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DRIVING TOWARDS SUSTAINABLE GROWTH: UNVEILING THE ASYMMETRIC IMPACTS OF GREEN TECHNOLOGY, TRANSPORTATION ENERGY, AND POLLUTION ON CHINA'S GROWTH

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Abstract

Transportation energy has significant effects on both environmental degradation and economic growth. Previous studies examined the trilemma of transportation energy use, environmental pollution, and growth using econometric models using capital and labor as inputs. However, the relevance of green technology in transportation energy has been underestimated in China. In this paper, the author explores the dynamic correlations between these variables in China from 1970 to 2021 using the Nonlinear Autoregressive model. Green technology, transportation energy, pollution, and growth all have high asymmetric cointegration relationships in China. According to the findings, transportation energy usage and green technology positively impact China's economic growth. As a result, greater transportation energy consumption in conjunction with effective technology can contribute to the country's economic prosperity. These findings emphasize the significance of long-term solutions addressing the environmental repercussions of transportation energy use while promoting economic growth.

Key words: carbon emissions, China, green technology, growth, transport energy consumption

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