THE ECONOMIC ASPECTS OF POTATO PRODUCE IN ROMANIA IN THE CONTEXT OF EUROPEAN INTEGRATION AND GLOBALIZATION

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This paper provides some important data on the evolution of the potato crop in Romania including aspects of research and development, differentiated on the basis of period and location. The paper also presents an analysis of the causes of the low potato yield per hectare in Romania. The study is intended as a guide only, and can be used in making production decisions, determining potential returns, preparing budgets and evaluating production loans.

An analysis of the situation of the potato industry in Romania in comparison with the potato sectors of other Central and East European countries, over the period 1996–2008, reveals that—after Poland—Romania occupies the second place in terms of potato acreage and total production.

In the case of potato market, a commodity that is less suitable for long-distance commercialization, the segmentation is even stronger. In Romania the prices are quite high (around 20 Euro/100 kg) and the variations are sometimes quite spectacular (from 22 Euro/100 kg in 2005 to 34 Euro in 2006), unlike in Germany, where the prices and the price variations are lower (prices range from 6.5 to 9.2 Euro/100 kg).

Starting from the specific situation of these main markets, an evaluation of the effects of certain future reform measures in the period after 2013 is not easy at all. In order to provide a certain coherence to the comparison between the two reform scenarios (moderate and radical), we predicted that in the 2008–2013 period, Romania's agriculture would reach the stage of an almost full integration in the EU markets for each product and the comparison is made between the situation at that moment ("Current CAP" Scenario) and each of the two reform scenarios.

The hypothesis that define each scenario are synthetically expressed by the price of the respective product.

In these conditions, the effects upon the producer welfare will be obviously negative, while the effects upon the consumer welfare will be positive. The question is whether the positive effects exceed the negative ones, in each of the two reform scenarios. Furthermore, which of the two scenarios produces the desired outcome for the decision-makers? The change in producer welfare for the 6 selected products (wheat, maize, potatoes, pork, poultry and beef) is negative. The producers lose as a result of CAP reform,

in both of the scenarios, yet the loss is greater in the case of the radical reform scenario. Consumers gain in welfare in both scenarios, and the overall gain is higher than the producers' loss, which result in a net positive effect (at the level of the whole economy). Net welfare is higher in the radical reform scenario than in the moderate reform scenario, which means that a radical reform would be desired if the situation of producer welfare loss could be well managed.

***Key words**: potato market**,** development, producer welfare, consumers*

The domestic agricultural market is characterized by imbalances between supply and demand for some commodities in alimentation, instability and high level of the price for aliments compared with the income of the population, increasing the food imports, etc. The causes are mainly in the non-performing agricultural structures, the large variations of the high degree of diversification of the crop and the decapitalization of the agricultural exploitations.

The National Plan for Agriculture and Rural Development, approved by the European Commission in December 2000, as well as and the development of the strategic objectives in the field in the "Strategy of development of the agriculture, industry, alimentation and forestry, on medium and long term (2001 – 205 and 2005 – 2010), establish the main coordinates for forming the competitive supply and the market functioning. The strategy and the program of the Government for the agriculture domain are coordinated with the provisions PNADR and with "the document of Position, cap 7 – Agriculture" submitted to the European Commission and subject to the accession negotiations.

The potatoes are the most widely cultivated crop in the world and are ranking on the fourth place after rice, wheat and maize. During the preceding decade, the global production of potatoes varied between 300 and 330 million metric tons per year. The highest level was recorded in 2004 (330, 3 million tons) and in the period 1997 – 1999 the were recorded about 300 million t per year. Although the total area harvested remains relatively unchanged (about 18 – 20 million ha), the crops have improved gradually. Over the past two years the average yield exceeded 17 t per ha.

China is the largest potato producer in the world. The Chinese production increased by 37, 6 % since 1996 (from 53 millions t, or 17% from the global production from 1996), to a total amount of 73 million tons, 22, 6 % from the global production, in 2005. The second largest producer as size – Russia – cultivates only half the volume of the Chinese, 37.5 million tons (2005). The third place is occupied by India with 25 million tons, or 8% of the global production. The 10 major producers totaled 67.5% of the total production of the year 2005.

The Romanian's total annual harvest is about 4 million metric tons. The area devoted fro the potato cultivation in Romania was relatively stable over the last decade, fluctuating between 255 and 285 thousands hectares. The average harvest of 14.55 metric tons per hectare (calculated on the years 2001 – 2005) is lower than the global average of 16.8 t per ha and much lower then the yields of some

countries in the region, as are Poland and Hungary, that are producing over 20 tons per hectare.

About half of the quantity of potatoes produced are used for consumption (in quality of fresh or processed products) and 25% as animal feed (mostly by the same farmers that that had harvested). About 20% of the annual production is stored as seed potatoes for the next season. The rest is lost or used for other purposes.

From the data published by FAO, it is found that were produced mutations regarding to the harvested surfaces with potato, of the medium and total productions in the period 1979 – 2000. Before the last World War the potato was using by choice in fresh state, in proportion of 32.7% in Netherlands, to 52.9 % in Belgium and Luxembourg to 54% in Italy (Schick and Klinwosky, 1961). On the next place was founded the use of potato as feed in percents of 12.2% in Italy and 46.9% in Germany. The only countries were the industrial processing of the potato has been a considerable share was Netherlands, with 24.4% in the period 1934 – 1948.

In the recent years in the countries form the European Union increased significantly the percentage of fresh potato which is use for the industrial processing and even for the human nutrition.

In the top of the potato – growing and with great development of the industrial processing is found in Netherlands, with 67%, Denmark with 44.6% and France with 40.8%. In what concern Romania from the total production of 3038 thousand tons annually was industrial worked only 1%.

As it can be seen from the Table below Romania ranks second to the last place in what concerns the capacity per unit of surface to potato among the Eastern Europe countries. Although as harvested surface with potato Romania can be compared with Germany, the total potato production is almost four times lower. This situation doesn't benefit us at all in the European Union the Romanian products will not face the competition of the products that will enter from other member countries. Further is should be made efforts sustained for practicing of a agriculture on scientific basis to ensure a highly yield per unit of surface with comparable costs to the European Union.

The average production of potato has increased with 2.0 t/ha in 2008 compared to 1998 in the conditions in which the average value in the Eastern European countries was 18.3. The growth rate it should be intensified because in the next years to have at least the average production from these countries to cope with the market requirements in terms of integration into the European Union. Also it must have in concern that the average potato production in the member countries in the European Union is over 36 to/ha in the conditions in which Romania has an average production of 14 tons/ha.

On the first place on export both Europe and on global plan is found in Netherlands, with annual deliveries in 2005 of over 1.7 million tons, followed by Belgium (792 thousand tons), Germany (706 thousand tons), France (611 thousand tons) and Canada (488 thousand tons). Among the developing countries is leading

Egypt with and export of 419 thousand tons in 1995 and the Morocco 97 thousand tons.

Table 1

The international trade with potato in 2008 (Source: FAO Yearbook Trade)

Specification	Import			Export		
	Thousands of tons	Thousands $	% from quantity	Thousands of tons	Thousands $	% from quantity
World	7393	2584221	100	7275	2309881	100
Africa	387	192638	5.2	544	157753	7.5
- Egipt	74	49946		419	102116	
- Maroc	54	36465		97	48623	
- Tunisia	64	26328		2	589	
North America	700	179967	9.5	794	194143	10.9
- Canada	228	64353		488	107417	
- SUA	311	61710		265	83173	
South America	163	42394	2.2	78	15808	1.1
- Brazil	72	14600		0	0	
- Venezuela	68	19887		0.4	118	
Asia	692	231247	9.4	704	220253	9.7
- Uzbekistan	100	23000		0	0	
- Arabia	80	24000		9	3300	
- Malaysia	79	13718		0.7	305	
- Lebanon	68	28000		85	8500	
- EAU	60	24000		1	400	
Europe	5431	1929846	73.5	5108	1707715	70.2
-Nederland	1221	191014		1702	6310333	
- Germany	906	407527		706	116752	
- Belgium	672	192994		792	189176	
- Spain	395	184510		193	102093	
- M. Britain	444	196230		197	93815	
- France	414	208237		611	233523	
- Italia	366	146665		323	185740	
- Portugal	107	44095		25	10690	
- Austria	102	53267		16	7619	
- Polonia	28	7452		131	24637	
- Russia	62	18273		47	1292	
Oceania	19	8119	0.3	47	13409	0.6

Upon import, the Netherlands remains on the first place in the top (1.2 million tons) followed by the Western European countries: Germany, Belgium, Great Britain, France , Italy, Spain. On the North American continent, the US and Canada are purchasing together 540 thousand tons annually. Within the South America is remarked as importer Brazil (72 thousand tons) and from Asia: Uzbekistan (100 thousand tons), Saudi Arabia (80 thousand tons), Malaysia (79 thousand tons), and Lebanon (66 thousand tons).

By the year 2010 is expected a growth of the worldwide potato production to 312 million tons, of which 1/3 are coming from the developing countries and an intensification of the commerce to a level of 13 million tons.

The reduction of the harvested surfaces with potato on European plan was manifested on the background of increasing the efficiency per unit of surface. It is noted that the area planted with potato in Romania is comparable to that of Germany's largest potato producer in the European Union.

Table 2

The area evolution of potato in East - European country between 2004– 2008
- Thousands of ha -

Country	2004	2005	2006	2007	2008
Total	1.965,2	1.643,5	1.602,3	1.505,9	1.104,5
Slovakia	28,7	26,8	27,0	26,6	26,0
Cyprus	7,5	6,6	6,5	5,7	6,7
Cehia	72,6	71,8	69,1	54,1	46,9
Estonia	32,0	31,1	30,9	22,9	17,5
Hungarian	52,6	56,4	46,7	36,2	34,2
Leetonia	58,8	50,1	51,3	55,5	53,6
Lithuania	136,3	121,1	109,3	102,2	99,2
Malta	1,7	1,7	1,7	1,7	1,1
Polish	1.295,0	1.267,8	1.250,6	1.194,3	811,9
Slovenia	9,2	9,8	8,9	7,7	7,2
Romania	258,8	273,5	285,5	276,1	275,0
Bulgaria	50,8	52,2	52,8	51,9	52,5

Sources: I. Nan, Marketing and inputs to the potato, F.C.C – Romania 2008

Areas harvested with potato in the Eastern European countries are declining, as well as and the evolution of the member countries of the European Union. The largest decreases have occurred in Poland (with 83 thousand ha), Lithuania (with 37 thousand hectares), Hungary (22 thousand hectares), Estonia (15 thousand ha).

In Romania as well as and in Bulgaria, the harvested surfaces with potato remain high, at 270 – 289 thousand ha to 52 thousand ha in Romania and Bulgaria.

The total production of potato has declined significantly in 2008 compared to 1998 from a production of 32.2 million tons to 20.6 million tons. This was mainly due to the production decreasing in Poland, the principal potato producing country in the Eastern Europe, falling due to the significant shrinkage in potato growing areas in this country.

Table 3

Total potato production in European Union between 2004 – 2008
-thousands of tones –

Ţara	2004	2005	2006	2007	2008
U. E.	43,689.5	49,259.6	49,832.0	45,544.6	46,454.8
Austria	646,9	711,3	694,6	694,6	684,0
Belgium	2.455,7	3.006,6	3033,0	2.587,0	2796,0
Denmark	1.455,9	1.502,1	1.645,2	1.543,0	1.504,0
Finland	590,0	791,1	785,2	732,8	780,1
France	6.053,0	6.645,0	6.434,0	6.077,9	6.672,8
Germany	11.711,7	12.031,2	13.694,2	11.916,3	11.491,
Greece	876,0	866,7	883,2	935,7	875,0
Ireland	482,0	559,0	455,0	478,0	519,0
Italia	2.194,0	2.068,5	2.053,0	2.009,8	2.074,9
Luxemburg	0	0	23,4	2,7	19,0
Nederland	5.249,4	8.221,0	8.126,8	7.015,2	7.363,0
Portugal	1.224,9	1.367,3	1.250,0	1.150,0	1.200,0
Spain	3.128,8	3.367.4	3.138,0	2.956,9	3.103,5
Sweden	1.198,9	990,8	980,1	925,0	907,0
Great Britain	6.422,0	7.130,0	6.636,0	6.498,0	6.375,0
SUA	21.580,6	21.691,5	23.297,4	19.862,2	21.011,0
Canada	4.329,0	4.268,0	4.555,3	4.030,1	4.645,6
Israel	346,5	363,5	353,0	379,5	375,0
Romania	3.012,7	3.462,2	3.744,0	3.961,3	3.863,0

In Romania we are witnessing a slight increase in potato production due mainly to the increase of the yield per unit area.

The average productions from these countries increased slightly, averaging 2-4 tons/ha, between 1998 – 2008, being contained between 18.6 and 23.9 tons, with the exception of the Balkan countries that have made on average between 14.3 and 16.3 to/ha.

Increasing the yield per harvested hectare with potato, in this countries, in the period 1998 – 2008, was significant; from about 10 – 13 to/ha to 14 – 16 to/ha.

In Romania, as well as in Bulgaria, the yields obtained on surface unit are below to all other Eastern European countries, they maintained relatively constant and low.

The trends of import/export. Only 2 – 3% of all potatoes produced are reaching on the global market as fresh products. The statistics of the database of the United Nations Food and Agriculture claim that in the period 1995 – 2004 annual on the international markets were traded a volume of 7 – 9.4 million metric

tons, the import values varying between 1.5 and 2.35 billion $ U.S. during the same period.

Recently, many developing countries were much more integrated in the international commerce with potatoes. In part, this phenomenon is the result of the global trend towards lowering the tariffs and non-tariff barriers, as well as and of the apparition of the regional commercial blocs. The international Center concerning the Commerce estimates that in 2008 the volume of imported fresh potatoes was 7.3 million metric tons or 1.475 million $ U.S. [2]. Between the years 2001 – 2008, the global imports of fresh potatoes increased by 2% annually in what concerns the volume and with 9% in what concerns the value, which suggests that the value per unit of fresh potatoes sold worldwide is increasing, possible, partly the result of increasing the commerce of the "new" potatoes with high value in the winter season.

In 2008, the main exporters of fresh potatoes (in terms of quantity) were the following countries within the European Union: France (1.4 million metric tons or 19.6% of the global exports), Germany (1.24 million metric tons or 17.4%), Netherlands (0.93 million metric tons or 13%) and Belgium (0.89 million metric tons or 12.5%), together totalizing 62.5% of the global exports. These four countries have covered 45% of the total value of the exported potatoes in 2005 (666 million U.S. $ of the total of 1.48 billion U.S> $). The statistic data of the export indicates a important trend recorded during the last years (2001 – 2008), and namely the continuous increase of the exports from exporting new countries.

Such countries as China, Israel, Azerbidajan, Egypt, South Africa and Australia have registered impressive growth rates in the domain of fresh potato export (Classification of Products issued by the International Trade Center [2]). The main import markets are the same within the EU. The Netherlands imported the largest amount of fresh potatoes in 2005 (1.6 million t or 21.5% of the global import), followed by Belgium (1 million metric tons or 14.5%). Another group of EU countries (UK, Spain, Italy and Germany) were imported between 420 and 600 thousand metric tons each, with a rate of 5.8 to 8.3% each of total imports. These six European countries totaled 63.5% of total volume and 53 % (781 millio U.S $) of the total value of the fresh potatoes imported in 2008. (Classification of Products issued by the International Trade Center [2]).

One obviously aspect is the higher value of potatoes from outside the EU. The highest price of the new spring crop is partly explained by the distance if transportation between North Africa to Northern Europe, ad also, by the highest value of the crops from Israel, which are much better marketed.

Relatively small quantities 12.228 t of potatoes from the basic crop are exported mainly from Israel (10.471 t), being directed towards the luxury markets with high value.

According to statistics COMTRADE, Romania ranks on 22 in the global list of the importers of fresh potatoes (2005). The registered imports are quite negligible compared to the local production. Romania has imported a record quantity of 91.884 t in 2005 (approximately three times more than in 2004), which

however was only 2.3% of the local production. Although aren't significant and quite volatile, imports are having an increasing trend, particularly in the last five years.

CONCLUSIONS

- In Europe continues the trend of reduction the harvested surfaces with potato, on the measure as the average productions per hectare are increasing, especially in the countries central and East European, where there are very large ecological reserves
- Large productions per unit of surface are obtaining in some countries with very favorable environmental conditions and with competitive technologies. Over 35 t/ha are obtained in the Netherlands, Britain, France, Germany, Denmark.
- There is a general trend of concentration of the harvested surface with potato and reducing the number of farmers with small areas;
- In EU countries, about 39% of the potato production is for the industrial processing, as prepared boards, food consumption;
- Marketing the potato trough preliminary contracting of the harvested surfaces are extending in EU, with the most evolved system of ensuring the production both for producer and for the beneficiary
- There is a tendency to create special purpose varieties, limiting to the basic varieties;
- Swiftly promotion of the valuable varieties using biotechnological methods to produce micro-tubercles and micro- planting in "vitro" as well as and producing the mini-tubercles (basic material free pf pathogen agents) in spaces "insect proof to the detriment of the classic method (clonal selection);
- For Romania is imposed the respect of the developed strategies by ICPC Brasov concerning the creation of the variety and producing the material of plantation;
- Creating the necessary planting material from Romanian varieties, productive and better adapted to the environmental conditions of the country;
- Promoting the production and marketing contracts of the potato;
- The development of the industrialization activity of the potato (cios, pommes frites) which ensures the stability in production.

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