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A. A. Cherkasov

Postgraduate student

Zhytomyr National Agroecological University

METHODOLOGICAL APPROACHES TO THE PRICING IN THE RAW MILK MARKET

This article provides methodological approaches to the pricing mechanism in the market of raw milk. It also provides the structure of the market and participants' role in pricing. The author proposes his own interpretation of the notion "market of raw milk". In terms of the theory of competition it is proved that the market of milk is

considered to be a market of monopolistic competition with a characteristic proximity to monopsony. The article determines a role of pricing mechanism as one of the most important type of inter-sectoral interaction between subjects of the market and specifies methodical approaches to pricing process implementation. The technology of formation of raw milk price consisting of seven successive stages are developed and presented schematically herein. The article also provides the way of profit distribution among the members of the market by determining the rate of profit and expenses for each participant.

Keywords: *prices, pricing mechanism, methods of pricing, milk market.*

Problem determination

Milk market plays an important role in providing food for population. The market presents a set of business entities engaged in milk production, processing, and distribution interconnected by mechanisms of inter-sectoral interaction. Market of raw milk includes the following types of inter-sectoral interaction: commodity-money, distribution, property, financial and others. Pricing process plays a special role in the inter-sectoral interactions that are the basis of the distribution mechanism based on the provision of economic parity of each subject of market.

In practice, form of interaction set between market milk participants does not always ensure an equitable distribution of a final product, which is caused by imbalance of market position of milk producers and milk processing plants. The instability of the market and the current need for development of the market mechanism in milk production necessitates new approaches to the methodology of pricing process.

The recent research analysis and task assignment

Special attention in reviewing issues of organization and functioning of milk market shall be given to the writings of national scientists Bozhydarnik T., Ilchuk M., Malik M., Vasylychak S., Hirzheva A., Halak I. as well as to ideologies of foreign experts Strekozov N., Chinarov V., Anichina V. and others. However, despite the sufficient number of scientific papers on milk market, the effective operation of its production, processing and distribution entities has not yet been implemented. Lack of certain governmental support for production process and passive role of producers in pricing and inter-sectoral interaction stipulates an effective methodological apparatus aimed at solving these problems.

The aim, object and method of study

The aim of the study is the development of the methodical approach to pricing that takes into account the economic interests of all participants in the market of raw milk.

The process of price formation in the market of raw milk is the object of study.

The following general and special methods have been used in the course in research of operation of milk market and resolution of the task assigned: method of analogies (in determining the type of milk market in terms of the theory of competition), abstract and logical method (in determining the structure of price formation process), graphical method (for demonstration of raw milk market structure and pricing technology pattern), induction method (when making conclusions) and so on.

The research results

Milk-grocery subcomplex of Zhytomyr region is formed by the enterprises belonging to the second (agricultural producers) and third (processing enterprises and trade organizations) field of agricultural production. Commodity-money relations serve as a link between them. Respectively a set of buyers and sellers, and economic relations that arise between them, are a commodity market of milk as a raw material. The agricultural enterprises, farms and households are the sellers of raw materials for processing of milk on the market. According to the Department of Agroindustrial Development as of 01.01.2014, there are 232 agricultural enterprises and farms selling milk in Zhytomyr region, although the share of farms in total milk production in Zhytomyr region accounts for only 20 % [2]. Milk production has a commodity value, especially in agricultural enterprises. Commodity-money relations determining the proportion of commodity-money exchange, which results in the formation of profit and the interaction of participants through an indirect role of price, play a dominant role in inter-sectoral interaction of milk market participants.

Technological, economic, organizational, informational and other dependencies caused by the division of labor are the background of the inter-sectoral interactions on the market. They create conditions for effective economic cooperation. Inter-sectoral interactions within the milk market should be considered as relationships of different industries based on participation in a single production process, established on a contractual basis and aimed at achieving private and common goals. Industrial and economic relations between raw milk market participants are shown in Fig. 1.

The raw milk market structure was formed during planned economy, when processing plants were placed according to territorial division of regional market. The procurement price fixed by processing plants is determined based on milk production costs wholesale prices. Enterprises are thereby capable of competing in wholesale and retail sale on milk markets, supporting existing market. Under such conditions, milk purchase price in some cases is equal to its production cost or sometimes even lower. Almost all farmers are not able to influence the price of milk as a raw material because they don't have the necessary financial investments for milk processing. As a result, prices for raw milk are established by milk producers but not milk processors which are passive participants of pricing.

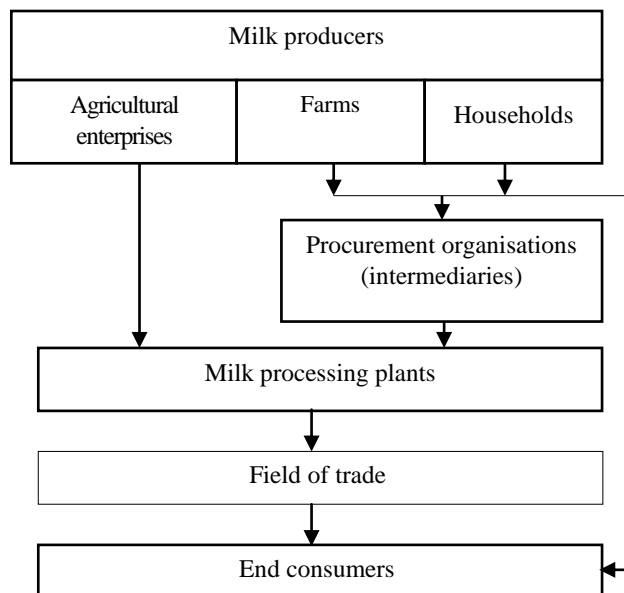


Fig. 1. Production and economic relations on the milk market

Source: elaborated by the author based on materials [3, 4, 5]

Based on the market theory [7] and industrial and economic relations researched, we think that the market of raw milk is an economic environment within which subjects of milk production process interact. In its turn, economic cooperation is based on the price mechanism, which is a system of elements that form the price on the milk market in the course of mutual influence.

The current price level does not stimulate dairy cattle breeding to production, causes it cutting back, resulting in livestock reduction [10]. In fact, within its resource area milk manufacturers occupy a dominant position (monopsony) as buyers. One of the undesirable consequences of monopsony for market participants is considered to be a low purchase price set by them.

In terms of the theory of competition a raw milk market should be considered as a market of monopolistic competition. It combines elements of free trade (the market has many buyers and sellers, identity of producers' goods, participants' complete access to information) and monopoly (price pressure of some market participants on the other). Milk producers have an imperfect pricing mechanism in such circumstances. It is necessary for development of an effective mechanism that would help the efficient operation of market participants.

Price change and regulation mechanism in the agricultural sector is quite different in other industries. This is associated with the specifics of agriculture and food market. Pricing method should be defined for analyzing the pricing mechanism on the milk market. Pricing method should be interpreted as a complex of pricing methods, principles and technologies that reflect the peculiarities of milk trade.

Systematic approach is used in agricultural products price formation. It involves the study of individual elements of pricing mechanism, specific economic laws and reproductive characteristics in agriculture. Manufacturers narrow the acceptable range of goods prices in the process of selecting the final price of the product, using the pricing method selected. The existing methods of pricing can be grouped into three broad groups: cost, market and econometric ones [11] (Fig. 2).

Price level including production and sales costs is determined according to the first group of methods. Ignoring the demand and potential competitors' activities is the disadvantage of cost pricing methods.

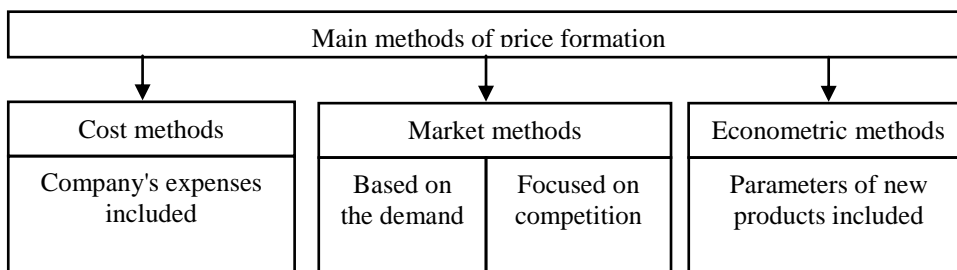


Fig. 2. **Methods of price formation**

The second direction is divided into two groups: focus on demand taking into account market opportunities in the sales of products (consumer purchasing power) and methods focused on competition, that is when price level is determined by a competitive ability of a product.

The third group of methods is less popular in market pricing. Econometric methods are used when a company is involved in designing and mastering manufacture of such products, which don't replace the previous ones, but complements and extends existing parametric range of products. The basis of these methods consists in price determined on the basis of technical and economic parameters of the product [11].

Despite the diversity of methodological approaches to products pricing, the milk market is characterized by monopsony in processing enterprises which doesn't allow carrying out the process of price formation effectively. As far as pricing is the result of inter-sectoral interaction, this process should therefore satisfy needs of all market players and, inter alia, comply with the following principles:

- the principle of equality between the subjects of inter-sectoral interactions;
- the principle of partners liability;
- the principle of conformity with the law;
- the principle of interest in the development and strengthening of long-term inter-sectoral interactions;
- the principle of increasing the efficiency of each business entity.

Observance of the principles and determination of the required method of pricing is only part of the actions that need to be done towards the determination of a sales price. A certain sequence of pricing process stages is considered to be a pricing technology (Fig. 3).

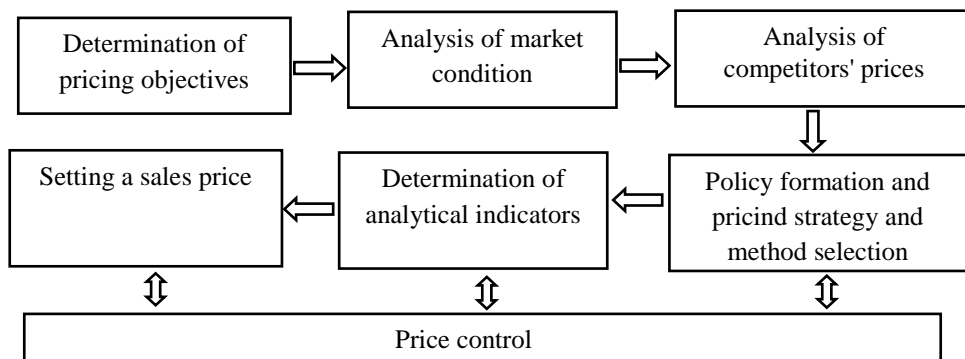


Fig. 3. **Technology of sales price formation on the milk market**

Source: summarized by the author [8, 9, 11].

In the first stage, the producer sets goals that can be achieved through appropriate prices. These purposes include: maximization of profits, increase of profitability, and maintenance of position on the market and so on.

The second stage includes the analysis of raw milk market conditions. It will allow to reveal the level of purchase prices established and to set a reasonable initial price.

The third stage includes the analysis of competitors' prices, estimation of product range, the quality of their products (milk grade) and manufacturing facilities that helps produce its own short-term pricing strategy.

The fourth stage consists in the development of pricing policy and selection of pricing strategy and method. The most adequate pricing strategy as according to the current market conditions is selected on the basis of pricing policy developed. The pricing method selected allows to reflect in the price its basic elements, that is, the cost and profit.

The fifth stage consists in determination of analytical indicators, which can further be used to evaluate the pricing strategy selected. The indicators include: the cost of milk (the main cost ratios), the calculation of the target profit (standard of profitability), the minimum sales price, the starting price (lowest price increased by a certain amount, which gives a high profit enough).

Setting the sales price takes place at the sixth stage. At this stage, the final price is formed. The difference between the minimum and maximum level of price creates the price range, which is subjected to price adjustment.

The seventh stage is connected with the control of price. Control is carried out by the concerned persons. Usually, in small milk enterprises control is exercised by owner. The purpose of such control consists in detection of violations in price study and application, leading to a decrease in the efficiency of production and sale of goods. In the course of economic activity through the control it is possible to implement adjustments to the fourth, fifth and sixth stages of price formation.

The conclusions and prospects for further research

Insufficient development of milk market results from imperfection of market participants' interaction mechanism. This unresolved issue generates underfunding and technological backwardness of milk producers. The structure of the milk market is primarily determined by differentiation of structure of agricultural and processing enterprises. Their interrelation is 18:1 respectively. Currently this figure will be much higher considering households. This disproportion of entities causes their inequality with respect to price formation on the raw milk market.

Under these circumstances, the milk market conditions are the result of a number of objective phenomena including: 1) various economic opportunities for concentration of capital in agricultural and production sector; 2) placement of milk plants focused on availability of resource area. The effect of law of supply and demand is distorted as a result of monopsony power of milk producers.

Thus, profit is distributed between entities through the price on the milk market. In this case, the commodity-money relations of market participants are not associated with any contractual obligations or contract, fixing the level of raw milk purchase prices established unilaterally (by processing plant). In practice, this method of settling is valid in most cases and doesn't take into account interests of milk producers.

In our opinion profit distribution and raw milk pricing should be based on the method of proportionality. In other words, all subjects of a single process of milk production, procurement, processing, storage and sale distribute profit earned at different stages of the production cycle on a contractual basis. Reasonable (standard) costs on each stage of the whole process of production should be the basis of this profit distribution method. This principle of pricing mechanism operation is expedient in current conditions of imperfect competitive environment of the market milk. The use of this approach will allow milk producers to apply the abovementioned technology and pricing principles that should therefore contribute to the effective operation of the raw milk market.

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