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ENVIRONMENTAL REGULATION, R&D INVESTMENT AND INDUSTRIAL TRANSFORMATION AND UPGRADING

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Abstract

Environmental regulation and increasing R&D investment are important paths to promote industrial transformation and upgrading, but the implementation of environmental regulation measures makes the relationship between R&D investment and industrial transformation and upgrading more complex. Taking the data of industrial enterprises above designated size in 30 provinces and cities in Chinese Mainland except Xizang from 2011 to 2021 as the sample, this study empirically analyzes the threshold effect of environmental regulations and R&D investment on industrial transformation and upgrading using a panel threshold model. The results indicate that the role of environmental regulations in industrial transformation and upgrading is an evolutionary process from inhibition to promotion, with a single threshold value. Using environmental regulations as a threshold variable, the impact of R&D investment on industrial transformation and upgrading shows a U-shaped trend, with a significant dual threshold effect. The study incorporates environmental regulations, R&D investment, and industrial transformation and upgrading into the same research framework. The research findings are of great significance for using policy tools such as environmental regulations to guide the decision-making of R&D investment by enterprises and other economic entities, improve the level of technological innovation, and promote industrial transformation and upgrading.

Key words: environmental regulation, industrial transformation and upgrading, R&D investment, threshold effect

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