignificance, failing to reject the null hypothesis. Therefore, the study employed the random effects model for Tobin's Q, indicating that the variations in coefficients across entities are adequately captured by random fluctuations rather than fixed entity-level characteristics.

### 4.5 Correlation Analysis

Correlation analysis served as a vital tool to examine the connections between ESG practices and financial performance metrics among commercial banks operating in Africa. The Pearson's product moment correlation coefficients were used to analyse the correlation among the variables. By analyzing the degree and direction of associations between environmental, social and governance factors and financial outcomes, correlation analysis provided valuable insights into the potential effect of ESG practices on bank profitability, stability and overall success.

The correlation summary extracted from the correlation matrix results is shown in Table 4.10 below.

**Table 4.10: Correlation Analysis**

| | ROA | Tobin's Q |
|---|---|---|
| Environmental score | 0.320* | -0.023 |
| p-value | 0.0001 | |
| Social score | 0.8039* | 0.074 |
| p-value | 0.0000 | |
| Governance score | 0.748* | 0.232* |
| | 0.0000 | 0.0180 |
| Bank size | 0.207* | -0.031 |
| p-value | 0.0110 | |

**Source: Study data, 2024**

The results as indicated in Table 4.10 above revealed a substantial correlation coefficient between Environmental Score and ROA of r = 0.3201, with a significance level of $p<0.05$ (p-value =0.0001), indicating a statistically significant positive correlation. This correlation underscores the fundamental connection between environmental performance and financial outcomes within the banking sector, suggesting that improvements in environmental practices can lead to enhanced financial profitability for quoted commercial banks in Africa.

The significant positive correlation between Environmental Score and ROA highlights the strategic importance of integrating environmental sustainability considerations into the core operations and decision-making processes of commercial banks. It emphasizes that environmental responsibility is not merely a regulatory obligation but a strategic opportunity for banks to drive financial success through sustainable practices. For instance, banks that prioritize environmental management can achieve cost savings by improving resource efficiency and reducing waste generation, thereby bolstering their financial performance.

Consequently, the correlation findings underscore the imperative for banks to embrace environmental sustainability as a strategic imperative for achieving sustainable financial performance and long-term value creation in the African banking sector.

In the evaluation of the relationship between Social Score and Return on Assets (ROA) in quoted commercial banks in Africa, correlation analysis unveiled insightful findings. The analysis uncovered a notable correlation coefficient of $r = 0.8039$, coupled with a significance level of $p < 0.05$ (p-value =0.000), indicating a significant positive correlation between Social Score and ROA. This discovery suggests that as the social responsibility performance of listed commercial banks improves, their return on assets tends to experience an upward trajectory.

The positive correlation between Social Score and ROA unveils compelling implications for the strategic positioning of commercial banks. Banks that actively engage in social initiatives or demonstrate a strong commitment to social responsibility may reap financial rewards through various channels. For instance, such banks may cultivate stronger customer loyalty by aligning their values with those of socially-conscious consumers, thereby fostering long-term relationships and repeat business.

Additionally, prioritizing social responsibility can mitigate operational risks associated with social issues such as labor disputes, community unrest, or negative publicity, thereby safeguarding the bank's reputation and financial stability. Moreover, embracing social responsibility may open doors to new market opportunities, as socially-conscious consumers increasingly seek out ethical and responsible banking options. Ultimately, the positive correlation between Social Score and ROA underscores the strategic value of integrating social responsibility into the core business strategies of commercial banks, not only as a means to fulfill ethical obligations but also as a pathway to sustainable financial success and stakeholder

value creation.

Overall, the significant positive correlation between Social Score and ROA provides empirical support for the notion that socially responsible banking practices can enhance financial performance. This finding underscores the relevance of ESG integration in the African banking sector and underscores the importance of considering social responsibility factors alongside environmental and governance considerations. These insights are pertinent for policymakers, investors, and banking institutions seeking to promote sustainable finance and foster inclusive growth in Africa.

Delving into the correlation between Governance Score and Return on Assets (ROA) in the context of quoted commercial banks in Africa, the research uncovered insights on the relationships. The findings revealed a noteworthy correlation coefficient of $r = 0.7479$, coupled with a significance level of $p < 0.05$ (p-value=0.0000), indicating a statistically significant positive correlation between Governance Score and ROA. This discovery suggests that as the governance practices of listed commercial banks improve, their return on assets tends to exhibit an upward trend. The significant positive correlation underscores the pivotal role of effective governance structures in shaping the financial performance of commercial banks. Robust governance practices, characterized by transparent decision-making processes, stringent risk management frameworks, and independent oversight mechanisms, play a critical role in fostering investor confidence and trust. By promoting transparency and accountability, sound governance practices help mitigate agency costs and align the interests of stakeholders, thereby enhancing the overall efficiency and effectiveness of bank operations.

Moreover, effective governance practices contribute to the mitigation of regulatory risks, ensuring compliance with evolving regulatory requirements and standards. This not only

minimizes the potential for regulatory sanctions and penalties but also positions banks to navigate regulatory complexities more adeptly. Consequently, banks with strong governance frameworks are better equipped to adapt to regulatory changes, maintain regulatory compliance, and uphold their reputation in the market.

Overall, the positive correlation between Governance Score and ROA underscores the strategic importance of governance excellence in driving financial performance and sustainability in the banking sector. By prioritizing governance best practices, commercial banks can enhance their resilience, foster stakeholder trust, and ultimately, achieve sustainable value creation in the dynamic and competitive landscape of the African banking industry. The finding underscores the critical role of governance in driving financial outcomes within the banking sector. Robust governance practices not only ensure adherence to regulatory requirements but also promote ethical behavior, accountability, and transparency, which are essential for building trust with stakeholders and safeguarding long-term value creation.

Furthermore, the positive correlation between Governance Score and ROA highlights the strategic importance of integrating governance considerations into banking operations and decision-making processes. By prioritizing governance best practices, banks can enhance their competitiveness, mitigate operational risks, and strengthen their financial resilience in an increasingly complex and dynamic market environment.

The study also conducted correlation analysis to explore the relationship between bank size and Return on Assets (ROA). The analysis unveiled a statistically significant positive correlation between these variables, with a correlation coefficient of $r = 0.2072$ and a significance level of $p < 0.05$ (p-value=0.0110). This significant positive correlation suggests that as the size of listed commercial banks, as measured by the natural logarithm of total assets,

increases, their return on assets tends to increase as well. Larger banks may benefit from economies of scale, diversified revenue streams, and increased market power, all of which contribute to improved profitability and efficiency. Consequently, the positive correlation between the natural logarithm of total assets and ROA highlights the potential advantages associated with scale in the banking sector.

The empirical evidence underscores the strategic implications of bank size for financial performance within the African banking context. While larger banks may enjoy certain advantages, such as enhanced access to capital and resources, they may also face challenges related to organizational complexity and regulatory scrutiny. Therefore, banks must carefully balance the benefits of scale with the need to maintain agility, innovation and risk management capabilities to sustain long-term competitiveness and profitability.

Analyzing the relationship between Tobin's Q and various factors, correlation analysis revealed a significant positive correlation only with Governance Score. Specifically, the correlation coefficient between Tobin's Q and Governance Score was $r = 0.232$ with a p-value of 0.0180, indicating a moderate positive association. This suggests that as banks strengthen their governance practices, there tends to be a slight increase in market valuation relative to asset replacement costs. The other correlations with Tobin's Q, including Environmental Score ($r = -0.023$, p-value > 0.05), Social Score ($r = 0.074$, p-value > 0.05), and Bank Size ($r = -0.031$, p-value > 0.05), were not statistically significant at the 0.05 level. This highlights the particular importance of governance practices in influencing market valuation among listed commercial banks in Africa.

## 4.6 Regression Analysis

The study utilized random and fixed effect regression models to investigate how environmental, social and governance practices shape the financial performance landscape of quoted commercial banks across the African continent. Based on the results of the Hausman test, the fixed effect model was used to analyse the effect of ESG factors on ROA. Similarly, the random effects model was used to analyse the effect of ESG factors on Tobin's Q.

The hypotheses were tested at a 5 percent significance level, ensuring the statistical robustness and validity of the findings.

### 4.6.1 Regression results for Return on Assets (ROA)

The null hypothesis that were tested for ROA for the direct effect are:

$H_{01:}$ Environmental practices do not have a significant effect on the return on assets of selected banks quoted in African securities exchanges.

$H_{02:}$ Social practices do not have a significant effect on the return on assets of selected banks quoted in African securities exchanges.

$H_{03:}$ Governance practices do not have a significant effect on the return on assets of selected banks quoted in African securities exchanges.

Table 4.11 below presents the regression results on the effect of ESG practices on Return on Assets (ROA).

**Table 4.11: Regression Results with ROA**

| Variable | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. Interval] Lower | [95% Conf. Interval] Upper |
|---|---|---|---|---|---|---|
| Environmental Score ENV | 0.000173 | 0.000063 | 2.74 | 0.007 | 4.81E-05 | 0.000297 |
| Social Score SOC | 5.73E-06 | 1.53E-05 | 0.38 | 0.708 | -2.5E-05 | 3.59E-05 |
| Governance Score GOV | 0.000126 | 1.68E-05 | 7.5 | 0 | 9.26E-05 | 0.000159 |
| _cons | 0.018498 | 0.001472 | 12.57 | 0 | 0.015586 | 0.02141 |

| Statistic | Value |
|---|---|
| R-squared (within) | 0.3646 |
| R-squared (between) | 0.63 |
| R-squared (overall) | 0.5649 |
| F-statistic | 18.8 |
| Prob > F | 0.000 |

**Source: Study data, 2024**

Table 4.11 above presents the results of the regression analysis on the effects of the ESG factors on Return on Assets (ROA) of selected banks quoted in African securities exchanges. The fitness of the model is supported by the F-test, which yields a statistic of 18.8 with a p-value of 0.0000. This indicates that the model is statistically significant, meaning that the combination of independent variables—Environmental Score, Social Score, Governance Score and Bank Size collectively have a significant effect on ROA. The p-value associated with the F-test being well below the conventional threshold of 0.05 reinforces the reliability of the model in explaining variations in ROA. In addition, the R-squared value of 0.5649 signifies that approximately 56.49% of the variance in ROA is explained by the included variables.

#### 4.6.1.1 Effect of Environmental Practices on the Return on Assets of selected banks quoted in African securities exchanges

The results as shown in Table 4.11 for hypothesis $H_{01}$ at a confidence level of 95 percent indicated a coefficient of Environmental Score of 0.000173 and a probability figure of p =

0.007 which is lower than 0.05. Hence the study rejected $H_{01}$ at $\alpha$=0.05 and concluded that there is a statistically significant positive effect of Environmental Practices on the Return on Assets of selected banks quoted in African securities exchanges. The findings thus suggest that Environmental practices play a significant role in influencing the financial performance of banks in Africa as measured by ROA. The study findings are consistent with Stakeholders Theory, which advocates for a focus beyond shareholder interests to ensure long-term profitability.

Support for these findings can be drawn from several relevant studies that explore the effect of environmental practices on ROA across different regions and industries. Savić and Bonic (2022) examined the relationship between environmental practices and ROA in European banks between 2012 and 2020 and found a positive relationship. Further, Awadzie et al. (2022) examined banks in Ghana, Nigeria and South Africa between 2010 and 2020 and found a positive relationship between environmental practices and ROA. However, a study by Hedström and Dahlsjö (2023) held a different finding, concluding that there was no significant relationship between environmental practices and ROA in banks across China and Sweden. The study by Hedström and Dahlsjö (2023) however aggregated the environmental score with other ESG scores which could have affected the findings.

#### 4.6.1.2 Effect of Social Practices on the Return on Assets of selected banks quoted in African securities exchanges

The results as shown in Table 4.11 for hypothesis $H_{02}$ at a confidence level of 95 percent indicated a coefficient of Social Score of 0.00000573 and a probability figure of p = 0.708 which is higher than 0.05. Hence the study failed to reject $H_{02}$ at $\alpha$=0.05 and concluded that there is no statistically significant effect of Social Practices on the Return on Assets of selected

banks quoted in African securities exchanges. The findings are in line with Shareholders Value Theory which advocates that firm resources should be spent on business growth activities which generate profitability, and not social initiatives.

These findings are supported by previous studies, including by Ponce and Wibowo (2023) who explored the interaction of social practices with the profitability of banks in Indonesia between the years 2010 to 2020, and Chang'kwony and Omwono's (2019) who explored the effect of social practices on the performance of banks in Baringo County. However, a study by Aliamutu and Mkhize (2024) among Southern Africa's banks found a negative effect of social practices on bank profitability. This contradictory finding could be attributed to the short period of study adopted by the researchers, which covered only four years.

#### 4.6.1.3 Effect of Governance Practices on the Return on Assets of selected banks quoted in African securities exchanges

The results as shown in Table 4.11 for hypothesis $H_{03}$ at a confidence level of 95 percent indicated a coefficient of Governance Score of 0.000126 and a probability figure of $p = 0.000$ which is lower than 0.05. Hence the study rejected $H_{03}$ at $\alpha=0.05$ and concluded that there is a statistically significant positive effect of Governance Practices on the Return on Assets of selected banks quoted in African securities exchanges. The findings thus suggest that Governance practices play a significant role in influencing the financial performance of banks in Africa as measured by ROA. The study findings are consistent with Agency Theory, which emphasizes the importance of strong governance frameworks to promote profitability and protect shareholder interests.

Support for these findings has been demonstrated in previous studies, including by Osei-Baidoo et al. (2023) who studied the effect of governance practices on the performance of

Ghanaian commercial banks across a span of ten years, from 2009 to 2019, Boachie (2023) who also studied Ghanaian banks over an 18-year period and Herbert and Agwor (2021), who explored the effect of corporate governance disclosure (CGD) on the financial performance of commercial banks quoted on the Nigeria Stock Exchange.

### 4.6.2 Regression results for Tobin's Q

The null hypothesis that were tested for Tobin's Q for the direct effect are:

$H_{01:}$ Environmental practices do not have a significant effect on the Tobin's Q of selected banks quoted in African securities exchanges.

$H_{02:}$ Social practices do not have a significant effect on the Tobin's Q of selected banks quoted in African securities exchanges.

$H_{03:}$ Governance practices do not have a significant effect on the Tobin's Q of selected banks quoted in African securities exchanges.

Table 4.12 below presents the regression results on the effect of ESG practices on Tobin's Q.

**Table 4.12: Regression Results with Tobin's Q**

| Variable | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. Interval] Lower | [95% Conf. Interval] Upper |
|---|---|---|---|---|---|---|
| Environmental Score ENV | -0.00105 | 0.014974 | -0.07 | 0.944 | -0.0303954 | 0.0283026 |
| Social Score SOC | 0.000179 | 0.003843 | 0.05 | 0.963 | -0.0073535 | 0.0071122 |
| Governance Score GOV | -0.0151 | 0.004223 | -3.57 | 0.000 | -0.0233729 | -0.0068176 |
| _cons | 3.258098 | 0.676542 | 4.82 | 0.000 | 1.932101 | 4.584095 |

| StatisticValue | |
|---|---|
| R-squared (within) | 0.1381 |
| R-squared (between) | 0.026 |
| R-squared (overall) | 0.0447 |
| Wald chi2(4) | 21.28 |
| Prob > chi2 | 0.0003 |

Table 4.12 above presents the results of the regression analysis on the effects of the ESG factors on Tobin's Q for selected banks quoted in African securities exchanges. The model's fitness is primarily evaluated through the Wald chi-square statistic, which stands at 21.28 with a p-value of 0.0003. This indicates that the model is statistically significant, meaning that the set of independent variables—Environmental Score, Social Score, Governance Score and Bank Size collectively have a significant effect on Tobin's Q. The p-value associated with the Wald chi-square test being below the 0.05 threshold confirms the model's robustness in explaining variations in Tobin's Q. The specific results of regression analysis under each of the research objectives are further presented below.

#### 4.6.2.1 Effect of Environmental Practices on the Tobin's Q of selected banks quoted in African securities exchanges

The results as shown in Table 4.12 for hypothesis $H_{01}$ at a confidence level of 95 percent indicated a coefficient of Environmental Score of -0.00105 and a probability figure of p = 0.944 which is higher than 0.05. Hence the study failed to reject $H_{01}$ at $\alpha$=0.05 and concluded that there is no statistically significant effect of Environmental Practices on Tobin's Q of selected banks quoted in African securities exchanges. The findings however contradict the signaling theory which provides that the market positively reacts to ESG initiatives, which should translate to increased market valuation.

The study findings were supported by a study by Ponce and Wibowo (2023) who explored the interaction of ESG with the profitability of banks in Indonesia between the years 2010 to 2020. The study concluded that the effect of environmental practices on Tobin's Q was not statistically significant. Further, Awadzie et al. (2022) investigated the effect of sustainability reporting on the performance of banks in Africa, specifically analyzing data from listed banks

in Ghana, Nigeria, and South and found no statistically significant effect of environmental practices on Tobin's Q.

#### 4.6.2.2 Effect of Social Practices on the Tobin's Q of selected banks quoted in African securities exchanges

The results as shown in Table 4.12 for hypothesis $H_{02}$ at a confidence level of 95 percent indicated a coefficient of Social Score of 0.000179 and a probability figure of p = 0.963 which is higher than 0.05. Hence the study failed to reject $H_{02}$ at $\alpha$=0.05 and concluded that there is no statistically significant effect of Social Practices on the Tobin's Q of selected banks quoted in African securities exchanges. The findings are in line with Shareholders Value Theory which advocates that firm resources should be spent on business growth activities and not social initiatives.

These findings are supported by previous studies, including by Awadzie et al. (2022) who investigated the effect of sustainability reporting on the performance of banks in Africa, specifically analyzing data from listed banks in Ghana, Nigeria, and South Africa from 2010 to 2020. The study concluded that the effect of social practices on Tobin's Q was not statistically significant.

#### 4.6.1.3 Effect of Governance Practices on the Tobin's Q of selected banks quoted in African Securities Exchanges

The results as shown in Table 4.12 for hypothesis $H_{03}$ at a confidence level of 95 percent indicated a coefficient of Governance Score of -0.0151 and a probability figure of p = 0.000 which is lower than 0.05. Hence the study rejected $H_{03}$ at $\alpha$=0.05 and concluded that there is a statistically significant negative effect of Governance Practices on the Tobin's Q of selected

banks quoted in African securities exchanges. The study findings are not consistent with Agency Theory which holds that good governance practices should result in increased market value and growth for a firm.

Support for these findings has been demonstrated in previous studies, including by Almoneef and Samontaray (2019) who, in their study on corporate governance and firm performance in the Saudi banking industry, found key components of governance, including number of Board Committees, had a negative effect on Tobin's Q.

### 4.7 Test for Moderating Effect

The fourth objective of the study was to evaluate the moderating effect of bank size on the relationship between ESG practices and financial performance. The hypothesis was that size of the bank does not significantly moderate the relationship between environmental, social and governance (ESG) practices and the financial performance of selected banks quoted on the African securities exchanges. This research study used the Baron and Kenny (1986) method to evaluate the moderating effect of size of the bank on the effect of ESG practices on the financial performance of selected banks quoted in African securities exchanges. The results of the Baron and Kenny (1986) moderation test conducted are shown below:

#### 4.7.1 Moderating Effect of Bank Size on the Relationship Between ESG Practices and ROA

The null hypothesis that was tested for ROA for the moderating effect is:

$H_{01:}$ Size of the bank does not significantly moderate the relationship between environmental, social and governance (ESG) practices and the ROA of selected banks quoted in African securities exchanges.

The first procedure according to Baron and Kenny (1986) was to run bank size as an independent variable. The results are presented in Table 4.13 below.

**Table 4.13: Regression Results for the Moderating Effects on ROA**

| Variable | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. Interval] Lower | [95% Conf. Interval] Upper |
|---|---|---|---|---|---|---|
| Environmental Score ENV | 0.0001823 | 6.33E-05 | 2.88 | 0.005 | 0.0000057 | 0.0003075 |
| Social Score SOC | 0.0000074 | 1.53E-05 | 0.48 | 0.629 | -0.0000229 | 0.0000377 |
| Governance Score GOV | 0.0001298 | 0.000017 | 7.62 | 0.000 | 0.0000961 | 0.0001635 |
| Bank size | 0.0003479 | 0.00028 | 1.24 | 0.216 | -0.0000206 | 0.0009018 |
| _cons | 0.0139964 | 0.003909 | 3.58 | 0.000 | 0.0062623 | 0.0217305 |

| Statistic | Value |
|---|---|
| R-squared (within) | 0.3721 |
| R-squared (between) | 0.6104 |
| R-squared (overall) | 0.5608 |
| F(5,130) | 15.41 |
| Prob > F | 0.000 |

**Source: Study data, 2024**

The value for $R^2$ was 0.5608 indicating that 56.08% of changes in ROA could be explained by ESG practices and bank size. The p-value of bank size was 0.216 which was greater than 0.05. This shows that there was no overall effect for moderating, as suggested by Baron and Kenny (1986). Since the p-value was insignificant, the model's interaction component was run and the results were presented in Table 4.14 below.

**Table 4.14: Interaction Model Results for the Moderating Effects on ROA**

| Variable | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. Interval] Lower | [95% Conf. Interval] Upper |
|---|---|---|---|---|---|---|
| Environmental Score ENV | 0.000202 | 6.93E-05 | 2.92 | 0.004 | 0.0000065 | 0.0003393 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Social Score SOC | -6.2E-05 | 4.09E-05 | -1.52 | 0.131 | -0.0000187 | 0.0000065 |
| Governance Score GOV | 0.000226 | 3.51E-05 | 6.43 | 0 | 0.0000156 | 0.0002949 |
| Bank size | 4.05E-05 | 0.000501 | 0.08 | 0.936 | -0.0009518 | 0.0010327 |
| Environmental score*bank size | -3E-06 | 2.59E-05 | -1.17 | 0.246 | -0.0000815 | 0.0000211 |
| Social score*bank size | 6.15E-06 | 3.47E-05 | 1.77 | 0.079 | -0.00000724 | 0.0000136 |
| Governance *bank size | -4.8E-06 | 1.59E-05 | -3.05 | 0.003 | -0.0000782 | -0.0000170 |
| _cons | 0.016287 | 0.006071 | 2.68 | 0.008 | 0.004273 | 0.0283014 |

| Statistic | Value |
|---|---|
| R-squared (within) | 0.4254 |
| R-squared (between) | 0.6374 |
| R-squared (overall) | 0.5957 |
| F(8,127) | 11.75 |
| Prob > F | 0.000 |

**Source: Study data, 2024**

From Table 4.14 above, bank size had a significant negative moderating effect on the relationship between Governance Practices and ROA as indicated by the p-value of (p=0.003, <0.05). This finding conformed to the findings by Nodeh et al. (2016) who, in a study of Malaysian banks, found that bank size does moderate the relationship between governance and financial performance. Further, bank size did not have a statistically significant moderating effect on the relationship between Environmental Practices and ROA as the p-value of 0.246 is more than 0.05 and also on the relationship between Social Practices and ROA as the p-value of 0.079 is more than 0.05. These results conform to the findings by Osuji (2023) whose study on the moderating effect of size on ROA of global banks concluded that bank size does not moderate the relationship between ESG practices and ROA.

### 4.7.2 Moderating Effect of Bank Size on the Relationship Between ESG Practices and Tobin's Q

The null hypothesis that was tested for Tobin's Q for the moderating effect is:

$H_{01:}$ Size of the bank does not significantly moderate the relationship between environmental, social and governance (ESG) practices and the Tobin's Q of selected banks quoted in African securities exchanges.

Bank size was first run as an independent variable. The results are presented in Table 4.15 below.

**Table 4.15: Regression Results for the Moderating Effects on Tobin's Q**

| Variable | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. Interval] Lower | [95% Conf. Interval] Upper |
|---|---|---|---|---|---|---|
| Environmental Score ENV | -0.0017278 | 0.015061 | -0.11 | 0.909 | -0.0312477 | 0.0277921 |
| Social Score SOC | -0.0000498 | 0.003854 | -0.01 | 0.99 | -0.0076024 | 0.0075029 |
| Governance Score GOV | -0.0155218 | 0.004286 | -3.62 | 0.000 | -0.0239226 | -0.0071209 |
| Bank size | -0.0413575 | 0.069308 | -0.6 | 0.551 | -0.1771995 | 0.0944845 |
| _cons | 3.785689 | 1.118095 | 3.39 | 0.001 | 1.594262 | 5.977115 |
| Statistic Value | | | | | | |
| R-squared (within) | 0.141 | | | | | |
| R-squared (between) | 0.0243 | | | | | |
| R-squared (overall) | 0.0427 | | | | | |
| Wald chi2(5) | 21.65 | | | | | |
| Prob > chi2 | 0.0006 | | | | | |

**Source: Study data, 2024**

The value for $R^2$ was 0.0427 indicating that 4.27% of changes in Tobin's Q could be explained

by ESG practices and bank size. The p-value of bank size was 0.551 which was greater than 0.05. This shows that there was no overall effect for moderating, as suggested by Baron and Kenny (1986). Since the p-value was insignificant, the model's interaction component was run and the results were presented in Table 4.16 below.

**Table 4.16: Interaction Model Results for the Moderating Effects on Tobin's Q**

| Variable | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. Interval] Lower | [95% Conf. Interval] Upper |
|---|---|---|---|---|---|---|
| Environmental Score ENV | -0.0017394 | 0.017469 | -0.1 | 0.921 | -0.0359776 | 0.0324988 |
| Social Score SOC | -0.0070267 | 0.018089 | -0.65 | 0.516 | -0.0282135 | 0.0141591 |
| Governance Score GOV | -0.020846 | 0.009091 | -2.29 | 0.022 | -0.0386634 | -0.0030285 |
| Bank size | -0.1441464 | 0.128156 | -1.12 | 0.261 | -0.3953278 | 0.1070349 |
| Environmental score *bank size | 0.0002224 | 0.000689 | 0.32 | 0.747 | -0.0011283 | 0.0015732 |
| Social score *bank size | 0.0006675 | 0.000916 | 0.73 | 0.467 | -0.0012347 | 0.0024659 |
| Governance* bank size | 0.0002633 | 0.000416 | 0.63 | 0.527 | -0.0005519 | 0.0010785 |
| _cons | 4.963229 | 1.628578 | 3.05 | 0.002 | 1.771275 | 8.155182 |
| Statistic | Value | | | | | |
| R-squared (within) | 0.153 | | | | | |
| R-squared (between) | 0.0139 | | | | | |
| R-squared (overall) | 0.0319 | | | | | |
| Wald chi2(8) | 22.53 | | | | | |
| Prob > chi2 | 0.004 | | | | | |

**Source: Study data, 2024**

From Table 4.16 above, bank size did not have a statistically significant moderating effect on the relationship between ESG practices and Tobin's Q. This is confirmed by the Environmental Practices p-value of 0.747 which was more than 0.05, the Social Practices p-value of 0.467 which was more than 0.05, and the Governance Practices p-value of 0.527 which was more than 0.05. This led to the failure to reject the null hypothesis that size of the bank does not

significantly moderate the relationship between environmental, social and governance (ESG) practices and the Tobin's Q of selected banks quoted in African Securities Exchanges. These findings are supported by Korkmaz and Nur (2023) whose study focused on banks in Turkey and concluded that bank size does not moderate the relationship between ESG factors and Tobin's Q.

### 4.8 Summary of Hypotheses Tests

The summary of the hypotheses tests explained above is provided in Table 4.17 below.

**Table 4.17: Summary of Hypotheses Tests**

| Hypothesis | ROA | Tobin's Q |
|---|---|---|
| Environmental practices do not have a significant effect on financial performance of listed commercial banks in Africa. | Reject Ho | Fail to reject Ho |
| Social practices do not have a significant effect on financial performance of listed commercial banks in Africa. | Fail to reject Ho | Fail to reject Ho |
| Governance practices do not have a significant effect on financial performance of listed commercial banks in Africa. | Reject Ho | Reject Ho |
| Size of the bank does not significantly moderate the relationship between ESG practices and the financial performance of listed commercial banks in Africa. | Reject Ho | Fail to reject Ho |

**Source: Study data, 2024**

# CHAPTER FIVE

# SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

This chapter presents a summary of the key findings, conclusions from the study, recommendations, contribution of the study to the current body of knowledge and suggestions for further studies. The summary is based on the objectives and the methodology that was applied in the study. The conclusions and recommendations were based on the research findings of the study. The chapter finally indicates the ways in which the study contributes to the knowledge and gives suggestions for further studies.

## 5.2 Summary of Findings

The expectations of shareholders and investors is that a firm will generate profits and growth in market value. Costs are expected to be incurred in activities that improve financial performance. The financial performance of banks as measured by ROA and Tobin's Q has been on a general decline between the years 2013 and 2022. On the other hand, the costs that have been incurred on ESG initiatives in the banking sector have been on an upward trajectory, as banks are expected to spearhead ESG adoption, being among the most regulated institutions. Research on the effects of ESG on financial performance of banks has been limited, particularly in the African context. In addition, the few researches conducted have yielded mixed findings, therefore creating a knowledge gap which this study sought to fill.

The specific objectives of the study were to assess the effects of environmental, social

and governance practices on the financial performance of selected banks quoted in African securities exchanges. In addition, the study sought to determine the moderating effect of bank size on the relationship between ESG practices and the financial performance of selected banks quoted in African securities exchanges. The study was anchored on Shareholders Theory, Stakeholders Theory, Legitimacy Theory, Agency Theory, Slack Resources Theory and Signaling Theory. This research adapted a positivism research philosophy and an explanatory non-experimental research design. Secondary data on ESG scores and financial performance were obtained from the London Stock Exchange Group database. Data analysis involved both descriptive and inferential statistics, utilizing panel multiple regressions to account for time and cross-sectional dimensions. Diagnostic tests were conducted to ensure that the assumptions of linear regression were not violated, thereby enhancing the reliability and validity of the study's findings.

Based on the findings, the summary of the study was presented as per the study objectives below:

### 5.2.1 Effect of Environmental Practices on the Financial Performance of Selected Banks Quoted in African Securities Exchanges

The findings revealed a significant positive correlation between Environmental Score and Return on Assets (ROA), indicating that banks with higher environmental performance tended to achieve higher financial returns. This relationship was further confirmed by regression analysis, which showed that Environmental Score had a significant positive effect on ROA. However, the effect of environmental practices on market valuation, as measured by Tobin's Q, was found to be minimal and insignificant. This suggests that while environmental practices

are beneficial for improving internal financial performance, they do not significantly influence the market valuation of banks.

### 5.2.2 Effect of Social Practices on the Financial Performance of Selected Banks Quoted in African Securities Exchanges

The study also examined the effect of social practices on financial performance. Social practices showed strong correlations with both ROA and Tobin's Q, indicating that banks with higher social performance tended to have higher financial returns and market valuations. Despite this, the regression analysis revealed that Social Score did not have a significant effect on either ROA or Tobin’s Q. This suggests that while there is a positive association between social practices and financial performance, the effect is not as strong, and the influence of bank size is not significant.

### 5.2.3 Effect of Governance Practices on the Financial Performance of Selected Banks Quoted in African Securities Exchanges

The study also examined the effect of Governance practices on financial performance. Governance practices were found to have a significant effect on both ROA and Tobin's Q. Stronger governance practices were associated with enhanced financial performance, as evidenced by a positive and statistically significant effect on ROA. However, better governance structures were linked to lower market valuations, as indicated by a negative and statistically significant effect on Tobin's Q. This negative effect on market valuation could be due to increased transparency and accountability, which might expose risks or inefficiencies that the market reacts to negatively.

### 5.2.4 Moderating Effect of Bank Size on the Relationship Between ESG Practices and Financial Performance

The study also examined the moderating effect of bank size on the relationship between ESG practices and financial performance. Financial performance was measured by ROA and Tobin's Q. With regard to the moderating effect of bank size on the relationship between ESG practices and ROA, the study found out that bank size had a significant negative moderating effect on the relationship between Governance Practices and ROA. However, bank size did not have a statistically significant moderating effect on the relationship between Environmental Practices and ROA and also on the relationship between Social Practices and ROA. With regard to the moderating effect of bank size on the relationship between ESG practices and Tobin's Q, the study found that bank size did not have a statistically significant moderating effect on the relationship between environmental practices and Tobin's Q, social practices and Tobin's Q and also governance practices and Tobin's Q. This means that the size of a bank does not influence how ESG practices affect market valuation.

## 5.3 Conclusions

Conclusions were made according to the study findings in line with the study objectives and hypothesis. The first objective of the study was to establish the effect of Environmental Practices on the financial performance of selected banks quoted in African securities exchanges. The findings were that environmental practices exert a significant positive effect on the financial performance of quoted banks in Africa, specifically in relation to Return on Assets (ROA). The effect with regard to Tobin's Q was statistically insignificant. This finding aligns with Stakeholders Theory, which advocates for a focus beyond shareholder interests to ensure long-term sustainability. However, the weak and negative correlation between environmental practices

and Tobin's Q suggests ambiguity regarding their effect on market valuation. Although regression analysis reaffirmed the positive effect of Environmental Score on ROA, its negligible influence on Tobin's Q implies a minimal effect on market valuation. This finding stands in contrast to Signaling Theory, which posits that the market interprets ESG initiatives positively as indicators of a firm's strength and social concern, thus leading to increased market valuation. The implication of these findings is that sustained investments in environmental practices ultimately contributes to improved financial performance in terms of profitability of banks. These results highlight the importance for management of banks to integrate environmental practices into bank operations to enhance financial performance, while recognizing the need for further research to clarify their effect on market valuation.

The second objective of the study was to establish the effect of Social Practices on the financial performance of selected banks quoted in African securities exchanges. The findings were that regression analysis did not demonstrate a statistically significant effect on financial performance, as measured by ROA and Tobin's Q. The implications were that additional investments in social practices neither affect profitability nor market valuation. This suggests that while social practices are positively correlated with financial performance, their effect remains insignificant. This could imply that the benefits of social initiatives may not be realized in terms of increased profitability, indicating that management should not expect immediate results. Positively, the study also implies that management should explore social practices for the benefit of employees and the society, because this will not negatively impact on profits. In addition, the findings call for further research to better understand the complex effect relationship between social practices, financial performance and market valuation in the African banking sector.

The third objective of the study was to establish the effect of Governance Practices on the financial performance of selected banks quoted in African securities exchanges. From the findings, strong governance structures are linked to higher ROA, reflecting their positive effect on financial outcomes. Interestingly, these practices also correspond to lower market valuations, potentially due to the increased transparency and accountability they bring. This observation points to the critical role of robust governance frameworks in enhancing financial performance in terms of profitability, though they negatively affect market valuation. The implication is that whereas short term profitability is enhanced through governance practices, long term market valuation could be negatively affected. Management should strike a balance between the needs of immediate profitability and long term market valuation. This implies that governance practices should be adopted with a gradual approach while closely monitoring their impact on financial performance. There is also an underlying need for further investigations into their full effect on market valuation. These results lend support to Agency Theory, which emphasizes the importance of strong governance frameworks to protect shareholder interests.

The fourth objective of the study was to establish the moderating effect of firm size on the relationship between environmental, social and governance practices and the financial performance of selected banks quoted in African securities exchanges. The study findings indicate that bank size does moderate the relationship between governance practices and ROA, suggesting that larger banks benefit more from robust governance structures. This finding is consistent with Slack Resources Theory, which suggests that larger banks, with more resources, are better positioned to implement strong governance frameworks, leading to cost savings and increased profits. The moderation analysis further reveals that bank size does not moderate the relationship between environmental practices and social practices on financial performance as measured by ROA,

and further that size does not moderate the relationship between all the three ESG practices and market valuation as measured by Tobin's Q. The implication of these findings is that larger banks are likely to gain more in terms of profitability by embracing governance practices. Management of larger banks should therefore be at the forefront in promoting governance practices due to the expected higher returns in terms of profits, which should also encourage the medium and smaller banks to also embrace governance practices in their operations.

Overall, the study underscores the significant role that ESG practices play in affecting the financial performance of banks, particularly through environmental and governance initiatives. While social practices show potential, their direct effect on financial performance is not significant. The moderating role of bank size is evident primarily in the context of governance practices. These insights offer valuable guidance for banks, regulators and policymakers in promoting sustainable banking practices and developing strategies that integrate ESG considerations to achieve better financial outcomes in the African banking sector.

## 5.4 Recommendations

Based on the findings, the current study draws a number of recommendations for policy and practice. These are provided below:

### 5.4.1 Recommendations for policy

One of the findings of this study was that environmental practices exert a significant positive effect on the financial performance of quoted banks in Africa, specifically in relation to Return on Assets (ROA). Therefore, regulators such as the Central Banks and Capital Market Authorities should implement guidelines and standards that encourage environmental integration and reporting. This will foster a culture of sustainability and responsible banking

practices. Regulators should further incorporate environmental criteria into regulatory assessments, disclosure requirements, and risk management frameworks to ensure that banks adequately address environmental risks while maximizing opportunities for financial performance.

The study also concluded that governance practices have a significant positive effect on bank performance, specifically ROA. The study therefore recommends that regulatory bodies should enforce robust governance standards and provide oversight to ensure compliance. Governance frameworks should be developed and actively implemented across the banking sector for the long term profitability of the banks and safeguard the interests of owners and investors.

Further, the Government should formulate policies and incentives that encourage banks to embrace environmental and governance practices. Such incentives could include tax reliefs for costs incurred by banks on environmental and governance practices. In addition, the Government should enact laws that promote the adoption of environmental and governance practices, including imposing heavy penalties on institutions that do not promote these practices.

The study also found that bank size had a significant moderating effect on the relationship between governance practices and financial performance as measured by ROA. Larger banks benefit more from robust governance practices, indicating the need for tailored strategies that account for organizational size when implementing ESG initiatives. Therefore, regulators and industry stakeholders should develop guidelines and support mechanisms tailored to the needs of smaller institutions, including access to resources, technical assistance, and capacity-building programs aimed at enhancing ESG capabilities. By tailoring strategies and support mechanisms based on organizational size, banks and regulatory bodies can effectively leverage

ESG initiatives to drive sustainable growth and value creation.

### 5.4.2 Recommendations for practice

One of the findings of this study was that environmental practices exert a significant positive effect on the financial performance of quoted banks in Africa, specifically in relation to Return on Assets (ROA). The study therefore recommends that the management of commercial banks in Africa prioritize the integration of environmentally sustainable initiatives into their operations. This entails a strategic emphasis on adopting green technologies, reducing carbon footprint and implementing eco-friendly policies throughout the banking infrastructure. Moreover, banks should allocate resources towards investments in renewable energy sources and the support of environmentally responsible projects. By embracing these initiatives, banks can enhance their financial performance while contributing to environmental sustainability efforts in the region. This strategic alignment with eco-conscious practices positions commercial banks as catalysts for positive change, fostering a culture of sustainability and driving the transition towards a greener future for Africa.

With a strong correlation observed between Social practices and both ROA and Tobin's Q, it becomes evident that fostering a socially responsible corporate culture is strategically advantageous. The study therefore recommends that management of commercial banks cultivate robust social responsibility initiatives, recognizing the pivotal role such practices play in shaping both financial performance and societal effect. Banks should prioritize enhancing social welfare programs, allocating resources towards initiatives aimed at addressing key societal issues such as poverty alleviation, education, healthcare and environmental conservation. By actively engaging in initiatives that contribute to the well-being of communities, banks can demonstrate their commitment to social progress while building

goodwill and trust among stakeholders. Regulators and policymakers should support these efforts by providing frameworks and incentives that encourage corporate social responsibility in the banking sector.

The study also concluded that governance practices have a significant positive effect on bank performance, specifically ROA. The study further recommends that management of banks bolster their governance structures to maximize financial performance and maintain investor confidence. This includes strengthening board oversight mechanisms by appointing competent and independent directors, establishing clear lines of authority and accountability, and enhancing transparency and disclosure practices. Banks should provide clear and comprehensive financial reporting, including disclosures on ESG factors, to enable stakeholders to make informed decisions. Additionally, promoting ethical conduct and a strong culture of integrity among employees is essential for upholding the bank's reputation and mitigating operational risks.

The study also highlights the crucial moderating role of bank size in shaping the relationship between ESG practices and financial performance. Larger institutions should leverage their resources to implement comprehensive ESG frameworks, including robust governance structures, social responsibility initiatives, and environmental sustainability programs. Conversely, smaller banks may face unique challenges in implementing ESG practices due to resource constraints. Therefore, financiers and other investors should actively promote the growth of small banks in order to enable them fully exploit the benefits associated with strong governance practices.

Further, based on the study findings, shareholders and employees should support management initiatives to invest in ESG initiatives, particularly environmental and governance initiatives

due to their positive effect on bank profitability. This ensures stability of the banks. In addition, environmental and governance crusaders should intensify their efforts to convince the banks and regulators to implement initiatives that promote ESG, as, in addition to the societal good, such initiatives also contribute to bank profitability.

Regulatory bodies play a critical role in providing incentives and promoting sustainable practices across the banking sector. By implementing guidelines and standards that encourage ESG integration and reporting, regulators can foster a culture of sustainability and responsible banking practices. This includes incorporating ESG criteria into regulatory assessments, disclosure requirements, and risk management frameworks to ensure that banks adequately address environmental and social risks while maximizing opportunities for financial performance.

In conclusion, the study underscores the importance of embracing a holistic approach to ESG integration, which enhances financial performance and contributes to broader societal and environmental goals, fostering a more resilient and responsible banking sector. These policy recommendations serve as a roadmap for commercial banks in Africa to integrate sustainable practices into their operations, fostering improved financial performance, market valuation, and societal effect. Through these concerted efforts, commercial banks can drive positive change, create shared value, and contribute to a more sustainable and prosperous future for Africa.

### 5.5 Contribution to Knowledge

The study contributes to the existing body of knowledge by offering a thorough and comprehensive examination of the intricate relationship between sustainable banking practices and financial performance within the specific context of commercial banks operating in Africa.

Unlike previous research endeavors that have predominantly focused on exploring the effect of sustainable practices using a single metric of financial performance, such as Return on Assets (ROA) or Tobin's Q, this study takes a holistic approach. By incorporating ROA and Tobin's Q, the research elevates the depth and breadth of analysis, thereby enhancing the reliability, validity and robustness of the findings.

In addition, while most studies have focused on only one measure of sustainability, such as either environmental, social or governance, this study has taken a comprehensive approach of investigating the effect of all the three parameters of sustainability. This provides decision makers at corporate and regulatory levels with a broader insight on sustainability initiatives and how they holistically affect performance of banks. This comprehensive measurement approach not only offers a greater understanding of the relationship between sustainable practices and financial performance but also provides invaluable insights into the multifaceted nature of this association. By examining diverse indicators of financial performance, the study elucidates the varying effect of sustainable banking initiatives on different dimensions of financial outcomes. This granular analysis enables a more comprehensive assessment of the effectiveness of sustainable practices in driving overall financial performance, thus contributing to a deeper understanding of the mechanisms underlying sustainable banking practices in the African context.

Furthermore, the study contributes to the existing body of knowledge by examining the moderating effect of bank size on the relationship between Environmental, Social and Governance (ESG) practices and financial performance within quoted commercial banks in Africa. While previous researches have primarily focused on the direct effect of sustainable practices on financial outcomes, this study expands the scope by investigating how the size of

banks influences this relationship. This approach provides valuable insights into the interplay between ESG practices, organizational characteristics, and financial performance within the banking sector.

By exploring the moderating role of bank size, the study advances our understanding of the complex dynamics shaping the relationship between sustainable practices and financial performance. The findings offer valuable insights into how the size and scale of banks interact with ESG initiatives to drive financial outcomes, highlighting the importance of considering organizational characteristics in assessing the effect of sustainability on performance metrics such as Return on Assets (ROA) and Tobin's Q.

Another contribution of this study lies in its contextualization of sustainable banking practices within the African context. While existing literature on sustainable finance predominantly draws from studies conducted in Western contexts, this research fills a crucial gap by examining the applicability and effectiveness of sustainability initiatives within the unique socio-economic and regulatory landscape of African countries. By considering factors such as regulatory frameworks, cultural norms, and market dynamics specific to the region, this study offers a greater understanding of the opportunities and challenges associated with sustainable banking in Africa. This contextualized perspective is essential to informing the development of tailored strategies and policies that promote sustainable finance and inclusive economic development across the continent.

### 5.6 Areas for Further Research

The study has laid the groundwork for further research into the causal relationship between Environmental, Social and Governance (ESG) practices and financial performance within the banking sector in Africa. One potential area for future investigation is a comparative analysis

of ESG integration and financial performance between listed commercial banks and other financial institutions, such as non-listed banks, credit unions and microfinance institutions. This comparative study could provide insights into the effectiveness of ESG initiatives across different types of financial institutions and their effect on various measures of financial performance.

Additionally, future research could delve deeper into the specific mechanisms through which ESG practices influence financial performance within the banking sector. For example, studies could explore the mediating effects of factors such as customer loyalty, employee satisfaction and risk management practices on the relationship between ESG practices and financial performance. By examining these mediating pathways, researchers can gain a more comprehensive understanding of the underlying drivers of financial performance in relation to ESG initiatives. Furthermore, there is a need for longitudinal studies that track the evolution of ESG practices and their effect on financial performance over time. Longitudinal analysis could reveal how changes in ESG strategies and regulatory environments affect the financial performance of banks in Africa, providing valuable insights for both practitioners and policymakers.

With expected increased adoption of ESG in Kenya based on global metrics, future studies could focus on the effect of ESG from a Kenyan context. Moreover, future research could expand the geographic scope beyond Africa to compare ESG practices and financial performance across different regions and jurisdictions. This comparative analysis could offer valuable cross-country insights into the effectiveness of ESG initiatives in driving financial performance and inform best practices for sustainable banking globally.

In addition, there is a growing interest in the role of technology and innovation in advancing

ESG goals within the banking sector. Future research could explore the use of emerging technologies, such as blockchain, artificial intelligence and data analytics, in enhancing ESG practices and improving financial performance. By investigating the interaction of technology and sustainability in banking, researchers could identify innovative strategies for promoting environmental stewardship, social responsibility and good governance while maximizing financial returns.

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## APPENDICES

### Appendix I (A) - Data Collection Guide: Financial Information

| | NAME OF BANK | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **2022** | **2021** | **2020** | **2019** | **2018** | **2017** | **2016** | **2015** | **2014** |
| • Earnings before interest and tax | | | | | | | | | |
| • Book value of assets | | | | | | | | | |
| • Market value of assets | | | | | | | | | |

### Appendix I (B): Data Collection Guide: ESG Scores

| | NAME OF BANK | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **2021** | **2020** | **2019** | **2018** | **2017** | **2016** | **2015** | **2014** | **2013** |
| **Environmental Score** | | | | | | | | | |
| (i) Resource use score | | | | | | | | | |
| (ii) Emissions reduction score | | | | | | | | | |
| (iii) Innovation score | | | | | | | | | |
| Total score | | | | | | | | | |
| **Social Score:** | | | | | | | | | |
| (i) Workforce score | | | | | | | | | |
| (ii) Human rights score | | | | | | | | | |
| (iii) Community score | | | | | | | | | |
| (iv) Product responsibility score | | | | | | | | | |
| Total score | | | | | | | | | |
| **Governance Score:** | | | | | | | | | |
| (i) Management score | | | | | | | | | |
| (ii) Shareholders score | | | | | | | | | |
| (iii)CSR strategy score | | | | | | | | | |
| Total score | | | | | | | | | |

**Source: LSEG, 2023.**

**Appendix II: QUOTED BANKS IN AFRICAN SECURITIES EXCHANGES**

| No | Country | Securities/stock exchange | Number of listed banks |
|---|---|---|---|
| 1. | Angola | Angola Stock Exchange | 6 |
| 2. | Botswana | Botswana Stock Exchange | 11 |
| 3. | Tunisia (a) | Bourse De Tunis | 12 |
| 4. | Côte d'Ivoire | Bourse Régionale des Valeurs Mobilières Sa | 7 |
| 5. | Cape Verde | Cape Verde Stock Exchange | 6 |
| 6. | Sudan | Khartoum Stock Exchange | 4 |
| 7. | Zambia | Lusaka Stock Exchange | 3 |
| 8. | Malawi | Malawi Bourse | 4 |
| 9. | Kenya | Nairobi Securities Exchange | 10 |
| 10. | Morocco | Casablanca Stock Exchange | 9 |
| 11. | Tanzania | Dar Es Salaam Stock Exchange | 6 |
| 12. | Egypt | Egyptian Exchange | 12 |
| 13. | Namibia | Namibian Stock Exchange | 4 |
| 14. | Nigeria | Nigerian Stock Exchange | 6 |
| 15. | Rwanda | Rwanda Stock Exchange | 4 |
| 16. | Mauritius | Stock Exchange of Mauritius | 1 |
| 17. | Tunisia (b) | Tunisia Stock Exchange | 13 |
| 18. | Uganda | Uganda Securities Exchange | 4 |
| 19. | Eswatini (formerly Swaziland) | Eswatini Stock Exchange | 2 |
| 20. | Ghana | Ghana Stock Exchange | 7 |
| 21. | South Africa | Johannesburg Stock Exchange | 12 |
| 22. | Zimbabwe | Zimbabwe Stock Exchange | 2 |
| 23. | Seychelles | Merj Exchange | 0 |
| 24. | Mozambique | Bolsa De Valores De Mocambique | 0 |
| 25. | Central Africa Republic | Central Africa Securities Stock Exchange | 0 |
| 26. | Nigeria | NASD OTC Securities Exchange | 0 |
| **TOTAL** | | | **145** |

**Source: African Financials, 2023.**

**Appendix III: LIST OF QUOTED BANKS IN AFRICA SELECTED FOR THE STUDY**

| No. | BANK | COUNTRY OF LISTING | STOCK EXCHANGE |
|---|---|---|---|
| 1. | ABSA | South Africa | JSE |
| 2. | Attijariwafa Bank | Morocco | CSE |
| 3. | Capitec Bank Holdings | South Africa | JSE |
| 4. | Commercial International Bank | Egypt | EGX |
| 5. | Coronation Fund | South Africa | JSE |
| 6. | EFG Holdings SAE | South Africa | JSE |
| 7. | First Rand Bank | South Africa | JSE |
| 8. | Grand Parade Investments | South Africa | JSE |
| 9. | Investec Ltd | South Africa | JSE |
| 10. | JSE Holdings | South Africa | JSE |
| 11. | Nedbank Group Ltd | South Africa | JSE |
| 12. | Qatar National Bank Al Ahly SAE | Egypt | EGX |
| 13. | Standard Bank | South Africa | JSE |
| 14. | Trencor Ltd | South Africa | JSE |
| 15. | Zeder Investments Ltd | South Africa | JSE |

Note:
JSE – Johannesburg Stock Exchange

CSE – Casablanca Stock Exchange

EGX – Egypt Stock Exchange

**Source: Research Data, 2023.**

## Appendix IV: RESEARCH AUTHORISATION LETTER

KENYATTA UNIVERSITY
OFFICE OF THE EXECUTIVE DEAN GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
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P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 020-8704150

**Our Ref:** D86/CTY/22844/2012

**DATE:** 20th May 2024

Director General,
National Commission for Science, Technology and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR MR. NJUGUNA ISAAC MUCHIRI REG. NO. D86/CTY/22844/2012

I write to introduce Mr. Njuguna Isaac Muchiri who is a Postgraduate Student of this University. He is registered for Ph.D degree programme in the Department of Accounting and Finance and in the school of Business, Economics & Tourism.

Mr. Njuguna Isaac Muchiri intends to conduct research for a Ph.D Thesis Proposal entitled, "*Environmental, Social and Governance Practices and Financial Performance of Listed Commercial Banks in Africa*".

Any assistance given will be highly appreciated.

Yours faithfully,

for

PROF. ELIUD NJAGI
AG.EXECUTIVE DEAN, GRADUATE SCHOOL

## Appendix V: NACOSTI PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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**RESEARCH LICENSE**

**This is to Certify that Mr.. NJUGUNA ISAACK NJUGUNA of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: ENVIRONMENTAL, SOCIAL AND GOVERNANCE PRACTICES AND FINANCIAL PERFORMANCE OF LISTED COMMERCIAL BANKS IN AFRICA for the period ending : 21/June/2025.**

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## Appendix VI: Overview of Computation of ESG Scores

The ESG scores are calculated on the basis of percentages and grades, from 0 to 100 and from D- to A+ respectively. For environmental and social category scores, The Thomson Reuters Business Classification (TRBC) is used as the benchmark. The TBRC is an industry classification of global companies, developed in 2004; it is owned and operated by the London Stock Exchange Group (which acquired Thomson Reuters). TRBC covers over 70,000 public companies from 130 countries and provides over 10 years of classification history. The classification consists of five levels of hierarchical structure. Each company is allocated an Industry, which falls under an Industry group, then Business Sector, which is then part of an overall economic sector. TRBC consists of 10 economic sectors, 28 business sectors, 54 industry groups, 136 industries and 837 Activities. To calculate the governance categories, the country of incorporation is used as the benchmark, as best governance practices are more consistent within countries.

### Category scores calculation methodology

Percentile rank scoring methodology is adopted to calculate the 10 category scores. It is based on three factors:

- The number of firms that are worse than the current firm.
- The number of firms that have the same value.
- The number of firms that have a value at all.

Percentile rank score is based on the rank, and therefore is not very sensitive to outliers.

$$score = \frac{no.of\ companies\ with\ a\ worse\ value + \frac{no.of\ companies\ with\ the\ same\ value\ included\ in\ the\ current\ one}{2}}{no.of\ companies\ with\ a\ value}$$

Category weight calculation

$$Category\ weight\ of\ an\ industry\ group = \frac{Magnitude\ weight\ of\ a\ category}{Sum\ of\ magnitudes\ of\ all\ categories}$$

The magnitude weights of all 10 categories are added up for each industry group. Each category's magnitude weight is divided by the sum of the magnitude weights of the respective industry group to derive thecategory weight.