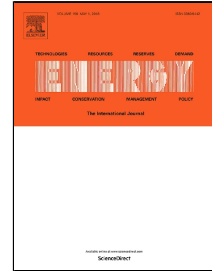


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The Dynamic Relationship between Energy Consumption, Investment and Economic Growth in China's Rural Area: New Evidence Based on Provincial Panel Data

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Abstract: This study investigates the dynamic relationship between rural GDP, rural energy consumption and rural investment based on a provincial panel data set covering the 1995-2010 period. The vector error correction model (VECM) and fully modified ordinary least squares (FMOLS) are utilized to examine the short- and long-run causal relationship between the variables of interest. Then, the impulse response function (IRF) and variance analysis are used to examine the dynamic impact of the process and the contribution of relevant factors. The estimation results indicate that there is two-way Granger causality between rural GDP and rural investment and unilateral Granger causality extending from rural energy consumption to rural GDP and investment in the long term. Furthermore, the results also verify the existence of unidirectional causal relationship from rural GDP to rural investment and bilateral causal relationship between rural GDP and rural energy consumption in the short run. Hence, it is feasible for China to promote economic development through hastening the optimization and upgrading of its rural industrial structure and encouraging and promoting the use of green energy. Additionally, rural economic growth is helpful for stimulating rural investment and energy consumption, which in turn benefits economic development in rural areas.

Keywords: Rural area; Energy consumption; Investment; Economic growth; Panel data

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