

Techniques for Analyzing the Attractiveness of International Commodity Markets Under Conditions of Economic Globalization*

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ABSTRACT. This article examines existing techniques and proposes its own for analyzing the attractiveness of international commodity markets in light of the globalization of world economic processes. Taking into account the supranational nature of the world economic environment when examining categories in the attractiveness of international commodity markets, the author introduces a multilevel system of indicators: market attractiveness at the mega-level – global level; market attractiveness at the macro-level – national level; market attractiveness at the mezo-level – level of an individual sector. The attractiveness of international commodity markets is considered to be the degree of conformity between market environment factors and the mega-, macro- and mezo-levels of the economic interests of enterprises concerning the entry into and strategies for their activity on the international commodity markets in the short-, medium- and long-term. The author designs a stage-by-stage technique for strategically analyzing the attractiveness of international commodity markets in order to frame efficient market strategies of enterprises. Relying on the proposed techniques, she rates the integrated indicators of market accessibility and the possibility of realizing the economic interests of enterprises in target markets, bringing the index data into a matrix of «market accessibility – opportunity for realizing the economic interests of enterprises.» The analysis of a country's position in the matrix makes it possible to frame efficient market strategies for enterprises.

KEY WORDS. Globalization, internationalization, international commodity markets, market selection, market attractiveness, techniques, target market, market environment, market opportunities, market dangers, risks, competitiveness, market accessibility, enterprises, economic interests.

Introduction

One of the most typical features of the current economic, socio-political, and cultural development is the ongoing processes of glob-

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alization that have an objective nature and are the result of the evolution of the world economy. The invigoration of internationalization and globalization of the world economy has opened up national economies and the general liberalization of foreign economic relations, thus promoting the involvement of national enterprises in the global economic system.

Export-oriented enterprises should take into account the impact of the dynamic world economy and analyze more thoroughly the environment for international business in order to choose attractive markets for such business. Globalization means national economies establish direct relations with the world economy, the deep reciprocal influences of such relations, thus requiring an in-depth calculation of given features under consideration and that pertain to opportunities for enterprises to enter international markets. Of special importance for such entries is the evaluation of international commodity markets, which must take into account the specifics of the international business environment.

Although a large body of literature has examined issues pertaining to selection of markets that are attractive to business, there are practically no studies that define the economic content of the concept of commodity market attractiveness and the process for analyzing international commodity markets, as well as issues concerning the framing of efficient market strategies on behalf of national enterprises for international commodity markets.

Let us begin by considering the concept of the attractiveness of international commodity markets and the existing techniques for choosing markets that are attractive to international business.

The Essence of the Concept of Attractiveness of International Commodity Markets

In considering this concept an analysis of scientific studies on the attractiveness of international commodity markets allows us to single out the following approaches:

1. The concept *attractiveness of international commodity markets* is usually used within the context of evaluating and choosing international markets for business and is linked with an analysis of how external factors of the market environment impact on the activity of enterprises entering these markets¹.

¹ *Mezhdunarodny marketinh.* [Y. Azarian. International Marketing. Kyiv. Studcenter Publishers, 1998, p. 200].

2. *Attractiveness* is considered within the context of a *sector's attractiveness* in scientific studies devoted to the strategic analysis of an enterprise's activity and strategic management².

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- ³ *Porter M. E.* Competitive Strategy: Techniques for Analyzing Industries and Competitors. — New York, N.Y.: Free Press, 1980. — 396 c.;
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- Konkurentsya: analiz, strategiya i praktika.* [G.Azoyev. Competition: Analysis and Practice. Moscow. Center for Economics and Marketing. 2000, p. 208].
- Svitova ekonomika.* [A.Filipenko, V.Budkin, O.Veklych, S.Hodun, M.Dudchenko.Kyiv. Lybid Publishers, 2001, p.582].

3. *Market attractiveness* is considered along with the *competitive situation of the market and the competitiveness of enterprises and the national economy*³.

When examining market attractiveness, most authors associate it with market indicators that evaluate the business climate. Let us consider in greater detail the expressed viewpoints on the concept of attractiveness of international commodity markets.

The *first approach* is based on the concept of *attractiveness of international commodity markets* and is linked with the analysis of how external factors of the market environment impact on the activity of enterprises entering these markets.

A widespread approach to evaluating the attractiveness of a country's business climate is the application of different indicators and publications of information agencies offering analytical evaluations and integral risk indicators along with corresponding investment ratings analyzing the factors of a country's political, economic, and socio-cultural environment as well as its resources and infrastructure. Such magazines as *Economy* and *The Economist* publish country ratings. Moreover, the techniques of SJ Rundt Associates are used to rate a country's risks and rank it by degree of unstable development⁴.

The *second approach* to defining the concept of *market attractiveness* is based on its consideration of *sector attractiveness* in scientific sources that are dedicated to questions pertaining to the strategic analysis of activities of enterprises and strategic management.

This understanding of *market attractiveness* became widespread with the application of the method of portfolio analysis of the activity of diversified companies in the construction of the General Electric matrix. Specialists in strategic management, who use this matrix, refer to different approaches to determine the indicators of a sector's attractiveness, and which are the most explicitly reflected in the proposed list of criteria. A. Tompson and A. Strikland refer to the following criteria in determining long-term sector attractiveness: the capacity of a market and its growth rates, technological requirements, level of competition, entry and exit barriers, seasonal and cyclical fluctuations, requirements in capital investment, dangers and opportunities of developing sectors, profits of a sector (past and future), impact of social and environmental factors, and state regulation⁵.

⁴ *Marketing v mezhdunarodnom biznesse*. [Y. Avdokushin. Marketing in International Business. Manual. Moscow. Dashkov & Co. Publishing-Trade Corporation. 2002, p. 88].

⁵ A. Tompson, A. Strikland. Strategic Management. Translated from English. Banks and Exchanges. Moscow. UNITA Publishers, 1998, p.400.

Under the *third approach* the concept of *market attractiveness* is considered in a number of publications along with the concept of the *competitive situation in the market and the competitiveness of enterprises*. M. Porter points out that this concept is interrelated and dependent on the concept of the *competitive situation in the market*. His concepts of a country's competitive advantage («Porter diamond») and five forces of competition, which determine a sector's profitability⁶, are elemental in determining the attractiveness of commodity markets and gained wide currency in economic literature. In our opinion, the important feature of this approach is its attention to a country's environment and its interaction with the environments of other countries in strengthening and shaping conditions for the favorable activity of foreign enterprises in the markets of a given country.

These approaches reflect only some aspects of a market's attractiveness. However, when evaluating the attractiveness of a market, many other indicators of its development should be considered. Taking into account the supranational nature of the world economic environment when examining the concept of the attractiveness of international commodity markets, this article introduces a multilevel system of indicators:

- market attractiveness at mega-level — global level;
- market attractiveness at the macro-level — national level;
- market attractiveness at the mezo-level — level of an individual sector.

Considering the attractiveness of international commodity markets at the mega-level, it is important to account for the global nature of the world economic space and the following global economic factors should be evaluated: the state of development of the world economy, international factor markets, the level of transnationalization and regional integration, as well factors in the supranational and inter-state regulation of international economic relations. In view of the attractiveness of international commodity markets at the macro-level, it is important to emphasize the external environment of international markets, the degree of attractiveness to national businesses as a whole, its market environment according to political, legal, economic, socio-cultural, scientific, technological, demographic, natural and geographic factors. The attractiveness of international commodity markets should also be considered according to

⁶ M. Porter. *Competition*. Translated from English. Moscow. Williams Publishing House, 2002, p. 174).

Marketingovye issledovaniya. [A.Starostina. Marketing Research. Moscow. Williams Publishing House, 2001, p. 31].

a list of factors at the mezo-level, the level of individual sectors, since the high attractiveness of a country's business environment and the positive dynamics of its market factors may not signify that the sector market of a country is sufficiently developed and attractive. Indicators of the attractiveness of international commodity markets at the mezo-level include the capacity of a sectoral market, growth rate of the sector market, duration of the life cycle of the good on the market, technological requirements, level of competition, entry and exit barriers in the market, as well as seasonal and cyclic fluctuations.

Moreover, market attractiveness will depend on who is carrying out the assessment. In this respect, the attractiveness of international commodity markets for an individual enterprise should be assessed in terms of the possibility of it realizing its own economic interests in that market. From the viewpoint of A.Starostina, economic interests characterize more adequately the activity of the market's economic subjects⁷. Indeed, this is how O'Shaughnessy expressed his approach to defining the concept of a commodity market's attractiveness from the viewpoint of an enterprise's economic interests: the attractiveness of a sector is determined by those factors in the sector and in the market which a company most would like to discover or which it most tries to prevent⁸.

Therefore, when an enterprise enters an international market, it seeks opportunities to match its economic interests with all subjects of the market – consumers, competitors, suppliers, mediators, and state agencies. The enterprise's ability to realize its economic interests changes over time and according to the dynamics of the market environment.

The analysis carried out makes it possible to define the attractiveness of international commodity markets. As an economic category, the *attractiveness of international commodity markets* is characterized by economic relations among the subjects of the international market – consumers, competitors, suppliers, mediators, and state agencies in terms of the reconciliation of their economic interests related to the entry into international commodity markets and strategies of their activity in the international commodity markets over the short, medium and long term. Market at-

⁷ *Marketingovye issledovaniya*. [A.Starostina. Marketing Research. Moscow. Williams Publishing House, 2001, p. 12].

⁸ O'Shaughnessy. *Competitive Marketing*. Strategic Ap-proach/S.Zhylytsov [translated from English]. St.Petersburg. Piter Publishers, 2002, p.12.

⁹ *Mizhnarodny marketing*. [T.Tsygankova. International Marketing. Kyiv. Kyiv National Economics University Publishers, 1998, p. 56].

tractiveness can be defined as the degree of conformity between the state of market environment factors and ability of the enterprises to realize their economic interests in terms of entry into and strategies of their activity on the international commodity markets.

Selection of Attractive Markets by Enterprises for Engaging in International Business

Depending on the extent to which managerial decisions are justifiable, attractive international markets can be selected in two ways: 1) subjective – relying on personal preferences, subjective feelings and expectations of persons making the decisions; 2) objective – relying on market research and comparison of objective data.

The objective methods of selecting international markets are essentially filtration methods, i.e. at first the potential markets are identified, then they are evaluated, with the least attractive ones according to different criteria (filters) being excluded in descending order in terms of their significance for the enterprise. The list and number of data criteria vary according to the different approaches of authors.

According to T. Tsyhankova, the objective methods include a discrete and comprehensive (integrated) approach⁹. The comprehensive approach considers a quantitative evaluation of each of the parameters of possible markets according to a system of indicators or an in-depth analytical justification under a certain model, which theoretically ensures the highest level of justification. Somewhat simplified and less costly in financial terms is the discrete approach based on the evaluation of a small aggregate of the status of indicators that are the most important for a company and the prospects for development of the market or other criteria.

The successful application of the discrete approach, as a technique for justifying the choice of foreign markets on the basis of two-three analyzed indicators, depends on the correct choice of these indicators. The indicators taken for analysis should: accord with the company's entry into the foreign market; objectively describe the state or specifics of the foreign market's development, and be studied over a certain period of time. Under the discrete approach the principal requirement for the information base should be reliability, trustworthiness, and verification of the chosen indicators.

Among the models widely presented in the literature for selecting attractive foreign markets is the «opportunity-risk» matrix (Borg-Warner method) and the «country's attractiveness – company's competitiveness» matrix (Ford method), which consider the selection by each specific enterprise of the most important indicators for

it specifically, identification of their statistical significance, and construction of a visual diagram to demonstrate the comparative status of different countries¹⁰.

The comprehensive approach implies an all-inclusive analysis and evaluation of the market's indicators and criteria. Among the comprehensive selection methods offered in the literature and attractive for realizing the international market activity of enterprises, the most significant is the analysis of existing opportunities of the international business environment termed as the SLEPT analysis (social/cultural, legal, economic, political, technological) that is used to identify those macro environmental factors (social/cultural, legal, economic, political, technological) that impact the most and may impact on the future of the company's activity on international markets. Also significant among the widespread comprehensive models is the concept of «four filters» of foreign market selection, i.e. step-by-step exclusion of countries according to different criteria¹¹.

Apart from the complexity and high cost of research, the application of comprehensive methods of market selection has a number of marked advantages, the most decisive of which is the analysis of market attractiveness by quantitative and qualitative characteristics of the market relative to the enterprise's opportunities and needs. Yet the list of data of market characteristics that have to be analyzed requires in some cases a clearer systematization. For more objective decisions on the choice of an international market, a combination of discrete and comprehensive methods of analysis should be applied, since the final decision on the future target market is made on the basis of comparing markets according to several of the most important criteria.

Steps for Analyzing the Attractiveness of International Commodity Markets

As examined above, the attractiveness of an international market is determined by the degree of conformity between the status of market environmental factors and the ability of enterprises to realize their economic interests in entering international markets. We suggest applying the concept of *market accessibility*, which is a set of

¹⁰ G.Daniels, Li Radeba. International Business: External Environment and Business Transactions. Translated from English, sixth edition. Moscow. Delo Publishers, 1998, pp. 520—522.

¹¹ *Konkurentsya: analiz, strategiya i praktika*. [G.Azoyev. Competition: Analysis and Practice. Moscow. Center for Economics and Marketing. 2000, p. 208].

international market factors favoring the enterprise's activity. That is, all those external environmental factors for enterprises, which can be factors of opportunities, shall be called factors of market accessibility.

In the process of analyzing the attractiveness of international commodity markets, it is important to compare the market accessibility indicators and the ability to realize economic interests, while accounting for the enterprise's competitiveness on international markets. These steps in the analysis of the attractiveness of international markets are presented in Fig.1.

Stage 1	Identification of an enterprise's economic interest
	Purpose: analysis of the degree of internationalization of an enterprise's activity and the aims of its foreign economic activity
Stage 2	Analysis of an enterprise's opportunities for international activity and preliminary selection of target markets
	Purpose: compile a preliminary list of markets favorable to the enterprise for further analysis
Stage 3	Research of market accessibility of target markets
	Purpose: determine the integrated indicators of market accessibility for each of the target markets
Stage 4	Research of the enterprise's opportunity to realize its economic interests on target markets
	Purpose: determine the integrated indicator of an enterprise's opportunity to realize its economic interests in each of the target markets
Stage 5	Construction of the «market accessibility – enterprise's opportunity to realize its economic interests» matrix
	Purpose: divide markets by the degree of attractiveness to the enterprise and choose efficient strategies for the enterprise's entry into the given markets

Fig.1. Main stages of analyzing the attractiveness of international commodity markets

Let us examine in greater detail each of the stages of this analysis.

Stage 1. Identification of the enterprise's economic interests

An enterprise enters an international market primarily to realize its own economic interest. To choose the priority countries for expanding the enterprise's presence on the market, it should analyze

the degree of its internationalization, which depends to what extent the enterprise wants to engage in international business.

As a rule, a novice in international business launches his activity in neighboring markets which calls for minimal transportation costs and to a certain extent has a similar socio-cultural environment and, accordingly, consumer behavior.

Therefore, such criteria for choosing attractive markets as similarity of socio-economic development as well as a socio-cultural environment are a top priority at the initial stage of the enterprise's entry into foreign markets. The purpose of analyzing the degree of an enterprise's internationalization of its activity is to reveal its economic interests, which will be different at different stages (see Table 1).

Table 1. Economic interest of an enterprise at different stages of internationalization of its activity

Stage of an enterprise's internationalization of its activity	Enterprise's economic interests
Initial stage (characterized by the presence of contacts with foreign countries prior to the operations of foreign dealers and agents)	<ul style="list-style-type: none"> • geographic expansion of activity • increase in rate of profitability per unit of products
Stage of development (characterized by all types of contacts with foreign partners prior to establishment of a manufacturing enterprise abroad)	<ul style="list-style-type: none"> • development of the potential of foreign markets; • use of the advantages of the «dimension effect»; • production and sales growth;
Stage of growth (supposes the presence of manufacturing enterprises abroad located in not less than six countries)	<ul style="list-style-type: none"> • increase in the market share; • saving for account of production costs and delivery;
Multinational stage of internationalization (supposes the establishment of manufacturing enterprises in more than six countries)	<ul style="list-style-type: none"> • improvement in the mechanisms of coordination and integration of the company's strategy internationally; • invigorated transfer and exchange of knowledge and expertise in business between the company's subsidiaries in different countries, which results in framing a strategy geared to global and regional markets

Thus, after analyzing the goals of an enterprise's foreign economic activity, the stage of its internationalization, and the portfolio of markets and countries in which the enterprise is represented, we can make certain conclusions about the future advantages it might want to achieve in the process of its further international activity.

Stage 2. Analysis of an enterprise's opportunities for international activity and preliminary selection of target markets

What has to be analyzed at this stage are the global trends in the development of a certain commodity market, the motivating forces of a sector, the main regions of a sector's development, and the specifics of a sector's development examined in different regions. The purpose of this analysis is to compile a preliminary list of the enterprise's priority markets that have to be further analyzed.

This stage analyzes the strong and weak points of the enterprise, the availability of resources for pursuing its international activity, and a preliminary identification of the possible directions on which it should concentrate its efforts. The enterprise should evaluate its ability to deliver its products and provide marketing. To this end it should analyze the results of its economic activity; the competitiveness of products; the competitiveness of the enterprise and its competitive opportunities. To carry out such an analysis the enterprise's workers should be polled. Therefore, along with evaluating the above-mentioned list of indicators based on the objective results of the enterprise's performance, consideration should be made for any flaws in the analysis — its evaluations are subjective and lack clear justifications and certain quantitative limits. In most cases, workers are inclined to overestimate the abilities of their own enterprise and underestimate possible risks. The research can partially avoid these flaws by increasing the number of sample polls.

Stage 3. Research into market accessibility of target markets

The preliminarily selected target markets are researched at this stage. Let us consider the possibility of carrying out an analysis of the market accessibility factors according to the list of indicators. Table 2 presents the sources of information for evaluating market accessibility indicators. To analyze market accessibility, we suggest examining the factors that make up the information system of market accessibility from the viewpoint of its impact on the enterprise's activity on foreign markets — potential market dangers or opportunities — and analyze separately the general level of potential market dangers and potential market opportunities upon entry into a given market.

As we see in Table 2, market accessibility factors can be divided into quantitative and qualitative factors. Information about quanti-

tative factors can be received from official statistical sources, national statistics, and foreign trade statistics. Information about qualitative factors is much more difficult to obtain, since it requires thorough analysis of competitive information and secondary sources.

Table 2. Sources of information for evaluating market accessibility indicators

Nature of information to be analyzed	Indicators of market accessibility indicators	Information sources
Information about the global-economic environment of the market	Level of regional integration	Legislation of countries, reports of international organizations
Information about the political and legal environment of the market	Customs barriers Legal barriers Political stability in the country Harmonization of a country's system of laws with international law	Legislation of the country, ratings of information agencies, information systems, publications of marketing agencies
Information about the economic environment of the market	Dynamics of key macroeconomic indicators (country's GNP, GNP per capita, inflation rate) Stability of the exchange rate Availability of resources, their accessibility and relatively low cost Development of market infrastructure	National and foreign trade statistics, publications of information agencies, reports of international organizations, statistical books, information systems
Information about the scientific and technological environment of the market	Level of development of science and qualification of personnel Technology of production required on the market Patents and rights	Information systems marketing agencies
Information about the socio-cultural environment of the market	Cultural background of the country, national stereotypes of behavior Language barriers, barriers of non-verbal communication Culture of doing business (habits, traditions, standards) Presence of ethnic or religious conflicts	Marketing agencies
Specifics of market development	Capacity of market and dependence of the market on imports Level of competition on the market Degrees and types of integration Entry barriers in the sector	National statistical books sectoral periodical publications

The most effective ways of evaluating the qualitative factors are expert polls and generalizing their scores. Such an evaluation is carried out for each country selected for analysis. Table 3 presents the form for evaluating factors under the given scheme.

Table 3. Form for evaluation market accessibility factors — potential market dangers and opportunities

Market dangers factor	Significant coefficient, $\alpha(i)$ (0..1)	Probability of realization factor, $h(i)$, (0..1)	Score Factor, $b(i)$ (0..10)	General evaluation of impact of market dangers factor, $F_d(i)$
1.				
2.				
...				
n				
indicator of potential market dangers, I_d				—
Market opportunities factor	Significant coefficient, $\alpha(i)$ (0..1)	Probability of realization factor, $h(i)$, (0..1)	Score Factor, $b(i)$ (0..10)	General evaluation of impact of market opportunities factor, $F_o(i)$
1.				
2.				
...				
n				
General indicator of potential market opportunities, I_o				$\sum_i F_o(i)$

The general indicator characterizing the impact of a specific factor will be the result of data from three factors — the significance of a factor's contribution to the general indicator, the probability of realization, and its impact score — and will be calculated by formulas (1) and (2):

$$F_d(i) = \alpha(i) \cdot h(i) \cdot b(i), i = 1 \dots n, \quad (1)$$

$$F_o(i) = \alpha(i) \cdot h(i) \cdot b(i), i = 1 \dots n, \quad (2)$$

where $F_d(i)$, $F_o(i)$ — is the general evaluation of the impact of factor i of market danger [opportunity];

$\alpha(i)$ – coefficient of i factor;
 $h(i)$ – probability of realizing i factor;
 $b(i)$ – manifestation degree of i factor;
 n – number of factors.

The sum of the obtained general evaluations of the impact of i factor will produce the general indicator of potential market dangers or opportunities – I_d or I_o :

$$I_d = \sum_{i=1}^n F_d(i); \quad (3)$$

$$I_o = \sum_{i=1}^n F_o(i), \quad (4)$$

where I_d – general indicator of potential market dangers;

I_o – general indicator of potential market opportunities.

For evaluating market accessibility, it is advisable to engage managers of different enterprise departments as well as specialists from elsewhere who are knowledgeable in this area.

To compare the obtained scores for market dangers and opportunities of the enterprise's entry into international markets, we propose to calculate the integrated indicator of market accessibility, which will show the degree of advantage of market opportunities over dangers and characterizes the degree of the market's prospect for the enterprise:

$$I^{access} = \frac{I_o}{I_d}, \quad (5)$$

where I^{access} – is the integrated indicator of market accessibility.

If this index increases, it means that the ratio of market dangers and opportunities has improved and the market has become more attractive to the enterprise.

Let us take the Pareto ratio – 80 % : 20 % as one of the options for determining the criterion of the given ratio. That is, if this indicator is entered in the matrix, it can be said that once the market opportunities exceed the market dangers four times, the market accessibility is high.

We think that such a technique contributes to an all-round analysis of a broad range of indicators characterizing not only a certain commodity market, but also the political, legal and socio-cultural processes in the countries under research, and will determine the enterprise's success on this market.

***Stage 4. Research into the enterprise's
opportunity to realize its economic interests
on target markets***

If an enterprise evaluates the possibility of realizing its economic interests on foreign markets, it will have to seek information for such an analysis. Table 4 presents the information that is required for analyzing the ability of an enterprise to realize its economic interests and the sources of such information.

**Table 4. Information for analyzing the possibilities
of an enterprise realizing its economic interests**

Enterprise's economic interests	Information to be analyzed	Sources of information	Type of received information
Geographic expansion of the enterprise's activity	production capacities of the enterprise	internal information of the enterprise (utilization of production capacities)	quantitative
	market share	internal information of the enterprise, secondary marketing information (market overviews)	quantitative
	competitiveness of products	secondary marketing information, consumer polls, experts polls	qualitative, quantitative
	market dynamics	secondary marketing information (market overviews, market development trends)	quantitative
	competitive environment on the market	secondary marketing information (market overviews, positions of competitors on the market, market development trends)	qualitative, quantitative
Increase in market share	existing market share	internal information of the enterprise, secondary marketing information	quantitative
	dynamics of the market share	internal information of the enterprise, secondary marketing information	quantitative
	market capacity	secondary marketing information (market overviews)	quantitative
	market dynamics	secondary marketing information (market overviews, market development trends)	quantitative

Enterprise's economic interests	Information to be analyzed	Sources of information	Type of received information
	competitive environment on the market	secondary marketing information (market overviews, positions of competitors on the market, market development trends)	qualitative, quantitative
Increase in the rate of profitability per product unit	production capacities of the enterprise	internal information of the enterprise	quantitative
	sources of reduction of prime cost of products	internal information of the enterprise, secondary marketing information, cost of resources	quantitative
	price elasticity of demand	internal information of the enterprise, research of market behavior of consumers, consumer polls	quantitative, qualitative
Increase in production and marketing	market dynamics	secondary marketing information (market overviews, market development trends)	quantitative
	competitive environment on the market (direct competition on the market, competition by commodities-substitutes)	secondary marketing information (market overviews, market development trends, power of consumers' preference of commodities-substitutes), experts polls	qualitative, quantitative
Use of the advantages of the «dimension effect»	market dynamics	secondary marketing information (market overviews, market development trends)	quantitative
	competitive environment on the market	secondary marketing information (market overviews, positions of competitors on the market)	qualitative, quantitative
	analysis of the dimension curve (structure of permanent losses, variables of losses per unit of products)	economic and mathematical estimates relying on the analysis of losses comprising prime cost of products	quantitative

Enterprise's economic interests	Information to be analyzed	Sources of information	Type of received information
Holding leading positions on the market	competitiveness of products	secondary marketing information, consumer polls, experts polls	qualitative, quantitative
	production capacities of the enterprise	internal information of the enterprise (utilization of production capacities)	quantitative
	market share	internal information of the enterprise, secondary marketing information	quantitative
	market dynamics	secondary marketing information (market overviews, market development trends)	quantitative
	competitive environment on the market	secondary marketing information (market overviews, positions of competitors on the market, market development trends)	qualitative, quantitative

As the table shows, the information can be qualitative or quantitative. It can be gained from secondary sources or by conducting primary research. When evaluating the ability to realize qualitative interests on foreign markets, polls of experts should be conducted to convert the qualitative information into quantitative information. But in this case, the obtained data will be measured by different scales, making it difficult to generalize and compare the data. So there is a need to rate the indicators, i.e. to apply a uniform system of coordinates. We believe that it would be advisable to apply a 10-point scale.

Relying on the technique of rating attributes¹², we applied the following formulas to rate the ability to realize economic interests. If the monotonic increase in the quantitative value of an enterprise's economic interests on a foreign market raises its attractiveness to the enterprise, we suggest the following formula (6)

$$p_{ji}^{rate} = \frac{p_{ji}^{forecast}}{p_{ji}^{desirability}} \times 10, 1 \leq i \leq n. \quad (6)$$

¹² *Teoriya veroyatnostei i matematicheskaya statistika*. [I. Gikhman, A. Skorokhod, M. Yadrenko. The Probability Theory and Mathematical Statistics. Kyiv. Vushcha shkola Publishers, 1979, p.408].

where p_{ji}^{rate} — is the rate indicated for realizing the partial interest i of an enterprise in market j ;

$p_{ji}^{desirability}$ — is the desirability value of realizing the partial interest i of an enterprise in market j ;

$p_{ji}^{forecast}$ — is the forecast value of realizing the partial interest i of an enterprise in market j ;

n — the number of partial economic interests of an enterprise

If the increase in the ability to realize economic interests is achieved under a monotonic reduction of values of its characteristics, the following formula should be used:

$$p_{ji}^{rate} = \frac{p_{ji}^{desirability}}{p_{ji}^{forecast}} \times 10, 1 \leq i \leq n. \quad (7)$$

If the forecast value of the partial interest i of the enterprise in market j is larger than the desirability value of the partial interest i of the enterprise in market j , the highest rate value, i.e. 10, is used:

$$\text{if } p_{ji}^{forecast} \geq p_{ji}^{desirability}, 1 \leq i \leq n, \text{ then } p_{ji}^{rate} = 10. \quad (8)$$

For example, a company is interested in increasing the profitability rate per unit of products by 5 %. One of the ways to realize this economic interest is to reduce the prime cost of products. The enterprise considers two possible options for realizing this economic interest by entering into the markets of countries X and Y. Let us assume that the value of labor in the markets of these countries is less than in the national market, and the other components of the prime cost of products remain unchanged. Then we determine the rated value of the enterprise's ability to realize its economic interests in the markets of countries X and Y according to the data presented in Table 5.

Table 5. Structure of prime cost of products in the national market and in markets of countries X and Y

Indicator	National market	Country X	Country Y
Cost of labor, conventional units	5	3	4,3
Cost of raw materials, conventional units	3	3	3
Other expenses, conventional units	2	2	2
Prime cost, conventional units	10	8	8
Profitability rate, %	20	33.3	22.5
Price, conventional units	12	12	12

In the national market, as the data of Table 5 show, the prime cost structure of the enterprise's products is comprised of labor costs — 5 conventional units, costs of raw materials — 3 conventional units, and other expenses — 2 conventional units. Given a rated profitability of 20%, the price of a product unit is 12 conventional units. When the enterprise enters the markets of countries X and Y, it can use the advantages of reduced labor costs of 3 conventional units by increasing the profitability rate per unit of products up to 33.3%, i.e. by 13.3%. So the enterprise can fully realize its economic interests and the rated value of the opportunity realization will amount to $P_{x1}^{rate} = 10$.

Upon entry into the markets of country Y, labor costs amount to 4.3 conventional units, making it possible to increase the profitability rate per unit of products up to 22%, i.e. by 2.5%. So the rate value of the opportunity of realizing the economic interests will be:

$$P_{y1}^{rate} = \frac{2.5}{5} \cdot 10 = 5.$$

When rating qualitative information, formulas (6–8) should be used.

The enterprise's overall economic interests can be achieved by realizing partial interests. When estimating the integrated indicator of the enterprise's ability to realize its overall economic interests consideration should be given to — except for the rated value of the enterprise's opportunity of realizing its economic interests — the probability of realizing partial interests and its significance in the overall interests of the enterprise. Thus, the integrated indicator of realizing an enterprise's overall interests in the market can be estimated by the following formula:

$$I_j^{interests} = \sum_i h_{ji} \times a_{ji} \times p_{ji}^{rate}, 1 \leq i \leq n, \quad (9)$$

where h_{ji} — probability of realization of partial economic interest i on market j , $0 < h_{ji} \leq 1$;

a_{ji} — significance of realization of partial economic interest i on market j ,

$$0 < a_{ji} \leq 1, \sum_i a_{ji} = 1.$$

Stage 5. Construction of the «market accessibility — enterprise's ability to realize its economic interests» matrix

The purpose of this stage is to bring together the «market accessibility — enterprise's ability to realize its economic interests» characteristics into a matrix to divide the markets by degrees of their at-

tractiveness to an enterprise for engaging in international business (see Fig.2).

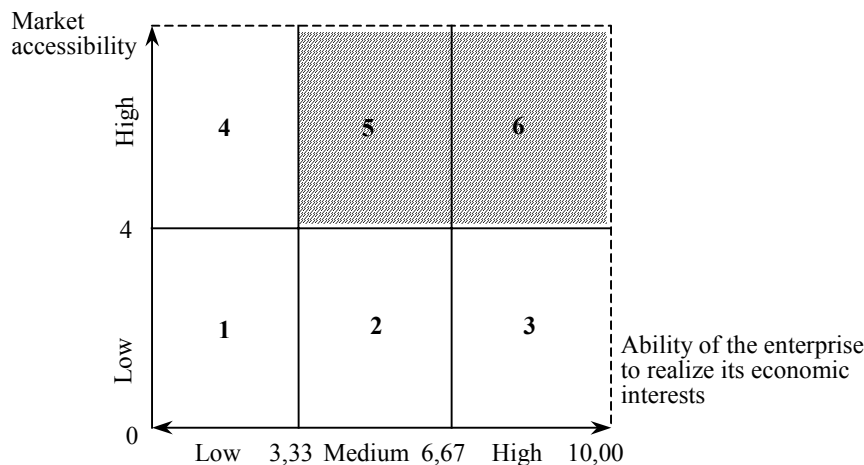


Fig.2. «Market accessibility — enterprise's ability to realize its economic interests» matrix

Accordingly, the matrix has two axes: market accessibility and the enterprise's ability to realize its economic interests. Market accessibility can be high or low depending on the environment developing in the market; the ability to realize economic interests can be low, medium or high depending on the enterprise's interests and the conformity of the market environment with the ability to realize.

To enter the market values in this matrix, we suggest using the integrated indicators of market accessibility and the enterprise's ability to realize economic interests that should be plotted on the axes. As described earlier, market accessibility is considered high when market opportunities exceed market dangers fourfold. That is, when plotting the values on axis «market accessibility» at I^{access} from 0 to 4, market accessibility is considered to be low, and if I^{access} exceeds 4, it is high. If a 10-point scale has been chosen for evaluating the opportunities of an enterprise's realization of its economic interests, the following should be used for entering the index values in the matrix: if the obtained value $I^{interests}$ belongs to the interval from 0 to 3.33, the ability to realize economic interests are low, from 3.34 to 6.67 — medium, from 6.68 to 10.00 — high.

Analyzing the values of the countries' markets on the matrix, we assess the degree of attractiveness to the enterprise and justify its strategy to enter these markets.

Markets in squares No. 1 and No. 4 are not attractive, since the enterprise will be unable to realize its economic interests in them. Even if accessibility to markets is high for the enterprise (No. 4), it is not worthwhile to enter the markets in the given countries. On the one hand, it corresponds to the assessment of the enterprise's competitiveness and, on the other hand, our technique includes research of a much broader indicator than competitiveness – the ability of the enterprise to realize its economic interests. The enterprise might be competitive in certain markets and at the same time the latter might not be attractive to it, since they will not comply with the foreign economic goals and advantages the enterprise wants to achieve when it enters international markets.

Squares No. 2 and No. 3 present a medium and high indicator of the enterprise's realization of its economic interests, but low market accessibility. That is, the countries in these squares are attractive to the enterprise because of the benefits it wants to obtain, but they have a dangerous ratio of market dangers and opportunities. When choosing the form of entry into foreign markets in this case, the enterprise should consider its strategy for avoiding market dangers and minimizing the risks of entering international markets. Among such options the employment of a strategy of direct or indirect exports can be considered.

Squares No. 5 and No. 6 are the most attractive to the enterprise, since they have medium and high opportunities for realizing its economic interests as well as an optimal ratio of market dangers and opportunities. For square No.6 direct investment is the most promising strategy.

Let us illustrate the process of building a matrix in the case of a national pharmaceutical enterprise evaluating its opportunities for entering China's market. Table 6 presents the results of an expert evaluation of market dangers and market opportunities of the enterprise's entry into China's markets for determining the integrated market accessibility indicator.

Table 6. Evaluation of market dangers and market opportunities of an enterprise in China's market

Factors of market opportunities	Significance coefficient, $\alpha(i)$ (0...1)	Probability of factor realization, $h(i)$, (0...1)	Degree of factor manifestation, $b(i)$ (0...10)	General evaluation of the impact of the market opportunity factor, $F_0(i)$
Political stability in the country	0.17	0.80	9	1.22
Legislation governing foreign economic activity	0.17	0.85	7	1.01

Factors of market opportunities	Significance coefficient, $\alpha(i)$ (0...1)	Probability of factor realization, $h(i)$, (0...1)	Degree of factor manifestation, $b(i)$ (0...10)	General evaluation of the impact of the market opportunity factor, $F_o(i)$
Dynamics of key macroeconomic indicators	0.19	0.80	8	1.22
Exchange rate stability	0.15	0.80	9	1.08
Level of development of science and qualification of personnel	0.12	0.89	8	0.85
Capacity of the market, its dependence on imports	0.18	0.90	9	1.46
Factor of market opportunities, I_o				6.84
Factor of market dangers	Significance coefficient, $\alpha(i)$ (0...1)	Significance coefficient, $h(i)$, (0...1)	Degree of factor manifestation, $b(i)$ (0...10)	General evaluation of the impact of the market threat factor, $F_d(i)$
Level of regional integration	0.13	0.85	5	0.55
Customs barriers, obstacles	0.12	0.61	4	0.29
Technologies of production required on the market	0.14	0.85	7	0.83
Level of patent and license protection	0.13	0.70	7	0.64
Cultural background of the country	0.14	0.80	4	0.45
Level of competition on the market	0.10	0.90	7	0.63
Degrees and types of integration	0.14	0.90	7	0.88
Entry barriers into sectors	0.10	0.80	4	0.32
General indicator of market dangers, I_d				4.60

According to this table, the application of formulas (3) and (4) produced the general indicator of potential market opportunities upon the enterprise's entry into China's market $I_o = 6.84$, and the general indicator of potential market dangers $I_d = 4.60$. The integrated indicator of market accessibility of this market under formula

(5) is 1.49, which speaks to market opportunities outweighing the market dangers 1.49 times when entering this market.

After obtaining the integrated indicators of market accessibility, the enterprise should estimate the integrated indicators of the ability to realize its economic interests in the chosen market. Relying on information about countries under review as well as on the techniques for estimating the above proposal, let us examine the ability of enterprise's realization of its economic interests – an increase in sales by US \$100,000 – by entering China's market. The enterprise can realize this economic interest by realizing its partial interests owing to: the market's high capacity that is suppressed by imports; positive market dynamics; low intensity of competition on the market; and high competitiveness of products.

Table 7. Evaluation of an enterprise's opportunities to realize its economic interests on China's market

No	Enterprise's partial economic interests	Probability of the enterprise realizing its partial interests on the market	Coefficient of significance of partial interests on the market	Rated indicator of the enterprise's realization of its partial interests on the market	General rated indicator of the enterprise's realization of its partial interests on the market
1	High market capacity suppressed by imports	0.8	0.20	10	1.60
2	Positive market dynamics	0.7	0.25	10	1.75
3	Low intensity of competition on the market	0.7	0.25	7	1.23
4	High competitiveness of products	0.8	0.30	7	1.68
Integrated indicator of the enterprise's realization of its overall interests on the market					6.26

Proceeding from the analysis of data on the capacity and dynamics of China's market and the results of experts polls on the competitiveness of national medicines and the evaluation of the competition intensity rate, let us evaluate the enterprise's ability to realize its economic interests (see Table 7).

After entering in the «market accessibility – enterprise's ability to realize its economic interests» matrix the results of integrated indicators of market accessibility and the enterprise's ability to realize its economic interests, China will appear in square No.2, i.e. low

market accessibility and medium opportunities of the enterprise for realizing its economic interests. Therefore, the strategy of the enterprise's entry into this market should avoid market dangers and minimize risks. Since the ratio of market dangers and opportunities is not optimal, the enterprise can employ the strategy of direct or indirect exports or arrange for contractual manufacturing. Given the specifics of the market that is considerably innovation-oriented, the most promising option would be to launch joint projects for the development and testing of medicines.

Conclusion

With the invigoration of internationalization and globalization of the world economy, national economies are becoming more open and foreign economic relations more liberalized, which promotes the involvement of national enterprises in the world economic system. When an enterprise enters into international markets, it is faced with an especially important problem of evaluating their attractiveness, which requires taking into account the specifics of the international environment of business. For all the up-to-date research and design of market strategies for foreign trade-oriented enterprises, a clear definition of the category of attractiveness of international commodity markets is practically non-existent.

The analysis of the scientific developments concerning the issues of attractiveness of international commodity markets showed that this concept is usually related to the analysis of factors of a country's market environment and the activity of an enterprise entering these markets, as well as the quantitative and qualitative characteristics of a sectoral market, and are used alongside the concepts of competitive situation on the market and the enterprise's competitiveness. Therefore, we suggest to consider this category as a multi-level system of indicators: market at the mega-level — world level; macro-level — level of a country; mezo-level — level of an individual sector. As a result, we define the concept of attractiveness of international commodity markets as a degree of conformity between the state of factors of the market environment at the mega-, macro- and mezo-levels and the economic interests of enterprises related to their entry and strategies on the international markets over the short, medium and long terms.

After analyzing the existing methods of choosing attractive markets for the enterprises to engage in international business, we proposed a stage-by-stage technique for analyzing the attractiveness of international commodity markets in order to frame effectual market

strategies for the enterprises. The underlying basis of the proposed technique is to estimate the integrated indicators of market accessibility and ability of enterprises to realize their economic interests in target markets and bring the data of the indicators together into a «market accessibility – enterprise’s ability to realize its economic interests» matrix. The main advantage of the proposed technique is that it combines comprehensive and discrete models of market selection and concentrates on the economic interests of the subject that evaluates the market’s attractiveness. This makes it possible for an enterprise to substantiate effective market strategies.

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