

# **Determinants of Tariff Dependence in Japan's Agricultural Protection: An Empirical Investigation Using Panel Data**

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## **Abstract**

The agricultural sector can be protected either by tariffs or subsidies. The trade theory indicates that subsidies are superior to tariffs as a means of protection due to smaller welfare losses. Most OECD countries have recently shifted their form of agricultural protection away from tariffs to subsidies in line with this prescription. On the other hand, Japan remains extensively rely on tariffs by way of agricultural protection. As such, there is a large gap between what is prescribed by the trade theory and what is actually pursued by Japan. Existing literature on the political-economy of trade/agricultural policies mainly focus on the 'level' of protection and rarely address the 'choice' of protective instruments as to whether tariffs or subsidies. Against this background, this article explores the determinants of tariff dependence in agricultural protection through an econometric analysis using panel data for 10 OECD countries with a view to identifying the reasons why Japan continues to rely on tariffs as a means of agricultural protection.

Hypotheses explaining a preference for tariffs over subsidies to be verified in the articles are: (i) 'revenue motive hypothesis' emphasising the budgetary constraints by governments or lower cost for revenue raising, (ii) 'optimal obfuscation hypothesis' arguing that taxpayers understate social costs of tariffs and overstate those of subsidies, (iii) 'lobby coordination hypothesis' focusing on the collective good nature of tariffs which leads to free-riding among interests groups, fewer lobby competition and resulting smaller welfare losses from the society's viewpoint. The validity of these hypotheses is verified by the statistical significance of coefficients of a single equation to be estimated by the OLS, with a dependent variable being tariff dependence ratio (share of tariff protection in total agricultural protection). Independent variables include (i) government debt ratio and income tax dependence ratio as proxies for the revenue motive hypothesis, (ii) tertiary attainment ratio and newspaper subscription ratio as proxies for the optimal obfuscation hypothesis, (iii) voter turnout in parliamentary election and concentration ratio of dominant agricultural commodity as proxies for the lobby coordination hypothesis, and (iv) trade dependence ratio and a dummy variable on the implementation of the Uruguay Round Agreement as control variables. Panel data containing both cross-country and time-series components are used. The cross-country components include 10 OECD countries while the time series data cover 16 years from 1991 to 2006.

The regression analysis shows that the revenue motive and the optimal obfuscation hypotheses are validated given that the coefficients of government debt ratio and tertiary attainment ratio are statistically significant with expected signs whereas the lobby coordination hypothesis is not supported. Trade dependence ratio is also statistically significant with expected sign. As far as Japan is concerned, consistently high tariff dependence is largely explained by the increased government debt although the increase in tertiary attainment and trade dependence contributes to the reduction in tariff dependence. These results imply that Japan's salient increase in budget deficit compared with other OECD countries makes it difficult to transform its agricultural protection away from consumer-borne tariffs to taxpayer-financed subsidies due to budgetary constraint. The main policy implication is that a sufficient amount of resources for compensation payments needs to be secured if Japan is to reduce tariffs so as to harmonise its agricultural protection with further trade liberalisation.