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Azlina Binti Abd Aziz

Universiti Malaysia Terengganu, Malaysia

Energy resources in the coastal countries of the South China Sea: An empirical analysis of energy demand and its determinants

Statement of the Problem: Developing countries play an increasingly important role in the world energy markets, with their consumption of energy increasing significantly over the past two decades. According to a report released by the United States Energy Information Administration (EIA, 2013) these countries will account for 65% of the world's energy consumption by the year 2040. The increase has been particularly pronounced among the developing countries of East and Southeast Asia and is expected to continue into the next century. The increasing importance of the share of developing economies in the global energy markets also means there will be excessive increase in energy consumption which posed obstacles to economic development. The present paper aims to identify the key economic forces driving changes that influence energy demand.

Methodology & Theoretical Orientation: Using a panel of five South East Asian countries over 30 year period, the possibilities and limitations of alternative energy control policies can be achieved. The Fixed and Random Effects estimators as well as the Mean Group (MG) and Pooled Mean Group (PMG) estimators are used to measure the short and long-run relationship between energy demand and its determinants. The latter estimator takes account homogenous long-run relationships in heterogeneous panels.

Findings: The empirical results of this study confirm the majority of the findings in energy demand analysis. Income and price have shown to be important determinants for energy consumption. Moreover, both economic structure and also technical progress appear to exert significant impact on energy consumption. Income has a positive impact on energy demand; price has a negative impact, the share of industry in GDP is positive, whereas technological progress is found to be energy saving in developing countries.

Conclusion & Significance: Based on these findings, several policies have been recommended to improve energy saving and energy consumption in developing countries.

Biography

Azlina Abd Aziz is a Senior Lecturer at the School of Social Development and Economics of Universiti Malaysia Terengganu, Malaysia. She has received her B. Econ (Hons) in Analytical Economics and Master's degree in Economics from University of Malaya in 1999 and 2002 respectively. She obtained her PhD degree in Economics from University of Leicester in 2007. Her fields of interest are: Environmental and natural resource economics, particularly energy economics. Among her current areas of research are energy demand and economic growth, energy and the environment, energy consumer behavior and low carbon/renewable energy economics. She has presented papers at conferences, published articles and papers in various journals.

aqlina@umt.edu.my