

Analyzing Effects of Mega Transportation Projects on Regional Economies of Northeast Asian Countries

Topic: (4.5) CGE Modelling (2)

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We develop a Multinational Multiregional Computable General Equilibrium (MMCGE) Model to analyze economic impacts of the Asian Highway 1 and Korea-Japan Tunnel on regional economic growth of Northeast Asian countries. The growth sources from the construction of the highway originating from Japan to China via Korean peninsula are classified into two components; (1) reduction in the travel time (cost), and (2) a decrease in transportation cost per time (distance). The direct and indirect effects on economic benefits are generated through the supply and demand linkages among economic agents. Overall, the construction of missing link of Asian Highway #1 in North Korea's section and Korea-Japan Tunnel has the large effects on the GRP of Dongbei in China, Seoul Area in Korea, and Kyushu in Japan. The simulation of the MMCGE model can provide public agents and stockholders with analytical and strategic insights into the investment efficiency, effectiveness and priority of the highway project in terms of income growth. This numerical model is expected to practically assess transportation investment programs and development strategies with the national and regional economic goals