



Stakeholder Theory in Action: The Impact of Environmental, Social, and Governance (ESG) Practices on Financial Performance in SADC Region Food Producers

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Research Article

History

Received: 17/09/2024

Accepted: 11/11/2024

JEL Codes: G30, M14, Q01

Acknowledgment:

This work is derived from the unpublished Master's thesis of the second author, supervised by the first author.

ABSTRACT

In recent years, there has been a notable shift towards incorporating non-financial metrics, particularly environmental, social, and governance (ESG) factors, into the corporate financial performance (CFP) evaluation framework. The primary aim of this research is to explore the impact of ESG practices on corporate financial performance, with a particular focus on the Southern African Development Community (SADC) region, which is frequently underrepresented in global ESG debates. The study concentrates on the food production sector, a key industry for this region. To achieve this aim, after the theoretical background on the subject, the empirical section examines whether engagement in ESG practices contributes to financial performance, measured primarily by Tobin's Q and alternatively by the market-to-book value ratio. The panel data models are employed for 8-year panel data of 32 publicly traded food producer companies of the SADC region between 2015 and 2022. Additionally, for the robustness test, the analysis is also repeated on a subset of 14 food producers listed in South Africa. According to the analysis results, companies disclosing ESG practices and so having an ESG score operate with higher Tobin Q and market-to-book value ratio, across both the SADC and South Africa samples. The findings suggest that companies actively involved in social, environmental, and governance initiatives, alongside transparent disclosure of their responsible practices, tend to exhibit superior financial performance. This finding is consistent with stakeholder theory, suggesting that firms can only enhance their long-term financial performance by fulfilling their responsibilities to all stakeholders and, ultimately, to society.

Keywords: Corporate Social Responsibility (CSR), Environmental, Social, Governance (ESG) Practices, Corporate Financial Performance (CFP), Tobin Q, Food Producers, Southern African Development Community (SADC)

Stakeholder Teorisi Uygulamada: SADC Bölgesindeki Gıda Üreticilerinde ESG Uygulamalarının Finansal Performansa Etkisi

Süreç

Geliş: 17/09/2024

Kabul: 11/11/2024

Jel Kodları: G30, M14, Q01

Bilgi:

Bu çalışma, birinci yazarın danışmanlığında, ikinci yazarın yayımlanmamış Yüksek Lisans tezinden türetilmiştir.

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ÖZ

Son yıllarda, özellikle çevresel, sosyal ve yönetim (ÇSY) faktörleri olmak üzere finansal olmayan ölçütlerin kurumsal finansal performans (KFP) değerlendirme çerçevesine dahil edilmesine yönelik belirgin bir yönelim yaşanmaktadır. Bu araştırmanın temel amacı, ÇYS uygulamalarının kurumsal finansal performans üzerindeki etkisini, özellikle küresel ÇYS tartışmalarında sıklıkla yeterince temsil edilmeyen Güney Afrika Kalkınma Topluluğu (SADC) bölgesine odaklanarak araştırmaktır. Çalışma, bu bölge için önemli bir sektör olan gıda üretim sektörüne odaklanmaktadır. Bu amaca ulaşmak için, konuyla ilgili teorik arka planın ardından ampirik bölümde, ESG uygulamalarına katılımın temel olarak Tobin Q ve alternatif olarak piyasa-defter değeri ile ölçülen finansal performansa katkıda bulunup bulunmadığı incelenmiştir. SADC bölgesinde halka açık 32 gıda üreticisi şirketin 2015 ve 2022 yılları arasındaki 8 yıllık panel verilerine panel veri modelleri uygulanmıştır. Ayrıca sağlık testi için analiz, Güney Afrika'da listelenen 14 gıda üreticisinden oluşan bir alt örneklem üzerinde tekrarlanmıştır. Analiz sonuçlarına göre, SADC ve Güney Afrika örneklemelerinin her ikisinde de, ESG uygulamalarını açıklayan ve dolayısıyla bir ESG puanına sahip olan şirketler daha yüksek Tobin Q ve piyasa defter değeri oranı ile faaliyet göstermektedir. Bulgular, sosyal, çevresel ve yönetim girişimlerine aktif olarak katılan ve sorumlu uygulamalarını şeffaf bir şekilde açıklayan şirketlerin üstün finansal performans sergileme eğiliminde olduklarını öne sürmektedir. Bu bulgu, firmaların uzun vadeli finansal performanslarını ancak tüm paydaşlara ve nihayetinde topluma karşı sorumluluklarını yerine getirerek artırabileceklerine öne süren paydaş teorisi ile tutarlıdır.

Anahtar Kelimeler: Kurumsal Sosyal Sorumluluk (CSR), Çevresel, Sosyal, Yönetişim (ESG) Uygulamaları, Kurumsal Finansal Performans (CFP), Tobin Q, Gıda Üreticileri, Güney Afrika Kalkınma Topluluğu (SADC).

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How to Cite: Şahin A, Mitawa WK, (2025) Stakeholder Theory in Action: The Impact of Environmental, Social, and Governance (ESG) Practices on Financial Performance in SADC Region Food Producers, Journal of Economics and Administrative Sciences, 26(1): 105-118, DOI: [10.37880/cumuiibf.1550589](https://doi.org/10.37880/cumuiibf.1550589)

Introduction

The corporate financial performance (CFP) evaluation framework has seen a noticeable shift in recent years toward the inclusion of non-financial metrics known as corporate social responsibility (CSR), corporate social (or sustainability) performance (CSP), and environmental, social, and governance (ESG) factors. CSR, CSP, and ESG all serve as measures of a company's sustainability and responsibility practices.

The relationship between financial performance, Corporate Social Performance (CSP) initiatives, and broader ESG strategies has been widely explored in both business and academic circles. These studies emphasize that effective management of ESG issues results in tangible strategic outcomes such as risk mitigation, cost reduction, market expansion, and brand enhancement. The research findings often argue that successful ESG strategies are crucial to support socio-environmental objectives as well as to ensure financial stability and sustainability (Clarkson, 1995; Barnea & Rubin, 2010; Branco & Rodrigues, 2006; Fatemi *et al.*, 2018). ESG practices are increasingly becoming an integral part of how businesses create value and gain a competitive advantage (Gołębiewski, 2023). While studies often highlight the critical role of ESG activities in enhancing financial resilience, the varying relationships across different corporate, regional, and industrial contexts (Barnea & Rubin, 2010) necessitate more localized and sector-specific analysis.

Studies on the impact of ESG on corporate financial performance (CFP) have primarily focused on developed economies and, more recently, on developing economies (Chininga *et al.*, 2024). However, the literature analyzing ESG criteria in Africa remains underexplored (Agnese *et al.*, 2024). Despite the region's abundance of natural resources, Africa faces significant socio-economic challenges, such as poverty, gender inequality, and environmental issues like climate change, compounded by weak governance practices (Agnese *et al.*, 2024). This combination of factors presents a unique context for ESG research in Africa. Most of the existing literature on the relationship between CSR or ESG and corporate financial performance in Africa is concentrated on South Africa (Balls, 2021; Chetty *et al.*, 2015; Chininga *et al.*, 2024; Mans-Kemp & Van der Lugt, 2020; Mouton *et al.*, 2024; Naik & Ward, 2017). A limited number of studies have also examined other African countries, such as Mozambique (Siueia *et al.*, 2019), and a sample including Kenya, Nigeria, Morocco, Egypt, and Mauritius (Mansaray *et al.*, 2017). The geographic focus of current research highlights the need for further studies that explore how the integration of ESG factors can impact financial performance in African countries beyond the South African context (Chininga *et al.*, 2024).

The Southern African Development Community (SADC), a regional economic community comprising 16 member states, has not been sufficiently examined in terms of the relationship between ESG practices and

financial performance. Ensuring the sustainable use of resources and protecting the environment are among SADC's primary objectives, which align with its core goals of poverty reduction, improving quality of life, and supporting socially disadvantaged populations in the region (SADC, 2024). SADC's regional integration reflects both significant successes and ongoing challenges. It has made notable progress in fostering economic cooperation, political stability, and social development among its member states, promoting trade, infrastructure, industrialization, and political collaboration. However, issues common to Sub-Saharan Africa—such as poverty, inequality, food insecurity, and capacity limitations (World Bank, 2024)—have slowed the deepening of regional integration (Mambo, 2023). By adhering to strategic frameworks such as the SADC Regional Indicative Strategic Development Plan 2020-2030, SADC can continue to play a vital role in advancing economic prosperity, political stability, and social welfare in Southern Africa, leveraging collective strengths and pursuing sustainable development (PESA, 2023). The region's recovery from the COVID-19 pandemic, adverse climate conditions, and complex socio-political landscape, alongside recent efforts to drive economic growth, resilience, and industrialization, creates a unique and relevant context to explore the impact of ESG practices on the region's economic well-being and financial performance (Gatune & Cloete, 2022; PESA, 2023; Mambo, 2023).

The food industry in the SADC region, known for its vulnerability, remains underexplored in ESG literature. The food industry, an economically and politically significant sector (Gega *et al.*, 2024), plays a crucial role in achieving sustainable development goals (Luque *et al.*, 2023). It contributes to sustainability by addressing the interrelated challenges of food insecurity and climate change while also meeting the needs of a growing global population (Gołębiewski, 2023). However, despite its potential to drive sustainability, the food industry faces a range of inherent challenges that complicate its efforts. These challenges stem from its dependency on seasonality, natural and political conditions, adverse price fluctuations over time, and relatively low investment profitability (Franc-Dąbrowska *et al.*, 2020). These structural issues, when compounded by climate conditions, changing consumer behavior, and shifting regulatory pressures, are expected to make sustainable business strategies even more critical for the future of the food industry (Gołębiewski, 2023).

As sustainability concerns intensify, food industries are facing mounting pressure from stakeholders to improve their ESG performance (Gega *et al.*, 2024). Due to CSR's multifaceted impacts—ranging from ethical business practices and consumer perception to crisis management and financial performance—CSR has become an increasingly important area of research within the food industry. However, of the studies reviewed, only four have directly or indirectly linked CSR initiatives in the food sector to financial performance (Brunella *et al.*, 2024;

Gołębiewski, 2023; Hung *et al.*, 2019; Mądra-Sawicka & Paliszkiwicz, 2020). Of these four studies, only Mądra-Sawicka & Paliszkiwicz (2020) included a company from a SADC country (South Africa) within their sample of 50 firms. Furthermore, none of the 14 other studies reviewed on ESG in the food industry included the SADC region or its countries in their samples.

The 2022 SADC Regional Vulnerability Assessment report highlights severe food and nutrition insecurity, affecting an estimated 55.7 million people across 12 member states. Key issues include widespread child malnutrition, structural challenges, and the impacts of environmental and socio-economic shocks. The report advocates for a comprehensive approach to address these challenges, combining immediate relief with long-term strategies aimed at resilience and sustainable development. This context presents a valuable opportunity to explore the role and impact of ESG and CSR initiatives in the region (SADC, 2022).

To be able to contribute to the current literature by emphasizing a sample that has not been adequately studied both in terms of region and sector, this study aims to explore a region often underrepresented in global ESG discussions and focus on critical industry for this region. To achieve this objective, 32 food producers listed in 6 SADC countries in the 2015-2022 period are specified as the analysis sample, and 256-panel data observations ($32 \times 8 = 256$) of 32 companies during the 8-year period between 2015 and 2022 are analyzed with the panel data model. On the analysis date, six SADC countries (Botswana, Malawi, Mauritius, South Africa, Zambia, and Zimbabwe) have publicly held food producer companies, and among them, the only country that includes firms with ESG scores is South Africa. Therefore, we repeated the panel model estimations for the South Africa sub-sample of 14 companies too.

The findings of this study are expected to provide insights for companies and organizations carrying out business activities within the SADC, guiding them toward practices that are both sustainable and profitable. Furthermore, the study seeks to influence policymaking by providing insights for the development of effective ESG standards and regulations.

Theoretical Grounding and Literature Review

Two common and opposing theories that explain the relationship between CSP (or ESG) and CFP are stakeholder theory and shareholder theory. The shareholder theory (also called as trade-off theory), emphasized by Friedman (1970) and elaborated by Pava and Krausz (1997), prioritizes profit generation and shareholder wealth maximization. Friedman (1970) strongly opposed CSR, insisting that businesses exist solely for shareholders, not to tackle societal ills. He believed individuals, not corporations, should bear the weight of social responsibility. This stark delineation sparked a fiery debate that still rages within the CSR discourse, pitting the relentless pursuit of profit against the widening demand

for corporations to act as good citizens of the world. Milton Friedman's theory of profits above all else became a cornerstone of corporate philosophy and as a champion of free markets, did well in the 1980s, 1990s, and 2000s. However, in the aftermath of the global financial crisis, things changed drastically. The disastrous collapse of the US real estate market, and its global ripple effect, exposed the dangers of unchecked profit-seeking without ethical and risk-conscious boundaries (Özelli, 2021).

In opposition to shareholder theory, the stakeholder theory (Freeman & Sonnenfeld, 1984) advocates for considering the interests of all stakeholders. This theory argues for a broader view where corporations are seen as responsible also to other stakeholders, including society and the environment, not only to shareholders. Contrasting with Friedman's perspective, Stakeholder Theory proposes that the achievements of a business are accomplished by balancing the interests of all stakeholders and creating value for them. Freeman and McVea (2001) further elaborate on Stakeholder Theory within strategic management, highlighting its critical role in ensuring firms' long-term sustainability. This approach advocates for managing relationships with all relevant stakeholders, signaling a move towards more ethical and responsible business practices that resonate with ESG principles.

The relationship between ESG and CFP is shaped by various factors, including company size, industry, geographic location, and the financial and corporate structure of the economy (Barnea & Rubin, 2010). The level of economic, institutional, and legal development within countries has a substantial impact on the financial outcomes of ESG practices (Bhatia & Makkar, 2019; Garcia & Orsato, 2020; Linnenluecke, 2022). Research examining the relationship between a company's ESG practices and its financial performance has yielded mixed and sometimes contradictory findings.

Drawing from a comprehensive second-level review analysis of sixty review studies and synthesizing the results of approximately 2,200 individual company-focused (not portfolio-focused) studies on the connection between ESG and CFP since the early 1970s, Friede *et al.* (2015) highlight the favorable influence of ESG on CFP over time. Their findings reveal that about 90% of the studies identified a non-negative correlation between ESG and CFP, with the vast majority reporting positive outcomes (Friede *et al.*, 2015). Studies built on companies from different economies such as New Zealand (Orlitzky, 2005), Spain (Moneva *et al.*, 2007; Reverte, 2016; Charlo *et al.*, 2017), Australia (Balatbat *et al.*, 2012), UK (De Klerk *et al.*, 2015), Malaysia (Mohammad & Wasiuzzaman, 2021), Europe (Engelhardt *et al.*, 2021) and Canada (Abukari *et al.*, 2023) generally suggest positive relations among financial performance and CSR or ESG.

Several studies show insights describing the complex interrelationship between financial performance and ESG, showing how CSR or ESG disclosures or their components can have contrasting impacts on financial metrics. For example, Lima Crisóstomo *et al.* (2011) present a mixed

effect of CSR on various financial performance for Brazil. Similarly, Rahi *et al.* (2022), using a sample from the Nordic financial industry, identify both negative and positive relationships between ESG practices and financial performance. Amin and Tauseef (2022) emphasize the varying impact of combined ESG factors and individual ESG pillars, with distinct effects on the non-financial and financial sectors. Dorfleitner *et al.* (2015) focus the lack of uniformity in the ESG measurement. Fatemi *et al.* (2018) and Albitar *et al.* (2020) indicate dynamic interplays between ESG and firm performance. Buallay (2019) for European Union countries, Alareeni and Hamdan (2020) for the USA, Saygili *et al.* (2022) for Turkey, and Zehir and Aybars (2020) for portfolios from Turkish and European companies, all reveal the sophisticated dynamics between individual ESG components and various metrics for performance. Hasan *et al.* (2022) directly identify a negative relationship between the environmental performance of Gulf Cooperation Council (GCC) banks and their accounting performance.

Sahut and Pasquini-Descomps (2015) in Switzerland, the US, and the UK, Lundin and Olandersson (2019) within Swedish firms, Ahlko and Lind (2019) and Afrooz and Kruusman (2019) among Nordic stocks report no direct linkage between ESG scores and financial metrics or stock performance. La Torre *et al.* (2020) find that ESG has an insignificant impact on the performance of Eurostoxx50 companies.

Studies conducted using data from the African region, primarily from the Johannesburg Stock Exchange (JSE) in South Africa, have also yielded mixed results. Among the research focused on JSE-listed firms, Mans-Kemp and Van der Lugt (2020) find a strong positive relationship between high-quality integrated reporting and ESG performance, as well as indicators such as earnings per share and leverage. Similarly, Chininga *et al.* (2024) observe a positive effect of ESG ratings on financial performance. Mouton *et al.* (2024) find a positive relationship between share buybacks and ESG scores, particularly the social score, supporting stakeholder theory. In contrast, Chetty *et al.* (2015) suggest that inclusion in the JSE's socially responsible investment index did not consistently improve share prices, and they also identify a decline in ROA associated with increased CSR activities. Balls (2021) reports no significant link between ESG engagement and financial performance. Masongweni and Simo-Kengne (2024) document that while composite ESG scores do not significantly influence financial performance, social and governance scores have a positive impact. Naik and Ward (2017) identify a negative relationship between ESG practices, ESG disclosure, and financial performance.

Among studies that include other African countries in their samples in addition to South Africa, Siueia *et al.* (2019) find a positive association between CSR disclosures and financial performance in the South African and Mozambican banking sectors. In a study covering six African countries (South Africa, Kenya, Nigeria, Morocco, Egypt, and Mauritius), Mansaray *et al.* (2017) reveal that

while CSR disclosures are negatively associated with short-term financial performance in certain sectors, the long-term effects vary across industries.

In addition to studies focusing on the ESG-financial performance relationship, recent research in the African region has also examined the link between ESG performance and factors such as board characteristics (Agnese *et al.*, 2024; Al-Hiyari *et al.*, 2022) and investor sentiment (Aboluwodi *et al.*, 2024; Nyakurukwa & Seetharam, 2023), among others. The samples for these studies are primarily drawn from South Africa too (Al-Hiyari *et al.*, 2022; Nyakurukwa & Seetharam, 2023) or samples that include South Africa like African Stock Exchanges (Agnese *et al.*, 2024) and BRICS nations (Aboluwodi *et al.*, 2024). Marais *et al.* (2022) investigate the barriers faced by local asset managers in South Africa in integrating material ESG information into their investment strategies.

The role of CSR within the food industry has increasingly become a focal point of research due to its multifaceted implications on crisis management, consumer perception, financial performance, and ethical business practices. Literature on CSR in the food industry is presented in chronological order. Maloni and Brown (2006) propose an outline for CSR within the food industry supply chain, emphasizing animal welfare, environmental issues, and labour rights. Kong (2012) uses the 2008 melamine contamination crisis in China to show how CSR activities by listed food industry firms significantly influence investor and consumer concerns. Assiouras *et al.* (2013) highlight CSR's crucial role in the food industry, particularly during crises, by demonstrating its significant influence on consumer perceptions and brand evaluation. Kurilets (2014) examines how CSR announcements impacted the stock market performance of three major USA fast food companies from 2001 to 2013, highlighting diverse investor responses. Shnyder *et al.* (2016) analyze CSR motivations in the packaged food industry using sustainability reports from sixteen multinational companies, categorizing motivations into profit, people, and the planet under the Triple Bottom Line (3BL) framework.

Costopoulou *et al.* (2018) examine CSR reporting among Greek food companies, highlighting disparities between large firms and SMEs. Lerro-Vecchio *et al.* (2018) and Del Giudice *et al.* (2018) examine Italian consumers' preferences and market effects of CSR within the food industry, emphasizing the need to align CSR strategies with consumer demands. Hung *et al.* (2019) analyze CSR's impact on firm growth in Taiwan's food industry, finding that CSR initiatives mitigate business risks and contribute to growth. Wiśniewska-Paluszak and Paluszak (2019) investigate CSR's shift to creating shared value in agribusiness, analyzing CSR reports from four major food producer companies in Poland and documenting the strategic importance of embedding societal and environmental challenges within business models.

Goncharov *et al.* (2020) approach CSR from the perspective of social responsibility and competence of

workers within the food processing industry. Their survey-based research among food industry specialists in the Stavropol Territory emphasizes the increasing necessity of maintaining food quality and safety amidst technological advancements. Mađra-Sawicka and Paliszkiwicz (2020) study CSR reporting in the food industry, linking it to improved financial performance indicators like profitability and market capitalization across 448 companies in 50 countries. Danila and Nancu (2023) analyze the commitment of medium and large enterprises to ESG practices in the Romanian food sector. Their survey-based study reveals that larger companies are increasingly adopting ESG practices, though improvements are still needed. Luque *et al.* (2023), who developed an ESG approach that takes into greater account the sustainability preferences of stakeholders, apply this measurement to European food companies and argue that ESG indicators should be reassessed to enhance their value and reliability for stakeholders. Gega *et al.* (2024) examine the impact of corporate ownership structure on ESG performance in European agri-food companies, showing that investor-owned companies outperform family businesses and cooperatives in terms of ESG performance. Investigating the ESG level of small Italian agri-food enterprises and its relationship with profitability and cost of debt, Brunella *et al.* (2024) note that the ability of ESG disclosures to predict corporate profitability and access to credit is limited. Boiral *et al.* (2024) examine the key ESG challenges encountered by 135 agri-food firms, along with the strategies they have adopted to address these risks. Gołębiewski (2023) evaluates the legal regulations governing the use of ESG in the Polish food sector, as well as the role of ESG factors in enhancing the financial performance and value of agri-food sector enterprises.

Methodology

The Methodology section outlines the econometric framework of the analysis, detailing the research hypotheses, sample, variables, and methods employed.

Hypothesis Development

Based on a comprehensive second-level analysis of 60 review studies, evaluating around 2,200 studies on the relationship between ESG and CFP, Friede *et al.* (2015) conclude that many studies since the 1970s have found positive relationships between financial performance and ESG practices. Among the related and reviewed studies conducted in Africa, Sinueia *et al.* (2019) and Mans-Kemp and Van der Lugt (2020) discovered a positive CSP-CFP link. Additionally, among the examined research focused on the food industry, Mađra-Sawicka, and Paliszkiwicz (2020) document that CSR practices raise financial performance indicators among 448 food industry firms from 50 countries. Hung *et al.* (2019) present evidence linking the risk-mitigating effect of CSR initiatives with firm growth in Taiwan's food industry.

There has been a noticeable increase in interest in socially conscious investments around the world in recent years prompting companies to integrate corporate sustainability and ESG practices into their business operations both voluntarily and in response to mounting regulatory pressures. This transformative shift challenges the conventional profit-maximization paradigm, highlighting the growing significance of stakeholder considerations in shaping strategic financial decisions. Stakeholder Theory advocates that cultivating strong relationships with key stakeholders can enhance a company's reputation, mitigate risks, and contribute to improved financial performance. It also argues that companies carry broader social responsibilities beyond merely maximizing profits, endorsing practices that are sustainable and responsible while addressing CSR and ESG concerns. With this philosophy, Stakeholder Theory assumes that complying with ESG practices directly, rather than conditionally like other theories, improves corporate financial performance.

Following the majority of the related literature on the topic of connection between ESG activities (or CSR initiatives) and corporate financial performance metrics and adhering to the Stakeholder Theory with increased acceptance visibility, we mainly hypothesize that engaging in ESG activities improves the financial performance (H). The basic hypothesis is supported by H_a , which posits that companies disclosing ESG practices are more likely to have a higher Tobin Q ratio, indicating improved market value relative to their asset value. Additionally, H_b suggests that companies with ESG ratings are expected to have a higher Market Value to Book Value (MVBV) ratio, indicating potentially greater investor confidence and valuation. By testing the research hypothesis, the stakeholder theory is also inherently tested. The theory that forms the basis for the H hypothesis is the stakeholder theory.

H: Companies that take part in ESG activities tend to experience higher financial performance.

H_a : Companies that have ESG scores tend to have an enhanced Tobin Q ratio.

H_b : Companies having ESG scores tend to have a higher MVBV ratio.

Research Sample and Variables

The SADC is a regional economic community comprising 16 Member States and among them, 6 SADC countries (Botswana, Malawi, Mauritius, South Africa, Zambia, and Zimbabwe) have publicly held food producer companies. The UK Food Standards Agency defines the food industry as a broad variety of operations that include farming, food production, and distribution, as well as retail and catering (Food Standards Agency, 2012). With a particular emphasis on food manufacturing, in this study, we focus on food production and manufacturing, ignoring farming and food services such as retail and catering, to better understand the details and dynamics of this important sector. The significance of ESG reporting has increased since the United Nations adopted the Sustainable Development Goals in 2015 as a global call to action.

Based on data availability and suitability for analysis, we are limited to study 32 food producers listed in 6 SADC countries in the 2015-2022 period are specified as the analysis sample. 256-panel data observations ($32 \times 8 = 256$) of 32 companies during the 8-year period between 2015 and 2022 are analyzed with a panel data model. Among this sample, since the only country that includes firms with ESG scores (5 companies have ESG ratings) is South Africa, we repeat the panel model estimations on the sub-sample consisting of 14 listed food producers from South Africa.

The primary dependent variable used to proxy financial performance is the Tobin's Q ratio. A secondary and alternative dependent variable is the market-to-book value (MVBV), which divides market capitalization by total capital. The main explanatory variable examined in this research is ESG. Two firm-specific control variables and one country-specific control variable are included in the regression analysis. The leverage as the ratio of total debt to total assets (DEBT) and size, measured either in terms of assets (SIZE_A) or alternatively in terms of employee numbers (SIZE_E) are firm-specific control variables. The annual gross domestic product (GDP) of the analyzed economies is used for controlling country-level economic disparities. Annual data of all variables are accessed from the Refinitiv database. The analysis variables are presented in Table 1 and Table 2, respectively.

The main dependent variable, Tobin's Q Ratio: Tobin's Q ratio serves as a critical measure to evaluate a company's valuation by comparing the market's perception of its financial assets' worth against the actual cost of its physical assets. This ratio, representing the firm's market value relative to the replacement cost of its assets, is an invaluable metric for gauging company valuation and investment potential. When the ratio exceeds one, it suggests the market values the company more than the cost of replacing its assets, hinting at potential undervaluation. Owing to its straightforwardness and the depth of insight it offers into a firm's valuation, Tobin's Q is extensively utilized in investment analysis and finance, encompassing a range of calculation methods. (Ersoy *et al.*, 2011).

Tobin Q = (Total Assets – Total Capital + Market Capitalization) / Total Assets

Tobin's Q ratio emerges not just as a financial metric but as a broader tool for assessing a firm's general performance, including its commitment to corporate social responsibilities. By employing methodologies that simplify its calculation, like the one put forward by Chung and Pruitt (1994), alongside evaluating a firm's engagement in CSR activities as explored by Lin, Lee and Lee (2011), stakeholders gain a multifaceted view of a company's value that incorporates both financial performance and social impact. Tobin Q is extensively used in this study and generally in ESG-performance literature as a significant indicator of profitability potential and is preferred over accounting-based metrics of ROA and ROE because earnings management is less reflected in the Tobin Q ratio (Azmi *et al.*, 2021; Hasan *et al.*, 2022; Bennouri *et al.*, 2018). Buallay (2019), Azmi *et al.* (2021), Amin and Tauseef (2022) and Chininga *et al.* (2024) used Tobin Q as a measure of bank performance. Following the literature this study used the Tobin Q ratio as a primary dependent variable.

Main independent variable, ESG: The main independent variable is ESG which is a dummy variable that takes "1" when the company has an ESG score, or "0" in case of not having an ESG rating. The presence of an ESG score means that the related company has engaged in ESG activities and disclosed information about ESG-related operations.

Leading ESG metrics providers like LSEG, Thomson Reuters, MSCI, Sustainalytics, Bloomberg, and S&P Global offer diverse coverage, methodologies, and integration capabilities to assess companies' ESG practices. The transition of Refinitiv from Thomson Reuters to LSEG indicates the growing importance and complexity of assessing corporate sustainability. LSEG's extensive ESG coverage spans over 15,500 public and private companies globally, providing a comprehensive dataset that tracks ESG performance across ten key themes since 2002. This robust database offers both consolidated and contentious ESG scores, culminating in an overarching sustainability score crucial for stakeholders in making well-informed decisions (LSEG Data & Analytics, 2023).

The tripartite structure of ESG emphasizes distinct yet interconnected avenues through which corporate practices influence financial performance. The environmental pillar, heightened by concerns over climate change, plays a critical role in financial evaluation by addressing systemic risks and opportunities related to environmental stewardship. Similarly, the social pillar evaluates a company's connections with stakeholders like employees, suppliers, consumers, and communities, which is crucial in customer-oriented sectors where brand reputation and social credibility directly impact financial outcomes. Lastly, the governance pillar emphasizes leadership strength, transparency, executive compensation, and shareholder rights, which can either enhance or detract from financial performance depending on the integrity and effectiveness of corporate governance practices (Collin, 2009).

Table 1 which presents descriptive statistics summarizes the key statistics for understanding each variable within the dataset. A typical company in the sample consisting of 32 listed food producers from SADC countries have an average Tobin Q ratio of 0.92. The highest Tobin Q ratio (2.3) is held by RFG Holdings Ltd. in South Africa, while the lowest Tobin Q ratio (0.28) belongs to ZAMBEEF Products PLC in Zambia. RFG Holdings Ltd. holds the highest MVBV ratio among the sampled companies. All 5 food manufacturers with ESG scores (Astral Foods Ltd., RCL Foods Ltd., Oceana Group Ltd., Tiger Brands Ltd., Avi Ltd.) are South African companies. The sample asset size ranges from 4.79 (Illovo Sugar PLC. in Malawi) to 8.30 (AH-Vest Ltd. in South Africa). Listed food industry companies in the SADC region operate with an average of 7,595 (log value is 3.69) employees with a wide range of 381 (log value is 2.58) employees (Premier Fishing and Brands Ltd.) and 21,046 (log value is 4.32) employees (RCL Foods Ltd.). The mean debt ratio is 44.8%, ranging from 19.8% (Premier Fishing) to 80.7% (Mauritius Oil Refineries Ltd.). GDP of 256 observations ranges from 9.90 (Malawi in 2016) to 11.62 (South Africa in 2021).

Table 2 presents the correlation coefficients between the independent variables used in the analysis. There is no correlation between the independent variables that would cause multicollinearity problems.

Table 1. Descriptive statistics of the analysis variables

Variable	Variable Explanation	Obs.	Mean	St.Dv.	Min.	Max.
Tobin Q	(Assets-Capital+Market Cap.)/Assets	170	0,92	0,47	0,28	2,31
MVBV	Market Value to Book Value	169	0,89	0,73	0,00	3,09
ESG	Dummy_ESG	256	0,14	0,35	0,00	1,00
SIZE_A	Log_Assets	185	6,58	0,65	4,79	8,30
SIZE_E	Log_Employees Number	77	3,69	0,46	2,58	4,32
DEBT	Debt Ratio	184	44,77	13,74	19,75	80,70
GDP	Log_Gross Domestic Product	256	10,82	0,68	9,90	11,62

Note: Outliers in data are eliminated using the quartile method. Tobin Q ratio: (Total Assets – Total Capital + Market Capitalization) / Total Assets. MVBV ratio: Market Capitalization / Total Capital. Log: natural logarithm. Obs.: observation. St. Dv.: standard deviation. Min. Minimum. Max. Maximum.

Table 2. Correlation coefficient of the independent variables

	ESG	SIZE_A	SIZE_E	DEBT	GDP
ESG	1				
SIZE_A	0,39**	1			
SIZE_E	0,59**	0,36**	1		
DEBT	0,07	-0,08	0,34**	1	
GDP	0,46**	-0,05	0,31**	0,22**	1

Note: ESG: ESG considerations, coded as a dummy variable. SIZE_A: natural logarithm of total assets. SIZE_E: natural logarithm of number of employees. DEBT: ratio of debt relative to total assets. GDP: natural logarithm of GDP. **: significant at 5%.

Method, Empirical Results and Discussions

The model construction process begins with the settings of panel model equations for the SADC sample. To estimate the cross-country effect of ESG on two dependent variables, the first two equations (equation 1 and equation 2) are set as the basic models. Equation 1 with Tobin Q dependent variable and equation 2 with MVBV dependent are main panel model equations. A change in asset size variable (employee number rather than asset size) adds two alternative models (as presented in equations 3. and 4) to the base models and the first 4-panel model equations (equation 1 to equation 4) are set for the SADC sample.

However, the analysis is aimed to investigate the cross-country effect of ESG activities on financial performance, the analyzed geographical region includes only one country (South Africa) that provides data for the main independent variable, ESG disclosure. As a robustness check, 4 more models (equations 5. to 8) with the same variables except for the country-specific control variable, GDP, are repeated for the South Africa (SA) sub-sample and are shown with equations from 5. equation to 8. equation.

$$\text{Tobin } Q_{it} = \alpha + \beta_1 \text{ESG}_{it} + \beta_2 \text{DEBT}_{it} + \beta_3 \text{SIZE_A}_{it} + \beta_4 \text{GDP}_{it} + \varepsilon_{it} \quad (1. \text{ equation})$$

$$\text{MVBV}_{it} = \alpha + \beta_1 \text{ESG}_{it} + \beta_2 \text{DEBT}_{it} + \beta_3 \text{SIZE_A}_{it} + \beta_4 \text{GDP}_{it} + \varepsilon_{it} \quad (2. \text{ equation})$$

$$\text{Tobin } Q_{it} = \alpha + \beta_1 \text{ESG}_{it} + \beta_2 \text{DEBT}_{it} + \beta_3 \text{SIZE_E}_{it} + \beta_4 \text{GDP}_{it} + \varepsilon_{it} \quad (3. \text{ equation})$$

$$\text{MVBV}_{it} = \alpha + \beta_1 \text{ESG}_{it} + \beta_2 \text{DEBT}_{it} + \beta_3 \text{SIZE_E}_{it} + \beta_4 \text{GDP}_{it} + \varepsilon_{it} \quad (4. \text{ equation})$$

$$\text{Tobin } Q_{it_SA} = \alpha + \beta_1 \text{ESG}_{it} + \beta_2 \text{DEBT}_{it} + \beta_3 \text{SIZE_A}_{it} + \varepsilon_{it} \quad (5. \text{ equation})$$

$$\text{MVBV}_{it_SA} = \alpha + \beta_1 \text{ESG}_{it} + \beta_2 \text{DEBT}_{it} + \beta_3 \text{SIZE_A}_{it} + \varepsilon_{it} \quad (6. \text{ equation})$$

$$\text{Tobin } Q_{it_SA} = \alpha + \beta_1 \text{ESG}_{it} + \beta_2 \text{DEBT}_{it} + \beta_3 \text{SIZE_E}_{it} + \varepsilon_{it} \quad (7. \text{ equation})$$

$$\text{MVBV}_{it_SA} = \alpha + \beta_1 \text{ESG}_{it} + \beta_2 \text{DEBT}_{it} + \beta_3 \text{SIZE_E}_{it} + \varepsilon_{it} \quad (8. \text{ equation})$$

ESG, which is the main independent variable in all equations, is a dummy variable that takes the value of "1" if the company i has an ESG score in period t, and "0" if it does not have an ESG score. Control variables are DEBT, SIZE, and GDP and, α : constant term, β : slope parameter, ε : error term, i: company, t: year.

The statistics of panel data estimations are presented in the following four separate tables from Table 3 to Table 6. Observation numbers vary among estimations because of the different available data numbers of each variable. Outliers in data are eliminated by the quartile method.

In all regression specifications of Table 3, ESG shows a significant positive effect on Tobin Q and MVBV. The coefficients for SIZE_A, DEBT, and GDP are not statistically significant for both Tobin Q and MVBV. The difference between the regressions in Table 4 and from ones in Table 3 is to use SIZE_E control variable instead of SIZE_A. According to the parameters of Table 4, ESG remains significantly positively associated with Tobin Q and MVBV. But SIZE_E enters the estimations with negative and significant coefficients for Tobin Q and MVBV.

Table 5 and Table 6 presents the statistics of panel estimations repeated for the South African sample. In the South African sample, ESG continues to maintain its positive effect on the dependent variables in all regressions. SIZE_A, DEBT, and GDP control variables are not statistically significant in all estimation models, however, in Table 6, SIZE_E has a negative effect on the dependent variables at the 1% and 10% significance levels.

The analysis reveals that companies with higher ESG scores demonstrate positive associations with financial performance indicators, including higher Tobin's Q and MVBV ratios, across both the SADC and South Africa samples. A high number of employees, one of the control variables, has a decreasing effect on Tobin Q and MVBV in most, but not all, of the regressions it is included in.

Table 3. SADC, statistics of panel model, with SIZE_A variable

	1 (RE)		1 (FE)		2 (RE)		2 (FE)	
Dependent Var.	Tobin Q		Tobin Q		MVBV		MVBV	
Independent Var.	coef.	z-stat.	coef.	t-stat.	coef.	z-stat.	coef.	t-stat.
ESG	0,41***	3,35	0,28***	2,91	0,60***	3,63	0,36***	3,07
SIZE_A	-0,07	-0,35	-0,59	-1,3	-0,13	-0,46	-0,91	-1,20
DEBT	0,00	0,01	-0,00	-0,03	0,00	-0,06	-0,00	-0,25
GDP	-0,02	-0,22	0,23	0,5	-0,08	-0,39	-0,22	-0,25
Observation	169		169		168		168	
F / X ²	11,98**		3,63**		13,62***		5,89***	
Score	1797***		1797***		1839***		1839***	
Hausman	10,2**		10,2**		11,48**		11,48**	

Note: Table 3 represent the statistics of panel data estimations with random effects (RE) and fixed effects (FE) with the SADC sample. Tobin Q is the primary dependent variable and MVBV is the second dependent variable. ESG: basic independent variable and a dummy variable that takes "1" if the company i has an ESG score in period t. SIZE_A: logarithm of total assets. DEBT: (total liabilities/total assets) *100. GDP: logarithm of GDP. RE: random effects. FE: fixed effects. Var.: variable. coef.: coefficient. Stat.: statistics. Ho hypothesis of Score Test: no random unit effect. Ho hypothesis of the Hausman Test: the difference between parameters is not systematic. ***: 1% significance level. **: 5% significance level. *: 10% significance level.

Table 4. SADC, statistics of panel model, with SIZE_E variable

	3 (RE)		3 (FE)		4 (RE)		4 (FE)	
Dependent Var.	Tobin Q		Tobin Q		MVBV		MVBV	
Independent Var.	coef.	z-stat.	coef.	t-stat.	coef.	z-stat.	coef.	t-stat.
ESG	0,63***	4,35	0,52***	13,35	0,86**	3,62	0,67***	10,33
SIZE_E	-0,62*	-1,88	-0,34**	-2,45	-0,67	-1,32	-1,88*	-2,12
DEBT	0,00	1,07	0,01	1,01	0,01	1,38	0,01	1,09
GDP	-0,12	-0,46	0,13	0,21	-0,33	-0,82	-0,15	-0,15
Observation	65		65		64		64	
F / X ²	26,29***		-		22,28***		-	
Score	6625***		6625***		3177***		3177***	
Hausman	15		15		11,76		11,7611	

Note: Table 4 presents parameters of panel regressions including the SIZE_E control variable instead of SIZE_A, with random effects (RE) and fixed effects (FE) in the SADC sample. SIZE_E: logarithm of the number of employees***: 1% significance level. **: 5% significance level. *: 10% significance level.

Table 5. South Africa, statistics of panel model, with SIZE_A variable

	5 (RE)		5 (FE)		6 (RE)		6 (FE)	
Dependent Var.	Tobin Q ^{SA}		Tobin Q ^{SA}		MVBV ^{SA}		MVBV ^{SA}	
Independent Var.	coef.	z-stat.	coef.	t-stat.	coef.	z-stat.	coef.	t-stat.
ESG	0,42***	3,42	0,28**	2,73	0,63***	3,48	0,39**	3,01
SIZE_A	-0,05	-0,38	-0,46	-0,38	-0,09	-0,41	-0,75	-0,89
DEBT	-0,00	-0,14	-0,00	-0,20	-0,00	-0,23	-0,00	-0,24
Observation	95		95		95		95	
F / X ²	12,05***		4,43***		12,21***		6,72	
Score	390***		390***		342***		342***	
Hausman	3,88		3,88		4,30		4,30	

Note: Table 5 includes the statistics of panel data estimations with random effects (RE) and fixed effects (FE) with the South African sample. ***: 1% significance level. **: 5% significance level. *: 10% significance level.

Table 6. South Africa, statistics of panel model, with SIZE_E variable

	7 (RE)		7 (FE)		8 (RE)		8 (FE)	
Dependent Var.	Tobin Q ^{SA}		Tobin Q ^{SA}		MVBV ^{SA}		MVBV ^{SA}	
Independent Var.	coef.	z-stat.	coef.	t-stat.	coef.	z-stat.	coef.	t-stat.
ESG	0,59***	3,62	0,52***	7,47	0,85***	2,94	0,71***	8,27
SIZE_E	-0,33	-1,02	-0,05	-1,47	-0,48	-1,03	-1,72**	-1,81
DEBT	0,00	0,15	0,01	0,65	0,00	0,19	0,02	1,10
Observation	38		38		38		38	
F / X ²	34,34***		-		20,6***		-	
Score	342***		342***		250***		250***	
Hausman	6,27		6,27		7,75*		7,75*	

The key findings and significance of the coefficients and additional statistics are provided in Table 3, Table 4, Table 5, and Table 6, suggesting that having an ESG score is associated with higher corporate financial performance, as indicated by Tobin Q and MVBV. The underlying hypothesis (H) of this study posits that companies actively involved in ESG initiatives are expected to witness enhancements in their financial performance. In accordance with Stakeholder Theory, adherence to ESG standards is deemed conducive to corporate financial outcomes. As seen, analysis results support the research hypothesis and are consistent with the principles of Stakeholder Theory.

Overall, the findings from the regression analyses provide evidence supporting both the research hypothesis and Stakeholder Theory. The analysis results indicate that companies embracing social, environmental, and governance initiatives, alongside transparent disclosure of their responsible practices, tend to exhibit superior financial performance. These results are consistent with the broader literature on ESG-CFP relationships.

As noted by Friede *et al.* (2015), a comprehensive review of ESG studies indicates a general positive relationship between ESG practices and CFP. Our findings extend this understanding by providing evidence specific to the SADC region, a context that has been underexplored in the existing body of research. The results align with several studies (Orlitzky, 2005; Moneva *et al.*, 2007; Balatbat *et al.*, 2012; De Klerk *et al.*, 2015; Reverte, 2016; Charlo *et al.*, 2017; Mohammad & Wasiuzzaman, 2021; Engelhardt *et al.*, 2021; Abukari *et al.*, 2023) conducted across both developed and developing economies, supporting the notion that responsible corporate practices, particularly those related to ESG, are beneficial for financial stability.

Notably, studies on South African firms, such as those by Mans-Kemp & Van der Lugt (2020), Chininga *et al.* (2024), and Mouton *et al.* (2024), show similar findings regarding ESG-CFP relationships. This is particularly relevant because South Africa, as the only country in the SADC region with a significant number of companies providing ESG data, offers valuable insight into the regional dynamics. In fact, Chininga *et al.* (2024) utilized the Tobin Q ratio, a performance measure employed in our study, which further supports the validity of our results. Additionally, the study by Siueia *et al.* (2019), which identified a positive ESG-CFP relationship in the banking sectors of South Africa and Mozambique, reinforces the significance of these findings within the broader SADC context.

In the food sector, studies like those of Hung *et al.* (2019) and Mądra-Sawicka & Paliszkievicz (2020), which emphasize the positive impact of CSR practices on various financial performance indicators, align closely with the results observed in our study. Mądra-Sawicka & Paliszkievicz (2020) is especially relevant as it also includes South Africa as part of their sample, providing a strong comparison point in terms of both sector and geographical region.

When considering the specific characteristics of the SADC region, several unique factors come into play that distinguish it from other regions. The SADC region, heavily dependent on agriculture and food production, faces particular challenges, including economic vulnerability, poverty, and food insecurity. These challenges make the role of ESG practices even more critical. Unlike developed and emerging markets, the drivers of ESG practices in the SADC region are more likely to be related to long-term sustainability goals, including food security, climate resilience, and social stability. These region-specific drivers help explain the strong alignment between ESG practices and financial performance observed in this study. By embracing ESG principles, food-producing companies in the region can not only improve their financial performance but also contribute to the broader economic and social stability of the region.

Furthermore, the regional context of the SADC, marked by 15 underdeveloped and an emerging adds complexity to the ESG-CFP relationship. Companies operating in this region may face barriers to implementing ESG practices, such as limited access to capital, weak regulatory frameworks, and inconsistent ESG reporting standards. However, this study indicates that, despite these challenges, ESG-engaged companies in the food sector are still able to achieve superior financial performance. This suggests that even in resource-constrained settings, the adoption of ESG practices can be a key driver of financial success, particularly in sectors critical to regional development, such as agriculture and food production.

Conclusion

Transparency and reporting practices around ESG initiatives and their influence on financial outcomes have been a focal point in recent research. Existing literature reveals that companies effectively integrating ESG principles into their operations not only foster sustainable growth and competitiveness but also can enhance their corporate financial performance (Clarkson, 1995; Barnea & Rubin, 2010; Branco & Rodrigues, 2006; Fatemi *et al.*, 2018; Gatune & Cloete, 2022). However, the ESG-CFP relationship can vary across different corporate, sectoral, economic, and regional contexts (Barnea & Rubin, 2010).

Studies on ESG and CFP relationships across Africa are mainly available for South Africa, but the other African countries and the Southern African Development Community region have inadequate literature availability on this topic. Additionally, the food industry is known as one of the most vulnerable sectors in the SADC region. With this study, we aimed to contribute to the existing academic literature by examining the relationship between ESG practices and corporate financial performance within the food industry of the SADC region, thereby enhancing the understanding of ESG's role in financial stability.

This research examines the impacts of corporate sustainability practices on the financial performance of the food producer companies listed in SADC countries. The analysis employs panel data models applied to an 8-year panel dataset spanning from 2015 to 2022, comprising 32 publicly held food producer companies in the SADC region. Within this sample, as South Africa is the only country where firms with ESG scores are included, panel model estimation is repeated on a sub-sample consisting of 14 listed food producers from South Africa. In the regressions, financial performance was primarily proxied by the Tobin Q ratio, with the market-to-book value ratio used alternatively. Control variables such as company size and leverage were implemented, and GDP was utilized to control economic disparities within the sample. According to the analysis findings, companies engaging in ESG practices tend to have stronger Tobin Q and market-to-book value.

The findings of this study reveal that food producer companies in the SADC region that engage in ESG practices demonstrate stronger financial performance. These ESG efforts have the potential to contribute to the long-term sustainability and prosperity of the SADC region, given its heavy reliance on agriculture and food production, as well as its vulnerability to food insecurity. Considering the high and expected rise in poverty levels in Sub-Saharan Africa (World Bank, 2024), the significance of ESG activities in SADC food producers becomes even more pronounced, as they directly influence financial performance.

The results underscore the importance of integrating ESG factors into business strategies to enhance financial performance, in vulnerable industries and regions like Southern Africa. We can generalize these results to suggest that advancing corporate sustainability initiatives or ensuring compliance with ESG criteria has the potential to strengthen financial performance. These results align with Stakeholder Theory, which advocates a connection between ESG compliance and financial soundness. As a result, this research suggests that companies must continue fulfilling their responsibilities to all stakeholders and ultimately society, in order to sustain financial success in the future.

In conclusion, the findings from this study not only contribute to the academic literature on ESG and CFP but also offer practical implications for businesses and policymakers in the SADC region. By demonstrating that ESG engagement leads to improved financial performance, this research highlights the potential for sustainable corporate practices to foster both financial and social outcomes in vulnerable regions. The results reinforce the importance of integrating ESG factors into business strategies, particularly in sectors like food production that are central to the region's economic and social stability. For policymakers, the study suggests that creating incentives for ESG compliance could play a significant role in promoting long-term regional development.

To be able to fully realize the benefits of ESG practices, policymakers in the region are expected to take proactive steps to encourage companies to adopt responsible business practices that integrate ESG factors. Firstly, given the low number of companies (and countries) in the SADC region with established ESG scores, it is crucial for regional policymakers to introduce tax incentives or subsidies for companies that voluntarily disclose their ESG practices. Secondly, regional or national regulatory bodies could provide funding incentives or technical support to companies implementing or improving their ESG practices. Furthermore, considering the high levels of food insecurity in the SADC region, governments should integrate ESG considerations into national food security strategies to ensure that food production is not only efficient but also sustainable in the long term. These strategies could promote practices that reduce food waste and enhance the sustainability of food systems across the region. Since the SADC region plays a critical role in fostering regional collaboration on ESG practices, the actions taken by policymakers in this region could contribute to improving ESG practices across Africa, ultimately supporting more sustainable economic growth.

Limitation and Future Studies

This study focuses on a relatively less explored region, which presents a limitation in terms of data availability. Firstly, the number of publicly traded companies among SADC members is low. Additionally, the number of companies with ESG scores among these publicly traded firms is also quite low. This situation has reduced the amount of observations for analysis. Furthermore, the concentration of analysis variables within a single country in the region has led the study to be examined at the country level rather than at the regional level, reducing sample representativeness. This limitation has been attempted to be addressed through additional estimations specifically for South Africa, where the ESG variable is present in the analysis. Other factors that reduce the ability to generalize the analysis results include focusing on a single region and sector, not analyzing ESG factors separately, and relying on a single CSP measure as ESG ratings.

The results are expected to lay a foundation for future research, encouraging continued investigation into the long-term effects of ESG initiatives within SADC countries. The small dataset, which was presented as a limitation, lays the groundwork for a more detailed examination at the firm level. Food-producing companies in the SADC region may be subject to more detailed company-level evaluation and in this detailed examination, the sustainability reports of the firms can be reviewed as well as ESG scores. The exploration of geographical and sector-specific nuances in ESG practices highlights the importance of considering local market conditions, cultural norms, regulatory environments, and industry-specific challenges when evaluating the efficacy of ESG initiatives. Additionally, further research could benefit from exploring the ESG components separately to facilitate a more thorough discussion of CSR and its connection with financial performance.

Contribution Rates and Conflicts of Interest

Etik Beyan	Bu çalışmanın hazırlanma sürecinde bilimsel ve etik ilkelere uyulduğu ve yararlanılan tüm çalışmaların kaynakçada belirtildiği beyan olunur.	Ethical Statement	It is declared that scientific and ethical principles have been followed while carrying out and writing this study and that all the sources used have been properly cited
Yazar Katkıları	Çalışmanın Tasarlanması: AŞ (%80) WKM (%20) Veri Toplanması: AŞ (%30) WKM (%70) Veri Analizi: AŞ (%30) WKM (%70) Makalenin Yazımı: AŞ (%80) WKM (%20) Makale Gönderimi ve Revizyonu: AŞ (%80) WKM (%20)	Author Contributions	Research Design: AŞ (%80) WKM (%20) Data Collection: AŞ (%30) WKM (%70) Data Analysis: AŞ (%30) WKM (%70) Writing the Article: AŞ (%80) WKM (%20) Article Submission and Revision: AŞ (%80) WKM (%20)
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Çıkar Çatışması	Çıkar çatışması beyan edilmemiştir.	Conflicts of Interest	The author(s) has no conflict of interest to declare.
Finansman	Bu araştırmayı desteklemek için dış fon kullanılmamıştır.	Grant Support	The author(s) acknowledge that they received no external funding in support of this research.
Telif Hakkı & Lisans	Yazarlar dergide yayınlanan çalışmalarının telif hakkına sahiptirler ve çalışmaları CC BY-NC 4.0 lisansı altında yayımlanmaktadır.	Copyright & License	Authors publishing with the journal retain the copyright to their work licensed under the CC BY-NC 4.0
Etik Kurul	Etik kurul iznine ihtiyaç bulunmamaktadır.	Ethics Committee	Ethics committee approval is not required.

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