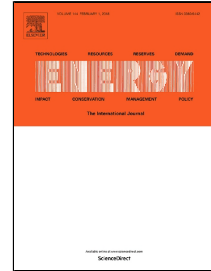


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Does One Path Fit All? An Empirical Study on the Relationship between Energy Consumption and Economic Development for Individual Chinese Provinces

Qianxue Zhang ^{a,f}, Hua Liao ^{a,b,c,d,e}, Yu Hao ^{a,b,c,d,e,*}

^a School of Management and Economics, Beijing Institute of Technology, Beijing 100081, China

^b Center for Energy and Environmental Policy Research, Beijing Institute of Technology, Beijing 100081, China

^c Beijing Key Lab of Energy Economics and Environmental Management, Beijing 100081, China

^d Collaborative Innovation Center of Electric Vehicles in Beijing, Beijing 100081, China

^e Sustainable Development Research Institute for Economy and Society of Beijing, Beijing 100081, China

^f School of Management, Economics and Social Sciences, University of Cologne, Köln 50937, Germany

Abstract: Since China's opening up and reform began in the late 1970s, China's economy has taken off with a rapid increase in energy consumption. However, due to the significant differences in economic and social development across regions, the patterns and characteristics of energy consumption in different Chinese provinces vary remarkably. In this study, the relationship between energy consumption per capita and GDP per capita is examined for all of the 30 individual Chinese provinces. To address the possible non-stationary time series for individual provinces, the autoregressive distributed lag (ARDL) modeling approach is utilized. The estimation results indicate that the relationships between energy consumption per capita and GDP per capita are quite different across provinces. Although, for most provinces, the relationship is linear and no turning point of energy consumption per capita is detected, for some provinces, the relationship is estimated to be "inverted-U" or "inverted-N" shaped, suggesting the existence of the peak of energy consumption per capita in these provinces. Furthermore, it is also found that the secondary industry plays an important role in energy consumption per capita.

Key Words: ARDL; Energy consumption per capita; GDP per capita; Chinese provinces

*Corresponding author at: Center for Energy and Environmental Policy Research, Beijing Institute of Technology, Beijing 100081, China. Tel.: +86 10 68914938; Fax: +86 10 68918651

E-mail addresses: zhangqx514@foxmail.com (Qianxue Zhang); haoyuking@gmail.com (Yu Hao); liaohua55@163.com (Hua Liao).

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