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INTENSITY OF ECO-ENVIRONMENTAL CONSTRAINTS AND GREEN INNOVATION EFFICIENCY - BASED ON SPATIAL ECONOMIC ANALYSIS

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Abstract

In this study, a spatial econometric model was constructed by combining the intensity of eco-environmental constraints, the efficiency of green innovation and a series of high-quality economic development indicators. The impact of environmental constraint intensity on green innovation efficiency was empirically analysed on Chinese provincial panel data, and the impact was decomposed into direct and indirect (spillover). The results showed that (1) from 2011 to 2020, the overall performance of China's green innovation efficiency was relatively fine, and the efficiency value has been greatly improved in the later stage, especially in 2020. (2) The strengthening of eco-environmental constraints was not conducive to the improvement of regional green innovation efficiency, but the scale and agglomeration effect of industrial enterprises and the increase in foreign trade activities were conducive to efficiency improvement. (3) The direct effect of eco-environmental constraints and firm size on green innovation efficiency in this region was positive, while the indirect effect and total effect were negative. The direct effect of investment openness and industrial agglomeration degree was negative, while the indirect effect and total effect were positive. All effects of industrial structure were 0. Therefore, the government needs to set up reasonable methods of environmental regulation, complete and optimize the industrial chain, and formulate reasonable regional development plans.

Key words: ecological and environment constraint; green innovation efficiency; high-quality development; spatial economics

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