



“Gheorghe Asachi” Technical University of Iasi, Romania



SPATIAL SPILLOVERS AND THRESHOLD EFFECTS OF DIGITAL FINANCE ON GREEN TOTAL FACTOR ENERGY EFFICIENCY: A NEW POLICY FRAMEWORK FOR REGIONAL CLIMATE GOVERNANCE

Siyu Ren^{1,2}

¹*Shanghai University of International Business and Economics, Shanghai 201620, China*

²*Center for Transnationals' Studies of Nankai University, Tianjin, China*

Email: rensiyuking@126.com

Abstract

Digital finance (DF) has become the key to break through the energy dilemma. This paper measures green total factor productivity (GTFEE) of 30 provinces in China, and analyzes the spatial spillover effect and influence mechanism between DF and GTFEE. The research results demonstrate that the DF significantly improves the local GTFEE, and this promote effect is attributed to green technology innovation, industrial structure upgrading, and reasonable capital allocation. Interestingly, digital finance reduces GTFEE of adjacent areas under the different spatial matrix. DF plays a greater role in improving GTFEE of the developed eastern regions, while it plays a smaller role in the central and western regions. We also found that the higher degree of marketization and environmental regulation can increase the positive influences of DF on GTFEE. Therefore, we suggest that China should improve the construction of digital infrastructure, develop a differentiated digital financial system, and promote energy transformation.

Key words: digital finance, green energy efficiency, spatial correlation, threshold model

Received: September, 2023; Revised final: January, 2024; Accepted: February, 2024; Published in final edited form: April, 2024
