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Synchronization of Processes Related to Economic Activity with Stages of Development of Spatially-Organized Systems

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ABSTRACT

The development of spatially-organized systems has a cyclic nature characterized by a great number of factors that have a cross-disciplinary character. Herewith, urban planning is presented as a basic direction that ensures the operation of supporting systems. In order to solve the task that arise, the business environment of the urban formation must synchronize with the stages of its development and rise to the existing challenges. For this purpose, in the article the authors consider measures of targeted support for innovation-oriented entrepreneurs with the opportunity to receive rather specific result for the city. Such result is expressed in the formation of the basis of non-material assets that contribute to solving current and strategic tasks of urban planning.

Keywords: Business, Urban Planning, Geo-Informational Technologies, Economic Activity, Investments, Non-Material Assets, Entrepreneurship
JEL Classifications: R12, R58, O21

1. INTRODUCTION

Technical, economic, social and economic and other systems are developed in cycles. Various scientists from Russia and other countries determined it on the level of objective laws long time ago. When studying the methods used to increase the efficiency of economic activity and social development, it is necessary to consider these relations with reference to each other. Above all, urban environment is a system of the highest hierarchal level in relation to social development. Herewith, the variety of its elements stipulates the complexity of the process related not only to agreeing all tasks and mechanisms of the development but also direct identifying of all cycles and relevant potentials of systems and subsystems development. In this context it is necessary to take into account that the formation and development of urban territories

is based on productive forces (Kievskiy, 2001). Productive forces are means of production and labor resources that bring them into action thanks to occupational skills, knowledge and operational experience. Productive forces and essentially economic entities (enterprises) are an invariant condition of the urban environment existence. Urban population can meet its interests if the potential of productive forces is sufficient for the development of the city. This development is expressed in supporting systems and objects related to essential services that have already been created, and in forming resources for their future development in accordance with the needs of population.

Taking into account the above stated, the inconsistencies that must be solved can accumulate in the processes of the urban environment development. Urban population will act as the

accumulating potential for economic entities if the economic interests of this population are met on the rising level. On the contrary, unsatisfactory urban environment will have a negative impact both on the formation of the consumer's demand and creation of the resource basis (labor resources) of enterprises. As a result, the unsynchronization of cycles of various urban systems becomes a systematic obstacle of the spatially-organized systems development. And their synchronization subject to the availability of driving forces and critical potential on the part of economic entities acquires the primary importance for the high quality development of urban territories (Lukmanova, 2001; Pupyrev, 2002). These issues will be revealed below.

2. METHODS

Unlike the majority of such exact sciences as mathematics, physics, chemistry, etc., the economic theory reflects its time and the current state. That's why in order to effectively apply economic tools, the society must properly understand technological and organizational factors that characterize specific markets, areas of activity and economic sectors of the country. There is a variety of approaches and methods to study economy. Each of them has its emphasis, "blind spots" (Chang, 2015), weak and strong points. In this connection, it is possible to use separate regularities and various principles for management only with the understanding of their temporary effect. Over the past few decades, during the period of the capitalism golden age (1945-1973) the indicators of the growth and development of the world economy were at their historical maximum. However, until now, even taking into account the quick growth of communications and informational exchange, the accelerated decrease in the share of the human factor in formalized technical and technological processes, and growth of the workforce productivity, the indicators of the capitalism golden age have not been surpassed. It proves that every time attempts of economists to develop and fix the best mechanisms and methods of ensuring the development for a long-term perspective happen to be ineffective.

Active growth of economy (at the stage of the growth of economic activity cycle) comes with an increase in economic connections and relations. However, its termination can be simultaneously caused both by the degradation of these connections and their replacement when new market players appear. In course of time new threats and challenge arise. They require the development of an adequate model of management. In their turn, the greater spread of international trading and interrelation, support and development of free competition, increase in the dynamics of withdrawal and creation of new branches and areas of activity, availability of imbalances between extremely powerful transnational corporations and local business units of national economies just strengthen the attention to problems of cyclic development.

In regard to the development of territories and urban environment, production forms had a considerable impact. All of them were differentiated by various levels of the efficiency of creating industrial products. Thus, in the world practice there is a differentiation of production forms. They are based on the following standards: Industry "1" ... "4": Industry 1 – Mechanical

units; Industry 2 – Mass production, conveyor; Industry 3 – Electronics and computer-assisted management; and Industry 4 – Cross-machine communication. It is possible to note that the development of industry and transformation of the urban environment are also presented through special long-term economic cycles.

However, in terms of contemporary issues related to the economic cycle management, the primary attention is paid to various disproportions between prices, availability of resources, etc. on the macro-level. The existing scientific schools within the Gaidar Institute for Economic Policy, the activity of the research team of the Russian Academy of Sciences directed by Glaziev, researches of Kapitsa, Kurdiumov, Malinetskiy and others managed to give quite broad idea about contemporary reasons of cycles and to offer methods to manage them. Nevertheless, in practice challenges of the world market and international policy are predominately considered as the basis of cyclicism, while in order to manage the cycle, in Russia they fragmentally use separate methods borrowed from abroad and focused mainly on the financial instruments of the Bank of Russia (Silka, 2013). The implementation of monetary and credit policy including the regulation of the level of inflation and availability of investments, quantum of monetary stock, rate of the national currency and other measures allow to rather quickly influence the cycle. Herewith, they do not include the methods of qualitative influence on the real sector of economy. As a result, the mature economies that are continuously, systematically involved in researching problems of the economic cycle emerge from crises on a new qualitative level of the development and consequently continue to maintain the leading positions on the world market of the advanced technologies, products, and services. Whereas, the Russian economy has uncooperatively bigger losses in crises (as shown below), and the transfer to a new cycle does not come with the obligatory condition of growth. Thus, in the foreign practice they approach the problem of economic cycles more comprehensively. The Russian practice lacks methodological approaches to the management of the real sector of economy under the conditions of cycles.

It is evident that the welfare of the society depends on the quality of the formation of the urban environment (because of the high share of urban population in the country) (Pupyrev, 2002). Herewith, as shown above, in spite of the fact that the urban environment undergoes cyclic transformations, in the Russian practice the knowledge related to the economic cycles management extremely narrowly cover the issues of territorial development. As it is known, urban planning is the area of professional activity on spatial and planning organization of the territory performed in the form of territorial planning, urban zoning, territories planning, architectural and engineering projecting, and construction. Along with various issues of the engineering and technical nature, economic geography also enters the sphere of issues related to urban planning. And it means that economic processes and phenomena in the territorial, geographic aspects are also important.

Cycles of the country's economy, mesoscale and branch cycles track processes of the economic development of urban planning. The increasing economic activity of the region including urban

planning is an eligible phenomenon for the urban formation if the result of this activity reflects on the city development. Here it is possible to single out the following consequences:

- Increase in the number of workplaces and rise of tax and other payments to the local budget of the city
- Increase in the number of residential stock sold on the market and transferred to the city within social programs and obligations
- Development of the city infrastructure in terms of roads, engineering systems and networks for real property functioning
- Expanding economic connections and relations with entities from other territories
- Creation of favorable terms and conditions for involving resources to develop the activity on urban planning.

Taking into account that economic activity invariably depends on favorable business climate, the city activity on urban planning must focus on the creation of such climate. Traditionally these issues are solved by the method of planning efficient location of industrial and civil items of the city, traffic and other networks, logistic centers, objects of loads and people movement, etc. In order to create more specific measures on supporting economic activity, at the present time the creation of industrial parks, multifunctional centers and other similar objects acquire special importance. While industrial parks have indirect relation to the city because they are created to transfer the production outside the city, various multifunctional centers are focused just on the city infrastructure. Nevertheless, all varieties of such centers allow to contribute to urban planning by providing entrepreneurs with various types of assistance. They allow to improve the quality of the management system on enterprises (Lukmanova, 2001). It is obvious that business environment of the city is formed not only by the entrepreneurs who are within the city boundaries.

Industrial parks include such elements of the infrastructure as gas pipe lines, continuous supply system, heat supply system, waste treatment facilities, sewage system, information support system, and other communications. Besides, taking into account that parks are situated outside the city limits, it is important for industrial zones – industrial parks to have thoroughfares, junctions, service roads, airports, and railways. Multifunctional centers can have all the above elements of the infrastructure or some of them depending on the tasks. Moreover, there is a great potential to create such objects within the city or close to it due to the activation of industrial zones acquisition in Russia. So, according to the information from the Ministry of Construction of the Russian Federation, the ability of cities to develop by the method of infill construction is practically depleted, because the majority of “spots” have been involved in construction, and the volume of engineering capacity is limited. The implementation of projects on comprehensive acquisition of territories allows to solve problems related to the development of cities by creating contemporary, high quality urban environment for living, and to avoid problems that arise because of infill construction. On June 30, 2015 in the first reading the State Duma of the Russian Federation adopted the law on comprehensive development of industrial zones, and the Ministry of Construction of Russia

expects that by the end of the year the document will have been finally adopted. A lot of European cities have been long wending this way. Construction on lands of former industrial zones of industrial parks and multifunctional centers is not in conflict with the goals of the city development. Herewith, first of all, the acquisition of industrial territories is regarded as a driver for residential development in large cities.

So, having potential opportunities to use territories of industrial zones and other lands, the city is able to create various multifunctional centers by offering mechanisms to support activity on urban planning. As a minimum, the expected result is the formation of a proper base of constructing materials, services on projects engineering, qualified training of personnel, and development of financial services. In this regard, economic activity of the city is increased. The city sees the final result in earning budget revenues from providing services by industrial parks and other similar centers, for example, according to land lease agreements and tax revenues in general from entrepreneurship stimulated by the industrial park.

As a whole the change of stages of the development of spatially-organized system causes the increase in capabilities of doing business in the city. Synchronization of processes of economic activity with these stages is an expected phenomenon and takes place spontaneously while new opportunities for business appear. According to the authors, synchronization of processes of economic activity with the stages of the development of spatially-organized systems can be also a purposeful event on the part of the city within urban planning. Herewith, the accelerated synchronization of economic activity processes with the processes of the development of the city and activity related to urban planning is an important goal.

3. RESULTS

In its activity related to urban planning, the city can more intensively fulfill the set tasks if there is high quality cooperation with the entrepreneurship environment. It is achieved by creating various multifunctional centers and other objects that contribute to economic activity of entrepreneurs where the city receives profit in the form of non-material assets for the innovative cooperation and development.

Firstly, in order to perform activity related to urban planning, there is necessity to form bases of typical (and/or the most efficient) engineering solutions. The cooperation of urban authorities with business allows to solve such issues.

Secondly, a lot of issues related to price formation and increase in the accuracy of calculations, actual data about expenses, situations causing the misstatement of price are also important for the activity related to urban planning.

Thirdly, the experience related to attracting foreign partners and implementation of comprehensive engineering and technical objects by private business has an important meaning for urban planning and is required for the integration in the system of such activity management.

Thus, when creating objects (multifunctional centers, etc.) to support economic activity within the urban environment, urban authorities have an opportunity in the form of payment for the provided possibilities to run business to focus on the receipt of rather specific result. It will be especially useful as it was stated above if the reward is in the form of flows of non-material assets. In order to maximize profits earned by business, it is also necessary to synchronize processes of economic activity with the stages of the urban environment development. In this regard the management of activity related to urban planning must contain mechanisms that allow to support various methods of construction activity. They include specialization of production at the stages of activation of new construction directions, integration of business entities at the stages of the necessity to strengthen the business potential, and diversification of production at the stages of researching for new growth drivers (Silka, 2014; Silka, 2014; Kamenetskiy and Yas'kova, 2015; Kamenetskiy, 2013).

4. DISCUSSION

So, the result of providing business with support on the part of urban authorities expressed in flows of non-material assets has an essential advantage over financial resources going into the budget. Non-material assets can have an unlimited potential and manage not to show depreciation. For example, an urban or municipal geo-informational system (GIS) is a non-material asset of the urban formation. The problematic focus of GIS is defined by the tasks (scientific and applied) it solves. Among others they include inventory of resources (including land registry), analysis, estimation, monitoring, management and planning, support for decisions making. An integrated GIS - combines functionalities of GIS and systems of digital processing of images (remote sensing data) in the unified integrated environment.

Relevant specialists are well aware about the problems solved with the aid of GIS. If there is a GIS for urban planning, it is possible to obtain data about the places for constructing a new building, the main type of soils of the urban territory, the level of impact on transport traffic as a result of constructing a new road, how many buyers live not further than 1 km from a specific shop, etc. Deeper analysis of data allows, for example, to integrate data about the soil, slope, greenery and landed property with the rates of the land tax.

For the purpose of providing the functionality of GIS for the development of the activity related to urban planning, urban authorities can attract enterprises located on the territory to collect source data, and to monitor the required data. These enterprises earn profits from using opportunities of industrial parks and other multifunctional centers. Herewith, they are useful for the city by participating in various projects related to creating non-material assets. In their turn, for the target synchronization of economic activity processes with the stages of the development of spatially-organized systems, economic entities get informational support about actual directions of the activity.

Taking into account the scope of the prospective measures, it is recommended to initiate such partnership relations on the

territories on a comprehensive basis, together with other measures, for example, to propose relevant initiatives on the level of the administration of the sub-federal unit.

5. CONCLUSION

Issues related to managing the cycle of economic activity under the conditions of urban planning are urgent for the modernity. Subject to non-availability of purposeful measures on the part of the urban administration, the advantages created by urban authorities for business have quite generalized form. Those who receive help do not have targeted support. As a result, the measures of urban authorities rarely allow to receive the maximum reward. According to the author, among general events on supporting economic activity, urban authorities have opportunities to form the communities of entrepreneurs who have high innovational potential. Through the creation of favorable conditions for their activity using industrial parks and other centers to support activity helps to implement targeted measures of the activity stimulation. In response, it is also possible to foresee the receipt of non-material assets flows that can accrue in the system of urban planning management and contribute to the development of the urban environment. Due to this, by providing entrepreneurs with specific targeted support and expecting the same specific result that has a target character of further use, it becomes possible to provide the synchronization of processes of economic activity with the stages of the development of spatially-organized systems.

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