
EVALUATION OF FOOD MARKET DEVELOPMENT ON THE REGIONAL LEVEL

Estimation of food market at the regional level is made. The decisive factors of the demand formation in the food market in the state is proved.

Keywords: agriculture, food security, food market, food products, formation of demand.

Замикула І. В. Оцінка розвитку продовольчого ринку на регіональному рівні

Надано оцінку розвитку продовольчого ринку на регіональному рівні. Обґрунтовано визначальні чинники формування попиту на продовольчому ринку в державі.

Ключові слова: галузь сільського господарства, продовольча безпека, продовольчий ринок, продовольчі товари, формування попиту.

Замикула І. В. Оценка развития продовольственного рынка на региональном уровне

Дана оценка развития продовольственного рынка на региональном уровне. Обоснованы определяющие факторы формирования спроса на продовольственном рынке в государстве.

Ключевые слова: отрасль сельского хозяйства, продовольственная безопасность, продовольственный рынок, продовольственные товары, формирования спроса.

Introduction

The basis of balanced human nutrition is the consumption of meat. The problem of proper provision of population of this product is extremely urgent, and, above all because meat is the main source of protein, fat, etc.

Meat sub complex provides the need of the population in meat and its processing products. The basis for its establishment is field of livestock that produces meat. Meat sub complex's positive work in general depends on the efficiency of their operation.

Unfortunately, stockbreeding of Ukraine has been a backward and low profitable sector of agriculture for many years. It is caused by a significant reduction in livestock and poultry, high production costs, disparity in prices for industrial and agricultural products, disparity in wages of workers in these industries, monopoly of processing and trading business enterprises, inadequate credit and fiscal mechanisms of the state. The level of purchasing prices does not lead to even simple reproduction. The discrepancy appears in the ratio of purchasing prices for agricultural raw materials and sales prices, retail prices for processed products. As for purchase capacity of population, Ukraine has developed socio-economic situation that led to the reduction of solvency's level and, therefore, to the consumption volumes of meat and its processed products.

Analysis of recent research

On the relevance of public policy problems of food supply indicate numerous theoretical studies

and synthesis of both domestic and foreign scientists, including works of A. I. Altukhov, V. Y. Ambrosov, Y. D. Bilyk, V. I. Boyko, O. I. Datsiy, S. M. Kvasha, M. H. Koretsky, A. S. Lisetsky, I. I. Lukinova, P. M. Makarenko, V. V. Maslakov, L. Y. Melnik, V. M. Oliynyk, B.I. Paskhaver, E. E. Rumyantseva, P. T. Sabluk, I. N. Topiha, V. A. Tochylina, M. Y. Khorunzhiy, Y. S. Khromov, G. V. Cherevko, A. M. Shpychak, V. V. Yurchyshyn. Besides, scholarly works of scientists dealing with food security should be mentioned such as I. Y. Bogdanov, V. M. Geyts, B. V. Gubsky, Y. A. Zhalilo, V. I. Muntian, S. I. Pyrozhkov, V. Senchahova and others.

Statement of research objectives

– to provide assessment of the food market development on the regional level;

– to justify the decisive factors for the demand formation in the food market on the state's level.

Results

Neither today, nor in the nearest future regions will have the opportunity to meet the needs of Ukrainians in meat products only at the expense of domestic meat producers. Therefore, they are forced to allow the import of meat and meat products. Thus, today the government firstly has to put all its effort in getting agricultural enterprises out of the crisis; in the development and expansion of cattle; in the restoration of animal herds and in increasing production levels; and in state regulation of imports and exports of meat and meat products.

This will allow in the long term to increase production volumes and consumption patterns as a whole and as per capita.

The main strategic objective for market of milk and milk products, eggs and other livestock products is the expansion of the boundaries of existing market and finding new opportunities for export of production.

Formation of demand for milk and milk products is influenced by many factors. They, in our opinion, can be brought to the following groups: economic, demographic and marketing ones. With regard to economic factors, the leading ones in this group are an effective demand of the population and price of product unit realization. Demographic factors include population, its age, habits, tastes and preferences, place of residence. Marketing factors analyze the profile of the proposed product. These include primarily the quality of products, consumer characteristics, and purpose of products and methods of their use. In recent years a significant factor of demand change is an organization of advertising appeals.

The determining factor in the demand formation in the food market is purchasing power of population, which has decreased sharply in recent years. In turn it negatively affected the level of demand and thus narrowed the domestic market capacity. At the same time restraining factor of purchasing power of the population is a high level of retail prices for food products. So the challenge of the price formation steps out as one of the central in marketing activities of each subject of the market and is the defining condition for the formation of supply and demand in the market [6, p. 93].

Essential role increasingly beginning to play a so-called «beneficial products» with a long shelf life, functionality of packages applied, and the possibility of consumption in any conditions. These deep-processed products do not require significant labor costs and time in the process of preparation for consumption. In this group there are also much of dairy products. «Profitable products» win not only in view of the consumers' demands, but also in view of market services offered.

In the production of «beneficial products» price, quality and benefits act as integrated elements of the product that is a market product. All of that ultimately helps to reduce production costs and sales costs [4].

Consumption of milk, as well as other foods besides physiological needs depends on two groups of factors: economic and not economic. Economic

factors are, above all, the market price on food and income of the population. Not economic factors are also very important, in particular preferences and tastes of consumers and other factors.

Calculated based on average data rate of demand elasticity's price is traditionally determined by the ratio of changes in consumption to changes in commodity price. It is negative and equals 0.45. So we can assume that milk and dairy products are little elastic goods, since the coefficient of elasticity is in the range from 0 to -1. This means that every change in price leads to a proportionally smaller change in quantity demand [5, p. 83].

Mutual influence of supply and demand, as it is noted by V. G. Andriychuk, determines the state of market equilibrium. However, their action has opposite directions. «The limited consumption affects the production volumes and limited production affects consumption volumes. In Ukraine, namely consumption is now the main limiting factor for food production. The sharp limitation of purchase capacity of Ukrainian population made even the consumption of basic food products sensitive to the level of prices on them». [1]

The impact of income on demand for dairy products is best assessed on the basis of the coefficient of income elasticity of demand. Overall rate of profitable elasticity of demand for milk and its derivatives is low, but is significantly different for different products. The lowest coefficient of elasticity is characteristic of fresh milk. Higher is revenue elasticity of different types of cheese, especially with taste additions. With increasing household incomes exactly on those dairy products the demand will increase.

Low purchasing power of population as a result of low level of income leads to increasing demand for basic products – food products. In this respect, Ukraine belongs to the «poor» countries (the countries where the spending on food is over 50 % of income). Total or cash costs are best correlated with income. Therefore, the attempt is made to assess their impact on the consumption level of milk and dairy products in different population groups.

1. There is a tendency to equalize the level of consumption of milk and dairy products in different groups depending on income, but it is quite slow.

2. Milk consumption is increasing in all groups (with few exceptions of the fourth group), regardless of income level.

3. More rapidly is increasing consumption of milk in groups with lower incomes and total expenditures respectively. There is a close cor-

relation between income levels and growth rates of consumption of milk and its processing products. During 2007-2010 years the pace of growth in consumption of milk and dairy products in the poorest population group have been exceeding the growth rate of consumption in the most wealthy group in 1.18 times.

5. On the annual rates of consumption of milk (360 kg) it can be noted that according to the norms milk and dairy products are consumed by about 35-40 % of Ukrainian people.

Interesting is another trend that is observed in rural families. With the growing share of total costs rate of milk products consumed that are produced in private households, is significantly reduced, which has a positive effect on increasing the supply of milk. This fact together with price levels, market conditions, and the ratio of supply and demand do not affect changes in consumption of dairy products by rural population [6, p. 94].

Incomes of the population are closely correlated with the demand for agricultural products. Obviously, it is expected that with increasing the incomes of household new trends in consumption will arise. First of all there will be an opportunity to buy more expensive and highly nutritious foods and to eat outside the home (in restaurants and bars, cafes, etc.). World experience shows that after reaching the appropriate level of the populations' income, food consumption and some of their kinds including dairy, is a relative constant value, and the share of the expenditures on food in total aggregate expenditures is constantly decreasing.

Issues related to solvent demand for animal products should not be resolved by further deepening of unprofitableness of their production, but by increasing the real incomes of households and the introduction of targeted food support (subsidies) to people with low-income, which needs state protection. Average insufficient consumption of milk per year is 118 kg and of meat products – 9 kg. 1000 UAH would have to cover this gap in consumption according to the prices of 2010. This requires the organization of targeted subsidies (school breakfasts, school lunches and food assistance to preschool institutions, as well as those who are below the poverty line; supporting the purchasing power of large families).

The main strategic question for the industry's development in the long term remains a steady increase in productivity of the dairy herd. Low productivity of dairy cows is caused primarily by diseases, deficiencies in the organization of pro-

duction and selection-breeding work, insufficient level of nutrition, resulting in feed used primarily to maintenance of the vital activity of livestock rather than formation of milk. As a result, cost of feed per 1 kg of milk is in 1.5-1.8 times higher than in the developed countries. Improving the quality of feed and livestock breeding highly reduces feed costs per unit of output. Thus, with the increase of productivity of cows from 2500 to 4000 kg the feed consumption is reduced from 1.31 to 1.05 kg feed per 1 kg of milk.

In our opinion, the most promising strategy on the milk market integration is to create groups of horizontal and vertical types. Establishment of cooperatives of producers of raw milk (vertical integration) provides an opportunity to strengthen their market power to adjust the market price for raw milk, and to ensure quality control of manufactured products in private households. Cooperative formation can supply significant quantities of raw materials for processing, which will allow increasing their selling price for milk and increasing profits of private producers.

Strategy of horizontal integration we also propose to apply for the grain producers in the region. Because they are many (about 2 thousand), the market power of each of them is minimal. Creating powerful grain cooperatives will reduce the intensity of competition between them and will contribute to the growth of market prices for grain.

Unlike the dairy industry, poultry farming is completely focused on meeting domestic demand for poultry meat and eggs. Meat is almost completely consumed within the region, while eggs from 10 to 30 % of the gross production are exported from the region where they were produced. The main consumers of eggs in Ukraine are large cities, for example, Kyiv, Odessa and others. For this industry we recommend the creation of trade marks to encourage the industry consolidation strategy in the markets of these cities. This will create a favorable image of Vinnitsa manufacturers.

A similar situation is in the markets of potatoes, vegetables and fruits in the region. Almost all production of these products is concentrated in the private sector in Zaporozhe region. The main causes of the current situation are the low level of yield of these branches of agriculture as well as high labor costs and complexity of the cultivation of vegetables and fruits. Another drawback of these branches of agriculture is the lack of market sales infrastructure. The only buyer of fruits and vegetables, which were grown in the

agricultural enterprises of region, are canneries. However, the specified channel of the product realization is the least profitable for the sale because of the low prices offered by the canneries on put harvest.

We believe that without creation of appropriate infrastructure of fruits and vegetables' production market in the region the intensive development of the respective agricultural sectors is impossible. This task can be performed only under the condition of assistance and support from the state authorities. Trade fairs that take place each year in the regions with the assistance of municipal administrations enable agricultural enterprises of the region to find distribution for a large number of grown products. Besides, trade fairs enable consumers to make appropriate reserves for the winter season with the lowest costs.

Such measures will contribute for the development of these areas: application of this practice (trade fairs that take place each year in the regions with the assistance of municipal administrations) more than once a year as well as expansion of wholesale food markets, providing free access to them for agricultural producers, the resumption of procurement databases, creating of stockpiling, processing and marketing cooperatives by most enterprises themselves.

Consumption of grain products in recent years has been almost equal to their production levels. That means that companies-producers of grain products are dedicated to fulfilling the intra regional needs and they almost do not export grain products outside the boundaries of the administrative regions. Considerable part of business enterprises in the sphere of grain production ceased operating. The others are on the brink of survival. Given the above, we suggest for bread food production spheres of industries strategy to expand its markets beyond the regions' borders because inter regional market is almost saturated.

It should be mentioned that unlike the markets of agricultural products that are highly competitive, markets of food products are less competitive. This is caused by, primarily, a much smaller number of producers and structuring the markets according to the trade marks. Relatively competitive markets can be named the markets of flour and cereals, sugar, milk and sausage products (there one can observe a significant number of equally powerful players in the relevant markets).

Solving complex problems related to the strengthening of state food security involves the

study of characteristic features and trends in development in the food market, including the elasticity demand for food products. Elasticity of demand as an economic category reflects the reaction of consumers of the product on the replacement of this or that product. It can be used to characterize the impact on consumers' reaction in different conditions. In practice, scholars mainly study the elasticity of demand based in price (reaction of consumers to prices change for goods) and income (changes in activity of consumers in purchasing goods with a change of their income).

Research of elasticity of demand for food is of great practical importance. The relevant studies are regularly carried out in many countries, and their results are used for determining development strategies of individual firms and for development of measures of state regulation of economy.

These issues are discussed in the works of V. Andriychuk, V. Artemenko, Y. Bilyk and other authors [1, 2, 3], which emphasize the relevance of their analysis. However, for systemic synthesis and interpretation of information about the features of consumption of food product in Ukraine there is a need to develop the research method, adapting it to existing information sources, to the peculiarities of the domestic economy.

Because of great importance of food to human beings elasticity of demand for most of food products (both in price and income) is generally low. Often in publications when determining elasticity of demand for food products information is used about changing the relevant parameters for a long (5-10 years) period of time. This approach often allows confirming or clarifying the conclusion about inelasticity of demand for food products. It, however, does not allow to thoroughly investigating the reaction of consumers for these or that circumstances. Elasticity's indicators can be dynamically changed in a quite large range depending on various factors. Therefore, determination of elasticity's indicators of demand for food products based on annual performance indicators allows responding quickly to the changing situation on agricultural markets, assessing the effectiveness of these or that measures of state regulation of the agricultural sector.

According to the mathematical definition of elasticity it is a level of one variable's response on the shift of another variable, expressed as the ratio of percentage change. Thus, the elasticity of demand shows on how much percent the demand on the particular product will change with the change

of the product's indicators and of factors that affect it (price or consumers' incomes) by one percent. Therefore, for the defining of the elasticity of demand it is necessary to set the level of changes for a certain period of time or for different groups of consumers and demand factors, the effect of which is studied.

Different formulas can be used to calculate the levels of elasticity. The most popular are those formulas to calculate the levels of elasticity that are built on the basis of the famous mathematician and economist Robert Allen's proposals. He proposed to determine the ratio of changes in demand, price or income of consumers to the mid-point of the interval in which the change has occurred. This approach is advantageous because it allows analyzing elasticity as with an increase of investigated parameters as with their reduction.

Traditionally, to determine the demand for food products the average rates of consumption per capita are used. In determining the elasticity of demand for food products it should be taken into account only those products that reach the consumer through the stage of implementation. This is connected with the essence of the concept of «demand», which is an economic category of commodity production and is determined on the market need for goods.

The vast majority of main food products that are consumed by the rural population are produced in their own farms. Therefore, to study the manifestations of the elasticity of demand for food products we propose to use data on their consumption and on income of urban households. Because part of the food consumed by urban households was made in private households (for example, in 2010 potatoes – 35.3 %, vegetables – 24.4 %, eggs – 12.3 %, etc.), such products are not taken into account when calculating the elasticity of demand.

In determining the demand for basic food commodities according to the income the information on households' groups that are located in urban areas with different levels of average per cost were used. Because between the income level and the total expenses there is a direct and very close relationship, the difference in total costs between different groups of households we will consider as the indicator of their incomes' change. We rejected data on a group of households with the

highest costs and several relatively small groups with the lowest incomes. As a result, we investigated changes in consumption of purchased food products' indicators among households with average per total cost of minimum cost of living.

It is well known that increasing the level of incomes of the population in general leads to a less than proportional growth in expenditure on food products. This pattern was first recognized in the XIX century by the German statistician Ernst Engel and is called «Engel's law». A manifestation of this law is a low elasticity of demand for food products by income.

The carried out calculations basically confirm this pattern. To goods with low income elasticity can be attributed such goods as bread, potatoes, butter, eggs and vegetable products to some extent. Exactly these food products populations are inclined to attribute to the «basic products». There is nothing among the basic food commodities, such as those that can be characterized by a negative income elasticity, which would mean referring them on according to consumer characteristics to the category of so-called «low-grade» (less valuable) good products. Survey data of households' investigations indicate that relatively wealthier segments of the population do not reduce the consumption of bread or potatoes compared to the poorer. On the one hand, national traditions are manifested in this, and on the other hand, too low is a proportion of inhabitants of Ukraine, whose level of income could be considered as acceptable.

Conclusions

Obviously, unequal are elasticities of demand for food in different regions of the country with different levels of population's income and the structure of agricultural production. The accumulation of relevant information would make it possible in the future to use the regression analysis for the study of elasticity of demand. This would give the opportunity to apply a more advanced method of elasticity's coefficient calculation.

The analysis made by us demonstrated that in case of increasing the incomes of the poor part of Ukraine's population the significant increase of the levels of their purchases of meat and dairy products, fish and vegetables is expected. Nowadays it is important to reduce prices for meat products to increase demand on them.

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