Sugar market in the European Union and Romania. Study on price developments

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SUGAR MARKET IN THE EUROPEAN UNION AND ROMANIA. STUDY ON PRICE DEVELOPMENTS

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Abstract: *This paper is based on analysis of the sugar market at national and European level on the development of prices for the sugar market which will analyse the problems leading to stagnation and imbalance national sugar production, try solving the problems identified at national level taking as examples beet farms in Europe for analysing prices. Through sugar market perspectives we have identified the proposed strategy for market development, her objectives and factors affecting the price of sugar in Romania, evolution of prices and consumer price indices.*

Key words*: demand, production cost, supply, consumer price, the sugar market.*

JEL Classification: *Q10, Q13, Q18*

INTRODUCTION

World sugar production exceeds 115 million tons and is located in growing areas of raw materials: beet and cane sugar.

Beet production area is specific for the temperate zones, is located in Europe and North America, but also in the southern hemisphere. The biggest production is owned by Europe, yields per hectare is about three times higher in East than in the West.

Demand annual sugar Romania is about 700,000 tons and production in our country is about 135,700 tons of sugar (raw) of beet sugar which are intended to obtain 430,000 tons of refined sugar while the annual consumption nationally is about 685,700 tons of white sugar. The difference between what is produced in the country and annual consumption, is at least 120,000 tons of white sugar, which is provided by the European Union through imports.

With a low production, Romania needs massive imports of raw sugar to ensure national consumption, our country entered the new system to reduce the quotas only in 2008-2009, and gave up to 44,752 tons of sugar.

European Union agriculture ministers have formally adopted in 2006 a reform of the European sugar sector. The old system which had remained unchanged for 40 years, was thus aligned with the rest of the Common Agricultural Policy (CAP) reforms. Following the reform of the minimum price was reduced by 36% from 631.9 to 404.4 euros per tons in 2009/2010.

Production in the European Union, after only three years of this reform was reduced by 5.8 million tons by closing 80 factories, the loss of 25,000 jobs in rural areas, 138,000 farms have given up cultivating beet sugar and beet acreage in the European Union fell by 700,000 ha.

In our country it was recorded the smallest reduction in the rate of 4% while other countries have reduced their quota by at least 14-15%. On sugar reform at European level an essential element, which came into force as of July 1, 2006was the establishment of a restructuring fund funded by the leading producers of sugar coming to help the restructuring process making it the industry more competitive. The main objective would be to balance the market, taking a share of almost 6 million tonnes.

This paper is based on the analysis of the sugar market both at national and European level. I will analyze the problems that lead to stagnation and the imbalance of sugar production in Romania and then try to come with proposals to solve problems by taking sugar beet holdings at European and World level as examples.

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MATERIALS AND METHODS

Materials and methods we could use are collecting and interpreting quantitative and qualitative analysis of statistical data from 2000 to 2014, provided by: National Institute of Statistics of Romania, Eurostat, Faostat, DG-AGRI. from for the study and for the evolution of prices, I also used following methods:

Methods of quantitative analysis

- Involving the use of statistics.
- Generally based on collection and processing of data "dimensions" great
- Research result is expressed in the form of indicators (average percentage), graphs and tables.
- Comparative analysis method
- Interpretation of results;
- Generalizations evaluation of the results.
- Economic indicators - financial; indices (average production and price, profit, cost,);

Analysis of the legislation on this culture, as well as the analysis of the existing documents in the literature.

RESULTS AND DISCUSSIONS

Surfaces and production of sugar beet in **Europe** - the main producing countries of sugar beet at European level and the top three countries with the largest areas for this crop are France, Germany and Poland.

In 2014 the total area planted with sugar beet in Europe is 1.6231 million ha, which 59.8% - (more than half) is owned by the countries mentioned above. In 2014, France a had the most hectares of sugar beet in Europe, with a cultivated area of 406,000 ha, in the same year Romania had only 31,000 ha

The fewer hectares cultivated was in Portugal just 400 ha, these being affected by the reform of 2007 where production quotas for this country was drastically reduced, France holds 25%, Germany 22.9% and Poland 11.7% of the total European Union for this culture, more than half, while 38% is divided among the 35 remaining countries. Romania has a rate of 1.88%.

The highest percentage in Europe in production of sugar beet they register are the same countries mentioned above, they have the highest productions because they are holding the largest surfaces. Other EU countries have 37% of total production at European level. Romania holds a small percentage of 1% compared to the main producing countries

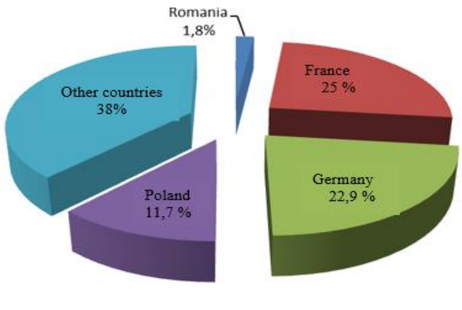

Fig. 1. Situation areas in percent of sugar beet at European level in 2014
Source: Own design based on Faostat data

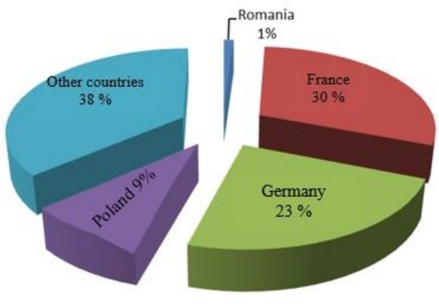

Fig. 2 Situation percentage production of sugar beet at European level, 2014
Source: Own design based on Faostat data

Surfaces and beet sugar production in Romania - Out of 23.8 million ha as totals in Romania, the agricultural area used farm is about 13.3 million ha (55.9%), of which about 9.3 million ha is arable land.

Productions by use: arable land occupies about 62.5% of agricultural land, cereals and oilseeds occupy about 80% of the arable area planted with sugar beet in 2014 is 31,000 ha representing only 0.33% of arable land Romania.

Table 1. Cultivated surface with sugar beet in Romania

Period		Hectares
Year	1990	162.675
	2010	22.029
	2011	18.816
	2012	27.303
	2013	28.144
	2014	31.000

Source: INSSE

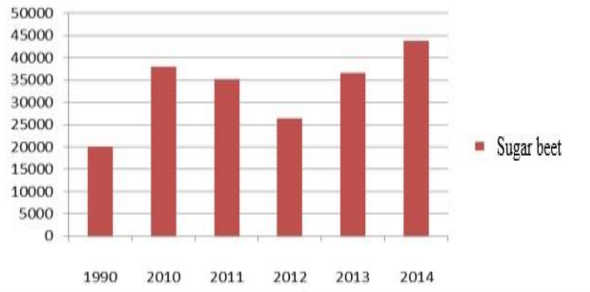

Fig. 3 Average production / ha at national level

Source: INSSE

In the above table are shown the areas planted with sugar beet in 2014 and 2010 at the same time looking at 1990, it found that the surfaces of sugar beet grown considerably decreased. In 1990 registering a very large surface area cultivated the 162,675 ha, 2014 representing a decrease of 80.9% of the hectares planted with sugar beets.

Making a comparison between the year 2014 and year 2010 we see an increase of 8,971 ha compared, which represents an increased interest in sugar beet in recent years.

Sugar beet surfaces in Romania gradually decreased from year to year, the greatest decrease is recorded in the 2014 compared to 1990, reporting the 2014 at every year there is the surface area increased by 64.8% compared to 2011, which is the largest growth area for years before the study except 1990, where cultivation areas of this product were enormous compared to the current.

The average production per ha of sugar beet in 2014 was over 40 tons with 7,000 kilograms more than the previous year, where the average yield was less than 36 tonnes. Because the weather was rainy in 2014 is observed this increased production per hectare.

Lowest average production recorded in 1990 due to agro-technical works of the time. As illustrated in the graph occurs a decline in average yields/ha from 2010 until 2012 due to climatic conditions, so that in 2013 the production increase, it is remarkable that the year 2014 recorded the highest production, which is 43 tonnes / ha.

Price evolution in the European Union 2010-2014:

In accordance with art. 9 of Regulation (EU) No. 1370/2013, the minimum price for beet quota referred to in art. 135 of Regulation (EU) No. 1308/2013 is 26.29 EUR / t, up to September 30, 2017.

Beet price can increase / decrease depending on the sugar content, as follow:

a) For each sucrose content is increased by minimum price:
- 0.9% sucrose containing more than 16% but not more than 18%
- 0.7% sucrose containing more than 18%, but not more than 19%
- 0,5% sucrose containing more than 19%, but not more than 20%

b) For each 0.1% of sucrose content is reduced by the maximum price:
- 0.9% sucrose content is below 16%, but not more than 15.5%
- 1% sucrose content is below 15.5%, but not more than 14.5%

c) The minimum price for beet quota to be laid down by was:
- 32.86 euro / tonne for the 2006/2007 marketing year
- 29.78 euros / tonne for the 2007/2008 marketing year

· 27.83 euros / tonne for the 2008/2009 marketing year
· 26.29 euro / t in marketing year 2009

The reference price for white sugar was fixed over time:

· 631.9 euros / tonne for each of the marketing years 2006 to 2008
· 541.5 euros / tonne for the marketing year 2008-2009
· 404.4 € / t in marketing year 2009

The reference price for raw sugar is fixed at:

· 496.8 euros / tonne for each of the marketing years 2006 to 2008
· 448.8 euros / tonne for the marketing year 2008-2009
· 335.2 euros / tonne in the 2009/2010 marketing year

As can be seen in Table 2 price for beet sugar in Europe declined in the year 2014, because of high interest growing, over the last years, this culture, this has led to increased global production and thus lower prices worldwide.

Table 2 Evolution of beet prices 2010-2014 in selected EU countries (euro)

Years	**2010**	**2011**	**2012**	**2013**	**2014**
Belgium	29.26	30.73	28.68	29.26	26.34
Czech Republic	28.08	28.63	32.29	31.76	29.72
Germany	**36.39**	**36.64**	**35.34**	**31.42**	**29.03**
France	**24.87**	**24.55**	**29.98**	**27.17**	**26.57**
Croatia	:	39.81	39.29	39.19	24.19
Netherlands	43.00	45.00	60	61	50.12
Austria	28.78	37.77	40.57	35.18	23.18^{p}
Poland	**28.31**	**34.95**	**32.78**	**35.44**	**30.16**
Romania	**28.49**	**40.10**	**38.12**	**38.47**	**35.58**
Slovakia	36.37	36.13	36.7	40.09	37.07
Finland	32.09	26.76^{p}	34.9	41.78	41^{p}

Source: www.eurostat/database.com

Prices in Europe decreased on average by 17%, in Poland one of the main producing countries in Europe decreased by 14.83% price, this percentage has affected many producers and these decreases resulted as noted earlier the continuous reduction of the surface in recent years. [8]

Beet price trends 2000-2014 in Romania:

As you know price is the exchange value of a good or service on the market at times and different places, it refers to the amount of money you pay someone to purchases of goods or money it receives someone to possession of a good yield.

As can be seen in table 3, there was a rapid evolution and light variable from year to year of prices per tonne of product analysed. In 2011 the price per tonne of sugar beet increased by 50 lei compared with 2009.

Making a comparison between 2014 and 2000 found that prices increased by 280.95% in 2014 compared to 2000 and with 77.95% compared to 2007 were registered a decrease of 5.88% in 2014 compared to 2013.

Table 3. Price evolution for average prices – sugar beat

Average prices	
Year	LEI/TON
2000	42
2001	49
2002	69
2003	63
2004	85
2005	86
2006	90
2007	90
2008	138
2009	130
2010	120
2011	170
2012	170
2013	170
2014	160

Source: INSSE, Eurostat

%		
2014/2000	2014/2007	2014/2013
280.95	77.95	-5.88

Source: Own calculation.

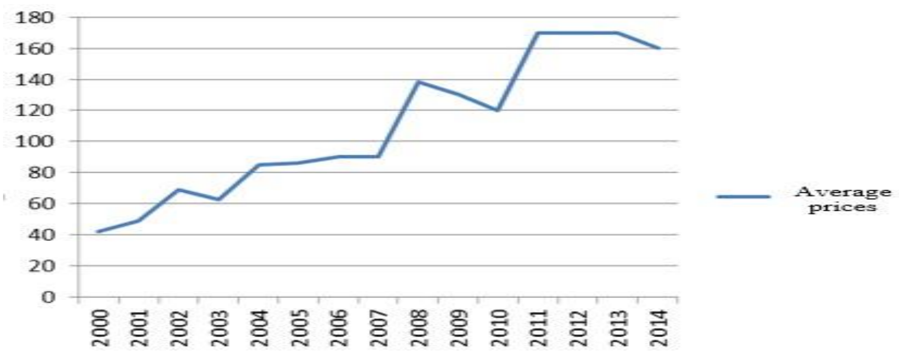

Fig. 4. Annual evolution of price for sugar beat
Source: own design

Consumer price indices (CPI) measures the evolution of prices and tariffs of goods bought, services used by the population in a specific period relative to an earlier period. [1]

Table 4. Consumer price indices for sugar beet

Year	%
2001	139,1
2002	114,8
2003	104,6
2004	118,4
2005	108,2
2006	104
2007	125,37
2008	101,61
2009	106,43
2010	104,97
2011	107,58
2012	116,7
2013	101,96
2014	92,17
2015	81,64

Source: INSSE, MADR

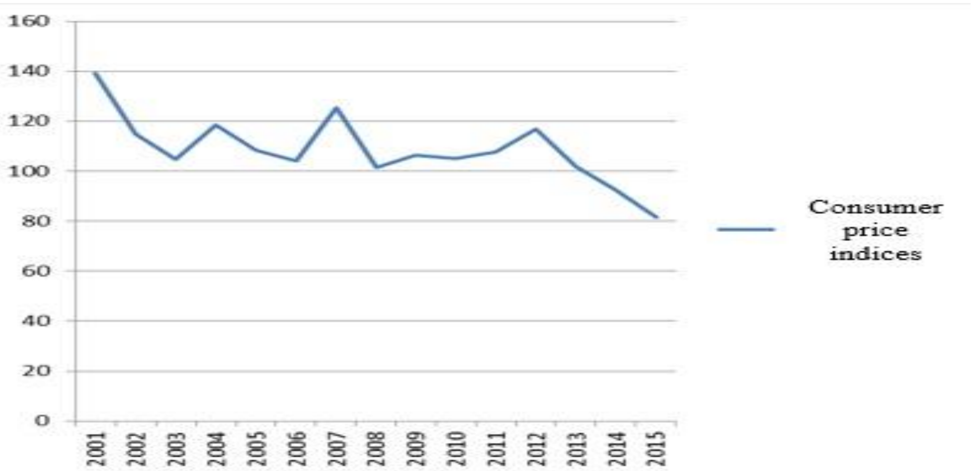

Fig. 5. Annual evolution of consumer price indices
Source: own design

Consumer prices, measured by the consumer price index, were higher in 2001 compared to 2015 average of 42.1%. Consumption decreased because of factors influencing the price listed above.

The second highest value recorded for consumer index is observed in 2007 (125.37%). As noted in the chart above are continuous fluctuations.

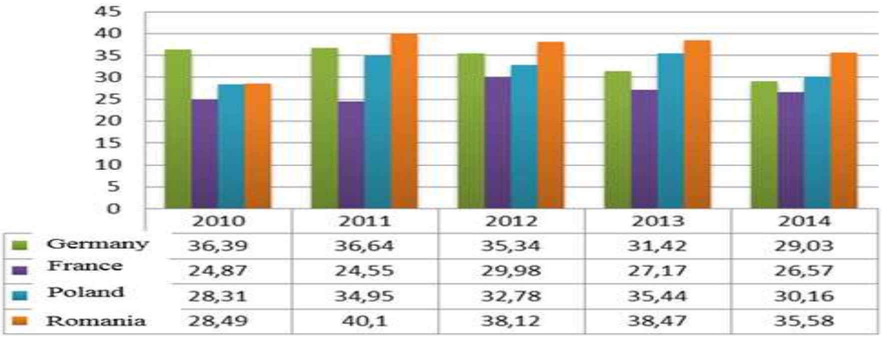

Fig. 6. Price evolution in the major sugar producing countries than Romania (EUR / tonne)
Source: Eurostat

Although Romania bring a small part of the sugar beet market that keeps prices relatively high compared with major producing countries. The lowest costs of production are found in France

Sugar prospects of the market at European and National level in 2014-2020:

According to European Commission estimates, production quotas in 2016 had a positive impact on the production of beet increased by 1.9% and the price of sugar, which would fall by 8.2% until 2020. Also provided is an increase of 6.9% of EU sugar exports, while imports will be reduced by 4.7%. The elimination of quota system have benefit because European producers will be guided more by world prices than the prices for domestic market.

Table 5. Average production, cost of production and profit in 2014 for sugar beet

Indicator specification	Sugar beet			
	Poland	USA	Germany	Ukraine
Average beet / cane production (t / ha)	39,5	19,5	46,1	60,3
Sugar yield (%)	13,9	11,2	14,6	16,6
Average sugar production (t / ha)	5,5	2,2	6,7	10
Cost of production (euro / ha)	945	263	1878	2542
Cost / 100kg sugar (euro)	17,18	11,9	28,2	25,4
Profit / 100 kg of sugar (euro)	18,38	16,1	31,1	32,6

Source: Eurostat

Table 6. Average production, cost of production and profit in 2014 for sugar cane

Indicator specification	Sugarcane			
	Brazil	Australia	India	Romania
Average beet / cane production (t / ha)	68,5	97,7	74	38,9
Sugar yield (%)	11,5	14	9,9	14,4
Average sugar production (t / ha)	7,9	13,7	7,3	5,6
Cost of production (euro / ha)	763	1565	860	1333
Cost / 100kg sugar (euro)	9,65	11,42	12	23,8
Profit / 100 kg of sugar (euro)	6,99	12,3	20	2,4

Source: Eurostat

The highest production / ha of sugar beet in the world is owned by Germany 60.3 t / ha, because the climatic conditions are very favourable and appropriate use of hybrids has resulted in increased production. On the opposite side are Poland with an average yield of 19.5 tons and a profit of 16.1 EUR / 100 kg sugar, 16.5 euros less than the profit Germany 32.6 euro / 100 kg . The highest sugarcane production has Australia almost 100t / ha, but recorded a profit of 12.3 euro per 100 kg because for sugar cane processing costs are relatively high compared to those for sugar beet.

At national level - sugar production in our country has never achieved annual quota granted by the EU.

European Union has allocated an annual quota of 104,688 tonnes of sugar beet for Romania, It is estimated that in 2007 sugar beet growers had lost about 18 million euros because Romania did not achieved annual production quota, which otherwise, does not cover consumption

Future goals for the sugar market:

· Protection of the EU sugar market from extreme price fluctuations for the product and also ensure constant offer for sugar;
· Creating a strong, competitive sector that can withstand international competition;
· Creating and / or providing high living standards for farmers;
· Implementation of quality standards and compliance;
· Increase market transparency;
· Diversification of products from sugar, providing an affordable price but also increase competition for this sector

CONCLUSIONS

Following this paper I realized that areas planted with sugar beet globally and nationally are declining, due to cane sugar which remains number one in the world to obtain the sugar. The sugar it produces in huge quantities in other countries of the world, and its use has a negative impact on sugar beet, sugar cane registering an annual growth of 2-2.5% in the structure for consumption.

In conclusion national productions were accomplished based on quotas allocated by the European Commission and that would allocate production quotas greater Romania, this market not supposed to depend on imported sugar and could become an exporter.

European Commission has removed in 2016 the quota system for sugar production and minimum prices, this has a positive impact on the production of sugar beet and the sugar price, European production and national increased and this it will be noted within exports and imports.

What is clear is that the sugar sector is in constant reform and shall be made more efficient and more flexible, closer to the customer and the market it serves.

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