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## Features of food market formation in Ukraine

**Summary.** The article examines the peculiarities of the formation of the food market of Ukraine and trends in its development. The actual capacity of the domestic market for certain products has been determined, taking into account the decrease in the average per capita consumption of certain food products by the population and the reduction in the population of Ukraine. It is established that the growth of gross output of agricultural products has improved the level of self-sufficiency in food in Ukraine. Meeting the needs of the population in food, within its purchasing power, is almost entirely provided by domestic products, except fruits, berries, and grapes. The level and dynamics of import dependence of the food market as a whole and in the context of individual product groups are determined.

**Key words:** food market, food products, self-sufficiency, export, import

### Introduction


In the conditions of a sharp rise in food prices and a decrease in the purchasing power of the population, the problems of the development of the domestic food market become extremely important, as its condition determines the food security of the country.

The food market belongs to the resource type of markets. This is the only market of its kind, which has not only great economic but, above all, social significance. The peculiarity of the food market is its dependence on living standards, its solvency, as well as on factors influencing agricultural production: seasonality, dependence on climatic conditions, a combination of economic and natural laws, increasing **intersectoral imbalances**, and destruction of logistics.

### Methodology

The most important elements of the food market are demand, supply, market price, and competition, which characterize market conditions. In this case, the demand for food products is not determined by demand at all but is based on the availability of appropriate financial resources of effective demand. Solvent demand in

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the food market expresses the aggregate demand for marketable products at a given level of market prices for food and raw materials and is determined based on the analysis of the dynamics of volumes and structure of marketable products and the average price level.

The productive potential of the food market must be balanced with the consumer potential, which is determined by the ability of the population to purchase a certain amount of food. Consumer potential is characterized by indicators of market capacity.

Assessing the actual capacity of the domestic food market, as well as the possible capacity to ensure minimum and rational consumption rates, allows you to assess the potential of the food market, to identify internal reserves for investment. The low purchasing power of the population causes the low capacity of the domestic food market, and its high vulnerability to even minor changes in retail food prices<sup>1</sup>. The indicator of domestic market capacity is calculated as the product of average annual per capita consumption of a particular product and the average annual population and is an important element for compiling supply and demand balances by type of product and assessing the country's food independence<sup>2</sup>.

B.V. Egorov and K.B. Kozak<sup>3</sup> characterize the capacity of the food market as a set of food products on the market for a certain period of time. The main factors influencing the capacity of the market, according to their definition are sales of goods, the number of enterprises operating in the market as sellers and trade intermediaries, as well as their size.

Based on the analysis of information and analytical data obtained, calculate the real capacity of the food market as the sum of indicators of production, imports, balances in the trade network and created state stocks, excluding exports:

$$\epsilon = Opr + Oim + Ol.f. + Os.r. - Oe^4, \quad (1),$$

where:

$\epsilon$  – real capacity of the food market;

$Opr$  – the volume of domestic food production;

$Oim$  – the volume of imports of products;

$Ol.f.$  – the amount of food leftovers in the retail network;

$Os.r.$  – the amount of available state reserves;

$Oe$  – the volume of food exports.

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<sup>1</sup> С.В. Щербина: Методологічні аспекти аналізу індикаторів продовольчої безпеки України. „Статистика України” 2014, no 3, p.63-68, [http://194.44.12.92:8080/jspui/bitstream/123456789/1172/1/6368\\_3%272014%2866%29\\_Shcherbyna.pdf](http://194.44.12.92:8080/jspui/bitstream/123456789/1172/1/6368_3%272014%2866%29_Shcherbyna.pdf), access: 12.10.2021.

<sup>2</sup> М. Бургій, І. Клименко, І. Ус: Спільна аграрна політика Європейського Союзу: можливості та виклики для України. К.: НІСД, 2011, 19 с.

<sup>3</sup> Б.В. Егоров, К.Б. Козак: Визначення ємності регіонального продовольчого ринку. Інвестиції: практика та досвід. 2014, no 15, p. 49-51, [http://nbuv.gov.ua/UJRN/ipd\\_2014\\_15\\_12](http://nbuv.gov.ua/UJRN/ipd_2014_15_12), access: 12.10.2021.

<sup>4</sup> *Ibidem*, access: 12.10.2021.

In addition to determining the actual capacity of the market, the study provides the possibility of calculating the potential capacity. Potential capacity – the maximum possible sales volume, based on a certain set of potential consumers who buy food, in accordance with physiological norms of consumption. However, the potential capacity of the food market cannot be achieved, given the existing constraints on the part of consumers: household incomes, financial constraints, limited consumption, traditions, preferences, and so on.

The domestic market is formed taking into account export, and import flows. V.K. Olefir notes that in the process of integration into world economic relations, Ukraine's economy has faced several problems. One of these problems has been excessive import dependence, which emerged in the 1990 and remains significant to this day. High dependence on imports hinders the sustainable development of the economy and makes it dependent on external conditions. The dominance of imports hinders the development of domestic production, stimulates the flow of resources from production to trade. Competitive industries can withstand competitive pressure from imports, and non-competitive ones are forced to give up their share of the domestic market. The spread of imports in the domestic market is also due to the unfavorable investment climate and imperfect system of protection of domestic producers<sup>5</sup>.

### Research results

The main direction of development of the food market of Ukraine is the orientation on the satisfaction of needs of consumers with production of domestic production of high quality and at reasonable prices.

The economic features of the food market, as a single integrated system, are:

- a significant number of market participants, none of which has a dominant position and does not have a decisive share in the structure of production and the market;
- the barrier to entering the number of market participants and in the field of production of new producers is quite low;
- most types of products circulating on the market are relatively standard;
- territorial differences within the country for most products are weak, but the industry is characterized by a significant influence of competitors at the national and international levels;
- the constant existence of consumer demand for products (especially for the main types of food) and its inelastic nature. Food prices are overly elastic to changes in supply. However, in terms of declining incomes, the level of consumption of most products decreases, especially the most expensive, which leads to significant fluctuations in food production and bringing its value to the level of effective demand;
- the significant impact of demand on price movements, which leads to partial fluctuations in market conditions depending on short-term changes in supply and demand:

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<sup>5</sup> В.К. Олєфір: Оцінка імпортозалежності ринку продовольчих товарів України. Економіка і Прогнозування 2016, no 4, p. 91-105, [http://nbuv.gov.ua/UJRN/econprog\\_2016\\_4\\_8](http://nbuv.gov.ua/UJRN/econprog_2016_4_8), access: 12.10.2021.

when demand decreases, prices fall more than production, and when demand expands, production increases faster than rising prices<sup>6</sup>.

The analysis of the production and consumption of the main types of food products allows us to determine the capacity of the main food markets, including the markets of sugar, oil, meat and meat products, milk and dairy products, bread and bakery products, fruits and berries etc.

The calculation of market capacity based on consumption norms of a particular product is used mainly for food products, raw materials, and consumables. The basis for the calculations is the annual consumption rates per capita and the total population.

In Ukraine, there is a tendency to reduce the consumption of certain foods by the population. Thus, the decrease in per capita consumption leads to a reduction in the capacity of the domestic market (Table 1).

Compared to 2015, in 2019 there was a change in the actual capacity of the domestic market for most food groups. It is noteworthy that there was an increase in consumer demand in 2019 compared to 2015 for those foods whose consumption lags behind the rational norms (meat and meat products, fruits and berries, and eggs).

**Table 1.** Assessment of the capacity of the domestic market of Ukraine for individual products, thousand tons

| Product                    | 2015 | 2016 | 2017 | 2018 | 2019 | 2019 to 2015;<br>+, - |
|----------------------------|------|------|------|------|------|-----------------------|
| Grain and grain products   | 5897 | 5745 | 5655 | 5610 | 5470 | -427                  |
| Potato                     | 5892 | 5966 | 6091 | 5893 | 5705 | -187                  |
| Vegetables and melons      | 6890 | 6984 | 6783 | 6927 | 6924 | +34                   |
| Fruits, berries and grapes | 2179 | 2119 | 2242 | 2445 | 2469 | +290                  |
| Sugar                      | 1528 | 1420 | 1290 | 1260 | 1212 | -316                  |
| Oil                        | 525  | 497  | 496  | 501  | 504  | -21                   |
| Meat and meat products     | 2179 | 2195 | 2195 | 2232 | 2252 | +73                   |
| Milk and dairy products    | 8995 | 8942 | 8496 | 8355 | 8428 | -567                  |
| Eggs*                      | 694  | 659  | 670  | 671  | 683  | +11                   |

\*for recalculation the average weight of one egg – 57,75 g is taken

Source: calculated by the author according to the data **Agriculture of Ukraine 2019: Statistical Yearbook**. State Statistics Service of Ukraine, 2020, [http://www.ukrstat.gov.ua/druk/publicat/kat\\_u/2020/zb/09/zs\\_sg\\_Ukr\\_2019.pdf](http://www.ukrstat.gov.ua/druk/publicat/kat_u/2020/zb/09/zs_sg_Ukr_2019.pdf), access: 12.10.2021.

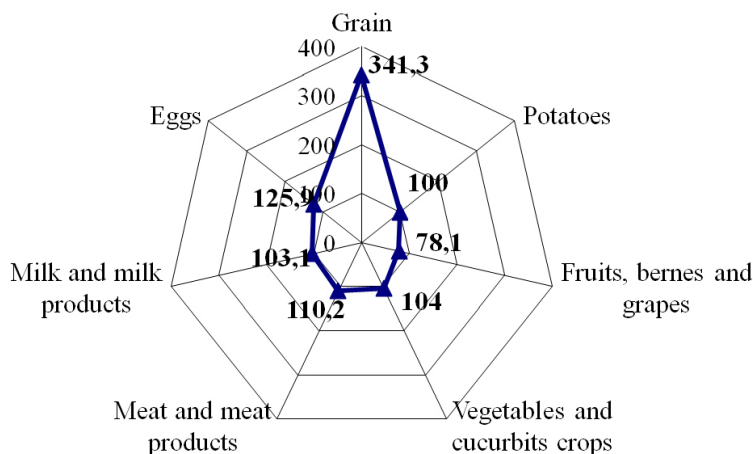
Compared to 2015, in 2019 there was a change in the actual capacity of the domestic market for most food groups. It is noteworthy that there was an increase in consumer demand in 2019 compared to 2015 for those foods whose consumption lags behind the rational norms (meat and meat products, fruits and berries, and eggs). At the

<sup>6</sup> В.К. Олефір: Оцінка імпортозалежності ринку..., op. cit., p. 91-105, [http://nbuv.gov.ua/UJRN/econprog\\_2016\\_4\\_8](http://nbuv.gov.ua/UJRN/econprog_2016_4_8), access: 12.10.2021.

same time, the decrease in per capita consumption and the reduction of the population of Ukraine (on January 1, 2020, the permanent population of Ukraine was 41,732.8 thousand people, which is 1,027.7 thousand people less than on January 1, 2016<sup>7</sup>) led to a reduction in the capacity of the domestic market in 2019 compared to 2015 for such product groups as grain, potatoes, sugar and milk and dairy products.

The main task of the state in solving the problem of providing the population with food is primarily to maximize the use of domestic production potential and reduce import dependence on certain types of food. Filling the national food market with goods of own production, due to the state and development of the agricultural sector and food and processing industries<sup>8</sup>.

The growth of gross production of agricultural products has improved the level of self-sufficiency in food in Ukraine<sup>9</sup>, which is determined by the ratio of production of a particular product and its domestic use in the country (Fig. 1).



**Figure 1.** Self-sufficiency by main food-stuffs of 2019 [%]

Source: made by the author based on the data *Agriculture of Ukraine 2019: Statistical Yearbook*. State Statistics Service of Ukraine, 2020, [http://www.ukrstat.gov.ua/druk/publicat/kat\\_u/2020/zb/09/zb\\_sg\\_Ukr\\_2019.pdf](http://www.ukrstat.gov.ua/druk/publicat/kat_u/2020/zb/09/zb_sg_Ukr_2019.pdf), access: 12.10.2021.

In 2019, meeting the needs of the population in food, within its purchasing power, is almost entirely provided by domestic products, except for fruits and berries. The level of self-sufficiency for fruits, berries, and grapes is not sufficient - 78.1%, i.e. Ukraine is

<sup>7</sup> Demographic Yearbook Population of Ukraine for 2019. State Statistics Service of Ukraine. 2020, p. 22, [http://www.ukrstat.gov.ua/druk/publicat/kat\\_u/2020/zb/10/zb\\_nas\\_2019.pdf](http://www.ukrstat.gov.ua/druk/publicat/kat_u/2020/zb/10/zb_nas_2019.pdf), access: 25.09.2021.

<sup>8</sup> Н.О. Бленда: Оцінка сучасного стану продовольчого ринку України. Вісник ХНАУ ім. В.В. Докучаєва. Серія „Економічні науки” 2019, по 4(2), р. 147-155.

<sup>9</sup> Н.О. Бленда: Сучасний стан та розвиток продовольчого комплексу України. Вісник ХНАУ. Серія „Економічні науки” 2018, по 1, р. 71-82.

forced to import goods from this food group. The negative balance on fruits, berries, and grapes was formed in 2014 – together with the annexation of Crimea, Ukraine lost 20% of grape production. By the way, the contribution of Crimea to the national grain production was small – within 5%. The most significant loss in rice production, as more than 60% of this crop was located on the peninsula. However, this market in Ukraine has always been import dependent – domestic production covered a maximum of one-fifth of demand<sup>10</sup>.

The production potential of the agricultural sector of Ukraine significantly exceeds the needs of the domestic market, which on the one hand should promote the development of the national economy and increase export opportunities, and on the other – increase farmers' incomes and ensure synergies with other sectors of the national economy<sup>11</sup>.

The total amount of exports to Ukraine in 2019 increased to 50054.6 million US dollars, we note an increase of 5.7% compared to the previous 2018. Along with the growth of revenue from export transactions, we note an increase in imports of goods in 2019 by 6.3% compared to 2018 to the amount of 60,800.2 million USD. At the same time, the negative balance on exports and imports of goods increased in 2019 to 10,745.6 million USD. In 2019, 22144.2 million US dollars – 44.2% of the total amount of foreign exchange earnings from exports of goods received from exports of agricultural products and the food industry, which is the highest figure in recent years. Imports of agricultural products and the food industry in 2019 amounted to 5,736.0 billion. USD, which in the overall structure of imports is 9.4%, while we note increased compared to 2018 by 680.6 million USD or by 13.5%<sup>12</sup>.

The formation of the domestic food market, in addition to gross domestic production, depends on exports and imports of certain groups of food products (Table 2).

Analysis of the dynamics of export-import operations with food products showed that exports of some agricultural products have a rapid upward trend. Thus, grain exports increased by 19587 thousand tons in 2019. compared to 2015, and oil exports increased by 2391 thousand tons over the same period. Along with the increase in exports, imports of some types of products are also growing. Thus, in 2019, fruit imports increased by 464 thousand tons to 1,052 thousand tons compared to import in 2015. We also see a significant increase in imports of potatoes, vegetables, and milk and dairy products.

The growth of imports of milk and dairy products is taking place against the background of a significant decrease in exports of this type of product, which is determined by a significant reduction in milk production in Ukraine. Meeting the needs of the popula-

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<sup>10</sup> Т.Т. Ковальчук, В.К. Черняк, В.Я. Шевчук: Актуалітети політики розвитку. Знання, Київ 2009, р. 131.

<sup>11</sup> Н.О. Бленда: Сучасний стан та розвиток..., *op. cit.*, p. 71-82.

<sup>12</sup> Ukraine's foreign trade in goods and services in 2019, <https://www.me.gov.ua/Documents/Detail?lang=uk-UA&id=30d3074d-6882-4aacbc4ff4af8a30b221&title=DovidkazovnishniaTorgivliaUkrainiTovaramiTaPoslugamiU2019-Rotsi>, access: 12.10.2021.

**Table 2.** Dynamics of export-import by individual groups food products, thousand tons

| Product                    | 2015   |        | 2016   |        | 2015   |        | 2016   |        | 2019 p |        | 2019 to 2015; +, - |        |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|--------|
|                            | export | import | export | import | export | import | export | import | export | import | export             | import |
| Grain and grain products   | 38 338 | 190    | 38 338 | 190    | 42 499 | 255    | 42 940 | 280    | 57 925 | 291    | 19 587             | 101    |
| Potato                     | 15     | 17     | 15     | 17     | 18     | 24     | 22     | 28     | 6      | 278    | -9                 | 261    |
| Vegetables and melons      | 212    | 95     | 212    | 95     | 444    | 129    | 434    | 188    | 284    | 313    | 72                 | 218    |
| Fruits, berries and grapes | 324    | 588    | 324    | 588    | 291    | 819    | 331    | 878    | 433    | 1052   | 109                | 464    |
| Sugar                      | 153    | 4      | 153    | 4      | 617    | 7      | 594    | 3      | 248    | 4      | 95                 | -      |
| Oil                        | 4 253  | 160    | 4 253  | 160    | 5 988  | 239    | 5 986  | 259    | 6 644  | 250    | 2 391              | 90     |
| Meat and meat products     | 245    | 158    | 245    | 158    | 351    | 233    | 399    | 283    | 487    | 261    | 242                | 103    |
| Milk and dairy products    | 464    | 78     | 464    | 78     | 835    | 132    | 807    | 180    | 593    | 337    | 129                | 259    |
| Eggs*                      | 126    | 11     | 126    | 11     | 155    | 7      | 186    | 4      | 198    | 5      | 72                 | -6     |

\*for recalculation the average weight of one egg – 57,75 g is taken

Source: calculated by the author according to the data Agriculture of Ukraine 2019: Statistical Yearbook. State Statistics Service of Ukraine, 2020, [http://www.ukrstat.gov.ua/druk/publicat/kat\\_u/2020/zb/09/zb\\_sg\\_Ukr\\_2019.pdf](http://www.ukrstat.gov.ua/druk/publicat/kat_u/2020/zb/09/zb_sg_Ukr_2019.pdf), access: 12.10.2021.

**Table 3.** Percentage of import dependence of the domestic market of Ukraine on certain types of products [%]

| Product                    | 2015                     | 2016 | 2017 | 2018 | 2019 | 2019 +, - to 2015 |
|----------------------------|--------------------------|------|------|------|------|-------------------|
|                            | Grain and grain products | 3,2  | 4,2  | 4,5  | 5,0  | 5,3               |
| Potato                     | 0,3                      | 0,5  | 0,4  | 0,5  | 4,9  | +4,6              |
| Vegetables and melons      | 1,4                      | 1,9  | 1,9  | 2,7  | 4,5  | +3,1              |
| Fruits, berries and grapes | 37,0                     | 34,5 | 36,5 | 35,9 | 42,6 | +5,6              |
| Sugar                      | 0,3                      | 0,4  | 0,5  | 0,2  | 0,3  | -                 |
| Oil                        | 30,5                     | 44,1 | 48,2 | 51,7 | 49,6 | +19,1             |
| Meat and meat products     | 7,3                      | 8,3  | 10,6 | 12,7 | 11,6 | +4,3              |
| Milk and dairy products    | 0,9                      | 1,1  | 1,6  | 2,2  | 4,0  | +3,1              |
| Eggs*                      | 1,6                      | 0,8  | 1,0  | 0,6  | 0,7  | -0,9              |

\*for recalculation the average weight of one egg – 57,75 g is taken

Source: calculated by the author according to the data Agriculture of Ukraine 2019: Statistical Yearbook. State Statistics Service of Ukraine, 2020, [http://www.ukrstat.gov.ua/druk/publicat/kat\\_u/2020/zb/09/zb\\_sg\\_Ukr\\_2019.pdf](http://www.ukrstat.gov.ua/druk/publicat/kat_u/2020/zb/09/zb_sg_Ukr_2019.pdf), access: 12.10.2021.

tion in food within its purchasing power in 2019, as in previous years, was carried out mainly through domestic products.

The calculation of import dependence of certain types of products is shown in Table 3.

The study shows that the domestic market depends on the purchase of agricultural and food products in other countries to meet domestic needs. First of all, it is fruits, berries, and grapes (the share of imports in these groups in total consumption is very high in 2019 is 42.6% with a 30 percent threshold), oils other than sunflower (the share of imports – 49.6%) and meat and meat products (share of imports – 11.6%). In part, a significant percentage of imports of fruits, berries, and oil is determined by the import into Ukraine of products that are not produced in our natural and climatic conditions: tropical fruits, olive oil etc.

However, the import of such product groups as grain, potatoes and vegetables can be considered economically unreasonable given the existing resource potential of the country. Provided that the production of these types of agricultural products is adjusted to the required volumes, Ukraine can guarantee its food security.

## Conclusions

Despite the growth of gross output in the agricultural sector and the improvement of food self-sufficiency, the problem of food security is still unresolved. The development of the food market and the economy in general is constrained by the mismatch between the levels of production and consumption of food, and the low purchasing power of the population.

The modern food market - an economic system in which the market mechanism – price, demand, supply – is the main means of coordination in the production of goods and their distribution among consumers. However, the food market is imperfect, the demand for food is not met by increasing production but is formed in conditions of low solvency of the population, the actual consumption of food does not reach the level of rational physiological norms.

In this period, the volume of production and the structure of supply in the market is determined by the purchasing power of the population, with a significant deviation of the qualitative structure of the food market from the optimal consumption rates. Effective development of the food market, which will ensure the balance of supply and demand and meet the needs of the population in quality food should take place by combining the laws of a market economy, appropriate public administration, and improving living standards.

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