

Abstract

Utilizing comprehensive firm-level data from 2005 to 2021 across various African nations, our study investigates the effect of a firm's greenhouse gas (GHG) emissions on its corporate financial performance (CFP). The research yields the following findings. First, we find that GHG emission intensity exerts a significantly negative impact on CFP measured by return on assets (ROA) and return on equity (ROE). This effect is consistently substantiated across different measurements of GHG emission intensity and CFP. Second, our analysis includes a series of stringent robustness assessments, all of which affirm the stability and resilience of our primary findings. Third, following the Paris Agreement, a decrease in GHG emission intensity correlates with a further rise in ROA and ROE. Additionally, we emphasize the pivotal role of industry-specific characteristics and regional variables in shaping the connection between GHG emission intensity and CFP. Our findings underscore that the influence of GHG intensity on a firm's financial performance is particularly pronounced within high-emission sectors in contrast to their low-emission counterparts. Furthermore, we show that the impacts of GHG emission intensity on CFP are primarily driven by firms operating in Southern Africa. Fourth, to recognize potential endogeneity concerns within the GHG emission-CFP relationship, we employ a two-stage least-squares regression (2SLS) approach. This method utilizes industry-level GHG emission intensity as the principal instrumental variable (IV), and in order to further mitigate endogeneity issues, we incorporate both lagged GHG intensity and the instrument proposed by Lewbel (2012) based on heteroskedasticity as additional IVs alongside the kinky least squares method by Kiviet (2020). The results derived from our 2SLS estimates consistently corroborate the negative effect of GHG emission intensity on CFP. Finally, our empirical findings carry significant implications for both corporations and policymakers.

Keywords: GHG emissions Emission intensity Financial performance Africa Environmental performance Paris agreement

JEL Classification Codes: M14 Q51 Q53