

A CGE Analysis of Japanese FTAs under Different Market Structures

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As a result of the dramatic increase in the formation of FTA since 1990's, there are more than 150 FTAs in the world. As to Japan, the government formulated its first FTA with Singapore in 2002 and subsequently reached an agreement of FTA with Mexico in 2004. Moreover, the government seeks FTAs with other regions, mainly Asian countries.

There are already many empirical studies (CGE analyses) which try to investigate the effects of such FTA policies in Japan, for example, Hertel, Walmsley and Itakura (2001), Tsutsumi and Kiyota (2002), Urata and Kiyota (2003), Oyamada (2003), and Kawasaki (2004). To evaluate the impacts from FTA, these studies take account of not only the reduction of tariffs but also other important policies associated with FTA such as international movement of labor and capital, technology transfer, streamlined customs procedure, and dynamic effects. Although they have clarified important aspect of FTA, all of them assume both constant returns to scale (CRTS) technology and perfect competition and exclude scale economies and imperfectly competitive behavior. Since scale economies and imperfectly competitive market structure are often observed in actual economies, it is likely that the analyses ignoring them overlook potential impacts from FTA. In fact, the previous studies intended to evaluate trade policies in North America and Europe report that the results generated from the model with scale economies and imperfectly competitive behavior can be significantly different from those of CRTS technology and perfect competition (see, for example, Baldwin and Venables, 1995).

The purpose of this paper is to investigate the possible impacts from Japanese FTA policy under scale economies and alternative market structures and to clarify how assumptions on market structures alter the effects of FTA. For this, we employ a multi-region multi-sector static CGE model. The model includes 15 sectors and 15 regions. As the benchmark data, we use GTAP version 5.4 data whose benchmark year is 1997. The FTA scenarios in the paper are Japan with (1) Korea, (2) China, (3) ASEAN, and (4) Mexico. In addition to a perfect competition model with CRTS

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technology, we consider six imperfectly competitive models with scale economies. These models include (i) the quantity competition model with differentiated varieties, (ii) the price competition model with differentiated varieties, (iii) the large group monopolistic competition model, (iv) the quantity competition model with homogeneous varieties, (v) the quantity competition model with fixed number of firms (i.e. no entry-exit), and (vi) the quantity competition model with homogeneous varieties and fixed number of firms. Using these models, we compare the effects of four different FTAs and examine how the assumptions on market structure alter the results.

Our main findings are summarized as follow. First, the formation of FTA increases welfare of Japan in all scenarios and models. Second, the formation of FTA increases welfare of partner regions in most cases, but under some FTA scenarios and models, partner regions can suffer from FTA. Third, with respect to Japan, the perfect competition model generates the smallest welfare gains in most cases. Moreover, in imperfectly competitive models, the large group monopolistic competition model and the quantity competition model with differentiated variety usually bring about large welfare gains and the homogeneous variety models usually bring about small welfare gains. Fourth, in contrast to Japan, the perfect competition model does not necessarily generate the small welfare change for partner regions. Fifth, the order of welfare change by model for partner regions is rather different across FTA scenarios. Specifically, for Korea, China, and ASEAN, the large group monopolistic competition model and the perfect competition model generate relatively large welfare gains and the models with no entry-exit generates relatively small welfare gains. However, for Mexico, the homogeneous variety models produce relatively large gains and the large group monopolistic competition model and the perfect competition model produce relatively small gains. The final result is that the effects of FTAs on the number of firms and firm scale are significantly different across models and therefore the effects on sectoral outputs also can vary across models.

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