

The prospects of construction and transport industry

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Abstract. The article is focused on a problem of moving the construction industry into the growth and prosperity phase. The method of target orienting developed by the author is aimed at overcoming technological weakness of the construction industry and eliminating disproportions of the capital funds' structure. Exhaustion of traditional sources of construction industry growth and real property market growth required the research on specific technologies of interphase transformations and their development. It will contribute to implementing the objective laws of the new wave of construction growth, which provides the development of immovable's structure that is reasonable in terms of strategic priorities of the national economy.

1. Introduction

People have always attempted to conquer time and space in order to satisfy their increasing needs. Progress consisted in inevitable operation of objective law of labour productivity growth that reduces time spent on manufacturing products and demands living space structuring. Construction industry served those processes being a sort of productive activity. Construction using resources for structuring space dealt with residential problems more or less effectively and provided the functioning of industrial and social framework of living. Economical sense of target direction of construction development coupled with subjects of investment-construction activity aimed at changes - resource provision and marketer availability - lied in transformation of construction industry crisis and moving it to the state of prosperity and growth. Therefore, the case is crisis reverse, which will demand: assessing prospects of construction industry development in conditions of high cyclical behavior of internal and external factors' influence, educing prospects and opportunities of traditional sources of real estate market growth, working out technologies of interphase transformations of construction and real estate cyclical development, determining patterns of new wave of construction and real estate market growth.

Solving problems above will enable to ascertain objectively possible and practically implementable tendencies providing construction product growth within the given real estate structure under conditions of sequential reduce of resource consuming and products complying with good quality and environmental friendliness. This will assure reducing the period that is vitally important for putting the construction industry on development pathway.

2. Problems and prospects of traditional sources of construction growth and development

Resolving contradictions in realizing technological renovation of construction industry, exploitation and development of real estate requires step-by-step resolving the following basic problems:

1. Overcoming the fragmented nature of the innovative renewal. Combining obsolete and old-fashioned technologies leads to the conflict of certain elements of the system and eliminates preferences of the new. This requires systemic coherence of processes taking into account t the new type of



expenditures for their compatibility providence in investment-construction projects.

2. Providing qualified accompaniment of technical renewal processes. It requires creating industry innovation cluster having new coherent operation form of geoinformation systems, research and technology parks, engineering companies, discussion areas with dialog system, exhibitions, etc.

3. Eliminating the symptoms of investment insufficiency of financing the processes of technological renewal, both through the development of venture, project and budgetary financing, and through using incentive tools, such as subsidies, tax incentives, etc.

4. Creating development institutions corresponding the purposes, taking into account the aims and specifics of construction at the present stage of development.

5. Filling the information and educational vacuum, requiring the organization of the process of continuous learning, exchange of experience, etc.

Setting a structural framework of real estate and assessing if the construction industry is ready to solve the problems of the cyclical transition of the national economy to a new technological structure, there was a stable idea of construction as one of the most dynamically growing industries. As President Vladimir Putin mentioned in his message to the Federal Assembly, in 2015 more than 85 million square meters of residential housing were put into service. It was a record indicator for the entire history of the country and showed the revival of the economy as a whole. [1]. Recordable quantitative indicators of construction visible on the surface of economic phenomena create the illusion of its successful development. At the same time, structural analysis shows the fragility and opportunistic nature of a number of achievements and results.

Firstly, despite the rate of growth of construction product output is significantly higher than in other industries [2] and it reached the highest point in 2014-2015 (approached the pre-perestroika level in kind), experts suppose that to 70% of growth was presented in residential development. Thus, the effect of deferred demand was gradually implemented within the analyzed period. The economic point of it is expressed in the long-term retrospect of the unmet demand for housing. Based on the estimating the positive dynamics of the rate of satisfaction with housing and taking into account the segment of rental housing and a period for the growth of real incomes of the population, which is far from favorable, it will be much more difficult to maintain the former rates of construction growth in the future.

Secondly, during the last decade housing sector being the leader of market growth was characterized by the complex development of new suburban urban territories. Generally developed districts were not only removed from areas of working areas, but also not enough provided with social infrastructure. Such a situation made people sacrifice their interests at first stage, and then move or emigrate. It is worth noting that the most economically active part of citizens have to deal with it. Russian cities still do not meet competition for the living standards.

Thirdly, the existing trends in the development of construction and localization of real estate have been torn apart not only from solving the problems of locating productive forces, updating the active part of fixed assets, securing employment, the direction of labor migration, but also from the main trends in scientific and technological progress. The practice shows that construction industry and real estate market still remain conservative and inert.

Fourthly, equity construction mechanisms were the basis of such an active dynamics of the construction activity during the last decade. Their use allowed avoiding failures in the rate of growth. At the same time, the imperfection of guarantee mechanisms and the high level of macroeconomic instability caused the growth of unfinished building, and, consequently, social tension. As a result, systemic measures were required to reduce the risks of equity construction on a new institutional basis. The Federal Law № 214 "On Participation in Equity Construction of Tenement Buildings and Other Real Estate Objects" adopted on 01/01/2017 [3] was supposed to resolve the controversies at the legislative level. However, according to most experts, the technical difficulties of its implementation as well as additional cost loads of the developer will not only significantly reduce construction volumes, but will also reduce the chances of medium-sized and small construction companies to participate in large-scale projects. Thus, the impact of legislative amendments is likely to have a negative impact on the prospects for growth in construction and the real estate market.

Fifth, the current trends in the growth of construction volumes and ensuring the stability of the real estate industry have so far been provided with effective demand, the level of which is currently falling. According to the World Bank in 2016, in all sectors of the national economy, real wage growth is close to zero, while real incomes are contracted by sources of income that are not related to wages. This indicates a significant reduction in the real sources of cheap and project-oriented investment in construction. The situation is exacerbated by the general decline in the business activity of the business environment, oriented in the context of a strong outflow of capital from the country, not for development, but for survival [4].

3. Results

3.1 Target focus of construction industry and development of real estate

Updating the technological and institutional structure requires essential transformations of all directions and forms of development, which is impossible without admitting cyclical dynamics slowdown or even "market failures". This fact is proved by the entire history of the humanity. Accordingly, more and more scientists are likely to consider that instead of achieving market balance described in a well-known textbook [4], the task of economic science of elaborating recommendations for development is to study patterns and elaborate proposals to accelerate the desired deviations from the point of market balance in the direction of the set goals achievement. In other words, it is hard to count on instant economically effective resolving of the inconsistencies of cyclic development without target focusing of measures of new industries' development managing, types of activity, regions with capital fund structure, resource flows, subjects, etc. It is within the framework of target focusing that destructive processes should be neutralized, critical changes identified and stimulated, and the goals and constraints of development determined.

Of course, such a mobile industry as construction has demonstrated its adaptive capabilities. At the end of the last century construction industry not only survived, but managed the challenges of the domestic real estate market loss, which was under transition to market principles of management, despite losing state financing, instability, excessive inflation, growing deficit of investment resources, morally and physically obsolete construction industry, inconsistency of the regulatory framework, low contractual discipline, etc. The enterprises entering structure of a construction field could create competitive manufactures. A number of construction trusts intensively diversified their activities, creating real estate agencies, design bureaus, building material companies, repair facilities, property management companies, etc. By structuring, and often rebuilding construction cycles, renewed real estate market participants expanded, strengthening their business reputation and developing investment opportunities. In this way, large national anti-crisis immunity companies were opened (Group of companies "MonArh", Finance and Construction Corporation "Leader", "LSR Group", Group of companies "Krasstroy", etc.).

Sustainable growth in construction products output, provided by construction business companies, significantly accelerated the economy's resolving the crisis after the default announced in 1998 and ensured its growth from 2000 to 2008. During this period there were no state and sector-wide system management measures for construction (the State Committee for Construction "Gosstroy RF" was disbanded in 2004), successive strategic decisions [5]. So real estate market participants started to join the cyclical dynamics of development and effectively use crises for the raster in order to organize their own activities. While analyzing the results of overcoming the systemic crises, it becomes obvious that than less manageable regime it was while measures were taken to enter the growth trajectory, the more harmful the consequences of the crisis were. It requires the development and implementation of a set of interphase transformation technologies (ITT). Special technologies are necessary, both for the target focusing of construction processes, and for ensuring the synchronization of activities of all participants in the real estate market. The construction, creating real estate, synchronizes the frequency fluctuations of the triple system ("man - society - nature"). Therefore, it firstly should prevent the emergence of destructive processes, which will actualize the development of the first type of ITT - stabilizer

technologies. Together with the development technologies, they do not allow antiphase cyclic oscillations and contribute to their synchronization.

3.2. Laws of a new wave of growth in the real estate market.

The need for a new wave of growth based on use of substitution technologies is induced by reduction of budgetary support for construction and real estate market against exhaustion of the effects of deferred demand, chronic investment insufficiency, low innovation susceptibility, complication of mechanisms of equity construction, growth of losses of unfinished construction and decay of small business activity. They basically provide the first fundamental law of a new wave of growth in the real estate market. The economic sense of this pattern is in a purposeful cost-effective replacement of the type of development resources. The current world trend is to replace material resources with immaterial ones.

The current state of the resource base and technological support of interphase transformations is constantly discussed at a number of inter-industry and international discussion platforms [6]. The main issue was the attempt to overcome the deepest gap between the scale of the accumulated problems and the available resources for their solution. Representatives of the scientific and business world, state and public figures expressed their concern about the possibility of transition to sustainable growth in the conditions of growing investment insufficiency, negative external economic background and falling business activity. In this regard, the main subject of searching for sectoral and academic science is searching for substitute resources and increasing the impact of their traditional group.

Analysis of development reserves showed that, among the most complicated tasks of innovative technological replacement, the completion of initiated projects with the state support is able to form the starting potential of a large-scale process of restructuring the resource base for the development of construction. In the conditions of a resource deficit, the creation of liquid real estate on the basis of unfinished construction objects can form the second law of a new wave of growth in the real estate market. Of course, this will require support in the project engineering form, actualizing the completed real estate in changed conditions, as well as the operational order of making changes to the project. All the replacement technologies can and should be used in projects of construction completion.

The second law of the withdrawal of construction on a new wave of growth may be maintained by a third law, which consists in providing an innovative cost-effective adjustment of the project at any phase of the project and investment cycle. Innovations confirmed their economical effectiveness and that does not lead to loss of consumer properties should be implemented immediately. A special order of innovative adjustment of the project should also be envisaged when implementing the supervisory function. All innovations that reduce the material consumption, energy intensity, construction costs and, at the least, do not worsen its quality after express examination should be implemented "from the wheels". Note that in the context of expanding use of information technology, the examination can be significantly accelerated [7].

Overcoming the "personnel hunger" in construction is expedient to carry out in the mode of revival on a new innovative basis of the system of training personnel, including working specialties and junior leading personnel. Restructuring of labor resources forms the fourth law of transformation and transition to the phase of growth in construction and the real estate market. This regularity can be realized only if the top echelons of power immediately initiate the construction of a single continuous multi-level system for training and retraining personnel and returning to the previous system of industry-specific specialization.

The fifth law and a kind of "safety bag" from external shocks of the innovation embargo is the formation of a competitive scientific cluster with the use of self-financing mechanisms, grant support of the state, international cooperation programs, etc. There is a need to create the scientific cluster from the ground up, since the number of branch-wise scientific research institutes decreased in dozens of times after 1990, there was a degeneration of scientific schools, and, consequently, the number of new scientific developments and researches.

Thus, effective state regulation, acting in the form of fully implemented coordinating, stimulating and controlling functions, becomes a kind of guarantee for the implementation of the basic laws that provide a new wave of growth in the real estate market.

4. Conclusions

Cycle transformations at all times were maintained by reasonable and well-coordinated activity, which means management. The core of management is eliminating disproportions of the existing structure of capital funds on the basis of government regulation and coordination of the market agent interests while using replacement technologies that provide the following:

1. Resource transformation of construction industry, operation and development of real estate with the expansion of segments of using immaterial resources for development, including the creation of an effective institutional environment.
2. Elimination of unfinished construction, implying the acceleration of involving unfinished construction projects into the turnover, as well as creation of conditions that prevent the "death of capital".
3. Innovative expansion at all stages of project and investment cycles based on the development of rapid methods of examination and targeted adjustment of supervisory functions.
4. The personnel revolution with the restructuring and expansion of the areas of new competencies, the development of a system of attestation of cadres,
5. Scientific support of systemic changes in the managed coordinated mode of the scientific branch cluster functioning.

The direction of these laws results from the need to accelerate solving the problems of ensuring the construction and real estate market emerging from the crisis zone and transferring to the phase of growth and development.

References

- [1] Glaz'yev S 2016 *Ekonomika budushchego Yest' li u Rossii shans?* (Knizhnyy mir) 640 p
- [2] Nazmeeva T V and Vatin N I 2016 *Magazine of Civil Engineering* **62(2)** 92-101
- [3] Matveyeva M and Yas'kova N 2014 *Yekonomichnyy chasopis-XXI* **1 1-2** 42-45
- [4] Makkonel K and Bryu S 2003 *Ekonomiks (INFRA-M)* 983
- [5] Yas'kova N YU 2009 *Razvitiye investitsionno-stroitel'nykh protsessov v usloviyakh globalizatsii.* (Moscow, MAIES, IPO «U Nikitskikh vorot») 520 p
- [6] 2016 *Nauchno-tekhnologicheskoye razvitiye Rossii: novyye gorizonty ekonomiki, upravleniya, prava Materialy II Mezhdunarodnoy nauchno-prakticheskoy konferentsii* (Moscow, RANKhiGS, Izdatel'stvo «Sputnik+») 338 p
- [7] Gorshkov A S and Vatin N I 2013 *Magazine of Civil Engineering* **40(5)** 5-19