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DIGITALIZATION EMPOWERMENT FOR GREEN ECONOMIC GROWTH: THE IMPACT OF GREEN COMPLEXITY

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Abstract

Digitalization is becoming a new driving force for green economic growth (GEG) to promote China's realization of the "dual carbon" goal and the green transformation of economic development. Using a Chinese provincial panel dataset from 2003 to 2019, we empirically test the effect and mechanism of digital empowerment for GEG from the perspective of supply and demand, paying special attention to the impact of green complexity on the relationship between the two. Benchmark regression shows that digitalization is positively empowering GEG and that green technological progress is the main driving force for digitalization to promote dynamic GEG. The mechanism test results show, from the perspective of supply and demand, that digitalization promotes GEG by improving carbon productivity and environmental protection consciousness. Furthermore, green complexity significantly moderates the promoting effect of digitalization on GEG. The heterogeneity results indicate that digitalization in the eastern and western regions has a significant promoting effect on GEG but that digitalization inhibits GEG in the central region; there is obvious regional heterogeneity. Our robustness test supports the above conclusion. This research deepens our understanding of how digitalization can promote GEG and the important role of green complexity in green growth, and the results provides a theoretical basis and practical guidance for governments to formulate green growth plans.

Key words: digitalization, green complexity, green economic growth, green technology progress

Received: November, 2023; *Revised final:* December, 2023; *Accepted:* January, 2024; *Published in final edited form:* March, 2024

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