Potential impact of import shift from soybean to meat on China's food security

Abstract: Importing agricultural products plays a critical role in supplementing China's food supply, with soybeans being the foremost import. Maintaining consistently high levels of soybean imports and having limited trade partner choices have weakened the resilience of China's grain system, warranting significant attention. Nevertheless, China's heavy reliance on the international soybean market primarily supports the development of its domestic livestock and poultry industry to meet the increasing demand for animal-based foods, such as meat, among its residents. Consequently, directly importing meat from the international market may become an important option to ensure China's food security. This paper aims to explore the potential impact of shifting imports from soybeans to meat on China's food security. We employ the GTAP model to assess the impact of reducing tariffs and adjustments of non-tariff measures on meat, analyzing its effects on food trade structure, domestic production, and consumption. The preliminary results indicate that: (1) Expanding meat imports will alter the variety structure of agricultural product imports in China, increasing its dependence on the international meat market. This substitution effect will reduce the demand for grain imports, particularly soybeans and corn, and correspondingly improve their self-sufficiency rate. Additionally, expanding meat imports will also change the source distribution of China's agricultural imports, with a greater focus on countries and regions such as the United States and the European Union, which have a significant trade surplus with China. (2) The expansion of meat imports could potentially alter China's crop production structure, resulting in decreased cultivation and output of feed crops like corn, and an increase in the cultivation and output of rice, soybeans, fruits, and vegetables. (3) The increase in meat imports has the potential to lower domestic food prices, thereby decreasing the cost of food consumption for residents and encouraging an uptick in food consumption, with a particular emphasis on meat products. (4) Although increasing meat imports may reduce the added value of China's upstream and downstream livestock and poultry industries, its overall impact on the country's industrial added value is limited. Moreover, increasing meat imports will also help improve the welfare of Chinese and global residents. In conclusion, diversifying into meat imports will not only enhance the variety of China's food import structure but

also strengthen grain supply and respond to the changing food consumption patterns domestically, thereby reinforcing food security resilience. The study concludes by advocating for integrated grain and meat import strategies, refining meat import policies, and enhancing food security through diversified imports.

Keywords: Food Security; Agricultural Trade; Meat Imports; Import Diversification