DAIRY INDUSTRY OF UKRAINE COMPETITIVENESS ANALYSIS

Abstract. Changes of conditions in all markets results discord in the economic development between countries and their social-economic systems. This is related to the development of the agro-food market—in particular, the livestock products market; the participants of economic relations (end consumer, agro-food sector employee, and a rural community). In the economic literature, competitive advantage often equated with the ability of a company more efficiently manage available resources, which result in increased competitiveness. However, having separate competitive advantages does not automatically mean preference. Only in a combination and synergy its can have a decisive influence of choosing the best development way.

Keywords: competitiveness, dairy enterprises, effective production.

Competition determinate as a form of economic struggle enterprises for consumer preferences. At the same time, the factor of competitive advantages should be considering for any enterprise regardless of the type of organization and share of market occupied by them.

Many systematic types of research technological development, macroeconomic stability, management and marketing focused on competitiveness [6]. The main idea of competitiveness is the struggle of enterprises for the attention of consumers.

The concepts of "competitiveness of enterprises", "competitiveness of the business environment", "competitiveness of products" are connected with the competition.

In the systematic study of these concepts, a hierarchical structure is
distinguished, which sequentially includes the assessment of a product, enterprise, industry, from the point of view of their superiority over similar competing objects.

The competitiveness of an agricultural enterprise is the ability to produce competitive products, rationally combining factors of production, and provide the superiority of products over other producers in the industry within the country and abroad.

Agriculture is a key factor in the existence of human today, because it provides people with food and role in the economies of different countries is quite significant. It can be noted that the relative importance of the agricultural sector in the economy decreases as their wealth grows. Countries with a very low level of GDP per capita, the share of the agricultural sector in GDP reaches 60%, and in the richest countries - about 1%.

Thus, 31% of the population of Ukraine, constituting almost 13 million people, are included in the rural population, while in Germany, France, Italy, Poland, and other European countries, from 15% to 25% of the population live in the countryside. The share of agriculture in Ukrainian GDP has increased by 2.7 percent points during the studied period and makes 10.1% of the whole (15.7 billion $). In Germany, for example, this indicator makes 0.8%; in France, it makes 1.7; in Poland, it makes 2.4; in Italy, it makes 2.2 (2018) [4]. In 2020 share of agriculture in gross domestic product makes almost 12%, making 19.7 billion $.

The analysis of agriculture sector place and livestock industry in the country’s economy demonstrate in a table 1.

In relation to the state and weight of the livestock industry, we can observe the decrease by almost 10 percent points to 26.3%. This phenomenon is negative, as it strengthens destructive processes in the countryside, thus weakening both food and ecologic security due to decrease in socially significant food products manufacturing and decrease in the quality of soils as a result of organic fertilizer production decrease. At the same time, the share of households in livestock products manufacturing has been decreasing up to 52.5% against 61% in 2010, which is a positive trend. However, this share—more than a half—considerably restrains the livestock industry reload and prevents the spread of innovative, high-tech
production, as a consequence; we have no increase in the volume of end quality competitive (mainly by price) meat and milk products.

Table 1

Dynamics of the agriculture share in the economy of Ukraine by social and economic criteria

<table>
<thead>
<tr>
<th>Criterion</th>
<th>The Meaning of the Criterion by Years</th>
<th>Changes: 2018–2010 +, –</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rural population share in the entire population of the country, %</td>
<td>31.6 31.2 31.1 31.0 30.9</td>
<td>–0.7 p.p.</td>
</tr>
<tr>
<td>3. Share of agriculture in gross value added (GVA), %</td>
<td>8.4 11.7 14.2 12.1 11.9</td>
<td>+3.5 p.p.</td>
</tr>
<tr>
<td>5. Share of households in the production of livestock products, %</td>
<td>61.2 54.5 54.4 54.2 52.5</td>
<td>–8.7 p.p.</td>
</tr>
<tr>
<td>6. Personnel costs in livestock industry per one person per year thousand UAH (Ukrainian hryvnias)</td>
<td>21.3 40.9 49.6 56.0 73.5 95.5</td>
<td>by 4.5 times</td>
</tr>
</tbody>
</table>

Source: State statistics service of Ukraine [9].

One of the most common methods for measuring competitive advantages is the comparison of the actual prices of food and agricultural products. Results of which can serve as indicators of comparative efficiency of the production of goods by producers in various countries. Elements such as the profitability of production, level of labor productivity, strategic planning efficiency, effectiveness of agricultural unit management, ability to react rapidly to the needs and demands of agri-food market, etc. may serve as factors to help measure competitive advantages of the agri-food products [7].

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Improving the competitiveness and quality development of the agricultural sector are complementary. For effective development agriculture sector exist need to solve many problems such as: a degradation of natural life support systems, increasing differentiation among social groups. The fact that about 75% of the poorest people live in rural areas.

There is necessitates to take measures to improve life, the stable functioning of the agricultural sector. The challenge is to reduce poverty, maximize employment and increase incomes while exploiting the natural potential of the agricultural sector.

The concept of "multifunctionality of agriculture" is widely used in the scientific world. For example, FAO [3] experts in defining the role of agricultural production in world development by "multifunctionality of agriculture" understand the economic, social, environmental, cultural and political importance of agriculture (not only the production of basic food, but also the development of landscapes, maintaining a healthy environment, social development of rural communities, etc.).

The concept of “multifunctionality” of agriculture is shared mainly by economically developed countries with the highest level of public spending to support this industry (primarily member states of the European Union, Japan, Switzerland, Norway). Agriculture organizes sustainable production, preserves the natural landscape, provides clean air and water - a set of measures that is much broader than just the function of agricultural production. All these functions are associated with costs, but the producer could not include these costs in the price of agricultural products.

Also the level of financial support in Ukraine compared to economically developed countries is imperfect. This is evidenced by the complete absence of non-repayable forms of support. At the same time, for example, in Canada, the level of non-repayable public funding of the agricultural sector is 35% of the cost of production, in countries EU - 38%, in the US - up to 40%, in Sweden - 47%, in Japan - 72%, in Switzerland - 76%.

The main milk producers in the world are dairy farms, its sizes and functions recently have experienced significant changes. Technological progress has accelerated the reduction of small farms and the growth of large milk production
enterprises (from 1000 to 2000 heads). Because in large farms are an opportunity to reduce milk production unit costs and thus increase profitability.

Milk production takes place in all EU countries and represents a significant portion of the value of EU agricultural output. Total EU milk production is estimated at around 155 million tones per year. The main countries-producers are Germany, France, Poland, the Netherlands, Italy and Spain. Together they account for almost 70% of the EU production.

The EU dairy herd has been decreasing in recent years as the milk yield per cow has improved. In 2018 there were around 21 million cows in the EU, averaging 7000 kg of milk produced per cow.

Milk producers throughout the world are changing in the breed structure of cattle: there is an increase in those breeds, which are required by the market.

According to Philippidis, G.; Waschik, R. the European dairy sector is quite heterogeneous regarding size and industrial structure and very often is located in disadvantaged regions. The profitability and income levels of specialized dairy farms differ significantly, not just between member states but also within them use of advanced technology to be a key factor in achieving a higher yield per cow, it influences the total factor productivity change [5].

Stability and increase in milk production in foreign countries in the last 10 years was ensured by state support of dairy farm incomes due to import restrictions, subsidized purchases of surplus dairy products, high levels of domestic prices for dairy products. As a result, many countries with uncompetitive dairy production have achieved full self-sufficiency in dairy products. In many countries, quotas have been introduced for milk production, which affects the formation of international prices. The "Milk Package" introduced in 2012 was a series of instruments to improve the supply chain in the dairy sector and to increase its resilience following the end of the quota system in 2015.

Written contracts between milk producers and processors EU countries can make written contracts between farmers and processors compulsory and oblige milk purchasers to offer a minimum contract duration to farmers. The contracts should be made in advance of delivery and contain specific elements such as price, volume,
duration, details concerning payment, collection and rules for force majeure. All these elements should be freely negotiated between the parties and farmers may refuse an offer of minimum duration in contracts.

Collective negotiation through producer organization farmers can join together in producer organisations that can negotiate contracts terms collectively (within certain quantitative limits so as not to distort competition), including the price of raw milk.

The strong EU milk collection growth observed until April 2020, resulting in a 0.7% overall increase. This is riven by increasing yields and further dairy herd decline. EU butter and SMP prices suffered declining trends during Covid-19 outbreak, but this trend was reversed recently and prices remain well-above intervention levels. Cheese prices are stable. Retail sales of EU dairy products remain high. Nevertheless, this is expected to not fully compensate for the losses in foodservice, in particular for cheese and fresh dairy products.

The EU is competitive in global markets for SMP, WMP and butter. This is expected to allow for a significant increase of butter exports, sustained WMP flows and SMP exports at levels similar to 2018 despite lower initial availabilities compared to previous years [2].

Over the 30 years of Ukrainian independence the structure of agricultural production has changed significantly. Since 1991, each subsequent decade, the numbers of livestock has been declining. So, in 2000 it was 8.5 mln. of cows and in 2020 – only 1.7 million of head. It is worth note that in the 1990s, 6.3 million heads kept on agricultural enterprises, and 2.2 million kept on households.

In 2020, agricultural enterprises hold 0.4 million heads, and on family farms - 1.3 million cows. The catastrophic situation is especially when compare milk production in the 90s to nowadays.

Agricultural enterprises that keep 24, % of dairy cows and produce 26% of total milk is small but perspective branch. Raw milk production in Ukraine continues to be concentrated mainly in households. Milk production: in 1990 - 24.5 million tonnes (dairy farms - 18.6; households - 5.9 million tonnes). In 2020 - dairy farms - 2.7; households - 7.1 million tonnes (Figure 1). Such situation led to quality
problems and reduced procurement price. Supply of milk from households is very
difficult to control: milk production is very seasonal with a significant production
reduction during winter and peak during spring-summer months. It also has rather
high real production cost in comparison to industrial farms. Milk collection, cooling
and transportation generate additional problems [1].

![Graph showing milk production and number of cows from 1990 to 2020]

Fig. 1. General position in dairy industry of Ukraine [1]

In general, the milk consumption does not correspond to the defined standard
(380 kg per capita per year). Most of Ukrainians consume only 150-170 kg of milk
and dairy products per year [10].

<table>
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<tr>
<th>RAW MATERIAL AREA</th>
<th>1990</th>
<th>2003</th>
<th>2020</th>
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<tbody>
<tr>
<td>Dairy processors, units</td>
<td>643</td>
<td>441</td>
<td>192</td>
</tr>
<tr>
<td>Milk production, mln. tonnes</td>
<td>24.5</td>
<td>13.7</td>
<td>9.8</td>
</tr>
<tr>
<td>Supply total, mln. tonnes</td>
<td>18</td>
<td>4.5</td>
<td>3.8</td>
</tr>
<tr>
<td>Raw milk, thsd tonnes</td>
<td>6430</td>
<td>1230</td>
<td>1010</td>
</tr>
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<tr>
<th>DAIRY PRODUCTION</th>
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<tbody>
<tr>
<td>Butter, thsd tonnes</td>
<td>441.1</td>
<td>145.3</td>
<td>89.2</td>
</tr>
<tr>
<td>Fat cheeses, thsd tonnes</td>
<td>183.8</td>
<td>167.8</td>
<td>128.6</td>
</tr>
<tr>
<td>Skim milk powder, thsd tonnes</td>
<td>61.1</td>
<td>19.8</td>
<td>34.1</td>
</tr>
<tr>
<td>Condensed milk, thsd tonnes</td>
<td>166</td>
<td>101.4</td>
<td>74.5</td>
</tr>
<tr>
<td>Milk consumption per capita, kg</td>
<td>373</td>
<td>220</td>
<td>221</td>
</tr>
</tbody>
</table>

Source: State statistics service of Ukraine [8].

– milk processing - 3.8 million tonnes, through suppliers
– milk used in dairy products (drinking milk, fermented products, fresh sour
cheese) - 1.1 million tonnes (in the 90s there were 6.4 million tonnes),
   – butter - 89, 2 thousand tonnes (we must remember that the statistics are doubled, because large companies often buy products from small businesses and repacked under their own brand),
   – fat cheese - 128.6 thousand tonnes
   – skim milk powder - 34.1 thousand tonnes
   – condensed milk - 74.5 thousand tonnes per capita milk consumption has also almost halved to 1990 (Table 2).

 Europe countries have surplus (balance) of milk in 2020 about 15-18 million tonnes. For 2025-26 surpluses of milk are projected at the level of 30 million tonnes. Poland - 2.5 million tonnes of milk (projected - 4 million tonnes in 2025). Ukraine has a milk deficit of 1 million tonnes.

 Since last year, in terms of money, imports have already been dominated by exports as Ukraine sells mainly inexpensive milk-containing products or dry goods, but imports expensive cheeses.

 For example, in the first half of the year, dairy products worth almost 150 million dollars. Share of European cheese in Ukrainian market is now quite significant about 35%, this creates a huge competition for domestic cheese makers. Although, in the first half of a year the share of imported fresh dairy products in total sales structure is about 3%. In this case, it does not pose a big threat to Ukrainian producers. According to Infagro estimates.

 In Ukraine 77% of dairy cows are keeping in the households and 23% in agricultural enterprises. The majority of households have problems with getting capital (financing, loans) for developing which makes milk production unfavorable [1].

 In the articl highlight the main trends in dairy production in agricultural enterprises. Among the different groups of milk producers, singled out the farms of size with 500 and more cows, which systematically increase production potential and show high rates of economic efficiency.

 Analyzing development of the dairy industry in developed countries has shown: - in connection with the intensification of livestock, increasing the milk
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productivity of cows and their numerical reductions in many countries, along with dairy, specialized meat cattle breeding is being developed;

– there are structural changes in the number of breed composition of livestock, increasing the proportion of breeds with higher milk productivity and production efficiency;

– there is a continuous process of intensification of animal husbandry. The increase in gross production of milk and meat products is mainly due to increased productivity of animals, which stabilizes or increases the profitability of farms;

– in animal husbandry there is a steady tendency to deepen specialization and increase the concentration of production, due to the level of profit, which increases as the size of farms and production in general.

– the development of animal husbandry in foreign countries is on an industrial basis, ie on the basis of integrated mechanization and automation of production, the widespread use of PCs, which provides differentiated feeding and keeping of animals.

– state regulation of the development of livestock industries is carried out by economic methods: increase in dairy production is achieved as a result of state measures to support farmers’ incomes (subsidies, government procurement at guaranteed prices, quotas, import restrictions).

The experience of state support of agricultural producers abroad, the mechanism of credit and tax policy, which should be paid attention to, is important.

The analysis showed that breaking up large production into small farms in Ukraine, reducing the intensity of land and animal use is contrary to the laws of efficient production in market conditions, as they could not compete with large production in milk production efficiency.

A major challenge for the sector is how to improve its profitability. Increasing the profitability of the sector can also be possible due changing the dairy production technology.

Improve the competitiveness by improving the efficiency of resources, introducing new technologies and improved practices.
Strengthening cooperation of the households due to a state agency, the objectives of which will be: by legal assistance in the form of consultations to cooperating organizations; the elaboration of economic projects that can be implemented on these cooperative principles.

Financial support of the farmers by paying subsidies to them depending on the area of the farming land and livestock number.

Boosting export potential of the national producers of agricultural products by way of: extension of the commodity structure of the dairy products export; assistance in the development and introduction of quality management systems based on the principles of ISO 9000, food safety management systems (HACCP) and environment protection systems based on the principles of ISO 14000.

National milk price has long been correlated with the world milk price. The quality of milk remains one of the main problems facing the dairy sector.

References:
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