Assessment of performance of local food markets in the region: methodological approach

Evaluación del desempeño de los mercados locales de alimentos en la región: Un enfoque metodológico

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ABSTRACT:
Efficient performance of local food markets in the region is a necessary condition to ensure the economic and physical accessibility of food products of the required quality and volume for the population. The article substantiates the urgency and necessity of developing methodological provisions for assessing the performance of the local food markets in the region. Existing approaches to the study of performance of the markets are considered. Differences between the views of representatives of the Harvard and Chicago schools of economics on the interrelation of the elements of the paradigm "Structure – Conduct – Performance" are shown. The need to assess performance of the local food markets taking into consideration the strategic priorities of their development is proved. A set of key indicators of performance of the local food markets in the region that allows to assess the state of demand for goods, commodity distribution network, commodity supply and competitive environment is formed. A methodological approach to an integral assessment of performance of the local food markets in the region is

RESUMEN:
El rendimiento eficiente de los mercados locales de alimentos en la región es una condición necesaria para garantizar la accesibilidad económica y física de los productos alimenticios de la calidad y el volumen requeridos para la población. El artículo fundamenta la urgencia y la necesidad de elaborar disposiciones metodológicas para evaluar el desempeño de los mercados locales de alimentos en la región. Se consideran los enfoques existentes para el estudio del desempeño de los mercados. Se muestran diferencias entre los puntos de vista de los representantes de las escuelas de economía de Harvard y Chicago sobre la interrelación de los elementos del paradigma "estructura – conducta – performance". Se demuestra la necesidad de evaluar el desempeño de los mercados locales de alimentos teniendo en cuenta las prioridades estratégicas de su desarrollo. Se forma un conjunto de indicadores clave de rendimiento de los mercados locales de alimentos en la región que permite evaluar el estado de la demanda de bienes, la red de distribución de productos básicos, la oferta de productos básicos y
1. Introduction

Adoption of the Food Security Doctrine (2010) in the Russian Federation, introduction of the food embargo and consolidation of the focus on import substitution in the food sector (2014) gave rise to the development of the local food markets in the region. To date, not all regions of the country are able to meet domestic needs for food; there is still a significant dependence on imports for some product groups. Besides, there is a differentiation of development of the local food markets as components of the economic space of the region, caused by the uneven spatial organization of economic activity, which determines the difficult economic and physical access of certain population groups to food products of high quality.

In the context of significant fluctuations in the general economic situation, food embargo and adoption by regional authorities of the focus on import substitution in the food sector, strategizing of development of local food markets for the formation of a long-term horizon of planning the activities of market entities becomes a topical issue. The strategic goal of functioning of local food markets to ensure food security in the region can be achieved if they are balanced. To date, there is no common methodological approach to assessing the performance of commodity markets, in particular local food markets, which makes it difficult to assess the efficiency of the regional policy for their development. The shortcomings of the existing developments in this field revealed in the article necessitated clarification of the concept of the performance of local food markets and the development of an authors’ methodological approach to its assessment.

2. Methods

Methods as a set of approaches and techniques for conducting a study on the specified subject area, expressed in the spatial and economic processes that arise in the development of local food markets in the region, are based on their combinatorial use and systemic application of both general scientific and local specific ways to investigate the phenomenon. A dialectical approach, which includes deductive and inductive methods of arranging the research process, serves as a basis.

The evolutionary method as a method of investigating economic thought includes consideration of the Harvard and Chicago paradigms and further substantiation of their future development or adjustment in modern conceptual theories of assessment of the performance of commodity markets.

Taking into consideration the strategic importance of ensuring the food security of the regions and the country as a whole, it requires a systematic vision of the state and changes in key indicators that describe the market situation in the context of the strategy elements for the market development such as "Competitive environment", "Commodity supply", "Commodity distribution network" and "Demand for goods", which is ensured by the use of analytical and synthetic methods both in cross-sectional and longitudinal studies.

The process of integral assessment of performance of the local food markets in the region includes expert analytical and computational analytical analysis. The expert evaluation method, which is a specific sociological method, allows to obtain information about the market situation based on the expert opinions. Complex use of statistical information and expert analytical materials allows to determine the level of the integral indicator on the basis of mathematical
**3. Results**

**3.1 Conceptual description of performance of the local food market in the region**

Synthesis and systematization of academic approaches to the study of processes that occur at the local markets, including food market, allow to consider the local food market as part of the economic space of the region, which is limited by the boundaries of municipality, within which food products intended for personal and family consumption circulate.

The concept of market performance was introduced into scientific use by foreign scientists. It is not used that often among Russian economists, or at least does not find detailed coverage. Basic foreign sources for studying the market performance are the works of the representatives of the Harvard school of economics E. Mason and J. Bain, which resulted in the development of the paradigm "Structure – Conduct – Performance" (Roy and Tretyak 2009). According to the above paradigm, there is a clear connection between the existing market structure, the conduct of firms on it and the market performance.

The Harvard approach was criticized by the representatives of the Chicago school of economics, A. Director being considered its founder; later his ideas were developed in the writings of W. Bowman, R. Bork, L. Telser, and others. Supporters of the Chicago school denied the existence of a direct linear link between the market structure, conduct of firms and the market performance. They believed that the conduct of firms could also influence the market structure, because mergers and acquisitions lead to an increase in the level of market concentration. Besides, the market performance also influences the market structure, while a high level of concentration, according to the Chicago school approach, results from efficient performance of dominant firms in the market, rather than from unfair competition. As such, according to this approach, the focus has shifted from the control of the market structure to the control of behavior of firms on it (Scherer, 1997).

Domestic scholars also made attempts to investigate the concept of the market performance (Tretyak, 2001; Volkova, 2013; Bulatova, 2014). In the opinion of E.M. Volkova, it expresses the degree to which the market contributes to optimization of economic welfare. At the same time, the goal of the state policy conducted in relation to the market should be to achieve maximum efficiency.

Systematization of materials of foreign and domestic studies allowed to conclude that to date, there has been no common approach to assessing the market performance. Besides, all available papers are devoted to performance of the market in general, rather than specific commodity markets, the functioning of which undoubtedly has its own specifics.

According to the authors, performance of the local food markets in the region assumes the rational use of limited resources to meet consumer demand. At the same time, it implies activation of local production of food products (increasing the output and production efficiency, introducing innovation, improving the quality of food products and their differentiation, etc.), demand stimulation (increasing customer loyalty to local producers, ensuring consumption not less than recommended norms), development of market infrastructure, growth of tax deductions, increase of employment of local population, etc.

![Figure 1. System of the key performance indicators of the local food markets in the region](image-url)
### 3.2 Strategic guidelines for the functioning and development of the local food markets in the region

The key strategic objective of the development of the local food markets is to ensure the food security of the region. To achieve it, strategies for the development of specific markets for food products (markets for meat, milk, vegetables, etc.) should be developed at the level of regional authorities, based on the results of strategic market analysis, which includes assessment of opportunities and threats to their development, research of market demand and supply, their dynamics and potential, definition of the position of products of local commodity producers on the market relative to competitors' products from other territories, etc.

To control the process of implementation of selected strategies, a strategic map of the food markets in the region is presented, which includes the following key performance indicators:

<table>
<thead>
<tr>
<th>Units of indicators</th>
<th>Key performance indicators of the local food markets in the region</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. State of demand for goods</strong></td>
<td><strong>advancing</strong></td>
</tr>
<tr>
<td>- population in the region;</td>
<td>- capacity of local food markets;</td>
</tr>
<tr>
<td>- purchasing power of population;</td>
<td>- turnover of retail trade in food products;</td>
</tr>
<tr>
<td>- amount of the subsistence minimum;</td>
<td>- food consumption per capita;</td>
</tr>
<tr>
<td>- unemployment rate;</td>
<td>- ...</td>
</tr>
<tr>
<td>- level of prices for food products;</td>
<td></td>
</tr>
<tr>
<td><strong>2. State of commodity</strong></td>
<td><strong>lagging</strong></td>
</tr>
<tr>
<td>- volume of investment in the construction of new trade objects;</td>
<td>- provision of population with the area of retail facilities for the sale of food products per 1,000 inhabitants;</td>
</tr>
<tr>
<td>- volume of construction and commissioning of trade objects of various formats;</td>
<td>- density of the trade network;</td>
</tr>
<tr>
<td><strong>3. State of commodity supply</strong></td>
<td>- ...</td>
</tr>
<tr>
<td>- localization of food production in the region;</td>
<td>- volumes of local food products delivered to the market;</td>
</tr>
<tr>
<td>- acreage of agricultural crops;</td>
<td>- share of local products in total turnover;</td>
</tr>
<tr>
<td>- headcount of livestock and poultry in farms of all categories;</td>
<td>- level of self-sufficiency of the region with food products;</td>
</tr>
<tr>
<td><strong>4. State of competitive</strong></td>
<td>- number of registered mergers and acquisitions;</td>
</tr>
<tr>
<td>- number of enterprises that went bankrupt and left the market;</td>
<td>- shares of enterprises on the market (including relative);</td>
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<td>- scale of investment projects on development of the activities of the food market players;</td>
<td>- market concentration ratio;</td>
</tr>
<tr>
<td></td>
<td>- Herfindahl-Hirschman index;</td>
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<td></td>
<td>- entropy index;</td>
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<td></td>
<td>- market share variation ratio;</td>
</tr>
</tbody>
</table>
markets in the region was proposed – a tool that represents a connection between the strategy elements for the market development such as "Competitive environment", "Commodity supply", "Commodity distribution network" and "Demand for goods" (Tonysheva, Kuzmina, 2016). Based on the units of the strategic map, a unit of key indicators, which allow to assess the extent to which strategic objectives have been achieved, was formed (Figure 1).

Lagging (resulting, delayed) indicators of the functioning of the local food markets in the region assess the final results; they set the strategic line of the market development. These indicators should be considered along with the advancing (operational, leading) indicators, which serve as factors or drivers of results reflected in the lagging indicators. The purchasing power of the population is an example of the advancing indicator of the functioning of local food markets in the region, while the extent of demand for food is the lagging indicator, because it depends on the level of population’s incomes and food prices.

3.3 Integral assessment of performance of the local food markets in the region

The key aspect in assessing the efficiency of implementation of the development strategy for the food markets in the region is to determine their performance. The proposed methodological approach assumes transformation of separate key performance indicators of the local food markets in the region into an integral performance indicator according to the scale proposed by J. Harrington (Bulgakova, 2009). In our case, the key indicators of development of the local food markets in the region by the units of the strategic map "Competitive environment", "Commodity supply", "Commodity distribution network" and "Demand for goods" will be transformed into a scale of market performance (Kuzmina, 2016). As a result, the generalized performance function D serves as a single parameter instead of many. In general, the proposed methodological approach is presented as follows (Figure 2).

Based on the result obtained, one of five levels of performance of the local food markets in the region is defined: from very high to critical. As such, the value of the integral performance indicator of the local food markets allows to judge how much they contribute to the rational use of limited resources in the regional economy to meet consumer demand in food. This case takes into consideration the extent to which the competitive environment on the markets is developed; how efficiently the producers work, how much they are interested in ramping up the volume of commodity supply on the market and improving the competitiveness of their products; how well the distribution network in the region is developed to ensure the physical accessibility of food for population; what is the extent of demand for food products, in particular for locally produced products.

4. Discussion

Specifics of functioning of the sectoral markets from the standpoint of the "structure – conduct – performance" paradigm was studied by representatives of the Harvard school of economics (J. Bain, A. Marshall, E. Mason, J. Robinson, G. Hotelling, E. Chamberlin, etc.). Representatives of the Chicago school investigated the conduct of the market players from the standpoint of optimizing their decisions (A. Alchian, S. Weizsacker, R. Gilbert, R. Caves, R. Coase, etc.). Domestic authors who made a significant contribution to the adaptation of Western methods to the Russian reality and their development include S.B. Avdasheva, A.D. Vuros, N.M. Rozanova, L.V. Roy, V.P. Tretyak, etc. (Avdasheva, Rozanova, 1988; Vuros, Rozanova, 2002; Roy, Tretyak, 2009; Rozanova, 2017).
Several Russian academics (Granberg, 2000; Dvoryadkina, 2011; Marshalova, 2001; Novikova, 2012; Novoselov; 2002; Filimonenko, 2012-2013; Tsvetkova, 2010) investigated the essence of local markets, specifics of their functioning and role in the economic development of the region with varying degrees of detail. The works of some authors (Bonda, Pashina, 2015, Kuimov, Suslova, Shcherbenko, 2015a, Kuimov, Suslova, Shcherbenko, 2015b; Satalkina 2007) are devoted to the functioning of local food markets, interest in which has grown after the Russian Federation introduced the food embargo.

Analysis of the outcomes of the studies of domestic and foreign authors devoted to the basics and specifics of the local food markets in the region has revealed attempts to structure and systematize indicators describing the state of the markets: volume of demand and supply, level of competition and barriers to entry to the market, etc. However, to date, there is no common approach to assessing the performance of the local food markets in the region. The authors systematized and structured the framework of key indicators of the market situation, formed a methodological base for calculation of the integral performance indicator of the local food markets in the region, which allows to assess how rationally its limited resources are utilized to meet the needs of population in food.
5. Conclusion

In the modern context of instability of external and internal environment of operation of economic entities, special importance is given to examination of the mechanism of functioning of the local food markets in the region and the processes of interaction between supply and demand that aim at achieving a balance between the needs of population and the production capacities of food suppliers. The urgent task is to balance the level, the structure of aggregate commodity demand and supply on the basis of market pricing, and to identify their cause-effect relations. However, this can be ensured in the case of correctly chosen and timely implemented instruments for regulating the economic situation.

An important condition for assessing the efficiency of implementation of the development strategy for the food markets in the region is to define their performance, which shows how rationally the limited resources are utilized to meet consumer demand. The methodological approach proposed by the authors assumes transformation of separate key performance indicators of the local food markets of the region into an integral performance indicator in accordance with the scale proposed by J. Harrington.

Testing of this approach on the example of local food markets in the Tyumen region revealed that the highest value of the performance indicator today corresponds to the eggs and egg products markets (0.749). This is due to the high values of their key performance indicators: the region is fully self-sufficient in this type of products, the share of local producers in the assortment and turnover is high. The high value of the efficiency of development of whole-milk products markets (0.709) is due to the region's considerable self-sufficiency in this product and low concentration of markets. The lowest value of the efficiency of development (acceptable level on the scale) corresponds today to the vegetable (0.629) and poultry (0.644) markets. This is due to the low level of consumption of these food products and the lack of internal resources to meet the region's own needs.

In the case of poor performance of the local food markets, the regional authorities should strengthen regulation of their development through the application of economic, organizational, legal and social measures. Implementation of a systemic organizational and economic mechanism for interaction between the subjects of the local food markets in the region will facilitate this process.

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