AN EVALUATION OF THE WELFARE EFFECTS OF UNITED STATES MEAT IMPORT QUOTAS USING THE CONCEPT OF ECONOMIC SURPLUS

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L.I. BRYANT
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ABSTRACT

The original objective of this study was to estimate the effect of United States Meat Import Quotas on economic welfare in the United States and New Zealand. Welfare was to be estimated as the changes in the economic rent of United States producers, in United States consumers' surplus, and in revenue of the New Zealand beef industry, resulting from a change in quotas.

An economic model was formulated expressing the relationship between the beef markets in the United States, New Zealand, and the rest of the world. The model was used to estimate the values of endogenous variables assuming the absence of United States meat import quotas. This was done by estimating the coefficients of the model based on those years in which quotas were not effective. It was expected that the projected values for endogenous variables, obtained by experimentation with the model, would provide a basis for the estimation of the welfare effects of quotas. However initial experimentation demonstrated that the estimated values for endogenous variables in the model were inconsistent with economic theory. As the New Zealand sector of the model required the use of inputs generated by the United States sector, experimentation with the New Zealand sector was abandoned.

The points of disagreement between economic theory and the estimated model on the effect of quotas were as follows;

(i) The supply and demand for fed beef was expected to rise, but the model predicted a fall.

(ii) Domestic supply of manufacturing beef was expected to rise, but the model predicted a fall.

(iii) Demand for manufacturing beef was expected to fall, but the model predicted a rise.

(iv) Import supply was expected to fall, but the model predicted a rise.

Disagreement (iv) is the most serious in terms of the objectives of this study as the restrictive effect of quotas on imports is the reason for their use.

It was concluded that the unsatisfactory results obtained in the analysis were due to deficiencies in the econometric model or the data used to estimate the coefficients of the model. Four types of error were considered in term of their possible relevance to the model estimated in the study; specification error; errors in variables; multicollineanity; and autocorrelation. The most important source of error is considered to be in the specification of the model however the other sources of error mentioned are also considered to have been present.

Although this study has not achieved the original objective it demonstrates a method whereby the welfare effects of restrictive trade practices can be assessed. For this reason it is considered that some contribution to applied economics has been made.

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