

A demand system analysis of maize and soybeans exports during food inflation period

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During the years 2007–2008 we witnessed unusual rise of food prices, creating a global crisis and social disorder in many nations. The causes of food inflation is a subject on debate, but some theories point to high oil price and its consequences in the production costs. Also the increasing use of biofuels in developed countries was pointed; considering the production of biofuels as an important reason. The USDA projections suggest that sustained increases in ethanol production will eventually require major adjustments in the corn market. The extraordinary demand of biofuel industry also is affecting directly the soybean market; the price of soybean oil has increased in cost over the last months. This research studied pretend to analyze the adjustments in trade of maize and soybeans from Argentina, Brazil the United States before and during the period containing the food inflation, and also analyze the competitiveness of these three countries in the international market. Using the Linear Approximation almost Ideal Demand System model (LA/AIDS), the demand parameters were obtained for Argentina, Brazil and the United States. Monthly data were used, export values, and Free on Board FOB prices.

In the case of maize, the first analyzed period (before the food inflation) showed a statistical significant estimates of expenditure elasticities of Argentina (1.388) and the United States (1.012). During the second period values of Argentina (0.805), United States (0.901) and Brazil (1.607) represented a change in the international market; and Argentina and the United States lost market share and the importers enlarged imports from Brazil. The own-price elasticity kept without drastic changes between periods, inelastic or insensitive to price changes. From this observation we presume that international demand of maize increased based on international expenditure. From the cross-price elasticity observed we find out that Brazil got the opportunity of growth in front of increases of prices of maize from Argentina and the United States during the first period; the current situation shows a different substitution relationship between Argentina and the United States.

In the case of soybeans, the expenditure elasticity showed a remarked favoritism of the soybeans from the United States (1.084 to 1.468) compared to the South American exporters, and demonstrated that the soybeans from the United States consolidated a condition of luxury good, and this situation can represent the adjustments originated from the global crisis of food prices. From the cross-price elasticities we learn that, during the first period, Argentina took advantage of variations of prices of the United States, and was the main competitor to substitute the North American exports.