

ECONOMIC ANALYSIS IN VEGETABLE SECTOR OF ROMANIA

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Abstract

This paper emphasizes the main tendency in the vegetables field of Romania by examining economic indicators. The aim is to find the ability of the Romanian market to provide the necessary with vegetables. In order to answer to the question was analyzed total area, total production, average production, average prices, average consumption, import and export. The analysis was made for the period 2011-2015. The obtained results show a diminishing of indicators.

Key words: analysis, vegetables, production, consumption, Romania

INTRODUCTION

Development of Romanian vegetable sector is closely related to their economic importance and food for the population. To that vegetable sector is supported financially by the state. It provides financial support from European funds as follows: direct payment schemes (the Single Area Payment Scheme, payment for agricultural practices good for the climate and the environment, coupled support scheme; redistributive payment; simplified scheme for small farmers pay for young farmers); financial support for producer groups and producer organizations. Also, in order to support vegetable sector is given support from Romanian funds. These funds refer to transitional national aids, but also state aid for diesel used in agriculture [5, 11, 17, 22].

Furthermore, vegetable sector is sustained by Romanian geographic conditions remarkable for development of this field. [1, 21]

However, in the period 2011-2015 for which was made study Romanian vegetables sector declined. Only 60% of registered vegetable consumption nationwide is provided by domestic production. This means that 40% of consumption of vegetables is provided by imports. [22]

Vegetables from imports are more varied than those derived from domestic production. According to analyzes conducted at the vegetable market in Romania, it was found that diversification of vegetables do not contribute significantly to the growth in domestic consumption. [3, 18]

At the national level consumption of vegetables is lower than the recommendations of specialists in nutrition, although, their consumption brings many health benefits. [4, 18]

According to a study conducted at EU level, for 2014, it was found that Romania ranks last in the ranking on the consumption of fruit and vegetables. The first places in the ranking are: Greece, Croatia and Slovenia. [8].

The objective of the paper was to analyze the trends in the vegetables sector of Romania by means of the following indicators: total cultivated area, total vegetable production, average production, average prices, average consumption, import and export. The analysis was made for the period 2011-2015.

MATERIALS AND METHODS

The economic analysis in the vegetable field was made taking into consideration the

currently statistical data. At the nationwide were consulted statistical data provided by National Institute of Statistics of Romania. Also, in order to highlight in a more realistic main trends of Romanian vegetables market was analyzed imports and exports using data from Food and Agriculture Organization of the United Nations. In this paper used a range of indicators such as vegetable area on main of categories, vegetable production and purchase prices for certain categories of vegetables; the average monthly consumption of vegetables per person; the average monthly expenditure for buying vegetables; imports and exports of vegetables.

RESULTS AND DISCUSSIONS

The analysis of data in the vegetables field provides the status of this sector. At nationwide vegetables area declined with 10.5% in 2015 compared to 2011. The area cultivated with vegetables was had in downtrend, registering the smallest area in the year 2015 (Table 1). Largest vegetable area increasing was recorded in 2011 (263,359 ha). Unlike other European countries, in 2011, Romania presents an advantageous structure of the total area, according to the use land. In 2011, agricultural land accounted for 61.6% of the total. This year, the largest area was owned by vegetables. [12]

Table 1. Vegetables area in Romania, 2011-2015 (ha)

Specification	2011	2012	2013	2014	2015	2015/2011 (%)
Total vegetables	263,359	258,910	259,029	239,474	235,731	89.5
Tomatoes	51,754	49,655	48,369	43,857	43,738	84.5
Eggplants	10,020	9,577	9,359	9,209	9,058	90.3
Dry onion	33,125	33,050	32,245	30,305	30,642	92.5
Dry garlic	12,128	11,367	10,616	10,703	10,519	86.7
Cabbage and cauliflower	47,016	49,089	54,907	47,837	47,894	101.8
Peppers	20,002	19,947	19,491	18,241	18,154	90.7

Source: [20]; Own calculation

Also, in 2015 decreased areas cultivated with tomatoes (-15.5%); eggplants (-9.7%); dry onions (-7.5%); garlic (-13.3%) and pepper (-9.3%). The biggest decrease has been for the tomatoes due to lack of the processing of these. [5]

Therefore, the area cultivated with cabbage increased in 2015 compared 2011 from 47,016 ha to 47,894 ha in 2015. Anyway, can

be observed that the area decreased for each of vegetable (Table 1). As a ranking in the top of vegetable areas cultivated are cabbage (47,894 ha); tomatoes (43,738 ha), dry onion (30,642 ha), dry garlic (10,519 ha) and eggplants (9,058 ha).

As respect the vegetables production registered oscillation of it. Achieved production nationwide with the main categories of vegetables is shown in Table 2.

Note that the total production of vegetables in 2015 decreased by 13.1% compared to 2011. This decrease in production is due, on the one hand because of diminishing of vegetables areas and on the other hand because of unfavorable climate conditions. In 2011, it was made the largest vegetable production (4,176,298 tons). According to official data published in 2011, the global resources of vegetables and vegetable products were increased compared with those in 2010. This was possible due to increasing production of vegetables. In 2011, production of vegetables conducted nationwide provided 73.5% of total resources. The smallest vegetable production was achieved in 2012 (3,535,316 tons) [11, 13].

The lowest productions were for tomatoes (-27.3%); eggplants (-20.8%); dry onion (-10.4%), dry garlic (-6.3%) and pepper (-12.3%).³

Table 2. Vegetables production, 2011-2015 (tons)

Specification	2011	2012	2013	2014	2015	2015/2011 (%)
Total vegetables	4,176,298	3,535,316	3,960,990	3,802,494	3,629,613	86.9
Tomatoes	910,978	683,282	749,128	706,200	695,188	76.3
Eggplants	160,010	126,005	123,278	127,578	126,755	79.2
Dry onion	394,305	345,340	391,837	386,989	353,622	89.6
Dry garlic	66,602	59,368	62,156	62,773	62,412	93.7
Cabbage and cauliflower	1,025,293	987,900	1,156,436	1,123,132	1,066,299	103.9
Peppers	253,505	207,072	227,690	228,576	222,436	87.7

Source: [20]; Own calculation

In 2015, Romania held a 2.6% share of the total production of tomatoes done in the European Union. Top ranking tomato-producing countries in the European Union are occupied by: Italy (36.3% of total production); Spain (27.4%); Portugal (8%); Greece (6.2%); Netherlands (5%); Poland and France, each of them with five percent. According to data published in 2015,

³ The period was taken into consideration is 2011-2015. Our calculation is a rapport between 2015 and 2011

Romania was placed 5th in the standings vegetable producing countries in the European Union. This position does not highlight the advantages of the high quality of the soil and climate in general. Romania held in 2015, accounting for 7.3% of the total vegetable production conducted in the European Union. First in this ranking is Italy (20.3%). The following places are occupied by Spain (17.2%); France (11.4%); Poland (9.1%).

[9, 22]

In Romania, vegetables domestic production does not cover consumption needs for the population, especially in the case of early vegetables. [2]

The evolution of the average production for the main categories of vegetables at the nationwide is presented in Table 3. In 2015, compared to 2011 is a decrease of average production per hectare for these categories of vegetables: tomatoes (-9.8 %); dry onions (-3.1%) and peppers (-3.3%). Increases were registered for garlic dry (+ 8%) and cabbage (+ 2.1%). The lowest average production per hectare for all categories of vegetables was registered in 2012. The main factors that contributed directly to lower average productions per hectare were large snow fall, drought and lack of irrigation. [6]

Table 3. Average production of vegetables in Romania, period 2011-2015 (kilograms per hectare)

Specification	2011	2012	2013	2014	2015	2015/2011 (%)
Tomatoes	17,602	13,761	15,488	16,102	15,894	90.2
Dry onion	11,904	10,449	12,152	12,770	11,540	96.9
Dry garlic	5,492	5,223	5,855	5,865	5,933	108.0
Cabbage and cauliflower	21,807	20,125	21,062	23,478	22,264	102.1
Peppers	12,674	10,381	11,682	12,531	12,253	96.7

Source:[20]; Own calculation

For the period 2012-2015 average purchase prices for certain categories of vegetables in Romania are presented in Table 4. From the data it can be seen that for all categories of vegetables analyzed in the study, average purchase prices registered variations from one period to another. In 2015, it is observed that the average purchasing prices for vegetables decreased compared to 2012. The greatest reduction in the average acquisition price was recorded for tomatoes (-63.4%). The smallest reduction in the average acquisition price was registered in 2015 compared to 2012 to Kapia

peppers (-9.7%).

Table 4. Vegetables average prices in Romania, period 2012-2015 (lei/kg)

Specification	2012	2013	2014	2015	2015/2012 (%)
Tomatoes	3.06	0.98	0.85	1.12	36.6
Kapia peppers	1.76	1.49	1.32	1.59	90.3
Capsicum	1.61	1.26	0.93	1.12	69.5
Fibber peppers	2.11	1.87	1.53	1.64	77.7

Source:[20]; Own calculation

Vegetable consumption level per capita in Romania is presented in Table 5. Consumption of vegetables is determined by many socio-economic factors, of which the most important are consumer income and age. [18]

Regarding the consumption of vegetables and canned vegetables in equivalent fresh vegetables finds that it was between 7.726-7.654 kg per person. In 2015, the category is ascertained an increase of 0.7% compared to 2011.

Table 5. Average monthly consumption of vegetables per person in Romania, 2011-2015 (kg)

Specification	2011	2012	2013	2014	2015	2015/2011 (%)
Vegetables and canned vegetables (kg)	7.597	7.575	7.617	7.726	7.654	100.7
Cabbage and cauliflower	0.779	0.74	0.798	0.83	0.791	101.5
Tomatoes	1.057	1.001	1.011	1.007	1.064	100.6
Peppers	0.404	0.42	0.395	0.405	0.427	105.6
Dry onion	0.838	0.834	0.847	0.853	0.879	104.8

Source:[20]; Own calculation

As regard average monthly expenditures of vegetables these are various in rural and urban. In 2015, at the national level the average monthly food costs were 190.3 lei per person and 506.0 lei per family. It finds an increase in the average monthly expenditure for purchase of vegetables and canned vegetables, from 12.06 lei (2011) to 13.9 lei (2015). In urban areas are achieved higher expenses for vegetables and canned vegetables than rural [7, 10, 16].

In 2015, in urban areas was performed monthly average cost per person of 19.04 Lei, while in rural areas only 7.9 lei. This situation is owed to the fact that the rural population cultivate in their gardens most of their vegetables necessary for both fresh consumption, but also to achieve cans consumed in winter.

Table 6. Average expenditure for buying vegetables in rural and urban area (Lei per person)

Specification	Area	2011	2012	2013	2014	2015	2015/2011 (%)
Vegetables and canned vegetables	Total	12.06	12.72	12.43	13.81	13.9	115.2
	Urban	16.78	17.56	17.46	19.31	19.04	113.4
	Rural	6.34	6.85	6.36	7.39	7.9	124.6
Cabbage and cauliflower	Total	1.29	1.52	1.38	1.4	1.76	136.4
	Urban	1.48	1.69	1.62	1.61	1.93	130.4
	Rural	1.07	1.32	1.09	1.15	1.57	146.7
Tomatoes	Total	2.41	2.8	2.59	3.23	3.01	124.8
	Urban	3.26	3.76	3.53	4.3	4.05	124.2
	Rural	1.38	1.63	1.47	1.97	1.79	129.7
Peppers	Total	1.26	1.43	1.35	1.58	1.54	122.2
	Urban	1.75	1.92	1.85	2.16	2.12	121.1
	Rural	0.67	0.84	0.75	0.89	0.86	128.3
Dry onion	Total	1.12	0.95	1.05	1.06	1.09	97.3
	Urban	1.51	1.3	1.45	1.48	1.47	97.3
	Rural	0.65	0.53	0.56	0.57	0.65	100.0

Source:[20]; Own calculation.

In 2015, one can observe an increase in the monthly average expenditure per person for various vegetable compared with 2012, as follows: cabbage and cauliflower (+ 36.4%); tomatoes (+24.8%); peppers (22.2%). The average expenditures per person for dry onions registered a decrease of 2.7%. The data presented in the above table can easily see that, in 2015, the biggest expenses in absolute terms was recorded for tomatoes (3.01 Lei) and the lowest expenses were for dry onion (1.09 Lei). The average monthly expenditures per person are influenced by many factors, among which: the pattern of food consumption; prices of various types of vegetables; income population.

Vegetable exports of Romania for the period 2011-2013 are presented in Table 7. According to official data, in 2012 vegetable exports were 63,150 tons compared to 88,759 tons in 2010. This highlights vegetable exports decrease, which affects directly the economy. [13]

Table 7. Quantitative vegetable export, 2011-2013 (tons)

Specification	2011	2012	2013	2013/2011 (%)
Vegetables, freshness	680	546	446	65.5
Cabbages and cauliflower	587	276	361	61.4
Tomatoes	1719	2990	2793	162.4
Pepper	29	61	62	213.7
Onions, dry	1866	1527	2904	155.6
Eggplants	308	232	175	56.8
Garlic	220	70	54	24.5

Source:, [14]; Own calculation

In 2015, exports decreased compared to 2011. The largest amount was exported in 2011 (680 tons), and the smallest amount was exported in 2013 (446 tons). In 2015, it is found that the highest exports were recorded for

tomatoes (2,793 tons) and dry onion (2,904 tons). In contrast, there were quantitative exports much lower for cabbages and other brassicas (361 tons); eggplants (175 tons); pepper (62 tons); garlic (54 tons).

Value vegetable exports of Romania for the period 2011-2013 are presented in Table 8. Exports value for various categories of vegetables recorded the differential evolution from one period to another. Exports highest values were recorded for tomatoes. This grew from 1,918 thousand dollars (2011) to 2,785 thousand dollars (2013). The increasing is due mainly to the large amounts of tomatoes exported. The value tomatoes export increase with 45.2%.in 2013 compared to 2011. Low value exports in 2013 were recorded for: pepper (\$ 552,000); freshness vegetables (\$ 326,000); eggplants (\$ 284,000); garlic (\$ 167,000) and cabbages (\$ 149,000).

Table 8. Value vegetable export, 2011- 2013 (thousand dollars)

Specification	2011	2012	2013	2013/2011 (%)
Vegetables, freshness	862	384	326	37.8
Cabbages and cauliflower	217	120	149	68.6
Tomatoes	1,918	2,890	2,785	145.2
Pepper	259	527	552	213.1
Dry onion	1,395	737	970	69.5
Eggplants	332	333	284	85.5
Garlic	839	187	167	19.9

Source: [14]; Own calculation

Imports of vegetable are presented in Table 9. It found that in 2011, imports of vegetables and vegetables products was 6.9 times compared to exports. This situation reflects negatively on the trade balance and not the least on the national economy. In 2011, the highest share in the import of vegetables had tomatoes with 43.4%. Dry onion held a share of 13.3%, in the same year [19].

Table 9. Quantitative vegetable import of Romania, 2011-2013 (tons)

Specification	2011	2012	2013	2013/2011 (%)
Vegetables, freshness	15,228	12,048	13,435	88.2
Cabbages and cauliflower	18,691	20,972	15,261	81.6
Tomatoes	47,514	41,469	45,033	94.7
Pepper	2,018	1,476	1,345	66.7
Onions, dry	45,179	38,332	38,510	85.2
Eggplants	2,368	1,519	3,265	137.8
Garlic	3,270	2,123	2,445	74.7

Source:[14]; Own calculation

Mainly, Romania has imported vegetables

from Turkey (28,424 tons tomatoes), Egypt (14,921 tons onion), Macedonia (12,638 tons cabbage), China (1,564 tons garlic) [7].

According to statistical data, Romania has imported 431,424 tons vegetables in 2012 compared to 330,481 tons in 2010. Also, in 2013 vegetables import decreased compared to 2011, exception being eggplants [15].

As regards the import value in the vegetables sector of Romania these are various from year to year (Table 10). The most important value obtained to tomatoes from 40,271 thousand dollars (2011) to 44,805 thousand dollars (2013).

Table 10. Value of vegetable import of Romania, 2011-2013 (thousand dollars)

Specification	2011	2012	2013	2013/2011 (%)
Vegetables, freshness	9,340	6,597	8,201	87.8
Cabbages and cauliflower	3,918	4,098	3,747	95.6
Tomatoes	40,271	37,182	44,805	111.2
Pepper	7,266	7,382	7,707	106.0
Onions, dry	12,253	6,641	11,005	89.8
Eggplants	1,721	1,457	2,443	141.9
Garlic	4,576	3,733	4,468	97.6

Source: [14]; Own calculation

The economic analysis of the value of import shows a decrease on total vegetable sector (87.8 %). These decrease registered to cabbages (95.6%), dry onion (89.8%) and garlic (97.6%). Also, it can be noted increasing the value of the import to tomatoes (11.2%), peppers (6%) and eggplants (41.9%). Anyway should be mentioned that the value of import depends by many factors such as quantity imported, vegetables price and self sufficiency in vegetable sector of Romania.

CONCLUSIONS

Analyzing the economic indicators can argue that Romanian vegetable sector decreased in the period 2011-2015. It can note that vegetable area and production decreased. As regards vegetables area registered a diminishing by 89.5% in 2015 compared to 2011. The biggest diminishing was to tomatoes (84.5 %) and dry garlic (86.7%). The only increase was to cabbages (1.8%). Also, has decreased average vegetable production to tomatoes (90.2%), dry onion (96.9%) and peppers (96.7%). Some increase registered to dry garlic (8.0%) and cabbage

(2.1%). These have had a negative influence on the total vegetable production that decreased.

It found that quantitative vegetables export decreased in 2015 compared to 2011 (from 680 tons to 446 tons). In 2015, the highest exports were recorded for tomatoes, peppers and dry onion.

As regards export value declined in total vegetable export especially to cabbage, dry onion, eggplants and garlic. Therefore, the quantitative vegetable import decreased in the period analyzed. From quantitative point of view imports are higher than exports which mean that domestic production of vegetables made not cover consumption needs of the population. Anyway, Romania's exports of vegetables can grow because of positive geographic allowing the cultivation of vegetables on favorable terms, tradition and farmers ability. Other conclusion refers to prices average procurement for certain types of vegetables which have decreased significantly in 2015 compared to 2012.

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