

# When Competitiveness in the Agriculture Sector Becomes Mandatory. Romania Case Study

Cristiana Ioana Șerbănel  
Bucharest University of Economic Studies, Romania  
[cristiana.serbanel@gmail.com](mailto:cristiana.serbanel@gmail.com)

## Abstract

*The current commercial flow of Romanian agricultural products proves the requirement of a new paradigm in making efficient use of land resources. This article aims to assess Romanian agri-food commodities' volume on the world trade market for the latest available period. How good is doing Romania in terms volumes and values of trade, compared to other countries for the agri-food sector? How competitive is Romania in a sector where the country can be the second-largest producer in Central and Eastern Europe? The findings confirm that Romanian mostly export low-value-added products such as wheat, maize, sunflower seed, cigarettes, rapeseed, barley. Considering volumes, Romania ranks far behind its potential both at the European and global level. The results prove that new measures focused on stimulating the sector's competitiveness are mandatory.*

**Key words:** competitiveness; agriculture sector; productivity; Romania.

**J.E.L. classification:** F14, Q1, L1

## 1. Introduction

In a world of market forces, "competitiveness" is the crucial concept that delimits economic performance. Competitiveness determines development, growth, expansion, and investment. Policymakers need to assess how competitive their country is in a global market and understand which policies and investments are vital for stimulating the country's competitiveness index.

This paper aims to sound the alarm about the relevance of stimulating competitiveness factors, inclusively for the sectors that already present a competitive advantage through the natural endowments. Specifically, this article reviews the evolution of Romanian exports' global market share for the period 1990-2018, Romania's commercial balance for the agri-food sector in 2018, and it makes a comparative comparison considering the top global agri-food exporters and importers. Although there has been an overall downturn trend in the agriculture sector's contribution to the Gross Domestic Product (GDP), agriculture is still perceived as a "golden sector" with significant untapped potential. Agriculture contribution to GDP decreased from 6.14% in 2009 to 4.1% in 2019. (Statista, 2020)

Romania, with a total area of 238.000 sqm, and 15 million ha of farmland, fertile soil, and a climate favorable for agriculture, horticulture and animal husbandry, is one of the most remarkable countries with an agrarian profile in the European Union. According to the land facts, Romania could be the second-largest agricultural product producer in Central and Eastern Europe, following Poland with 17 million ha of agricultural area.

Agri-food production is a vital segment of total economic competitiveness, and it requires a comprehensive land-use evaluation. Understanding the inland agricultural structure development, producers' actual needs in reaching a higher productivity per ha of farmland to cultivate the most appropriate crops are crucial for the agricultural sector's competitiveness.

## 2. Literature review

The theory of competitiveness originated in the trade theory of competitive advantage, and it has been intensively explored in the academic literature with two major competing views that emerged in the 1980s and 1990s. Paul Krugman's differentiation of competitiveness is still a good starting point for this concept (Krugman, 1994). It defines two main approaches to characterize competitiveness: (1) cost or ability to export and (2) productivity.

The first approach - "cost/ ability to export," recognizes competitiveness with favorable home country policies and lower labor costs (Brander & Spencer, 1985; Krugman, 1986). The second perspective underlines "productivity" as the driving force of competitiveness and prosperity (Krugman, 1990, 1994; Porter, 1990; Delgado et. al, 2012; Hall & Jones, 1999). The later concept – productivity-based competitiveness- is the most commonly used definition, remaining the decisive indicator for competitiveness and performance.

Krugman (1994) perceived a country's competitiveness as a dangerous obsession, while Porter stated that national productivity is the only concept of competitiveness at the state level. From Porter's perspective, both states and companies should be treated equally, as international trade is not a zero-sum scheme, since states cannot be competitive in all the economic activity branches. (Porter, 1990)

Hall & Jones (1999) introduce the "social infrastructure," an endogenous variable that directly influences a country's productivity level. In the authors' perspective, social infrastructure refers to the institutions and government policies that build the economic environment, where both firms and individuals make investments, share ideas, and produce goods and services.

The international competitiveness concept has been intensively discussed in government reports, research articles, economical press, and books (Kim and Lee, 2013, Crowder and Reganold, 2015, Roger D. Norton et al. 2017, Falciola et al., 2020). The World Economic Forum, the institution which has been continuously measuring countries' competitiveness since 1979, defines it as: "the set of institutions, policies, and factors that determine the level of productivity of a country." (World Economic Forum, 2019) Although there are various definitions for competitiveness, all accepted and valid worldwide, in general, all include the word "productivity."

## 3. Research methodology

The results of the present paper are based on empirical research using quantitative methods. There have been used two international databases to extract international trade raw data: Food and Agriculture Organization of the United Nations (FAO) and The United Nations Commodity Trade Statistics Database (UN COMTRADE) – Atlas of Economic Complexity 2020.

FAO data is mostly provided by Eurostat, UNSD, and other national authorities. The trade database covers the following variables: export quantity, export value, import quantity, and import value, and it contains all food and agricultural products imported and exported annually by all the countries in the world. In terms of geographical coverage and time, FAO Database covers all the countries globally and covers the period 1961-2018, the data being updated annually.

UN COMTRADE includes detailed imports and exports statistics reported by statistical authorities of approximately 200 countries or areas. It covers the 1962-2018 period (where 2018 is the most recent year) and is considered the most comprehensive trade database available with more than 1 billion records. All raw data from the national authorities are standardized by the UN Statistics Division and then included in UN Comtrade.

For the present research, the author used the 1995-2018 period and year 2018 for a comparative performance perspective of the actual Romanian and global agri-food sector.

The following questions guided the research:

- What is Romania's overall exports evolution in terms of market share, from 1990 to the latest available period?
- What was the volume of Romanian agri-food exports, considering the latest available data? What is the structure of Romanian agri-food exports?

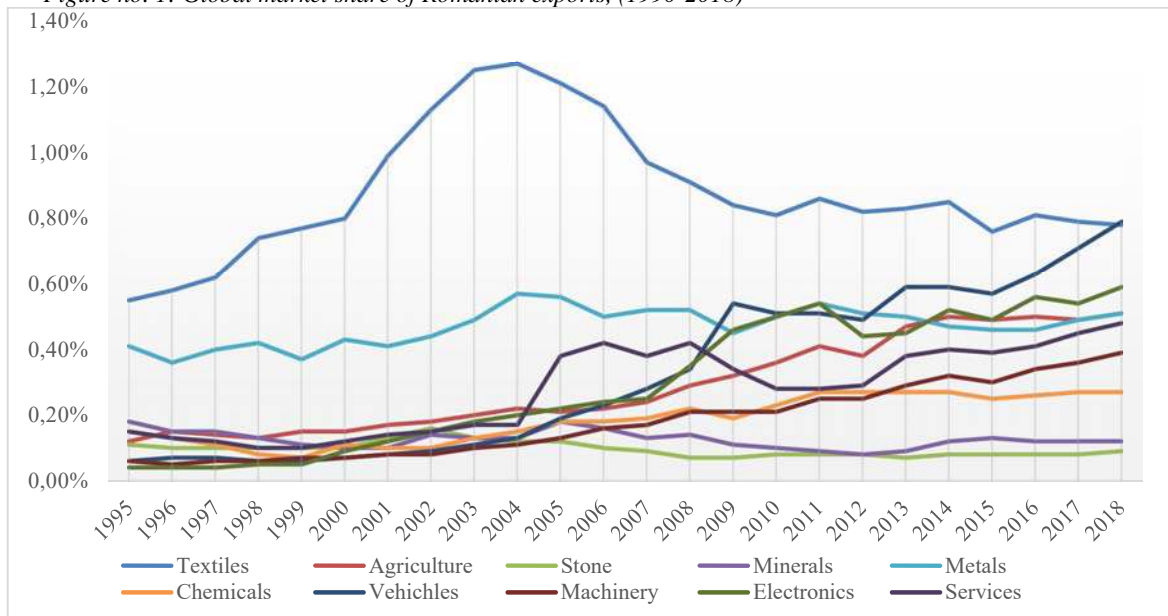
- What was the global volume of agri-food exports, considering the latest available data? What is global agri-food exports' structure, considering the latest available data in terms of products and the largest exporters and importers?
- Which is Romania's rank place in the global export and import for agri-food products?

#### 4. Findings

According to the specialists' estimations, Romania has tremendous potential for the agri-food sector. By 2030, the optimal utilization of land resources in Romania would make it possible to supply the agri-food consumption needs for 38.5 million people for export products and raw materials for non-food consumption of agricultural raw materials of about 49-50 billion €. (Steriu, Otiman, 2013: 60)

Analyzing the general overview of Romanian global exports, as *Figure 1* indicates, for 1995-2018, the Textiles Sector deliberately registered the largest share in the global market, with a top of 1.27% in 2004. Vehicles sectors recorded a steady but growing evolution since 1995, reaching the same market share as the Textile sector in 2018, of 0.79%. The agriculture industry registered a moderate increase from a share of 0.12% in 1995 to 0.51% in 2018. Moreover, the metals industry also recorded a noticeable overall increase in 1995-2018, from 0.41% in 1995 to 0.51% in 2018.

*Figure no. 1: Global market share of Romanian exports, (1990-2018)*



*Source:* Author's own computation based on UN COMTRADE Database – Atlas of Economic Complexity (2020)

Analyzing the agricultural sector, despite its extraordinary potential, there is still an enormous gap in Romania's competitiveness. As the latest available statistics show, Romanian agri-food exports' total value in 2018 was 7.2 billion USD. The top 5 exported commodities were accounting 59.4% of the total exports, though the export basket is highly concentrated. Economic wise, such an export basket composition could involve two different approaches. The first one: the country has already specialized and involved in technology investments to using its mostly endowed natural resources – following the Ricardian model. Furthermore, the second one is that there is still untapped potential for the country, and it needs urgent investment in agriculture to become competitive worldwide.

Table no. 1: Top 10 - The structure of agri-food export in Romania, by product, 2018 (thousands USD)

Rank	Commodity	Value (thousand dollars)	% of total agri-food exports
1	Wheat	1,232,666	17.11%
2	Maize	1,035,057	14.37%
3	Sunflower seed	759,632	10.54%
4	Cigarettes	685,105	9.51%
5	Rapeseed	563,014	7.81%
6	Barley	278,102	3.86%
7	Oil, sunflower	191,682	2.66%
8	Food prep nes	185,250	2.57%
9	Meat, chicken	143,207	1.99%
10	Pastry	133,732	1.86%
<b>Total agri-food exports: 7.2 billion USD</b>			

Source: Author's own computation based on FAOSTAT (2020)

Considering that these top exported products are wheat, maize, sunflower seeds, cigarettes, and rapeseed, it can be easily noticed that currently, Romania is exporting principally raw-materials - low-value-added products. Consequently, the manufacturing and the other high value-added activities needed for the raw material to reach the final product and final consumers occur across-border. As the figures indicate, Romania ends its position on the global value chain at the early beginning of the value chain. These commercial flows maintain Romania's position on a low competitiveness level in the global market.

As it can be noticed in Table 1 and Table 2, Romania's trade balance for agri-food products registered a deficit of \$1.32 billion. In 2018, the product with the highest imported value was Food prep nes, with a total value of 477.8 million and a share of 5.60% of the total imports. Secondly, comes Meat, pork import with a share of 4.29%, followed by Chocolate products nes (3.81%) and Pastry products (3.34%).

Table no. 2: Top 10 - The structure of agri-food import in Romania, by product, 2018 (thousands USD)

Rank	Commodity	Value (thousand dollars)	% of total agri-food imports
1	Food prep nes	477,308	5.60%
2	Meat, pork	365,741	4.29%
3	Chocolate products nes	324,981	3.81%
4	Pastry	284,517	3.34%
5	Crude materials	269,571	3.16%
6	Cheese, whole cow milk	261,741	3.07%
7	Meat, pig	247,413	2.90%
8	Cake, soybeans	236,194	2.77%
9	Sunflower seed	225,802	2.65%
10	Coffee, roasted	199,554	2.34%
<b>Total agri-food imports: 8.52 billion USD</b>			

Source: Author's own computation based on FAOSTAT (2020)

Worldwide, in 2018 the total value of agri-food exports counted for 1.47 billion USD, while the total value of agri-food imports was 1.63 billion USD. Countries with the most significant value of exports in agri-food products are the United States of America, Netherlands, Brazil, Germany, and China. In contrast, the countries that were mostly importing agri-food products in terms of value are China, the United States of America, China, mainland, Germany, and the Netherlands. See Annex 1- for an agri-food exports worldwide map.

Table no. 3: Top 10 global agri-food exporters by country, 2018

Rank	Country	Exports (%)	Rank	Country	Imports (%)
1	United States of America	9.6%	1	China	9.9%
2	Netherlands	6.6%	2	United States of America	8.3%
3	Brazil	5.6%	3	China, mainland	7.5%
4	Germany	5.3%	4	Germany	5.7%
5	China	4.5%	5	Netherlands	4.1%
6	France	4.5%	6	Japan	3.6%
7	China, mainland	3.5%	7	United Kingdom of Great Britain and Northern Ireland	3.5%
8	Spain	3.4%	8	France	3.5%
9	Italy	3.3%	9	Italy	2.6%
10	Canada	3.0%	10	Belgium	2.3%
40	Romania	0.489%	45	Romania	0.522%

Source: Author 's own computation based on FAOSTAT (2020)

At the European level, the top 5 European countries that mostly export agri-food products are the Netherlands (6.6%), Germany (5.3%), France (4.5%), Spain (3.4%), and Italy (3.3%). Other European countries that are contributing to the global agricultural export are Poland (18<sup>th</sup> place – 2.1%), United Kingdom (20<sup>th</sup> place- 1.9%) and Bulgaria (53<sup>rd</sup> place – 0.3%).

Romania ranks 40<sup>th</sup> place with a share of 0.48% of the total global agri-food exports. Considering that Romania has one of the most significant agrarian profiles in the European Unions with the possibility of being the second-largest agricultural producer in Central and Eastern Europe, there can be noticed the urgent need for appropriate measures to foster the sector's competitiveness.

## 5. Conclusions

"Competitiveness" was and still is the main focus on the discussion agenda for governments and institutions worldwide. Although the term itself is not identified with one single definition, competitiveness aims to indicate how well it is performing one economy and the driving success factors.

As a general perspective for the agri-food exports in 2018, the most important international players were The United States, the Netherlands, Brazil, Germany, China, and France. Compared with the top 10 agricultural products exporters, the rank adds Japan and Belgium as top worldwide importers.

The products mostly exported by Romania in 2018 were low value-added items or raw materials: wheat, maize, sunflower seeds, cigarettes, rapeseed, barley. At the opposite pole, the agri-food products mostly imported by Romania in 2018 were: Food prep nes, Meat, pork, Chocolate products nes, Pastry, Crude materials and Cheese, whole cow milk.

Since already several years, Romania is struggling to become more competitive in the international market. Although the country has a significant skilled labor force, agro land, and *willingness* to stimulate its competitiveness, it is still far behind the global competitive agricultural circle. As Romania's case indicates, labor and natural endowment are not enough for a highly competitive country.

Agri-food trade competitiveness is an essential component of total economic competitiveness, and it requires a more in-depth analysis and understanding of how to value the cultivation of the crops with the highest productivity.

Since we live in a continuously changing and uncertain world, competitiveness is an on-going process that includes the appropriate and updated reforms for a sustainable and competitive growth.

## 6. Acknowledgment

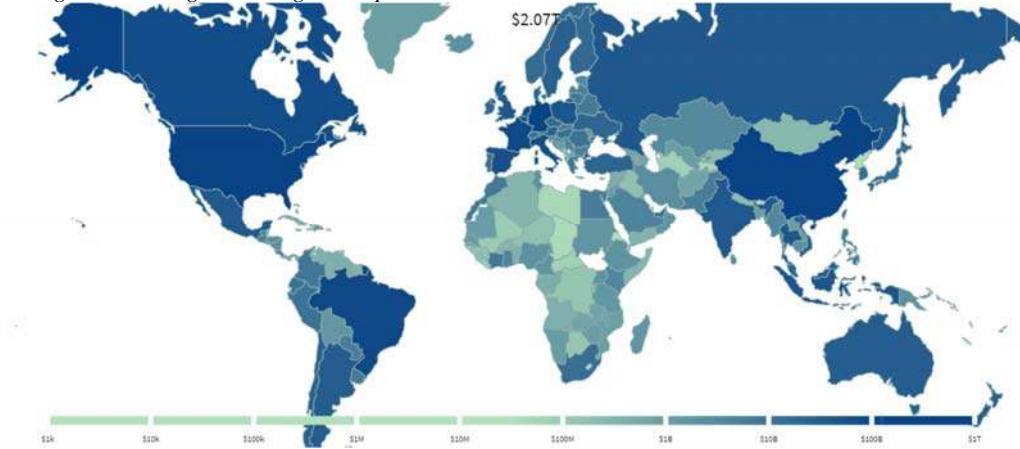
The present study is part of the post-doctoral project "*Analysis of the competitive sectorial position in the global business network. Romania and the agricultural sector*" coordinated by the post-doctoral School of Economics and International Affairs.

## 7. References

- Brander, J. A., & Spencer, B. J., 1985. *Export subsidies and international market share rivalry*. *Journal of International Economics*, 18(1), 83–100. [https://doi.org/ 10.1016/0022-1996\(85\)90006-6](https://doi.org/10.1016/0022-1996(85)90006-6)
- Crowder, D.W., Reganold, J.P., 2015. *Financial competitiveness of organic agriculture on a global scale*. *Proc. Natl. Acad. Sci.* 112 (24), 7611–7616.
- Delgado, M., Ketels, C., Porter, M. E., & Stern, S., 2012. *The determinants of national competitiveness* (Working Paper No. 18249). <https://doi.org/10.3386/w18249>. Available online at <https://web.stanford.edu/~chadj/HallJonesQJE.pdf>
- FAO (2020) <http://www.fao.org/home/en/>
- Justine Falcicola a , Marion Jansen b , Valentina Rollo 2020. *Defining firm competitiveness: A multidimensional framework*. Elsevier Journal, *World Development* 129 (2020) 104857
- Kim, Y.D., Lee, C.H., 2013. *Analysis for global competitiveness of agricultural products (vegetable)*. *J. Korean Soc. Int. Agric.*
- Krugman, P. (1986). *Strategic Trade Policy and the New International Economics* [MIT Press Books]. Retrieved from The MIT Press website: <https://econpapers.repec.org/bookchap/mtptitles/0262610450.htm>
- Krugman, P. (1990). *Rethinking international trade*. MIT Press.
- Krugman, P. (1994). *Competitiveness a dangerous obsession*. *Foreign Affairs*, 73, 28–44.
- Robert E. Hall and Charles I. Jones *Why Do Some Countries Produce So Much More Output Per Worker Than Others?* *The Quarterly Journal of Economics*, Vol. 114, No. 1 (Feb., 1999), pp. 83-116  
Published by: Oxford University Press Stable URL: <http://www.jstor.org/stable/2586948>
- Roger D.Norton, Amy Angel, Ricardo Argüello, Álvaro Balcázar, Héctor Martínez, Henry Samacá, Anne Turner, 2017. *The Competitiveness of Tropical Agriculture. A Guide to Competitive Potential with Case Studies*, 125 London Wall, London EC2Y 5AS, United Kingdom Academic Press is an imprint of Elsevier, ISBN: 978-0-12-805312-6
- Statista, 2020. *Romania: Share of economic sectors in the gross domestic product (GDP) from 2009 to 2019*, available online at <https://www.statista.com/statistics/373136/share-of-economic-sectors-in-the-gdp-in-romania/>
- Steriu, V., Otiman P.I. (coord.), 2013. *Cadrul național strategic pentru dezvoltarea durabilă a sectorului agroalimentar și a spațiului rural în perioada 2014-2020-2030*. Cadrul național strategic rural, Romanian Academy Publishing house, Bucharest, pp.77-94.
- World Economic Forum (2019) *Global Competitiveness Report 2019: How to end a lost decade of productivity growth*, available online at <https://www.weforum.org/reports/how-to-end-a-decade-of-lost-productivity-growth>

### Appendix

Figure no. 1: Agriculture gross exports, worldwide, 2018



Source: Author's own extraction based on UN COMTRADE Database – Atlas of Economic Complexity (2020)