

The Economic and Environmental Effects of Border Adjustment Measures: A Multi-Region CGE Analysis for Japan

Topic: CGE applications

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Border adjustment as a measure to tackle carbon leakage and to level the playing field for international trade is one of the hot issues in domestic policy-making to mitigate GHG emissions. Recently, the Government of Japan revealed a plan to implement carbon tax from 2011. This plan will increase domestic production costs inevitably and put Japanese industries at a disadvantageous position in terms of their international competitiveness.

There have been many economic analyses applying either general equilibrium analysis or partial equilibrium analysis to assess the economic and environmental impacts of border adjustment measures (BAM), however few of them address the emissions embodied in imports subject to adjustment at the border or take account of the nationally appropriate mitigation actions (NAMA) to be implemented in developing countries. The implementation of NAMAs in developing countries in terms of either absolute mitigation or carbon intensity reduction will shorten the gap in the production costs between Japanese carbon-intensive industries and corresponding industries in developing countries. This will in turn influence the environmental and economic benefits of a BAM which is originally expected to correct such a cost differential.

In this paper, we assess domestic and international impacts of the BAMs together with a carbon tax policy to be implemented in Japan by using a recursive dynamic global computable general equilibrium model. We put particular emphasis on the emissions embodied in international trade and NAMAs in developing countries, in particular in China.