

IMPACT OF GLOBALIZATION PROCESSES FROM THE SURROUNDINGS ON THE SUGAR INDUSTRY IN THE REPUBLIC OF CROATIA

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Abstract

Globalization processes during the history have constantly changed the economical picture of the world. In line with the globalization changes occurred also the transfer of centres of power which moved from the Middle and Far East towards Europe and further to the North up to the North America. Following this process the Far East has slowly but surely become the centre of power in the recent decades. With the fall of the Steel Iron, with geopolitical changes in the world and with the opening of markets, fluctuation and transfer of capital became easier. Not even the sugar market was immune to the transfer of capital and power.

Sugar, as specific commodity, has in the last couple of decades become a commodity people often talk and think about, whether in the context of trade liberalization, or problems with underpaid workers who work in harsh conditions, or raw material for fuel production. Along with all above mentioned sugar is very interesting because it is a stock-exchange material and as such it is a subject of speculations.

Globalisations processes have significantly influenced the Croatian sugar industry, creating new threats but also possibilities of development and increasing of competitiveness.

JEL Classification: F12, L41

Keywords: globalisation, sugar industry, the European Union, Stabilisation and Association Agreement, reform of the sugar market, competitiveness

1. Introduction

Croatian sugar industry currently comprises of three sugar factories, geographically situated in Slavonia. The proximity of raw materials is of great importance because it is necessary to process the sugar beet as quick as possible after picking. Considering the relatively great volume and the required amount of sugar beet the transportation costs play an important role and with the increase of distance the costs rise exponentially. Domestic sugar industry is characterized by high concentration primarily due to relatively high entry barriers, and one can say that the strength of competitiveness, which is made of competitive structure, demand characteristics and exit barrier¹, is pretty high.

Sugar production in EU is strictly regulated because sugar is a strategic product. Depending on the market organisation some countries direct their subventions and supports differently. In some countries subventions are directed to the sugar producers and the state guarantees a protected product price, whereas in the Republic of Croatia incentives are paid to sugar beet producers.

After the signing of the Stabilisation and Accession Agreement, and before accession into the full membership of the EU, sugar was one of the most important export products. In order to stimulate export additionally, the state has enabled sugar factories to import raw sugarcane without paying custom duties, which for many reasons was favourable to sugar factories. The price of sugar produced from sugarcane was lower than of that produced from sugar beet so they made extra profit and accomplished better commercial conditions on foreign markets. The increase of export was also favorable to the state, because it influenced the reduction of the export deficit.

2. World market and sugar production

Hewitt (2001, 9) states that “The sugar industry is one of the least efficiently regulated industries in the world”, the opposite end is the sugar market of the European Union, which started with the regulation in 1967, (Slezek et al.; 2003, 287) or even America's, which are strictly regulated.

An extremely big influence to the development of globalisation processes in the sugar industry, primarily in the EU but also around the world, were the negotiations of the World Trade Organisation on agricultural reforms and trade liberaliza-

¹ Tipurić, D.: Porter's model of industrial structure, Business analysis, No. 3/4, 1996, p. 30.

tion. The WTO has put significant pressure on the EU which then accordingly started the reform of the sugar market. On the other side, continuous liberalisation of the world agriculture under the influence of globalisation leads to a free forming of market prices and strengthening of competitiveness.

Production of sugar from sugar beet and from sugarcane, even if they are produced from different raw materials, is technologically very similar. Sugar is currently produced in 114 countries, out of which 80% is produced from sugarcane and 20% from sugar beet.

Out of sugar producing countries (table 1;3), sugar is produced from sugarcane in 71 countries, from sugar beet in 43 countries, and only 7 countries have suitable agro-meteorological conditions for producing sugar from both raw materials.

Table 1. Sugar production in the world by continents in thousands of tonnes

	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
1	2	3	4	5	6	7	8	9	10
EUROPE	26.287	29.220	30.294	27.233	27.236	25.840	27.723	25.652	31.811
from sugarbeet	26.281	29.216	30.291	27.233	27.236	25.840	27.723	25.652	31.811
from sugarcane	6	4	3	0	0	0	0	0	0
AMERICA	55.056	55.271	52.793	60.223	59.730	61.418	67.530	65.098	64.857
from sugarbeet	4755	4.723	4.535	5.045	4.688	4.287	4.500	4.679	4.920
from sugarcane	50.301	50.548	48.258	55.178	55.042	57.131	63.030	60.419	59.937
AFRICA	9.674	9.830	10.253	10.411	9.924	10.362	8.879	10.174	11.079
from sugarbeet	840	950	1.010	1.195	1.020	1.120	1.116	1.091	1.325
from sugarcane	8.834	8.880	9.243	9.216	8.904	9.242	7.763	9.083	9.754
ASIA	45.597	40.870	47.078	64.052	66.399	48.602	50.918	60.243	65.163
from sugarbeet	2.497	2.445	2.658	3.332	2.959	2.177	2.296	2.242	2.579
from sugarcane	43.100	38.425	44.420	60.720	63.440	46.425	48.622	58.001	62.584
AUSTRALIA-OCEANIA	5.665	5.929	5.752	5.052	5.220	5.052	4.675	3.796	3.959
from sugarbeet	0	0	0	0	0	0	0	0	0
from sugarcane	5.665	5.929	5.752	5.052	5.220	5.052	4.675	3.796	3.959
WORLD TOTAL	142.279	141.120	146.170	166.971	168.509	151.274	160.795	164.964	176.869
from sugarbeet	34.373	37.334	38.494	36.805	35.778	33.339	35.635	33.664	40.635
from sugarcane	107.906	103.786	107.676	130.166	132.731	115.496	125.160	131.300	136.810

Source: Sugar and Sweetener Economy 2007-2013, Bartens

The data for Americas include both the North and the South America, but the majority of production is situated in the South America. In Europe, sugar is exclusively produced from sugar beet, and this is also the majority of the world production of sugar from sugar beet. Some countries are not only big producers but also big importers or exporters of sugar (table 2).

Table 2. Import and export of sugar by continents in thousands of tonnes

	2007		2008		2009		2010		2011	
Continents	import	export	import	export	import	export	import	export	import	export
1	2	3	4	5	6	7	8	9	10	11
Europe	8.199	2.676	7.590	2.274	5.740	2.464	7.070	3.466	9.415	2.728
North America	3.178	386	3.987	355	3.774	172	4.046	401	5.620	298
Middle America	903	3.911	695	4.202	827	4.329	810	4.786	852	4.889
South America	1.507	22.042	1.614	21.642	1.808	27.378	1.591	30.117	1.926	27.223
Asia	22.080	12.531	20.465	13.380	25.983	8.848	27.772	9.946	23.963	14.059
Africa	8.515	3.193	9.096	2.898	8.340	3.109	9.679	2.874	11.141	3.401
Australia	274	4.153	293	3.569	328	3.499	346	4.238	459	2.375
Total	48.802	46.624	48.510	48.320	47.400	49.799	55.350	55.828	54.973	54.975

Source: Sugar and Sweetener Economy 2007-2013, Bartens

Table 3. Significant world producers of sugar in thousands of tonnes

	2007/08	2008/09	2009/10	2010/11	2011/12
1	2	3	4	5	6
Brazil	31.600	31.850	41.135	38.725	37.133
India	28.630	15.950	20.637	26.574	28.800
EU	15.614	14.014	18.380	16.490	19.556
Kina	15.898	13.317	11.429	11.199	12.341
Thailand	7.820	7.200	7.131	9.919	10.569
US	7.396	6.833	7.158	7.156	7.695
Mexico	5.852	5.260	5.034	5.395	5.258
Russia	3.200	3.481	3.430	3.290	5.413
Pakistan	4.163	3.512	3.420	3.920	4.520
Australia	4.939	4.814	4.472	3.610	3.733
Others	43.397	45.043	38.569	38.686	42.427
Total	168.509	151.274	160.795	164.964	177.445

Source: Sugar and Sweetener Economy 2007-2013, Bartens

In the last couple of years, along with the increase of consciousness of the necessity of using renewable energy resources, there was also an increase in the usage of sugar beet and sugarcane as one of the sources for alcohol production². In the sugar industry the ethyl alcohol is gained by fermentation of sugar content from sugar beet, sugar cane syrup, sugar fermentation in refined syrups after the crystallisation process or molasses fermentation.

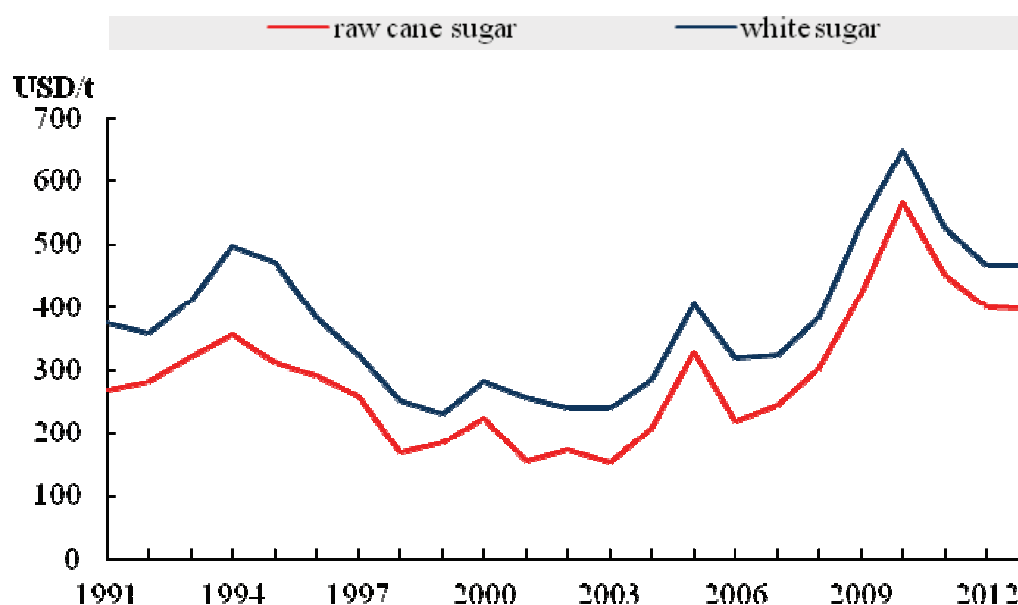
The difference in costs is tied to growing of certain raw material but also to the ratio of sugar production (80%:20%). At the same time due to the increase of the living standard there has come to an increase of sugar consumption per capita (table 4).

Table 4. Sugar consumption per capita in kg

	2003	2004	2005	2007	2008	2009	2010	2011
Europe	38,2	39,1	38,1	40	39	36,8	38,2	38,2
NorthAmerica	32,9	32,1	32,5	31,5	33,4	36,2	35,7	35,2
MiddleAmerica	46,2	47	46	45,6	45,4	43	41,9	43,2
SouthAmerica	48	47,9	47,7	52,8	49,9	51	53,8	53
Asia	14,6	16,3	16,2	16,5	17,5	18	17,6	17,5
Africa	15,2	15,6	15,7	16,6	16,4	16,3	16,1	16,3
Australia	47,2	43,8	43,1	43,2	47	43,1	39,4	41,1
World	22,1	23,4	23	23,8	24,5	23,9	24,1	23,7

Source: Sugar and Sweetener Economy 2007-2013, Bartens

² Under the term alcohol we understand ethyl alcohol (ethanol) gained from fermentation and distillation of sugar substrate from sugar beet, sugar cane, and cereals or during wine production.

Figure 1. Movement of sugar prices in the period from 1991 to 2013

Source: OECD/FAO Agricultural outlook

The increase of the sugar consumption per capita with the increase of use of raw material for production of bio-ethanol has influenced the increase of the sugar price on the world market (figure 1.). Sugar is a stock-exchange material; the reference stock exchange for the sugarcane price is the New York Stock Exchange whereas white sugar is traded on the London Stock Exchange. Sugar prices within single countries are formed according to the price on the stock exchange unless the sugar market is defined by interior policy of the single country.

3. Sugar market of the European Union and agricultural reform

The European Union sugar market (Common Market Organisation of Sugar – CMO Sugar) is based on the content of the Common Agricultural Policy (CAP) of the European Union. The goals of CAP have been defined in the Roman Agreement, based on which in 1957 the European Union was founded. The founding countries were Belgium, Germany, France, Italy, Luxemburg and the Netherlands. Later on other countries joined them and currently there are 28 member states. The goals of common agricultural policy were set in July 1958 in Italy³.

The CAP was set in 1962 and in the beginning it did not cover sugar sector. It was set for sugar sector in 1967. The principles of CAP set on the Stresa conference

³ The foundation of CAP was set on the conference in Stresa (Italy) which was held from 3rd to 12th July, 1958

were: founding of a common market by using common rules, common preferences in respect of protection of interior market based on the product preferences within the EU and the common financial responsibility for implementation of CAP within the EU member states.

3.1. CAP reform

In the late 70's and the early 80's of the last century, the expansion in agricultural production influenced the fall of prices. The EU had to intervene on the market by buying off the surplus of products (mostly milk, meat, wine and cereals) for the guaranteed minimum prices (intervention prices). The high costs of intervention on one side and the pressure for opening markets for EU's agricultural products on the other side influenced the need for agricultural policy reform. The reform was started at the end of the 1980's and it affected the market organisation by limiting the production with introduction of production quotes, burdening for production above the quote and limiting the intervention price for certain amount of product (Evaluation of the CMO Sugar Sector, 2001). The reform changed the way of support allocations that were aimed directly towards the producers⁴.

On the European summit held in 1999 in Berlin agreements about the so-called "Agenda 2000" which represented the continuation of the reform were successfully reached. The reform was above all planned because of the expansion of the EU but also because of the need for decrease of incentives. Firstly, the incentives for cereal, beef and veal producers were decreased. The introduction of a limit for the dairy sector was postponed until 2005 and for the sugar sector until 2006.

On the other hand, the reform set new foundations for rural development approach. Programs for agriculture and rural development incentives, which until then had been separated, were joined and simplified.

In the middle of 2001 the Decision EU 1260/2001 for more precise definition of the sugar market and rules of conduct was passed. The Decision defined productions quotes, reference prices, interior sugar market and the way of surplus production and export.

The reform of the European sugar market was based on this Decision from 2001.

⁴ MacSharry reform (1991)–based on production directly at the producer's and tied to amount of hectares or number of animals.

4. Situation in the Croatian sugar industry

In Croatia there are three active sugar factories at the moment, except for them there is also the sugar that has been imported in a certain volume and put on the market by different companies. For entering the sugar industry there are not only many entry but also exit barriers. The building of a plant for processing of sugar beet is a quite expensive investment; however, the new market competitor would have to provide the raw material for processing.

The total annual need for sugar in Croatia is about 150 thousand tonnes. The sugar amount which will be produced depends on the amount of the processed sugar beet and the amount of sweetness which the sugar beet contains. Sown areas represent a relatively fixed size because of crop rotation and the amount of arable land, and the influence of climatic conditions during the growing season is of utmost importance.

Production of sugar is not a continuous process, but takes place in campaigns of sugar beet processing. The negative side of such production is that all three sugar factories have the campaign at the same time and that the entire amount of sugar consumed by the market over the next year has been produced in a short period of time. In order to avoid a reduction in price due to the sudden increase in supply, sugar factories have built storage areas in which the sugar for further consumption is kept conditionally.

The technology of sugar production in all three sugar factories is similar, however, taking advantage of the economy of scope and by modernizing certain parts of the processing plant certain economic advantages can be achieved. Very large area for potential savings is the production of raw materials. By improving agricultural practices it is possible to reduce the cost per unit of input in order to achieve the highest possible yields and output.

4.1. Impact of the Stabilization and Association Agreement on the sugar industry in Croatia

The Stabilization and Association Agreement was preceded by a „regional framework” which was adopted by the Council of the European Union in 1997. The regional approach represented a political framework for the development of relations and cooperation with the countries of South East Europe, highlighting the possibility of establishing institutional cooperation (cooperation agreements) with countries in this area (Croatia, Bosnia-Herzegovina, Macedonia and Yugoslavia).

The EU has set the so called conditionality policy which includes some specific demands on all countries together and every state in particular, concerning dealing with the consequences of conflicts and establishing regional cooperation.

In June 1999, the Council of Ministers of the European Union adopted the Stabilization and Association Process for the Republic of Croatia, Bosnia and Herzegovina, Albania, Macedonia and the former Federal Republic of Yugoslavia, as a modification of the “regional approach” of the European Union from April 1997. The regional approach has proved to be insufficiently flexible and dynamic for articulation of the EU policy and long-term regulation of relations with the countries in the region.

The so called “fact finding mission” was sent to Croatia in order to record the state of the departments for the purpose of gathering data required for the preparation of negotiations feasibility studies on the SAA. By development and adoption of the Feasibility Study in June 2000, the European Commission made a recommendation to the Council of Ministers of the EU to start negotiations on the Stabilization agreement.

The Agreement was initialed in Brussels on 14th May 2001, and signed on 29th October 2001 in Luxembourg. After signing the agreement the ratification process in the Republic of Croatia, the European Parliament and all EU countries began. The agreement entered into force on 1st February 2005.

In the period between signing and entering into force the Interim Agreement by which the trade issues were regulated and which was applied from 1st January 2002 was being applied.

By the Stabilization and Association agreement a transitional period was agreed in which the Republic of Croatia will liberalize its market for industrial and agricultural products from the EU, since the European Union has decided to fully liberalize its market for products of Croatian origin.

Figure 2. The total production of sugar in Croatia by years

Source: DZS, made by the author

The time before the implementation of the SAA was very difficult for the Croatian sugar factories, insolvency, lack of incentives and short comings of the agricultural policy influenced the existential issues of the Croatian sugar industry. After signing the SAA begins a new period of recovery and prosperity for the Croatian sugar industry (figure 2). New export markets, on which the payment deadlines were much shorter and fresh capital inflows have enabled the survival and development of the Croatian sugar factories.

5. European sugar market reform

The decision EU1260/2001 is the fundamental decision on regulating the EU sugar market on whose basis the subsequent regulation was formed, related to the regulation of the EU sugar market (CMO Sugar). The first part of the market reforms began in 2001 and continued during all the years mainly due to the expanding in 2006.

By the regulation from 2006, a reduction by about 30% in production areas was anticipated, that is, the reduction of sugar production quotas from 19.3 to 13.3 million tonnes. The key of the reform was the reduction of the reference price of sugar by 36% from 631.9 Euros/tonne in the 2006/2007 market year to 404.4 Euros/tonne in the market year 2009/2010, and the removal of the intervention mechanisms which guaranteed a minimum price of sugar.

By reducing the price they sought to discourage the less competitive producers so that they leave the industry, because it was thought that the stronger producers would endure the difficult period easier. In the years in which this sugar market reform was implemented, the number of sugar producers has dropped dramatically. The industry has changed significantly and was guided by the idea of increasing efficiency (tab 5).

The current EU sugar industry consists of 20 states where sugar production is located opposite to the 24 countries that were stricken by the reform. The concentration in individual countries has increased considerably and now 70% of the total production is concentrated within seven producer states.

The restructuring process was radical, 68 sugar factories have been closed in the period from 2000 to 2005, or an average of 11 per year. 83 more sugar factories were closed between 2006 and 2008, or nearly 28 per year.

In this period, the average size of the sugar factory has shown a steady increase, particularly in the western EU countries that in 2009 have held about 85% of the sugar production in the EU.

Congruently to the drop in the number of sugar factories the number of employees has been reduced. Between 2004 and 2009 the number of employees in the sugar sector has fallen by 44% notwithstanding the reduction in the number of sugar factories and staff reductions, sugar production remained a significant factor in the economic life of rural areas.

The process of producing sugar includes not only sugar factories, but also a large number of suppliers of raw materials and equipment. If we take direct and indirect employment of the EU into account, sugar industry employs about 180.000 employees and contributes to the prosperity of approximately 170.000 farms.

Table 5. Number of sugar factories by the size of capacity (EU15)

tonne/day	1992	2000
< 5.000	51	9
5.000 – 8.000	59	28
8.000 – 12.000	46	51
12.000 – 15.000	27	26
> 15.000	0	21
Total	183	135

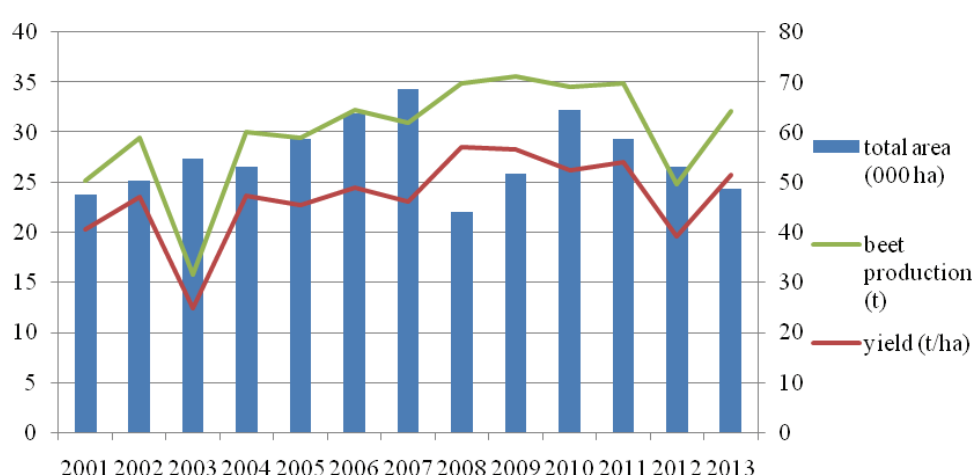
Source: CEFS Sugar statistics

6. Impact of the reforms on the sugar market and production in Croatia

The period after signing of the Stabilization and Association Agreement was followed by the years of recovery of the Croatian sugar industry (figure 3). The first measures that reduce sugar exports from the Republic of Croatia were the introduction of export quotas for sugar.⁵ The introduction of the export quotas limited the exports of sugar to the amount of 180.000 tones in one marketing year. Given the fact that three sugar producers were active in Croatia the sugar export quota was usually divided into three equal parts. On the other hand, in the framework of the EU regulations, but also to improve the export balance, the Republic of Croatia allowed the import of 40.000 tones of raw sugar duty-free.

The sugar reform from 2006, excluding the limited amount of sugar, affected the price at which sugar could be placed on the EU market. The reference price, which was reduced from year to year and the excess supply affected the reduction of sugar prices on the foreign market. Due to the high cost of raw materials and energy, which account for almost 70% of the total sugar production costs, the Croatian sugar factories began to approach the zone of insolvency. The capacities of sugar factories in the EU are generally higher than the processing capacity of the local sugar factories by which the higher exploitation of the economy of scope is achieved, which is very important for sugar factories.

Figure 3. Comparative overview of the total areas under sugar beet and their yields



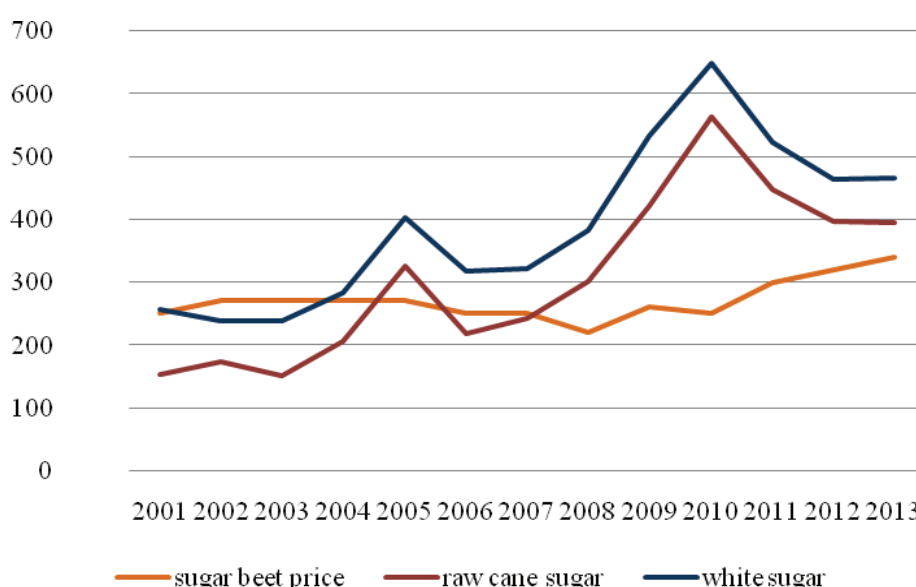
Source: DZS, EUROSTAT

⁵ During the entire period only the sugar of Croatian origin could be exported in EU, ie. only sugar produced from sugar beet.

7. Conclusion

It is possible to argue that in the EU the most important part of the reform has been fulfilled, for the number of producers and the area under sugar beet has been reduced, however, due to the sugar misbalance on the world market, the price of sugar in the period from 2010-2013 recorded a significant increase, which favoured the sugar producers.

Figure 4. Movement of the prices of sugar beet and sugar



Source: FAO Agricultural outlook, DZS, EUROSTAT

Joining the EU imposed some new challenges for the Croatian sugar factories, the export quotas were replaced by the production quotas. Croatia has been assigned a production quota of almost 193.000 tonnes which in the first year was distributed to unequal shares by which the sugar factory in Osijek Ltd. and Sladorana Ltd. each received 35% of the total amount and the remaining 30% was allocated to Viro sugar factory JSC.

At the end of 2013 and the beginning of 2014, there was a significant reduction in sugar prices on the market (figure 4). An additional problem for the Croatian sugar industry is the EU's decision on the abolition of the sugar production quotas in 2017.

Over years the Croatian sugar factories have been prepared for the strong competition that currently rules on the sugar market in the EU, however, significant

market changes will require restructuring of the Croatian sugar industry and anew positioning of this economically very important industry.

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