

Economic aspects for determining attractiveness of territories

Konstantyn Viatkin^{1*}, *Eduard Shyshkin*¹, *Oleksandr Kamieniev*², *Anna Pankeieva*¹, *Roman Viatkin*¹, and *Natalia Moroz*¹

¹ O.M. Beketov National University of Urban Economy, 17 Marshala Bazhanova str., Kharkiv, 61000, Ukraine

² Zaporizhia Construction College, 43 Independent Ukraine str., Zaporozhye, 69000, Ukraine,

Abstract. The paper is dedicated to issues related to the development of territories by means of improvement of efficiency and development of city-planning systems. One of the top components of the territory attractiveness is economic. Economic indicators are formed taking into consideration development of social parameters of this territory, and have reverse influence on the social development of territory. Economic indicators have impact on economic and innovative components of territorial development. Therefore, the importance of issue related to the improvement of economic component efficiency defined the purpose of this paper. The paper analyses indicators and criteria of economic attractiveness of territory, such as business activity, production potential, human resources management and investment component. Territory economic attractiveness assessment method is proposed using analysis, assessment and calculation of every single indicator of economic component of spatial-organizational model of city-planning system.

1 Articulation of Issue

Urbanization issue is of top-priority in ensuring development of modern society. The majority of population on the Earth lives in the urbanized territories. Development of science and technologies provides human with comfort living, satisfaction of primary needs and capability to develop economic systems through the labour service rationalization of able-bodied population. Creating conditions for life necessities, labour and recreation of population are top targets of urbanization. In its turn, under the conditions of IT development multi-functionality and complexity of requirements to efficient processes of territory development rises. Modern technologies make the society to turn to digitalization and digitalization, more operations that can be carried out by society move to the virtual space. At the same time, the problem of ecological pollution becomes urgent, that is also a consequence of anthropogenic impact. Ecological problems have been awarded with the status of global issues, and the population of big metropolises almost are not able to provide themselves with comfortable and healthy living under the conditions of evaluated pollution of the atmosphere, first of all, by vehicle emissions, percentage reduction of green area,

*Corresponding author: vyatkin.k.i@gmail.com

allowing for air cleaning and creation of “green barrier” between main transport routes and residential area; because of lack of safe drinking water, living in stressful situations and constant lack of time because of spending it in traffic jams, expectations in queues of huge malls etc. Complexity of problems of urban development under modern social, economic, and technological conditions requires from scientists and practitioners, who search for system mechanisms of their solving and access to completely new level of information society life in new millennium.

2 Analysis of the Latest Researches and Publications

Problems of urban and territory development, taking into consideration their urgency, have been studied in the works of many scientists. Role of centralization process in the problems of urban development is studied in the work of M. Wolff [1]. J. Levy in his researches refers to the urgent issues of modern urban development [2]. J. Kozina, N. Clifton analysed problems of development of city and village area, interrelated relations and attraction relations [3]. N. Meyer and C. Auriacombe studied issues of stable urban development [4]. In the work of Y. Yan and colleagues we can find some aspects of state policy devoted to the urbanization process development [5]. They determined current trends of urbanized territory development. K. Kasemets, A. Rammo, H. Palang studied the processes of rising attention of population to village area and tendencies of attraction to suburban zone from big cities [6]. A. Walks studied financial backgrounds of suburbanization process [7]. M.M. Diomin developed control models for city-planning system development based on the modern urban development and urban planning problem analysis [8, 9]. However, under the conditions of environment rapid changes and information society development, new requirements are made for supporting efficient functioning of city-planning systems, which shall be taken into account when planning and designing the territory. Therefore, a problem of determining assessment tools for territory attractiveness under current social and economic conditions is now becoming ever more urgent; it has practical importance for further development of urbanized systems in accordance with globalization of these social challenges.

3 Purposes and Objectives

Because of determination of the urban land development global problems, the primary purpose of this paper is to define theoretical and methodological backgrounds to the formulation of territory attractiveness assessment system for living taking into consideration economic aspect of territory development.

In accordance with the purpose in hand, it is required to perform the following tasks in the research:

- to accumulate theoretical approaches to the definition of basic concepts of territory development;
- to determine fundamental principles of supporting economic attractiveness of territories for the public;
- to analyse key criteria for supporting economic attractiveness of territories for living;
- to choose indicators sets in order to assess economic attractiveness of territories for the public,
- to give recommendations concerning development of assessment system for economic attractiveness of territories taking into consideration current trends and tendencies of social advancement.

4. Statement of Basic Materials

Fundamental concept in the system of urbanization is a concept of territory. Theoretical aspects of definition of “territory” in terms of legislative environment is given in the Law of Ukraine “On Territory Planning”, in accordance with which “territory is a section of earth surface within certain limits (boundaries) with a geographical position peculiar thereto, natural and created by the human activity conditions and resources, also with air space and mineral resources located thereunder” [6].

Key moment, which is connected with the problems of urbanization development in this definition, is “natural and created by the human activity conditions and resources”, that is factors, providing human comfortable living and vital activity in one or another territory.

Providing human comfortable living in a certain territory has to be supported by city-planning system, which, in a broad sense, can be described as a complex of indicators of social and economic, ecologic, technologic and other kinds of territory development for providing comfortable conditions of living of the public.

Formation of city-planning system is defined by urban design, namely, system of elements of spatial and technological planning, urban development projects, natural resources, interrelations of which form the human livelihood environment [7].

As of today, scientists distinguish three various models of city-planning systems, being formed as a result of modelling spatial planning taking into consideration performing social and economic functions thereby. In particular, we can the following models can be distinguished [1-3]:

- centre is a territory, that is an administrative centre and/or performs functions of – business, social and other activities which attract people to meet their high-level needs;
- cities, tending to the centre, are territories with certain functional use (industrial, agricultural, trading potential, transportation junctions, recreational centres etc.), the population of which tends towards the centres because of higher level of social support and opportunities for leisure-time activities;
- landscape-recreation lands or conservation areas are territories, which are almost unoccupied by people, where the nature is remained untouched in its primitive form;
- rural areas and settlement territories are territories with ill-developed infrastructure, population of which tends to the centres and cities, tending to the centres because of higher level of social and economic development;
- transportation junctions are territories, different in scales and number of inhabitants, with various levels of social and economic development, but obligatory having well-developed traffic network of different kinds of transport, since they are at the cross of important transport routes. As a rule, these centres are centres of attraction in connection with more developed infrastructure, than in similar territories, which are not transportation junctions.

Spatial development process support is complex and multifactorial. As a result of the mentioned above grouping of territories according to the models of population tending it was found out, that one of the priority directions for the development of any territories for improving the level of comfort and attractiveness was economic components. Economic components significantly depend on social indicators. Important elements of economic development are indicators of demographic changes that is immediately connected with the number of able-bodied population and its capabilities to work in order to provide third age people, children and people with disabilities with the social guarantees. The economic indicators are also influenced by level of education and medicine that is immediately connected with level of qualification and labour production of able-bodied population, economic system capabilities to innovative development, but not a “raw-exports role”. On the other side, economic development influences the social development in direct proportion. For example, the same quality parameters of education and medicine have direct dependence on investments, which are being made in social sectors of economics. Economic features of

the city-planning system development have an impact on ecological factors, as well. If the economics develops by means of extensive methods, then the level of ecological pollution and irrational consumption will be very high. Innovation-driven economy shall use intensive methods of development, which do not cause damage to ecology and ensure harmonious co-existence of human and nature [4-5].

So, sum it up so far, the following elements of economic component to ensure attractiveness of urban land can be distinguished [8-10]:

- support of business activity by opening and promoting development of existing business entities of small and medium-sized businesses, investment attractiveness, that evaluates prospects of attraction of investments for the territory development from big companies;
- support of territory development in accordance with its functional use – evaluation of territory potential resources, determination of desirable scenarios of its use, support of rational use of territories according to its functional use (for example, agricultural land with fertile soil shall be used for agricultural works, there shall be no industrial enterprises, which will pollute these soils, that will lead to loss of this territory, its functional use);
- support of development of housing and utilities infrastructure system and household services for population to ensure comfortable living of the public and opportunities to conduct economic activities;
- innovative construction, repair and reconstruction of obsolete and worn-out buildings and structures.

The fundamental of territory economic development is indicators of financial (material) and non-financial (non-material) sphere. An interesting idea has M.M. Diomin concerning the determination of the financial sphere indicator sets, which have to provide the territory economic development. The author emphasizes the following indicators [11] – Fig. 1

Therefore, material production represents a set of branches of economy, which create material values of society. Non-financial or non-material sphere may include those branches, which do immediately create material benefits, but support rendering services. M.M. Diomin proposed the following list of indicator sets of non-material sphere, which shall support the economic development of territory – Fig. 2 [2].

Analysis of the material and non-material sphere indicators of city-planning systems proved its multi-functionality and complexity. Modelling and designing of city-planning systems is a difficult task for scientists and practitioners whereas it is necessary to take into consideration a great deal of relations that immediately connected with potential of the analysed territories and management activities related to the efficiency of their use.

As a result of the analysis conducted the author has developed and proposed a model of economic component of spatial-organizational model of city-planning system, focused on supporting efficient development of urban land with due consideration of potential capabilities of every element of the system and their synergistic effect in case of rational mutual use. The model is presented in Fig. 3.

The proposed model of economic component of urban land development includes 2-level evaluation system of economic attractiveness of territories for the public. The first level defines indicator sets, which influence the territory attractiveness and population tending thereto from other territories. The second level, more detailed, defines peculiar indicators and criteria of evaluation of the territory economic attractiveness in order to find “weak points” of its development and to carry out management activities to improve its attractiveness [10-11].

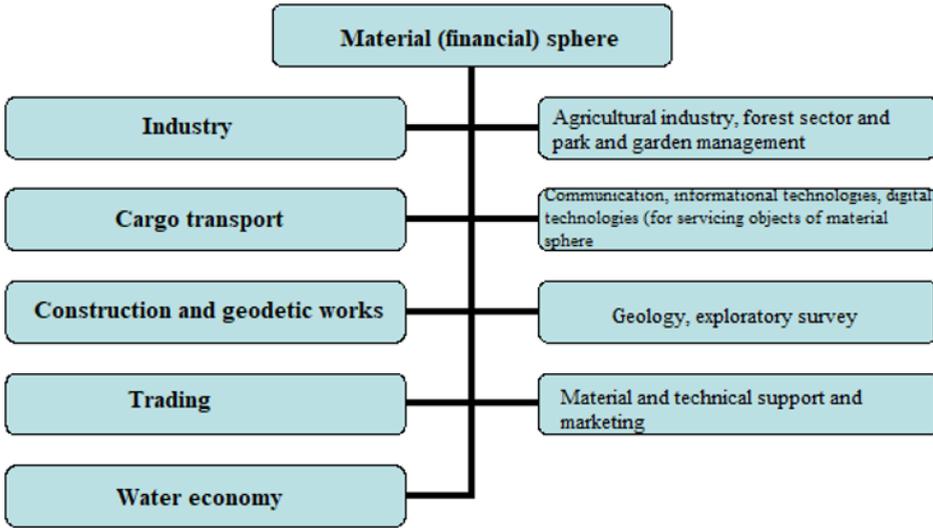


Fig. 1 Set of indicators of material sphere, which have to provide economic development of territories

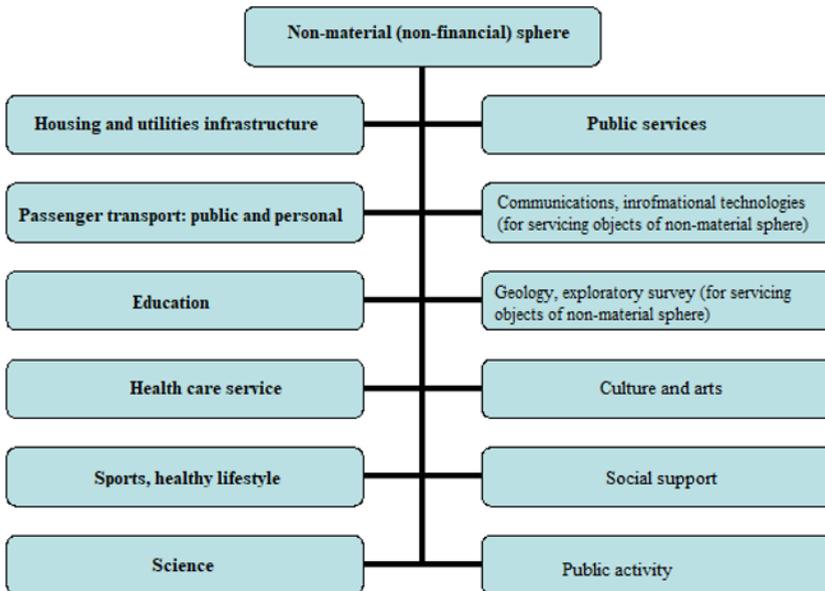


Fig. 2. Set of indicators of non-material sphere, which have to provide economic development of territories

Such a system was developed for determining an integrated index of territory economic development, which is a basis for evaluation of economic potential of a particular territory. By implementing the mechanisms of state strategic management through the determination of elements, which require additional management actions the attractiveness improvement algorithm, is developed, that is a basis of social and economic development.

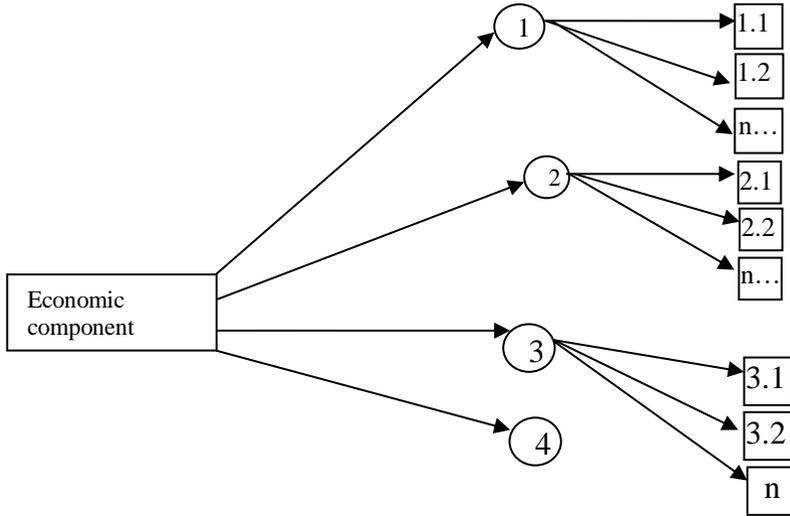


Fig. 3. Economic component of spatial-organizational model of city-planning system

Economic criteria, which are defined as priorities in the developed and proposed model, are as follows [12-13]:

- level of economic development at the macrolevel (gross output per capita in a particular territory, index of employment and remuneration of labour, etc.);
- microeconomical indicators (level of development of small and medium-sized enterprises – number of business entities and their financial and economic indicators);
- development of material and technical base of economic activity, development of production facilities;
- investment attractiveness.

These criteria are defined as basic for supporting economic attractiveness of territory and population tending thereto. Let us demonstrate schematically indicators of the economic component of spatial-organizational model of city-planning system, defined as the model first level, proposed in the research – Fig. 4

Mathematical feature of the model consists in determination of an integrated index of the territory economic development as an element of supporting its attractiveness. The author has developed a formula for calculation of HR-elements of the territory economic attractiveness indicator in spatial-organizational model of territory development - P_{ijHR} .

$$P_{ijHR} = \left(\frac{W_i}{W_j} \right) - \left(\frac{WP_i}{WP_j} \right) / T \tag{1}$$

- where W_i is annual salary per one regular employee within the territory i
- W_j is annual salary per one regular employee within the territory j
- WP_i – number of jobs within the territory i
- WP_j – number of jobs within the territory j
- i, j – territories, according to which attraction relations are analysed
- T – cost of movement

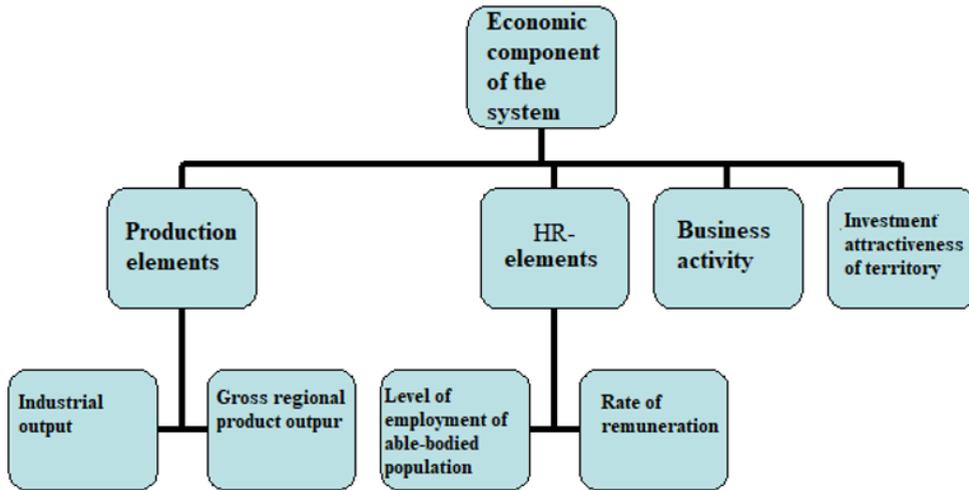


Fig. 4. Indicators of the economic component of spatial-organizational model of city-planning system

In this formula contains indicators for determination of the territory economic attractiveness, which are based on the statistics, namely, annual salary per one regular employee within the analysed territory and the territory, which is defined as a territory-satellite, as well as number of jobs. These data are analysed by offices for national statistics in regions and is given in aggregate way. Territory, that is analysed with respect to tending relations, can be compared both to the territory, where the local population tends to, and to the territory, where the populations come from, for example, in order to work or to satisfy own social needs.

For the further analysis, it is required to calculate an indicator, proposed in the formula 1 that is cost of movement. The cost of movement is proposed to calculate using the formula as follows:

$$T = \frac{TC_{ij}}{t} + \frac{EL_{ij}}{t} + L_{ij} \quad (2)$$

where TC_{ij} – travel costs from “A” to “B” j

EL_{ij} – economic losses incurred during the travel time from “A” to “B” j

L_{ij} – coefficient of travel comfort from “A” to “B” j

t – time spend for travel from “A” to “B” j

Therefore, it is proposed to consider an opportunity to set indicators and criteria for evaluation of the economic attractiveness of spatial-organizational model of the urban development system and for other elements: production, investment attractiveness and business activity. As indicators of business development, it is proposed to use indicators of gross regional product, as indicators of business activity – number of business entities, working within some territory per capita, as investment attractiveness it is planned to evaluate amount of investments in monetary terms (foreign, public and public) per capita.

5 Statement of Basic Materials

Therefore, having compared the analysis of basic elements of city-planning system attraction, we can draw a number of conclusions. City-planning systems are complex and multifactorial systems; their performance efficiency depends not only on each individual element of the system, but also on their relations. Territory development provides for supporting a complex of factors of comfort and attractiveness for living by satisfying social and economic needs of

the public. Centres, having strong attraction, first of all, economical, becomes the object of attraction for the public from the territories-satellites. Evaluation of economic factors of the city-planning system development is an important priority in supporting efficient process of urban development under the conditions of current information society. Determination and evaluation of indicators and criteria of territory attraction for the public reveal opportunities for strategic planning and making efficient management decisions concerning corrective actions on some indicators of territory economic development, which precisely retard growth of its attractiveness, or vice versa, more active use of elements, which are potentially strong factor for the further development.

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