



“Gheorghe Asachi” Technical University of Iasi, Romania



THE IMPACT OF GREEN CREDIT AND GREEN INSURANCE ON REGIONAL GREEN TECHNOLOGY INNOVATION - EVIDENCE FROM INTERPROVINCIAL PANEL DATA IN CHINA

**Zheng Yu Ren^{1*}, Yujie Chen², Cody Yu-Ling Hsiao³, Chonghan Liao⁴,
Junlong Ti⁵, Rong Zang⁵, Yirong Sun⁵**

¹The Institute for Sustainable Development, Macau University of Science and Technology, Taipa, Macau

²Faculty of Hospitality and Tourism Management, Macao University of Science and Technology, Macau

³Centre for Gaming and Tourism Studies, Macau Polytechnic University, Rua de Luís Gonzaga Gomes, Macau

⁴Dam Smith Business School, University of Glasgow, Glasgow, United Kingdom

⁵The school of Business, Macau University of Science and Technology, Taipa, Macau

Abstract

In the process of China's economic transformation from rough expansion to high-quality development, the pressure of environmental governance and the transformation of economic growth mode form a double constraint. By constructing an analytical framework for the synergistic development of environmental finance and technological innovation, this study, based on a dynamic panel model (GMM and mediation effect model) and provincial panel data from 2005-2023, finds that green financial instruments are of great value in promoting regional green technological innovation, with the direct role of green insurance being particularly prominent, and that green credit further strengthens this role through the mediation effect. This suggests that financial instruments play an important role in supporting green technological innovation, but green technological innovation is not entirely dependent on green credit. Finally, the study proposes policy recommendations to optimize green financial products and promote green technological innovation in order to support the achievement of green development goals.

Key words: green credit, green insurance, regional green technology innovation, mediation effect

Received: April, 2024; *Revised final:* March, 2025; *Accepted:* April, 2025

* Author to whom all correspondence should be addressed: e-mail: zhengyu_r@163.com