Regional Computable General Equilibrium Model of Japan and the Global Economy

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Abstract

There has been growing interest in sub-regional economic impact of mega-FTAs (Free Trade Agreements), such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP). Our aim in this study is to explore the linkages between prefectures in Japan and the global economy, by incorporating sub-regions of Japan into a global computable general equilibrium (CGE) model of international trade. We take multiple prefectures in Japan as a set of sub-regions to be introduced to the Global Trade Analysis Project (GTAP) database, and we modify the database and the comparative static GTAP model to accommodate this alternation. Input-Output (IO) tables from prefectures and Japan provide a starting point for our modification process. Industrial sectors from these IO tables are aggregated to match with the classification obtained from the GTAP database. The IO linkages between production, international trade, and consumption are split by distinguishing prefectures. In the modified model, we add a new module of domestic inflows and outflows of goods and services within Japan. To illustrate sub-regional impact of national trade policy change, we experiment a set of trade liberalization scenarios of RCEP.

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