

Determinants of the International Competitiveness of National Regions in the Global Economic Environment*

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ANNOTATION. In this article, the author examines the theoretical principles of international competitiveness of regions, analyzes the basic methods used today for identifying the factors of regional competitiveness, singles out the determinants of the international competitiveness of national regions under global competition, and offers models for identifying the factors of international competitiveness of regions.

KEYWORDS. International competitiveness of regions, factors of regional competitiveness, international competitive status of region, model of «region's competitive cylinder,» strategy of enhancing international competitiveness of a region.

Introduction

One of the manifestations of the dynamism of globalization in the late 20th-early 21st century is the transformation of individual territorial entities — regions¹, cities, localities — into independent economic agents which, parallel with national states, supranational institutions (integrative groups and international organizations), and transnational corporations, act as autonomous subjects of the hierarchical world economic system. This thesis is confirmed by the fact that leading international organizations that assess the competitiveness of the global economy's key players include in their ratings individual national regions of certain countries². OECD experts, for one, note that ensuring regional dynamics has become a key issue of the economic policy of the OECD member countries during the past ten years. This is evident whereby only 10 % of the regions created more than a half of jobs in the period from 1996 to 2002. That is, the general welfare of a state is created by a limited number of national regions³. Notably, the radical change in the international status of national regions has been caused, on the one hand, by the effect of the general law on uneven economic development, and, on the other hand, by the following factors:

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¹In this article the author uses the category «region» in the meaning of a country's individual administrative unit.

²[http://www.imd.ch/research/publications/wcy/upload/Overall %202006.pdf](http://www.imd.ch/research/publications/wcy/upload/Overall%202006.pdf)

³OECD, *Regions at a Glance*, 2005. — P. 3.

1) Deeper specialization and continued regional concentration of social production. According to OECD data, in the member countries of this organization an average of 38 % of GDP is generated only in 10 % of national regions⁴. Also, the spread of economic agglomeration is observed, i.e. the higher the population density in a region, the higher its GDP per capita. This is confirmed by numerous examples of rapid growth of the suburbs and capitals of many countries (e.g. Attica in Greece, Uusima in Finland, Budapest in Hungary, Greater Lisbon in Portugal), which have become powerful «economic forces» of development of their countries.

2) «New regionalization»⁵ — formation of regions that are not bound to a country's existing administrative divisions and are highly competitive. In the opinion of M. Keating, a scholar of the concept of new regionalism, the latter is characterized by two interrelated features: it is not limited by the borders of a national economy; it borders on rival regions, but does not lend them a new role in the system of international division of labor⁶.

3) Invigorated regionalization of government policy, when a considerable scope of managerial powers and coordinative functions are delegated from the national to regional level, as exemplified by the processes of federalization in Belgium or the transfer by the central authorities of larger powers to local bodies of self-government in the United Kingdom.

Therefore, it can be argued that globalization lends national regions the status of strategic players on the world market, converting them into active autonomous entities of the international system of competitive interaction. Within this context an urgent need arises to ensure the competitive capability of national regions to meet the challenges of the global environment by recognizing, creating and advancing local competitive advantages.

The theoretical foundations of the international competitiveness of regions have been studied by such foreign economists as M. Porter⁷, P. Krugman⁸, R. Camagni⁹, R. Martin and P. Sunley¹⁰, and I. Begg¹¹; the sociological aspects of territorial development

⁴ OECD, *Regions at a Glance*, 2005. — P. 26.

⁵ *Novy regionalism v Zapadnoi Yevrope* [Keating M. New Regionalism in Western Europe] // *Logos*. — 2003. — № 6(40). — P. 81.

⁶ *Novy regionalism v Zapadnoi Yevrope* [Keating M. New Regionalism in Western Europe] // *Logos*. — 2003. — № 6(40). — P. 82.

⁷ *Konkurentisia* [Competition]. Translated from English. Moscow, Williams Publishing House, 2000, pp. 495.

⁸ Krugman P. Making sense of the competitiveness debate. — *Oxford Review of Economic Policy*. — 1996. — 12(3). — P. 17—25.

⁹ Camagni R. On the Concept of Territorial Competitiveness: Sound or Misleading? — *Urban Studies*. — Vol.39. — 2002. — № 13. — P. 2395—2411.

¹⁰ Martin R., Sunley P. Slow convergence? Post-neoclassical Endogenous Growth Theory and Regional Development. Working Paper 44, ERSC Center for Business Research. University of Cambridge. Cambridge, 1996.

¹¹ Begg I. Cities and competitiveness. — *Urban Studies*. — Vol. 36. — 1999. — P. 795—809.

are treated in the works of R. Florida¹² and A. Venables¹³; innovative factors of the regional dynamics have been analyzed by B. Asheim and A. Isaksen¹⁴. The methodological foundations of ensuring competitiveness at the mezo level have been extensively studied by the Russian scientists N. Kaliuzhnova¹⁵, A. Granberg¹⁶, L. Shekhovtseva¹⁷, M. Gelvanovsky¹⁸, I. Trofimova, V. Zhukovskaya, and O. Seleznirov¹⁹. The specific aspects of ensuring international competitiveness of national regions have been examined in the works of such Ukrainian scientists as A. Poruchnyk²⁰, L. Antoniuk²¹, V. Chuzhykov²², S. Sokolenko²³, and Z. Varnalia²⁴.

What needs to be analyzed comprehensively is how global processes of social development impact on the regions' positioning in the hierarchy of international competitive relations and, accordingly, to determine the factors of raising regional competitiveness under global competition. Of great importance in this

¹² Florida, R. (2002), *The Rise of the Creative Class*, New York: Basic Books.

¹³ Venables A. J. (2003), «Buzz: The Economic Force of the City», Paper presented at the DRUID Summer Conference 2003 on «Creating, sharing and transferring knowledge: the role of geography, institutions and organizations», Elsinore, Denmark.

¹⁴ *Asheim B., Isaksen A.* Location, agglomeration and innovation: Towards regional innovation system in Norway? STEP GROUP Report № 13–96, Oslo, 1996. — P. 64.

¹⁵ *Konkurentnosposobnost rossyiskikh regionov v usloviyav globalizatsii.* [N.Kaliuzhnova. The Competitiveness of Russian Regions under Globalization. Moscow, Teis Publishers, 2004, pp.526].

¹⁶ *Osnovy regionalnoi ekonomiki.* [Fundamentals of Regional Economics. Moscow, 2004, pp.493].

¹⁷ *Konkurentnosposobnost regiona; faktory i metody sozdaniya. Marketing in Rosii i za rubezhom* [L.Shekhovtseva. Competitiveness of Regions: Factors and Methods of Creation. *Marketing in Russia and Abroad.* 200, No.4, p.23].

¹⁸ *Konkurentnosposobnost b micro-, mezo, makrourovnevom izmerenii. Rossiyskiy ekonomicheskii zhurnal.* [M. Gelvanovsky, I. Trofimova, V. Zhukovskaya. Competitiveness in the Micro, Mezo, and Macro Dimensions. *Russian Economic Journal.* 1998, No. 2, p. 18]

¹⁹ *Konkurentnyye pozitsii i infrastruktura rynka Rossii.* [A.Seleznirov. Competitive Positions and Infrastructure of Russia's Market. Moscow. Yurist Publishers, 1999, p. 30]

²⁰ *Suchasna paradygma rehionalnoho rozvytku postsotsialistychnykh krain. Zbirnyk naukovykh prats «Ekonomika ta pidpryemnytstvo.* [A.Poruchnyk, V.Chuzhykov. The Current Paradigm of Regional Development of Post-Socialist Countries. Collection of scientific papers *Economics and Entrepreneurship.* Issue 9. Kyiv, National University of Economics of Kyiv, 2002].

²¹ *Mizhnarodna konkurentospromozhnist krain; teoria ta mekhanizm realizatsii.* [L.Antoniouk. International Competitiveness of Countries: Theory and Mechanism of Materialization. Kyiv, NUEK, 2004, pp.276].

²² *Rehionalni intehratsiyni stratehii postsotsialistychnykh krain Yevropy.* [V.Chuzhykov. The Regional Integration Strategies of Europe's Post-Socialist Countries. Kyiv, NUEK, 2003, pp.296].

²³ *Klastery v hlobalniy ekonomitsi.* [S.Sokolenko. Clusters in Global Economy. Kyiv, Logos Publishers, 2004, pp. 848].

²⁴ *Rehiony Ukrainy: problemy ta priorytety sotsialno-ekonomichnoho rozvytku.* [Z.Varnaliy. Ukraine's Re-gions: Problems and Priorities of Socioeconomic Development] www.niss.gov.ua

connection is the development of the theoretical foundations of the strategy of elevating the international competitive status of national regions in the long run.

In this article, the author aims to analyze the methods that are used today for identifying the factors of regional competitiveness, to identify and systematize the main determinants of the regions' economic development under extensive globalization of the world economy, and to offer models for identifying the factors of regional competitiveness as a theoretical foundation for the development of a strategy of elevating the international competitive status of national regions in a global economic environment.

Theoretical Foundations of International Competitiveness of Regions

The transformation of individual territories — regions, cities, localities — into strategic players on the global markets calls for the design of a concept of international competitiveness of regions, since the traditional analysis of competition does not view territorial entities as subjects of competition. Among Ukrainian and foreign scientists there is disagreement in identifying the essence of «international competitiveness of regions,» because this concept is complex and has many aspects.

The current theory of international competition has two approaches in interpreting regional competitiveness. The first views it as an aggregated indicator of competitive capacity of local firms, while the second as a derivative function of the indicator of macroeconomic, i.e. national, competitiveness²⁵. A certain group of scientists identifies a region's international competitiveness differently. They argue that regional competitiveness is not a simple interpretation of either the macroeconomic or microeconomic competitiveness, i.e. regions cannot be analyzed either as a simple aggregate of companies or as a simplified model of a national economy²⁶. We agree with this thesis and contend that a region's international competitiveness is its ability to stimulate higher local production and living standards in the long run by efficiently using traditional and creating unique resources of local development under conditions of external competition.

Competitive advantages are the underlying basis of competitiveness of any economic player. According to the Russian scientist R.Fatkhutdinov, competitive advantage is a certain exclusive value that is possessed by a subject and gives him an advantage over competitors²⁷. The degree of materializing

²⁵ *Teoretychni osnovy mizhnarodnoi konkuren-tospromozhnosti rehionu//Ekonomika ta pidpryemnytstvo*. [Theoretical Foundations of a Region's International Competitiveness. *Economy and Entrepreneurship*, No.17, 2006, pp.61-70].

²⁶ *Cellini R, Soci A*. Pop Competitiveness. — Banca Nazionale del Lavoro. — Quarterly Review. — LY 220. — P. 71—101.

²⁷ *Upravleniye konkurentosposobnostyu organizatsii*. [R.Fatkhutdinov. Managing the Competitiveness of an Organization. Moscow, EKSMO Publishers, 2004, p.200].

competitive advantages determines the competitive status of the participants in global competitive relations. Notably, the concept of competitive advantages was developed only in the early 1990s by the US economist M. Porter²⁸ as an alternative theory of Ricardo's²⁹ comparable advantages that served as the theoretical basis of international trade and competition throughout the 19th century. According to the principle of comparative advantages, a country (region) gains substantial benefits when it concentrates resources at the most efficient enterprises (requiring the cheapest factors of production) and exports its products to the world markets. But in the opinion of Porter, the Ricardian approach is not justified at the current stage of development of the theory of competition, because it does not explain the mechanism of formation of the business entities' competitiveness under globalization, when traditional resources (land, labor, capital) become generally accessible at world prices. For this reason he stressed that the global economic system requires the design of a more dynamic principle of competitive advantages, their essence being the reduction of production costs as the basis of constant innovative activity³⁰. Moreover, he pointed out that the creation and enhancement of competitive advantages is a highly localized process, since the distinctions of national economic structures, systems of values, cultures, institutions, and specifics of historical development impact to a considerable extent on the competitive positions of business entities. Only the presence of unique local advantages, which cannot be copied or recreated in other places, can serve as a precondition of enhancing the competitiveness of regions in the era of global competition. Of extreme importance within this context is the issue of identifying individual factors of regional dynamics as the required preconditions for the formation and buildup of competitive advantages and enhancement of a region's competitiveness.

Current Methods of Identifying the Factors of Regional Competitiveness

The new understanding of the geo-economic positions of national regions in the system of global competitive relations and their growing role in elevating the international competitive status of their own countries makes the support of regional competitiveness a key issue not only in economic studies, but also in government policy worldwide. Most important of all at the present time is the identification of the factors of local dynamics as a necessary precondition for designing effective strategies of regional development.

In the theory of international competition, scholars single out two groups of empirical studies, the subject of their analysis being the identification of the factors (necessary preconditions) of the international competitiveness of regions:

²⁸ Porter M. (1990) *The Competitive Advantage of Nations*, London, Macmillan.

²⁹ Ricardo D. *On the Principles of Political Economy and Taxation*, 1817.

³⁰ Porter M (1998) *Clusters and the New Economic of Competition*. Harvard Business Review. Nov.-Dec. — P. 78.

- studies focusing on determining the role of a certain factor in the creation of regional competitive advantages;
- studies analyzing the competitiveness of national regions as a result of systemic interaction of a number of factors.
- In this article, we will concentrate our attention on the comprehensive methods of identifying the determinants of regional development under global competition by examining the following:
 - the *IMD World Competitiveness Yearbook*³¹ published by the Institute of Management Development in Lausanne;
 - *The Second Report on Economic and Social Cohesion*³²; *A Study on the Factors of Regional Competitiveness*³³ by experts of the European Commission; and
 - *World Knowledge Competitiveness Index. Benchmarking the Globe's Higher Performing Regions*³⁴ prepared by Huggins Associates.

IMD World Competitiveness Yearbook

The Institute of Management Development is among the leading organizations studying the competitiveness of world countries since 1989. From 2003 on individual national regions were included in the rating of the IMD Yearbook. Of the 61 economies studied in 2006 were eight regions — Bavaria, Catalonia, Il de France, Lombardy, Maharashtra, Scotland, Sao Paulo, Che Yang³⁵. By including these regions in the general rating of the world's competitive countries, the experts of IMD aimed to demonstrate that the individual localities are distinctive «pockets of competitiveness» actively and successfully competing for global investment resources. Besides, the regions are now becoming more independent in the design and implementation of regional competitive strategies.

For evaluating the competitive status of countries and regions in the global economy, the IMD experts use 312 criteria brought together into four groups of factors and 20 subfactors (see Table 1).

Table 1

Factors of competitiveness according to IMD methodology

Factors	Economic growth (77 criteria)	Management efficiency (72 criteria)	Business environment efficiency (68 criteria)	Infrastructure (95 criteria)
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³¹ <http://www.imd.ch>

³² European Commission, *Second Report on Economic and Social Cohesion*, 2001.

³³ *A Study on the Factors of Regional Competitiveness*, A draft final report for The European Commission Directorate-General Regional Policy, 2005.

³⁴ <http://www.hugginsassociates.com>

³⁵ <http://www.imd.ch/research/publications/wcy/upload/Overall%202006.pdf>

Subfactors	Domestic economy International trade International investment Employment Price	State finance Fiscal system Institutional structure Business legislation Social structure	Productivity Labor market Finance Management practice Customs and traditions	Basic infrastructure Technological infrastructure Knowledge infrastructure Health care and the environment Education
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Source: www.imd.ch Methodology and Principles of Analysis

Importantly, at the mezo level there does not exist today a sufficiently broad international statistical base embracing all 312 criteria. In order to include regions in the system of comparisons, IDM used the method of calculating close indicators. The missing analogs of macro statistical indicators for regions were calculated either by the individual region's share in the country's GDP or by the share of the region's population in the overall population size of the country respectively.

In the **Second Report on Economic and Social Cohesion**, attention is centered on the deepening process of regional diversification. The European regions are characterized by a diversified socioeconomic structure and, accordingly, can be brought together into certain groups (depressed regions, regions with a high employment rate in industry, regions with a high share of employment in services). The study identifies the general factors that determine the level of the competitiveness of EU's national regions, although their relative importance changes depending on the type of the studied region. The general factors of regional competitiveness are as follows:

- level of employment and labor productivity under the existing employment rate;
- ratio of employment in different sectors of industry;
- trends in demographic development (migration, population ageing, etc.);
- amount of foreign direct investment;
- investment in innovative areas of the economy (R&D, education, information-communications technologies);
- level of development of local infrastructure;
- quality of education (especially the share of the population with scientific degrees and number of IT specialists in the region);
- innovations and R&D (expenditures for R&D, number of registered and used patents).

A Study on the Factors of Regional Competitiveness

This study is an extensive and thorough analysis of the theoretical foundations of regional competitiveness. In particular, it examines the origin of the concept, identifies the factors of the competitiveness of regions, and offers a model of a «region's competitiveness cylinder.» On the basis of a theoretical analysis an empirical study is conducted to identify the competitiveness of

European regions with allowance for their specific characteristics and typology.

European experts single out three groups of key factors determining the international competitive status of a region: infrastructure and accessibility; human assets; industrial environment that, in turn, include certain subfactors (see Table 2).

Table 2

Factors of regional competitiveness according to the methodology of A Study on the Factors of Regional Competitiveness

Factors	Infrastructure and accessibility	Human assets	Industrial environment
Subfactors	<i>Basic infrastructure</i> (motor, air and rail routes; ownership structure) <i>Technological infrastructure</i> (information-communications networks, Internet, telecommunications) <i>Infrastructure of knowledge</i> (education opportunities) <i>Habitat quality</i> (housing conditions, environment, recreation conditions, security)	<i>Demographic trends</i> (migration of highly educated population, cultural diversity) <i>Highly skilled labor force</i> (competence, innovative knowledge, know-how)	<i>Entrepreneurial culture</i> (ability to overcome entry barriers, readiness to risk) <i>Sectoral concentration</i> (ratio of principal production sectors, concentration of labor force by sectors; share of sectors manufacturing products with high added value) <i>Internationalization</i> (structure of foreign trade, volume and structure of FDI, business culture) <i>Innovation</i> (patent activity, level of R&D, development of research institutes and universities, cooperation between companies and research organizations) <i>Government and institutional capability</i> <i>Sufficiency of manufacturing resources</i> <i>Specialization</i> <i>Nature and pattern of competition</i>

Source: Adapted by the author according to *A Study on the Factors of Regional Competitiveness*. Draft Final Report for the European Commission Directorate-General Regional Policy, 2005.

World Knowledge Competitive Index. Benchmarking the Globe's High Performing Regions by Huggins Associates (HA)

At the current stage in the development of the theory of competitiveness, this study is the most extensive, since it covers 125 regions worldwide. Of them 55 represent North America, 45 Europe, and 25 Asia and Oceania. The HA experts are right in arguing that in a learning economy only innovative competitive advantages can guarantee the world economy entities a high international competitive status in the long run. Therefore, three groups of factors reflecting the innovative capability of these regions are analyzing for carrying out global benchmarking of national regions (see Table 3).

Table 3

**Factors of innovative competitiveness of world regions
according to the Huggins Associates methodology**

Groups of factors	Input flows			Output flows	Innovative durability
	Human assets	Financial capital	Innovation capital		
Indicators	<ul style="list-style-type: none"> • employment rate; • number of creative class representatives per 1,000 persons; • number of employed in information-communications sector per 1,000 persons; • number of employed in biotechnologies and the chemical industry per 1,000 persons; • number of employed in machine and car-building per 1,000 persons; • number of employed in the manufacture of electric equipment and instrument-building per 1,000 persons; • number of employed in high-tech services per 1,000 persons 	<ul style="list-style-type: none"> • volume of per capita venture financing 	<ul style="list-style-type: none"> • government expenditures for R&D per capita; • private expenditures for R&D per capita • number of registered patents per capita 	<ul style="list-style-type: none"> • labor productivity; • average monthly increase of wages; • unemployment rate 	<ul style="list-style-type: none"> • government expenditures for primary and secondary education per capita; • communication security servers per 1 million of population; • number of persons have access to the Internet per 1,000 persons; • access to wide-band communication channels per 1,000 of population

Source: World Knowledge Competitiveness Index 2005, p.03.

By the results of the 2005 study the highest level of innovative competitiveness was evident in nine regions of the US (San Jose, Boston, San Francisco, Hartford, Seattle, Grand Rapids, San Diego, Rochester, Los Angeles) and the Swedish region of Stockholm that ranked eighth. Budapest (Hungary) ranked the last in the rating — 121, followed by Tianjin (China) — 122 and three Indian regions of Mumbai — 123, Bangalore — 124, and Hyderabad — 125.

Today there does not exist a uniform generally recognized approach to determining the set of factors of the international competitiveness of regions. This is explained by, first, specialization and, accordingly, formation of different types of regions and, second, by the scantiness of statistical databases at the mezo level.

***Determinants of international competitiveness
of national regions***

Relying on the analysis of the methods of determining the factors of regional dynamics, we identified the next set of key determinants that ensure the international competitiveness of national regions: clusters; human assets; enterprises and degree of development of local networks; innovations and regional innovative systems; quality of administration and institutional structure of a region; industrial structure (type) of a region; regional infrastructure; investment attractiveness and nature of foreign direct investment (FDI) in a region.

1. Clusters can be identified as a group of locally concentrated interrelated enterprises that operate jointly in a certain sector and complement one another. In the opinion of Porter, geographical clustering is among the most dynamic and rapidly spreading processes of modern economic development. By his estimates, the US has more than 60 export-oriented clusters employing 32 % of the country's total work force³⁶. Inter-corporate cooperation and partnership relations between a cluster's companies promote the reduction of transaction costs, information diffusion, interactive education and, accordingly, create additional competitive advantages of a cluster's participants. The presence of efficiently operating clusters enhances the overall level of a region's competitiveness and accelerates its inclusion in global manufacturing networks.

2. Human assets. The level of the workers' qualification and their ability to work creatively (generating new ideas and knowledge) as well as the population's structure determine the key components of a region's competitive status, namely:

- innovative potential (the studies of the US economist and sociologist, R. Florida, prove the presence of the dependence triangle «innovation growth rates — talent — attractiveness of the locality», i.e. if a region attracts highly skilled and talented workers, its innovation activity becomes more vigorous, the rates of economic growth go up as does the level of competitiveness, which, in its turn, promotes the inflow of additional highly skilled workers);
- entrepreneurial mentality of the population (entrepreneurial culture depends on age, education, local traditions in risk acceptance of the population, which, in its turn, impacts on the number of small and medium-sized businesses, and the dynamism and competitiveness of the region's economy);
- specialization (currently there is a strong vertical division of labor into intellectual and other types of activity precisely between individual regions; in regions with intellectual specialization are concentrated decision-making centers of powerful transnational and global companies that integrate into the production process other resource-intensive regions; as a rule, profits derived in regions with a specialization of a much lower type overflow into the regions where managerial centers are concentrated);

³⁶ A Study on the Factors of Regional Competitiveness. A Draft Final Report for the European Commission Directorate-General Regional Policy, p. 26.

- labor productivity (the level of the work force qualification is a key factor of labor productivity impacting on a region's competitiveness)

3. Enterprises and degree of development of local networks. Experts of the European Commission point out that the definition of the concept of a region's international competitiveness should take into account that regardless of competitive and non-competitive firms in every region, there always exists a general regional environment that impacts on the formation of the competitive status of all local firms³⁷. The key elements of a regional environment are networks, since they link up the different entities in the process of a region's development. Currently two types of networks are singled out — formal (institutional) and informal (based on private inter-personal relations). Institutional networks unite individual enterprises, government agencies, financial organizations, educational establishments, and the like. They facilitate the efficient distribution of financial resources in the region (via venture financing), extensive research (for account of government programs of innovation development, establishment of consortiums, alliances, and the like), dissemination of information (through institutions of social partnership: chambers of commerce and industry, technology transfer centers, and the like). Informal networks speed up the process of information diffusion. Both formal and informal networks serve as the basis for the emergence and development of local clusters and regional innovation systems, thereby raising the level of the region's competitiveness.

4. Innovations and regional innovative systems. With the evolution of the learning economy, information turns into a key production resource, while the innovative potential turns into a basic competitive advantage of business entities. Experts of the European Commission note that the ability of local companies to innovation, generation and receptibility of new knowledge depends on the local environment: partners, competitors, consumers, personnel skills, quality of innovative infrastructure of the region, institutional system, legislative rules and other factors directly or indirectly impacting on the innovation process. The aggregate of these factors create a regional innovation system (RIS)³⁸ — private firms, public companies, NGOs, bodies of authority and centers of creation of new knowledge and its subsequent diffusion (such as universities, research institutes, experimental laboratories, agencies of innovation development, etc.), which are united by specific partner relations facilitating innovation activity and, as a result, raising the region's level of competitiveness. Moreover, it is also necessary to develop an efficient mechanism and financing and subsequent commercialization of R&D through, say, a system of regional venture funds.

³⁷ Sixth Periodic Report on the Social and Economic Situation and Development of Regions in the European Union, Brussels, 1999, p. 5.

³⁸ European Competitiveness Report 2003. — COMMISSION OF THE EUROPEAN COMMUNITIES. — Brussels, p. 126.

5. Administrative quality and institutional structure of a region. Numerous empirical studies have proved the dependence between the nature of economic development administration and regional potential and competitiveness. The main trend in regional administration in the EU and OECD countries is the transition from the traditional «top — to bottom» administration system to the more progressive «bottom — to top» system. As a result, responsibilities are distributed ever more between different levels of administration as well as economic entities that represent the private sector and civil society (what are called government-private partnerships). Government-private partnerships prevent duplication of functions and unjustified competition between similar government structures, at the same time facilitating the resolution of macroeconomic problems in respective regions.

6. Industrial structure (type) of a region. A region's status in the global economic environment is determined by its manufacturing specialization. As global competition becomes more intense, high economic growth rates are observed only in those regions that specialize in the manufacture of products or provide services with a substantial share of added value (i.e. high-tech innovative products). According to their main specializations, the following three types of manufacturing regions are singled out:

- production platforms (the productivity of regions of this type is determined by the intensive use of traditional production factors — land, capital, labor; the inexpensive local manufacturing resources attract FDI);
- sources of increasing profits (the economic growth of these regions is based on the operation of a limited number of sectors that gain additional advantages owing to geographical concentration and subsequent clustering; here the key factors of competitiveness are the skills of the labor force, inter-regional division of labor, and the effect of scale);
- epicenters of knowledge accumulation (regions of this type are huge agglomerations whose activity is concentrated around large cities; such cities-regions are centers of knowledge and information extensively involved in international activity, they offer the best possible opportunities for career growth and, accordingly, attract highly skilled workers; they have also a high rate of R&D, intensive entrepreneurship and patent activity, and dynamic process of creating new enterprises).

7. Regional infrastructure includes not only such traditional components as transport and communications, but also covers territorial infrastructure, social infrastructure, infrastructure of knowledge, and the like. Such an understanding of infrastructure is based on the European concept of competitiveness which includes the following values: social protection of the population, quality of the environment, level of development of the health care system, quality of life, etc. They are the component parts of the category «welfare of the population» which, in turn, is an important part of a region's competitiveness.

8. Investment attractiveness and nature of foreign direct investment (FDI) in a region. FDI accelerates the growth rate of a region's innovation development through transfer of technologies, innovations, quality standards, and know-how (in manufacturing products, management, marketing, etc.). Moreover, FDI frequently initiate the emergence of clusters of high-tech and dynamic companies that promote the region's inclusion in the global manufacturing network. At the same time the volumes and dynamics of investment flows depend directly on the efficiency and attractiveness of the regional business environment.

*Model of a «Region's Competitive Cylinder»
as a Theoretical Foundation for Designing Strategies of
Elevating the International Competitive Status
of Regions*

The determination of the factors of local dynamics is the underlying basis for the design of an effective strategy of enhancing a region's competitiveness. Within this context the need arises to create a theoretical model for identifying the factors of regional development. Experts of the European Commission propose the model of a «Regional competitiveness hat» (see Fig.1)⁴¹. The cylinder consists of several layers, namely: results of regional economic performance, production volumes, productivity and determinants of regional competitiveness. By «opening» one layer after another, we can examine the factors of regional competitiveness.

Results of regional economic performance

The general indicator of regional competitiveness is the indicator of gross regional product (GRP) per capita reflecting, though partially, the population's standards of living. GRP is an integral indicator and consists of the following elements:

$$\frac{\text{GRP}}{\text{Population}} = \frac{\text{GRP}}{\text{Number of employed}} \times \frac{\text{Number of employed}}{\text{Employable population}} \times \frac{\text{Employable population}}{\text{Population}}$$

Such a decomposition of the GRP per capita centers our attention on two of its components: GRP per one employed (labor productivity) and ratio of the number of employed and employable population (employment rate). Thus, the level of a region's competitiveness is determined by labor produc-

⁴¹ A Study on the Factors of Regional Competitiveness, a Draft Final Report for the European Commission Directorate-General Regional Policy, 2005, p. 35.

tivity and the employment rate. Though important, productivity is not the only factor of regional competitiveness. GRP also depends on the volume of regional transfers (earnings from the sale of assets to nonresidents, government and private transfers) as well as non-market added value (profits derived from the activity of the public sector of the economy), which is especially evident in peripheral regions where the opportunities of organizing business are limited.

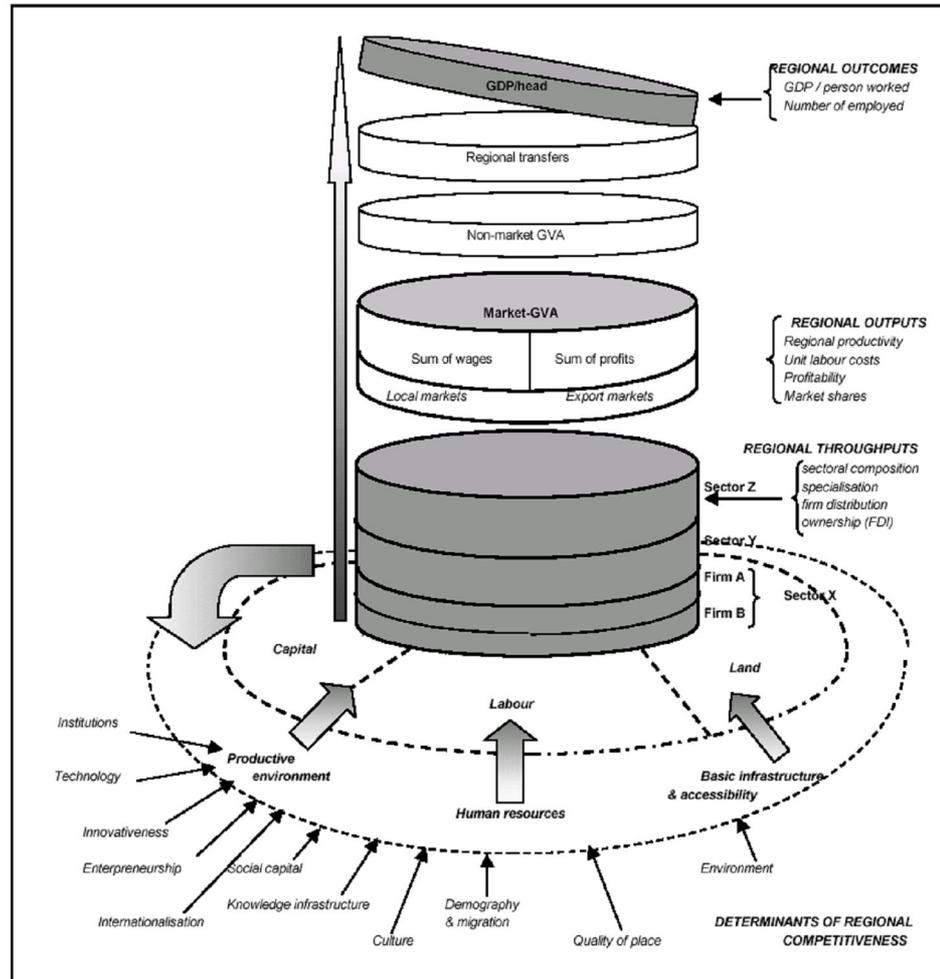


Fig. 1. Regional competitiveness hat

Results of a region's performance — aggregate market value-added created in the region, as expressed in the total sum of wages and profits received by business entities. Workers are guaranteed wages, while companies are

guaranteed profits — but only if their products are in demand both on the local and export markets. Thus, a region's market share (both on domestic and foreign markets) is an important factor of competitiveness.

Production volumes in a region depend on the general activity of local companies, their innovation capacity and quality of management. Moreover, the ratio of the main manufacturing sectors and specialization of the regional economy as well as the structure of ownership, FDI included, impacts to a considerable extent on a company's productivity.

The **determinants of regional competitiveness** are represented as concentric circles at the basis of the manufacturing cylinder. The traditional factors of production (capital, labor and land) are located in the first circle. They are characterized by general accessibility on the global markets, do not create unique regional competitive advantages, and serve as a foundation for the formation of competitiveness of such types of regions as «production platforms.» The second circle combines factors that occasion a region's investment attractiveness, such as infrastructure and accessibility, human resources and manufacturing environment. This group of factors is of decisive importance during the formation of competitive advantages of regions of the type «source of profit growth.» Apart from the principal factors mentioned above, the investment climate of a region is under the influence of an aggregate of secondary factors combined by the third circle. This group of what are called soft factors of indirect effect is of key importance in the process of determining the competitive status of «epicenters of knowledge accumulation» regions.

The formation of regional competitiveness is a dynamic and evolutionary, but not a static, process. This specific feature is represented in the «cylinder» model of regional competitiveness by a feedback loop. Its essence consists of the activity of the aggregate of local companies impacts on the presence, quality and price of local factors making up the regions competitive advantages. This impact can be both positive and negative. The activities of companies depend on a combination of the above-mentioned factors. Moreover, companies can modify certain factors to raise their productivity, thereby facilitating GRP and enhancing the region's competitiveness.

In economic literature on issues of competitiveness an approach exists of designing general theoretical models of competitiveness of business entities without taking into account their specific characteristics. There is perhaps no need to prove that such regions as, say, a rural district in Estonia and London City have qualitatively different competitive advantages on the global markets and require fundamentally different approaches for the design of strategies of enhancing regional competitiveness. It is precisely within this context that we see the great practical value of the «cylinder» model of competitiveness, because it makes allowance for the typology of regions and makes it possible to identify individual sets of factors of regional competitiveness ade-

quate to the level of development and manufacturing specialization of regions.

Experts of the European Commission suggest to position regions in the system of coordinates where along the x-axis is arranged the GRP per capita, as the foundation of raising regional competitiveness in the long run, while along the y-axis is arranged the population density, as a precondition of extensive urbanization (see Fig.2). Besides, they determine the correlation of theoretical regional types (production platforms, sources of profit growth, and epicenters of knowledge accumulation) with empirical types (dynamic, cosmopolitan, specialized urbanistic, balanced, spatial, and declining regions)⁴².

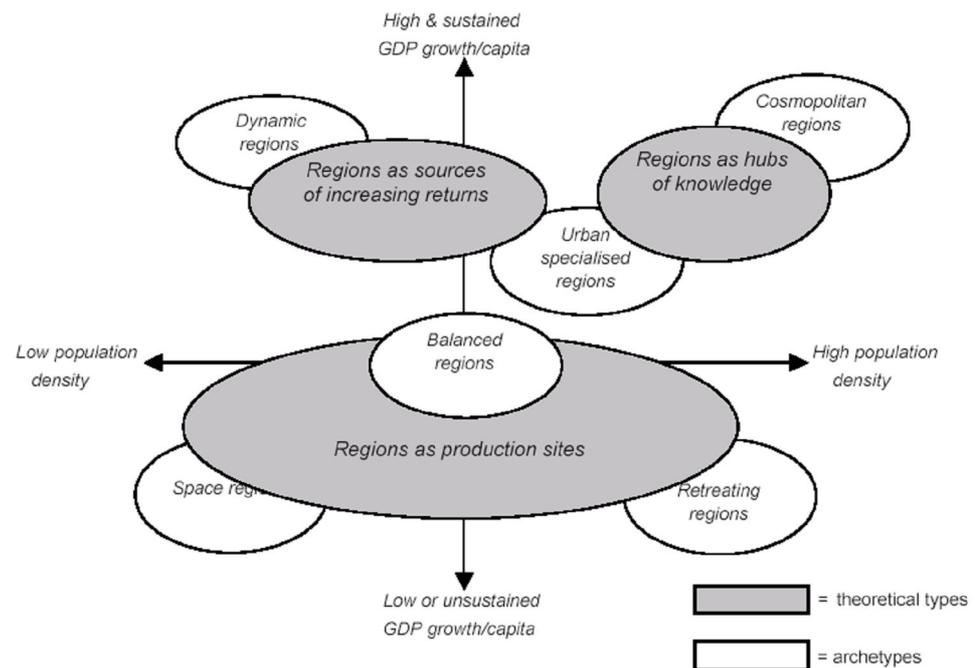


Fig. 2. Relationship of theoretical and empirical types of regions

Using this arrangement, let us determine the competitiveness factors of regions of different types.

Regions — production platforms have a low or average GRP rate. Their competitiveness is based on the use of comparative advantages, namely relatively inexpensive production factors (labor, land, capital). The competitive advantage of such regions is the absence of the destructive consequences of large-scale urbanization as it is typical for other regions. The competitiveness factors of such a type of regions are related to the category of basic infrastruc-

⁴² Typology designed by the EU to implement regional development programs.

ture and accessibility, namely: low value of land for development, absence of congestions, favorable environment for purchasing private housing, relatively inexpensive labor. This set of factors favors the attraction of FDI to the region. However, it should be pointed out that the most sought after areas of investment are in the labor-intensive sectors of manufacturing that do not require highly skilled labor. Most of the regions of Ireland, Central Scotland and North Pas-de-Calais can serve as examples of production platforms.

Three empirical groups are referred to the theoretical types of «regions — production platforms»: spatial, declining, and balanced. As a rule, spatial regions (average GRP and low population density) serve as the basis for siting manufacturing and warehouse departments of transnational companies. The purpose of this type of region is to be a place for situating local companies, and therefore their dynamics of development completely depends on the activity of local companies. When TNCs wind up their activity and unemployment grows, there arises the danger of spatial regions turning into declining regions (with low GRP and high population density). Depending on external impacts, balanced regions (average GRP and population density) have a tendency to turn into either spatial or declining regions.

Regions as sources of profit growth have high economic growth rates, average population density, and a clearly outlined manufacturing structure. To this theoretical type belong dynamic regions, their main feature being the development of an agglomerate economy, i.e. concentration of economic activity in individual sectors creating the main share of added value. The key competitiveness factors of dynamic regions are sufficient quantity of skilled and highly educated workers, inter-firm division of labor, presence of experienced suppliers, and positive effect of scale. Examples of such regions in the EU are Baden-Württemberg, Emilia-Romania, Rhone-Alp (Grenoble), and Toulouse.

Regions-epicenters of knowledge accumulation have high and stable GRP rates and high population density. This theoretical type combines specialized urbanistic and cosmopolitan regions taking shape around large cities and megalopolises. Their competitive advantages are the dynamic development of agglomerate economy and high level of urbanization. As epicenters of knowledge accumulation and information, such cities-regions actively enter the system of international activity and global competitive relations. These regions are attractive because of the ample opportunities they offer for the career growth of highly educated workers and representatives of the creative class, thereby stimulating R&D, patent and innovative activity, as well as businesses. Among the competitiveness factors of such regions are the following: highest level of professional and creative abilities of workers, absolutely free access to global information and communications channels, presence of powerful sources of venture capital, high level of development of business services, favorable cultural environment. London and Paris are among the best examples of regions-epicenters of knowledge accumulation.

This typology of regions is a significant instrument for identifying the factors of regional competitiveness, adequate specialization, level of development and specifics of national regions when designing and implementing strategies of elevating their competitive status under global competition.

Conclusions

After analyzing a broad spectrum of theoretical and analytical sources dealing with the issues of identifying the factors that form and build up competitive advantages and raise the competitiveness of national regions on global markets, we have arrived at the following conclusions:

1. Globalization actualizes the need to identify and develop sustainable competitive advantages of regions and local entities as criteria of their viability under global competition. By converting traditional local resources into global (i.e. generally accessible) resources, globalization raises the issue of a region's capability to meet the challenges of the global environment by creating and protecting unique local competitive advantages that cannot be reproduced or copied elsewhere. Within this context it has become extremely important to identify the individual factors of regional competitiveness.

2. The conversion of regions into strategic players on global markets makes it urgent for governments to design theoretical models for identifying the determinants of regional competitiveness. Widespread today are such international methods of identifying the factors of regional development as the World Competitiveness Yearbook by the Institute of Management Development in Lausanne, the World Knowledge Competitive Index by Huggins Associates, as well as the studies by the experts of the European Commission. But the data used by these methods is somewhat limited, because, first, the studies focus on a clearly specified circle of regions, second, they require the application of statistical data that are frequently not available at the mezo level, and third, do not always take into account the specific characteristics of regions.

3. As global competition becomes intense, the key determinants of ensuring the competitiveness of national regions are the following factors: clusters; human assets; enterprises and degree of development of local networks; innovations and regional innovation systems; quality of administration and institutional structure (type) of a region; regional infrastructure; investment attractiveness and nature of foreign direct investment.

4. Taking into account the specific local characteristics is a necessary condition for identifying the factors of regional competitiveness. The only model of identification that meets this requirement is the «regional competitiveness cylinder» suggested by the experts of the European Commission;

5. The «cylinder» model is of great practical value, because it provides definite instruments (classification of regions) for identifying individual fac-

tors of regional competitiveness, adequate manufacturing specialization, level of development, as well as the cultural and historical distinctions of regions. Therefore, this model serves as a theoretical foundation for designing government strategies of building up the competitiveness of national regions.

In our opinion, the «regional competitiveness cylinder», as an effective instrument for identifying the factors of regional dynamics, can be a theoretical foundation for framing and implementing strategies of elevating the international competitive status of Ukraine's regions in the global economic environment.

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