

Camelia GAVRILESCU

*Institute of Agricultural Economics, Romanian Academy, Bucharest
cami_gavrilescu@yahoo.com*

MAIN TRENDS OF THE ROMANIAN AGRI-FOOD TRADE WITH CHINA

ABSTRACT

Since joining the World Trade Organisation (WTO) in 2001, China has become an increasingly important player on the world general and agri-food markets. Since 2008, its agri-food trade balance has turned negative and the deficit increased continuously.

The present paper explores the main features of the Chinese agri-food trade, and its exports, imports and trade balance with Romania. The results show that although the trade flows between the two countries increased significantly, the growth rate of the imports has been far higher than that of exports, resulting in a huge trade deficit for Romania.

Key words: agri-food trade, Romania, China, trade balance.

JEL Classification: Q17.

1. INTRODUCTION

In the last two decades, the world agri-food trade expanded rapidly, with increased contributions from low- and middle-income countries. An important driving factor was trade liberalisation at multilateral and regional levels.

Regionalisation of agri-food trade increased between 1995 and 2019, facilitated by geographic proximity and economic integration fostered by trade agreements (FAO, 2022).

World agri-food trade intensified after 2000, as a consequence of the implementation of the commitments regarding the period of trade liberalisation (up to six years for developed countries and to 10 years for developing countries) agreed under World Trade Organisation (WTO) Agreement on Agriculture (AoA) in 1995.

China's accession to the WTO in December 2001 contributed significantly to the world trade expansion. As the country with the second largest population in the world, its domestic production, as well as exports and imports have a significant impact on the global agri-food markets (WB, 2018).

2. STATE OF KNOWLEDGE

In the 20th century, there were periods when China experienced extreme poverty and severe food insecurity and hunger (Erokhin, 2020).

After many years of restrictions, the economic reforms that started in China in 1978 have been directed towards economic development by opening the domestic market for foreign investments in industry and agriculture. It also allowed increased agri-food trade, namely food imports, aiming at covering the gap between domestic production and demand (Park *et al.*, 2002; Huang and Rozelle, 2006). Market reforms in the agri-food sector have been introduced as well.

The Chinese Government approved several national programs regarding the development of the agri-food sector and ensuring food security, such as achieving the goal of a 95% food self-sufficiency rate for wheat, rice, and maize; the recent National Strategy of Food Security of China mainly aims at focusing on food consumption, access to food by vulnerable people, and fighting poverty and hunger (State Council Information Office of the People's Republic of China, 2019; Erokhin *et al.*, 2022); but by directly managing food prices and food stocks as well. Agri-food imports are seen as an instrument not only for food security, but also for attenuating fluctuations in the domestic supply and demand, caused by various factors, such as drought or mass slaughter of pigs due to the African Swine Fever outbreak in 2018–2020 (You *et al.*, 2021).

Since 2000, China's agri-food sector has grown substantially, driven by factors such as: increasing domestic production through modernisation of farming technologies, agricultural investments, increasing land use. However, the agricultural production intensification and productivity gains lead to land degradation and negative effects on environment (Lu *et al.*, 2015; Zhang *et al.*, 2018), and increasing productions are still limited by the poor soil quality and low rainfall.

3. MATERIAL AND METHOD

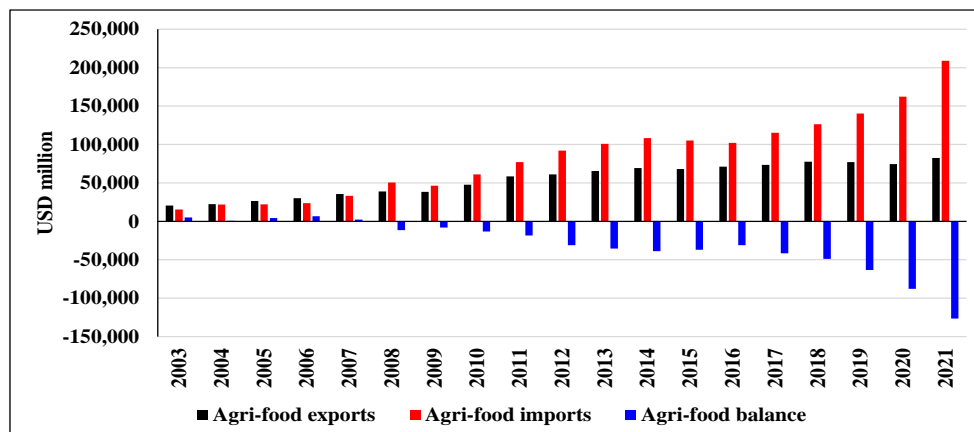
The data needed for analysing the dynamics of exports, imports, trade balances, and composition of the Romanian agri-food trade with China come from Eurostat trade database (Comext, 2023) and Tempo-online database (Romanian National Institute of Statistics, 2023). Data on Chinese general and agri-food trade were retrieved from the National Bureau of Statistics of China (2023). The CN nomenclature was used to classify the agri-food products in 24 groups of products (HS01-HS24).

4. RESULTS AND DISCUSSIONS

4.1. MAIN TRENDS OF CHINESE AGRI-FOOD TRADE

In the last two decades, the European Union and USA have been the main players on the world markets. China became increasingly present, and after joining the World Trade Organisation, its general trade value tripled, to reach over USD 1,220 billion in exports and over USD 1,133 billion in 2007. Subsequently, the values increased constantly, to reach USD 3,363 billion in exports and USD 2,687 billion in imports in 2021, while showing an increasing positive general trade balance all along.

China has been equally present on the agri-food world markets. Agri-food products represented 2.5–3.5% in general exports; the share of agri-food imports increased after 2011 to 5–7.9% in general imports. In contrast with general trade, agri-food export values increased slowly, by 40% in 2021 as compared to 2011, while agri-food imports increased at a higher rate, by a factor of 2.7 between 2011 and 2021 (Figure 1). As a result, the Chinese agri-food balance became negative in 2008, and the deficit increased sharply, to USD -126.6 billion, which was almost 7 times larger than in 2011.

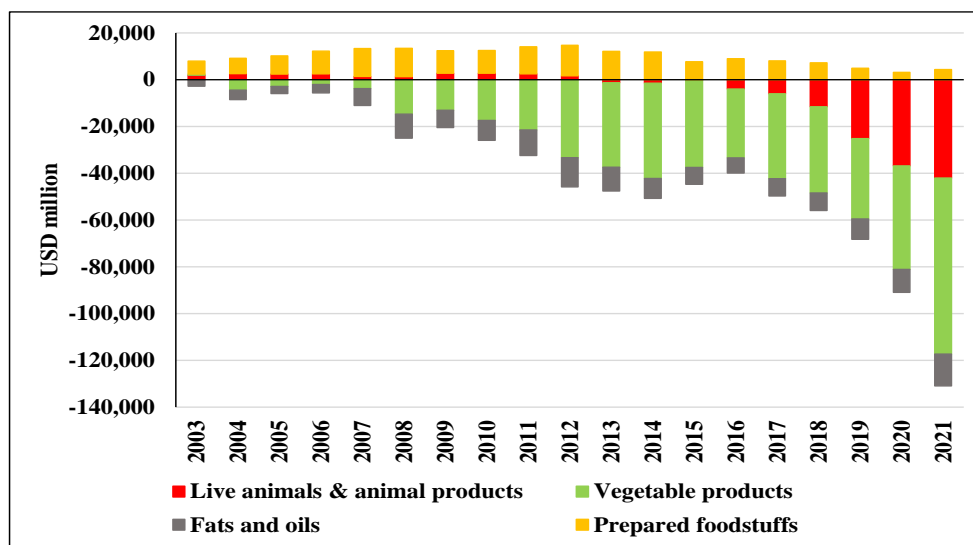


Source: calculations based on data from the National Bureau of Statistics of China

Figure 1. Chinese agri-food trade (2003–2021)

The main suppliers of agri-food products to China are USA, EU, Argentina, Canada and Australia. Brazil became the main supplier in 2020, by exporting massively soybeans and pork to China. Currently China is a net importer from the EU; the EU share in the Chinese imports varied between 12-20% in the last two decades.

In the Chinese agri-food exports, 42% were prepared foodstuffs (including beverages and tobacco, HS-16 to HS-24). They were followed by vegetable products (33%) and live animals & animal products (24%). The category ‘oils & fats’ is rather negligible in exports (1%). The trade balance by product categories is shown in Figure 2.



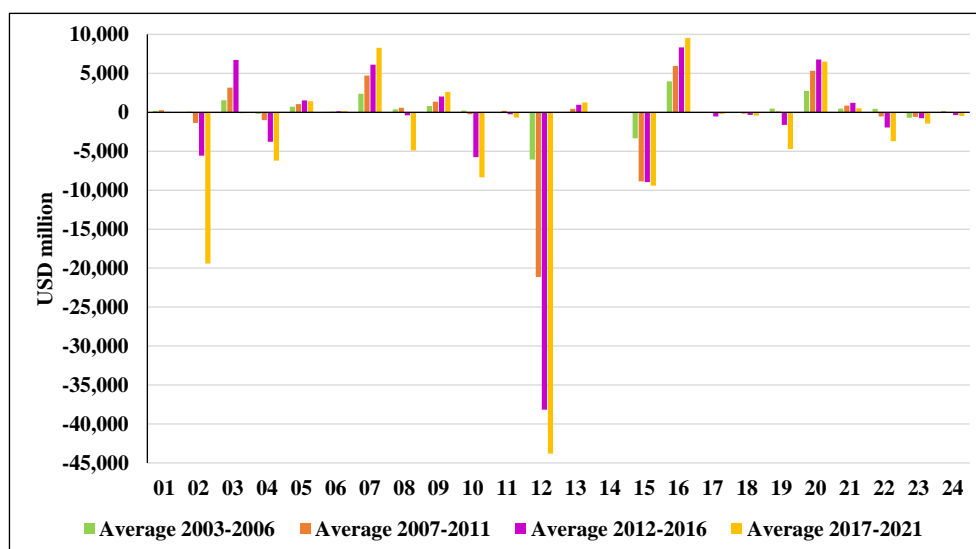
Source: calculations based on data from the National Bureau of Statistics of China

Figure 2. Chinese agri-food trade balance by categories of products (2003–2021)

On the other hand, in imports, the average shares of the four categories of agri-food products are significantly different: 52% vegetable products, 22% live animals & animal products (22%), 18% prepared foodstuffs and 8% oils & fats.

As a result, the trade balance by product categories shows significant and increasing deficits for live animals & animal products, vegetable products and fats & oils.

If one looks in more detail, by the 24 HS agri-food product groups, there are several highlights: the contribution of vegetables (HS-07), fish & crustaceans (HS-03), tea, coffee and spices (HS-09) and prepared foodstuffs (HS 16-21) increased all along the studied periods (2003–2021). At the same time, the contribution of crops, meat and dairy products decreased (Figure 3).



Source: calculations based on data from the National Bureau of Statistics of China

Notes: Chapters 01–24 cover all agri-food products. The 24 chapters in the Harmonised System are included in 4 sections, listed as such in the Official Journal of the European Union (<https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:C:2019:119:FULL&from=EN>), as following:

- Section I: Live animals and animal products (01-live animals; 02-meat and offal; 03-fish and seafood; 04-dairy products, eggs and honey; 05-other animal products);
- Section II: Vegetable products (06-live plants; 07-vegetables; 08-fruit; 09-coffee, tea and spices; 10-cereals; 11-products of the milling industry; 12-oilseeds; 13-lacs, gums and resins; 14-other vegetable products);
- Section III: Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes (15-oils and fats);
- Section IV: Prepared foodstuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes (16-meat and fish preparations; 17-sugar and confectionery; 18-cocoa and cocoa products; 19-cereal baking and pastry products; 20-vegetable and fruit preparations; 21-miscellaneous edible preparations; 22-beverages; 23-animal feed; 24-tobacco and tobacco products)

Figure 3. Chinese agri-food trade balance by groups of products (HS 01-24)

The major groups for which China is highly and increasingly dependent of imports are oilseeds (especially soybeans), edible oils (mainly palm oil), meat (mainly pork) and dairy products (mainly powder milk and cheese).

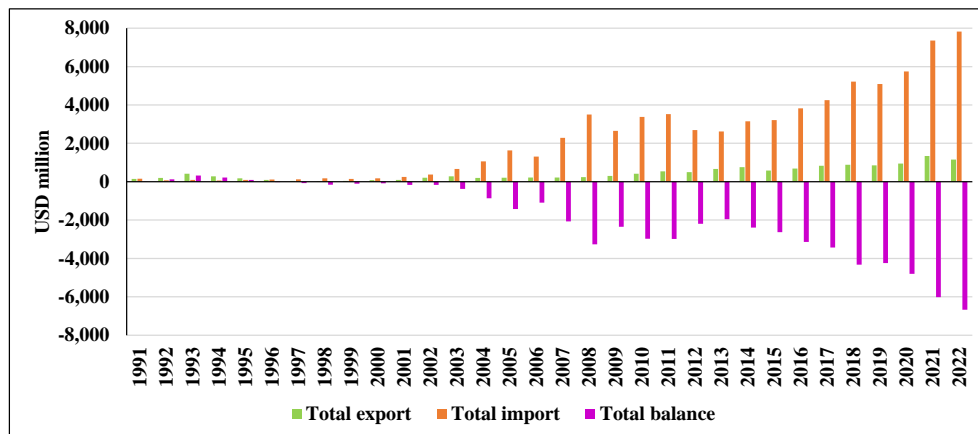
4.2. MAIN TRENDS OF ROMANIAN AGRIFOOD TRADE WITH CHINA

Romania traded goods with China during the centrally-planned economy. Between 1960 and 1990, the share of exports to China varied from 2.4% to 4.7% of total exports, while imports were in similar range, 2.0% to 4.7% of total imports.

After 1990, the Romanian general trade with China was rather modest. Exports had a general decreasing trend, from USD 419 million (in 1993) to

USD 23 million (in 1998), while imports had a slow upward trend, from USD 60 million (in 1994) to USD 253 million (in 2001). As a result, the general trade balance was positive until 1995, and shifted to negative afterwards.

After China joined the World Trade Organisation (WTO), general exports remained in the range USD 200-300 million in 2002–2009, while imports increased sharply, by a factor of 7.1 in the period 2002–2009. This resulted in a fast-increasing trade deficit, from USD -164 million in 2002, to USD -3.3 billion in 2008 (Figure 4).



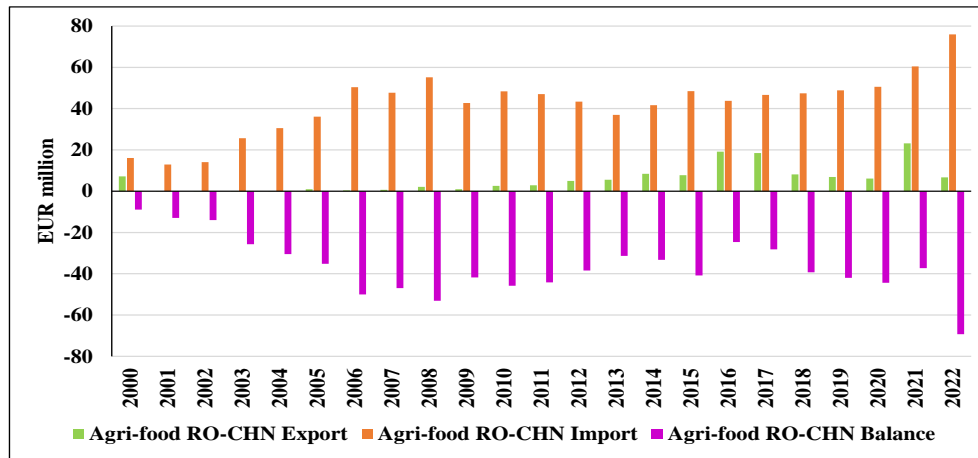
Source: National Institute of Statistics, Tempo on-line

Figure 4. Romanian general trade with China (1991–2022)

In the last decade, both exports and imports showed upward trends; the trade deficit also increased constantly, to reach maximum values in 2022 (USD 1.15 billion exports, USD 7.82 billion imports and the highest trade deficit, USD -8.98 billion).

In the Chinese general exports, Romania's share varied between 0.13–0.20%, while in general imports, between 0.05–0.13%. Reciprocally, in Romanian general exports, China's share varied between 0.27–0.52%, while in general imports, between 2.09–6.32%.

The Romanian agri-food trade with China had an uneven evolution: export values have been very low in 2001–2004 (35,000 EUR on average), then increased significantly in 2005–2007 (up to EUR 1 million), and subsequently doubled in 2008–2013. In 2014–2022, export values varied from EUR 6.6 to 8.4 million, with outlier peaks in 2016 and 2017 (about EUR 19 million) and a spectacular EUR 23.2 million in 2021 (Figure 5). Romanian agri-food imports from China were significantly higher than exports, but with much less variability: between EUR 40–60 million in 2006–2021 and a peak in 2022 (EUR 76 million). That resulted in a very low coverage ratio (less than 20%, except for the three export outlier years) and, consequently, in a very large trade deficit (EUR -30 to -50 million), reaching a maximum value of EUR -70 million in 2022.



Source: calculations based on Eurostat data

Figure 5. Romanian agri-food trade with China (2000–2022)

There are several product groups showing positive trade balance (so with important exports) (Table 1): beverages (HS-22) (mostly wine), for which the net value increased significantly in the investigated periods (from EUR million 0.04 in 2002–2006, up to EUR 2.9 million in 2012–2017).

Table 1

Top 5 product groups (HS) with positive / negative contribution to the Romanian agri-food trade balance with China

Product groups with POSITIVE contribution							
Average 2002–2006		Average 2007–2011		Average 2012–2017		Average 2018–2022	
Number of groups:	Value (1000 EUR):	Number of groups:	Value (1000 EUR):	Number of groups:	Value (1000 EUR):	Number of groups:	Value (1000 EUR):
3	68.9	3	1,605.6	6	8,643.7	6	2,703.4
HS 22	40.0	HS 22	1,513.7	HS 02	4,983.8	HS 22	1,105.9
HS 15	28.9	HS 02	64.6	HS 22	2,919.4	HS 15	894.2
HS 01	0.0	HS 01	0.0	HS 18	497.1	HS 18	541.1
				HS19	234.5	HS 02	135.5
				HS 11	8.9	HS 11	26.9
Product groups with NEGATIVE contribution							
Average 2002–2006		Average 2007–2011		Average 2012–2017		Average 2018–2022	
Number of groups:	Value (1000 EUR):	Number of groups:	Value (1000 EUR):	Number of groups:	Value (1000 EUR):	Number of groups:	Value (1000 EUR):
21	-31,148.2	21	-47,976.7	18	-41,416.4	18	-49,167.0
HS 20	-8,087.5	HS 05	-12,050.8	HS 05	-7,653.4	HS 05	-9,906.1
HS 12	-5,877.5	HS 20	-7,998.8	HS 20	-5,997.8	HS 08	-6,919.1
HS 07	-5,331.1	HS 12	-6,155.0	HS 08	-4,353.4	HS 24	-6,030.1
HS 05	-5,086.4	HS 07	-5,227.6	HS 24	-4,204.9	HS 20	-5,506.6
HS 10	-1,969.5	HS 24	-4,006.7	HS 21	-4,121.7	HS 13	-4,208.1

Source: calculations based on Eurostat data

Meat and offal (mostly swine) brought a positive net value as well (EUR 4.98 million in 2012–2017); it was a good opportunity to export, given the high demand for pork in China (despite a similar high demand in Romanian as well). Edible oils (HS-15) showed also a positive trade balance.

Unfortunately, 18 to 21 product groups (out of 24 which encompass the agri-food products) showed a negative trade balance, with really high deficits, meaning large imports from China. One should notice important imports of canned vegetables and fruits (HS-20) and tobacco (HS-24), mostly raw tobacco leaves for cigarettes, since Romania does not produce that anymore, but has a large processing facility that exports finished products. Other edible products showing high deficits were vegetables (HS-07) (about EUR -5.2 million in 2002–2011), followed by fruits (HS-08) (EUR -4.4 to -6.9 million in 2012–2022). An important contribution to the trade deficit came from HS-05 (non-edible products of animal origin, such as animal hairs, skins, bones, etc.), with values ranging from EUR 5 to 12 million.

The export value was very low in the pre-accession period (2002–2006), but increased significantly after accession, by a factor of about 5.7. Even so, due to the high import values, the coverage ratio (exports to imports ratio) is very low – less than 18% in 2018–2022.

The top 5 product groups exported to China varied among the analysed periods (Table 2). Beverages (HS-22) were present all along, with shares over 18% in the total agri-food exports. Important shares in exports (74% in 2002–2006 and 44% in 2018–2022) were held by edible oils (HS-15) as well. Miscellaneous edible preparations (HS-21) and powdered milk (HS-0402) worth more than EUR 0.8 million were exported in 2018–2022.

Table 2

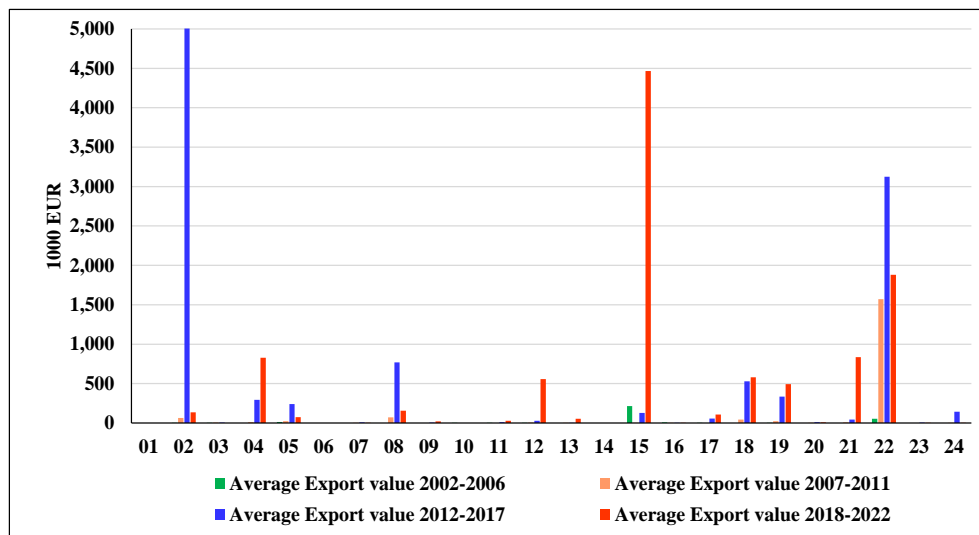
Top five Romanian agri-food product groups (HS) exported to China

Rank	Average 2002–2006		Average 2007–2011		Average 2012–2017		Average 2018–2022	
	Product group	Share in total exports (%)	Product group	Share in total exports (%)	Product group	Share in total exports (%)	Product group	Share in total exports (%)
1	HS 15	73.9	HS 22	85.9	HS 02	46.6	HS 15	43.7
2	HS 22	18.8	HS 08	3.9	HS 22	29.1	HS 22	18.4
3	HS 05	4.3	HS 02	3.5	HS 08	7.2	HS 21	8.2
4	HS 16	2.4	HS 18	2.4	HS 18	4.9	HS 04	8.1
5	HS 19	0.2	HS 05	1.2	HS 19	3.1	HS 18	5.7
Total agri-food export value	01–24	0.29 (EUR million)	01–24	1.83 (EUR million)	01–24	10.74 (EUR million)	01–24	10.22 (EUR million)
Concentration ratio – CR5		99.6%		96.9%		90.9%		84.0%

Source: calculations based on Eurostat data

A major problem is the high variability of export flows composition: except for beverages which have been continuously exported since 2002 to the present time, the other top four products are rather different from one period to the other (Figure 6). Such figures are indicating random opportunistic exports, meaning that Romania was not able to establish more stable export markets to China.

The range of exported products is very narrow; the top two exported products represented about 90% of the total export value in 2002–2011. This share went down to 62% in 2018–2022, but along the four studied periods, the top two products were never the same.



Source: calculations based on Eurostat data

Figure 6. Structure of Romanian agri-food exports to China by HS chapters

Imports from China have been important and much higher than exports for the last two decades. Imports showed an upward trend, but far less steep than exports: as compared to the pre-accession period (2002–2006), imports multiplied by a factor of 1.5 in 2007–2011, up to a factor of 1.8 in 2018–2022.

Two product groups have been present in top five imports all along the investigated periods (Table 3): HS-05 (non-edible animal products of animal origin), with shares varying from 16 to 25% of all imports; HS-20 (canned vegetables and fruits), with shares varying from 10% to 26%.

Table 3

Top five Romanian agri-food product groups (HS) imported from China

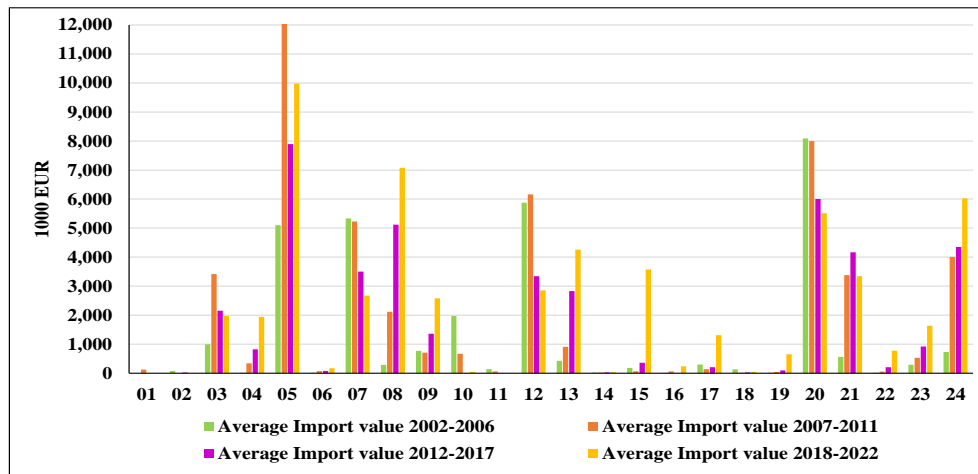
Rank	Average 2002–2006		Average 2007–2011		Average 2012–2017		Average 2018–2022	
	Product group	Share in total imports (%)	Product group	Share in total imports (%)	Product group	Share in total imports (%)	Product group	Share in total imports (%)
1	HS 20	25.8	HS 05	25.0	HS 05	18.1	HS 05	17.6
2	HS 12	18.7	HS 20	16.6	HS 20	13.8	HS 08	12.5
3	HS 07	17.0	HS 12	12.8	HS 08	11.8	HS 24	10.6
4	HS 05	16.3	HS 07	10.8	HS 24	10.0	HS 20	9.7
5	HS 10	6.3	HS 24	8.3	HS 21	9.6	HS 13	7.5
Total agri-food import value	01–24	31.37 (EUR million)	01–24	48.12 (EUR million)	01–24	43.51 (EUR million)	01–24	56.68 (EUR million)
Concentration ratio – CR5		84.0%		73.6%		63.3%		58.0%

Source: calculations based on Eurostat data

Tobacco (HS-24) (mostly tobacco leaves as raw material for cigarettes) was increasingly imported after EU accession (8–11% share), worth EUR 4–6 million. Various oilseeds (HS-12) (mainly peanuts) imports were present in 2002–2011 (13–19% share).

Vegetables (HS-07) worth EUR 5.2 million were imported in 2002–2011, and decreased in value in the following years, their place being taken by fruits (HS-08) which were worth EUR 5.1–7.1 million in 2012–2022 (Figure 7). Miscellaneous edible preparations (HS-21), were imported in 2007–2022, worth EUR 3.4–4.2 million. After accession, fish & seafood (HS-03) were imported from China, but their value decreased in time (from EUR 3.4 down to 2 million), being gradually replaced by similar products originating from other non-EU countries.

Important attention should be paid to the quality of imported products. Worth mentioning is natural honey (HS-0409) for which imports increased in 2020–2022 (quantities doubled, from 1300 to 2600 tons). Interviews with Romanian honey producers and processors revealed that imported honey is frequently lower quality and much cheaper than the Romanian production, and is sold directly on the domestic markets, thus preventing local producers of higher quality honey to sell their products and get the right prices (Gavrilesco *et al.*, 2020). It happens also that taking advantage of a loophole in the EU quality legislation that does not require a more precise origin labelling, lower quality imported honey is mixed with Romanian honey and sold on EU markets labelled as “EU origin”, a practice detrimental to Romanian exports of high-quality honey and beehive products.



Source: calculations based on Eurostat data

Figure 7. Structure of Romanian agri-food imports from China by HS chapters

5. CONCLUSIONS

In the post-accession period, the Romanian agri-food trade with China increased gradually, reaching the highest values in 2016–2022. Export values were extremely variable. Import values were less variable, but very high as compared to export values, resulting in a low coverage ratio (less than 20%) and a huge trade deficit.

Studying the evolution of the Romanian agri-food with China in the last two decades, one cannot see any patterns. It can be characterised as extremely variable and unbalanced in three dimensions: in time, in flows (exports versus imports), and in flow composition (by product groups). Such features show that trade flows are rather random and opportunistic, with no established markets.

A major problem is the high variability of export flows composition: except for beverages, which have been continuously exported since 2002 to the present time, the other products are rather different in rank and share from one period to the other. Such figures are indicating random opportunistic exports, meaning that Romania was not able to establish more stable export markets to China.

Imports from China have been important and much higher than exports for the last two decades. Two product groups have been present in top five imports all along the studied periods: non-edible animal products of animal origin, canned vegetables and fruits. Tobacco as raw material for cigarettes has been increasingly imported after the accession to the EU. Moreover, imports have increasingly diversified.

In the future, possible opportunities for exports to China would be beverages, mainly bottled wines, and edible oils. Increased attention should be also paid to promoting and exporting high quality and niche products, far more attractive than regular agri-food products (for which the EU and other major suppliers have already established export markets in China), such as PDO (Protected Designation of Origin), PGI (Protected Geographical Indication) and TSG (Traditional Speciality Guaranteed).

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