

Economic Growth, Regional Disparities and Energy Demand in an Integrated Energy Market

--Implications for energy market integration in East Asia

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[Abstract]

East Asia is actively promoting energy market integration. However, such an integration is a long process and no clear picture about the integrated market was described. We tried to explore a possible scenarios of the integrated market by making an analogy between the East Asian member countries and China's provinces, which under a perfect integrated energy market. Using the panel data of 30 provinces between 1978 and 2008, this paper examines the relationship between economic growth, regional disparity and energy demand in China. In doing so, we decompose the total energy demand into energy demand due to economic development and other remainders, and link them to the equilibrium energy consumption prices. The results show that economic development tends to increase energy demand. Market integration will in general reduce the response of energy consumption prices to energy demand and production, through cross-province trade of energy products. In addition, the effects can be alleviated through reducing transportation costs and improving marketisation level. The results suggest that energy market integration is beneficial to the region. However, each member country would still have diversified energy demand pattern in the integrated market. In order to be able to benefit from the integration, member countries need to open their domestic energy market.

[Key Words] economic growth, regional disparities, energy demand, energy market integration, East Asia

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Reference

- Chenery, H., S. Robinson & M. Syrquin (1986), *Industrialization and Growth: A Comparative Study*, Oxford: Oxford University Press.
- Demurger, S. (2001) 'Infrastructure development and economic growth: an explanation for regional disparities in China', *Journal of Comparative Economics*, 29(1): 95-117.
- Lee, C. C. (2005) 'Energy consumption and GDP in developing countries: a co-integrated panel analysis', *Energy Economics*, 27(3): 415-427.
- Lee, C. C. and Chang, C. P. (2008) 'Energy consumption and economic growth in Asian economies: a more comprehensive analysis using panel data', *Resource and Energy Economics*, 30(1): 50-65.
- Kuznets, Simon (1965), *Economic Growth and Structure: Selected Essays*, Heinemann Educational Books Ltd, London.