

Agricultural Productivity, International Trade and Food Supply: Some Implications from a Greater Productivity in Brazil

Topic: (8.4) International Trade (3)

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Discussions on food production, population growth and food security have been increasingly present in the literature and in the global political agenda. Many policies in the world have taken in account these issues to confront the food insecurity; however, despite all the efforts, there still is a crisis in the global food system with thousands of hungry people around the world.

Given this context of food insecurity and some actions to radiate the hunger, it has been possible to find some discussion around the impact of international trade, increase in productivity and so on in the literature. Furthermore, Brazil has been point as an important economy in terms of food supplier.

The Brazilian economy has a high dependence on commodity exports, including agricultural one. In the previously 14 years, the Brazilian agribusiness has contributed incisively for the generation of currency for the country. Further, its exported volume grew around 230% and the trade balance around 468% from 2000 to 2013. Moreover, the Brazilian agribusiness, in recent years (2000-2011), has maintained its growth trend, with a Gross Domestic Product (GDP) increase of 3.9% per year against a GDP increase of the whole Brazilian economy around 3.6%.

Among the various factors that contribute to the Brazilian agribusiness performance, according to the Ministry of Agriculture, Livestock and Supply of Brazil (MAPA - Minist rio da Agricultura, Pecu ria e Abastecimento do Brasil), the existence of production, water availability, sunlight and regular rainfall in most regions of the country, agricultural policy, development and intensive use of technology, and the producer's commitment with the productivity are the major important one.

Given all the discussion about international trade, productivity, food supply and demand, and the potential of Brazil to feed the world food demand, this paper aims to analyze how an increase in agricultural productivity in Brazil affect the Brazilian economy and the rest of the World. The increase in agricultural productivity will be based on the hypothesis that Brazil reach the same productivity than USA in some of agricultural commodities. In order to analyze it, we use the Global Trade Analysis Project (GTAP) database, version 9, and consider 57 sectors and 8 regions: Brazil; China; Russia, India, South Africa, United States of America, European Union and rest of the World. Furthermore, we consider two scenarios: i) an increase in agricultural productivity in Brazil without any elimination of tariffs and export subsidies on trade; and ii) an increase in agricultural productivity in Brazil with an elimination of tariffs and export subsidies on trade with each of the regions by Brazil (China; Russia, India, South Africa, European Union) and vice versa, excluding United States of America.