

## ROMANIAN VEGETABLE SECTOR A STUDY ON ITS CURRENT DEVELOPMENT

Cornelia ALBOIU

Institute of Agricultural Economics, The Romanian Academy Bucharest, Calea 13 Septembrie no. 13, District 5, 050711464, Bucharest, Romania, Phone: +40213182411, Fax:+40213182411, Mobile:+40721379120, Email:coraalboiu@yahoo.com

*Corresponding author:* coraalboiu@yahoo.com

### *Abstract*

*The accession to the European Union has not brought about significant structural changes of the vegetables chain, this continuing to be highly fragmented, with an extremely great number of individual producers (over 85%), a relatively small number of industrial processors with high concentration level, and a well-developed retail sector that has significantly grown recently. The low organization level of vegetable farmers into producer groups/organizations/cooperatives completes this picture and reveals a reduced level of integration and contractualization. In these conditions, the question is how well-prepared the vegetable sector is to cope with the consequences of a possible accession to the euro area.*

*Key words:* structural change, vegetable supply chain

### INTRODUCTION

At present, the modernization and expansion of the agricultural sector in developing countries is taking place in the context of relevant structural changes in the agri-food industry. In the past, in many developing countries, agricultural production was based on activities carried out within the family farms, while in recent years, it is directed to larger firms that are more integrated in the agricultural production and distribution chain (Boehlje, 2000) [1]. In addition to this situation it can be noticed a trend of reforming the markets that has taken place recently as a means of liberalizing world trade which has lead to more cooperation and globalized markets (Barrett & Li, 2002) [2]. In particular, the structural adjustment programs that have recently taken place in developing countries, have resulted in greater integration of world agricultural markets (Reardon & Barrett, 2000) [9]. According to the result of a research study carried out by Suri and Sushil (2006) [12], strong relationships among companies are very often met in the commercial world but rarely noticed among governmental organizations for agricultural development . Based on a definition by

Mighell and Jones (1963) [6], it is conceptualized that the market price, contracting and cooperation and vertical integration, either in a single manner or all together, are some of the alternative means of coordination of the agricultural value chain. Having the root on this definition, the concept of vertical coordination has been analyzed by Hobbs and Young, (2001) [5], who concluded that it refers to a variety of market mix possibilities, starting from open markets and local transactions and reaching to total vertical integration, but also going even further to strategic alliances and joint ventures.

The same concepts were used also by Hann et all [4] when studying the pork processing industry in China. According to a study by Goodhue Rachael et all, (2010) [3] contractualization and other type of vertical cooperation represent considerable components of the supply chain for various agricultural products. At the same time, in order to enhance the life of the small agricultural producers and rural areas Singh et all (2009), [10] have developed a few models taking into consideration local context and several variables referring to local territories. Demand for enhanced vertical coordination in the agrifood system is examined by Myers et

all (2010) [8] as a mean of satisfying increasingly various consumer preferences who are changing the background the participants to supply chain has to cope with. Moschini, Menapace and Pick (2008) [7] argues on the idea that the economics of geographical indications (GIs) is evaluated within a product based on a vertical structural differentiation which comes along with the competitive organization of agriculture.

Regarding the vegetable supply chain, Singh and Mishra [11], made a review of literature in the field of vegetable supply chain by providing a comprehensive research study on this concept.

In Romania vegetable supply chain is quite wick and several variables which led to this situation were analyzed in the research studies presented above reflecting different realities in different countries but also suggesting the trends in the agrifood world. In the following paragraphs some of the above concepts are analyzed and in addition to that, the impact of Common Agricultural Policy is briefly reviewed, along with an indicator of competitiveness namely gross added value.

## **MATERIALS AND METHODS**

The objective of this research study is to identify the main trends of the vegetable supply chain in the recent years. For this purpose a quantitative and qualitative research was employed. Specific statistical indicators such as: gross value added, gross value added per annual work unit and prices were used. Comparative analysis is also used to rank Romanian vegetable sector within European Union sector. The data source is represented by various databases such as tempo on-line INS, Eurostat, FAO.

## **RESULTS AND DISCUSSIONS**

**The farm structure and productive structure** along the chain is analysed in the following paragraphs.

At farm level, out of the total number of vegetable farms, 85% are smaller than 5 ha, 10 % have 5 – 10 ha, and only 5% have more than 10 ha. From the economic point of view,

the farms with a standard output under 2,000 euro have the highest share, i.e. 42%, followed by those with a standard output from 2,000 to 3,999 euro (27%). Only 1% of farms have a standard output from 15,000 to 24,900 euro per year. At the opposite pole, the concentration level of processing firms and of the retail sector is much higher than in the primary vegetable sector. The market share of the first 5 processing companies in Romania is 55% (in the European Union represents 56%), whereas the market share of the first 5 large retailers exceeds 60%. Although Romania has a high horticultural potential, ranking 10th in terms of vegetable production in the European Union in the year 2016 (9th in in the year 2007), the vegetable sector is still characterized by low productivity (yields are 3-4 times lower than the EU average in cabbages, for instance, or there are even much larger gaps in tomatoes, for instance). This results in an insufficient domestic supply of vegetables, under fresh form and mainly for agro-processing, self-supply in the period 2007-2016 largely fluctuating from 78 to 87%, to reach a maximum of 93% in 2011.

### **Cooperatives**

The primary vegetable sector is facing important logistic problems (precarious infrastructure, insufficient storage facilities) as well as an acute lack of organization of the chain, which leads to difficulties in selling the production, low contracting level, low bargaining power of farmers and a poor adaptation to consumers' needs. At present, out of total 107 producer groups in agriculture, 24 producer groups are in the sector of vegetables, i.e. 25%. Practically only 1% of farms in the vegetable growing sector belong to a producer group. The consequence of this situation is the very low contracting level of production and a poor participation and understanding of the vegetable market organization measures in the EU by farmers. Hence the EU market organization regulations in the vegetables sector are not applied in Romania, except for only one producer organization, as most farmers do not know them and they can be accessed only through producer organizations.

### **Prices**

In the EU, food prices have increased more than the prices of other consumer goods, due to the increase of consumer demand and of input prices, which resulted in inflation growth. Two important aspects are worth noting, in relation to the evolution of prices along the chain: the extremely high price volatility and the asymmetry of their transmission along the chain. The prices of vegetables in Romania have constantly had values smaller than the EU average, yet they are highly volatile. Price volatility is higher at farmer level (tomatoes have the highest volatility) and lower at consumer level. The sector of vegetables has the highest price volatility at the level of farmers (9-10%) compared to the EU average (4-5%), mainly due to the high volatility of yields; EU membership has slightly moderated their volatility, mainly in the winter period.

#### Gross value added

The processing industry and preservation of vegetables and fruit represents a low percentage of the value added in the food sector, i.e. about 3%, next to the sector of meat and meat preparations, flour products and dairy. At the level of agriculture, the share is also relatively low, under 3%, and GVA/AWU in the horticultural sector is extremely low compared to other European Union countries (both the old and the new member states, Table 1). The distribution of the value added along the chain is unbalanced mainly due to the lack of price transparency on the market and to the low contractualization level.

Table 1. Value added/AWU in the horticultural sector (Thousand euros)

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Romania	6	3	3.3	2.6	2.5	4.3	2.3	1.6	2.7
Poland	7.4	7.2	8	7	7.5	8.6	9.2	10.7	8.4
Hungary	12.8	7.7	14.3	11.6	13	14.8	12.4	14.7	14
France	21.2	20.2	24.4	21.2	24.7	23.5	23.1	27.8	28.8
Spain	18	19.5	22	15	19	19.1	19.2	22.7	18.7
Bulgaria	3.3	2.9	2	2.1	2.3	2.4	4.1	3.4	3.9
Greece	13.2	12.2	13.4	10	10	10	13.4	12.6	11.2
Nether lands	35	33	47.3	40.2	44	44.4	46.3	54.2	5.7

Source: FADN database, 2018

Although the supply of vegetables is quite diversified, this has quite a low value added, mainly due to the precarious organization of farmers (about 1% organization level compared to 45% the EU average). The consequence of this situation implies insufficient marketing activities meant to provide attractiveness and food safety for consumers, and an insufficiently developed logistic and storage system.

#### CAP impact on the vegetable sector

Lower access to and lower absorption of the financial support coming from NRDP 2007 – 2014 funds by the horticultural sector can be noticed, as compared to the other agricultural sub-sectors. At the same time, the access and absorption of funds from CAP Pillar I for setting up producer groups in the vegetable sector had the lowest level (23 mil. Euro – absorbed European funds) compared to the other EU New Member States where the absorption was much higher (for instance, in Hungary, the level of absorbed funds from Pillar 1 was double compared to Romania), which contributed to maintaining a poor organization of the vegetable market.

As regards the absorption under the current NRDP (2013-2020), although a stimulation of investments in the horticultural sector was desired compared to the other agricultural sub-sectors, the figures at the level of the year 2017 reveal a very low absorption, the investments under Measure 04 (investments in physical assets) representing 1.1%, while under Measure 06 (Development of farms and enterprises) 11%.

In Romania's vegetable sector, the low yields and the weak organization of the chain are also reflected in the commercial balance.

The fluctuating trend of self-supply after 2007, the very low organization level of the chain and the deficit in the balance of trade show that CAP impact on this sector is modest and the sector has not succeeded in capitalizing on the financial opportunities provided by CAP, mainly those offered under Pillar I for chain organization through producer groups and producer organizations.

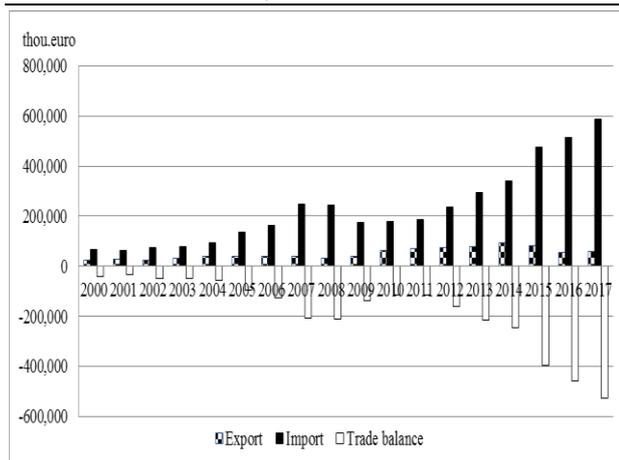


Fig. 1. Balance of trade in the group *Vegetables, roots and tuber crops*

Source: <http://trade.ec.europa.eu/tradehelp/>

## CONCLUSIONS

In the European Union, the Common Market Organization provides support to the setting up producer groups and other association forms in the vegetable sector. While in Netherlands the organization level is 104%, and the EU average is 34%, in Romania the producer organization level is extremely low, under 1%, which is reflected in a negative balance of trade and low level of integration and contractualization on the supply chain. In order to improve this situation, a solution would be to provide fiscal facilities for the farmers who are organized into producer groups and especially to offer consultancy for a period of at least 5 year from the moment of setting up the producers group so that the group learns from the bottom how its business can work and what are the advantages and the support offered by the EU for the group's functioning and also in a case of occurrence of a possible safety crisis on the vegetable sector. In addition to this, there is a strong need for improving the contractualization level in the Romanian vegetable supply chain.

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