CONVERGENCE OF HORTICULTURAL FARMS IN ROMANIA FROM THE PERSPECTIVE OF COMPETITIVNESS AND PROFITABILITY IN EU

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Abstract:

The paper aims to analyze the degree of convergence of the horticultural sector in Romania in terms of competitiveness indicators with other EU member states. In order to be able to establish a robust causal link between the factors of competitiveness in determining the degree of convergence of the horticultural sector, certain indicators of competitiveness were considered such as the family income of the holding per unit of work and the net added value per unit of annual work. In addition, other indicators were calculated, such as the degree of capitalization, the share of production costs, net assets, return on assets, trade balance. The results show a low level of competitiveness compared to all countries analyzed, which indicates that the horticultural sector in Romania is not yet on the verge of achieving an economic convergence with the main EU horticultural sectors.

Keywords: *convergence, competitivness, Romanian horticultural sector*

JEL classification: *Q10, Q19.*

Introduction

The convergence study aims to describe the way in which different economic, social and political factors and mechanisms act or contribute to mitigating differences or gaps between these entities. The first way of perceiving the achievement of real convergence through the exclusive prism of market forces is that which belongs to the neoclassical theory of growth. Considering that the economic result (GDP / inhabitant) is given by the contribution of several factors of production (capital, labor, natural resources, technological progress) the neoclassical model takes as fundamental hypothesis the dependence of growth on the particularities of capital return which has a general downward trend. Iancu (2006) reviews the authors who do empirical research on convergence and divergence using the modified and developed neoclassical model.

For example, Mankiw, Romer, and Weil (1992), and Islam (1995) have shown that economies with low initial incomes tend to grow faster than economies with high initial incomes after entering the model, as control variables, the rate of saving and the rate of population growth, and Barro, Salla-i-Martin, Blanchard, and Hall (1991) additionally considered capital mobility, labor migration, and so on.

The paper aims to analyze the degree of convergence of the Romanian horticultural sector in terms of competitiveness indicators compared to several EU countries. There are currently many concerns about assessing the competitiveness of the horticultural sector due primarily to the measures of the Common Agricultural Policy as it is desired to observe its impact on total production, yields and incomes of farmers and the degree of convergence. The approach is also necessary in order to improve the internal supply and satisfy the consumers' requirements. The instability of the vegetable market, the high volatility of prices and the inability to provide the raw material needed for processing plants further accentuate the need to ensure the stability of the

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vegetable supply, and especially to find solutions to improve the use of factors that contribute to increasing competitiveness such as supply chain, consumption of inputs, technical progress, given the existence of a rather low level of capitalization of the sector and a domestic production that is still far from ensuring the consumer demand of the population and possibly the creation of a competitive producer status in Europe. At the same time, the poor organization of the supply chain, the small number of producer groups and organizations in the sector contribute to maintaining a low level of competitiveness of the sector.

Methodology and Data

The evaluation of the competitiveness of the horticultural sector will be performed for 9 countries in the European Union for the years 2013-20118, including Romania. The analysis will be based on FADN data (Farm Accountancy Data Network), EUROSTAT data (Economic Accounts of Agriculture), Tempo-online.

The main indicators considered in this paper that measure profitability and competitiveness relate to:
- the average capital
- return on assets
- net worth (net assets),
- the share of debts in fixed assets
- trade balance

The paper will focus on the analysis of the competitiveness of the primary horticultural sector mainly, but also at the level of the other links of the chain (insofar as the availability of data will allow) based on an analytical approach taking into account some competitiveness indicators in order to observe the degree of structural convergence of Romania's horticultural sector compared to other EU member states. A comparative analysis was performed on the evolution of the competitiveness indicators listed above, at the level of primary production, for other EU member states that represent Romania's competitors in this field.

Results

The average capital

The average capital of the farm is mainly composed of working capital, buildings, machines and equipment. The figure above reveals the high degree of decapitalization of the horticultural farm in Romania, our country being on the last place. Since 2013 there has even been a reduction in the degree of capitalization, with a return in 2018, but still below the level of 2013.

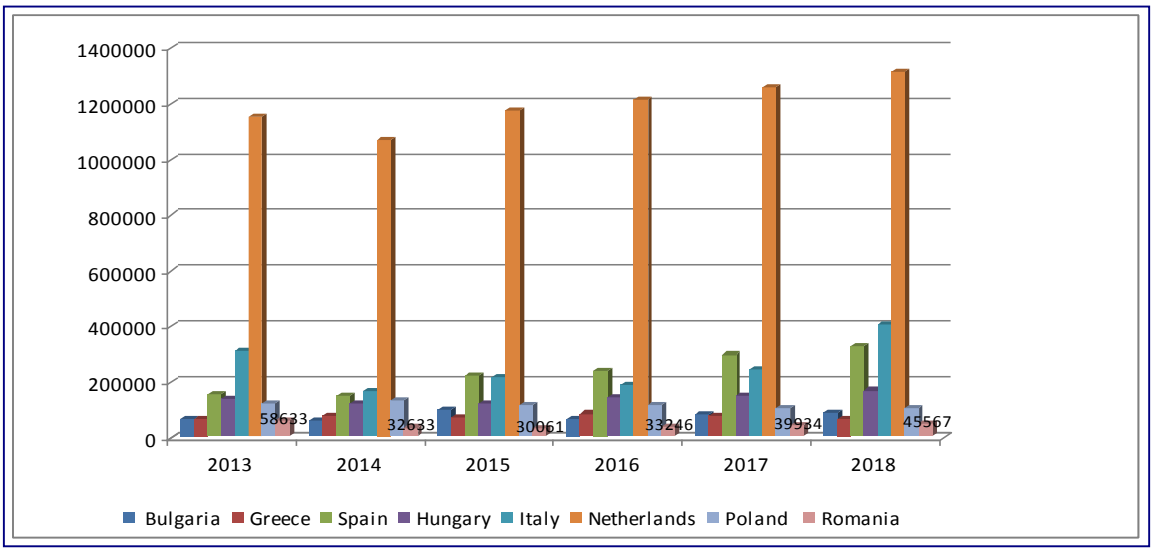

Figure 1: The average capital of the horticultural farm, Romania compared to the EU

Source: calculations on the base of FADN data, 2020

Share of costs in total production

This indicator reveals the competitive position of horticultural farms without taking into account subsidies (and taxes). It is calculated as the ratio between total costs and total production. Total costs were calculated as the sum of specific costs, overheads, factor costs (land, labor, capital) and occasional costs (eg depreciation + external factors). The lower their share, the more productive the farm can be considered.

Table 1

Share of costs in total production

%

	2013	2014	2015	2016	2017	2018
Bulgaria	105%	103%	109%	100%	99%	117%
Grecia	68%	69%	69%	67%	67%	66%
Spania	71%	74%	72%	64%	62%	66%
Ungaria	74%	77%	80%	83%	82%	75%
Italia	69%	67%	67%	67%	62%	47%
Olanda	104%	99%	94%	93%	94%	96%
Polonia	75%	73%	69%	76%	77%	76%
Romania	54%	78%	74%	82%	84%	63%

Source: calculations on the base of FADN data, 2020

As for the specific costs of the horticultural sector taken into account, they are related to seed, chemical fertilizers (N, P, K), plant protection products and other specific costs.

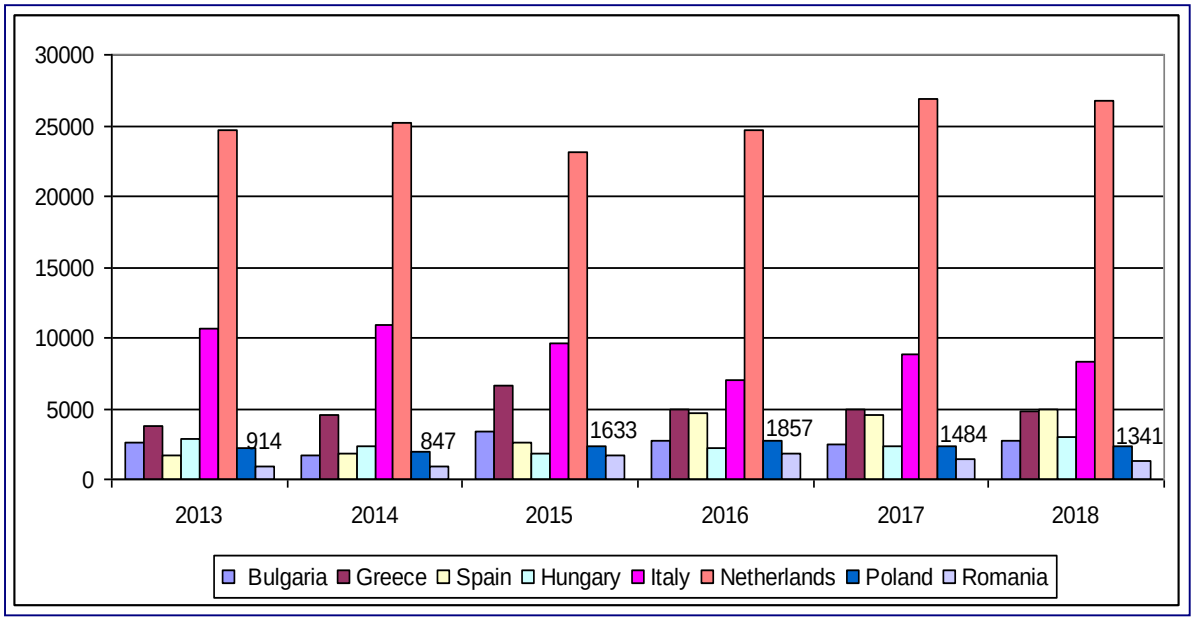

Figure 2: Specific costs per hectare, Romania compared to other EU Member States (euro / ha)

Source: calculations on the base of FADN data, 2020

As it can be seen from the figure above, Romania ranks last in terms of these costs per hectare by about 1400 euro / ha. However, there is an increase of these costs from approximately 840 in 2014 euro / ha to 1341 euro / ha in 2018.

Share of subsidies in the net income of the farm

This indicator reveals the degree of competitivness taking into account subsidies and their impact on farm income in the horticultural sector.

Table 2

Share of subsidies in the farm's net income

%

	2013	2014	2015	2016	2017	2018
Bulgaria	121	42	64	66	74	57
Greece	10	10	5	8	6	5
Spain	9	10	6	4	3	2
Hungary	8	9	11	13	12	11
Italy	2	1	3	3	2	1
Netherlands	2	2	1	2	2	3
Poland	10	11	7	8	9	9
Romania	**6**	**10**	**4**	**9**	**8**	**9**

Source: calculations on the base of FADN data, 2020

The results show that the largest subsidies that contributed to the increase of the net income of the horticultural farm were granted in Bulgaria this country registering the highest levels of subsidies granted for the entire analyzed period. Significant subsidies were also granted in Hungary (12% in 2016) and Poland (11% in 2016). Romania recorded maximum levels of the share of subsidies in 2014, which was also reflected in the indicators calculated above. However, their level is quite low, with an average share of about 8%, the minimum level being recorded in 2013 and 6% respectively. In 2018, their share in revenues was 9%. The lowest share of these subsidies seems to have been recorded in the Netherlands.

Convergence of the horticultural sector through the prism of assets profitability and the balance of trade

The net value or net assets (the difference between total assets and liabilities) at the farm level in Romania compared to the EU average is very low, about 50 thousand euros, while the EU average exceeds 300 thousand euros in 2018. This indicator of profitability reveals that the profitability of Romania's horticultural sector is about six times lower than the EU average.

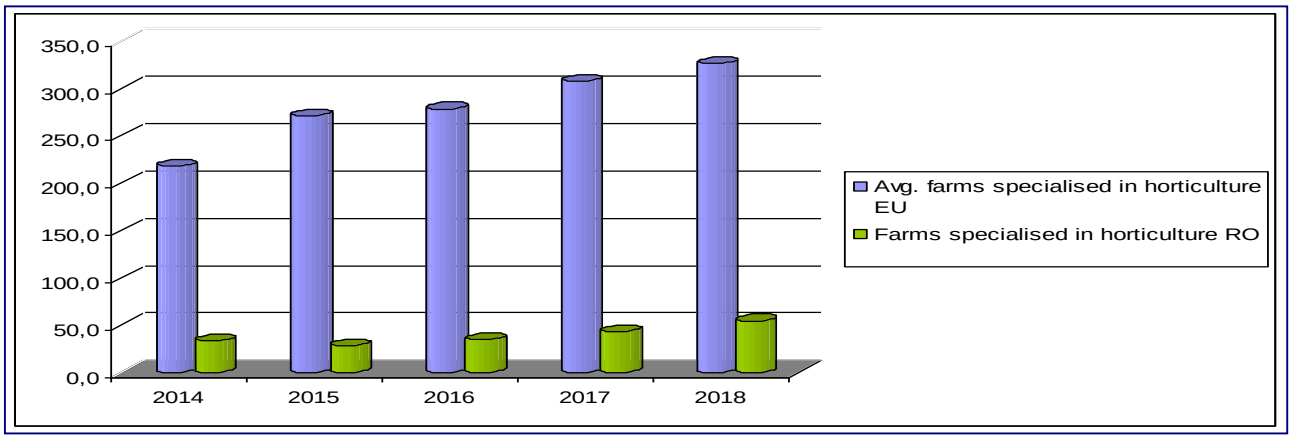

Figure 3: Net value / net assets of the horticultural farm (thousand euros)

Source: calculations on the base of FADN data, 2020

The share of current assets in total fixed assets is very low, the value of fixed assets exceeding in 2018 over 45 thousand euros, while current assets slightly exceed the value of 5 thousand euros.

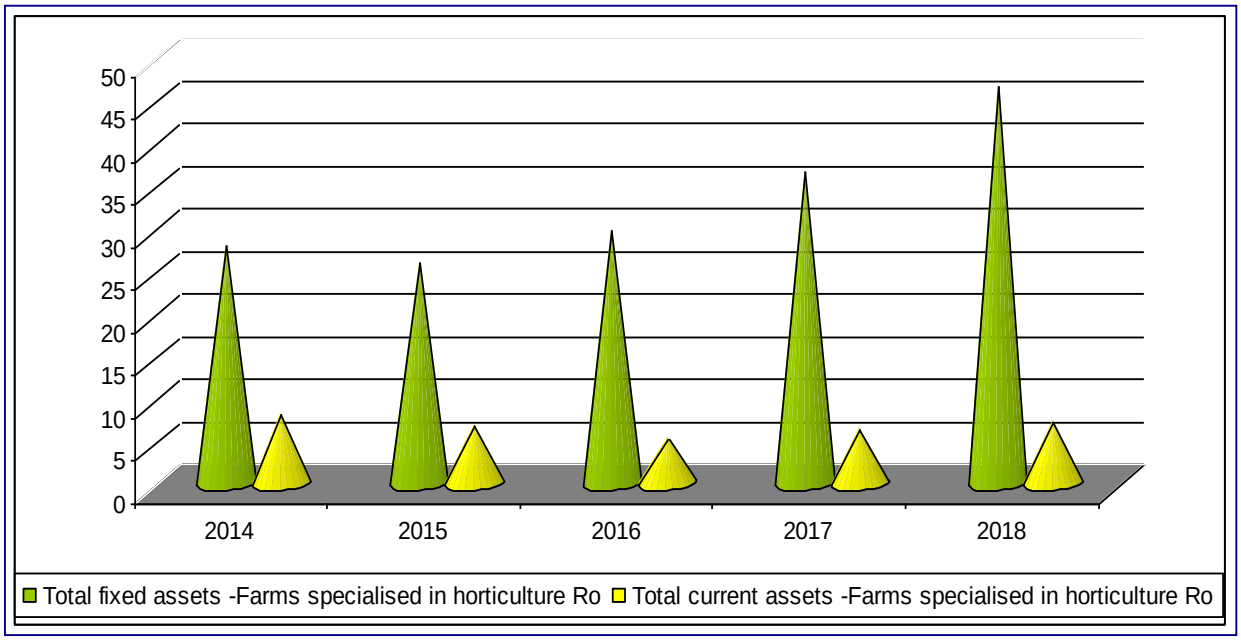

Figure 4: Total assets (thousand euros)

Source: calculations on the base of FADN data, 2020

The return on assets is given by the ratio between the net income of the farm and the total assets.The evolution of this indicator in Romania compared to the EU average is presented in the figure below.

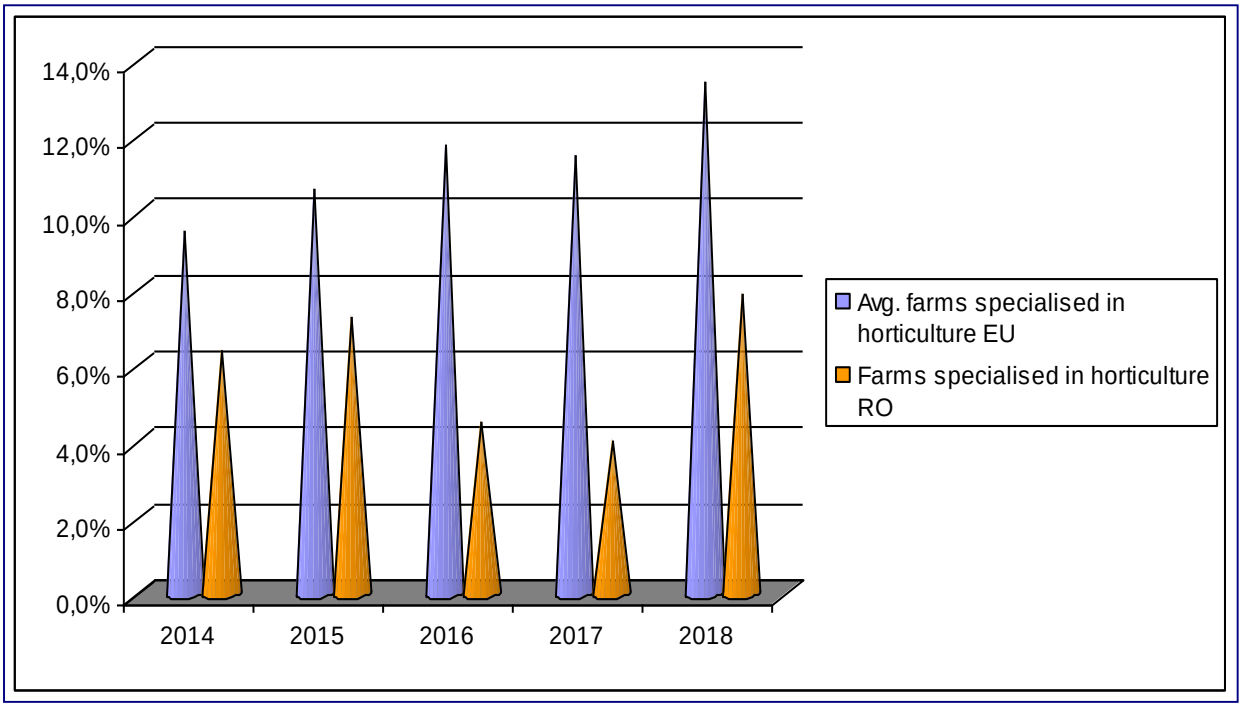

Figure 5: Return on assets

Source: calculations on the base of FADN data, 2020

Regarding the return on assets, one can notice a low return on assets in Romania compared to the EU average, with a slight attempt to flatten this gap in 2018.

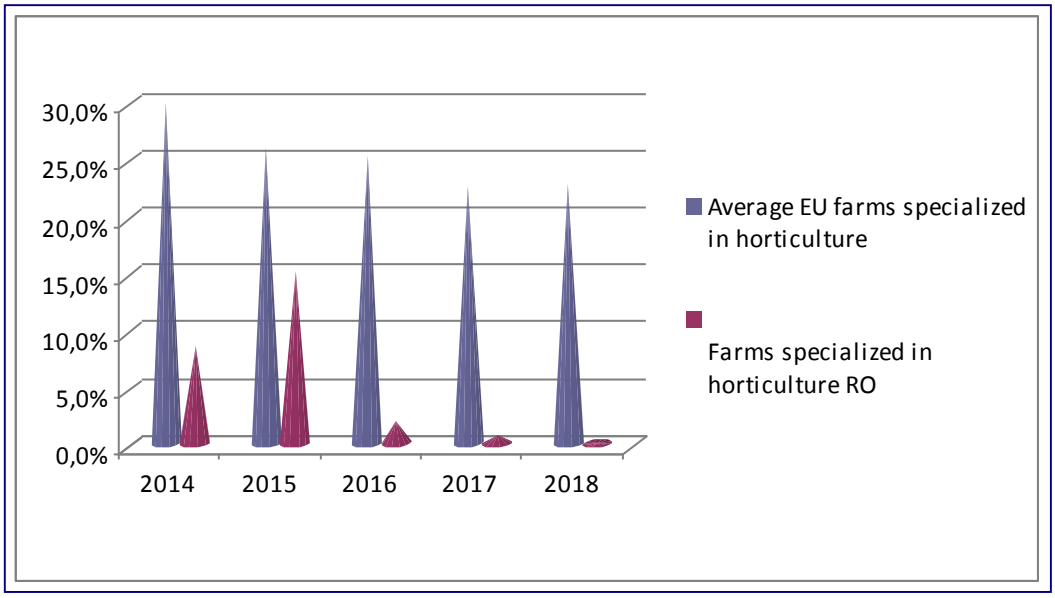

Figure 6: Share of debts in total assets%

Source: calculations on the base of FADN data, 2020

It is interesting to note that the share of debt in total fixed assets is very low in Romania compared to the EU average, which suggests that domestic vegetable producers do not have bank commitments, and therefore do not make sustained investments from the bank loans, perhaps due to high credit costs in our country.

Competitiveness of the sector in terms of trade balance

The competitiveness of the sector in the light of this indicator remains low and the degree of convergence does not appear to have occurred. Although the level of investment in farms has increased, the impact at national level on the evolution of total production and yields remains low. The competitiveness of the sector, measured by the trade balance indicator, did not improve in the period 2013-2018, the trade balance registering a deficit of over 400 million euros in 2019, see the figure below:

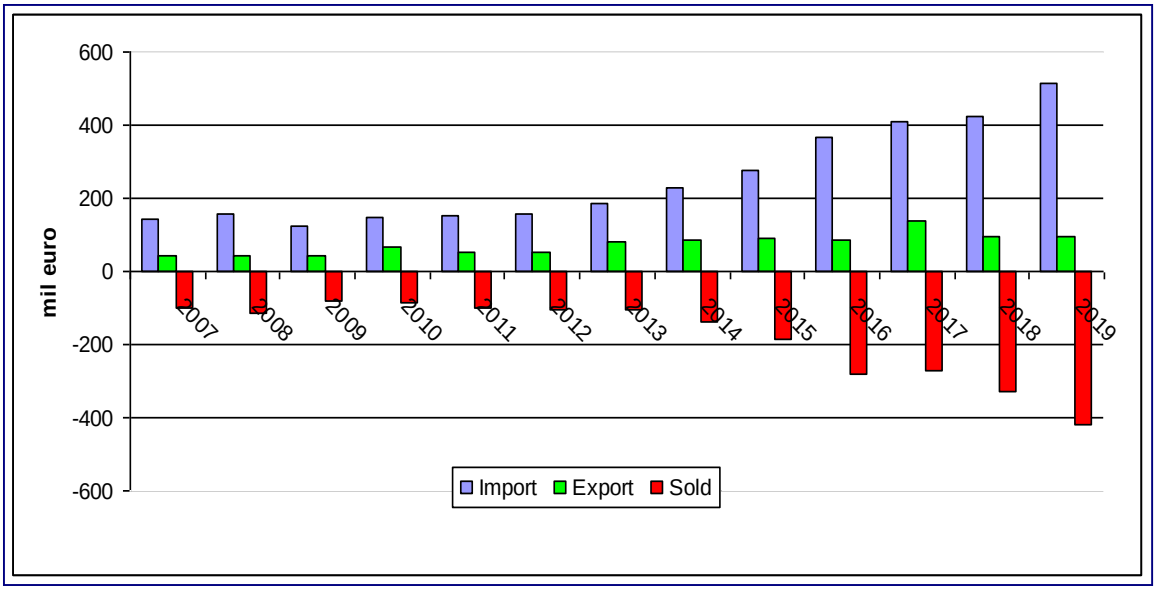

Figure 7: Trade balance on vegetables

Source: calculations based on INS data

Conclusion

The calculation of the competitiveness indicators of profitability related to the Romanian horticultural sector reveals a low level of competitiveness compared to all EU states considered competitive in this field. The Netherlands stands out as the most competitive country, followed by countries such as Italy, France and Spain.

The size of the farm is the smallest compared to the EU average and this could be a structural cause that explains the weak competitiveness of the horticultural sector. In addition, the specific costs per hectare of (seeds, chemical fertilizers and plant protection products) are the lowest compared to all the countries with which the comparison was made, with a trend of growth in recent years.

To all these causes was added the prohibitive cost of loans compared to the other states with which comparison was made, including difficult access to them.

The negative balance of trade has widened in recent years, deepening the negative gap in economic convergence. The explanation is found in the causes listed above to which was added the poor functioning of the supply chain.

There is, however, an increase in yields, which is primarily due to the increase in areas grown in greenhouses and plastic tunnels that allow the use of more productive varieties and the correct application of technologies. However, average yields remain highly volatile.

The increase of cultivated areas in greenhouses and plastic tunnels will allow the increase of yields per hectare by using selected seeds, with high productive potential but also the correct application of technologies including the purchase of equipment, logistics, new storage systems.

Although thesupply of horticultural products is relatively diversified, the added value of the products is small, mainly due to the lack of marketing knowledge meant to ensure attractiveness and safety in front of the consumer, the lack of technical means of sorting, packaging, labeling, storage and transport production to the market, as well as the lack of a system for planning production and adapting it to market requirements.

The policy of this sector must respond to market demands by reducing price fluctuations and the imbalance between supply and demand and encouraging the consumption of fruit and vegetables, while ensuring the competitiveness of products. Supporting local production through coherent legislative measures, facilitating access to European funds, creating an organized distribution chain (by supporting the formation of producer groups) could significantly contribute to the development of the horticultural sector in Romania.

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