PERSPECTIVES AND TRENDS OF UKRAINIAN SUGAR INDUSTRY DEVELOPMENT

Tatyana Yarchuk
Postgraduate student. Kyiv National University of Economics.
Flat 19, Pushynoi 23 Str., Kyiv, 03115, Ukraine. Tel. +38 (097) 90-888-71.
E-mail t.yarchuk@gmail.com

© Aleksandras Stulginskis University, © Lithuanian Institute of Agrarian Economics

The purpose of this research is to present and discuss findings of a study of Ukrainian sugar market and its positioning on the world sugar market, which is characterized by largely inelastic demand for sugar, strong market regulation and significant price volatility. The study considers Ukraine sugar market which looks back on a long tradition of producing sugar from sugar beet and being the leading exporter of this sugar. This research provides analysis of current situation on Ukraine sugar market outlines key tendencies of market positioning and describes perspectives of further development. The ways of adaptation of Ukraine sugar industry and its integration to the challenging global sugar market were summarized including: legislative base improvements; implementation of optimal quotation system; logistics system improvement; scientific and technical development; usage of alternative ways of sugar industry development; recovery of membership in International sugar organization.

Keywords: global sugar market, market regulation, quota, sugar consumption, sugar production, Ukrainian sugar market

JEL Code – Q17.

Introduction

Sugar market, characterized by special mechanisms and peculiarities of realization of international trade interests, places special position among agricultural markets. Sugar is one of the most important elements of the consumer’s basket of every country and is treated as an indicator of country development level. Moreover, sugar is included in the list of the strategic products of every country, safeguarding its national security. For this reason, research of trends and perspectives of sugar industry development is very important nowadays.

Ukraine was the world's largest beet sugar producer and second largest (after France) white sugar exporter in Europe twenty years ago. At the end of the 1980s, 40% of Russian sugar consumption was covered by deliveries from Ukraine. In the last years of the Soviet era, Ukraine used to produce 4.5 to 5 million tons of sugar from beet and to refine 2 to 3 million tons of imported, mainly Cuban, raw sugar. Ukraine supplied annually about 4 million tons of white sugar to other republics of the Soviet Union. The collapse of the USSR and transition to the market economy changed the place of Ukraine on the world sugar map dramatically. This process was supported by the tendency on the world sugar market which has undergone a number of reforms and structural changes over the past two decades. Despite all negative
trends, mentioned above, Ukraine has necessary fundamentals and potential to recover its leading position on the global sugar market. For the last 5 years, there is a positive dynamics on the market in of terms sugar production recovery as well as price stabilization. Moreover, Ukraine demonstrated record level of sugar export in 2012, gradually recovering its position on the global market.

Research of sugar market efficiency and its fundamentals is an ongoing process, required systematic approach and deep analysis and is subject to study of both foreign and Ukrainian scientists. Foreign economists such as J. Beghin (El-obeid, 2003), M. Ingco (1998), E. Frandsen (2001), J. Kingsman (2010), J. Mitchell (2003), M. Wohlenentant (1999) covered many questions of sugar market functioning in their scientific works. The research of the Ukrainian sugar market is presented in the works of leading Ukrainian scientists, such as E. Imas (1999), M. Kodenskaya (1998), O. Zayets (2001) and others. They studied the ways of restructuring local sugar sector and potential of recovery of the local sugar market in the context of functioning of the Ukrainian agricultural complex.

**Purpose.** The key objective of this analysis is to explore the linkages between all participants of the local sugar and world sugar market and to provide quantitative assessment of domestic market trends, emphasizing the implications for recovering of sugar market potential. The object of the research is the process of functioning of the Ukrainian sugar market in terms of global sugar market. The subject of the research is the mix of theoretical and practical aspects of economic mechanism implementation of the sugar market functioning.

**Methodology.** The methodology base of the research is a systematic approach to the formation of economics mechanism of sugar market development. During the research, number of general and specific methods were applied. In particular, for the study of experience of the leading sugar-producing countries on implementations of market regulation mechanism, the scientific-abstraction method, method of comparison and generalization method were applied. Moreover these methods were used for Ukrainian legislation framework analysis and its comparison with international legal environment. Induction and induction methods were applied while making conclusions of the performance of the sugar market. Theoretical base of the research includes fundamental assumptions of economics study as well as works of leading scientists on matters of agriculture market development as well as local and international legislative acts.

**Results of research**

Ukraine was one of the largest sugar beet producers on the world 20 years ago, but has slipped to 5th place as of 2012, scaling back output more than 5 times. The output decline was caused mainly by sliding demand for Ukrainian sugar in the mid-1990s and fading interest in sugar beet production owing to high operating costs (on the back of restricted agro sector financing) and the crop’s poor profitability. Sugar beet is the main raw input for Ukrainian sugar mills. Ukraine’s sugar beet cultivation has gone through a turbulent period over the last two decades. Production and yields were already declining in the two decades prior to 1991, whereas in Europe as a
whole sugar beet yields have risen 25% over that period from 36.3 tons/ha in 1971–1975 to 44.5 tons/ha in 1986–1990. In other words, Ukrainian sugar beet production showed signs of weakness prior to the onset of the transformational processes, with yields that were both low and falling by European and international standards. Hence, while perhaps tempting for some, it is misleading to attribute the current weakness of Ukraine’s sugar industry entirely to the rigors of transformation. Since 1990, land cultivated with sugar beet decreased by nearly two-thirds from 1.6 million ha in 1990 to 466300 ha in 2012. With such a land decrease, the sugar beet harvest dropped from 44.3 million tons in 1990 to 18.3 million tons in 2012, a 57.5% decrease.

![Graph showing harvested area and sugar beet harvest in Ukraine](image)

Fig. 1. Sugar beet area harvested and gross harvest in Ukraine

Despite Ukraine’s dominance in areas planted with sugar beet, the country’s output of sugar was by 45% lower compared to France and by 30% lower compared to Germany. The main reason for such a discrepancy lies mostly in the sugar beet yield. Thus, Ukraine’s average sugar beet yield was only 40 tons/ha in 2012. Higher sugar beet yield in Europe does not necessarily mean that cost of sugar beet production in European countries is lower than in Ukraine. First, since there is a free land market in Europe, the farmers may both buy land and lease land. Large areas of agricultural land under lease are found in several European countries, including Belgium (70% of the land sown with agricultural crops is leased), and Germany and France (40%). In general, about 60% of agricultural land in Europe is owned, while the remaining 40% is leased. While the entry ticket into the agricultural land in Europe is higher than in Ukraine by both cost of land and annual lease payments, European farmers are interested in receiving high returns from a hectare of land, which may be achieved through high crop productivity, in particular. In 2012, land lease cost in Ukraine was around 5 times lower than the median value of €125/ha in selected European countries. Second, quality of land in Europe is considered to be worse than those of Ukraine’s black soils. To enhance crop productivity, use of fertilizers and plant protectors in Europe is much higher than in Ukraine. Ukraine, particularly, has decreased fertilizer usage by 45% up to date, compared to 1990, from 141 kg/ha in
1990 to 78 kg/ha in 2012, as state subsidies into the agricultural sector shrank, and farmers lacked financing. Despite low fertilizer usage, Ukrainian farmers have demonstrated superior crop productivity per unit of fertilizer applied thanks to the country’s fertile soil. Amid cost of fertilizers and crop protection other cost components, such as wages and payroll, and third party services are higher in Europe than in Ukraine. Given that sugar beet yield in Europe is on average 2–3 times higher than in Ukraine, cost of tone of sugar beet both in Ukraine and Europe is at least approximately the same, if not higher in Europe. The countries differ in their sugar beet harvesting technologies and experience, and area planted with sugar beet is not the only indicator to assess a country’s might in the international beet market. Therefore, sugar beet yield is a key determinant, which governs a country’s beet harvests and sugar output.

Out of 192 sugar mills in Ukraine (including many that are not necessarily functional), 63 were operating in 2012, down 173% from the 1996 level, when 172 sugar mills operated. After four years of sugar deficits in 2007–2010 years, Ukraine’s sugar production in 2011 increased 50% y-o-y to 2.3 million tons, followed by insignificant decline of sugar production to 2.1 million tons in 2012. Still this level is sufficient enough to cover internal demand which is estimated at 1.5–2 million tons annually. Consumption level of sugar in Ukraine is stable enough, the only changes are observed in the structure of consumers – industrial consumption demonstrate growing dynamics for the last 5 years versus declining level of household consumption.

The industry trend is one of intensifying concentration, and the top-five players now account for almost half of domestic production. Further consolidation with the emergence of more vertically-integrated agro-holdings seems like the most straightforward path to industry development.

Under the WTO accession, Ukraine has agreed to import raw cane in the volume of 0.286 million tons at a reduced duty rate of 2%, instead of €300/ton. Excessive imports of raw cane are charged a 50% duty. Since the current sugar price makes imports of raw cane, including transportation and processing costs, into Ukraine groundless, the country didn’t imports cane sugar in 2012. Further deliveries will be largely determined by the sugar beet harvest and the domestic price of sugar.
When the domestic production of white sugar lagged behind national demand, there was no need for Ukrainian producers to look for export markets. Currently, as the domestic market is oversaturated with sugar, interest in sugar export arose.

Sugar markets of countries with tradition of beet sugar production, including Ukraine, are heavily dependent on government regulation. The regulation in Ukraine takes different forms, ranging from price ceilings, output quotas, and protective measures in the international trade markets to explicit restrictions on food product transfers across geographical borders of Ukrainian regions. The sugar industry is administratively regulated in Ukraine. According to the Government decree “On the issues of state regulation of production and sale of sugar” (#868 dated 2 June 2000), sugar production in Ukraine falls within three quotas: ‘A’ quota – sale of sugar only in Ukraine; ‘B’ quota – exports of sugar under international agreements of Ukraine with third countries; and ‘C’ quota – exports of sugar disregarding any international
agreement, thus, independently by the agricultural company or trader. Within the ‘A’ quota, the government of Ukraine annually announces the volume of sugar that has to be supplied to Ukraine, which is, roughly speaking, the authority’s estimate of sugar consumption, including industrial producers and individuals. Along with setting the limits for sugar in the domestic market, the government sets the minimum price of sugar beet and the minimum price of sugar within the ‘A’ quota. For instance, for the period 01 September 2011 – 01 September 2012, the ‘A’ quota was set at 1.86 million tons of sugar as follows: consumption by households – 1.778 million tons (implying 39 kilograms person a year, allocated for individual and industrial consumption); other consumption – 82,000 tons (Ukrainian…, 2012). We regard pricing ceilings as the riskiest mechanism in the industry. On the one hand, by setting minimum and maximum prices of sugar and sugar beets in Ukraine, government intervention is intent to provide some sort of social protection to farmers, sugar producers, and domestic consumers. On the other hand, it creates distortions that create anti-competitive behavior. We consider price ceilings for sugar as contradictory to free market principles. Additionally, the logic of minimal interventional prices for sugar implies that if the sugar price falls below the minimum level – the state, represented by the State Agricultural Fund, should withhold sugar from the market and allocate it to its reserve fund. However, the state always lacks funding to purchase from the market, and if it does not do so, producers, being at a stalemate, are forced to sell their sugar at any price to meet their working capital needs to finance operations.

Although the Ukrainian domestic sugar prices have tracked global pricing trends in the past, periods of divergence have occurred. Charted against LIFFE quotes, Ukrainian sugar was priced at substantial, even 60–80% premiums in 2002–2005, but this premium eroded to 30–35% in 2006–2007 when Ukraine experienced sugar overproduction and has failed to rebound ever since (Ukrainian…, 2013). As domestic sugar markets tend to be strongly regulated, the price differentials may often be explained away by 1) broker’s commission, tax, freight, insurance costs (difference between LIFFE and market wholesale prices), 2) domestic sugar market regulations and 3) export and import limitations (sugar imports limited by quotas in Ukraine). Due to these factors, we expect significant volatility in Ukrainian vs. global price relations. All in all, Ukrainian sugar price is lower than that one of many other sugar beet producers like Russia and EU-countries. There are a lot of traditional sugar-importing countries in Asia (like Georgia, Tajikistan, Uzbekistan, Kirgizstan) for which more convenient to import Ukrainian rather than Russia sugar. For this reason, export potential of Ukraine is rather significant and it has all reasons to recover its leading positions. The following steps are to be performed to recover country’s export potential: improving legislative base (particular attention should be paid to the Law of Ukraine “On state regulation of sugar production and realization”; reasonable usage of quotation system; intensification of trade representative offices activity; development of logistic services; recovery of Ukraine membership in International Sugar organization; sugar and sugar by-products export stimulation; improving of performance of scientific sector. Alongside, industry requires protection for the local producers, support in increasing of alternative possibilities of sugar usage (e.g. bioethanol, biofuel usage), implementation of efficient regulation mechanisms and pro-
tection of interests of local sugar producers. Recovery of export potential of beet sugar, increase its competitive positioning on global market, stimulation of promotion of Ukrainian sugar on international markets are considered key elements of domestic sugar industry recovery.

Taking into account economic potential and perspectives of market development, the model of estimation of sugar export potential of Ukraine is presented, based on the following assumptions: if the level of sugar beet average in Ukraine is 600 thousand tons and average yield of sugar beet is 4 tons per hectare, the level of sugar production in Ukraine is estimated on the level of 3 million tons. Taking into account the level of internal consumption is stable and is estimated as 1.8 million tons, export potential of sugar industry in Ukraine is measured as 1.125 million ton. This estimation is based on assumption of favorable weather conditions and stable sugar consumption level (table).

According to USDA statistics, currently Ukraine ranks fifth place among leading global sugar beet producers, followed by EU, USA, Russia and Turkey and has good potential of recovering its traditional leadership position on the global market, taking into account its long history of sugar production, industry experience, natural and climate advantages and efficient production process.

### Table. Estimation of the sugar export potential in Ukraine

| Possible acreage of subar beet in Ukraine: including: | 600 thousand hectares |
| domestic market | 375 thousand hectares |
| export market and other purposes | 225 thousand hectares |
| Gross harvest of sugar beet in Ukraine: including: | 600 * 40 (1) = 24.0 million tons |
| domestic market | 375 * 40 (1) = 15.0 million tons |
| export market and other purposes | 225 * 40 (1) = 9.0 million tons |
| Sugar production (in volume terms) including: | 24*0.125 (2) = 3 million tons |
| domestic market | 15*0.125 (2) = 1.875 million tons |
| export market and other purposes | 9*0.125 (2) = 1.125 million tons |
| Sugar production (in amount terms) including: | 3 million tons * 497.5 USD (3) = 1493 million USD |
| domestic market | 1.875 million tons * 497.5 USD (3) = 933 million USD |
| export market and other purposes | 1.125 million tons * 497.5 USD (3) = 560 million USD |

Notes: (1) average yield of sugar beet; (2) average level of sugar extraction ratio from sugar beet; (3) current sugar price on LIFFE

Key solutions for Ukrainian sugar industry recover include: legislation base improvement (particular attention should be paid to the current law “On state regulation of Ukrainian sugar industry” and possible amendments to it); development of logistic services; scientific and technical development of sugar industry; usage of alter-
native ways of sugar industry development; recovery of membership in International sugar organization.

Conclusion

1. Sugar is considered as one of key strategic food products included to the consumer basket of every country. Just as many other agricultural products, sugar has relatively stable demand while supply is volatile and is affected by weather conditions and prices for the commodity.

2. Many countries, including the US, the EU, Japan, Russia and Ukraine, among others, have protectionist policies to defend domestic sugar producers understanding key priority of sugar industry for the economy.

3. Ukraine has historically been a large sugar producer, accounting for 6–7 million tons of sugar per year during Soviet times. After the collapse of the Soviet Union, Ukraine lost many of the large secured markets for its sugar – Russia and other CIS countries. Increased competition and new trade barriers brought up by former customers made Ukrainian sugar less competitive and resulted in a long-term decline in the production of sugar beets and sugar. However an upward trend of industry recovery started from 2000 onwards. This was caused by many less effective producers exiting sugar beet production as well as by the appearance of large agricultural holdings that had sufficient funds to finance working capital and machinery needs in order to use advanced production technologies. Current regulation regime of sugar industry includes: production quotas, raw sugar import quotas, minimum prices on sugar beet and sugar, intervention purchases and sales.

4. Ukraine has sufficient economic, natural, technical and scientific resources and potential to recover its position on global market, taking into account lower cost of production, high quality and stable demand from neighboring countries. Calculations prove that, under favorable weather and economic conditions Ukraine is able to produce 3.5 million tons of sugar, thus covering internal consumption in full (1.8 million tons) and increasing export potential (1.5–1.7 million tons). The priority export destinations for Ukrainian sugar are: Georgia, Uzbekistan, Tadzhikistan, Moldova and other CIS and East Asia countries. Key solutions for Ukrainian sugar industry recovery include: legislative base improvements; implementation of optimal quotation system; logistics system improvement; scientific and technical development of sugar industry; usage of alternative ways of sugar industry development; recovery of membership in International sugar organization.

References


12. Імас, Є. В. (1999). Формування та розвиток цукробурякового під комплекс в Україні. – Київ: ІАЕ УААН.


UKRAINOS CUKRAUS RINKA: PLĖTROS TENDENCIJOS IR PERSPEKTIVOS

Tatjana Yarchuk
Kijevo nacionalinis ekonomikos universitetas

Santrauka


Raktiniai žodžiai: pasaulio cukraus rinka, vyriausybės reguliavimas, cukraus gamyba. JEL kodas – Q17.