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GREEN INNOVATION SPILLOVER VS. COMPETITION IN CHINESE URBAN AGGLOMERATIONS: A COMPARATIVE STUDY OF GREEN TOTAL FACTOR PRODUCTIVITY BEFORE AND AFTER THE 2015 ENVIRONMENTAL PROTECTION LAW REVISION

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Abstract

This research delves into the transformative impact of the 2015 amendment to China’s Environmental Protection Law on green innovation spillovers among urban clusters, offering fresh insights into how regulatory frameworks shape regional innovation dynamics. By analyzing panel data from 272 cities spanning 2009–2020 and employing advanced spatial econometric models (SAR, SEM, SDM), the study uncovers a significant shift in the drivers of green innovation spillovers. The findings reveal a transition from reliance on competitive resources such as capital and labor to non-competitive resources, including shared knowledge and collaborative networks. This shift highlights the revised law’s role in reshaping innovation ecosystems by promoting the aggregation of green innovation resources within urban centers while facilitating their wider dissemination across regions. The research emphasizes the dual effect of the law: fostering localized innovation hubs and enabling broader knowledge diffusion, thereby accelerating sustainable urban development. These results provide a strategic framework for policymakers to harness regulatory tools in fostering resilient and equitable green innovation systems, contributing to the global agenda of sustainable growth and environmental stewardship.

Key words: green innovation, green total factor productivity, spatial econometrics, spillover

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