



Study on Influencing Factors the Belt and Road Initiative and Supply Side Structural Reform of China's Agricultural Economy

Mihong Zhang*^{1, a}, ZAIDI BIN MAT DAUD^{2, b}

¹*School of business and economics, Universiti Putra Malaysia, Serdang Selangor Darul Ehsan, Malaysia*

¹*Accounting College, Zhengzhou SIAS, Xinzheng, Zhengzhou, China.*

²*School of business and economics, Universiti Putra Malaysia, Serdang Selangor Darul Ehsan, Malaysia*

*^a e-mail: mihongzhang7@gmail.com

^b e-mail: mrzaidi@upm.edu.my

ABSTRACT

Supply-side reform of the agricultural economy is an important measure to realize Chinese agriculture improvement. "The Belt and Road Initiative" (Referred to as the "B&R") strategic brings opportunities to China's agricultural economy. This paper attempts to analyze the influencing factors of the "B&R" and the supply-side structural reform of agricultural economy from the aspects of the interaction and cooperation between them, and probes the problems to be solved in the reform of agricultural supply side. Through the correlation factors analysis between them, this paper puts forward these measures which are adjusting agricultural structure by combining development concept, promoting circular development by combining ecological idea, enriching industrial structure by integrating innovation mechanism, and promoting overseas agricultural economic cooperation by integrating market demand. The suggestions have certain reference value for promoting the "B&R" and deepening China's rural economy supply side structural reform, and agricultural economy sustainable development.

Key words: *Belt and Road Initiative; China's agricultural economy; Supply-side reform; Measures*

1. INTRODUCTION

The strategic concept of "B&R" proposed by China takes into account the sharing of agricultural economic interests with countries along the "B&R" which essentially promotes regional agricultural economic growth along the "B&R". The supply-side reform of agricultural economy should seize the opportunities brought by "B&R", which can effectively promote the supply-side reform process of the agrarian economy and promote China's new economy of global development.

The "B&R" has continuously expanded the scale of agricultural import and export trade, made foreign agricultural cooperation more frequent, and increased the trade volume of agricultural products (Li Quanzhong,

2018)^[1]. According to the report "Trade in Agricultural Products: Key Dynamics and Trends" published by the FOOD and Agriculture Organization of the United Nations, China's total import and export of agricultural products reached US \$216.81 billion in 2018, ranking third in the world. Its exports totaled US \$79.71 billion, ranking fourth in the world. China has maintained favorable agricultural trade cooperation with 36 countries in Asia, 24 countries in Europe, 8 countries in Oceania, 15 countries in Latin America and 37 countries in Africa along the Belt and Road (Guo Baihong, 2019)^[2]. The volume of agricultural imports and exports has been increasing steadily from 2017 to 2020 (Table1). The "B&R" has strengthened agricultural cooperation with countries along the routes, and promoted agricultural supply-side structural reform.

Table 1: 2013-2020 China's agricultural trade

Unit: US \$100 million

Time (year)	Imports and exports	Percentage (year-on-year %)	Exports	Percentage (year-on-year %)	Imports	Percentage (year-on-year %)	trade deficit	Percentage (year-on-year %)
2013	1866.9	6.2	678.3	7.2	1188.7	5.7	510.4	3.7
2014	1945.0	4.2	719.6	6.1	1225.4	3.1	505.8	-0.9
2015	1875.6	-3.6	706.8	-1.8	1168.8	-4.6	462.0	-8.7
2016	1845.6	-1.6	729.9	3.3	1115.7	-4.5	385.8	-16.5
2017	2013.9	9.1	755.3	3.5	1258.6	12.8	503.3	30.4
2018	2168.1	7.7	797.1	5.5	1371.0	8.9	573.8	14.0
2019	2300.7	5.7	791.0	-1.7	1509.7	10.0	718.7	26.5
2020	2468.3	8.0	760.3	-3.2	1708.0	14.0	947.7	32.9

Data sources: General Administration of Customs of China

The important factors affecting the supply-side structural reform of the agricultural economy are the contradiction between reducing the quantity of agricultural labor force and enhancing the quality of labor force, the reduction of agricultural resources and rising costs, as well as supply and demand and agricultural trade import and export and so on. The statistical data analysis shows there is a coordinated relationship between the supply-side structural reform of agricultural economy and the “B&R”. From 2013, when China put forward the Belt and Road Strategy, to 2020, the growing trend of China's annual import of agricultural products (Table 2) shows China is contributing more and more to the agricultural economic growth of countries or regions

along the “B&R”. Statistical analysis of virtual arable land resources imports data shows that countries along the route play an important role in ensuring the supply of Chinese farm products. The Land Survey Bulletin from 2016 to 2021 in China shows that the area of cultivated land is declining year by year. China's net import of virtual land from countries along the “B&R” increased at an average annual rate of 31.01% from 2013, which can effectively alleviate the shortage of China land resources. China's agricultural trade deficit data from 2013 to 2020 barely changed, and China's agricultural development has suffered an effect, especially on grain production market supply and demand.

Table 2: 2013-2020 export and import of agricultural products in “B&R” countries

Unit: US \$1 million

Time (year)	Imports	Percentage (year-on-year %)	Exports	Percentage (year-on-year %)
2020.01-07	2,054.7563	9.5	1,445.7345	3.5
2019	3,350.2717	24.0	2,694.6493	9.2
2018	2,701.7983	19.6	2,468.3567	5.3
2017	2,259.6721	9.9	2,343.8269	3.0
2016	2,056.4081	-8.8	2,275.6934	4.3
2015	2,254.7727	-1.3	2,181.2590	3.7
2014	2,283.9278	1.4	2,103.1797	11.3
2013	2,252.6295		1,889.6031	

Data Source: Monthly Statistical Report of China's Agricultural Products Import and Export, Department of Foreign Trade, Ministry of Commerce.

This article focuses on China's agricultural supply-side structural reform and the "B&R" to analyze the interaction effect between the "B&R" and the supply-side structural reform of China's agricultural economy. Based on the analysis of the relationship between the "B&R" and the factors influencing the supply-side structural reform of agricultural economy, from fusion development idea, integrated innovation mechanism, blend with ecological concept and merge market demand of the agricultural structure adjustment, this paper discusses the measures of agricultural supply side structure reform, which include agricultural restructuring, industrial structure innovation, green and circular development, and overseas economic cooperation.

2. INFLUENCING FACTORS ANALYSIS ON THE "B&R" AND SUPPLY-SIDE STRUCTURAL REFORM OF CHINA'S AGRICULTURAL

Scholars have done a lot of research on China's agricultural supply-side structural reform (Kong Xiangzhi, 2016; Ye Dan et al., 2016)^[3,4]. From the opportunities and challenges confronted, countermeasures and suggestions to the agricultural supply-side reform are recommended (He Long et al., 2016)^[5]. Agricultural exchange and trade of agricultural products are important fields and key points in the "B&R". Agricultural development strategies should organically integrate with the "B&R" (Zhu Peng, 2020)^[6]. The "B&R" provides a new historical opportunity for Chinese agricultural reform and agricultural foreign exchange (Yu Jianchun, 2020)^[7].

2.1 The influence factor of correlation between the "B&R" and the supply-side structural reform of China's agricultural economy

There are two factors affecting the close relationship between the supply-side structural reform of rural economy and the "B&R".

The first factor is the virtual cultivated land resources (import of bulk agricultural products). According to China Customs statistics, in 2019, the agricultural trade between China and Thailand, Russia, Indonesia, Malaysia, India and other countries has greater growth. The top three "B&R" countries with the largest agricultural trade scale with China are: Thailand (trade volume of 75.454 billion RMB), Vietnam (trade volume of 61.669 billion RMB), Indonesia (trade volume of 61.469 billion RMB). In 2020, China imported 162.74 billion RMB of agricultural products from the United States. In 2020, the top 10 import countries of virtual arable land resources are Brazil, the United States, Argentina, Canada, New Zealand, Ukraine, Australia, Russia, Uruguay and Indonesia (Table 3). That shows countries along the "B&R" play a very significant role in

ensuring the supply security of Chinese agricultural products.

Table 3: 2020 the top 10 countries in the import volume of virtual cultivated land resources of bulk farm-products in China

Country	Import volume (10 000 Ha)	Proportion of total imports (%)
Brazil	3,830.8	43.1
The United States	1,717.7	19.3
Argentina	623.1	7.0
Canada	317.5	3.6
New Zealand	342.3	3.8
Ukraine	322.2	3.6
Australia	247	2.8
Russia	205	2.3
Uruguay	169	1.9
Indonesia	159	1.8

Data source: Aigao Agriculture

The second one is agricultural trade deficit. China's trade deficit in agricultural products has always not changed much (Table 1). From 2013 to 2020, the trade deficit of agricultural products was US \$51.04 billion, which influences grain production market supply and demand. The supply-side structural reform of rural economy should take into consideration international markets, and the development of the "B&R" should be strengthened. These two aspects cooperate with each other and finally achieve the balance of supply and demand.

At the same time, the factor influencing the consistency between the supply-side structural reform of rural economic and the "B&R" goals is cooperation platform- pilot cooperation mode which has become a key factor affecting the consistency of their goals.

In the "B&R" proposed by China, "in-depth cooperation in agriculture, forestry, animal husbandry and fishery, agricultural machinery and agricultural production and processing" (Vision and Actions on Jointly Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road, 2015)^[8] is the focus of global agricultural economic cooperation under the "B&R". In 2017, the Chinese Ministry of Agriculture established 10 pilot projects of the new cooperation model of "Overseas Agricultural Cooperation Demonstration Zone" and "Agricultural Opening up and Cooperation Pilot Zone" in countries along the "B&R" (Table 4). By January 30, 2021, China had signed 205

Cooperation documents on “B&R” Cooperation with 171 countries and international organizations (Data sources: “One Belt and One Road Network”, 2021-04-27). Reinforce the application and cooperation with countries

and regions along the “B&R” in agricultural industry science and technology can promote agricultural supply-side structural reform.

Table 4: 2017 List of the first batch of overseas agricultural cooperation demonstration zones and agricultural opening up cooperation pilot zones

Serial number	Pilot projects to build overseas agricultural cooperation demonstration zones	Pilot agricultural opening up and cooperation zones
1	Tajikistan-China Agricultural Cooperation Demonstration Park	Qionghai Agricultural Opening and Cooperation Pilot Zone
2	Mozambique-China Agricultural Technology Demonstration Center	Tropical Agriculture Opening-up and Cooperation Pilot Zone
3	Jiangsu-Xinyangga Modern Agricultural and Trade Industrial Park (Tanzania)	Lianyungang Agricultural Opening and Cooperation Pilot Zone
4	Uganda-China Agricultural Cooperation Industrial Park	Jilin China-Singapore Food Zone Agricultural Opening-up and Cooperation Pilot Zone
5	Asia Star Agricultural Industrial Cooperation Zone (Kyrgyzstan)	Jimunai Agricultural Open Cooperation Pilot Zone
6	Sudan-China Agricultural Cooperation Development Zone	Raoping Agricultural Opening and Cooperation Pilot Zone
7	Laos-China Modern Agricultural Science and Technology Demonstration Park	Weifang Agricultural Opening and Cooperation Pilot Zone
8	Cambodia-China Tropical Eco-Agriculture Cooperation Demonstration Zone	Dongning Agricultural Opening and Cooperation Pilot Zone
9	Fiji-China Fishery Integrated Industrial Park	Rongcheng Agricultural Opening and Cooperation Pilot Zone
10	Zambia Agricultural Products Processing Cooperative Park	Binhai New Area Agricultural Opening-up and Cooperation Pilot Zone

Source: Ministry of Agriculture and Rural Affairs of China, Circular of the Ministry of Agriculture on the Identification of the First Overseas Agricultural Cooperation Demonstration Zones and Agricultural Opening Up the Outside World Cooperation Pilot Zones, Release time: 2017-08-04

2.2 Influencing factors of China's agricultural supply-side structural reform

Rural workers factor is a key factor in agricultural reform. The reduction in the number of agricultural labor and the improvement of the quality of labor are currently facing a contradiction. The number of people willing to work in agriculture is declining. In addition, the number of elderly rural agricultural workers shows a

serious aging phenomenon. In terms of quality of rural workers, although China's educated population has been rising in recent years, the vast majority of rural workers have primary school education (6 years) and junior high school education (3 years). Agricultural production is already facing the problem of lack of employees. If the problem of labor force cannot be solved and the quality of labor force cannot be improved, it will affect the upgrading and reform of China's agricultural structure (Table 5).

Table 5: 2016 Personnel of Agricultural production and operation in China

Unit: ten thousand, %

Category	The number of persons	Ratio of total population
(1) Number and structure of agricultural production and operation personnel		
- Age composition of agricultural production and operation personnel	31422	

Age 35 and below	6023	19.2
36-54 years old	14848	47.3
Age 55 and above	10551	33.6
- Composition of educational level of agricultural production and operation personnel		
Not been to school		6.4
Primary school		37.0
Junior high school		48.4
High school or technical secondary school		7.1
Junior college or above		1.2
(2) The number and structure of agricultural production and operation personnel of large-scale agricultural operation households		
- Age composition of agricultural production and operation personnel (including the household production and operation personnel and employees)	1289	
Age 35 and below	272	21.1
36-54 years old	751	58.3
Age 55 and above	266	20.7
- Composition of educational level of agricultural production and operation personnel		
Not been to school		3.6
Primary school		30.6
Junior high school		55.4
High school or technical secondary school		8.9
Junior college or above		1.5
(3) The number and structure of agricultural production and operation personnel in agricultural operation units		
- Age composition of agricultural production and operation personnel	1092	
Age 35 and below	215	19.7
36-54 years old	668	61.2
Age 55 and above	209	19.1
- Composition of educational level of agricultural production and operation personnel		
Not been to school		3.5
Primary school		21.8
Junior high school		47.0
High school or technical secondary school		19.6
Junior college or above		8.0

Source: National Bureau of Statistics of China, 2017-12-16 10:00

Agricultural products price is an important factor affecting supply and demand of agricultural products. There is a contradiction between the rising cost of agricultural production and the low price of agricultural products. The structural shortage of rural labor, the traditional farmland landscape and epitaxial extensive management mode (Zhao Junjie & Zhou Haichuan, 2021)^[9] make the labor, materials, land-use fees, etc. production need investment increase gradually, and agricultural product added value is still low. In the short term, the input of production materials has no obvious impact on land production efficiency. In the restructuring of the agricultural production structure, the upgrading of the agricultural industry needs a lot of money.

If there is fewer social capital input to agriculture, it will be hard to break the traditional cultivation mode of agricultural products, and the malformation of higher cost and lower price (Yang Chaoji, 2018)^[10]. To enhance the added value of products can improve the supply and demand of agricultural products.

Agricultural arable land resources (cultivated area) are the element resource that affects agricultural reform development. Chinese per capita cultivated land resources account for a third of the world average. The third National Agricultural Census (No.1) released on December 14, 2017 shows that: By the end of 2016, the cultivated land area was 134.921 million hectares (Data from China Ministry of Land and Resources), and the per capita cultivated area of 1.4 billion people is about 0.096 hectares (1.46 m). The woodland area actually operated (excluding the ecological forest shelterbelt that was not included in the compensation area of ecological public welfare forest) was 203.046 million hectares, and the grassland area actually operated was 224.3888 million hectares. According to Major data bulletin of the third National Land Survey released on August 25, 2021, the cultivated land is 127,861,900 hectares (19,17,927,900 mu), about 0.09 hectares (1.37 mu) per capita. The garden plot is 20.1716 million hectares (302,573,300 mu), the woodland area is 28,4125,900 hectares (4,261,888,200

mu), the grassland area is 26,453,100 hectares (3,967,9521 mu), and the wetland area is 23.4693 million hectares (352,039,900 mu). Although the area of agricultural land, such as forest land and pasture land, is increasing, the area of cultivated land is decreasing year by year, from 0.096 hectares per capita in 2016 to 0.091 hectares per capita in 2021. So, it is necessary to import a large amount of grain products and other bulk agricultural products rather than export them, resulting in a large trade deficit (Qian Long et al., 2021)^[11].

Characteristic brands are a significant element that can upgrade the quality of agricultural products and form a good competition. China has formed a group of distinctive green agricultural industry enterprises with good competitiveness and market adaptability. On November 17, 2019, 300 regional public brands of featured agricultural products were selected into the China Agricultural Brand Directory, which were divided into 11 categories: the selected brand categories are fruit (81 brands), vegetable (31 brands), grain (46 brands), vegetable oil (8 brands), livestock and poultry (30 brands), aquatic (21 brands), tea (33 brands), edible fungus (10 brands), the forestry specialty (16 brands), 18 Chinese medicinal materials (18 brands), and other characteristics agricultural products (6 brands) (data source: Minister of Ministry of Agriculture and Rural Affairs, PRC, 10:45, 17 November 2019) which show the driving ability of the brand and exuberant vitality. By 2020, China had cumulative created and affirmed a total of more than 60,000 green organic and geographical indication agricultural products. Branding has driven the standardization of agricultural production, and more green and high-quality agricultural products are favored by consumers at home and abroad.

2.3 Summary of main influencing factors

The main impact factors of the "B&R" and supply side structural reform of China's agricultural economy. As shown in Table 6 as follows:

Table 6: Impact factors

Main factors	Specific coverage
The "B&R" strategy promotes close connection between the supply-side structural reform of agricultural economies and the world agricultural economy	Agricultural products import and export trade volume: import of bulk agricultural products and agricultural trade deficit
The consistency between the supply-side structural reform of rural economic and the "B&R" goals	Cooperation platform: pilot cooperation model
China's agricultural supply-side structural reform	Rural workers: number of rural workers and quality of rural workers Agricultural products price Agricultural arable land resources: cultivated area Characteristic brands of agricultural products

3. THE PANEL MODEL OF INFLUENCING FACTORS ON THE “B&R” AND SUPPLY-SIDE STRUCTURAL REFORM OF CHINA'S AGRICULTURAL

Since the “B&R” strategy promotes the close connection between the supply-side structural reform of agricultural economy and the world agricultural economy, and brings significant effects to the supply-side structural reform of agricultural economy. Agricultural products import and export trade volume is selected as an explained variable of the research, specific indicators are “import of bulk agricultural products” and “agricultural trade deficit”. Because the objectives between China's agricultural economy supply-side reform and the “B&R” are consistent, the influence of the strategies of the “B&R” on the institutional reform of the supply-side of the agricultural economy is to expand agricultural trade with foreign countries, which can be studied as an explanatory variable. The “cooperation platform- pilot cooperation model” constructed under the “B&R” with foreign countries is selected to measure. The specific measures of China's agricultural supply-side structural reform will reflect the close connection between the supply-side structural reform of China's agricultural economy and the world agriculture which contains these factors, such as rural workers (number of rural workers and quality of rural workers), agricultural products price, agricultural arable land resources (cultivated area) and characteristic brand of agricultural products, as shown in Table 6.

The panel model can be established based on the effect of agricultural supply-side structural reform and panel data analysis. The static panel model can be used to study influences. The step-wise regression method will be adopted to interpret explanatory variables one by one, and explore the relationship between explanatory variables and explained variables. The change in agricultural foreign trade volume will have a positive impact on it with the construction of overseas collaboration platforms. In reform: providing effective labor supply quality can help promote agricultural supply-side structural reform. The added value of agricultural products effectively reduces costs, which has a significant impact on the volume of foreign trade. Brand optimization can improve the quality of the product, which forms a positive competitiveness. The use of arable land can greatly and essentially reduce the huge trade deficit. The dynamic panel model is used to analyze these factors for the long-term impact of the “B&R” and agricultural supply-side structural reform. The dynamic panel model is used to analyze these factors for the long-term impact of the “B&R” and agricultural supply-side structural reform. The construction of an overseas agricultural cooperation platform will promote foreign agricultural economic cooperation, trade contacts, and serve agricultural supply-side structural reform, which has significant significance.

4. THE APPLIED MEASURES FOR THE “B&R” AND SUPPLY-SIDE STRUCTURAL REFORM OF CHINA'S AGRICULTURAL ECONOMY

Firstly, specific measure include integration into the development pattern, adapting the agricultural structure, and improving the quality and efficiency of supply. The adjustment from quantitative change to qualitative change should be carried out pertinently for the agricultural structure of different regional characteristics.

Secondly, under the integration of ecological ideas, it realizes green circulation and high-quality development of agriculture and takes the path of sustainable development. The developing countries can achieve green development through the transformation of production mode (Nataraja, 2011)^[12]. Considering the converging point of the structural adjustment and change of the global demand for agricultural products, a more perfect green industrial chain system should be constructed to strengthen the competitiveness of agricultural products export (Luo Huan, 2019)^[13].

Next, reform measures should integrate innovation mechanisms, enrich the industrial structure, and gradually promote the transformation of precision agriculture. In the process of promoting precision agriculture, it should pay attention to the training of the new generation of farmers, and introduce advanced technologies from advantageous agricultural countries along the “B&R”, and in the enrichment of agricultural industrial structure to gradually realize the transformation of precision agriculture.

Finally, serving agricultural supply-side structural reform should integrate market demand and propel agricultural economic cooperation outside China. Relying on the “B&R”, it will establish a platform that suits the development of Chinese agricultural products industry enterprises in countries along the “B&R” and a reasonable and fair competition mechanism, so that agricultural products gradually penetrate into every country and region in the world.

5. CONCLUSIONS

The implementation of “One Belt and One Road” and the supply-side reform of agricultural economy are one of the important strategies for China's economic development. From the perspective of reform and opening up, the organic combination of agricultural supply-side structural reform and the “B&R” has laid a solid foundation for China's agricultural economic transformation and created conditions for the export-oriented development of China's agricultural economy.

AUTHORS' CONTRIBUTIONS

Zhang Mihong, Miluo, Hunan province, China, doctoral candidate, research direction: accounting and financial economy.

Zaidi Bin Mat Daud, Universiti Putra Malaysia, doctoral supervisor, research direction: public sector accounting, accountability governance.

References

- [1]Guo Baihong. (2019). Agricultural economic cooperation and benefit sharing mechanism outside China under "the Belt and Road Initiative". *J. Reformation & Strategy*, 35(05), 63-71.
- [2]He Long, Ge Xinquan, Liu Yanping. (2016). China's agricultural supply-side structural Reform: Opportunities, challenges and countermeasures. *J. Rural Economy*, (07), 29-33.
- [3]<http://ydyl.people.com.cn/n1/2017/0425/c411837-29235511.html> (Vision and Actions on Jointly Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road, 2015)
- [4]Kong Xiangzhi. (2016). The Basic Connotation and Policy Suggestions on the Structural Reform of Agricultural Supply Side. *J. Reform*, (02),104-115.
- [5]Li Quanzhong. (2018). The influence of the construction of "The Belt and Road Initiative" on China's agricultural external development environment. *J. Chinese Journal of Agricultural Resources and Regional Planning*, 06,23-27.
- [6]Luo Huan. (2019). Research on the effects of agricultural products import and export trade on agricultural economic growth along the belt and road. *J. Agricultural Economy*, 01,131-133.
- [7]Nataraja Gujjab. (2011) .Green economy : policy framework for sustainable development. *J. Current Science*, 7,961 - 962.
- [8]National Development and Reform Commission of the People's Republic of China, Ministry of Foreign Affairs of the People's Republic of China, Ministry of Commerce of the People's Republic of China. Promoting silk cooperation road economic belt and the vision and action of the maritime silk road in the 21st century [EB/OL]. (2017-04-25) [2019-02-20].
- [9]Qian Long, Rao Qingling, Cao Baoming, & Wang Lingen. (2021). China's grain trade with countries along the "One Belt and One Road" and the estimation of the virtual water and farmland resources. *J. Research of Agricultural Modernization*,42(3),430-440.
- [10]Yang Chaoji. (2018). Key points of expanding agricultural opening-up. *J. People's Tribune*,26,96-97.
- [11]Ye Dan, Huang Qinghua & Liu Han. (2016). Research on optimization path and mechanism of Agricultural product structure in China under the background of supply-side reform. *J. World Agriculture*, (06),199-202.
- [12]Yu Jianchun. (2020). Strategic orientation of China's agricultural foreign trade in the context of "The Belt and Road" agricultural international cooperation. *J. Agricultural Economy*, (03),126-128.
- [13]Zhao Junjie, & Zhou Haichuan. (2021). Optimization strategy of agricultural cost reduction under rural revitalization strategy. *J. Macroeconomic Management*, 01,37-43.
- [14]Zhu Peng. (2020). Strategic choice and realization path of agricultural cooperation between China and "One Belt and One Road" countries. *J. Jianghuai Tribune*. (03), 38-43.

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