COMPETITIVE CAPACITY OF ENTERPRISES FOR ECONOMIC STABILITY AND PREDICTABILITY

***Halyna Pekna*[1]**

[1]PhD (Economics), Associate Professor, Associate Professor of Theoretical and Applied Economics Department, «KROK» University, Kyiv, Ukaine, e-mail: galynap2911@gmail.com, ORCID: https://orcid.org/0000-0003-4902-6052

Rapid and unexpected changes in the national and world markets, permanent changes in technologies, especially in the field of communications, often do not work in favor of business entities. Enterprises operating under the conditions of high uncertainty and unexpected impacts are most at risk. Rapid response to change is needed to counter threats. It is about what today is called «change management» and what correlates with the formation of the competitiveness of an enterprise.

Modern strategies for ensuring the competitiveness of enterprises are designed to resolve objectively existing contradictions. This is a contradiction between achieving maximum stability and resource use efficiency in the current period, on the one hand, and the formation of preconditions for changes in the future, on the other. In our opinion, this should first of all reveal the competitiveness of enterprises under conditions of uncertainty.

Unfortunately, the approach to competitiveness on the basis of resolving the contradiction between the «task for today» and the «task for the future» is not reflected in the Ukrainian legislation. According to Ukraine's «On Protection of Economic Competitiveness» Law, the latter is only considered as a competitive advantage over others. The Law states: «Economic competitiveness (competitiveness) is a competition between economic entities with the aim to gain advantages over other economic entities due to their own achievements, as a result of which consumers and economic entities have the opportunity to choose between several sellers, buyers, and a separate economic entity cannot determine the conditions of turnover of goods in the market» [1]. According to the cited article of the Law, economic competitiveness is considered only as a struggle, competition, rivalry with others for market advantages.

Other current laws – the Law of Ukraine «On Protection against Unfair Competition», the Law of Ukraine «On the Application of Special Measures to Import into Ukraine» – focus on the ways to regulate economic activity. These normative documents do not create a basis for the formation of tools for resolving the contradiction between stability and variability [2; 3].

There are various definitions of competitiveness in scientific circulation, filled with somewhat different meanings. In our study, the meaning of «competitiveness» is particularly important. After all, the meaning of the concept of «competitive ability» depends on the meaning embedded in this concept.

Special studies on the evolution of the concept of «competitiveness» provide grounds for some important generalizations. Such studies are carried out, in particular,

by domestic scientists [4]. From the whole array of definitions of competitiveness, in our opinion, it is necessary to distinguish two groups, namely:

– definitions, which reveal the necessary *conditions for the functioning of the market as a competitor* and relate to the number of producers and consumers operating in the market, as well as the freedom to enter and exit the market;

– definitions, which focus on *the tools (methods of implementation) of victory* in competitiveness.

A more detailed analysis of the meaning of the concept of «competitiveness» helps to find out that except for traditional manifestations, which are detected in competitive rivalry, the following its manifestations are considered:

– dynamism of the economy, constant introduction of new technologies in production, management and communication with consumers and partners, formation of new organizational structures;

– profit maximization on the basis of additional costs associated with market research and the creation of innovative forms of promotion of own goods;

– the desire to protect against the negative consequences of market competitive rivalry with appropriate actions aimed at collusion between former competitors and market monopolization, which actualizes the coercive antitrust actions of governments to protect the competitive environment.

As it is known, competition is constantly changing, acquiring new forms. The classic of competition theory M. Porter identifies five driving forces of competition, under the influence of which its changes take place. It is significant that among these drivers, the potential threats to be pushed out of the market by more successful manufacturers are emphasized. The factor of creation of substitute goods with better or new consumer properties by other producers is also singled out [5]. It is clear that these driving forces of competition form the economic uncertainty of an enterprise. After all, it is quite difficult and, for the most part, impossible to predict the actions of other «market players».

We consider it fundamentally important that competition is a relationship with signs of constant changes in the forms and methods of doing business, with the risks of uncertainty. Therefore, **competitiveness** is the ability to operate in such a changing, risky environment, which involves additional costs associated not only with competitive rivalry, but also with adaptation to a changing environment. In this sense, the competitiveness of an enterprise appears not so much as a competition with other «players» of the market, but as a «competition with itself». It is a question of contradiction between an enterprise in its old (traditional) condition and in a new condition. At the same time, the new state must meet the new conditions of doing business, new technologies and needs. This is a special dialectical denial of an old state of an enterprise by the new state, which is a development.

Our proposed definition of competitiveness corresponds to the task of this chapter – to investigate the enterprise competitiveness in terms of economic uncertainty. However, there are other definitions of competitiveness which have

emerged in other contexts. It is these other contexts that have required other emphases in the definition of competitiveness.

In many studies, the enterprise competitiveness is associated with the competitiveness of goods, the competitiveness of industries (sectors) of the economy and the competitiveness of the entire national economy. This connection can be represented as follows (Fig. 1).

Fig. 1 illustrates the idea of interdependence of four levels (manifestations) of competitiveness, namely: the entire national economy, its industries (sectors), enterprises, and individual goods.

The competitiveness of an individual enterprise, which is the object of our study, is formed under the influence of the competitiveness of the industry. At the same time, the competitiveness of each enterprise shapes the competitiveness of the industry in which they operate. The latter, of course, increases with the number of competitive enterprises.

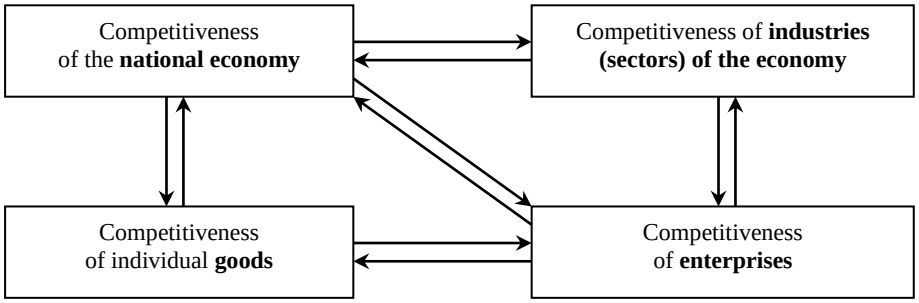

Fig. 1. The relationship between the levels of competitiveness

Source: authors' own

The enterprise competitiveness is implemented through the competitiveness of the goods created by it. Conversely, the competitiveness of goods forms the competitiveness of an enterprise.

Another link between the competitiveness of an enterprise is its dependence on the competitiveness of the national economy. The latter, in our view, plays the role of a kind of «external environment» to promote competitiveness at all levels.

The following conclusion can be drawn from the analysis of Ukrainian studies in the field of enterprise competitiveness issues. Quite often it is determined and evaluated through the competitiveness of the created goods [6; 7]. Less often, the competitiveness of an enterprise is associated in the definitions and assessments with the competitiveness of the industry and the entire national economy [8].

Agreeing with the idea of connection of concepts (phenomena) of competitiveness of economy, industry, enterprise and separate goods, we consider it expedient to distinguish them as distinctly as possible. It is a question of finding out not only the common, but also the special (different) in the content of these concepts. Only in this way the basis for the development of specific methods for assessing different levels of competitiveness can be created.

With regard to the need to clarify the content of the competitiveness of an enterprise, industry and individual product, we make some generalizations.

The competitiveness of the **industry** is mainly associated with the presence of conditions for the creation of innovative products and the introduction of products of the research and development (R&D) sector [9; 10]. Econometric assessment of the level of competitiveness of the industry is often carried out using the ideas of the Porter's diamond mode [11].

It is clear that the competitiveness of a particular industry can be determined and evaluated in comparison with:

a) similar industries in other national economies;

b) other sectors of their own national economy.

With regard to the possibility of assessing the competitiveness of the industry against similar industries in other economies, for most countries not the fact of victory, but the ability to participate in competitive rivalry is relevant. Thus, it is about the ability to occupy a worthy place in the world hierarchy of such industries. This ability of the industry, in our opinion, can be assessed at least by such indicators as:

– the ratio of domestic and foreign prices for products of the industry ($P_d/P_f = k_P$);

– investment attractiveness of the industry for external investors, assessed by the ratio of levels of return on investment, i.e. interest on invested capital abroad and within the country ($i_d/i_f = k_i$);

– the share of the industry in the formation of supply in the international market of products of this industry ($S_d/S = d_S$).

Using the proposed indicators, the index of **external competitiveness of the industry** could be calculated ($I^{Ext}_{Comp/i}$).In this case, the *rationing* of the actual values of the three indicators determined by us (k_P , k_i, d_S) against the background of similar values of indicators of the group of countries selected for comparison could be carried out according to the formula [1]:

$$y_i = (x_{краще} - x_{факт})/(x_{краще} - x_{гірше}),$$

where, y_i – normalized value of the actual indicator, $x_{факт}$, $x_{краще}$, $x_{гірше}$ – accordingly, the actual value of the indicator of the studied country, the better value of the indicator in the group of countries selected for comparison, the worse value of the indicator in the group of countries selected for comparison.

Weights for three indicators – k_P , k_i , d_S – for the calculation of the integrated index could be determined using common techniques: either by expert evaluation, or by statistical method of the main components.

The competitiveness of the industry against the background of other sectors of its own national economy, i.e. the internal competitiveness of the industry, can be assessed, for example, by the following indicators:

– the share of the industry in creating value added (GDP) of the national economy ($Y_i/Y = d_{Yi}$);

– the share of innovative products in the industry production structure (Y_{In} /Y_i = $d_{Yi/In}$);

– labor productivity in the industry ($Y_i/L_i = k_{Y/L}$);

– the average profitability of enterprises in the industry (R^*).

If the industry's internal competitiveness index needs to be calculated, the same approach could be used as when determining external competitiveness. The logic of rationing indicators should be the same with one difference. Here we should not compare the indicators of similar sectors of different countries, but the indicators of different sectors of the national economy. Depending on the principles underlying the evaluation, for comparison, either all sectors of the economy or industries that are technologically closest to the study could be taken. The weights for the four mentioned indicators in the calculation of the integrated index could also be estimated using common methods of statistical analysis.

The competitiveness of a **product** is mostly defined as its capacity to meet consumer demand, demonstrating competitive advantages over other products through:

– consumer properties, technical characteristics, image features;

– relative (versus imported goods and domestic alternative goods) price level;

– the length of time the product has been on the market, and so forth.

With regard to the relationship between the competitiveness of an enterprise with the competitiveness of the industry and the products created, the following clarification is appropriate. The competitiveness of an enterprise is its ability to compete for market share, to resolve the contradiction between exhisting and required future potential, which is formed by the competitiveness of the industry and the goods it creates.

The question of the relationship between the enterprise competitiveness and the competitiveness of the national economy is of fundamental importance. In our opinion (and this is reflected in Fig. 1), the competitiveness of the national economy both indirectly and directly is related to the competitiveness of an enterprise.

The structure of the global competitiveness index (I_{GCI}) reveals areas where the competitiveness of the national economy has a direct impact on the competitiveness of an enterprise.

The Global Competitiveness Index, as it is known, is calculated annually for all countries by an international organization called the World Economic Forum (WEF). This allows for the creation of a country ranking. Each country's position in the list reflects its level of national economic competitiveness. The Index (I_{GCI}) has a high level of credibility because it is based on a transparent methodology that uses publicly available data and the findings of a global survey. The latter is an annual WEF study conducted in collaboration with a network of partner organizations, including some of the world's most prestigious academic institutions.

Twelve evaluation directions are used to generate the Global Competitiveness Index. The list and content of these areas of evaluation are critically crucial for our

research. The index (I_{GCI}) evaluates the following structural elements using a set of indicators:

- *macroeconomic stability;*
- consumer market;
- labor market;
- *financial system;*
- the size of the domestic market;
- *quality of institutes;*
- *the state of infrastructure;*
- the level of IT and modern communications penetration;
- public health;
- education and skills;
- dynamics of business development;
- *ability to innovate*.

Most of the above 12 directions for assessing national economy competitiveness, in our opinion, can be regarded as areas of influence on the competitiveness of a single enterprise. These are primarily those that contribute to the stability and higher level of certainty of the enterprise performance. These include: macroeconomic stability, financial system, quality of institutions, state of infrastructure, ability to innovate.

Ukraine ranks worse than the global average in the ranking, according to the global competitiveness index. The fluctuations of our country's position in the world rankings are depicted in Fig. 2.

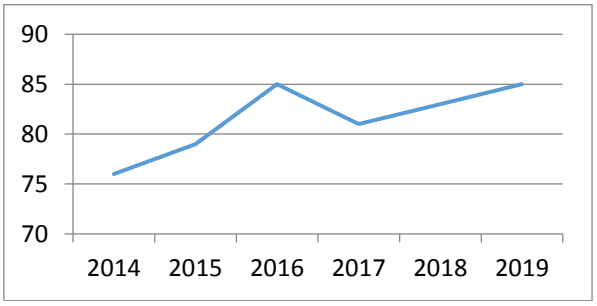

Fig. 2. Ukraine in the international competitiveness ranking

Source: authors' own based on [12]

According to the data in Fig. 2, Ukraine's best ranking in terms of economic competitiveness was 77th from 2014 to 2019. Consequently, eight ranking positions were lost.

The comparison to other countries – a comparative analysis of the ranking's «near environment» – is critical for determining overall economic competitiveness. The general information in Fig. 3 can be used to do this analysis.

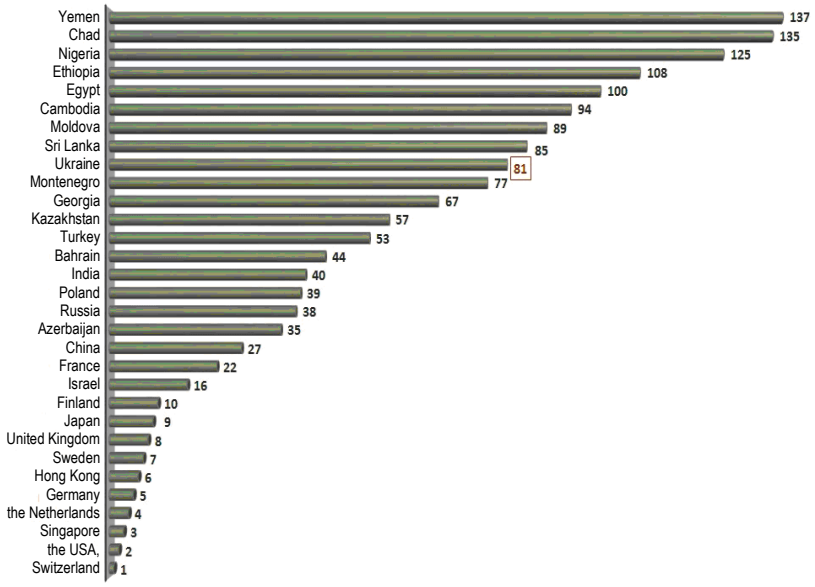

Fig. 3. Ukraine's position in the world ranking, according to the global economic competitiveness index (I_{GCI})

Source: [13]

According to the information from Fig. 3, being in the lower half of the ranking, the Ukrainian economy lags behind the vast majority of post-socialist countries, showing worse performance.

The identification of the reasons for the deterioration of the country's place in the world rankings is fundamentally important for the analysis of competitiveness. For example, in 2018, taking the overall 81st place in the I_{GCI} rankings, Ukraine had the best places in the following specific areas:

– 46th – by the level of education;

– 58th – by the level of innovation opportunities;

– 66th – according to the state of the labor market;

– 77th place – by the level of modern technologies penetration.

Instead, the indicators in the following areas were worse than the general significance of Ukraine's place in the ranking:

– 94th – according to the state of health care;

– 110th – according to the level of development of state institutions;

– 131st – according to the level of macroeconomic stability.

Since there is little doubt that the overall competitiveness of the national economy and the competitiveness of an enterprise are linked, predictions regarding an enterprise's capacity should take into account at least the following factors:

– dynamics of national competitiveness;

– changes of the impacts of certain areas, respectively, of indicators of improvement or, conversely, deterioration of the country's place in world competitiveness rankings.

To quantify the competitiveness of enterprises, using certain methods, it is advisable to explore the emphases in the definitions of this phenomenon. With regard to

the emphases, we can distinguish the following approaches to the content of the enterprise competitiveness:

– from the standpoint of dependence on the competitiveness of the created goods;

– from the standpoint of dependence on the competitiveness of the industry and the entire national economy;

– from the standpoint of the level of resource efficiency;

– from the standpoint of human capital formation;

– from the standpoint of competition with other market operators;

– from the standpoint of the ability to adapt to specific conditions.

The methods used in practice to assess the competitiveness of enterprises are mostly based on these approaches or on their individual fragments.

From a large set of methods for assessing the enterprise competitiveness it is possible, according to certain criteria, to distinguish their groups (Fig. 4).

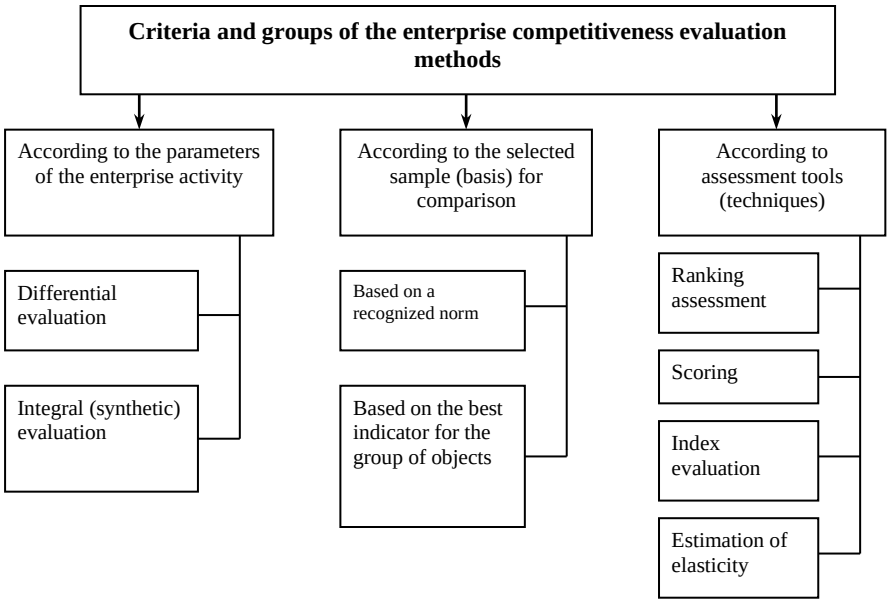

Fig. 4. Criteria and groups of methods for assessing the enterprise competitiveness

Source: authors' own

Figure 4 illustrates the division of methods for assessing the competitiveness of enterprises by three criteria. According to the *first criterion* – considered parameters of the enterprise activity – differential and integral methods have been identified. According to the *second criterion* – the selected sample – methods using a recognized norm and using the best indicator for a group of objects have been presented. According to the *third criterion* – the applied evaluation technique – the methods of ranking, scoring, index evaluation and elasticity evaluation have been distinguished. It is important that each specific method of assessing the enterprise competitiveness can simultaneously belong to several groups, meeting several criteria. This is

confirmed by the analysis of specific methods used in the analysis of the enterprise competitiveness.

Despite the differences in methods for assessing enterprise competitiveness, they are all founded on the concept of benchmarking – *comparison*-based assessment (level determination). Different components of an enterprise can be evaluated through comparison. To begin, it is necessary to compare product quality, productivity, sales, market share, and return on investment, among other factors. The comparison may also relate to such characteristics as quality of management, business reputation, and image of an enterprise. Benchmarking of the enterprise competitiveness, as a very variable phenomenon, must take place permanently. This requires relevant and constantly updated information on various aspects of an enterprise.

The main difficulty of benchmarking, as an approach to evaluation through the comparison of competitiveness, is related to the choice of the basis for comparison. It is a question of a choice of analogues (samples) – objects with parameters of activity which are accepted as a reference. If the compared enterprises differ significantly in the range of products, technologies, organization of production and management, stage of the life cycle, etc., the comparison loses its validity. To avoid incorrectness, the «reference object» – a hypothetical company endowed with certain properties – must be determined taking into account the requirement of similarity.

The idea of a «reference object» has certain advantages, as it creates a certain positive image for the company as a goal to be achieved. At the same time, specialists in strategic management pay attention to the negative results of this approach. After all, the desire of enterprises to «copy the model» can lead to a distortion of economic rivalry and the competitive nature of business. This can result in a loss of benefits from true (objective) competition between enterprises for consumers and for the economy as a whole.

Expert evaluation is a common approach of comparison-based evaluation. This technique can produce positive results if the experts are professional and the survey findings are statistically processed correctly. The task of experts can be to assess the level of a parameter (mostly that has no quantitative indicators) in scores, ranking of the studied objects, the significance of the impact (weights in integrated assessment), etc.

Consideration of individual methods for assessing the competitiveness of enterprises provides grounds for confirming the effectiveness of our proposed classification of assessment methods (Fig. 4).

A differential method is used to determine the enterprise competitiveness in relation to the competitiveness of its products. Individual parameters of a product and the product chosen as a sample (base) for comparison are compared in this way. Such an assessment is appropriate for any stage of the product life cycle and the life cycle of an enterprise.

This uses the simplest formula for relative assessment:

$$q_i = \frac{P_i}{P_{i0}} \times 100\%, (i = 1,2,3,\dots,n), \qquad (1)$$

where q_i – a separate indicator of the enterprise competitiveness for the i-th product, evaluated by certain parameters, such as energy savings in consumption, design quality, reliability in use, etc.; P_i – the actual quantitative value of the parameter by which the product is valued; P_{i0} – quantitative value of the parameter of the product selected (recognized) as a sample; n – the number of parameters by which the product is evaluated, through which the level of enterprise competitiveness is revealed.

The formula 1 can also be used to analyze the enterprise competitiveness using particular economic criteria. Productivity, market share, profitability, economic growth, and other factors can be studied as parameters. Variable models will have the following values: P_i – the actual value of the parameter by which the economic condition of an enterprise is estimated; P_{i0} – the quantitative value of the economic parameter of an enterprise, selected (recognized) as a sample.

The considered method of assessing competitiveness, according to the classification presented in Fig. 4, belongs to the group of differential evaluation (according to the first criterion), to the group of evaluation according to the selected sample (according to the second criterion), and to the group of index methods (according to the third criterion).

Conclusions about the level of enterprise competitiveness, according to the results of differential (by individual indicators) evaluation are quite simple. For example, such an assessment makes it possible to record by how many percentage points the parameter of the product by which the company is valued, deviates from the sample. But such simple conclusions are limited because they ignore many other important aspects of the enterprise competitiveness.

Taking into account the fact of the versatility of the enterprise competitiveness phenomenon, the methods of integrated (comlex) evaluation are used.

Such integrity can be implemented even when assessing the enterprise competitiveness through one product. Complexity is achieved if the product is evaluated not by one but by several parameters. It is about the use of the so-called parametric index of consumer properties of goods (J_n) [14], calculated by the formula:

$$J_n = \sum a_j \times i_j, \qquad (2)$$

where n – the number of parameters being analyzed; a_j – the weight of the j-th parametric index, which is usually determined by experts; i_j – parametric index of the j-th parameter.

With a mixed differential-integrated approach, i.e. when assessing the enterprise competitiveness through a particular product, which is evaluated not by one but by several parameters, the following formula can be applied:

$$q_i = \frac{J_i}{J_{i0}} \times 100\%, \qquad (3)$$

where J_n – parametric integrated valuation index of a particular product; J_{n0} – parametric integrated index of evaluation of the product selected as a sample.

Another option for a comprehensive assessment of competitiveness is to use a customized index calculated without normalizing individual parameter indices, as described in the formula:

$$I_{np} = q_{i1} \times q_{i2} \times q_{i3} \dots q_{in,} \qquad (4)$$

where I_{np} – group indicator of competitiveness according to normative parameters; q_i – separate index indicators of competitiveness taking into account standards; n – the number of parameters being evaluated.

The peculiarity of the evaluation methodology based on the group index (according to formula 4) is that it assumes equal importance of all selected parameters for the enterprise competitiveness. After all, non-competitiveness in at least one indicator, i.e. the absence of a certain parameter (for example, $q_{i2} = 0$), causes a zero value of the entire integral index.

According to the classification shown in Fig. 4, the assessment of competitiveness using formulas (2) and (4) is integral, based on a recognized standard and using integrated indices.

The enterprise competitiveness in all the methods we have considered so far was assessed by the *internal* characteristics of an enterprise. It was about the quality of the manufactured goods as well as many economic activity parameters. The enterprise *external* aspect was present indirectly, specifically in the selection of the sample for comparison. External *parameters*, on the other hand, can be used to assess competitiveness. In particular, these include the parameters of the response of consumers of the industry to changes in certain aspects of an enterprise. Such indicators (at the same time – methods of evaluation), in our opinion, may include:

– coefficients (E_P^D) of the elasticity of consumer demand (*D*) by the prices of those goods with which first of all an enterprise is presented in the industry market (*P*):

$$E_P^D = \frac{\Delta D}{\Delta P}. \qquad (5)$$

Stable and relatively low values of this indicator of elasticity, in our opinion, can be interpreted as evidence of a stable competitive position of an enterprise in the market;

– indicators of consumer response to advertising (image) activities of an enterprise, for example, in the form of a coefficient (k_{Adv}^{Rev}) of change in sales (Re*v*) for each additional unit of advertising (image) expenses (*Adv*):

$$k_{Adv}^{Rev} = \frac{\Delta Rev}{\Delta Adv}. \qquad (6)$$

The relatively high and rising values of this coefficient can be regarded as a strengthening of a company's competitive position as a result of increased trust in its activities and the information it provides;

– coefficients (k_{Inv}^{Pl}) of an enterprise position change in the ranking of enterprises of the industry (*Pl*) for each additional unit of usual investment or innovation expenses (*Inv*):

$$k_{Inv}^{Pl} = \frac{\Delta Pl}{\Delta Inv}. \qquad (7)$$

Positive values of this ratio may testify to the victory of an enterprise in competition with other enterprises in the industry through more efficient investment. The latter is a direct manifestation of greater competitiveness of an enterprise.

These methods of assessing the competitiveness of an enterprise through external response to changes in its activities – in fact, the assessment of elasticity –are differential only in form. In their content, they are integral. The reason for this statement is that the external environment of the industry market responds to an enterprise as integrity. In this integrity, not just one parameter, but many parameters of enterprise activity are intertwining.

Conclusions: Theoretical approaches to interpreting the content of enterprise competitiveness that have been researched create the foundation for views about the relationship between competitiveness and the stability and certainty of an enterprise particular economy. But the contradiction between the stability of the current state of an enterprise and the need for change for the sake of the future, on which we focused, is not yet «embedded» in the general theory of competitiveness. Therefore, the scientific and applied issue of explaining the relationship between competitiveness and economic stability and certainty at the enterprise level can hardly be considered solved.

The methods we examined for assessing an enterprise competitiveness, in our opinion, lack suitable application tools for evaluation that take economic uncertainty into consideration. Although the approaches used in the analysis allow for the inclusion of an uncertainty parameter in the evaluation processes.

In our opinion, future research in the field of enterprise competitiveness should focus on two issues: 1) on clarifying ideas about the relationship between the ability to participate in economic competition and the need to adapt to conditions of uncertainty; 2) on the creation of methods for assessing competitiveness, taking into account the parameter of uncertainty.

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