

Structural Change of World Beef Trade and Its Impact ; A Scenario Analysis by Using AGLINK model

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Summary

The first case of BSE (Bovine Spongiform Encephalopathy) outbreak in North American countries, namely of Canada on 20 May 2003, and of USA on 23 December 2003, have been confirmed. Japan, the largest importer of US beef, and many other countries immediately set import ban on US beef. In Japanese beef market, USA was a very important supplier, which accounted for about 30 per cent of total beef supply. Therefore, the immediate ban on import brought substantial boost of beef price in Japan. Among all, the restaurant and eating-out industries are in difficulties, as they rely heavily on US beef for raw material.

For analysing the impact of the break of US beef export to the Pacific Beef Market that includes Japan, I carried out a scenario analysis by using AGLINK model, that is a global supply and demand model for agricultural products, which was developed by OECD (The Organisation of Economic Cooperation and Development), with the cooperation of its member countries.

I used the 2003 baseline model as benchmark, and modified it so that it could reflect the structural change in beef market after the breakout of BSE in Canada and USA. Then I run these two models and compared the generated results with the baseline towards 2008. I assumed that the beef export of Canada and USA to outside the NAFTA (the North American Free Trade Agreement) countries would totally stop in year 2004 and 2005.

According to this scenario analysis, in the years of beef export ban of Canada and USA (which are year 2004 and 2005), the international beef price would substantially rise, and other beef exporters, i.e., Austraria and New Zealand would benefit substantially from the ban. On the other hand, US internal beef price would decrease by oversupply. The large importers like Japan and Korea, the demand for beef would decrease, due to the hike of beef price, and demand for pigmeat and chickenmeat would increase as a result of substitution effect. Beef producers of these importing countries would benefit from the hike of beef price, however, the responses to the market are diverse, i.e., some countries would increase slaughter of cows and increase supply of beef, but other countries would decrease slaughter and keep cows for more price increase in the future.