UDC 339.92:135

L.S . VERBOVSKA
Ph.D. in Economics, docent

M.YU. PETRINA
Ph.D. in Economics, docent

G.F. BODNAR
Ph.D. in Economics, docent

APPLICATION OF METHOD TAXONOMY FOR DETERMINATION OF LEVEL OF DEVELOPMENT OF BOUNDARY TERRITORIES

This article analyzes the main indicators of the level of individual spheres of life Verkhovynska, Mostyska and Uzhgorod District in annual terms that affect the socio-economic development of these territories. The method of determining the level of development of pre-boundary areas using the method taxonomy.

Keywords: *pre-boundary territory, integrated assessment, the method of taxonomy, socio-economic status.*

Raising of problem and its connection is with important scientific and practical tasks. Modern going near socio-economic development of territories it costs to consider through the method of taxonomy. The basic stage of mechanism of development of boundary territory, on which effectiveness of achievement of research aims depends in a great deal, is forming of the system of indexes which characterize socio-economic development of these territories. The purpose of writing of the article is application of method of taxonomy for the construction of models and estimation of level of many spheres of vital functions of boundary territory in an annual period of time.

Analysis of researches and publications. Scientific labours of scientists among which it follows to mark works of Goliyad N.Yu. are devoted the noted problem, Plyuti In., Nekrasova N.N., Kizim Í. A., Zabrodskogo In. A., but other, which offer a comparative multidimensional analysis in economic researches.

Exposition of basic material of research is with the ground of the got scientific results. Will apply a taxonomical method [1] for the analysis of resources of boundary territories, namely Verkhovinsky, Mostisky and Uzhgorodsky districts. A basic concept which is utilized in taxonomical methods is the so-called taxonomical distance. This distance between the points of multidimensional space is calculated more frequent all after the rules of analytical geometry. Dimension spacious determined the amount of signs which characterize unit of the probed aggregate. Thus, taxonomical distance is calculated between points-units or points-indexes, located in multidimensional space. The calculated distances allow to define position of point in relation to other points and, consequently, to define the place of point in all of aggregate which enables to put in an order and classify indexes [2, 3, 4, 5].

For comparison of objects which are characterized plenty of indexes, taxonomical procedures are more frequent all used. One of the first methods of research of multidimensional objects was offered From. Khel'vigom. The taxonomical index of level of development shows by itself a synthetic size, that allows with his help to put in an order the elements of this aggregate [5, 8, 9, 10].

For the construction of partial and general integral indexes the values of indexes were utillized many the spheres of vital functions Verkhovinsky, Mostisky and Uzhgorodsky districts for period 01.01.2007–31.12.2009 in an annual cut.

Utillizing the algorithm of construction of level of development, find the level of development of separate spheres of vital functions of every district. Influence of MSP matters very much on the level of development of boundary territory, in fact the level of attractiveness of territory, openness of organs of power, increase of business particle, depends on the amount of organizations of the «third» sector, thus their influence carries permanent, stable character. It is taken into account authors in the probed indexes of particle of bringing in of facilities by public organizations from the projects of international technical help, what influence on socio-economic development of boundary territories. Like will consider in future, that the subjects of partnership within the framework of socio-economic development influence on each other through socio-economic relations. An exception is a complete monopoly which influences at choice contractors in the economic system, however there are alternative variants, and will take influence of modern monopolies for certain limitations [1, 6, 7, 11].

The level of development of separate spheres of vital functions of the Verkhovinsky district of the Ivano-Francovsk area is resulted in a tablet. 1.

Table 1. Influence of development of separate spheres of vital functions of the Verkhovinsky district of the Ivano-Francovsk area.

	$D_p^{Industry}$	$D_p^{Agri culture}$	$D_p^{Financial investment}$	$D_p^{Demo graphy}$	$D_p^{Cons umption}$	$D_p^{Social inf rastru cture}$	$D_p^{Human resources}$
2007	0,076655	1	0,223451	0,233908	0,387497	0,140494	0,410924
2008	0,145178	0,512733	0,131186	0,296094	0,647116	0,205135	0,265133
2009	0,081053	0,435437	0,279972	0,493636	0,336645	0,100515	0,555386

Source: it is made an author.

In a table 1 the spheres of vital functions are analysed for 2007-2009, which have an influence on the level of development of the Verkhovinsky district of the Ivano-Francovsk area. From a table 1 evidently, that in the Verkhovinsky district of the Ivano-Francovsk area such spheres developed most actively: in 2007 such, that developed intensively, were «agriculture» – the sale of meat and milk products was increased, agricultures of district got incomes from the activity; «human capitals» – the level of formation of population, market of labour development, grew, the structure of labour force changed, available workings spaces appeared; in 2008 is a «consumption» - money profits were increased per capita, «agriculture; in 2009 – «demography» is a dynamics of change of amount and structure of population after educational and age-old descriptions, ethnic and gender composition; «human capitals».

The level of development of separate spheres of vital functions of the Uzhgorodsky district of the Zakarpatska area is resulted in a tablet. 2. In a table 2 it is analysed, that in the Uzhgorodsky district of the Zakarpatska area such, that most intensively developed during 2007 and 2008 years were financially «investment sphere» – investments were increased in the fixed assets, a debt diminished before a budget, growth export and import of products, «consumption», – money profits were increased per capita; in 2009 – «demography» is a dynamics of change of amount and structure of population after educational and age-old descriptions, ethnic and gender composition, financially «investment sphere», «industry», – the amount of subjects of managemant grew, an issue and realization of products was

increased, a net income grew [1, 11].

Table 2. Influence of development of separate spheres of vital functions of the Uzhgorodsky district of the Zakarpatska area.

	$D_p^{Industr}$	$D_p^{Agric\ ulture}$	$D_p^{Financial\ investment}$	$D_p^{Demo\ graphy}$	$D_p^{Consu\ mption}$	$D_p^{Social\ infrastruc\ ture}$	$D_p^{Human\ resources}$
2007	0,126996	0,141231	0,48012	0,199555	0,549847	0,443598	0,138076
2008	0,26313	0,312259	0,714605	0,554229	0,687985	0,482568	0,158176
2009	0,345446	0,193863	0,35278	0,436281	0,322282	0,223167	0,274629

Source: it is made an author.

From a table 3 evidently, that in Mostisky district of the Lvov area such, that most intensively developed during 2007 year, there were «human capitals» – the level of formation of population, market of labour development, grew, the structure of labour force changed, available workings spaces and «consumptions» appeared – money profits were increased per capita; in 2008 is «industry» – the amount of subjects of management grew, an issue and realization of products was increased, a net income, financially «investment sphere», grew – investments were increased in the fixed assets, a debt diminished before a budget, growth export and import of products and «human capitals» – the level of formation of population, market of labour development, grew, the structure of labour force changed, available workings spaces appeared; in 2009 are «human capitals», «industry», financially «investment sphere», «social infrastructure», – the improvement of payment of population took a place for the given services, diminishing of the negative phenomena, increase of amount of children and educational establishments. The level of development of separate spheres of vital functions of Mostisky of district of the Lvov area is resulted in a tablet. 3.

Factors which a construction is conducted after are the proper annual values of indexes of the socio-economic state of the probed boundary territories. The result of realization of factors is an increase (diminishing) of economic performance of boundary territory indicators on the whole, and consequently, activity of information of constituents of MSP of socio-economic development will be described the algorithm of influentialness.

Table 3. Influence of development of separate spheres of vital functions of Mostisky of district of the Lvov area.

	$D_p^{Industr}$	$D_p^{Agricultue}$	$D_p^{Financial\ investment}$	$D_p^{Demo\ graphy}$	$D_p^{Consu\ mption}$	$D_p^{Social\ inf\ rastructue}$	$D_p^{Human\ resources}$
2007	0,238773	0,398933	0,239241	0,161489	0,564614	0,254207	0,516161
2008	0,6781	0,162982	0,673052	0,465541	0,234744	0,406093	0,56627
2009	0,665904	0,321904	0,542973	0,433652	0,474522	0,610748	1

Source: it is made an author.

Utillizing the algorithm of construction of level of development, it is got the results of level of socio-economic development of three districts erected in a tablet. 4.

From a tablet. 4 evidently indexes of level of socio-economic development of the probed boundary territories. Information testify that the Uzhgorodskiy district is for period of 2007-2008 years develops dynamically enough, and an insignificant slump took a place in 2009 year.

Mostiskiy a district for probed period gradually grew powers of socio-economic development. The indexes of development Uzhgorodsky and Mostisky of districts are

resulted caused custom transitions, transport ways which pass through these territories. A closeness to the border assists dynamic development of public organizations, intensive work of business, adjusting and conclusion of partner agreements, at the level of districts of contiguous boundary territories. A Verchovynskuju district is the least developed through a weak intersectoral collaboration, absence of transport ways, custom transitions, inactivity of power at the level of district, which unmediated influences on the indexes of socio-economic development [1].

Table 4. Level of socio-economic development of Verkhovinsky Uzhgorodsky and Mostisky districts.

Year	Verkhovinskiy		Uzhgorodskiy		Mostiskiy	
	without a sector	with sectors	without a sector	with sectors	without a sector	with sectors
2007	0,192532	0,230276	0,307872	0,33837	0,14731	0,162517
2008	0,09534	0,118553	0,43442	0,446916	0,242676	0,25737
2009	0,086055	0,099988	0,210249	0,211983	0,35966	0,388664

Source: it is made an author.

Will conduct the analysis of closeness of connection between separate partial indexes and general level of development, for what will utillize the coefficient of pair correlation. During the probed period these coefficients made 2007–2009 years (tablet. 5 – 7):

Table 5. A closeness of connection is between the level of development of certain sphere of vital functions of the Verkhovinsky district and general level of development without the account of other factors.

Sphere of vital functions of district	Value of coefficient of pair correlation
Industry	-0,48132
Agriculture	0,998858
Financially investment sphere	0,058989
Demography	-0,74044
Consumption	-0,2874
Social infrastructure	-0,05644
Human capitals	-0,07608

Source: it is made an author.

Analysis of these tablets 5 testifies that the most closeness of connection between the general level of development of district and levels of development of separate spheres of vital functions of district is observed for agriculture and financially investment sphere.

Analysis of these tablets. 6 testifies that the most closeness of connection between the general level of development of district and levels of development of separate spheres of vital functions of district is observed for the spheres of financially investment and consumption.

Table 6. A closeness of connection is between the level of development of certain sphere of vital functions of the Uzhgorodsky district and general level of development without the account of other factors.

Sphere of vital functions of district	Value of coefficient of pair correlation
Industry	-0,30311
Agriculture	0,728698

Financially investment sphere	0,995494
Demography	0,395823
Consumption	0,977059
Social infrastructure	0,896848
Human capitals	-0,74203

Source: it is made an author.

Table 7. A closeness of connection is between the level of development of certain sphere of vital functions of Mostisky of district and general level of development without the account of other factors.

Sphere of vital functions of district	Value of coefficient of pair correlation
Industry	0,801654
Agriculture	-0,23096
Financially investment sphere	0,611501
Demography	0,757103
Consumption	-0,17372
Social infrastructure	0,999972
Human capitals	0,943908

Source: it is made an author.

Analysis of these tablets. 7 testifies that the most closeness of connection between the general level of development of district and levels of development of separate spheres of vital functions of district is observed for the spheres of social infrastructure and human capitals.

Conclusions are from the conducted research. Consequently, these researches rotined that a social infrastructure had a most closeness of connection. Except for influence of infrastructure on development of territories socio-economic development, especially intersectoral partnership, influences most, most distinctly it is seen in the Uzhgorodsky district. This district has an advantageous geographical location, and which carry out activity of public organizations promotion of this territory does it investment-attractive.

Список використаних джерел та літератури:

1. Вербовська Л.С. Розвиток прикордонних територій на основі активізації міжсекторного партнерства : автореф. дис. … канд. екон. наук: спец. 08.00.05 / Л. С. Вербовська. – Львів, 2011. – 20 с.
2. Голіяд Н. Ю. Моделі антикризового управління регіоном: дис. … канд. екон. наук : 08.03.02 / Н. Ю. Голіяд. – Харків, 2005. – 153 с.
3. Колесникова Н. А. Финансовый и имущественный потенциал региона: опыт регионального менеджера / Колесникова Н. А. – М.: Финансы и статистика, 2000. – 240 с.
4. Некрасов Н. Н. Региональная экономика / Н. Н. Некрасов. – М.: Экономика, 1978. – 344 с.
5. Плюта В. Сравнительный многомерный анализ в экономических исследованиях: Методы таксономии и факторного анализа / Плюта В.; пер. с польск. – М.: Статистика, 1980. – 152 с.
6. Поповкін В. А. Регіонально-цілісний підхід в економіці / В. А. Поповкін. – К.: Наук. думка, 1993. – 219 с.
7. Ревтюк Є. А. Управління виробничо-господарськими комплексами на засадах використання інтелектуально-ресурсного потенціалу: автореф. дис. … канд. екон. наук: спец. 08.02.03 / Є. А. Ревтюк. – Львів, 2005. – 25 с.
8. Региональная экономика: планирование, прогнозирование, управление / А. С. Емельянов, В. Ф. Беседин, Е. Д. Клименко [и др.]. – К.: Наук. думка, 1989. – 272 с.
9. Региональное развитие социальной инфраструктуры: темат. сб. / под ред. А. И. Бурачаса. – Вильнюс, 1984. – 335 с.
10. Региональное управление: методология и моделирование / В. А. Забродский, Н. А. Кизим [и др.]. – Х.: Основа, 1991. – 96 с.
11. Вербовська Л.С. Аналіз сучасного стану та потенціалу активності розвитку міжсекторного партнерства на прикордонних територіях /Л.С. Вербовська// Соціально-економічні проблеми сучасного періоду України. Регіональна конвергенція та транскордонні ринки: [зб. наук. пр.] /НАН України. Ін-т регіональних досліджень; редкол.: Кравців В.С. (відп. ред.). – Львів, 2011.- вип. 5 (91). – 245-256.