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METHODICAL APPROACHES TO THE FORECAST OF MEAT MARKET DEVELOPMENT

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МЕТОДИЧНІ ПІДХОДИ ДО ПРОГНОЗУВАННЯ РОЗВИТКУ РИНКУ ПРОДУКЦІЇ М'ЯСНОГО СКОТАРСТВА

Formulation of the problem. The cattle production is formed mainly under the influence of businesses, market factors and public regulation. These parameters include meat production and its intensity level; products output volume per unit of resources used and cost; products distribution structure according to use type and marketing channels. Estimating the cattle production during the reform years, it can be said that the market concept of economic development has brought the branch to the edge of survival. The most important indexes for production potential of the branch – the cattle number and products output – have considerably decreased. Thus, during 2004-2014 the cattle number decreased by 43,7% or 3019 thousand heads in all types of businesses, and the beef production by 37,3% (245 thousand t) [1]. Such changes give ground to assume that the meat production market in Ukraine is far from its good condition. On the one hand, the meat production market needs efficient tools from the state, that would enable its intense development, and on the other hand, when planning the macroeconomic indexes, it is necessarily to take into account the development trends of each economy branch, including agriculture with animal husbandry. Taking this into account and with regard to the changes in the animal husbandry during last decade, the meat production market is an important research direction for the scientists.

Analysis of recent research and publications. The national and foreign scientists pay more and more attention to the development of meat production market. The influence of factors of different level on the animal husbandry development is considered in the works of A.D. Dibrova [2], V.M. Zhmailov [3], V.V. Madison [4], V.M. Mykytiuk and Ye.I. Khodakivskyi [5]. The strategic development direction for the meat production market with consideration of marketing is considered in the works of the following scientists: I.A. Onosova [6], P.R. Putsenteilo [7], A.M. Svidovskii [8] and others. Their studies are focused mainly on facts. They do not consider the prognosis for the meat production market. Thus, the prognosis for the meat production market is less investigated and needs to be further studied.

Target setting. The objective of this article is substantiation of methodical approaches to prognosis of meat production market development basing on the cattle number, fodder availability, beef consumption, market capacity and price trends. To achieve the goal set, the following was used for this article: economical and statistic research methods, including monographic, correlative-regressive method, comparison, generalization, formalization.

Material presentation. In determining the level of meat market development we started from the agricultural enterprises resource providing. We have eliminated 356 enterprises of agrarian sector of Ukraine and have found that the unprofitableness of agribusinesses specialized in animal production is obvious, as cattle breeding requires high labour and materialized labour costs. The unprofitableness of agribusinesses specialized in animal production is obvious, as cattle breeding requires high labour and materialized labour costs [3]. Moreover, the lack of floating assets hinders the efficient production functioning, undermining the technical and technological production basis, because the use of any technology foresees first of all a systematic provision of enterprise by necessary resources, machinery and equipment. However, with limited own financial means (or working capital) in conditions of payment delays for the supplied products, it is practically impossible to secure the rational resources supply and technologies application.

Meszek and Polewski [9] investigate, that working capital can reflect positive, zero and negative value. In cattle breading market development of Ukraine there's a situation that shows zero or negative value of working capital in agrarian enterprises. To reveal the reasons for such a situation, it suffices to investigate in what amount the beef prices, as the main factor for income formation, urged the economic degradation of beef production.

The main objective of forecasting the beef market development is the full satisfaction of the population needs by improvement of meat consumption structure and its processed products; assortment enlargement of meat processing industry; quality improvement of meat and meat products, reduction of toxic and harmful substances to a safe level; reaching for and maintaining the balance between the solvent population demand and supply of beef products, including the evening-out of seasonal volatility in beef consumption [2].

The target approach understands the prognosis which would take into account the end targets, the need to satisfy the population demand. The program approach understands elaboration of interconnected measures, agreed as to the terms and performers, necessary for transition of the system from the real state into desired one [6].

The prognosis elaboration of beef production market understands investigation of its functioning types in various environments and at various strategies of regulation by the state. The complexity and large scale of investigated processes determine the systematic character of modeling and the need of distinct determination of its domain-specific, objective and methodical aspects. The middle-term prognosis differs from the long-term one in its methodology and by the fact that market development results in the middle-term prognosis are determined by the already existing and not by future conditions. With all that, the necessity of overcoming the technological backwardness in animal production in general and in the beef production in particular foresees setting up the perspective possibilities for use of innovative approaches [8].

In the prognosis, there are two models possible to apply. The model of economic equilibrium describes the connection of agrarian sector with the whole economy, including the markets of production factors. The model of partial economic equilibrium determines the parameters of balanced state only for agrarian sector. To avoid the statistic and calculation problems, it is reasonable to make the following assumptions when building the model of partial equilibrium: the models applied in practice are mainly the models of economic statics, as they study the state of a market, which is equivalent to some parameters of economic policy. The models of economic dynamics describing the movement towards equilibrium require more complicated mathematical apparatus. The static models of partial equilibrium do not reflect the changes in production factors such as capital accumulation or labour outflow. The models base on the pre-condition of availability of competitive market where none of vendors or buyers can influence the balanced price. The equations of demand and supply are done as optimization sum (maximization of income and utility) for respective sectors. The part of import in meeting the overall demand, like the part of export in the overall production volume, is determined by the Armington hypothesis – an assumption that the domestic and imported goods do compete albeit not fully (in particular, in the case of import. its share depends on interrelation of supply and import prices) [10].

The model partial economic equilibrium consists of the following equations: producers demand for intermediary products and the primary production factors; the products supplies by the domestic producers; private households demand for domestic and imported products; products export; demand by the state; balance identity (equality of total product demand and its total supply).

The main categories of beef market, demand and supply, are in a complex dialectic interrelation, which is a link between production and consumption. At the same time the demand and supply are relatively independent, that is why there is permanent discrepancy between demand and supply. The structure types of produced and consumed meat have to be studied because meat of different farm animals and poultry cannot be considered as interchangeable for they have different nutritive and taste qualities [5].

One of the most important laws on the competitive market is the law of demand. The sense of this law is shown in the inverse dependence between price and amount of purchased goods: the higher the price, the lower the number of purchased goods. The demand on the beef market is formed under influence of the following factors: number of population, gender and age structure; taste preferences that depend on historic, cultural, national food traditions; population solvency depending on income and price level; availability of by-products, substitutional products and their price level [2].

In the economics literature there are many system form variants of demand function for demand modeling. For substantiation of demand equation form, the assumptions are used about function form of consumer utility. Basing on this, the functional form of demand equation for econometric evaluation is set up. The most simple variant is maximization of Cobb-Douglas utility function. This function gives us demand function with constant income elasticity, unit price elasticity of product and zero elasticity of other product prices.

The demand for meat products expressed in natural units cannot be measured. The demand can be only estimated by consumption. Meeting the demand for meat and meat products can be measured by relation of consumption to a certain standard, e.g. to medical norms. The demand for meat is determined by the following factors: the gender and age structure of population, level of physiological consumption, income level and its part for purchasing meat and meat products [10].

The meat produced in the private households for own consumption is not considered in the solvent demand. The study of purchasing demand includes definition of consumption potential of the beef market. It is calculated basing on the normative indexes. The quantitative index of market capacity potential is the

amount of beef, veal and processed products that the market can consume during certain period of time. For the calculation of market capacity, it is advisable to use the formula:

$$E = \sum_{i=1}^{n} \sum_{j=1}^{m} (N_j k_{ij} K_e) + R + P_e - P_L \quad (1)$$

where E – market capacity;

N_j – quantity of consumers age group;

k_{jj} – physiological consumption norm of i-ї group of j type of meat product;

K_e – rates of demand elasticity from prices and income;

R – amount of insurance reserves;

P_e – production for export;

P_L – amount of non-market product consumption, e.g. from private households [10].

The specific feature of Ukrainian meat market is production decrease at the non-saturated demand for meat products. With all that, there is no unsatisfied demand, because the solvent demand of population is low and in reality it continues to get lower. The supply of meat and meat products reduces more slowly than demand, because in short term period the production and demand are not elastic. The conjuncture of meat market is marked by the fact that the supply is higher than demand on the regressing market. The particularity of demand and supply formation on the domestic meat market is such that it is largely connected to the import and interregional exchange [5].

Since the starting category of any market is supply, which determines the production volume, the supply and production factors are to considerable extent identical. The meat production is characterized first of all by the volume and structure – institutional, territorial and of type. An important feature of raw meat production and supply is the use of private households. The reduction of meat market is not only due to recession, but also to the change in institutional production structure. The meat production increase in the private households after the reforms provoked the growth of these producers so that their part exceeds the part of big agricultural companies. However, the number of cattle in the private households is not higher than 16% that is why these resources are secured mainly by the big agricultural companies [4].

The main problem of conjuncture analysis is comparison of demand and supply volumes. The information amount for estimation of meat market proportions is quite limited. Only indirect indexes of demand-supply relation by means of conjuncture indicators are possible – prices, changes dynamics in good stocks. An important indicator of meat market proportionality is relation between fodder resources (e.g. grain production) and meat production. For estimation of change proportions, it is advisable to use comparative indexes (growth rates).

The supply volume on the beef market is determined by the production potential and potential of raw material or by the level of production capacity i.e. ability of cattle husbandry to secure the necessary supply volume and structure. For the characteristics of meat market potential, it is recommended to use the following equation:

$$Q = \sum_{i=1}^{n} (N_i W_i D_i R_i E_p) - V - O_m \quad (2)$$

where Q – meat market potential;

N_i – number of companies producing meat products;

W_i – production potential of each company;

D_i – level of utilization of production potential;

R_i – level of fodder availability;

E_p – rates of supply elasticity from fodder prices and finished product;

V – intra-economic consumption;

O_m – products supplied by interregional (interstate) exchange [10].

The particularity of beef market conjuncture is seasonal volatility. The meat production is characterized by internal cycles. This is particularly typical for cattle production. The seasonal volatility in meat production causes the decrease of production capacity use rate of meat processing enterprises. The seasonality lowers the efficiency of raw materials use due to quick supplies growth in autumn and winter and decline in summer. The supply volatility of raw materials has an impact on production rhythm and selling prices.

Seasonality is typical also for the meat products supply and demand. The seasonal supply volatility is caused by peculiarities of meat production. The seasonal demand distinctions are connected as a rule with traditions of food culture. The interaction of seasonal supply and demand changes results into the seasonal price changes. The estimation of seasonality is done by means of seasonality indexes calculated basing on the multiannual average indexes. The seasonal volatility in raw meat production by agribusinesses causes the similar seasonal volatility in capacity use of meat processing industry. Thus, the seasonality is of an inter-branch nature [6].

As to the domestic meat market, including the beef market, an important element of it is import. At prognosis of this market, it is necessary to study the expediency and possibility to replace the import by domestic products and the estimating calculations of the import impact on domestic production.

By means of production theory and production functions it is possible to find dependence between production volume and the factors influencing it. The production functions, e.g. Cobb-Douglas function, show dependence between the number of used production resources and the end production. From such a function we can get dependence between the amount of resources used and the starting production. It cannot be affirmed that this dependence can be linear, but it is possible to define the appropriateness of the model in the economical practice by means of econometric apparatus. It will be a linear function or a function narrowed down to a linear one.

The production function reflects the functional connection between the volume of efficiently used production factors and production, which is reached at existing technical and organizational level [8].

Thus we have included into econometric model 356 agricultural cattle producers from different regions of Ukraine (the data of 2015). Its exposure made the Cobb-Douglas production function look like as follows:

$$Q = 74933{,}95 \ ^{2} K^{-0,6} \quad (3)$$

where Q – beef production, kg;

K – "capital" resource (in our example number of cattle).

The estimation of regressive rates shows some expected signs of production, i.e. at the increase of cattle number by 1% the beef production will increase by 0,6%, which is logical in current animal husbandry conditions. And the average per day growth is 555 g at the cattle number increase by 1% (the calculation was based on the data in grams that is why an increase can be observed compared to 1 kg).

Conclusions of research. Thus, as the results of the calculations show, it was found out, that in order to increase the gross beef output by 30%, the cattle number for fattening has to be increased by 50%. It has to be pointed out that a small increase of cattle number will not considerably change the beef production, as it is connected with the peculiarity of cattle branch, namely the part of cattle which is not lactating. Basing on the calculations done it was defined that in order to increase the production volume it is advisable to improve the fattening cattle productivity for the growth by 555 g per day. This is possible only by the use of breed potential of beef cattle. At present in Ukraine due to the lack of specialized agricultural enterprises breeding beef cattle, the index of average growth per day is too low. Thus for the increase of beef production it is necessary to use both the intensive and extensive methods of beef cattle, namely to combine the improvement of animals' productivity with their number growth. Only in such synthesis combination, the economy of scale can be achieved. The further research we see in the study of trend changes in animal husbandry of private households whose part in beef production makes a considerable amount.

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КОМУНІКАЦІЇ ЯК ОСНОВА МЕХАНІЗМУ УПРАВЛІННЯ

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COMMUNICATION AS THE BASIS OF THE MANAGEMENT MECHANISM

Постановка проблеми. Кризові явища, що всебічно охопили суспільні процеси в Україні, насамперед криються в нездатності існуючих систем управління на всіх рівнях відповідати новим складним викликам сьогодення. В тому числі це стосується і систем управління організацій (підприємств). По суті, ми маємо справу з кризою управління, коли корпус сучасних управлінців через низку об'єктивних і суб'єктивних причин не в змозі приймати правильні рішення і підібрати адекватний інструментарій управлінських впливів на об'єкти управління. Це підкреслює важливість проблеми застосування механізму управління та роль комунікацій в ньому, дослідження якої на методологічному рівні дозволить окреслити основні напрями розв'язання кризи управління в цілому. Разом з тим, існує також потреба в реалізації отриманих знань на практиці, що неможливо без врахування і включення в це дослідження такого надважливого управлінського ресурсу як комунікація, оскільки передумовою управління виступає створення комунікаційної мережі, яка є гарантом забезпечення надходження правильної інформації необхідним людям у потрібний час.

Управлінська діяльність пов'язана з необхідністю постійної координації діяльності членів колективу для досягнення цілей організації. Ця координація здійснюється за допомогою різноманітних контактів членів організації в процесі комунікації.

Аналіз останніх досліджень і публікацій. Сам термін «комунікація» (від лат. – communicatio – робити загальним, повідомляти, бесідувати, пов'язувати) з'явився в науковій літературі на початку XX ст. (хоча перша модель комунікації була запропонована Аристотелем, який виділив такі компоненти процесу комунікації, як оратор, мовлення і аудиторія). Ч. Бернанд був одним з перших і принаймні