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# ANALYSIS OF CURRENT CONDITION AND PROSPECTS FOR THE DEVELOPMENT OF SUGAR MARKET IN UKRAINE AND IN THE WORLD ©

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*The current state and development prospects of the sugar market in Ukraine and the world are analyzed in the article. The share of countries in the world sugar production is determined. The dynamics of production and consumption of sugar in Ukraine and the world are analyzed. The structure of the export and import of sugar in the world is investigated. The dynamics of sugar production in Ukraine are studied. Structural analysis of sugar production in Ukraine is implemented. The number of sugar factories operating in Ukraine and their daily capacities is determined. The dynamics of import and export of sugar from sugar cane and sugar beet in Ukraine is demonstrated. A comparison of volumes of sugar beet crop area and sugar prices in Ukraine is conducted. The dynamics of minimum and maximum intervention prices for beet sugar in Ukraine is analyzed. The comparison of demand and supply balance in the sugar market in Ukraine is carried out. SWOT-analysis of the sugar market in Ukraine is conducted. Measures to stabilize the sugar and beet sugar market in Ukraine are proposed.*

**Key words:** sugar, sugar market, sugar beets, bioethanol, efficiency.
**Tab.: 2. Fig.: 12. Ref.: 9.**

## АНАЛІЗ СУЧАСНОГО СТАНУ ТА ПЕРСПЕКТИВИ РОЗВИТКУ РИНКУ ЦУКРУ В УКРАЇНІ ТА СВІТІ

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*У статті проаналізовано сучасний стан та перспективи розвитку ринку цукру в Україні та світі. Визначено частку країн у світовому виробництві цукру. Проаналізовано динаміку виробництва та споживання цукру в Україні та світі. Досліджено структуру експорту та імпорту цукру у світі. Вивчено динаміку виробництва цукру в Україні. Здійснено структурний аналіз виробництва цукру в Україні. Визначено кількість цукрових заводів, які функціонують в Україні та їхні добові потужності. Продемонстровано динаміку імпорту й експорту цукру з цукрової тростини та з цукрових буряків в Україні. Здійснено порівняння обсягів посівних площ цукрових буряків та цін на цукор в Україні. Проаналізовано динаміку мінімальних та максимальних інтервенційних цін на буряковий цукор-пісок в Україні. Здійснено порівняння балансу попиту і пропозиції на ринку цукру в Україні. Проведено SWOT-аналіз ринку цукру в Україні. Запропоновано заходи щодо стабілізації ринку цукру та бурякоцукрової галузі в Україні.*

**Ключові слова:** цукор, ринок цукру, цукрові буряки, біоетанол, ефективність.
**Таб.: 2. Рис. 12.: Літ.: 9.**

## АНАЛИЗ СОВРЕМЕННОГО СОСТОЯНИЯ И ПЕРСПЕКТИВЫ РАЗВИТИЯ РЫНКА САХАРА В УКРАИНЕ И МИРЕ

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*В статье проанализировано современное состояние и перспективы развития рынка сахара в Украине и мире. Определена доля стран в мировом производстве сахара. Проанализирована динамика производства и потребления сахара в Украине и мире. Исследована структура экспорта и импорта сахара в мире. Проанализирована динамика производства сахара в Украине. Осуществлен структурный анализ производства сахара в Украине. Определено количество сахарных заводов, которые функционируют в Украине и их суточные мощности. Изучена динамика импорта и экспорта сахара из сахарного тростника и из сахарной свеклы в Украине. Проведено сравнение объёмов посевных площадей сахарной свеклы и цен на сахар в Украине. Продемонстрирована динамика минимальных и максимальных интервенционных цен на свекловичный сахар-песок в Украине. Проведено сравнение баланса спроса и предложения на рынке сахара в Украине. Осуществлён SWOT-анализ рынка сахара в Украине. Предложены меры по стабилизации рынка сахара и свеклосахарной отрасли в Украине.*

**Ключевые слова:** сахар, рынок сахара, сахарная свекла, биоэтанол, эффективность.
**Таб.: 2. Рис.: 12. Лит.: 9.**

**Problem statement.** At the beginning of the twentieth century, population of the world, amounted 1.6 billion people, consumed about 8,000,000 tons of sugar, an average of 5.1 kg per person. A significant increase in sugar consumption occurred in 1980s, when global sugar consumption reached 90 million tons, and the annual growth rate was 3.1%. In 1990s the growth rate of consumption slowed down somewhat, the annual increase was on average 2.2%.

However, since the beginning of the 2000s, the growth rate of sugar consumption began to increase again, only in Asia (+ 4.9%), the Middle East (+ 4.6%) and Africa (4.1%). Now, the world's population that exceeds 7 billion people, consumes 175 million tons of sugar, an average of 23 kg per person, with the lowest consumption in Bangladesh (8 kg) and the highest in Israel (66 kg) [8].

Thus, every year there is a gradual increase in world production and consumption of sugar. For example, in 2000 sugar production amounted to 132.2 million tons, in 2010 – 156.4 million tons, in 2018 – 185.1 million tons.

The sugar industry of Ukraine is one of the oldest. It took one of the leading places in the world in terms of its technical capacity and volumes of sugar production. However, since the independence of Ukraine, instability can be traced both in the sugar market and in the activities of sugar industry.

One of the main strategic tasks of the modern stage of development of agriculture in Ukraine is to achieve an adequate level of food security, to increase export potential and to reach corresponding positions on the world market. In this context, the stabilization of sugar market and sugar beet industry is of particular relevance.

**Analysis of recent research and publications.** Such scientists as Bondar S.V., Dankevych A.G. [1], Kodenska M.Yu. [7], Mesel-Veselyak V.Ya., Sabluk P.T. [7], Shpykulyak A.G., Shpychak O.M. and others have devoted a number of scientific papers to the study of world and domestic trends in the state and prospects of the development of sugar market in Ukraine and the world. However, the issues of prospects for the development of sugar market and stabilization of sugar industry in Ukraine remain open and need further investigation.

**Defining the aim of the article.** The aim of the study is to analyze the current state and prospects of the sugar market in Ukraine and in the world, as well as to formulate proposals for the stabilization of sugar and beet sugar complex in Ukraine.

**Presentation of the main results of the research.** Now more than 120 countries are engaged in sugar production. On average, 60% of world sugar is produced from sugar cane grown in countries with a subtropical and tropical climate. Brazil is the largest producer and exporter of sugar in the world. Its share in the global sugar market is about 21%. After Brazil, the top five sugar producers include India, the EU, China and the United States. In some years, such countries as Thailand, Pakistan and Mexico may be in the top five(Fig. 1).

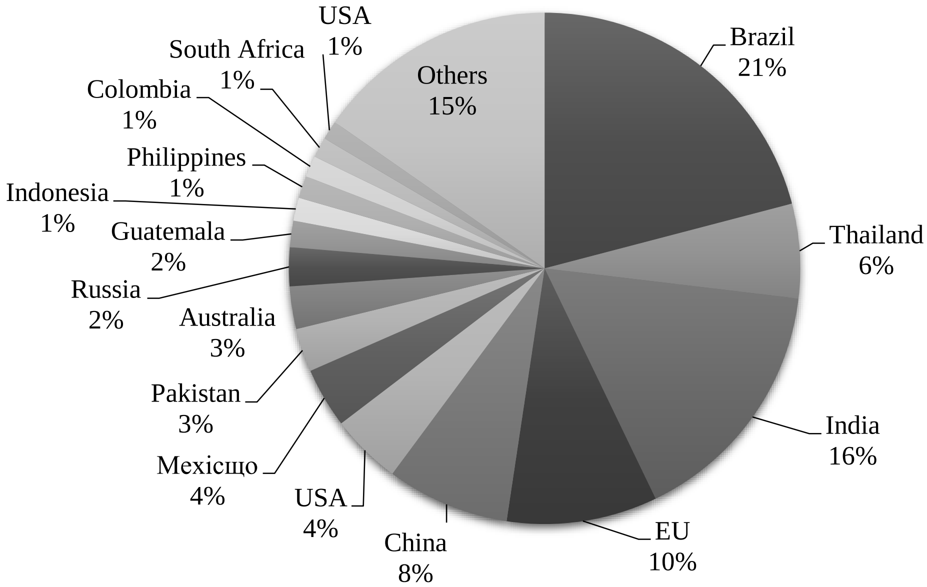


*Fig. 1.* **The share of world countries in world sugar production, 2018**
*Source: Formed by the authors of the United States Department of Agriculture [9]*

It is the first five that is decisive from the point of view of the world conjuncture. Brazil and India are the largest producers of cane sugar and their interaction is crucial in terms of supply in this segment. The EU is the largest producer of both sugar beet and beet sugar. China and the United States combine the cultivation of sugar beet and sugar cane and, accordingly, the production of sugar from them. According to the Food and Agriculture Organization of the United Nations, in 2017, 185 million tonnes of sugar was produced in the world [8]. The trends of the past five years indicate an increase in the production of sugar beet in the world.

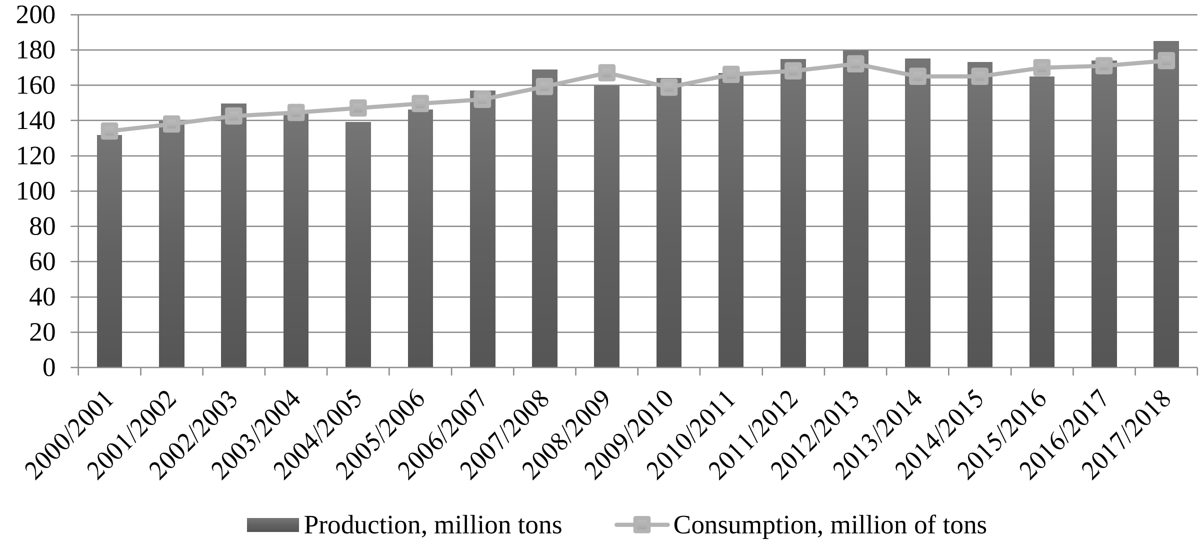


*Fig. 2.* **Sugar production and consumption in the world, million tonnes**
*Source: Formed by the authors according to the data from United States Department of Agriculture [9]*

In 2017/2018, record production (185 million tonnes) and sugar consumption (174 million tonnes) were observed, which is partly explained by the record harvest in Brazil, which was 40.2 million tonnes (1.1 million tonnes more than in the previous year). Namely 27 million tonnes of sugar are consumed in India, 18.5 million tonnes - in the EU, 17.4 million tonnes - in China. As seen from fig. 2, in some years there is an excess of sugar production over consumption and vice versa. The imbalance is corrected due to carryover stocks of sugar.

More than 70% of world sugar production is consumed inside the country of origin, and the rest is exported [9]. Nevertheless, a significant part of this volume of trade takes place under bilateral long-term agreements or on preferential terms. Since only a small part of global sugar production is freely entering external markets, small fluctuations in production and changes in government policy tend to have a significant impact on the world sugar market. The domestic sugar market in many countries is protected by government regulations, namely subsidies for its sugar producers and the introduction of import duties on sugar. As a result, sugar prices on the world market are volatile and difficult to predict.

Brazil is the largest producer and exporter of sugar. In 2017/18 MY, it exported 28.2 million tonnes of sugar, which was 44% of total exports (Figure 3). The top five exporters of sugar also include Thailand (10.5 million tonnes), Australia (3.8 million tonnes), the EU (3.6 million tonnes), Guatemala (1.9 million tonnes).

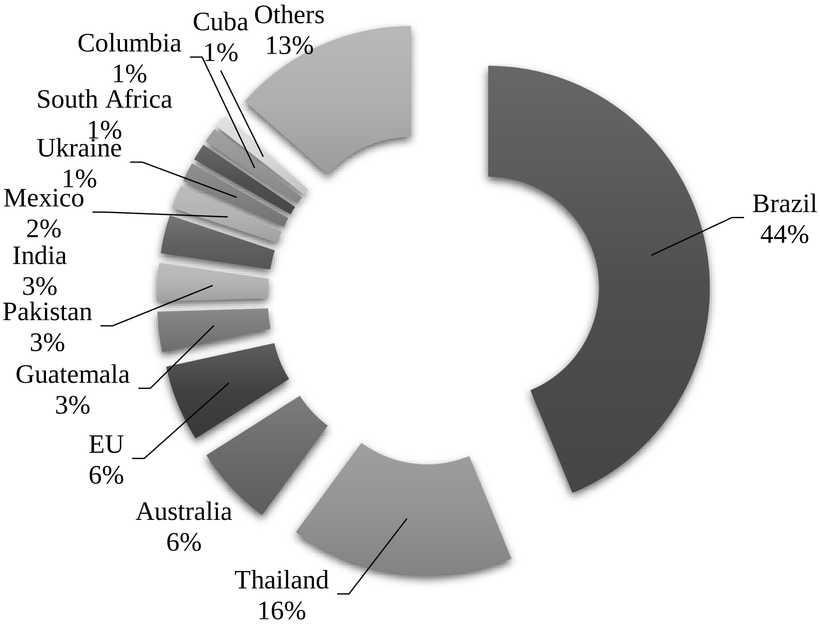


*Fig. 3.* **The structure of sugar exports in the world, 2017/2018 MR**

*Source: Formed by the authors according to the data from United States Department of Agriculture [9]*

Indonesia (4.3 million tonnes), China (4.2 million tonnes), the United States (2.9 million tonnes), OAU (2.8 million tonnes), and Indonesian (2.8 million tonnes) were the largest importers in the global import structure in 2017/2018. Bangladesh (2.6 million tons) (Fig. 4).

In the structure of raw materials 70 countries of the world produce sugar from sugar cane, 50 sugar beets and 10 from both cultures. Significant volumes of sugar beet are processed by the USA, France, Germany, Poland, Russia, Ukraine, Turkey. It is worth noting that beet sugar is produced even where its cost is rather high, for example in Finland and in the north of Japan.

In Ukraine, the first sugar factory was built in 1824 in the village. Makoshin of the Chernihiv province [1]. In the early 1990's, 192 sugar factories successfully operated in Ukraine, with a total beet processing capacity of about 510 thousand tons per day [2]. The number of workers in beet and sugar complex was more than 1.5 million people. Sugar production amounted to over 5 million tons, accounting for 10% of world beet sugar production, and 60% of sugar production in the former USSR.

The modern beet sugar industry has turned into a rather complex agro-industrial complex of measures consisting of several phases: the harvesting of sugar beet, processing it for raw sugar, cleaning raw sugar, realization.

Beet sugar industry is an industry that originated exclusively in the countryside from the very beginning. It speaks about the role played by the sugar industry in the social transformation of the countryside. The inhabitants of these settlements, where the sugar factories were located, were one of the first to use the advantages of electrification, heating, gasification, and here the most developed grid of roads with hard coating appeared.

However, the state policy in the sugar beet industry during the transitional period was not aimed at preservation, support and development. On the contrary, in the early 90's Ukraine significantly reduced sugar exports. Having overcapacity in sugar beet production, Ukraine has lost its sales markets.

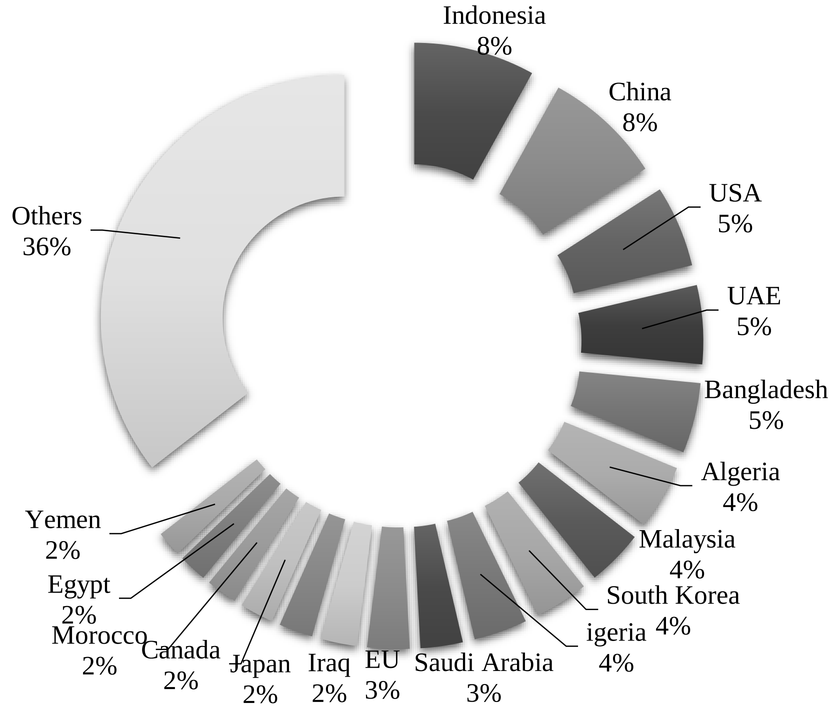


*Fig. 4.* **Structure of Sugar Imports in the World, 2017-2018 MR**

*Source: Formed by the authors according to the data from United States Department of Agriculture [9]*

With the loss of sales markets and worsening economic conditions in the industry, much of the production capacity has stopped working, some plants have been dismantled. This process took place gradually - about 10 factories stopped their activities each year.

Ukraine's accession to the World Trade Organization (WTO) has exacerbated a number of problems in the beet-sugar complex. As a result of Ukraine's accession to the WTO, there was a need to introduce additional measures to protect the domestic sugar market, as the EU sugar market reform aims at increasing imports, reducing exports and reducing sugar prices. At the same time, the cost of production of sugar beet in Ukraine and, as a result, sugar remains high.

Trends in the development of the global sugar market are characterized by a significant increase in competition from the exporting countries of raw cane sugar, lobbying their interests in Ukraine, and intensifying the expansion of foreign commodity producers into the Ukrainian market. Therefore, for the development of beet and sugar industry, it is necessary to transfer the production to an intensive direction, to ensure the growth of productivity, and to reduce the cost per unit of production.

Domestic sugar production remains the most energy intensive compared to the production of other food products. A significant share in energy consumption is taken by natural gas. The share of fuel in the cost of 1 ton of sugar reaches 10-12%, which is 2,0-2,5 times higher than the level of energy consumption in European countries. Gradually, the re-equipment of production by new energy-saving equipment takes place at producers of sugar, whose activities have the best economic performance.

In the market of markets servicing the agroindustrial complex, the sugar market interacts with the market of material and technical resources in the procurement plan for beet-sugar subcomplex of technological equipment, fuel and lubricants, organic and mineral fertilizers, plant protection and soil protection products, as well as resource markets: labor, finances, means of production, investment, land market, means of production, consumer goods. All of the listed markets are interdependent, so their effective development and functioning are possible only on the basis of systemic and structural equilibrium.

Sugar is a highly nutritious product and is important in the nutrition structure of the Ukrainian population. It is used as a technological preservative for the fruit and vegetable and canning industry, and also serves as an auxiliary product for the fruit and wine industry and the technological component for the alcohol and alcoholic beverage industry.

The volume of sugar production depends to a large extent on the size of the area occupied by the crops, the yield and the gross amount of sugar beet. In the 1980s and early 1990s, sugar production in Ukraine was 4-5 million tonnes (Figure 5). The rapid drop in sugar production in Ukraine at the end of the 1900's is to a large extent due to the reduction in crop area due to the loss of sugar markets, as well as the deterioration of agrotec  hnological requirements, in particular the lack or lack of chemical and mineral fertilizers, herbicides and pesticides, necessary for the cultivation of sugar beet, deterioration of the quality of the seed base.

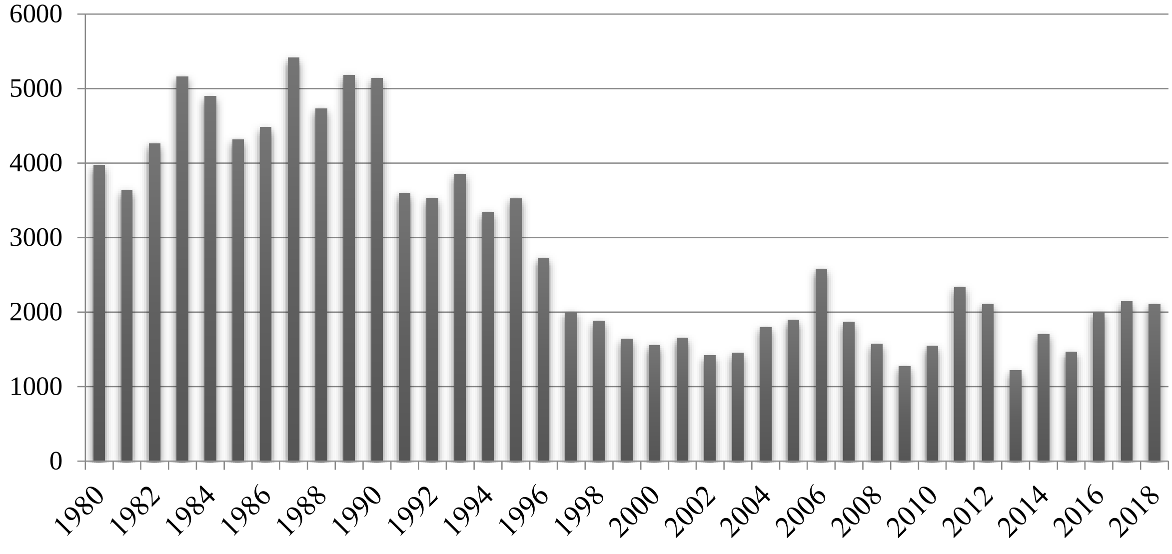


*Fig. 5.* **Dynamics of sugar production in Ukraine, 1980-2018 years, thousand tons**
*Source: formed by the authors according to the data of the State Statistics Service of Ukraine [2]*

In 2017/2018 MY, the Vinnitsa region was the leader in sugar production, having developed 445600 tons. The second position was taken by the Khmelnitsky region - 290200 tons. Ternopil oblast closes the three largest producers - 283500 tons. Lviv (11%), Ternopil (11%) and Khmelnitsky (10%) regions also have a rather high proportion (Fig. 6).

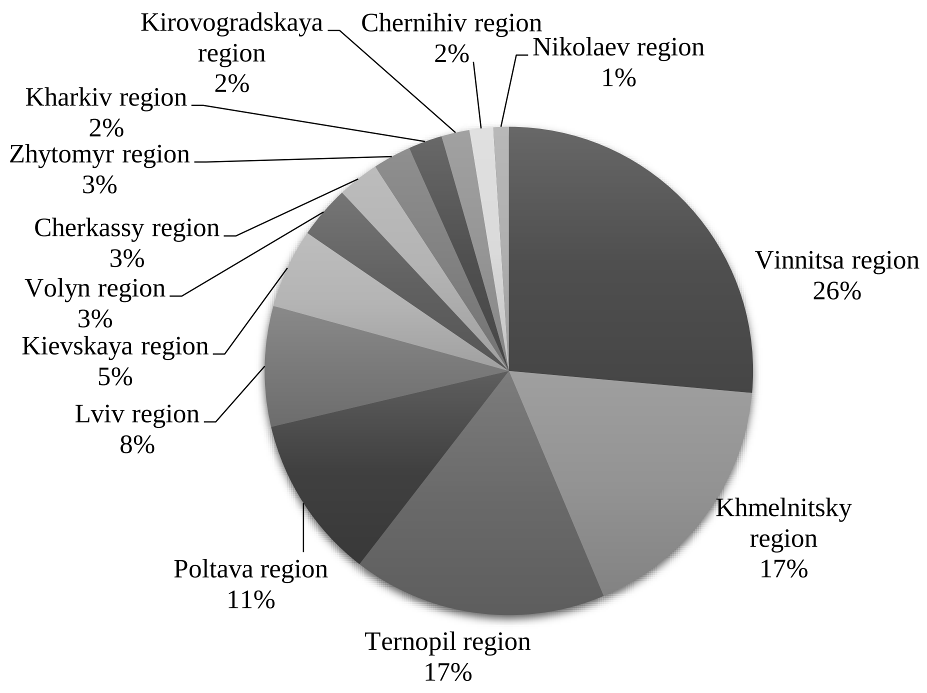


Fig. 6. **Structure of sugar production, 2017/2018 MR**
*Source: formed by the authors according to the data of the State Statistics Service of Ukraine [2]*

The sugar content of root crops in general in 2017 amounted to 16.96%. The maximum accumulation of sucrose was observed in root crops grown in Lviv (17.68%), Volyn (17.11%), Zhytomyr (16.49%), Poltava (16.47%), Khmelnitsky (16.32%), Kiev (16.19%) areas. The minimum accumulation of sucrose is recorded in root crops grown in Kirovograd (15.56%), Nikolaev (15.63%), Ternopil (15.68%), Cherkasy (15.79%), Kharkiv (15.87%), Vinnitsa (15.91%) areas.

The deterioration of economic conditions and the loss of sales markets led to a significant decrease in production capacity, a significant number of factories were dismantled. In 2000 In Ukraine, 146 sugar factories were engaged in sugar beet processing. Their daily capacity in Ukraine was 405 670 tons. Every year a decrease in the number of existing plants. In 2012, 63 sugar factories were engaged in the processing of sugar, and the production capacity was 212,880 tons per day. As of 2017, there were 46 sugar factories with a capacity of 172,400 tons per day (Fig. 7).

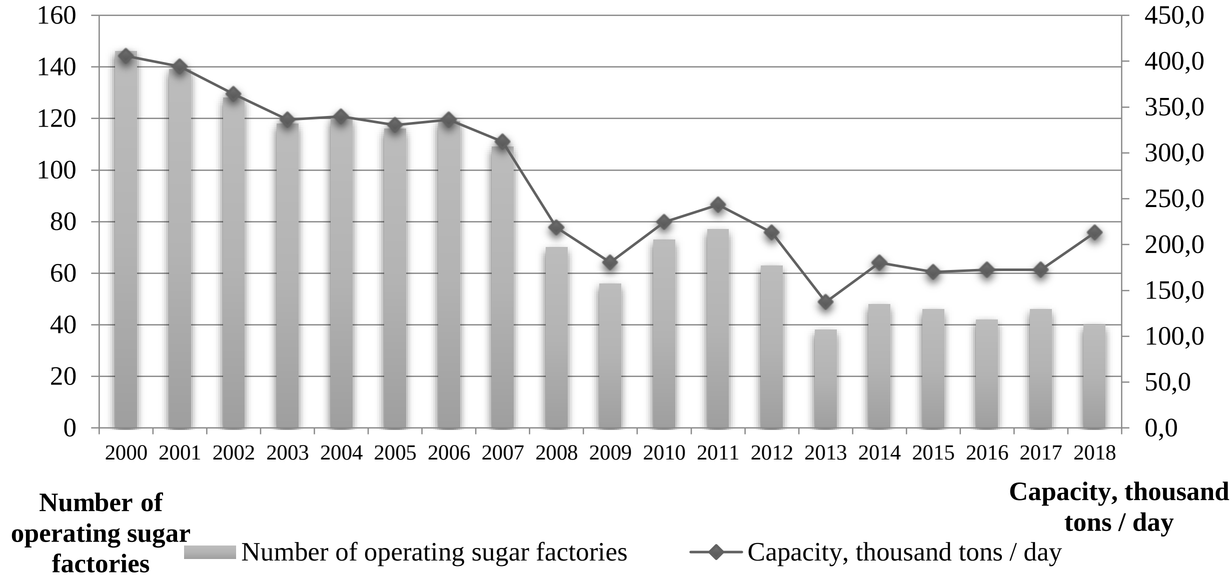


*Fig. 7.* **Number of operating sugar factories in Ukraine and their daily capacity, 200-2018 years**

*Source: compiled by the authors on the basis of data from the State Statistics Service of Ukraine, the National Association of Sugar Producers of Ukraine "Ukrtsukor" [2,4]*

Analyzing the import of sugar to Ukraine, it should be noted that since 2000, it was the highest in 2003 (1.48 million tons). The same year was also characterized by the highest export figure (0.41 million tons). In 2006-2007, import and export indicators dropped significantly (Fig. 8).

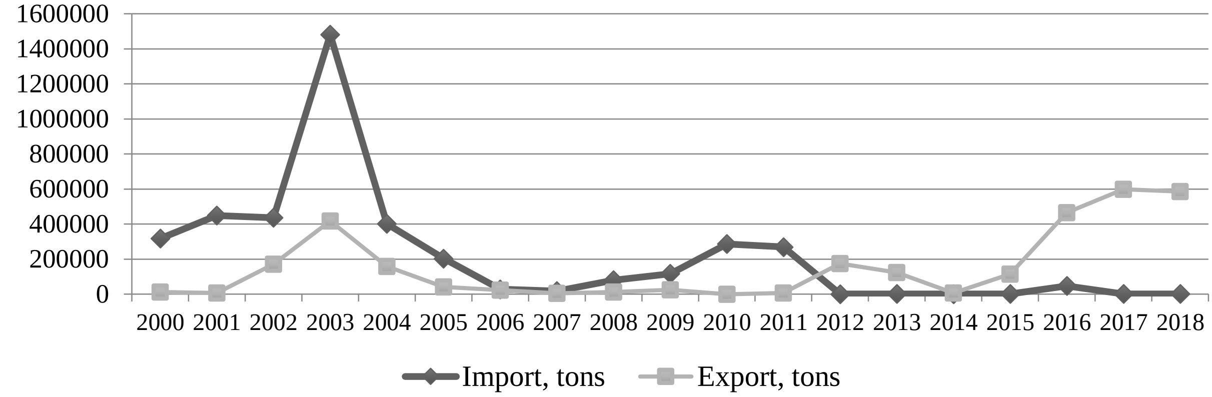


*Fig. 8.* **Dynamics of import and export of sugar from sugar cane or from sugar beet in solid state in Ukraine, 2000-2018.**

*Source: formed by the authors according to the data of the State Statistics Service of Ukraine [2]*

Imports of sugar to Ukraine since 2012 remained at a rather low level and were the highest in 2016 (47062 tons). The main importing countries of sugar in Ukraine during 2012-2018 were Denmark, Germany, France, Brazil, the Netherlands and Mauritius.

During 2015-2018 export of sugar from Ukraine increased significantly. In the year 2017, the highest level of exports since the independence period was 599 thousand tons, and in 2018 - 584 thousand tons. In 2018, Ukraine exported the largest amount of sugar to Uzbekistan, Azerbaijan and Libya. Despite growing export volumes of sugar, in the world ranking, Ukraine is on the 50th place in terms of exports.

The negative pressure on the sugar market is the uncontrolled import of sugar substitutes, which are widely used in the food industry and are 85-90% synthetic. Synthetic sweeteners are attractive to confectionery manufacturers and sweet beverages because of their cheaper value. According to Ukrtsukor, 1 kg of sugar substitutes is equivalent to 200 kg of sugar, with more than 3 thousand tons of sugar substitutes [3] imported annually in Ukraine. In particular, imports grew stronger after heightened control over the use of artificial sweeteners in Europe, and they began to massively enter the Ukrainian market. Every year the import of sugar substitutes continues to grow.

Due to the volatile volumes of sugar production, the lack of external markets, the import of sugar from sugar cane and sugar substitutes, a significant surplus of sugar in the market, the activity of the beet sugar industry is difficult to predict and in some years unprofitable [52]. During 2007-2017, the level of profitability of sugar beet production varied from -11.1% to + 37%.

The instability of prices in the sugar market causes a constant change in the motivation to grow sugar beets. In this regard, annually a certain part of the beet-eagle's farms refuses to further use in crop rotations of sugar beet crops.

In general, the sugar market in Ukraine is characterized by the cyclicality of production. In shorter years, high demand for sugar encourages agricultural enterprises to increase sugar beet crops, overproduction occurs, prices are falling, sugar beet growers reduce crops. As a result, a deficit is created, which Ukraine tries to cover at the expense of imports of white sugar or sugar cane sugar. Prices in the domestic market are increasing, and agricultural producers are once again increasing the area of crops. As a result, the supply of sugar exceeds demand, and prices are falling again, the cycle is repeated (Fig. 9).

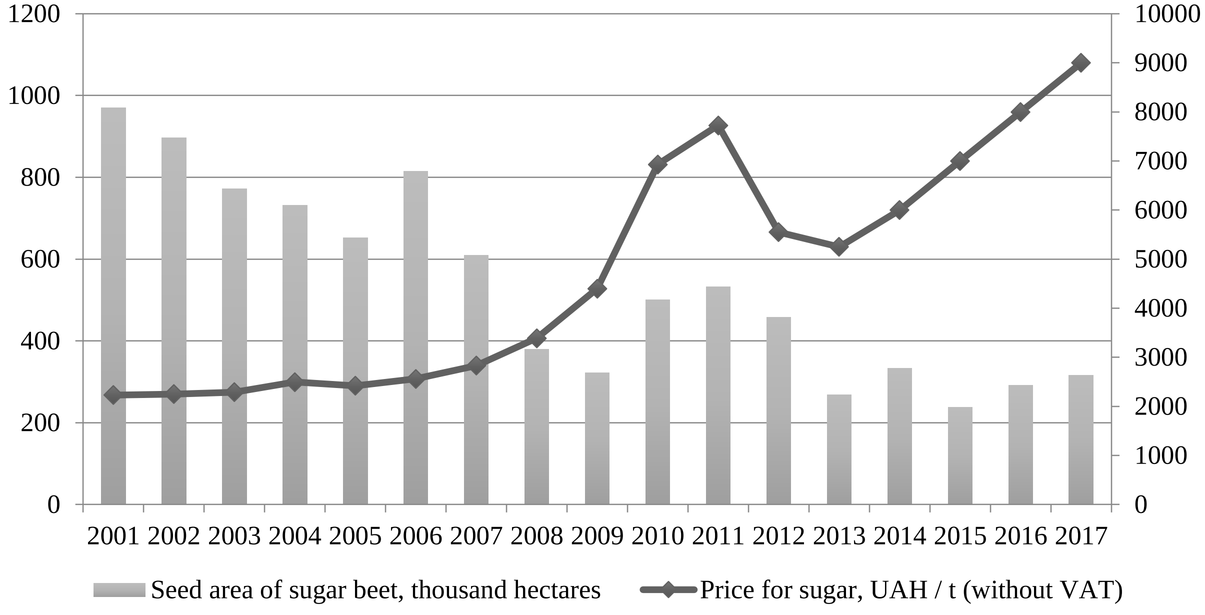


*Fig. 9.* **Volumes of acreage of sugar beet and sugar prices in Ukraine**

*Source: formed by the authors according to the data of the State Statistics Service of Ukraine [2]*

A shortage of working capital in sugar factories, the use of tolling schemes for processing sugar beet, a seasonal glut of the domestic sugar market, a fall in domestic consumer demand and limited access to foreign markets cause a decrease in the price of sugar in the domestic market in certain periods to a level that does not cover the cost of its production.

In order to ensure the stable functioning of beet sugar production, sugar in Ukraine belongs to the objects of state price regulation. Thus, for the relevant marketing year, the Ministry of Agrarian Policy and Food of Ukraine establishes minimum and maximum intervention prices. In case of non-compliance of the prices on the domestic market with the permissible limits, the Agrarian Fund of Ukraine is obliged to conduct commodity (financial) interventions (Tabl. 1).

*Table 1*

**Minimum and maximum intervention prices for beet granulated sugar in Ukraine**

| Marketing year | Minimum price, UAH / ton | Maximum price, UAH / ton |
|---|---|---|
| 2010/2011 | 7100 | 8100 |
| 2011/2012 | 7700 | 8500 |
| 2012/2013 | 6000 | 6800 |
| 2013/2014 | 5613 | 8800 |
| 2014/2015 | 7735 | 8800 |
| 2015/2016 | 10 015 | 11 028 |
| 2016/2017 | 11550 | 13200 |
| 2017/2018 | 12200 | 12200 |

*Source: Summarized by the authors on the basis of the Ministry of Agrarian Policy and Food of Ukraine*

Studies of the level of satisfaction of consumers and the country in sugar are relevant, since they allow you to analyze the state of the domestic market. To evaluate the satisfaction of physiological needs in sugar, we use the formula (2.1) [6]:

$$p = \frac{s}{n}, \qquad (2.1)$$

where p - coefficient of satisfaction of human needs in sugar;
s - annual amount of sugar consumed by one person;
n - annual rate of consumption of sugar per person.

Factors influencing the sugar market in Ukraine

- income level of the population;
- pricing policy;
- structure of consumption of food products;
- national and regional dietary habits;
- seasonality (sugar consumption increases in summer and autumn during seasonal production of canned fruits, beverages, juices, ice cream);
- the state of the national sugar balance in the current and next season, taking into account the amount of sugar in stocks, the ratio of stocks and consumption, as well as the expected level of self-sufficiency.
- Government policy on sugar (state control of domestic prices for sugar beet and sugar, state subsidies, protection of domestic producers).

*Fig. 10.* **Factors influencing the sugar market in Ukraine**
*Source: Formed by the authors on the basis of the developed literature*

In 2017 the population of Ukraine amounted to 42.5 million people [2]. In the 2017-2018 MR, the Cabinet of Ministers of Ukraine approved the quota for domestic sugar consumption at 1640 thousand tons (38.5 kg per capita). Actual consumption of sugar in Ukraine, according to the State Statistics Service of Ukraine, amounted to 1290.4 thousand tons (30.4 kg per person). The coefficient of satisfaction of the population in sugar in 2017 was:

$$p = \frac{30{,}4}{38{,}5} = 0{,}79 \quad (2.2)$$

The level of provision of the country's population with sugar should be determined by the formula [6]:

$$p_k = \frac{(Z+F+I-E)}{n*m}, \qquad (2.3)$$

where Z is a transition sugar supply;
F - sugar production;
I - sugar import;
E - export of sugar;
m - average annual population;
n - annual rate of consumption of sugar per person.

Thus, in 2017, the level of population's supply of sugar was:

$$p_k = \frac{(2048000+2046000+7000-617000)}{0{,}0385*42500000}=1{,}004 \qquad (2.4)$$

The calculations show a significant difference between the quota of sugar consumption per capita provided by the Cabinet of Ministers of Ukraine and the actual consumption volume. According to the State Statistics Service, there has been a significant decrease in sugar consumption per capita in Ukraine. This is due to several reasons, including an increase in the consumption of sugar substitutes and a decrease in the number of population (the official census in Ukraine has not been conducted since 2002). The balance of sugar in Ukraine is shown in Table 2.

*Table 2*

**Balance of sugar market in Ukraine, 2005-2017 years**

| Indicator | 2005 | 2010 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Sugar production, thousand tons | 2139 | 1805 | 1263 | 2053 | 1459 | 2021 | 2043 |
| Change in stock at the end of the year, thousand tons | 247 | 32 | -680 | 331 | -463 | 27 | 72 |
| Import, thousand tons | 177 | 90 | 11 | 7 | 4 | 5 | 7 |
| Total, thousand tons | 2069 | 1863 | 1954 | 1729 | 1926 | 1999 | 1978 |
| Export sugar resources, thousand tons | 154 | 65 | 163 | 40 | 153 | 505 | 617 |
| Spent on food, losses, thousand tons | 120 | 94 | 105 | 80 | 105 | 74 | 71 |
| Consumption Fund, thousand tons | 1795 | 1704 | 1686 | 1559 | 1528 | 1420 | 1290 |
| per 1 person, kg | 38,1 | 37,1 | 37,1 | 36,3 | 35,7 | 33,3 | 30,4 |

*Source: formed by the authors according to the data of the State Statistics Service of Ukraine [2]*

Consequently, the current situation in the sugar market in Ukraine is volatile and difficult to predict. On the one hand, the state is trying to stimulate the cultivation of sugar beet and sugar production, however, on the other - there is a problem of product sales. Limited foreign markets for sugar cause excess production on the domestic market, fluctuations in prices and decline in the efficiency of beet and sugar complex enterprises. In order to analyze the strengths and weaknesses of the internal environment, as well as the opportunities and threats of the environment, we will construct a matrix of SWOT analysis of beet sugar industry in Ukraine.

The formation of the sugar market in Ukraine should be to determine the optimum sugar beet production to ensure domestic demand for sugar and to determine the ways to effectively use surplus capacity. In order to improve the mechanism of regulated sugar market in Ukraine, a number of measures need to be implemented (Fig. 12).

Thus, for the stabilization and development of the sugar beet complex, which envisages the expansion of the acreage of sugar beet and, as a result, an increase in their production, it is first necessary to find markets for the final product. Since Ukraine does not have free access to the external sugar market, it is necessary to diversify the work of sugar factories and switch to the production of products, the sales markets of which are within the state. The dynamic development of the complex is possible only with the expansion of the domestic market due to the increase in the range of production, including the production of biofuels.

**Conclusions.** Thus, the importance of sugar beet industry is that it provides other sectors of the food industry with raw materials, and its development determines the country's food security. The activities of the confectionery, bakery, alcohol and other enterprises of the food, as well as engineering and chemical industries are closely related to the beet sugar complex.

| | Strength | Weaknesses |
|---|---|---|
| **Internal environment** | - favorable climatic conditions of most regions of Ukraine for the cultivation of sugar beets;<br>- the newest technologies of growing sugar beet;<br>- availability of a strong base of sugar factories for infrastructure maintenance;<br>- availability of sugar processing and technological base;<br>- strong management and skilled personnel;<br>- dynamic development of export infrastructure;<br>- availability of available labor. | - high energy intensity of production;<br>- imperfection of state support mechanisms;<br>- deterioration of equipment;<br>- low qualification of personnel;<br>- dependence on energy imports and the growth of their value;<br>- low amounts of funding in the technical re-equipment of the industry. |
| | **Opportunities** | **Threats** |
| **External environment** | - growth in demand for sugar;<br>- the tendency to increase world prices for sugar;<br>- job creation, especially in rural areas. | - low efficiency of agrarian policy in the field of support of beet and sugar industry;<br>- complex access to external markets of products;<br>- lack of stable sales market;<br>- significant investments in the indicated industry in the countries of competitors and other areas;<br>- high standards of quality in foreign markets. |

*Fig. 11.* **Matrix SWOT analysis of sugar beet industry in Ukraine**
*Source: Formed by authors*

Measures to stabilize beet sugar industry in Ukraine

1) to ensure the diversification of production by establishing the production of biofuels from sugar beets [3, 5];

2) to introduce state support for the development of technologies for the production of biological fuels on the technical basis of sugar and alcoholic plants;

3) to ensure legislative protection of domestic commodity producers, in particular in the conditions of the WTO;

4) принять программу развития свеклосахарного комплекса на перспективу и контролировать ее выполнение:

5) to intensify work on the expansion of sugar markets and the improvement of pricing in the domestic market

6) to stimulate the increase of the competitiveness of domestic sugar production by modernizing sugar factories, reducing energy consumptionю

*Fig. 12.* **A set of measures to stabilize the sugar beet industry in Ukraine**
*Source: Formed by the authors*

To address the priorities for the stabilization and development of agriculture, the efficiency of the functioning of the sugar beet complex is receiving special attention. Low rates of sugar beet production lead to a reduction in their acreage and reorientation to other, more economically advantageous types of crop production, followed by their export abroad. As a result, a significant part of the production capacity of the complex is not involved, which negatively affects the results of work and leads to deterioration in operation.

Reducing the economic efficiency of sugar beet production leads to a decrease in the interest of agricultural enterprises to grow this type of product. As a result, sugar production in Ukraine is falling, dependence on imports is growing, jobs are being lost, and the economic and social standard of living is deteriorating.

Stabilization of the sugar market provides for the provision of state policy to support the sugar industry should be aimed at diversifying production, reducing energy costs, expanding the domestic market for sugar, reducing sugar imports to Ukraine, strict control over the quality and volume of imports of sugar substitutes that are imported to Ukraine, establishing equal conditions of competition for domestic producers and producers from other countries, providing financial support for scientific and research work and applied research in the sugar beet industry. Further research will address the socio-economic and environmental effects from measures aimed at diversification of sugar beet processing, as well as the development of proposals to improve state support for beet and sugar industry.

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## СТАН РИНКУ ЯЄЦЬ В УКРАЇНІ ТА ПЕРЕШКОДИ ЙОГО ЕФЕКТИВНОГО РОЗВИТКУ ©

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*У статті описано стан кон'юнктури ринку яєць в Україні, конкретизовано перешкоди та важелі формування попиту на продукцію. На основі індексу Херфіндаля-Хіршмана визначено конкурентні переваги виробників, охарактеризовано цінову кон'юнктуру та надано характеристику основним тенденціям розвитку ринку яєць в Україні. Зазначено, що радикальний вплив на вектори розвитку ринку здійснюють впроваджені в інших країнах світу митні обмеження на імпорт української продукції птахівництва, девальвація гривні, попит на диференційовану продукцію птахівництва. Визначено підприємства-лідери на ринку яєць та зазначено, що галузь є певною мірою монополізованою, що свідчить про необхідність зміни методів і підходів до управління її розвитком. На основі проведених досліджень визначено напрями забезпечення конкурентоспроможності яєчного птахівництва, корегування політики ціноутворення та управлінські аспекти, які дозволять реалізувати потенційні можливості розвитку галузі українського виробника яєць на внутрішньому та зовнішньому ринках.*

**Ключові слова:** кон'юнктура ринку яєць, політика ціноутворення, виробництво, конкурентні переваги, споживач продукції птахівництва, інноваційно-модернізаційний механізм.

**Таб.: 2. Рис.: 2. Літ.: 9.**

## THE STATE OF THE EGG MARKET IN UKRAINE AND OBSTACLES TO ITS EFFECTIVE DEVELOPMENT

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*The article describes the state of the market situation for eggs in Ukraine, specifies barriers and levers of demand formation for products. Based on the Herfindahl-Hirschman index, the competitive advantages of producers are determined, the price situation is characterized, and the characteristics of the main tendencies of egg market development in Ukraine are described. It is noted that the radical influence on the vectors of market development is being implemented in other countries of the world by the*