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THE EVOLUTION OF THE ROMANIAN VEGETABLE TRADE IN THE WORLD CONTEXT

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Abstract: *The paper aims to study the reaction of the Romanian vegetable sector to the disruption of trade flows due to the Covid-19 pandemic, analysing the evolution of the trade of the main vegetable products in the last decade in Romania and making comparisons with the most important vegetable producing countries both within the EU and outside the EU. The study also makes a brief analysis of world trade, in which the main trends, its size and perspectives are analysed at global level. Short-term global forecasts anticipate a further increase in vegetable consumption, but at the same time signal many uncertainties related to the evolution of energy and gas prices, as well as the increasingly manifestation of a new actor, namely climate change. In this context, the results reveal that Romania remains a net importer of vegetables. The negative trade balance deepened continuously during the analysed period, the deficit increasing and exceeding 400 million euros in 2019.*

Keywords: *trade context, Romanian vegetable sector*

JEL classification: Q11, Q 17

INTRODUCTION

The change in the way of consumption such as the exponential growth of online deliveries, the difficulties of securing raw material in the processing sector, the limited and restricted operation of the HORECA system, the partial transition of the education system to online system are the major problems generated by the Covid-19 pandemic in the vegetable sector. To these issues from the last years, one can recently notice the significant increase in energy and gas prices, which ultimately led to an increase in the prices of vegetable production.

In the last two years, these important changes have occurred not only in Romania, but also at the level of global food chains. The current situation makes it almost impossible to make short-term forecasts regarding the evolution of this market. In this unfavourable context, it is worth noting the appearance of a new actor on the scene: climate change. The current uncertainty is accentuated by climate change which, by making climate less predictable, prevents the realization of realistic production plans. Since the spring of 2020, the price of oil has increased by 200%, while that of gas by up to 30% only in the second quarter of 2021. Rising energy and gas costs have consequences on both processed output and production costs. This leads to important uncertainties related to the choice of species to be cultivated and the method of cultivation. The experience of some European countries in recent years shows that the organization of agricultural production through producer organizations as well as through interprofessional organizations in certain areas represents an important factor in the stability of primary production, its processing and prices.

MATERIALS AND METHODS

The objective of this paper is to analyse the role of trade in addressing global challenges related to food security and the opportunities to increase vegetable production in Romania.The main indicators used were trade balance, import, export, vegetable production, the degree of coverage of consumption by vegetable species. The data used cover the period 2010-2019 and come from the databases of the National Institute of Statistics, tempo on line and Eurostat.

The paper also reviews the main trends and perspectives of the global trade in vegetables, against the background of the current disruptions generated by the Covid-19 pandemic and the problems caused by the increase in energy prices.

RESULTS AND DISCUSSIONS

Trade can be an important tool in reducing food insecurity and increasing food security at country level. Through imports, trade increases access to a wider variety of food other than that of the local supply, and stabilizes the domestic market by overcoming the shortage or supplementing the domestic supply. Through exports, trade generates income and foreign exchange for exporting countries, improving consumer purchasing power and ability to pay for food imports. On the other hand, trade can expose importing countries to risks from various external shocks, as food price spikes in 2008 and 2012 showed (Morrison and Sarris 2016). The emergence of the COVID-19 virus, the spread of the pandemic around the world and the disruptive consequences on food security, such as the temporary closure of borders, has again illustrated how internationally connected food value chains can be vulnerable (Swinnen and McDermott 2020).

At the same time, trade can exacerbate environmental challenges associated with food production, land use and climate change by promoting intensive production methods (Balogh and Jámbor 2020).

Vegetables play a key role in reducing malnutrition problems through their contribution to improving the nutritional value of the diet (Willett, Rockström et al. 2019). The data show that the level of current vegetable production in many low- and middle-income countries, including Romania, does not cover the consumption needs and it is based on imports. Demand for vegetables is expected to increase in the future as a result of continued population and income growth and increased demand for a more diverse diet (FAO 2020; de Steenhuijsen Piters, Dijkxhoorn et al. 2021). Increased demand indicates production opportunities in countries that already have comparative advantages in vegetable production, but may increase the import dependence of those countries that lack these advantages. There are many studies showing that international trade does indeed promote economic growth, as it allows countries to use their resources more efficiently by specializing in the products and services they can produce most competitively (e.g. Brooks and Matthews 2015; OECD, 2020).

Trade plays a key role in balancing international food surpluses and deficits, trade improves food security (by reducing seasonal effects on food availability) and makes local markets less prone to economic/political or weather shocks. The specialized literature cited above highlights the advantages of trade, and the current analysis aims to analyse to what extent Romania's vegetable trade contributes to the achievement of the objectives presented above: food security, food diversification, source of income and foreign exchange.

The pandemic has led to an increase in the consumption of tomato products throughout Europe. On the other hand, the collapse of available stocks after 2020 caused an increase in imports

in the months immediately preceding 2021, but the production of 2021 was sufficient to restore the balance under the conditions of a normal consumption trend. According to market representatives, there is still no indication of how vegetable consumption will reposition itself after the pandemic, as the production of the world's major producers may be sufficient to guarantee adequate coverage of global stocks.

The situation in Romania reveals that the current moment is full of uncertainties. The Romanian vegetable market has actually been a market of uncertainties for more than 30 years, primarily due to the poor organization of producers. 2021 was a good year for Romanian vegetable production, but a large part of this production was not sold because the prices of certain vegetable species were very low, farmers preferring to throw away their production due to the lack of commitments regarding production contracting. Weak organization of vegetable producers and trade relations along the supply chain are the main factors contributing to an unpredictable reaction of this market, and a very reduced ability to adapt/operate according to the European model of market organization. Thus, in Romania, there are only 5 producer organizations that implement Operational Programs (in which less than 1% of vegetable producers are part) and that could have mitigated these disruptions through the implemented market measures.

International vegetable trade, context and forecasts

According to a study by Market Research, the global fruit and vegetable market was estimated at USD 265.6 billion in 2017 and is expected to reach USD 373.5 billion in 2022. The vegetable market can be segmented as follows: fresh produce segment, dried, frozen and processed segments. The processed vegetable products segment accounts for an average of 35% of total revenue and is expected to have the fastest growth in 2018-2023 at 8.3%. Market growth is driven by the important role that vegetables play in the diet as a rich source of vitamins and minerals.

According to the same study, the world's richest countries report that the global market generated a total value of USD 72.8 billion in 2017. The United States is considered to be the world's largest importer of fruit and vegetables, with 13.7% of global imports, followed by Germany with 9.2% and the United Kingdom with 4.2%. China was the world's largest exporter of fruits and vegetables, accounting for 15.3% of global exports, followed by the Netherlands with 10.4% and Spain with 9.3%. China is a major supplier to neighbouring countries such as Vietnam, Thailand, Indonesia, the Philippines and Hong Kong and is known as a major exporter of garlic, grapes, citrus fruits and onions. Important quantities of garlic are exported from China to Romania as well.

Europe holds the largest fruit and vegetable market due to high consumption. Recently, the importance of the frozen segment has increased on the European market. Forecasts by Market Research claim that the Asia-Pacific region will witness the fastest growing fruit and vegetable market in the period 2020-2025, with a growth rate of 4.9%. Mordor Intelligence reports that rising production in China, Japan and India is driving market growth. The same study estimates that more than half of the vegetables consumed worldwide are produced in China. There is a growing demand for the frozen segment and the busy urban lifestyle in the Asia-Pacific region is leading consumers to discourage cooking in favour of quick and easy diets.

Romanian vegetable trade

In the last decade, the total areas cultivated with vegetables decreased from 263 thousand ha in 2010 to 228 thousand ha in 2019 (-14%), the same negative trend being registered by the total production of vegetables, which decreased from 3864 thousand tons to 3529 thousand tons (-18%). The main causes are the reduced ability of farmers to associate, (less than 1% of vegetable producers

are part of a farmers' cooperative or a producer group) and meteorological changes, with recent evolution trends towards extreme weather conditions.

Romania's trade in vegetables is negatively influenced by the evolution of the indicators presented above. The negative trade balance continued to increase, with imports increasing annually while exports remain at modest levels. This situation makes it difficult for the processing factories that fail to get raw material from Romania on the one hand, and on the other hand the consumption of the population is not sufficiently covered, which creates a certain vulnerability of food security for this sector. On the other hand, the negative trade balance damages Romania's balance of payments, and although trade can apparently become a source of income and foreign exchange, in the case of Romania's vegetable trade, this does not happen.

Romania's total vegetable imports have increased since 2010 (tomatoes and the so-called "various vegetables" group, which includes, among others, cucumbers, peppers and eggplants, had the largest share, with approximately 22% each). Weak capacity to organize the sector and a fragmented supply chain, higher prices and lower yields compared to the main competitors, as well as the proximity of large producers such as Turkey, have contributed to the increase in the trade deficit in this sector.

Romania is a net importer of vegetables. The negative trade balance has continuously deepened in the period 2010-2019. Although the level of investment and farm support has increased and the areas under protected crops (greenhouses and plastic tunnels) have increased, the national impact in terms of total vegetable production and yields remains low. The competitiveness of the sector, measured by the trade balance indicator did not improve in the period 2010-2019, while the deficit increased and exceeded 400 million euros in 2019 (Figure 1).

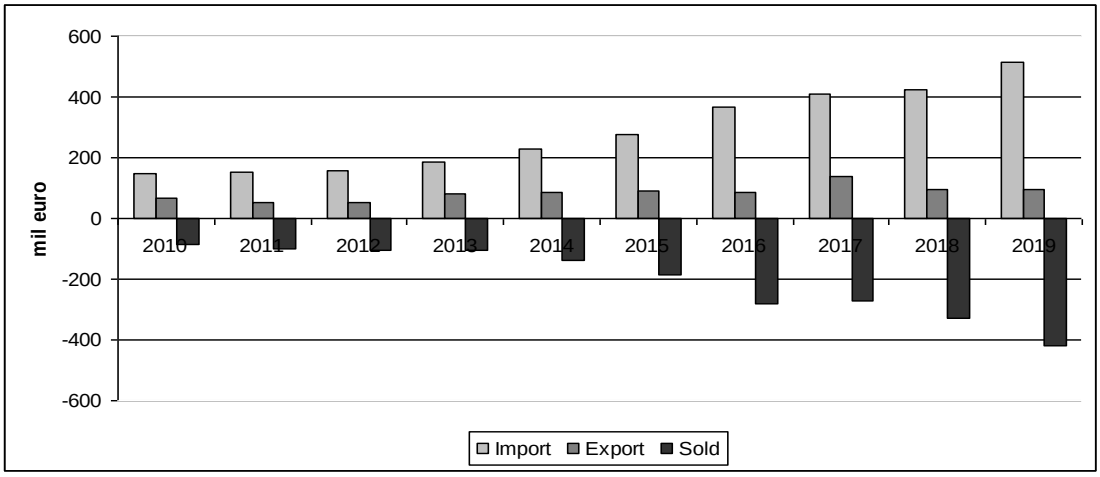

Figure 1. Evolution of the balance of trade in vegetables

Source: calculations on the basis of NIS data, tempo on line

In 2019, according to data provided by the National Institute of Statistics, the largest deficit came from the so-called "various vegetables" group, which includes, among others, peppers and eggplants, (representing about 22% of the deficit), closely followed by tomatoes (21%), cabbages, cauliflowers and collard greens (14%), group 0703 "onions, shallots, garlic, leeks and other allied vegetables, fresh or chilled" with 11%, and group 0707 cucumbers, fresh or chilled , with 7%.

In the period 2010-2019, the value of the total intra-EU import of vegetables increased four times, and the value of total extra-EU imports increased twice. The intra-EU export value is 50%

higher, while the extra-EU export increased by 88%. The deficit of the trade balance deteriorated continuously, reaching -301 million euros in the intra-EU trade relationship and -120 million euros in the extra-EU trade relationship. At the level of 2019, Romania reached a historical maximum of the deterioration of the trade balance for total EU and non-EU, this being -421 million euros (figure 1).

Tomatoes

Import of tomatoes from the EU increased in value terms, by 691% in 2019 compared to the base year 2010, but remained almost constant on the extra-Community relationship (+0.5%). The value of tomato exports to the EU decreased by 50% between 2019 and 2010, but increased by 61% in the extra-EU area. Overall, Romania imported very large quantities of tomatoes mainly from the EU; in 2019 the value of tomato imports from the EU was 55 million euros, and the value of tomato imports from the extra-EU area was 38.3 million euros, which led to a negative balance of 93.3 million euros. As regards exports, they are very modest both in terms of quantity and value.

According to calculations based on statistical data provided by Eurostat, in 2019, in value terms, the main EU states supplying tomatoes to Romania were the Netherlands and Spain (with 23% each) and Italy (with 14%). It can be mentioned that the export structure underwent significant changes in the period 2010-2019, in the sense that, while in 2010 the share of exports in the EU area prevailed, it decreased significantly in 2019, but the share to extra-Community destinations increased.

From the non-EU area, Romania imports 88% of the amount of tomatoes from Turkey, whose value share represents 92%.

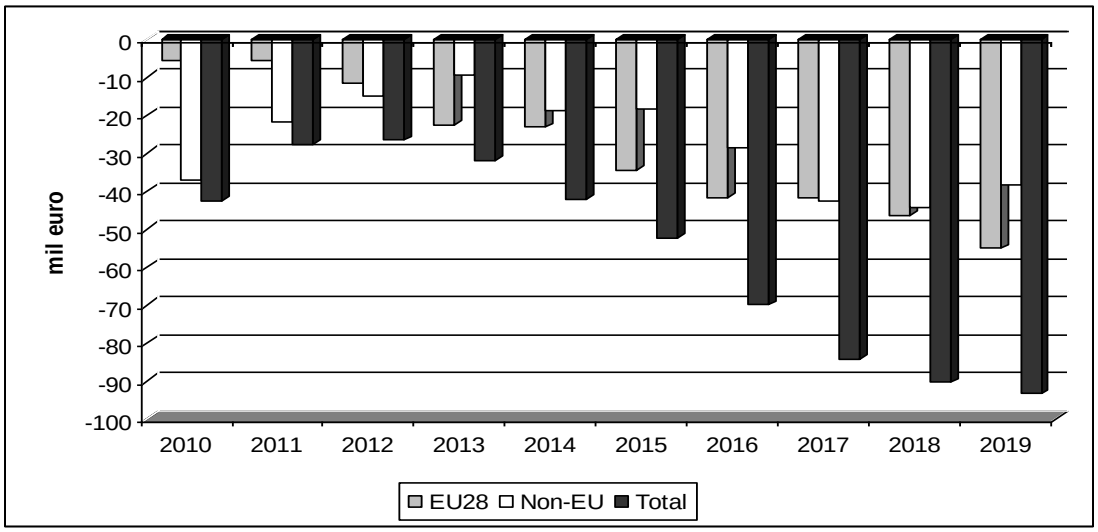

Figure 2. Balance of trade in tomatoes per total EU and non-EU, mil. euros

Source: calculations based on Eurostat data, 2021

Various vegetables

The group of various vegetables includes the following species: peppers, cucumbers, eggplants, cauliflowers. In the period 2010-2019, the value of the EU import of species belonging to the "various vegetables" group increased by almost five times, and the extra-Community import by almost seven times. The intra-EU export value increased by 55% in 2019 compared to 2010, while the extra-EU export increased by 357%. It is worth noting a reorientation of the export of various vegetables to destinations outside the EU, while imports have increased massively from both areas, both from the EU and non-EU areas. The trade deficit increased continuously, reaching -25.3 million

euros with EU countries and -31.6 million euros with extra-EU countries. In 2019, Romania reached the largest trade balance deficit for EU and non-EU total, respectively -56.9 million euros.

The largest imports of vegetables belonging to the "various vegetables" group from the intra-community space came from Spain (30%), Poland and the Netherlands (18% each), Germany (16%). As far as the extra-EU area is concerned, over 90% of imports came from Turkey.

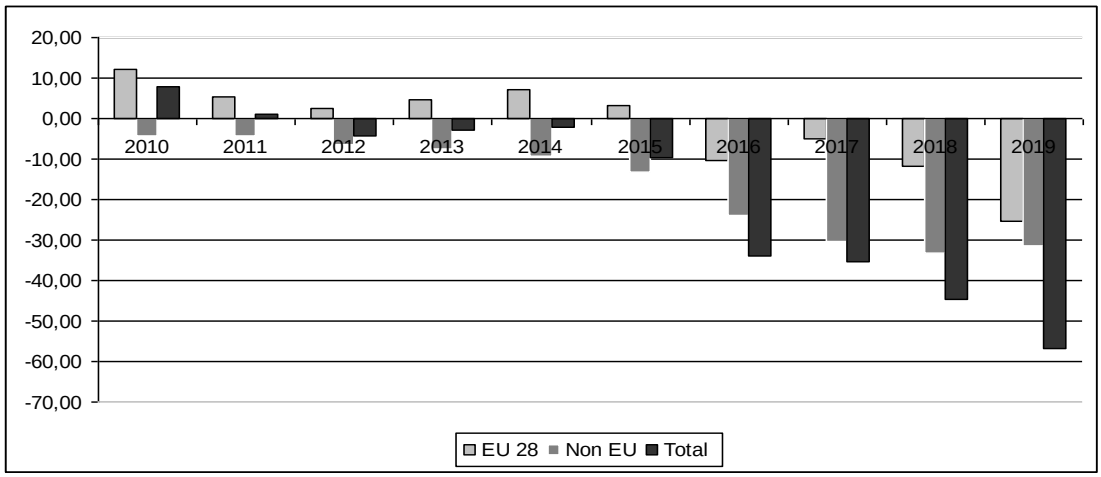

Figure 3. Balance of trade in the group of various vegetables, mil. euros

Source: calculations based on Eurostat data, 2021

The trade balance in the group of various vegetables was negative throughout the investigated period. This reached a historical high in 2019, at almost 60 million euros.

Regarding the cucumbers, an important deterioration of the trade balance occurred in 2017, when Romania's cucumber imports from the EU totalled of over 13 million euros, and 5.3 million euros from non-EU countries, while total exports reached 6.9 million euros, which led to a deficit of -11.9 million euros. In 2019, the trade deficit decreased slightly, to reach -9.8 million euros (Figure 4).

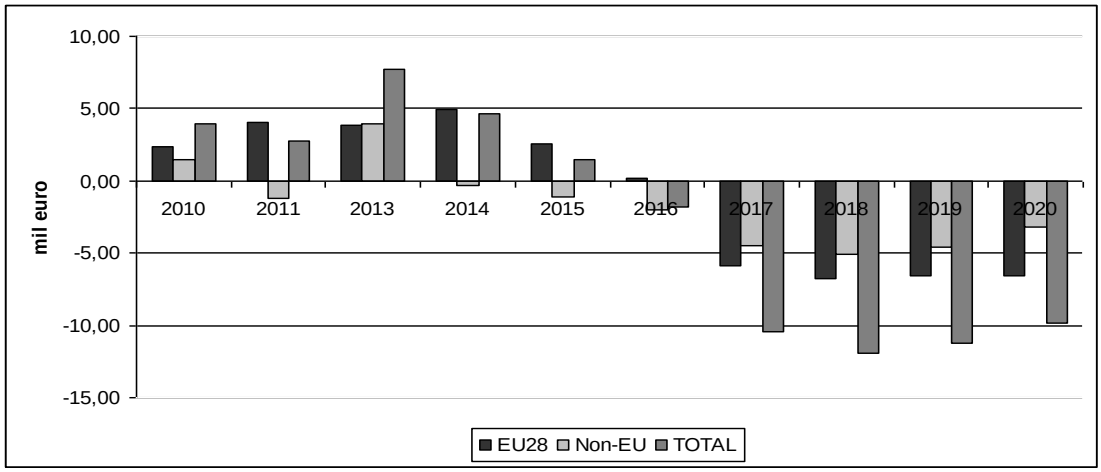

Figure 4. Balance of trade in cucumbers, mil. euros

Source: calculations based on Eurostat data, 2021

The highest share of imports in value terms came from Spain, Greece and Germany. From the non-EU area, over 80% of imports came from Turkey.

CONCLUSIONS

The world market of vegetables has recently experienced a significant growth, on the one hand due to the change in the population's diet, and on the other hand due to the increase in the population's income. Short-term global forecasts anticipate a further increase in vegetable consumption, but at the same time signal out many uncertainties related to the evolution of energy and gas prices, and the increasingly manifestation of a new actor on the scene, namely the climate change.

Although the specialized literature supports the role of trade as a generator of income and economic growth, Romania's trade in vegetables is far from being a generator of income and currency for increasing the country's commercial power. Romania imports significant quantities of vegetables, which causes the worsening of the trade balance. However, imports ensure the coverage of consumption needs and contribute to ensuring a certain food security. However, it must be stated that in light of the latest global events, such as the Covid-19 pandemic, more recently the war in Ukraine, and the increase in energy and gas prices, turning to imports is not a feasible long-term solution.Romania is a net importer of vegetables. The negative trade balance deepened continuously in the investigated period, the deficit increasing and exceeding 400 million euros in 2019.

Regarding the intra-EU import of tomatoes, this increased in value terms, by 691% for the entire analysed period, but remained almost constant in the extra-Community relationship (+0.5%). The largest imports of vegetables belonging to the "various vegetables" group from the intra-EU area came from Spain (30%), Poland and the Netherlands (with 18% each). The evolution of the trade balance in cucumbers was negative during the entire analysed period.

The lack of organization of vegetable producers and the weak production contracting are the main factors that contribute to an unpredictable reaction of this market to various disturbances; therefore, it is necessary to increase the capacity of decision-makers to help organize the market, as well as of farmers to adapt to the European model of market organization. Producer organizations and associations have decisively contributed to the relatively good functioning of this market at European level in this period of crisis.

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