

Energy Market Integration and Economic Convergence: Implications for East Asia

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[Executive Summary]

Economic integration — an effective instrument to maintain sustainable regional economic development across countries, which has been proved by the European and North American experience, has been pursuing in East Asia since the late 1960s, starting from ASEAN. As an important component of economic integration, energy market integration (EMI) was, in the past decade, proposed along with the emerging cooperation framework between the Association of Southeast Asian Nations (ASEAN) and its dialogue partners including Japan, South Korea, China, India, Australia and New Zealand.

Although it is believed that there is a positive theoretical relationship between EMI and regional economic development, few empirical studies have been carried out to address this issue due to lack of suitable methodology and qualified data. In particular, it is not clear whether EMI played a role in narrowing development gaps (NDG) across countries and thus facilitate economic integration within a region.

This paper uses the economic convergence analysis (including both the σ -convergence and β -convergence approaches) to examine the impact of EMI on dynamic economic growth path, with a target to inform policy makers in East Asian countries aiming to achieve an integrated energy market in the region. Data used for this study come from four major sources including the World Development Indicator

(WDI) Database, the cross-country historical adoption of technology (CHAT) dataset, the UN Comtrade Database and Subramanian and Wei (2007).

Innovatively, two indexes, the energy trade index and the energy market competition index, have been constructed to measure EMI at the country level. To construct the energy trade index, the weighted average of bilateral fossil fuel trade has been used with the weight being trade distance. To construct the energy market competition index, the Principle Component Approach (PCA) was adopted to account for a few different perspectives of domestic energy market competition. The two indexes provide a robust check for both the measurement and estimations.

The study finds that an integrated energy market across a region may significantly help poor countries to catch up with rich countries in terms of economic growth and thus reduce income disparity across countries and accelerate the step of the catch-up. Moreover, a comparison among the three regions including EU, NAFTA and EAS shows that EAS countries are more likely to achieve economic convergence than the rest of the world. Yet, the impact of the EMI process on economic convergence in the EAS region is relatively smaller than that in EU. The study also finds that investment and capacity building may help to facilitate the catch-up and promote economic convergence across countries.

This paper suggests that EMI should be promoted more confidently and positively not only among the developed countries but also involving developing countries including LDCs. The demonstrated benefits from EMI and its role in accelerating the catching-up of LDCs calls for deeper EMI within the East Asia region and more active participation of LDCs. Even though LDCs may need more time to make preparation, a workable roadmap toward EMI is valuable. Developed countries can also play an important role by helping LDCs to overcome the difficulty through capacity building programs.

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