Regional Differentiation and Dynamic Transmission Mechanism of Green Credit Policy from the Perspective of Technological Absorption Capacity

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Abstract

From the perspective of technological absorption capacity, this paper takes A-share listed heavily polluting enterprises from 2007 to 2023 as the research sample, and employs the Difference-in-Differences (DID) model and the three-stage Baron-Kenny mediation effect test to explore the regional heterogeneous mechanism through which green credit policies affect corporate performance via fixed asset investment, while identifying the dynamic transmission paths of policy impacts. The results show that the inhibitory effect of green credit policies on the performance of heavily polluting enterprises exhibits significant regional differentiation: the negative impact of the policy in the eastern region is significantly weaker than that in the central and western regions, and the regional disparity in technological absorption capacity is the core root cause of this differentiation. Mechanism tests reveal that enterprises in the eastern region, relying on their strong technological absorption capacity, transform environmental investment into green development momentum, presenting a dynamic evolution characteristic of short-term cost frontloading and long-term efficiency recovery. Corporate performance begins to rebound in the third year after policy implementation; the negative effect gradually fades after 2018 and returns to the pre-policy level by 2020, which verifies the dynamic efficiency logic of the Porter Hypothesis. In contrast, due to insufficient technological absorption capacity, 72% of the fixed asset investment of enterprises in the central and western regions flows into traditional capacity expansion, forming a vicious cycle of ineffective investment and cost drag, resulting in a persistent inhibitory effect of the policy on corporate performance. This study reveals the internal logic behind the regional differentiation of green credit policies, provides quantitative evidence of "short-term cost tolerance and long-term efficiency incentives" for the formulation of differentiated environmental finance policies, and offers empirical references for promoting the cross-regional green transformation and synergistic performance improvement of heavily polluting enterprises.

Keywords

Technological Absorption Capacity, Green Credit Policy, Regional Differentiation, Corporate Performance