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FINANCIAL TOOLS FOR SUSTAINABLE ENTREPRENEURSHIP: EXPLORING THE IMPACT OF CARBON CREDITS ON FINANCIAL OUTCOMES

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Abstract

Climate change poses an escalating threat to the planet and demands urgent and coordinated action from all sectors and stakeholders in society (Alsaifi et al., 2020). Unchecked greenhouse gas emissions from human activities drive significant changes in the Earth's climate with far-reaching implications for ecosystems, economies, and human well-being (Adu et al., 2023; Tansan et al., 2023). It is already known that addressing the multifaceted challenge of climate change requires a united effort from governments, businesses, civil society, and individuals (Gong et al., 2022). However, with its influence, resources, and expertise, the financial community plays a crucial and empowering role in guiding the transition to a low-carbon, climate-resilient economy (Bolton et al., 2022). Climate and carbon finance are essential areas in the financial sector relevant to addressing climate change, providing mechanisms for mobilizing capital, managing risk, and making investment decisions to support climate mitigation and adaptation efforts (Li, 2024).

Recent studies emphasize that numerous organizations worldwide have integrated climate change strategies into their decision-making processes in response to regulatory requirements and stakeholder claims (Issa & Hanaysha, 2023). Furthermore, other empirical research indicates that embracing environmentally friendly practices can yield economic advantages, including heightened energy efficiency, lowered operational expenses, enhanced waste management, favorable public relations outcomes, and expanded investment opportunities (Kim et al., 2023).

In the current complex environmental landscape, there is a growing emphasis on financial

mechanisms designed to address climate change and support corporations in complying with climate regulations. This study focuses on carbon credits, instruments created to accelerate companies in mitigating their emissions and attaining carbon neutrality (Betz et al., 2022). These tools allow high-emission companies to meet their reduction obligations by financing emission-reducing initiatives, even when these projects are not directly aligned with the company's core operations (Bleuel & Müller, 2024). Additionally, this study provides an in-depth examination of the role of carbon credits within the framework of climate change management, with a particular emphasis on their influence on corporate financial performance.

This research aims to improve our understanding of the relationship between carbon reduction initiatives and financial performance. By analyzing existing literature comprehensively and identifying potential moderating factors, the study aims to offer novel insights into this relationship through an innovative perspective. It explores the role of carbon credits as instruments within climate and carbon finance used to facilitate emission reductions and achieve carbon neutrality. Additionally, the study evaluates the potential moderating effects of Corporate Social Responsibility (CSR) strategy and the quality of Corporate Governance on this relationship.

To study this relationship, we employed the resource-based view and legitimacy theories as part of our theoretical frameworks. Sustainability strategies are conceptualized as unique resources and capabilities that allow firms to achieve a competitive advantage and establish legitimacy by aligning with stakeholder expectations and social norms. This perspective is grounded in the resource-based view theory, which underscores sustainability strategies' distinctive role as valuable assets for firms (Barney, 1991). Alongside, legitimacy theory highlights the need to observe stakeholder expectations and social norms to maintain operational legitimacy (Dowling & Pfeffer, 1975).

To fill this gap and test our hypothesis, we examined a global sample of companies that employed carbon credits over five years (2019-2023) to reduce carbon emissions and/or attain carbon neutrality. We conducted a longitudinal analysis employing a Pooled Ordinary Least Squares model (Issa, 2024) to assess the effect of carbon credits on financial outcomes. This model allowed us to control for various factors that could influence financial performance, such as industry type, company size, and economic conditions, thereby providing a robust analysis of the relationship between carbon reduction initiatives and financial performance.

Our primary results reveal a positive correlation between a company's use of carbon credits to reduce its footprint and its financial performance. This finding is not just a validation of the effectiveness of carbon reduction initiatives, but also a beacon of hope for a sustainable future. Additionally, the results from the moderating analysis suggest that integrating a Corporate Social Responsibility (CSR) strategy, combined with high-quality corporate governance, may enhance the impact of carbon credits on financial performance, achieving carbon neutrality. These results underscore several contributions, notably highlighting the favorable association between carbon emission reductions achieved through carbon credits and improved financial performance.

These findings offer significant insights for researchers, practitioners, and policymakers striving to advance sustainable practices and emphasize the link between sustainability

initiatives and financial outcomes, thereby guiding entrepreneurs more effectively and efficiently towards a sustainable transition. For policymakers, these results underscore the potential benefits of incentivizing the use of carbon credits and promoting high-quality corporate governance, as these measures can enhance the financial performance of companies while contributing to climate change mitigation. The results elucidate the intricate relationship between sustainability practices and financial performance, providing theoretical perspectives on carbon emission reduction through specific tools and their financial impacts on firms. From a resource-based view theory perspective, carbon credits are perceived as a strategic asset that can lead to a competitive advantage, improving financial performance. Additionally, through the lens of legitimacy theory, adopting carbon credits can enhance a company's credibility with stakeholders, fostering customer loyalty and mitigating risk perceptions, ultimately contributing to better financial performance through cost savings. Consequently, managers and entrepreneurs must recognize the value of implementing effective sustainability strategies and high-quality corporate governance, as these can amplify the beneficial effects of carbon credits on financial performance. Finally, from the investors' perspective, corporate efforts to address climate change and its positive financial impacts introduce new variables to evaluate investment opportunities.

In summary, this research underscores the potential of carbon reduction initiatives to improve financial performance without causing significant disruptions. It offers substantial evidence supporting sustainability-focused entrepreneurs' use of these initiatives, delivering theoretical insights and practical benefits. Integrating climate finance strategies with sustainable finance is essential for reducing carbon emissions, building resilient climate infrastructure, and promoting environmental sustainability. This symbiotic relationship encourages entrepreneurs to redouble their efforts to combat climate change. Furthermore, these initiatives contribute to both the micro level by enhancing corporate financial performance and the macro level by advancing the Sustainable Development Goals (SDGs) for 2030, particularly those related to climate action and sustainable cities and communities (Tang & Zhang, 2020). The emergence of new financial instruments designed to address climate change highlights the intrinsic link between finance and sustainability and emphasizes the increasing importance of climate and carbon finance (Dimic et al., 2023).

Keywords: Climate change; Carbon credits; Financial performance; CSR strategy; Corporate governance

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