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"Resilience of agricultural systems against crises"

# China' Soybean Import Demand: An Analysis of Impacts of Price Fluctuation and Agricultural Policy Transition

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**Abstract**

After WTO accession in December 2001, China's international trade developed rapidly. In 2004, China started to have an agricultural trade deficit and its deficit has been increasing at a large rate since then thanks to the soared agro-food imports. China is the largest destination market for global soybean exports and accounts for about two-thirds of the total global soybean trade. The soybean import value of China increased dramatically especially after 2001 from 2.2 USD billion in 2000 to 29.7 USD billion in 2011, with average annual growth rate more than 31 %. With the increasing global food price and expanding domestic demand of China, the soybean import demand analysis becomes the central issue concerned by scholars and Chinese government. In recent years Chinese government pays more attention to "San-Nong" problem (i.e. the three agricultural-related issues: agriculture, rural areas and peasants).Accompanying the reduction and elimination of agricultural taxes and fees, the Chinese government has started to introduce various subsidies-including direct payments to grain producers based on acreages, subsidies for purchased farm inputs, for improved varieties of seeds and for the purchase of agricultural machinery. Since 2008, soybean production has been subsidised from the government. In order to analyse China's soybean import demand and forecast the future trend under the increasing global food price and domestic agricultural policy transition, China's soybean import demand function is built and ARIMA model is used. Results show that the policy transition from taxing to subsidising agriculture, domestic soybean production and exchange rate have significant effects on soybean import. After parameter estimation and test, ARIMA (1, 4, 1) is chosen as the best forecasting model and can predict the trend of soybean import. Although there is a slight decrease in soybean import in 2011, it is predicted that in 2012 China's soybean import will increase around 10.5 %. More domestic agricultural subsidies are necessary to encourage Chinese domestic soybean production and trade policy adjustment to satisfy domestic consumption.

**Keywords:** Agricultural support, ARIMA model, China, soybean import demand

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