

Examining the cost-effective investment for the 6th industrialization for Taiwan - An approach of dynamic CGE model

Topic: (1.4) CGE Modelling (1)

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For advanced economies highly involved with global economy system, increasing the value-added agriculture has become a vital issue. Improving the competitiveness of agricultural products and the wage level of farming-related labor is regarded the top priority. Japan has been advocated the The 6th industrialization include the procession of the farming (first industry), food manufacturing (second industry) and marketing (third industry). The rapid development of information and communication technology (ICT) has further facilitated the 6th industrialization in the countries such as Taiwan and South Korea.

The study aims to analyze Taiwan's 6th industrialization by examining the cost-effectiveness of government's capital investment on the agriculture service, food and ICT manufacturing to review their spill-over impact and welfare change on household. By using the Taiwan's input-output table of year 2011, we aggregate 5 sectors from agriculture: (1) crops, (2) fruit & vegetable, (3) fishery, (4) livestock and (5) other agriculture. We apply a recursive dynamic CGE model to simulate the capital-investment on (a) agriculture service, (b) food production and (c) information service and examine the cost-effectiveness by comparing the the output change, rise of labor price on the 5 agricultural sectors mentioned above, as well as the household welfare.

The study expects to provide a visualized impact of capital-investment on agricultural sectors and investigate the spill-over impact on technology. By viewing the simulation results, the policy makers may better understand the flow of capital service to reinforce the weakness in order to make more cost-effective decision for the 6th industrialization in Taiwan.