Postprint: The Scale, Structure, and Development Potential of Agricultural Product Trade between China and Belt and Road Countries

Authors: Li Jinye, Gu Mingna

Date: 2018-10-23T00:00:00+00:00

Abstract

Agricultural trade constitutes one of the key areas of economic cooperation between China and countries along the "Belt and Road" Initiative. This article examines the scale, structure, and development trends of agricultural trade between China and these countries. The findings indicate that both the scale and growth rate of such trade exhibit dual characteristics of disparity and hierarchical gradation across regions and among countries within regions. Specifically, the ASEAN region records the highest agricultural trade volume with China along the route, whereas Central Asia represents a region with a relatively low trade share but rapid growth rate. Improving trade structure and optimizing the trade environment emerge as urgent imperatives for achieving interactive, mutually beneficial, and shared development among countries along the "Belt and Road" .

Full Text

Preamble

DOI: 10.12118/j.issn.1000-6060.2018.05.23
Journal: ARID LAND GEOGRAPHY

Abstract

Agricultural product trade between China and countries participating in the Belt and Road Initiative represents one of the key fields of economic cooperation. This paper examines the trade scale, structure, and potential between China and these countries using methods including applied statistical description, comparative analysis, and a gravity model based on trade statistics from

the World Bank. The results reveal that the effect of agricultural trade presents a staircase-like feature in terms of regional differences. The ASEAN region is the area with the highest trade volume, while Central Asia is the region of relatively lower volume in agricultural product trade yet with rapid growth. The products involved in the trade were labor-intensive or land-intensive ones, which require improvement on the trade structure. Population size, economic scale, and economic cooperation organization are the main factors that can influence the agricultural trade between China and the relevant countries. Geographic distance has significant negative effects on the trade. The positive effect caused by the agricultural product trade in the China-ASEAN free trade zone is larger than that happened in the SCO. The trade potentials of agricultural products between China and relevant countries present different trends. The countries which have larger and faster growth rate of trade volume, and have geographical advantages, basically belong to the potential remodeling, and top countries in every region also belong to the potential ones. There is an urgent need to create new potential of agricultural products for China. It is the rational choice to upgrade the structure of agricultural trade and optimize the environment of the trade for achieving a win-win situation. From the perspectives of promoting green trade and achieving mutual benefits, this paper analyzed the trade effects and trend of agricultural products of countries along the Belt and Road Initiative area. It would be helpful to promote the cooperation and share prosperity between China and relevant countries participating in the Belt and Road Initiative.

Keywords: Belt and Road Initiative; agricultural products trade; trade scale; trade potential

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Methodology and Results

This study employs a gravity model to analyze the determinants of agricultural trade between China and Belt and Road countries. The model specification is as follows:

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Where F_{ij} represents the trade flow between country i and country j; M_i and M_j denote the economic scale of the trading partners; D_{ij} indicates the geographic distance between them; X_{ij} represents other control variables; α, β, θ, and γ are parameters to be estimated; and ε_{ij} is the error term.

The analysis reveals that population size, economic scale, and membership in economic cooperation organizations are the primary factors influencing agricultural trade. Geographic distance exhibits significant negative effects on trade flows. The China-ASEAN Free Trade Area demonstrates a substantially larger positive effect on agricultural trade compared to the Shanghai Cooperation Organization (SCO).

Trade potential calculations indicate heterogeneous patterns across regions. Countries exhibiting larger trade volumes and faster growth rates, particularly those with geographical proximity advantages, generally fall into the category of "potential remodeling." Leading countries in each region also show significant trade potential. The analysis identifies an urgent need for China to cultivate new agricultural trade potential through structural upgrading and trade environment optimization.

The product composition of current trade flows predominantly features labor-intensive and land-intensive agricultural products, suggesting the necessity of structural improvement. Regional disparities follow a staircase pattern, with ASEAN countries representing the highest tier of trade volume and Central Asian countries showing lower baseline volumes but rapid growth trajectories.

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