DIAGNOSTICS OF RUSSIAN CONSUMER MARKET STATE IN TERMS OF DESTRUCTIVE EFFECTS INFLUENCE

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─**Abstract** ─

The development of the Russian consumer market is strongly influenced by internal and external threats. This paper presents a newly described classification of threats to the consumer market and a methodology for their diagnostics. The methodology basis contains an indicative method of analysis which includes 75 indicators grouped into 5 blocks, evaluating some particular situation in the consumer market; a situation analysis was conducted within the period from 2003 until 2010. A feature of the methodology is the possibility to reveal the hidden phenomena on the consumer market. Particular attention in this scientific study is paid to the consumers; a system of indicators that measure their level of security is proposed. The study showed that the majority of threats are directed at the consumers, the quality of goods and provision of domestically manufactured consumer goods; a detailed methical apparatus and analysis are presented in this paper.

Key Words: *Consumer market, threat, Russia*
JEL Classification: R11, P23, E26

1. INTRODUCTION

Due to the transition of the Russian economy from planned to market form, significant changes in its structure have occurred. Many areas were not prepared for the rapid transformation and for countermeasures to the threats. The process of liberalization and globalization of the Russian economy required a fundamental restructuring of the administration and management system, resulting in a more significant threat to the security of the scope of final consumption, which experiences the influence of destructive factors in modern Russia. First, this is due to the unwillingness of the authorities to set an optimal relation between the level

of governmental regulation and self-regulation of the market in terms of a market economy. Second, the operation of the consumer market is sharpened by a sharp fall in supply from domestic production of consumer goods. Third, the activity of threats extended to the safety of consumers who were not prepared to deal with these risks: the emergence of new forms of deception and fraud, higher prices and overall weak state security.

However, the consumer market remains one of the fastest growing segments of the Russian economy. For example, the volume index of retail trade in 2010 compared to 2000 was 256.4%, while retail sales in value terms over the same period increased by 8 times (2352.3 billion rubles in 2000 – 16,468.6 billion rubles in 2010)..

The severity and painfulness of the situation on the consumer market of the country are largely triggered by the problems occurring in the economic, administrative and social structure of the society.

Russian legislation has not yet anchored a fixed definition of "consumer market", there is no policy of consumer protection, etc.

Under these circumstances, we see a clear need for taking measures to neutralize threats in the most problematic areas of the consumer market, while maintaining the conditions for further growth in this sector. Development of effective and timely decisions to ensure safe operation of the market, including its regional level, requires improvement of theoretical and methodological approaches to the diagnostics of economic security of the consumer market, as well as conceptual development aimed at improving its economic security.

During the conducted study, we presented the structure of the major internal and external threats to the development of the consumer market of the region, which appear to be largely present today or will manifest themselves in the shortest term.

Among the main threats to the Russian consumer market, the following should be highlighted:

- Low quality of goods, works and services;

- Low level of consumer protectability;

- Dependence of Russia on the import of main product types;

- Openness of trade borders (Russia's accession to the WTO);

- Low competitiveness of domestic production of consumer goods;

- Deterioration and depletion of main industrial productive assets, plants and equipment.

2. METHODOLOGICAL TOOLS

To solve the problem of assessing the situation on the consumer market under the influence of selected threats, we have created methodological tools for situational diagnostics.

This technique is based on the indicative method of analysis. In accordance with this approach, the diagnostics of the influence of threats on the state of the consumer market is made on the aggregate of criterial index numbers – indicators which allow quantifying the existence, nature and level of the threat manifestation and its dynamics. The level and nature of threats manifested on the consumer market is estimated by comparing the actual (current) values of the indicators and their threshold (criterial) values.

The assignment of the subject j on the reviewed indicator i for this or that situation is determined by the ratio between the values of the indicator X_{ji}^{t} and threshold values.

During the analysis of market condition it is important to get the condition assessments by individual indicators of the method and its comprehensive evaluation of the modules and the status indicative for the situation in general. To obtain these estimates, it is necessary to transform the indicators expressed in different measurement units to the index (normalized) form of calculating their values.

This conversion is being made by the following rules.

If in the system of original (named) units, lowering the value of indicative index number leads to deterioration of condition (conditionally such an indicator is called "decaying"), then its normalized value is determined by the following relation:

$$\begin{cases} \text{если } X_{ji}^{t} \geq X_{\Pi K1,ji}, \text{ то } X_{ji}^{H} = 0; \\ \text{если } X_{ji}^{t} < X_{\Pi K1,ji}, \text{ то } X_{ji}^{H} = \dfrac{X_{\Pi K1,ji} - X_{ji}^{t}}{X_{\Pi K1,ji} - X_{K1,ji}}, \end{cases}$$

where $X_{ji}^{H} -$ is the normalized value of the i indicator for the j territory in the analyzed period, relative units.;

X^t_{ji} – factual value of the i indicator (value of the i indicator described in the named system of units) for the j territory in the analyzed period;

$X_{ПК1,ji}$ – threshold value of the initial stage of pre-crisis for the i indicator for the j territory in the original (named) system of units;

$X_{K1,ji}$ – threshold value of the unstable stage of crisis condition for the i indicator for the j territory in the original (named) system of units.

Basing on the similar expression, the normalized values for threshold levels of indicative index numbers of "decreasing" type are calculated, namely:

$$X^H_{ПК1,ji} = \frac{X_{ПК1,ji} - X_{ПК1,ji}}{X_{ПК1,ji} - X_{K1,ji}} = 0;$$

$$X^H_{ПК2,ji} = \frac{X_{ПК1,ji} - X_{ПК2,ji}}{X_{ПК1,ji} - X_{K1,ji}};$$

$$X^H_{ПК3,ji} = \frac{X_{ПК1,ji} - X_{ПК3,ji}}{X_{ПК1,ji} - X_{K1,ji}};$$

$$X^H_{K1,ji} = \frac{X_{ПК1,ji} - X_{K1,ji}}{X_{ПК1,ji} - X_{K1,ji}} = 1;$$

$$X^H_{K2,ji} = \frac{X_{ПК1,ji} - X_{K2,ji}}{X_{ПК1,ji} - X_{K1,ji}};$$

$$X^H_{K3,ji} = \frac{X_{ПК1,ji} - X_{K3,ji}}{X_{ПК1,ji} - X_{K1,ji}},$$

where $X^H_{ПК1,ji}$, $X^H_{ПК2,ji}$, $X^H_{ПК3,ji}$, $X^H_{K1,ji}$, $X^H_{K2,ji}$ and $X^H_{K3,ji}$ – are, respectively, normalized threshold values of pre-crisis (initial, growing and critical) and crisis (unstable, threatening and emergency) levels for the i indicator of the j territory.

At the same time, basing on the calculation algorithm, the value of $X^H_{ПК1,ji}$ always equals to zero, because thus value is the point of origin for calculating unfavorable conditions, while the value of $X^H_{K1,ji}$ always equals to one;

$X_{ПК2,ji}$, $X_{ПК3,ji}$, $X_{K1,ji}$, $X_{K2,ji}$ and $X_{K3,ji}$ – are, respectively, threshold values of pre-crisis (initial, growing and critical) and crisis (unstable, threatening and

emergency) levels for the i indicator of the j territory in the system of initial (named) units.

If in the system of initial (named) units, increasing the value of indicative index number leads to deterioration of condition (conditionally such an indicator is called "growing"), then its normalized value is determined by the following relation:

$$\begin{cases} \textit{если } X_{ji}^{t} \leq X_{\Pi K1, ji}, \ \ \textit{mo } X_{ji}^{t} = 0; \\ \textit{если } X_{ji}^{t} > X_{\Pi K1, ji}, \ \ \textit{mo } X_{ji}^{H} = \dfrac{X_{ji}^{t} - X_{\Pi K1, ji}}{X_{K1, ji} - X_{\Pi K1, ji}} \cdot \end{cases}$$

Just like in the previous case, the normalized threshold values of "growing" performance indicators are calculated.

Rules for classifying conditions by indicative index numbers based on standardized assessments are presented in Table 1.

Table 1: Classification of situations on indicative figures

State the situation	Sign	The ratio of normalized values of indicators and thresholds
Normal situation	H	$X_{ji}^{H} = 0 \ \ \textit{И} \ \ X_{ji}^{t} \neq X_{\Pi K1, ji}$
Initial crisis	ПК1	$0 < X_{ji}^{H} < X_{\Pi K2, ji}^{H} \ \ \textit{ИЛИ} \ \ X_{ji}^{t} = X_{\Pi K1, ji}$
Developing crisis	ПК2	$X_{\Pi K2, ji}^{H} \leq X_{ji}^{H} < X_{\Pi K3, ji}^{H}$
Critical situation	ПК3	$X_{\Pi K3, ji}^{H} \leq X_{ji}^{H} < 1$
The unstable situation	K1	$1 \leq X_{ji}^{H} < X_{K2, ji}^{H}$
Threatening situation	K2	$X_{K2, ji}^{H} \leq X_{ji}^{H} < X_{K3, ji}^{H}$
State of emergency	K3	$X_{ij}^{H} \geq X_{K3, ij}^{H}$

A separate problem is the establishment of threshold values for indicative index numbers. As our conducted studies have shown, for a number of indicators, threshold values are territorially differentiated depending on the external conditions.
Because of the large uncertainty in the identification of the conditions basing on the situation, it is reasonable to simplify the procedure of threshold levels formation as much as possible, defining them using special classification methods based on the theory of discriminant analysis, only to distinguish the main conditions: normal, pre-crisis and crisis. Respectively, border (threshold) values $X_{\Pi K, ji}$, $X_{K, ji}$, are introduced, which coincide with $X_{\Pi K1, ji}$, $X_{K1, ji} \cdot$ values. As for

intermediate stages of deepening crisis (pre-crisis), for these it is reasonable to introduce zones of equal intervals.

While using standardized assessments, the method of formation of the threshold values to distinguish zones of deepening crisis by levels has been tested and demonstrated practical suitability:

$$X_{K2,ji}^{H} = 1{,}4 X_{K1,ji}^{H}; \quad X_{K3,ji}^{H} = 1{,}8 X_{K1,ji}^{H}.$$

Respectively, normalized threshold values for pre-crisis 2 and pre-crisis 3 could be calculated using these formulas:

$$X_{\Pi K2,ji}^{H} = X_{\Pi K1,ji}^{H} + \frac{\left(1 - X_{\Pi K1,ji}^{H}\right)}{3} = 1 - \frac{2}{3}\left(1 - X_{\Pi K1,ji}^{H}\right) = \frac{\left(1 + 2 X_{\Pi K1,ji}^{H}\right)}{3};$$

$$X_{\Pi K3,ji}^{H} = 1 - \frac{\left(1 - X_{\Pi K1,ji}^{H}\right)}{3} = \frac{\left(2 + X_{\Pi K1,ji}^{H}\right)}{3}.$$

In principle, the estimations received above are quite enough for the diagnostics of the condition of *j* subject on the *i* indicative index number. However, questions on the condition diagnostics using indicative modules and the overall situation remain unanswered. The solution of these problems is possible through the introduction of numerical score of a situation.

After determining the condition assessments on specific indicators, it is necessary to diagnose the conditions on indicative modules. These estimates can be obtained in several ways. As the experience of calculations (Татаркин А.И. etc., 2001:1), (Альбрехт Э.Г. etc., 2003:2) of economic, energy, social and demographic security, narcotic drugs situation and regions of the Russian Federation has shown, the most appropriate rule for calculating the degree of crisis situation both on individual indicative modules and as a whole, is the rule of weighted average normalized estimate, where scores on indicators are used as the weighing machine.

Determination of weighted average normalized estimation by the indicative module, but this time score assessments of crisis situation level by indicators act as the weights. In this case, the normalized assessment of the crisis degree by module is calculated using the formula:

$$C_{kj} = \frac{\sum_{i=1}^{N_{kj}} b_{ji} X_{ji}^{H}}{\sum_{i=1}^{N_{kj}} b_{ji}}.$$

While using this method, all the normalized estimates by indicators that exceed the value of 2.5, are assumed to be equal to 2.5.

Similar to the previous two cases, after acquiring the normalized estimates by indicative modules, the crisis degree is estimated using them.

At the same time, this technique allows taking into account the specifics of a region, for example the analysis of a situation on the grocery supply of domestically produced goods. For the northern regions of Russia, where the climatic conditions do not allow agricultural activity, the thresholds are set below the average; for the southern regions these are set up above the average as we presuppose that the southern regions should not only provide grocery for their own region, but also for the northern regions.

Formation of indicative index numbers (indicators) within our technique is carried out on five indicative blocks:

1. Block of evaluation of the quality of consumer goods and services.
2. Block of food security assessment.
3. Block of non-food security assessment.
4. Block of services security assessment.
5. Block of consumer market participants' protectability.

All in all the technique includes about 50 indicators which are calculated basing on over one hundred index numbers of the official statistics.

Informational base of this research contains data by the Federal State Statistics Service, Ministry of Healthcare and Social Development and Ministry of Internal Affairs of Russia; as well as empirical material contained in books and periodicals, on websites and our own studies.

This technique allows assessing the situation in the consumer market and can be adapted for further usage in other regions and countries.

3. THE RESULTS OBTAINED

The results of calculation of complex technique for diagnostics of the consumer market situation in terms of the destructive factors impact of the Ural Federal District subjects that are part of the Russian Federation, are presented in Figure 1.

During the period from 2003 to 2010, the most favorable situation is observed in Tyumen region (excluding the autonomous districts). During the analyzed period, the dynamics of economic security of the consumer market in the region is characterized as positive, this value of indicators relative to other entities of Ural Federal District is explained by the following facts: an increase in consumer prices is on average 10% lower, the amount of agricultural production is about 25% of the total production in the Ural Federal District, the region has only about 11% of the total population of the Federal District, and the quality of goods is 20% above the average level, the amount of fraud is 52% lower than, for example, in Sverdlovsk region.

Figure 1: **The result is a comprehensive assessment of the economic security of the consumer market actors UFD**
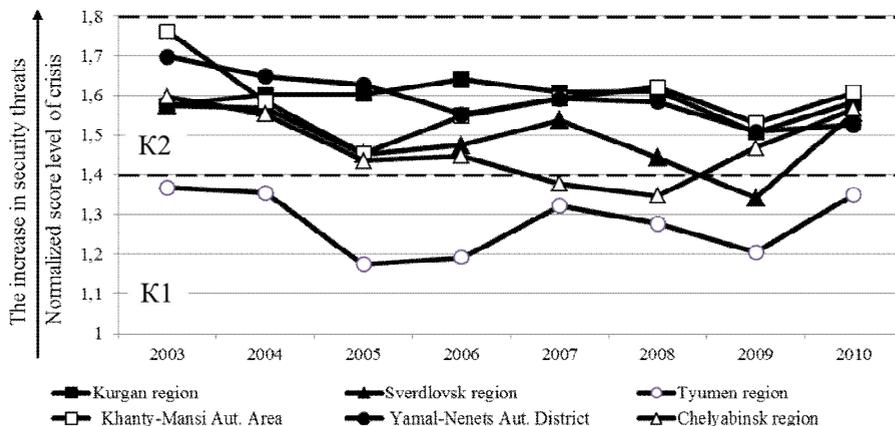
Note. Status code for security: K1 – the unstable situation; K2 – threatening situation.

The Yamalo-Nenets Autonomous District is characterized by positive dynamics – from 1.697 rel. units in 2003 to 1.526 rel. units in 2010, the change amounted to 10%, in the Khanty-Mansi Autonomous District – from 1.761 rel. units in 2003 to 1.607 rel. units in 2010, the change amounted to 9%.

The least unfavorable situation for the entire analyzed period on the block of non-food security for all subjects of the Ural Federal District and is characterized as a crisis emergency state. The most favorable situation is on food provision

(excluding the Khanty-Mansi Autonomous District and the Yamalo-Nenets Autonomous District) is in Kurgan and Chelyabinsk regions – the situation is described as normal, in Sverdlovsk and Tyumen regions – as pre-crisis critical state (PCCS), in the northern regions (KMAD and YNAD) – as crisis emergency stage (CES). The overall situation in food security block is characterized as crisis threatening stage. This is due to the fact that on the indicators included in this block, such as the level of prices and quality of goods, this condition is estimated as crisis.

Despite the overall positive dynamics, on some blocks of the technique the situation has worsened – the block of consumer protectability estimation. So, in 2003 the situation was assessed as unstable crisis (C1) for Kurgan and Sverdlovsk regions and YNAD, in 2010 in these areas - as threatening crisis (C2), in Tyumen region in 2003 – as critical pre-crisis (CPC3), in 2010 – as threatening crisis; in this block, an improvement is observed only for KMAD – from emergency crisis (C3) in 2003 to threatening crisis (K2) in 2010.

Thus, this conducted study allows us to make a conclusion that a set of measures aimed at the prevention of the threats for the development of the Russian consumer market is required, and, first of all, such activities should be aimed at improving the protectability level of the Russian consumer.

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