

AGRICULTURAL TRADE BETWEEN EU AND CHINA



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Since China acceded to the WTO, it has attached great importance to the opening of agriculture, and trade in agricultural products has become increasingly active. Over the years, China is still increasing its efforts to open up to the outside world, and the EU, as an important economic partner of China, has seen rapid growth in agricultural trade between the two sides in the last decade. Among them, China's agricultural imports from the EU are the fastest growing, especially dairy products and pork. Eurostat (2021) points out that China has become the third-largest agricultural export market in the EU after the UK's exit from the EU. China's agricultural trade with the US has suffered a setback due to trade frictions between China and the US. Based on this, this paper examines the development of agricultural trade between the two sides from the perspective of agricultural resources and development and the perspective of the EU Common Agricultural Policy, "One Belt, One Road," and trade facilitation. In addition, the EU is a multinational international alliance. China has not yet reached a cooperative trade agreement with the EU, so it is necessary to analyze the agricultural trade between EU member states and China.

The idea of this paper is as follows: First, we sort out the development of agricultural trade between the EU and China, analyze the changes in the structure of agricultural trade between them during the decade, and use trade theory combined with empirical analysis to analyze the trade characteristics of basic agricultural products, dairy products and meat by category and nationality. These data explain the basic overview of agricultural trade between the EU and China. Second, the EU Common Agricultural Policy (CAP) is used as an entry point to analyze the impact of CAP on agricultural production and trade within the EU and how it indirectly or directly affects the agricultural trade between the EU and China. Finally, based on the "One Belt, One Road" and trade facilitation, we analyze how China's "One Belt, One Road" policy promotes bilateral trade facilitation and what advantages it can bring to China-EU agricultural trade in the future.

Field of Study: European Studies

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Student's Signature

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TABLE OF CONTENTS

	Page
ABSTRACT (THAI)	iii
ABSTRACT (ENGLISH).....	iv
ACKNOWLEDGEMENTS.....	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	viii
Introduction.....	1
Researchable problem	2
Research Objectives	3
Hypotheses	3
Scope	4
Conceptual Framework	5
Methodology	5
Literature Review.....	5
1. General characteristics of agricultural trade between China and the EU	8
1.1 China's trade deficit increases as trade size increases rapidly.....	8
1.2 Analysis of the trade characteristics of primary agricultural products and significant countries in the EU and China.....	13
1.2.1 Germany	13
1.2.2 France	15
1.2.3 United Kingdom.....	16
1.2.4 Netherlands.....	16
2. The impact of production policies on agricultural trade in the EU	18
2.1 The Impact of the EU Common Agricultural Policy on EU Agriculture	18
2.2 The Impact of the Common Agricultural Policy on EU Trade.....	22
3. EU Agricultural Trade under Trade Facilitation	24
3.1 Trade Facilitation and agricultural trade	24

3.2 China and EU Efforts to facilitate trade in agricultural products.....	27
3.2.1 China-Europe Secure Smart Trade Route Pilot.....	27
3.2.2 The signing of the Sino-European trade agreement	28
3.3 "One Belt, One Road" and trade facilitation.....	30
Conclusion	34
REFERENCES	36
VITA	39



LIST OF FIGURES

	Page
Figure 1 Conceptual Framework	5
Figure 2 Agri-food Trade Statistical Factsheet EU-China	9
Figure 3 The EU agri-food exports to China in 2021	10
Figure 4 The EU agri-food exports to China in 2021	11
Figure 5 EU exports and imports of agricultural products by main partner, 2021	12
Figure 6 EU exports and imports of animal products by main partner, 2021	13
Figure 7 International trade; import and export value, SITC-1, countries, from 1917-17	
Figure 8 Output value of the agricultural industry, 2010 and 2013-15.....	20
Figure 9 2013-2021 Number of China-European Liners.....	31

Introduction

China is a major agricultural producer and a major agricultural trade country and has become an essential player in the international agricultural trade market since China joined the WTO in 2002. According to statistics from the Chinese Ministry of Commerce, China's total agricultural import trade grew from \$78.1 billion in 2007 to \$216.81 billion in 2018. It has become an important global trading country for agricultural products. China's main trade partners are neighboring countries and regions, such as ASEAN countries, Brazil, and the U.S. is also an important agricultural importing country for China. After 2007, with China's economic development, people's quality of life level became relatively high, the demand for agricultural products in terms of quality and quantity also growing, China's agricultural trade deficit began to increase, and China's agricultural trade with the EU ushered in a different development during this period. The agricultural trade between China and EU has seen a different development during this period. Meanwhile, the trade game between China and the U.S. has always touched the nerves of China's international market, including agricultural trade in recent years, and to get rid of the excessive dependence on U.S. agricultural imports, broaden the sources of food imports and guarantee the stability of China's domestic food market, how to strengthen inter-regional economic integration and seek diversified international markets has become the focus of China's foreign trade policy. "As one of the economic organizations along the "Belt and Road," the economic and trade agreements between the EU and China will surely bring new opportunities for bilateral agricultural trade.

With their unique geographical advantages and climatic conditions, the EU countries have excellent agricultural resources. With the support of the EU CAP, the EU's agriculture has obvious competitive advantages in the world market. Over the years, bilateral trade cooperation has never stopped to strengthen economic exchanges between Asia and Europe. Still, due to geographical distance and language and cultural differences, the agricultural trade network between China and Europe is not very close compared to ASEAN and other economic organizations in Asia and Europe. Moreover, since the accession of 13 new EU member states, the agricultural trade environment

between China and the EU has become more unpredictable due to various factors such as geographical distance, domestic policies, language, economic scale, and religious beliefs. Therefore, accurately grasping the current situation of bilateral agricultural trade and analyzing the factors affecting agricultural trade between the two sides is particularly important for future cooperation between the EU and China.

Researchable problem

First, what are the underlying causes of the changes in agricultural trade between the EU and China? Regarding trade theory, factor endowment, and productivity differences are essential reasons for driving trade. What are the characteristics of agricultural trade between China and the EU? This is the first question studied in this paper.

Second, how does the EU's Common Agricultural Policy affect agricultural trade between the two sides? The Common Agricultural Policy is the most important agricultural policy of the EU, which determines the direction of EU agricultural development. The EU Common Agricultural Policy reform determines the total amount and price of agricultural production in the EU. It affects the self-sufficiency rate of all agricultural products, which will inevitably affect agricultural trade. How will this policy cause changes in production and marketing in EU member states? How will these changes affect agricultural trade between the EU and China? This is the second question studied in this paper.

Finally, how does trade facilitation affect agricultural trade between the two sides? Since China's "One Belt, One Road" initiative, the EU and China have undergone significant changes in trade traffic patterns, and exchanges in customs clearance cooperation have also been enhanced. The European region is one of the critical areas of cooperation in the concrete implementation of the Belt and Road Initiative. What are the measures to facilitate trade between the EU and China under this policy? What is the impact of these measures on the promotion of trade cooperation between the two sides? This is the third question of this paper.

Rationale for study

There is much literature on China's foreign agricultural trade at this stage. Still, there is less research on the agricultural trade of an integrated organization like the EU and how much of the literature treats the EU as a whole. This paper not only deals with the overall level of the EU but also focuses on the trade between EU internal member states and China.

Although the EU is a whole, its member states have uneven economic development, common agricultural policies, and intra-EU member states' agricultural trade, which affect the agricultural trade between China and Europe. The allocation of EU agricultural subsidies affects agricultural production in EU member states. Exploring the relationship between output and intra-trade and linking it to China's agricultural trade can better elucidate how production in EU countries finally affects agricultural trade with China.

Research Objectives

Main objective

The main objective of this paper is to forecast the development prospects of agricultural trade between China and the EU and make relevant policy recommendations. This paper will analyze the current situation and characteristics of agricultural trade development between the EU and China based on international trade theories and Relevant empirical data, focusing on the EU's Common Agricultural Policy, agricultural trade policy, and China's Belt and Road policy.

Hypotheses

State assumptions about

The Common Agricultural Policy (CAP) and the internal agricultural trade of EU member states are two points of interest in the intra-EU agricultural trade. The allocation of EU agricultural subsidies will affect member states' agricultural production and trade among them. This paper attempts to link two points to illustrate how this has affected agricultural trade between the EU and China.

China proposed the "One Belt, One Road" initiative in 2013, which is dedicated to the interconnection of Asia, Europe, Africa and nearby oceans, helping China to increase the sources of agricultural imports as well as promoting the access of domestic agricultural products to international markets.

Scope

Object of the study

This paper will focus on the trade of vegetables and fruits, meat, fishery products, and dairy products because the EU's agricultural products imported from China are mainly vegetables and fruits, and fishery products. Exports of agricultural products are mainly meat and dairy products. The main choices of member states within the EU are the Netherlands, Germany, the UK, Spain, and France.

The data used in this paper are from the CEPII-BACI trade database; because the melamine incident of milk powder in China in 2008 seriously hit Chinese dairy products, Chinese consumers, especially the younger generation of families, are more likely to choose to buy imported milk powder from abroad, the article chooses 2007 data as the beginning. The UK used to be EU essential agricultural trade partner, so this paper wants to include the UK in the analysis.

Conceptual Framework

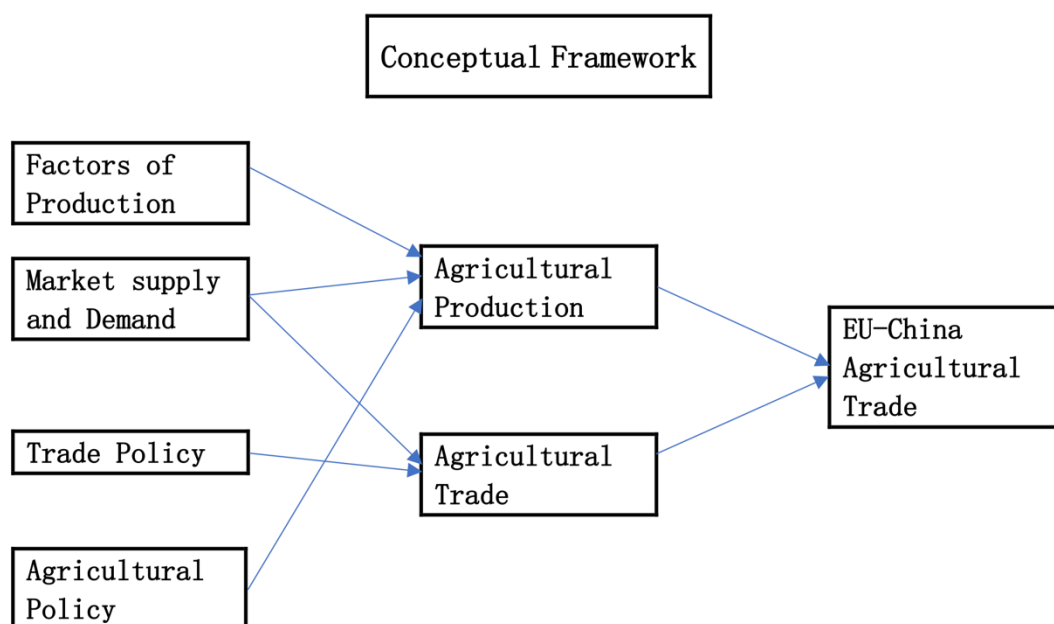


Figure 1 Conceptual Framework¹

Methodology

This paper combines thesis research and empirical analysis in terms of research methodology.

Literature Review

EU Common Agricultural Policy and Trade-Related

There is less foreign research on China and the EU trade in agricultural products. Still, there is some literature on the EU agricultural trade. As early as 2000, B. Borrell and L. Hubbard showed through a study that the EU has shifted from being a large net importer to a large exporter of agricultural products under the influence of the CAP and pointed out that this shift has imposed significant costs on the EU and other regions of the world for university agricultural exporters. A. Matthews (2008) argues that the EU needs to provide more accessible market access for agricultural exports from developing countries when reforming the CAP. L. Kornher and J. von Braun (2020), in their analysis of the impact of EU agricultural and trade policies on agricultural

¹ Figure 0.1 was produced by the author.

development and food security in Africa, point out that the current EU agricultural subsidy policies are much less of an impediment to agricultural development in Africa than they were before the elimination of export subsidies and coupled subsidy payments. K. Boysen-Urban, M. Brockmeier confirm through an index analysis that there has been a reduction in trade distortion as a result of the implementation of decoupled payments in the EU. The focus of research on the EU Common Agricultural Policy (CAP) is now also changing, as E. Erjavec and M. Lovec confirm in their 2017 publication that, over time, the focus of research on the EU CAP has shifted from market distortions exclusively to international trade and budgetary decision-making frameworks, as well as to broader social issues.

China's agricultural trade

In recent years, studies on China's agricultural policies after WTO accession, China's regionalization, and Belt and Road policies on agricultural trade have gradually become hot topics. For example, J. Huang (2007) and others, using the China Agricultural Research Center's Agricultural Policy Simulation and Forecasting Model (CAPSIM) analysis, point out that WTO accession does lead to lower prices and higher imports of agricultural products. Still, China has a relatively large comparative advantage, and trade liberalization can benefit those firms that mainly export agricultural products and production. S.-Q. He (2010) studied the changes in agricultural trade patterns before and after China's WTO accession based on RSCA index analysis. H. Qiu et al. (2007) used a global trade analysis model, and the China Agricultural Decision Support System to study the China-ASEAN. M. He, Z. Huang, et al. (2016) used the RCA and TCI indices to study the competition and complementarity of agricultural trade between China and the Belt and Road countries. The results showed that competition and complementarity coexisted, but complementarity was more prominent. W. Qiang, S. Niu, et al. (2020) conducted an empirical analysis based on network theory and compared the data to show that while developed countries still occupy an important position in the global agricultural trade network, some emerging economies, such as China, Brazil, and India, have also become important sources of demand and supply for agricultural products. Also, the impact of new crowns and other policies on agricultural trade cannot be ignored; for example, L. Cao, T. Li, R. Wang, and J. Zhu (2021), based on a scenario analysis study, point out that Chinese agricultural

exports are negatively affected in the short term due to covid-19. D. Sun, Y. Liu, et al. (2021), on the other hand, highlight that China's evolving food safety regulations generally limit China's food import trade.

Belt and Road and Trade Facilitation

With the introduction of China's Belt and Road strategy, trade studies on countries along the Belt and Road have become popular in the past few years. For example, B. Ramasamy and M. C. H. Yeung found that improving border management significantly impacts countries' exports along the Belt and Road by comparing the main initiatives of strengthening physical infrastructure and enhancing border management. F. de Soyres, A. Mulabdic, et al. (2019) Using data analysis to point out that the Belt and Road Initiative (BRI) will significantly reduce transport time and trade costs, W. Liu and M. Dunford (2016) argue that the BRI not only benefits China but it is also designed in such a way that all other countries that choose to participate have significant potential gains. However, there are some shortcomings in the current research, as Z. Liu, T. Wang, et al. point out that existing studies ignore that not all bilateral trade relationships are equally crucial for a country.

Research characteristics and findings of existing literature

Firstly, the study of agricultural trade has increasingly considered factors such as trade barriers, tariffs, and trade policies as the trade develops. There is a growing body of research literature on these factors and more.

Secondly, introducing the Belt and Road has opened a new perspective for studying agricultural trade between China and the countries along the route. Scholars have focused on the trade facilitation brought by the policy.

Finally, since the implementation of the EU agricultural policy, the academic community has been divided on its role, but its role in world agricultural trade and food security cannot be ignored. Scholars have paid relevant studies on the EU agricultural policy much attention.

Shortcomings of the current literature

First, the research on how agricultural production policies affect agricultural trade is not comprehensive enough. Production policies directly affect the output and supply of agricultural products and thus directly affect the foreign trade of agricultural products, which should be given more attention.

Secondly, there is less research on agricultural trade between the EU and China. With the Belt and Road Initiative, trade between EU countries along the Belt and Road and China is bound to become more and more frequent. Under the trend of reverse globalization, it is also worth paying attention to how China and the EU can strengthen agricultural trade and cope with the food crisis.

1. General characteristics of agricultural trade between China and the EU

Since it acceded to the World Trade Organization, China's agricultural trade has grown rapidly, becoming the third largest agricultural trade country after the EU and the US. China's traditional agricultural trade partners are mainly Asian countries, Brazil, the United States, etc. However, the growth rate of agricultural trade with the EU has accelerated in recent years. Agricultural products are also one of the main areas of the EU's trade surplus with China, and in some agricultural products, the EU has become the largest supplier to China. The agricultural trade between the EU and China has different degrees of influence on the development of China's agricultural industry, the supply security of agricultural products, and farmers' income increase. China generally shows high dependence on some agricultural products in China-EU agricultural trade, a sharply widening trade deficit, and fluctuating import prices. This is not only due to the changes in the agricultural production and consumption structure of both sides, etc. but also related to the trade policies of China and Europe. From an overall perspective, in recent years, China-EU agricultural trade has been characterized mainly by the following:

1.1 China's trade deficit increases as trade size increases rapidly

The EU has become the third largest region for China's agricultural exports, and its imports are only behind the US and Brazil. At the same time, China is also the EU's fourth largest agricultural import region; especially after the outbreak of the Russia-Ukraine war and the ban on Russian exports to the EU, the EU has strengthened its cooperation with China.

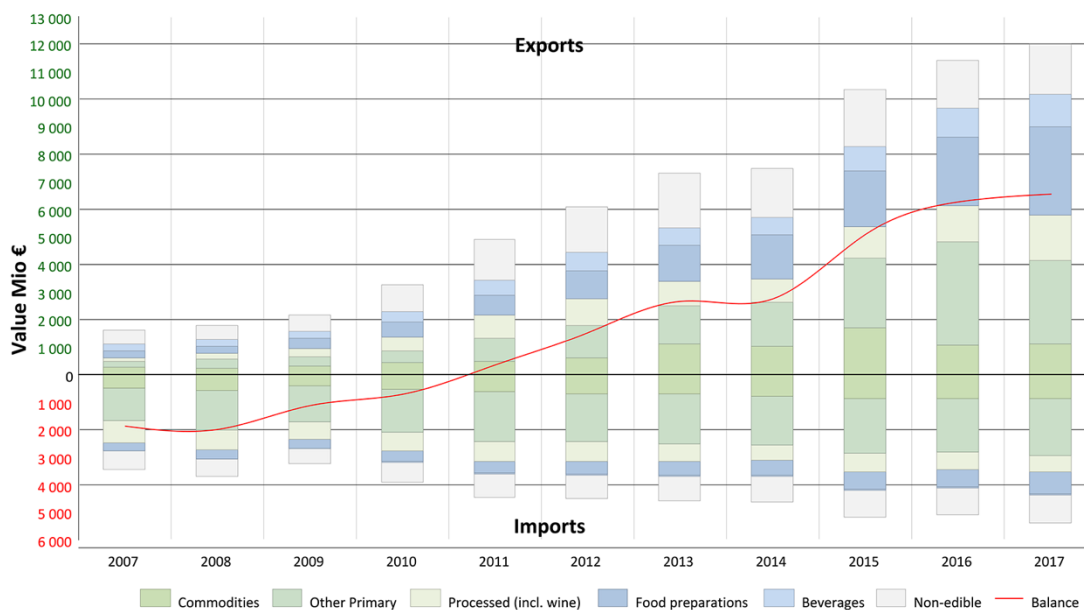


Figure 2 Agri-food Trade Statistical Factsheet EU-China²

According to the information from 2017, the EU exported 11.978 billion euros to China for agricultural products, with a trade surplus of 6.57 billion euros. From the figure, we can see that during the decade 2007-2017, the trade difference between China and EU agricultural products has changed dramatically. China's agricultural trade with the EU has turned from a surplus to a deficit, and the scale of the deficit tends to further expand.

According to European Commission data, By 2017, the top three categories of agricultural products imported into the EU by China were infant food and other cereals, flour, starch or milk preparations, a total of 2,344 million euros, Pigmeat, fresh, chilled, and frozen, A total of 1.204 billion euros for wine, vermouth, cider, and vinegar, a total of 1.159 billion euros, compared to the latest data from the European Commission (2021). See the chart below:

² Source: Agri-food Trade Statistical Factsheet EU-China, by the European Commission.

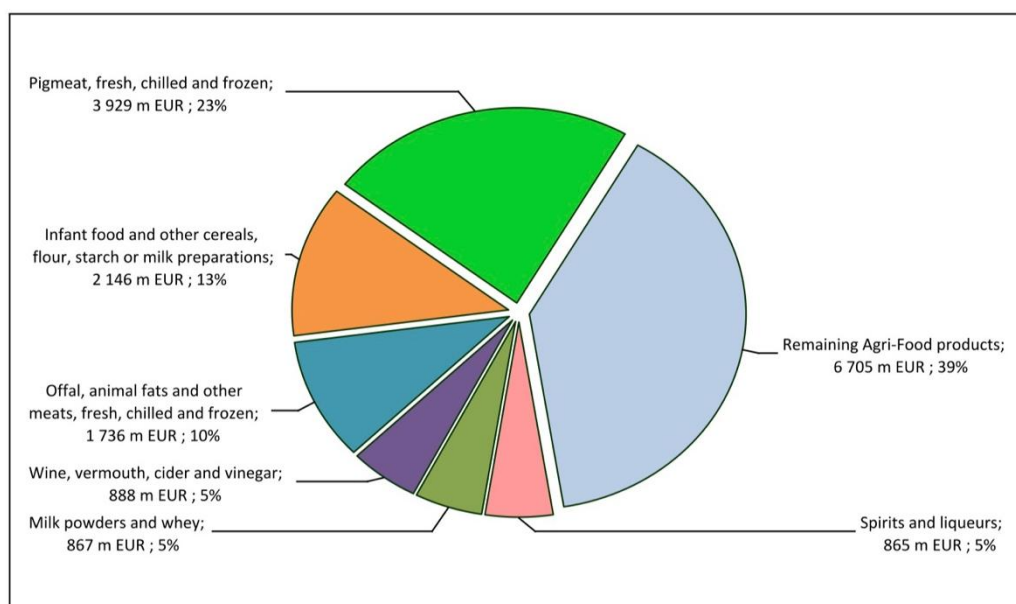


Figure 3 The EU agri-food exports to China in 2021³

Pigmeat is more than infant food and other cereals, flour, starch, or milk preparations. EU's largest agricultural export to China, Offal, animal fats, and other meats, then replaced wine, vermouth, cider, and vinegar, Became the third largest export of agricultural products.

From the perspective of EU exports to China, the product structure has changed significantly. Before 2013, alcohol was the most exported agricultural product from the EU to China, wine had replaced liquor as the largest agricultural product exported from the EU to China, and dairy agricultural products had explosive growth from 2010 onwards, with baby food accounting for the highest proportion. baby food was the most significant agricultural product exported from the EU to China before 2018. Pork, on the other hand, was the fastest-growing agricultural product in exports, overtaking baby food as the EU's largest agricultural export to China in 2018, while the growth of pork exports also led to the export of pork mince. During the same period, the EU imported mainly from China Offal, animal fats and other meats (fresh, chilled, and frozen) a Total €555 million, Vegetables, fresh (chilled and dried), a total of 541 million

³ Source: AGRI-FOOD TRADE STATISTICAL FACTSHEET European Union – China.

euros⁴ Preparations of vegetables, fruit, or nuts: The total is 364 million euros. And by 2021, the situation will change, as shown in the following chart:

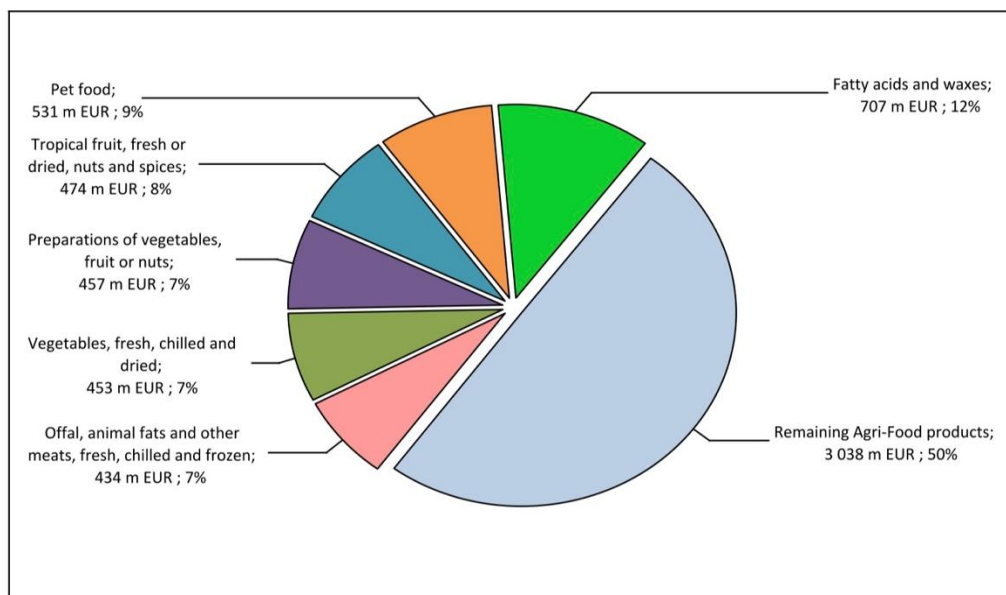


Figure 4 The EU agri-food exports to China in 2021⁵

Fatty acids and waxes became the largest agricultural product imported by the EU to China, with the amount growing from just 70 million euros in 2017 to 707 million, while pet food grew from 266 million euros in 2017 to 531 million euros, becoming the second largest imported agricultural product⁶, Tropical fruit, fresh or dried, nuts and spices slightly more than preparations of vegetables, fruit or nuts become the third.

Regarding trade changes between the two sides, some agricultural products in which China has traditional advantages are in China's trade with the EU, the trade surplus is shrinking, and in numerous agricultural products, the EU and China have formed a certain scale of trade exchanges. However, China is not the EU's most important agricultural trade partner. The agricultural trade within the EU accounts for a considerable part of the total trade volume, even more than 50%, before the UK left the EU, while the more important external agricultural export objects of the EU are the US, Switzerland, China, Russia, and Japan. The EU's exports to Switzerland and Japan are growing more slowly, while the biggest decline comes from Russia, and China is

⁴ https://ec.europa.eu/eurostat/statistics-explained/images/d/de/EU_trade_with_China2022.xlsx

⁵ Source: AGRI-FOOD TRADE STATISTICAL FACTSHEET European Union – China.

⁶ https://agriculture.ec.europa.eu/system/files/2022-04/agrifood-china_en_0.pdf

gaining ground with each passing day. As of Eurostat 2021, the UK became the largest exporter of agricultural products in the EU after Brexit, exporting a total of 42 billion euros, or 21%, with the US in second place, accounting for 12%, and China becoming the EU's third export trading partner.⁷

The main agricultural importers of the EU are Brazil, the UK, and the US. As the chart shows:

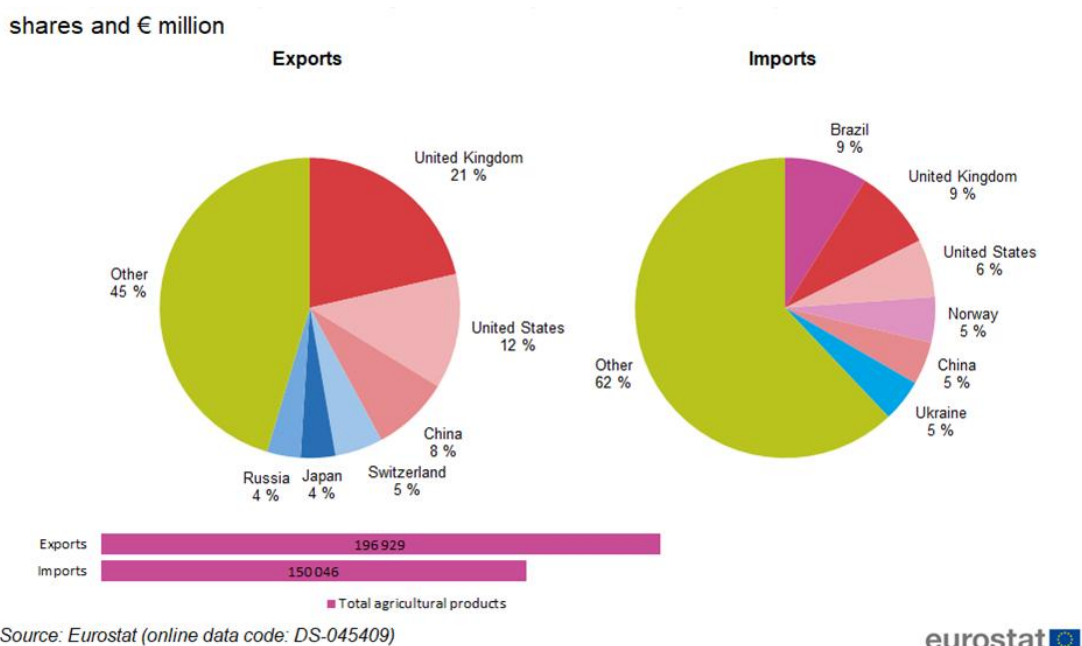


Figure 5 EU exports and imports of agricultural products by main partner, 2021

Like the UK, China is the EU's largest export destination for animal products, with imports amounting to €8 billion. On the other hand, Norway is the EU's largest importer, and the EU mainly imports fish products from Norway. For specific data, see the following chart:

⁷ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Extra-EU_trade_in_agricultural_goods#EU_trade_in_agricultural_products:_surplus_of_.E2.82.AC43_billion

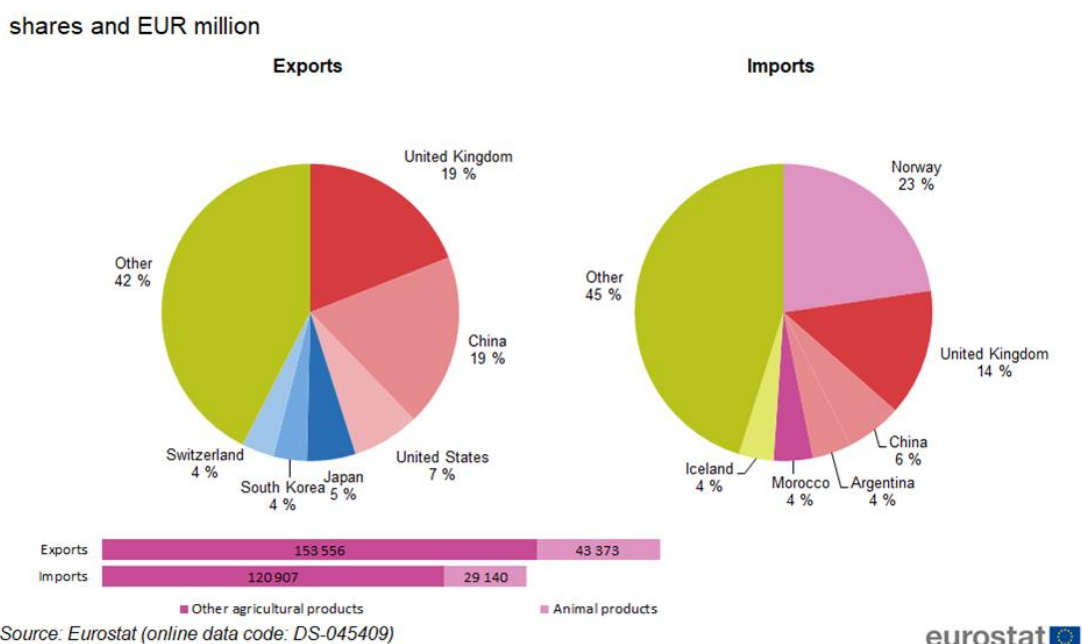


Figure 6 EU exports and imports of animal products by main partner, 2021

1.2 Analysis of the trade characteristics of primary agricultural products and significant countries in the EU and China

China's agricultural trade with EU countries is mainly concentrated in the more economically developed countries. According to the previous analysis, this chapter will focus on the analysis of pork and dairy products, especially baby food, in major countries in the EU because the UK is also an important agricultural trade partner of the EU. Hence, this paper still includes the UK in the analysis, although the UK has left the EU.

1.2.1 Germany

German agricultural and food trade, in general

Germany is a major producer of food and agricultural products and the second largest agricultural producer in Europe, and the agriculture and agricultural products sector is an important part of the German economy. Half of Germany's land is used for agricultural production, and due to the high degree of mechanization in German agriculture, advanced agricultural technology, and high yields, about one-third of Germany's agricultural products are exported today. According to the German Federal Statistical Office⁸, in 2016, German agricultural and food exports exceeded €70.1

⁸ https://www-genesis.destatis.de/genesis/online?operation=find&suchanweisung_language=en&query=2016+Agricicultural+Trade#abreadcrumb

billion for the first time, up 2.6 percent year-on-year; imports were €81.6 billion, up 2.5 percent. In 2017 exports reached €74 billion, up 5.2 percent to a record level; imports grew 5.3 percent to €86 billion. Germany mainly exports cereal, milk, and dairy products, meat, and processed products, beer, wine, and spirits; it mainly imports vegetables, fruits (including processed products), fish products, animal feed, oilseed products, coffee, tea, meat products, tobacco, and cocoa.

Germany is leading in the global trade of agricultural products and foodstuffs. According to the World Trade Organization, in 2016, German agricultural and food exports accounted for 5.8% of Germany's total exports of goods and about 4.7% of total global agricultural exports (\$1,610 billion), ranking third after the United States and the Netherlands. The main characteristics of its agricultural exports are: agricultural and food exports continue to grow strongly, mainly exporting high-quality, high-value-added products, EU countries are Germany's most important agricultural trade partners, agricultural trade with developing countries imports more than exports, and the primary growth in exports to non-EU countries comes from the United States and China.

Characteristics of agricultural trade between China and Germany

Although China's imports to Germany are growing fast, the scale of imports is not large in general. The main imports are concentrated in pork and pig mince, followed by fresh milk, milk powder, beer, and baby food. Although dairy products are also the main agricultural products exported from Germany to China, the recent situation is that the export of milk powder has dropped significantly in the past three years, and the demand for non-infant milk powder has declined since 2014, while fresh milk and cream category has grown steadily. The reasons for this are the decline in demand for milk powder in the Chinese domestic market and, second, the formation of a competitive relationship among EU countries for milk product exports. Conversely, aquatic products are the largest category of agricultural products from China to Germany. Germany has a short coastline, no large ports, less fish production, and a large gap; Germany imported 353 million euros of fish to China in 2017, close to 554 million in 2018 and 2017.

1.2.2 France

French agricultural and food trade in general

France is the largest agricultural country in Europe, and the agriculture and agricultural products sector is one of its main export sectors. its trade surplus was €5.5 billion in 2017, ranking third after the aerospace and chemical industries. according to the FAO, France is the leading agricultural producer in Europe, accounting for 18% of the EU's agricultural production. France's main agricultural exports include wheat, corn, cereal crops, pork, beef, and dairy products. France is also known for its wines and is the world's largest wine producer.

In addition to ensuring production, France has high-quality requirements for its agricultural products. For example, France has a legal ban on the use of hormones on cows in the region, cows receive official supervision from birth, and any dairy products are traceable to the source. In addition, French companies have accumulated rich experience in the export of dairy products, and the economy cooperates with trading partner countries to develop overseas markets. French Danone, Roget, and Chinese dairy giants such as Mengniu and Yili cooperate closely.

Characteristics of agricultural trade between France and China

France is the largest exporter of agricultural products to China among EU countries. Wine is its most important agricultural export. Dairy products follow closely behind, with imports of milk powder and whey reaching \$120 million in 2017, and imports of fresh milk and cream reaching \$120 million. Imports of infant milk powder were relatively stable, basically maintaining a scale of more than USD 100 million. Imports of dairy products accounted for 15.9% of total imports. Imports of pork and pork mince categories reached \$300 million, accounting for 10.7% of total imports. Imports of these two categories have grown steadily, with imports more than twice as high as in 2007.

Chinese exports to France reached \$730 million in 2017, an increase of \$190 million compared to 2007. Like Germany, the main agricultural product China exports to France is aquatic products. the value of exports in 2017 was \$200 million, accounting for about 30% of total exports, and the share has not changed much. In general, China's exports of other agricultural products to France are not significant in value per category.

1.2.3 United Kingdom

UK agricultural and food trade in general

According to the Department for environment food and rural affairs (2021), agriculture contributes about 0.5% to the UK economy. Of this, 60% comes from livestock, with dairy products and beef being the two largest categories. However, the UK's largest export is whisky, which will total £4.6 billion in 2021. Cereals, milk, and cream follow closely behind. It is worth mentioning that salmon is also the UK's leading export of aquatic products, the UK has a long coastline, so it has rich fisheries resources; in recent years, the British Sea actively opens direct flights to China, and aquatic products can be quickly shipped directly to China, to improve the competitiveness of British aquatic exports.

Characteristics of agricultural trade between the UK and China

The UK's exports to China are more diversified than those of other countries because the UK does not focus on agricultural production primarily to meet its own needs, unlike other export-oriented EU member states. UK agricultural exports to China are the least growing among the countries analyzed in this paper. The UK's largest export to China is fishery products. Salmon accounts for more than half of them. In order of size, the remaining exports are whisky, milk powder, and pork.

The UK also imports the most aquatic products from China, with the scale of UK imports of aquatic products in 2017 is about \$250 million, followed by vegetables. In recent years, the scale of China's agricultural exports to the UK has changed little, with pet food, vegetable, and fruit exports showing a growing trend. The UK's lack of local agricultural output is the main reason for diversifying agricultural exports and imports to China.

1.2.4 Netherlands

Dutch agricultural and food trade, in general

The Netherlands has a long history of agriculture and agricultural trade. The Netherlands is one of the world's largest agricultural exporters, with the main agricultural sectors being greenhouse horticulture, dairy farming, and livestock farming. The Netherlands exports a wide range of agricultural products, including vegetables, fruits, flowers, dairy products, meat, and fishery products. The Netherlands

is also one of the world's largest agricultural trading countries, with its main trading partners including Germany, Belgium, the UK, and France. The country also has strong trade ties with non-European countries such as the United States, China, and Japan. On the other hand, the Netherlands is committed to using high technology, including precision agriculture, robotics, and biotechnology, to create precise, ecological agriculture. These advantages make the Netherlands one of the most critical countries in the world for dairy exports.

Characteristics of agricultural trade between the Netherlands and China

The Netherlands' agricultural trade with China is growing at the fastest rate, as shown in the following graph:

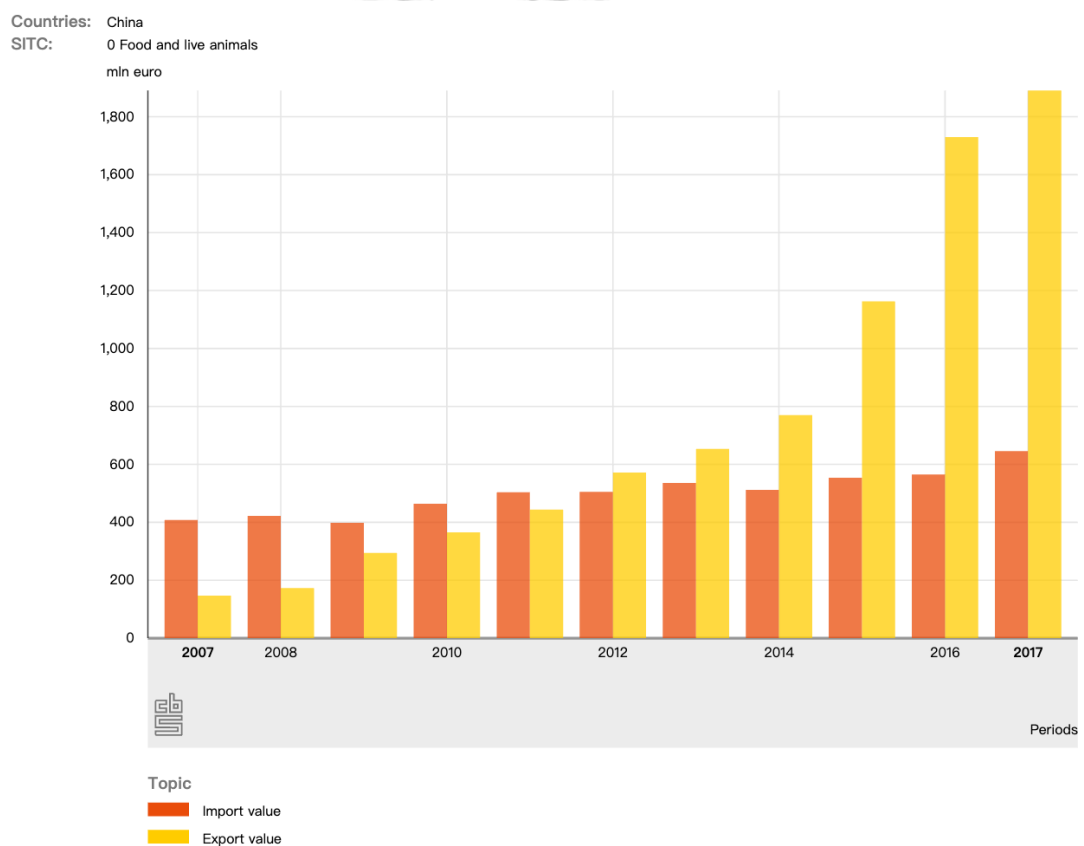


Figure 7 International trade; import and export value, SITC-1, countries, from 1917⁹

Export value increased almost nine times within ten years, while Chinese exports to the Netherlands hardly changed much. Regarding the types of agricultural products exported from the Netherlands to China, baby food, pork, and pig mince categories

⁹ Source: National Statistical Office of the Netherlands.

grew significantly, from 17 percent to 26 percent. Trade in milk powder imports also rose to more than \$100 million. This is mainly due to the increased demand for baby food and milk powder in China, which also drives the export of other Dutch dairy products, including butter, cream, yogurt, etc. Pork imports, on the other hand, have been on the rise, reaching upwards of 120,000 tons by 2016. The lack of local production has prompted the Chinese government to actively expand its sources of pork imports, while the Netherlands has actively seized the opportunity to cooperate with China, signing a China-Netherlands meat industry cooperation agreement with the Chinese government in 2017, among others.

Conversely, China's agricultural exports to the Netherlands are more fragmented and relatively small in scale. The scale of exports to the Netherlands is also relatively stable, with little change in the scale of exports of most commodities. Even apple juice, which China once had an advantage, is losing ground with competitors from other EU countries.

2. The impact of production policies on agricultural trade in the EU

Both China and the EU have implemented many agricultural production support policies to help farmers produce and safeguard their interests. The most basic EU production policy is the Common Agricultural Policy (CAP), which has a detailed plan for EU member states and industries. China also has a similar policy, but unlike the CAP's extensive subsidy program, which does not have the same ample funding budget as the EU, China also tries to regulate the supply and demand of agricultural production through market-based means when implementing agricultural subsidies. For example, in 2014, China decided to implement target price reforms for soybeans and cotton in some regions on a pilot basis. In 2016, the temporary corn storage policy was abolished, and a new mechanism of market-based prices and producer subsidies was continuously improved, among others.

2.1 The Impact of the EU Common Agricultural Policy on EU Agriculture

The Common Agricultural Policy (CAP) is the most important agricultural policy of the EU, which is the fundamental guarantee for the development of EU agriculture and determines the direction of EU agricultural development. The EU implemented the first Common Agricultural Policy (CAP) in 1962 to secure food supply, stabilize

agricultural prices, and increase farmers' incentives to produce. In 2013, the CAP saw a major reform, with the policy achieving more significant equity by reducing subsidies to large enterprises and allocating more resources to small farmers, introducing new measures in environmental protection, including ecological programs and green uniforms, encouraging farmers to adopt more environmentally friendly and sustainable planting and farming methods, reducing direct market interventions and price payments, simplify the subsidy application and management process, and expand the scope of subsidies to non-traditional agricultural areas. Overall, the reform aims to improve the sustainability and competitiveness of agriculture while paying more attention to environmental protection and market orientation. In 2019, the EU revised its 2013 policy, and this reform places more emphasis on environmental protection and climate action, adheres to market orientation, and Supports agricultural innovation and research.

The 2013 CAP reform came into effect on January 1, 2014, and with a projected budget of €2013 billion for the 2014-20 period, direct payments will continue to form an important part of the EU's agricultural and rural development. According to Eurostat data, the following chart:

	Value (million EUR)				Share of EU-28 (%)	
	2010	2013	2014	2015	2010	2015
EU-28	367 754.3	425 683.6	418 713.2	411 156.9	100.0	100.0
Belgium	7 758.2	8 614.1	8 124.2	8 116.8	2.1	2.0
Bulgaria	3 821.9	4 393.8	4 302.0	4 033.2	1.0	1.0
Czech Republic	4 058.1	4 935.8	4 976.1	4 550.4	1.1	1.1
Denmark	9 740.9	10 963.4	11 034.2	10 269.2	2.6	2.5
Germany	46 019.0	57 738.6	55 921.6	51 548.2	12.5	12.5
Estonia	668.3	924.1	900.2	935.1	0.2	0.2
Ireland	5 822.0	7 671.4	7 293.8	7 397.1	1.6	1.8
Greece	10 567.5	10 365.3	10 302.6	10 665.3	2.9	2.6
Spain	40 371.2	44 064.7	43 993.8	45 490.7	11.0	11.1
France	68 125.2	74 184.5	75 189.7	75 167.4	18.5	18.3
Croatia	2 914.3	2 535.4	2 280.8	2 277.4	0.8	0.6
Italy	48 159.8	57 519.7	54 193.3	55 203.9	13.1	13.4
Cyprus	685.7	697.2	662.6	693.4	0.2	0.2
Latvia	941.6	1 299.3	1 288.7	1 402.1	0.3	0.3
Lithuania	2 042.5	2 855.9	2 805.9	2 971.8	0.6	0.7
Luxembourg	325.3	444.8	445.4	401.4	0.1	0.1
Hungary	6 121.8	7 810.5	7 957.0	7 925.5	1.7	1.9
Malta	126.1	132.0	126.1	128.1	0.0	0.0
Netherlands	25 318.7	28 241.2	27 086.0	26 708.2	6.9	6.5
Austria	6 315.5	7 008.9	6 947.0	6 778.8	1.7	1.6
Poland	19 768.8	23 663.4	23 041.7	22 320.2	5.4	5.4
Portugal	6 451.7	6 797.4	6 823.1	7 079.9	1.8	1.7
Romania	15 301.4	17 756.2	16 770.8	15 535.9	4.2	3.8
Slovenia	1 103.6	1 159.7	1 226.4	1 263.6	0.3	0.3
Slovakia	1 886.6	2 407.0	2 391.8	2 160.7	0.5	0.5
Finland	4 214.0	4 844.5	4 605.4	4 270.2	1.1	1.0
Sweden	5 379.0	6 405.5	6 215.6	6 239.5	1.5	1.5
United Kingdom	23 745.7	30 249.7	31 807.5	29 623.1	6.5	7.2
Iceland	292.2	376.1	427.8	425.3	0.1	0.1
Norway	4 626.4	5 177.2	5 105.2	5 507.4	1.3	1.3
Switzerland	7 278.9	8 376.2	8 801.8	8 323.0	:	:

Note: values at basic prices.

Source: Eurostat (online data code: [aact_eaa01](#))

Figure 8 Output value of the agricultural industry, 2010 and 2013-15

Following the implementation of the new CAP, the total agricultural output of the EU28 was estimated to be worth €410.2 billion at basic prices in 2015, with France being the largest agricultural producer in the EU, accounting for 18.3% of the total EU28 output, followed by Italy at 13.4%, Germany at 12.5 and Spain at 11.1%. Compared to 2010, the value of the agricultural industry rose in 2015 in all EU member states (except Croatia), with an increase of €7 billion in France and Italy, €5.9 billion in the UK, €5.5 billion in Germany, and €5.1 billion in Spain, and a relatively large increase in agricultural output in Poland in the same period.

The EU's Common Agricultural Policy influences agricultural trade in the EU through market support and price interventions. For example, market intervention mechanisms are used to control the volatility of agricultural prices and thus protect the interests of EU agricultural producers. By heavily subsidizing agriculture, it drives up the production prices of agricultural products. With the incentive of the Common Agricultural Policy, the agricultural supply of the EU greatly exceeded the output. The excessive supply hit the world agricultural market. The world price of relevant agricultural products fell, and the falling agricultural prices drove the global market demand. In terms of imports, the EU's Common Agricultural Policy affects agricultural imports by protecting domestic agricultural production and raising standards for agricultural products because the EU sets strict standards for agricultural products, and agricultural products from non-EU countries may need to undergo more inspections and certifications to enter the EU market, thus increasing their import costs. In addition, the EU's agricultural export subsidies may lead to higher prices for imported agricultural products. For exports, the EU's Common Agricultural Policy influences agricultural exports by supporting EU farmers and improving the quality of agricultural products. Agricultural products exported from the EU are usually of high quality and value-added, making them competitive in international markets. However, trade barriers and tariffs in other countries may also limit the EU Common Agricultural Policy.

Trade within the EU also affects external trade; Viner (1950) pioneered customs unions' trade creation and diversion effects. Magee (2008) points out that regional agreements have a significant expected impact on trade flows. In a customs union, due to free trade, countries in the trade area form regional value chains based on comparative advantage, costly trade products are replaced by products traded in the first place within the alliance and new trade is created within member countries. As a result, the cost of products exported by third countries to the alliance will increase. As a result, countries within the alliance will reduce their external imports, thus generating trade diversion. Agricultural products have two characteristics compared to other industrial products: First, agricultural development is affected by the natural environment and geographical factors, and uncertainties are large, so the government will be more protective of its agriculture, which makes agricultural import demand more vulnerable

to the influence of the customs union. Second, agricultural trade can easily set up various barriers, giving countries more room for agricultural protection.

2.2 The Impact of the Common Agricultural Policy on EU Trade

The previous data shows that the CAP has profoundly impacted agricultural production and trade in EU member states. The impact of the CAP on EU countries can be divided into those on the old EU-15 (the founding six countries, UK, Denmark, Ireland, Greece, Portugal, Spain, Austria, Finland, and Sweden) and the 13 new EU accession countries (Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malaysia, Poland, etc.). First, because the relative cost of production has changed, the member states have invested more resources in producing relatively low-cost agricultural products. In particular, the EU13 countries, which do not have an advantage in their agricultural productivity, must rely on low costs to gain more markets. Second, the EU is a single country with a unified agricultural production policy and a large free trade area. Each internal country is affected by the "trade creation effect" and "trade diversion effect." Both of these effects encourage EU member states to shift trade from high-cost to low-cost regions, and China has not yet reached an FTA with the EU so it may be affected by this effect.

As a customs union, trade barriers between member states are removed, and the EU can protect the interests of farmers by implementing a standard tariff. In particular, the EU agricultural products are generally overproduced. The FTA makes the price advantage of agricultural products traded within EU member states greater than that of third countries, making EU imports from third countries decrease. Under the influence of the EU Common Agricultural Policy, EU countries' agricultural advantages and trade structure are undergoing a major transformation.

The share of imports of most agricultural products from the EU13 has increased, and in general, the proportion of imports of both primary and processed agricultural products has increased at a high rate. For example, according to Eurostat data, the import share of cereal crops also reached about 18%, and soybeans' import share was at 10.0%. From the change, the import share of cereals, dairy products, meat, etc., increased. Generally, the fastest growth rate of imports of processed agricultural products, primary agricultural products, and aquatic products has some import growth, while the non-use of mine agricultural products' import growth is not much. By

comparing countries' access to CAP subsidies, it is found that sectors that receive more subsidies are more competitive and more likely to have a share in the European market.

The internal trade of EU member states inevitably affects the agricultural trade between the EU and China. From the perspective of China's imports to the EU, the biggest impact is on poultry meat, the imports of EU13 have exceeded those of EU15, but the imports in field crops are still the old EU agricultural powerhouses, such as France and Germany, etc. The most apparent growth rate in processed agricultural products is in beverages and confectionery imports; the EU 13 countries' imports grew significantly faster than the 15 countries. At the same time, it can be found that due to the oversupply of superior production agricultural products in the EU15, such as alcohol and dairy products, these agricultural products in the EU internal trade volume decreased and gradually tended to export to third countries. Secondly, China still has advantages in products that some EU13 countries lack, such as cotton, hemp, woven products, etc. China has certain benefits in the export of these agricultural products. Finally, China's traditional advantage in agricultural exports, mainly vegetables, and fruits, is declining as the EU increases imports from internal member states.

And because the UK's exit from the EU will directly affect the agricultural production and trade of the whole of Europe, the UK is the main agrarian trade partner of the EU; if the EU can't reach a Brexit agreement with the UK, then the UK and the EU import and export will no longer be zero tariffs, the UK exports will face the most favored nation treatment, and the outbound tariff will have a significant increase. Due to the UK's withdrawal, CAP's budget will also drop significantly; all these factors will affect the EU's agricultural production, the EU's overall agricultural competitiveness may decline, and exports to China will face more fierce competition.

In the case of a hard Brexit, the UK will leave the EU's single market and customs union and lose the advantage of tariff reductions with EU member states. This means that the UK could impose tariffs on agricultural imports from the EU, increasing their costs. At the same time, a hard Brexit could require the UK to renegotiate trade agreements with the EU, including on agricultural trade. If the two sides cannot agree, trade barriers such as tie-in restrictions, import licensing requirements, or other non-tariff measures may emerge, adversely affecting the UK's agricultural exports to the EU market. A soft Brexit, on the other hand, means that the UK and the EU may reach a

trade agreement that maintains a closer trade relationship. Depending on the regulation of the deal, trade in agricultural products could remain low or achieve zero tariffs, or, in some cases, remain tariff-free. A soft Brexit may require the UK to continue to comply with EU standards and regulations to ensure compliance and quality of agricultural products. This may involve meeting EU health, food safety, and environmental standards to sell agricultural products on the EU market.

China's exports of agricultural products to the UK are second only to Germany and the Netherlands. The export of superior varieties of farm products to the UK is stable, and China has started negotiations on establishing an FTA.

3. EU Agricultural Trade under Trade Facilitation

The existence of barriers to trade facilitation is one of the factors affecting the growth of international trade, especially in the context of sluggish world economic growth and weak market demand; countries hope to stimulate trade growth by establishing an efficient trade facilitation system, removing barriers to the cross-border flow of trade factors and reducing transaction costs. At the enterprise level, trade facilitation can benefit the country by enabling enterprises to obtain more production inputs from abroad and participate more frequently in global value chains. Trade facilitation is even more critical for agricultural products because of their high demand for logistics and transportation, and trade facilitation can maximize the value of farm products. More and more cross-border transactions are taking place, and the need for trade facilitation is increasing.

3.1 Trade Facilitation and agricultural trade

Bureaucratic red tape burdens cross-border trade in transporting goods, so trade facilitation - the simplification, modernization, and harmonization of import and export processes - has become an important issue in the world trading system (WTO).

Trade facilitation refers to measures to facilitate the smooth conduct of international trade by reducing trade procedures and easing trade restrictions. The definition of trade facilitation began with the WTO. Its objectives are to reduce trade costs, improve trade efficiency, increase the ease of trade activities, and promote economic growth and development. According to the definition of A Portugal-Perez, JS Wilson (2012), trade facilitation in a broad sense refers to a set of policies that reduce

the cost of imports and exports and is a crucial option for reducing trade costs in developing countries. While in a narrow sense, trade facilitation is related to reducing border transaction costs, which involves the simplification and standardization of customs procedures and administrative procedures related to international trade. Trade facilitation measures can be carried out in two ways: a hardware aspect related to physical infrastructure such as roads, ports, highways, and telecommunications, and a software facility aspect related to transparency, customs, business environment, and other institutions.

Unlike industrial products, agricultural products are more heavily influenced by trade facilitation due to their unique characteristics. These characteristics are mainly: first, agricultural trade is more time-sensitive. The length of time from production to consumption of agricultural products determines the scale of their entry into a country's market, and agricultural products themselves are not easy to preserve; without good storage conditions, the scale of trade in agricultural products will be limited, especially fresh agricultural products, the equipment, and use of cold chain equipment in developing countries is usually not widespread, in the transport of fresh agricultural products, often subject to the constraints of transport technology, so that agricultural products are subject to unnecessary Losses. David Hummels (2007) points out that the time spent on local transportation and customs clearance is as vital as the time spent on national shipping and that delays reduce the possibility of exporting the products.

Secondly, strict quality testing steps exist for agricultural product import and export trade. Import and export of agricultural products usually have to go through the relevant inspection and quarantine departments. For example, the import of vegetables and fruits agricultural products must show the plant quarantine certificate and the import of animal products and aquatic products needs a health quarantine certificate. In contrast, once the standard of agricultural product inspection increases, it means an increase in customs clearance time. For example, the EU is constantly increasing the residue limit standards for agricultural products. The relevant regulations released and adjusted have increased the customs clearance time for the relevant agricultural products.

Third, additional infrastructure development. There are strict requirements for the storage of agricultural products in customs, and qualified cold chain storage needs

to be provided. For example, most agricultural products entering the EU have to pass through the ports of the Netherlands and Belgium; the main reason is that both places have a complete cold chain logistics system. Still, such a route often increases the related logistics costs, so the investment in infrastructure plays a crucial role in agricultural trade.

Policies influence the fourth agricultural trade. Policies affecting agricultural trade include agricultural production, trade, tax, and industrial production policies. This is because of the dual attributes of agricultural products, which can be traded as commodities and used as factors of production to promote the development of agriculture and industry. On some level, agricultural products as factors of production can be regarded as unique industrial goods. The EU also charges higher tariffs on processed agricultural products because of this. And as trade in agricultural products grows, the proportion of trade in processed agricultural products will increase and, therefore, be more affected by various non-agricultural policies.

On the other hand, trade facilitation can have several positive impacts on agricultural trade: First, trade facilitation reduces trade barriers, including tariff and non-tariff barriers, and expands market access, making it easier for agricultural products to enter global markets and increasing exports and sales of agricultural products. Second, trade facilitation encourages more diversified agricultural trade among countries. By lowering trade barriers, simplifying trade procedures, and promoting trade diversification, agricultural supplying countries can expand their exports and supply a wider variety of agricultural products to meet the needs of the global market. Third, promoting the integration of agricultural value chains and trade facilitation makes it easier to move agricultural products from producing countries to consuming countries to circulation and promotes the cross-border flow of agricultural production factors, technology, and knowledge. This helps improve the production efficiency and quality of agricultural products. Fourth, trade facilitation also stimulates the competitiveness of agricultural exporting countries, with smoother trade processes and lower trade costs, enabling agricultural exporting countries to offer competitive prices and quality. This helps agricultural producers improve the quality and production efficiency of their agricultural products to meet the demands of the global market. Finally, trade facilitation also helps improve the stability of global agricultural supply.

Through convenient trade flows, agricultural products can flow more quickly from producing to consuming countries, reducing the risk of supply disruptions. This is critical to maintaining global food security and stable markets. Overall, trade facilitation drives the growth of international trade in agricultural products, promotes supply diversification and consolidation, improves the competitiveness of agricultural products, and helps maintain the stability of agricultural supply and market balance.

3.2 China and EU Efforts to facilitate trade in agricultural products

To promote and advocate the security and facilitation of international trade, the World Customs Organization (WCO) introduced 2005 the Framework of Standards to Secure and Facilitate Global Trade, known as the AEO system, which aims to establish a practical framework for trade cooperation to improve the security and efficiency of the movement of goods and to simplify trade procedures with customs. The system encourages companies to voluntarily apply for AEO certification based on a set of criteria and guidelines to be recognized as an "Authorized Economic Operator" (AEO), which is a type of customs recognition that allows certified companies to receive special treatment to obtain a range of benefits and advantages, including faster customs clearance, reduced inspection frequency, priority service, and Enhanced credibility, etc. AEO certification helps enterprises improve operational efficiency, reduce costs, and facilitate the smooth development of international trade. The pilot project of the China-EU Secure Smart Trade Route set up by China and the AEO mutual recognition system of the EU are both specific implementations based on the framework of WCO.

3.2.1 China-Europe Secure Smart Trade Route Pilot

In 2006, China proposed the pilot project of China-EU Secure Intelligent Trade Routes, the first international cooperation project to implement the WCO Framework of Standards fully. The cooperation based on the WCO Framework of Standards is not only in line with the model of world customs development but also with the current situation of trade development in China and the EU. Because the framework has been supported and responded to by most countries, more and more developed countries will reconstruct the customs operation model based on the framework. China and the EU mainly trade by sea with high cost and risk, and it is urgent to strengthen the customs cooperation between both sides.

China and the EU are far apart, and the routes between the two places and their complexities, with many branches, make it difficult for both sides to promote trade in high-value goods and to carry out large-scale trade exchanges without proper cooperation mechanisms. The quality has to be fully guaranteed, especially in the transportation of agricultural products. The Safe and Smart Trade Route project can monitor the whole transportation process so that the transportation environment of agricultural products can be better guaranteed. The rapid growth of some agricultural products trade between China and Europe in just a few years cannot be achieved without good transport route management. The hot degree of agricultural product trade between China and Europe has brought considerable pressure on the customs of both sides. The pilot Safe Intelligent Trade Route between China and Europe enables both sides to keep abreast of the trade transport process by sharing the transport data of the trade-in time so that the goods can be cleared and processed the first time after they reach their destinations, reducing the time for the goods to pass customs and relieving the pressure on customs.

Through this project, China will be able to transport its agricultural products more quickly through various ports to various EU member states, including France, the Netherlands, Belgium, etc. Many of the EU's trading partners trade their agricultural products through the ports of these countries. Therefore, by improving the efficiency of customs clearance of goods in these ports, China can improve the competitiveness of its agricultural trade and better trade cooperation with other countries.

3.2.2 The signing of the Sino-European trade agreement

The EU has established close trade relations and numerous trade zones with other countries through bilateral trade agreements. Bilateral trade between China and the EU is growing, which is the basis for establishing the FTA between China and the EU. If China and the EU successfully establish the FTA, the EU could export more agricultural products to China. However, regarding the current negotiations, the EU has high requirements for trade agreements, and the negotiations on the China-EU FTA are not smooth. Based on this, China has reached a separate trade agreement with EU member states for certain agricultural products.

China has now signed a memorandum of understanding with Belgium, Denmark, the Netherlands, Portugal, and other EU countries on trade cooperation in meat,

seafood, wine, and other agricultural products. The content of the memorandum involves the standards of both sides on certification and accreditation, including the exchange and sharing of trade development of related products, the evaluation of the regulatory system of related products, and the exploration of the direction of further cooperation in the future. Since both China and the EU are not yet very deep in cooperation on agricultural trade, many advantageous agricultural products from both sides have not yet entered each other's markets. The conclusion of the MOU is conducive to strengthening the cooperative relationship between China and the EU, establishing a closer cooperation framework, and improving the efficiency and effectiveness of agricultural cooperation. Through cooperation projects and measures, it will contribute to the sustainable development of agriculture by promoting the increase of agricultural production, the dissemination of agricultural technology, and the enhancement of the agricultural value chain. In addition, the impact of the animal and plant quarantine system on trade in agricultural products is very significant. In the agricultural trade between China and the EU, animal meat and fresh agricultural products account for a considerable proportion of the trade, and sanitary quarantine, i.e., a necessary protection of the interests of domestic consumers, is also a hidden and substantial technical barrier measure to the domestic agricultural market. On the one hand, China and several EU member states have actively signed inspection and quarantine agreements for relevant agricultural products, and on the other hand, actively promoted the trade unbanning of some trade agricultural products between the two sides. For example, Chinese shellfish returned to the EU market in 2016 after a 19-year ban, and French beef returned to the Chinese market in 2018 after a 17-year embargo. China and the EU reached an agreement on poultry exports in which the EU agreed to open new tariff quotas for Chinese poultry meat products.

It is worth mentioning that there is no trade agreement between China and the EU, even though several EU member states and China have reached trade agreements for various agricultural products. The two sides still have many differences on many preferential details. Especially on the premise that both sides are large agricultural countries, both sides will be more cautious when negotiating, considering the impact of the FTA on agricultural trade. However, as the EU with uniform trade access standards,

a trade agreement directly from the EU would be more helpful to bilateral trade than a trade agreement with individual member states.

3.3 "One Belt, One Road" and trade facilitation

In 2013, China proposed the "New Silk Road Economic Belt" and "21st Century Maritime Silk Road" cooperation initiatives, referred to as "One Belt, One Road." The "Belt and Road" is a major development strategy that aims to promote connectivity and economic cooperation among countries along the route and to promote joint development and prosperity through enhanced infrastructure development, trade and investment facilitation, and humanistic exchanges. The Belt and Road Policy consists of two parts: "One Belt" refers to the land-based economic belt, which promotes connectivity and cooperation between Asia, Europe, and Africa by constructing infrastructure such as transportation, energy, and communications. The "One Road" refers to the Maritime Silk Road, which promotes trade and economic cooperation between China and coastal countries by constructing ports, shipping, and sea lanes. Regarding agricultural trade, the Belt and Road have helped China increase its sources of agricultural imports, facilitate the entry of Chinese domestic agricultural products into international markets, and enhance its international competitiveness. "One of the landmark achievements of the Belt and Road is the completion and opening of the China-Europe Class Train.

The China-Europe Class Train started to operate in 2011, with only 17 train trips at the beginning of its operation, and the total value of goods transported was less than 600 million USD per year. After years of operation, the number of runs has increased explosively, and by 2017, the annual number of China-Europe Class trains has reached 3,600. The cumulative number of runs has exceeded 7,600. Among them, 51 routes were operated in China, involving 43 cities, and the primary sources of goods are the provinces and cities in the Middle East, which are also the leading import and export places of agricultural products in China. There are 13 European countries reached by the China-Europe Class Train, involving 41 cities. Among them, the countries passing through the EU are Poland, Germany, Czech Republic, Spain, Belgium, etc. While helping Chinese products export to the EU, the China-Europe Class Train has also increased the development of cargo sources to countries along the route, and the proportion of return trips has increased to 67%, which tends to be more balanced

transportation in both directions; the types of goods transported are also gradually increasing. According to the data published by the China Development and Reform Commission, as of 2021, China-European Liner has developed to 15,183 trains, with an annual growth rate of 92.7% and a total of 49,000 cases. Among them, 308, 815, and 1,702 trains were operated from 2014 to 2016, with a year-on-year growth of 285%, 165%, and 109%, respectively, and exponential growth for three consecutive years. After the unification of the brand, China-European Liner ushered in a new stage of scale development, with 3,673 columns in 2017, which exceeded the sum of the previous four years. 6,363, 8,225, and 12,406 columns will be operated from 2018 to 2020, with growth of 73%, 29%, and 51%, respectively. Currently, China-European Liner maintains a high operating trend, with 1,000 trains per month becoming the norm. 2013-2021 China-European Liner runs are shown in the following chart:

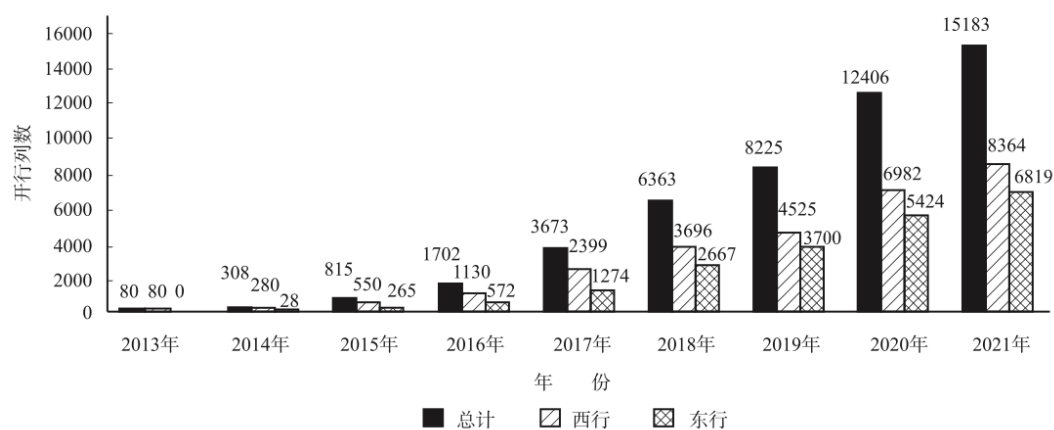


Figure 9 2013-2021 Number of China-European Liners¹⁰

At one time, 90% of China-Europe trade was done by sea transportation, which took about 45 days to enter Western Europe and Central and Eastern Europe through the Mediterranean Sea. The China-Europe Class Train saves more than half of the time, and now China has laid down a special 120 km/h China-Europe Class Train operation line, which can reach Europe in 12-18 days on average, and can greatly shorten the time of transporting goods from inland, especially from central and western cities to Europe. The transport efficiency of port cities has also been improved. In the past, it took at least 40 days to reach Europe by sea from Dalian, China, but it only took about 18 days

¹⁰ Source: CEB Development Report (2021).

for the China-European Liner to reach Europe through the exit of Manzhouli. In contrast to air transport, the transport cost of CEB is much less; for example, the air transport cost of Rongjiang-European Liner is four times the railroad cost. According to the big data published by China National Information Center on "One Belt, One Road" (2017), the fastest China-Europe freight train arrives in Europe in 12 days, the transport time is significantly shortened, the transport time is only about 30% of the sea transport, and the transport price is 1/5 of the air transport. Time and cost have improved the economic trade between China, Central Asia and Europe, and other countries along the route, which benefits each country's economic exchange and development.

The transportation time of fresh agricultural products and perishable goods is significantly reduced, guaranteeing the value and freshness of many agricultural products. Djankov S, Freund C, and Pham CS (2010) argued that in the trade of agricultural products, each day of delay in the arrival of goods leads to a 7% reduction in exports of time-sensitive agricultural products to non-sensitive agricultural products. Currently, Chinese agricultural products exported to Europe are mainly time-sensitive agricultural products such as vegetables and fruits, which require high transportation time. The opening of China-Europe freight trains has greatly saved transportation time and transportation costs, shortened the operation cycle of agricultural products, reduced the storage cost of farmers, and increased their income. China is also increasing the number of trains from western China and northeastern China to Europe, increasing the efficiency of customs clearance and quarantine, and promoting the construction of logistics hub facilities and logistics systems; all these policy measures will protect China's trade with European agricultural products. China has also strengthened cooperation with some EU countries through "One Belt, One Road," which will help Chinese agricultural products enter the EU market through these countries as economic exchanges and cooperation continue to deepen. At the same time, China and the EU can achieve a win-win situation through the economic ties of "One Belt, One Road," the circulation of each other's agricultural products, and other economic sectors.

"The Belt and Road" currently includes the EU countries, mainly in Central and Eastern Europe, with which China has established a 17+1 cooperation mechanism, which includes 12 EU countries. These countries have a good agricultural base and have the prospect of cooperation with China in agriculture, and they also have

complementary characteristics in terms of agricultural products. China is committed to forming cooperation with these countries in agriculture, such as promoting the construction of 17+1 agricultural cooperation demonstration zones, agricultural products, e-commerce logistics, and exhibition centers.

Poland is an important transit point for the Belt and Road Network to Europe, and in terms of trade, Poland has the most active agricultural cooperation with China. Poland is the only country in the EU that has received a license to import poultry meat from China. Poland is the largest producer of apples in the EU, and in 2016 Poland obtained a license to export apples to China.¹¹

With clear advantages in processed agricultural products and the Czech Republic's leading e-commerce consumption in Europe, the Czech Republic has been actively marketing its agricultural products online and offline. China held a China-Central and Eastern European countries trade (cross-border e-commerce) matchmaking meeting in June 2018 to promote products from both sides through e-commerce means. In addition, the Czech industry has established a public overseas warehouse for cross-border e-commerce, which accepts applications from Chinese branded and e-commerce companies to be located there, providing a platform to support the entry of Chinese agricultural products into the Czech Republic and other European countries. Although the scale of agricultural trade between China and the Czech Republic is relatively small, it has shown a growing trend in recent years, and there is still potential for more in-depth cooperation between the two sides. In addition, the Chinese and Romanian industries signed a Memorandum of Understanding on further strengthening cooperation in the agricultural sector, and both sides reached an agreement on Romanian pork exports to China.

In addition to Belt and Road, China actively promotes the construction of transport routes between EU internal member states and external countries, such as the China-Europe Land and Sea Express (CEEL). The China-Europe Land and Sea Express starts from the port of Birei Elsev in Greece in the south and goes north to Budapest, Hungary, passing through Skopje, Macedonia, and Belgrade, Serbia. This route significantly reduces the full transportation time of goods from the Far East to Central Europe

¹¹ http://cnews.chinadaily.com.cn/2016-10/11/content_27027227.htm

compared to other traditional routes. China, Hungary, and other countries have also signed the Framework Agreement on Customs Cooperation through Facilitation on the China-Europe Land and Sea Express to strengthen mutual cooperation in trade facilitation.

Conclusion

From the agricultural trade data between China and EU countries in recent years, the agricultural trade between China and the EU has continued to grow in the last decade, and the total trade volume between the two sides has been increasing, reflecting the expanding demand for agricultural products in both Chinese and European markets. China's growing demand for agricultural products has made it one of the EU's crucial agricultural export markets. China's demand for EU agricultural products such as meat, dairy products, fruits, and vegetables has driven the growth of bilateral trade, and the EU's exports have become diversified, with the EU exporting a wide range of agricultural products to China, including cereals, wine, and dairy products. In recent years, the EU has made continuous efforts to expand its agricultural products out to China and seek more trade opportunities. The future development of agricultural trade between China and the EU is optimistic, with the large population size and growing middle class population in China and the EU increasing demand for high quality, safe and diversified agricultural products. This will further expand agricultural trade between China and the EU. And there are certain complementarities between China and the EU in agricultural products. The EU has advantages in high-quality and high-value-added agricultural products. In contrast, China has a vast market demand and processing capacity, which provides opportunities for both sides to cooperate and achieve mutual benefits through complementary advantages.

The EU's CAP policy has reduced the distortionary nature of trade but has had a limited impact on trade in agricultural products between China and the EU. Since the CPA reform in the 1990s, the EU has gradually reduced the use of price subsidies for agricultural products and has more often used direct income subsidies that are less distorting to production and trade. Moreover, in recent years, the CAP has focused more on environmental protection and sustainable agricultural development. Although the

EU's support for agriculture has not been reduced or even strengthened, there has been less intervention in direct production, which is conducive to the improvement of the overall net social efficiency and total welfare of the EU, making it more important for agricultural producers to decide to produce crops according to market demand. At the same time, the reform of the EU CAP follows the general direction of free trade in agriculture, gradually reducing trade distortions and improving the overall international competitiveness of EU agricultural products. In general, the CAP reform will only impact China-EU agricultural trade for agricultural products that are imported more by China, including but not limited to beef, grains, dairy products, sugar, etc. And the CAP, in recent years, has paid more attention to environmental protection and sustainable agricultural development. At the same time, China lags behind Europe, which may also affect the export of some Chinese agricultural products to the EU. In addition, the UK's exit from the EU has added uncertainty to the future impact of CAP on China-EU trade.

The Belt and Road initiative has positively impacted China-EU agricultural trade. "The Belt and Road Initiative provides new ideas for international agricultural cooperation between China and EU countries, creates development opportunities for the agricultural industry resources of each member state, and proposes new trade channels. "The Belt and Road Initiative provides broader market opportunities for agricultural products from China and the EU, expanding market access for agricultural products from China and the EU by building and improving infrastructure, strengthening trade facilitation measures, and promoting the signing of economic and trade cooperation agreements. The "Belt and Road" has also promoted the construction of trade facilitation measures between China and Europe, providing a more convenient trade environment for China-EU agricultural trade. The trade facilitation brought about by the Belt and Road has led to a growing trend of bilateral agricultural trade, and transportation costs are no longer the main factor limiting the growth of bilateral agricultural trade flows. However, the "Belt and Road" initiative has started to show its promotion effect on agricultural trade in the countries along the route, which competes with the EU agricultural products and indirectly affects the agricultural trade between China and Europe. It is important to note that agricultural trade between the EU and China still faces challenges, such as legal regulations, cultural differences, and market access principles between countries.

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