

OVERVIEW ON FACTORS WEAKENING THE RELATIVE COMPETITIVENESS OF FOOD VALUE CHAIN IN ROMANIA vs. EU

Mirela-Adriana RUSALI¹

¹Institute of Agricultural Economics – The Romanian Academy

Email: rusali@eadr.ro

Abstract

The present paper aims to provide a basis for policy decision by undertaking investigations on certain factors recently affecting Romania's food value chain competitiveness. The research highlights structural imbalances caused by the larger share of the primary production against the sector of capitalization on agricultural products, changes concerning the value added in the food chain in Romania, comparing to EU-28, shown by i.e. the decrease of the value added in Romania's food chain, caused by agriculture and food industry down trend - the outcome provides indications residing in value of production structure of the agri-food processing industry, where the value added achieved in food and beverages industry has been severely exceeded by the up trending production costs.

Keywords: *food chain, relative competitiveness, value added.*

DOI: 10.24818/CAFEE/2020/9/12

Introduction

Industry has always been emphasized as a key sector of economic development in the economic researches and from policy perspective. Whereas the current CAP's main objective is the sustainable food production, with an accent on farm incomes, agricultural productivity and price stability, the new CAP post-2020 follows the EC Communication "The Future of Food and Farming" (EC, 2017) and the legal proposals of European Parliament and Council included in the recent regulation regarding the renewal of CAP framework for the financial period 2021-2027 (EC, 2018a), establishing rules on support for the strategic plans to be drawn up by Member States, states a continuous political process of evolution in coherence with the EU Treaty objectives, emphasizing value added increase.

The present paper aims to contribute to the analyses preparing the national strategic plan for Romania with the scope of maximizing the effects of future CAP on meeting EU objectives and priorities, while reaching the Europe 2020 targets set for Member States. The statistics were provided from Eurostat – National Economic Accounts - EAA and the Survey on the activity of enterprises in the manufacturing industry (NACE Rev.2 codes).

The research method used the analysis of relevant economic indicators selected from those used to evaluate the policy effects on agri-food value chain highlighting factors determining positive and negative trends aspects affecting competitiveness in the recent years. Respectively, structural and dynamics comparisons between Romania and the EU-28 average on the agri-food industry, i.e. the structure of the food supply chain, the volume index of production and gross value-added price index in agriculture and agri-food industry; also estimations of the annual growth rate of gross value added in agrifood industry.

The present research lays on the hypothesis that structural gaps that determine countries' ranks are guiding to sectors needs to diminish disparities and build resilience to unforeseen shocks. The literature review provides several arguments to substantiate the present endeavor.

1. Literature review

The Europe Strategy guiding the preparing process of the EU economy post-2020 acknowledged three key factors generators of economic growth at EU and national level that might result through actions, *i.e.* *smart growth* - by promoting knowledge, innovation, education and digital society; *sustainable growth* - by increasing competitive production, efficient use of resources; and *inclusive economic growth* - by augmented labor market sharing, skills acquisition and poverty alleviation².

Economic growth can be considered a main factor in people well being and prosperity, although different path of industrialization and technology developments, allowing different competitive advantages, have left a gap between developed countries and poorer ones³. However, often the tendency to decrease the sectoral macroeconomic indicators draws attention to the phenomenon opposite to the growth that directly affects competitiveness.

European Commission defines *economic competitiveness* - one of the four dimensions of the territorial competitiveness – as an “*ability of the players involved to create and retain maximum added value in the area by strengthening links between sectors and by turning their combined resources into assets for enhancing the value and distinctiveness of their local products and services*” (EC, 1999).

Investigating the key sectors of the economy helps to identify where significant obstacles to competition exist. According to several OECD studies including Romania, in years following the EU accession, food sector has been closely monitored and examined by the Romanian Competition Council. The annual report on the state of competition in key sectors of the Romanian economy, in 2014, included results of the inquiries on cereals inputs in bakery industry, milk and retail sectors (OECD, 2014). The report concluded on the relevant factors having an impact on the sector, *i.e.* the asymmetry of the bargaining power among parties, the role of contracts and the price transparency. There were evidenced not functioning the prices adjustment mechanisms proper in highly competitive markets, *i.e. in case of price decreases for raw materials, there seems to be little incentive from the producers' side to lower the prices for certain goods; in the case of increased price, retailers absorb a portion of the price increase at producer/processor level for certain food categories, thus alleviate the effect on final consumer.*

The value chain has a complex spatial configuration, involving interactions and activities of various economic operators and range of companies that contribute to production and distribution of a consumer product or group of consumer product, operating on diverse markets and trading varied food products to meet the different demands of the consumers, defining the value creation along the chain. The food supply chain links three important economic sectors, *i.e.* the agricultural sector, food processing industry, distribution (wholesale & retail) and services.

The links between the agricultural producer and the consumer are essential for the functioning of the food chain, so that economic activities in the food production and distribution segments make a decisive contribution (Bezât-Jarzębowska, 2017).

² https://ec.europa.eu/commission/presscorner/detail/ro/IP_10_225.

³ For example, in the 21st century the GDP/capita of many poorer countries was lower than the Europe's GDP per capita in 19th century. Economic growth was a pinnacle of the 20th century that insured the development of the Western World and improved for many people the leaving standards (Boldeanu, F., Constantinescu, L.: *The main determinants affecting economic growth*. Bulletin of the Transilvania University of Brasov Series V Economic Sciences Vol. 8 (57) No. 2, 2015.).

The recent research project COMPETE, financed by EC⁴, pointed that EU food chain's competitiveness has been strongly influenced by both domestically and internationally originating trends, with positive and negative impact on all segments of the supply chain in the short and the long run. The main identified factors were: diet changes, new technologies and an increasing level of technology and mechanization of agricultural production, growing price volatility, expansion of private food standards accompanied by diversification of food products, proliferation of public food quality standards and safety regulations, public demand for traceability and transparency, higher openness of agri-food markets, and finally increasing demand of consumers for organic food products.

Competitive tensions occur especially in food processing and retail links, often giving rise to competition concerns, mainly due to rising trends and volatility in commodity prices. Competition can occur not only in terms of sales power, but also in terms of purchasing power which might refer to vertical interactions between any of the links in the food supply chain. The way the retailers compete can be as well an important functioning factor of the food supply chain on the whole (OECD, 2014).

In the recent decades, there have been major changes in the power and supply chain as a result of the conversion of the food system from one mainly *supply-driven* to one more *demand-driven*, while a more concentrated bargaining power of the retail links prevailed against the primary producers sector who *failed in a subordinate economic role*. In order to balance the economic power forces in the food value chain, CAP post-2020 introduced a new policy objective (Objective 3), i.e. 'Improving farmers' position in the food chain' as main driver in analyzing upon value added reached by the primary producers in the food chain while facing the other actors in the chain (EC, 2018b).

2. Results and discussion

The EU food and beverage industry is leading the processing industry in terms of employment, e.g. for the year 2016, 4.3 million people (15.2%), turnover of 1090 Euros (15.6%) and value added accounting for 212 billion Euros (13%) (Table 1).

The distribution of the value added across the food supply chain in the EU-28 indicates the fact that although the largest part of the enterprises are involved in agricultural activities, its contribution to the whole food chain stay at around 25%.

Albeit a good macroeconomic stability indicated by evolution of the volume index of production in agrifood manufacturing (Graph 1), many structural and qualitative unbalances still exists, as well as microeconomic vulnerabilities with risk concerning the agricultural sector's sustainability of the and the competitiveness along the agri-food value chain, such as: an agricultural sector highly fragmented weakens the food supply chain competitiveness, given that the 98% share of the number of agricultural enterprises (Table 1).

⁴ International comparisons of product chains in the agro-food sectors: determinants of their competitiveness and performance on EU and international markets, COMPETE Project EC-FP7, Final Report, 2015.

https://cordis.europa.eu/docs/results/312/312029/final1-project-final-report_compete.pdf

Table 1. Structure of the food supply chain in the EU-28, by main indicators (2016)

	Agriculture	Food industry*	Distribution**		Food services*	Total agrifood value chain
			Wholesales	Retail sales		
Turnover (bill. Euros)	426	1090	1249	1110	421	4296
Value added (bill. Euros)	219	212	102	162	176	871
Employment (mill. pers.)	11.3	4.3	2.0	6.2	9.2	33.0
Number of enterprises (thou.)	10800	288	337	809	1661	13895
Labor productivity, apparent (thou. Euros /empl.)	19	49	51	26	19	26

*includes beverages; **food, beverages and tobacco.

Source: Data processing from Eurostat – National accounts aggregates by industry.

The greatest part of the enterprises producing agri-food products are atomized SMEs, which limit the economic development and growth potential of states' economies, considering the existence of a positive relationship between the firm's size and the value creation and their weak propensity to innovate.

Romania have had a contribution of 1% to the total gross value added of the food and beverages manufacturing industry realized in EU, in average, in the time period 2008-2016 (Mattas et al., 2020). The value added achieved by the food industry in Romania was of 2.5 billion Euros in the year 2008, decreasing to 1.9 billion Euros in 2016 (Table 2).

The comparative analysis upon the trends within the latest years post-accession revealed that in Romania has been estimated an annual average decrease of -3% of the value added in the agri-food (food and beverages) manufacturing industry, by contrast to the annual growth rate trend in EU-28, which was of 1.5% (Table 3).

The stages of processing and retail have added elements and supplementary services to the basic agricultural products, as a consequence of the consumers demand increase for conventional products, resulting as such a rise of total value added in the food chain. However, value added in agriculture has not risen as other actors in the food chain, mainly the retail sector.

Table 2. Structure of the food supply chain in Romania, by main indicators (2016)

	Agriculture	Food industry*	Distribution**		Food services*	Total agrifood value chain
			Wholesales	Retail sales		
Turnover (bill. Euros)	..	12.1	15.5	16.3	2.8	..
Value added (bill. Euros)	6.54	1.9	1.3	2.2	0.82	12.8
VA in total agrifood chain (%)	45	13	9	15	6	100

	Agriculture	Food industry*	Distribution**		Food services*	Total agrifood value chain
			Wholesales	Retail sales		
Employment (mill. pers.)	1.90	0.20	0.26	0.13	0.13	2.6
<i>Employees in total agrifood chain (%)</i>	76	8	10	5	5	100
Number of enterprises (thou.)	3630	8.8	6.6	46.7	19.8	3712
<i>Enterprises in total agrifood chain (%)</i>	98	0.2	0.2	1.3	0.5	100
Labour productivity, apparent (thou. Euros/employee)	3.44	9.5	5.29	16.6	6.50	4.9
RO enterprises in EU-28 (%)	33.6	3.0	2.0	5.8	0.14	26.7

*includes beverages; **food, beverages and tobacco.

Source: Data processing from Eurostat - National accounts aggregates by industry.

Among the factors that explain this evolution may be those related to increased production costs, inputs, caused by competition for limited resources, as well as the limited possibilities of farmers to add value to the basic products, or to obtain income for those commodities.

Table 3 Gross value added in agrifood manufacturing, Romania and EU-28 (2008-2016)

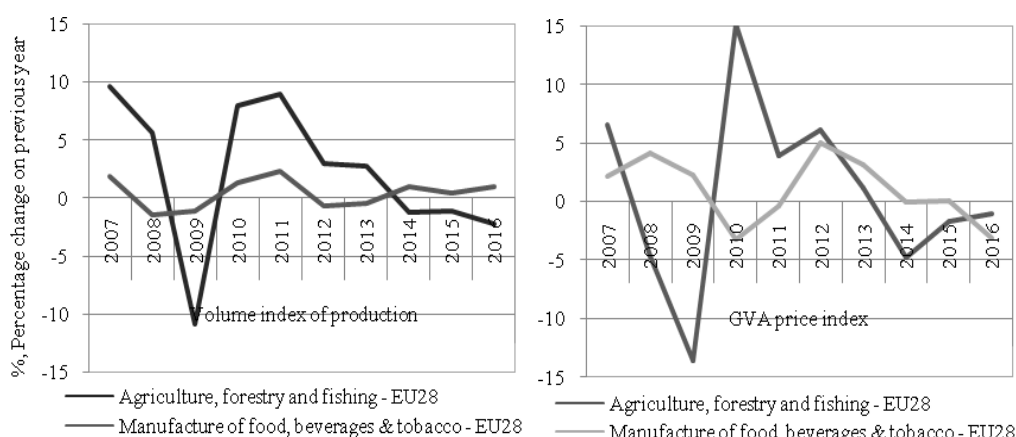
	2008	2016	Annual growth rate	Averages, 2008-2016	Share in EU-28
	bill. Euros	bill. Euros	%	bill. Euros	%
EU-28	235.9	283.3	1.5	251.2	100
Romania	2.5	1.9	-3	2	1

Source: Data processing from Eurostat – National accounts aggregates by industry.

Statistics on agri-food industrial production and value added indicate significantly different growth rates between the Member States. The evolution of production and GVA of the agri-food sector in the period of time 2007-2012 had higher fluctuations than in the following period, with a minimum in 2009 as an impact of the financial crises and the revival of 2010, while in the agri-food industry the trend was much more attenuated.

As illustrated in Graph 1, EU-28 agricultural production volume index has decreased since 2011, for example, being 4% lower in 2016 compared to 2013, while the agrifood manufacturing production had an opposite trend, increasing by 2% in the same period.

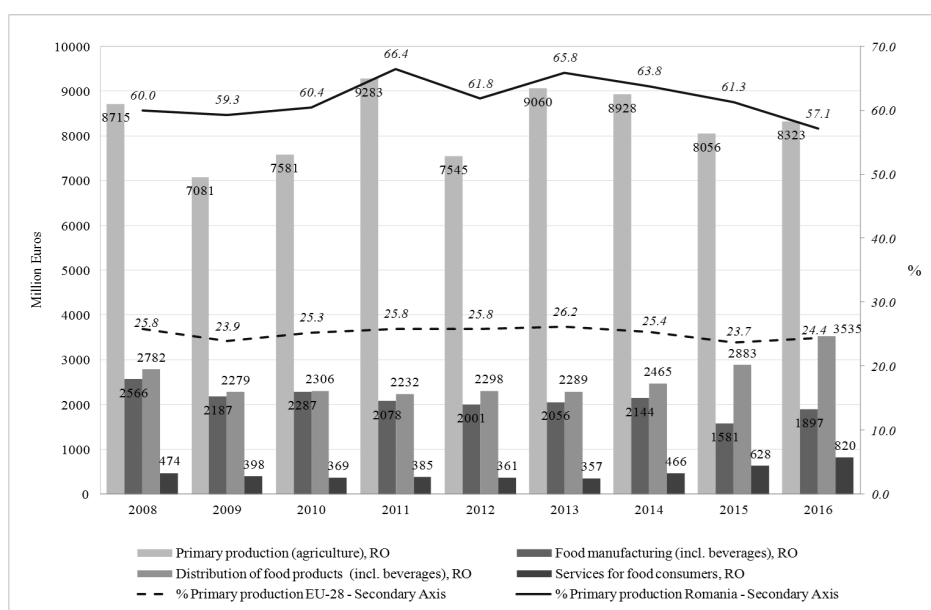
Graph 1. Volume index of production and gross value-added price index, in the EU-28 agriculture and agri-food industry (2007-2016)



Source: Data processing from Eurostat – National accounts aggregates by industry.

Analysis on value added distribution in the food chain highlighted a high share of the primary production, respectively agricultural products, which unbalances the food chain and weakens competitiveness. As presented in Graph 2, it can be underlined the following:

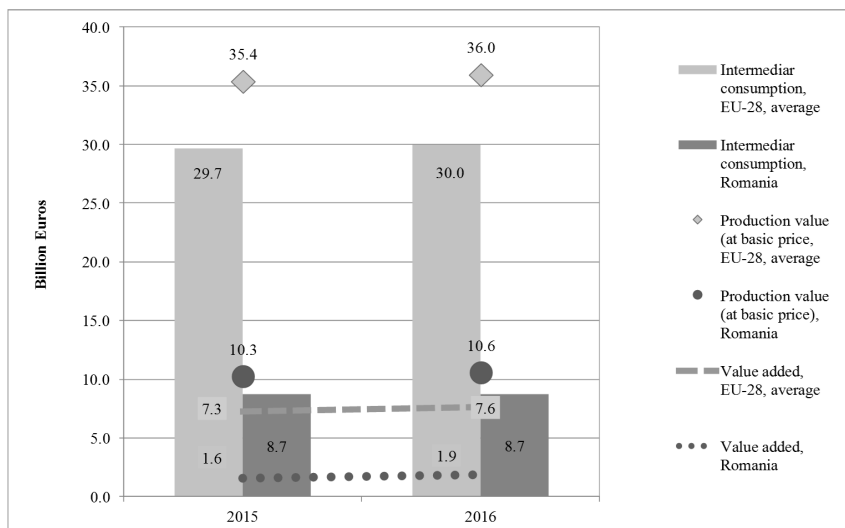
Graph 2. Value added of food supply chain in Romania and share of primary production, in Romania compared to EU28 – Evolutions 2008-2016



Source: Estimations and processing on data from Eurostat – EAA and SBS.

- Structural imbalances in the food chain in Romania and in comparison with the EU-28:
 - Romania's high share, of 33.6%, in the number of EU-28 enterprises;
 - The low share of the food industry in total food chain's value added, of 13%, in 2016, compared to agriculture, of 50%.
- The decrease of the value added in Romania's food chain was of -1.6% annual growth rate, respectively, from 2.5 billion Euros, in 2008, to 1.6 billion Euros in 2015, due to the decrease of the value added in the food industry and in agriculture.
- The evolution of the primary production in the value added of the food chain, corresponding to the values of the year 2016, indicates a share of agriculture of 45% in Romania, compared with 25.2%, in the EU-28.
- There is also a positive trend of slight increase of the value added in Romanian food industry, which, according to Eurostat statistics in 2016 it was of 1.9 billion Euros, up from 1.6 billion Euros accumulated in 2015, while agriculture achieved a value added of 8.3 billion Euros, up from 7.7 billion Euros in 2015.
- The value added in food and beverages industry has been exceeded by the production costs.

Graph 3. Breakdown of production value in agri-food processing industry, Romania vs. EU28



Source: Data processing from Eurostat – National accounts aggregates by industry

As shown in Graph 3, in the year 2016, the ratio between intermediate consumption and value added (input/output ratio) was 4.6, in Romania, compared to 3.6 in the EU-28 average, but decreased compared to 2015 when the input/output ratio was 5.5. Still, compared to the year 2008 when the ratio was 3.1, it is underlined an increasing trend.

In the structure of the value of production of the Romanian food industry, intermediate consumption represented 82%, in 2016, while the value added accounted for only 18%. This structure of the value of food production has been worsen in the period after 2007, the intermediate consumption increasing from 76% in 2008, while value added decreased from 24%.

Conclusions

The research highlighted that the food chain competitiveness in Romania is weakened by the highly fragmented supply from the agricultural sector. The distribution of the value added in the agri-food chain indicates imbalances since the lower share of the added value of the food industry in the food chain (13%) compared to agriculture (57%), leading to a decreasing trend of the value added in the food chain. As well, the high share of primary products unbalances the food chain, deepening the trade deficit and weakening competitiveness.

At the same time, the production costs with an increasing share in the structure of the production value dramatic exceeded the value added reached by the food industry, affecting the profit margins of the companies and their ability to invest.

The EU agricultural policy should have a redressing impact upon the subsectors of the manufacturing industry in terms of an improved functioning, i.e. the unequal force power in negotiations as well as contracts' role and price transparency (ex.: milk, bakery, retail sectors).

The CAP post-2020 needs to provide the enabling framework, financial support and incentives in supporting the EU's industry priorities, to be a really common policy that promotes a competitive, more sustainable and market-oriented agriculture. Investment in research and innovation, knowledge transfer and collaboration among all stakeholders (including the industry) signify the cornerstone to achieve them.

References

1. Bezat-Jarzębowska, A., Jarzębowski, S.: *Integration of the Food Supply Chain as a Factor of Sustainable Development*. "International Journal on Food system Dynamics", Proceedings in System Dynamics and Innovation in Food Networks, 2017.
2. Boldeanu, F., Constantinescu, L.: *The main determinants affecting economic growth*. Bulletin of the Transilvania University of Brasov Series V Economic Sciences Vol. 8 (57) No. 2, 2015.
3. European Commission (a): Regulation of European Parliament and Council COM (2018)392.
4. European Commission (b): *Initiative to improve the food supply chain (unfair trading practices)*. Commission staff working document, SWD (2018) 92 final. Brussels.
5. European Commission (EC): *The future of food and agriculture*. COM (2017) 713 final.
6. European Commission (EC): *Common Agricultural Policy towards 2020*, Brussels, 2011.
7. European Commission (EC): *Territorial competitiveness - Creating a territorial development strategy in light of the LEADER experience*, Part 1, "Rural Innovation" Dossier n° 6 – Part 1 Leader European Observatory December 1999.
8. Garrone, M., and Swinnen, J.: *The role of market power in the EU food supply chain*, Deliverable No. D3.6, CEPS/KU Leuven, 2018.
9. OECD: *Competition Issues in the Food Chain Industry*, Policy round tables, 2014.
10. Mattas, K., Kievit, H., Gert van Dijk, Baourakis, G., Zopounidis, C. (Editors), *Sustainable Food Chains and Ecosystems*, Cooperative Management, Publishing Springer Nature Switzerland AG, 2020 (pp. 35-49).