

Housing Construction and Purchase Through the Model of Social Financing

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Abstract. The article considers aspects of solving the housing problem by improving the mortgage system. The authors analyze the existing system of construction financing, project finance introduction and its results, and study in detail certain elements of mortgage lending. On this basis they further introduce a model of social financing for housing construction and purchase. Management of regional housing construction in the framework of investment and construction activities is a challenging task. This task is being solved gradually and is expressed by standard management functions. Reliability in relations with investors and quality of management of the investment construction process are directly dependent on the quality of implementation of the management functions mentioned above. Investment projects are aimed at achieving specific goals in housing construction, as well as any complex socio-economic systems. In the field of housing construction, not only the return of investments and resources but also investments budget effectiveness and their social aspect are important from the point of view of the region's development. Therefore, the formation of management system of investment and construction activities in general, depends on coordination of separate elements of the system in the process of the housing complex operation.

1. Introduction

The need to solve the housing problem is important today for every state. To achieve this, it is important to balance the commissioning of housing and the availability of real estate for the population to be able to purchase it. The pace of residential real estate commissioning does not reach the forecast positive marks and continues to fall. There are some regions in Russia that do not have the required amount of housing that is being introduced.

At the same time, with mortgage rates and key rates of the Bank of Russia declining, the number of mortgage loans is reduced which indicates a decrease in the solvency of the population. The problem of "hoodwinked investors" has a huge impact on the desire to get a mortgage loan and purchase real estate by external funding. Since July 1, 2019, an attempt has been made to change the situation by introducing a new housing finance system. It involves the use of special escrow accounts in authorized banks when



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concluding co-investment agreements, the funds from which the developer will receive at his disposal only after the construction is put into operation. The implementation of project financing pays off: according to the Central Bank of the Russian Federation, by the end of 2019 the number of escrow accounts increased by 25% and reached the level of 44.2 thousand, and the amount of money deposited by shared construction participants reached 148 billion rubles (an increase of 30%). However, not all those who need to improve their living conditions can afford to purchase real estate even with the help of project financing.

Without budget support, the implementation of social housing lending programs is currently impossible. In the current conditions of limited budget financing at all levels, the task of optimizing the parameters of housing mortgage lending programs is of great importance.

2. Relevance, scientific importance of the issue

Problems of housing construction financing constantly attract the attention of scientists and practitioners in the field of investment activities, long-term credit services for developers, mortgages, and the securities market. However, the reasons for the underfunding of socially significant housing construction and the prospects for solving the existing problems in this area in the new economic conditions have not yet been sufficiently studied. First of all, there is an urgent need for scientific research of the concept of development of the national housing finance system and housing purchase [1].

General theoretical and methodological approaches and methodological bases for determining the effectiveness of investment projects with account of the peculiarities of territorial development have been introduced by such authors as S.I. Abramyan, A.G. Granberg, John A. Dixon, Richard A. Carpenter, H.A. Magomadova, O.E. Medvedeva, E.V. Ryumina, Paul B. Sherman, et al.

Such scientists as A.N. Asaul, V.V. Asaul, V.V. Buzyrev, N.V. Vasilyeva, L.M. Kaplan, A.E. Karlik, I.A. Kuzovleva, I.G. Lukmanova, L.A. Trofimova, Yu.P. Panibratov, A.B. Petrukhin, E.V. Pesotskaya, A.M. Platonov, L.G. Selutina, E.B. Smirnov, I.V. Fedoseev, N.V. Chepachenko et al have also made a great contribution to the study of theoretical and methodological foundations and regional aspects of investment and construction activities, as well as to the research of effective management of regional investment and construction complex development in modern conditions.

However, despite the detailed analysis of some particular areas of housing finance, there is a need for research with an applied focus on the medium term, and on the relationship of social, economic, organizational, managerial and environmental aspects of the development of regional investment-construction sphere with the sphere of regional housing construction. In general, it should be said that at present there are no comprehensive studies in Russia on investment support for the development of regional housing construction in the medium term [2].

The authors of this paper aim to analyze the state of housing investment policy at the regional level, to introduce a regional development strategy in the field of housing construction and a regional program to improve social standard of living.

The scientific novelty of the study is the introduction of methodological provisions for applying a systematic approach to the management of the regional investment and construction complex. The authors also develop a methodological approach to justify the choice of a social housing loan program at the regional level.

3. Problem specification

Certain problems existing in the actual system of construction financing predetermines the need for scientific developments in this area. The authors aim is to develop a model of social financing of housing construction and purchase in order to increase the availability of housing for the population of subsidized regions of this country. In order to solve this problem, it is necessary to analyze the components of the mortgage lending system, to identify possible ways to improve this tool within the framework of state subsidies, and to develop documentary support for the procedure between all participants [3].

To achieve this goal, the following tasks should be solved:

- to study theoretical foundations of investment activity in housing construction, participants of the process and the way they interact in the market;
- to analyze existing methods for the formation of housing investment mechanism;
- to examine main directions of the housing construction market development;
- to go into the problems of the regional investment and construction sector development;
- to analyze the state of investment housing policy at the level of the Russian Federation and its regions;
- to select the most effective investment projects aimed at improving the housing sector of the Samara region;
- to introduce a development strategy for the Samara region to improve the effectiveness of policy implementation in the field of housing construction;
- to work out a program to improve the region's housing policy based on the problems identified during the analysis.

4. Research theory

The process of social investment is a complex multi-faceted and multi-stage process, the effectiveness of which is largely determined by the interaction of its participants. This process involves overall activity (interaction) of the subjects (participants) on the efficiency of investment in the social and investment projects of different scales [4].

Participants in the real estate financing process include local and federal authorities, financial institutions, investors, insurance companies, real estate companies, and other entities. Economic and legal relations that are created between participants in the real estate financing process are provided by either the state or public organizations. Consideration of the issue of modeling the construction financing system with the involvement of state subsidies determines the involvement of another participant which is a municipal institution named "Center for social development".

The process of social investment requires coordinated actions of all participants of the investment process [5-6].

The interaction of participants in the social investment process should be based on certain principles that correspond to its goals and objectives. It seems that the principles of interaction can be expressed by the following requirements:

- orientation to the economic growth of the country and regions;
- compliance with the priorities of socio-economic development of the country and regions;
- use of the best foreign and domestic experience of interaction between participants in the social investment process;
- use of system, program-target approaches and project management systems;
- optimization of material, financial and informational support of social investment process;
- ensuring economic efficiency of interaction between the participants of the process
- ensuring the profitability of participation for each subject of the social investment process [7].

Limited solvency of the population leads to a decrease in the number of mortgage loans issued. There is a need to optimize this financial instrument according to certain criteria.

The criteria will include the following changes:

- a model for the implementation of the social housing credit project for the population;
- initial contributions from the budget;
- the amount of the initial payment of the borrower;
- the rate of annual interest rate that takes into account inflationary processes in the real estate market;
- the period of installment payment.

In this paper, the research parameters are limited. The researchers examine only the criteria mentioned above. The criteria left can be considered as objects for a different deeper level of research [8-11].

5. Practical significance

The practical significance of the research lies in the development of models for social financing of housing construction and purchase. Figure 1 below demonstrates a model of social financing program named "Social financing of housing construction and purchase". This program is aimed for crediting its participants with installments for a period of up to 15 years at an annual interest rate not exceeding the projected level of inflation. Citizens who decide to participate in this program are offered housing options in any geographical part of the city, no matter if this housing option belongs to the old housing resources or it is newly built [12-15].

The program participants can either choose an apartment option by themselves, or they can use the help of the Municipal Institution "Center for social development" and real estate agencies with which the administration has concluded contracts.

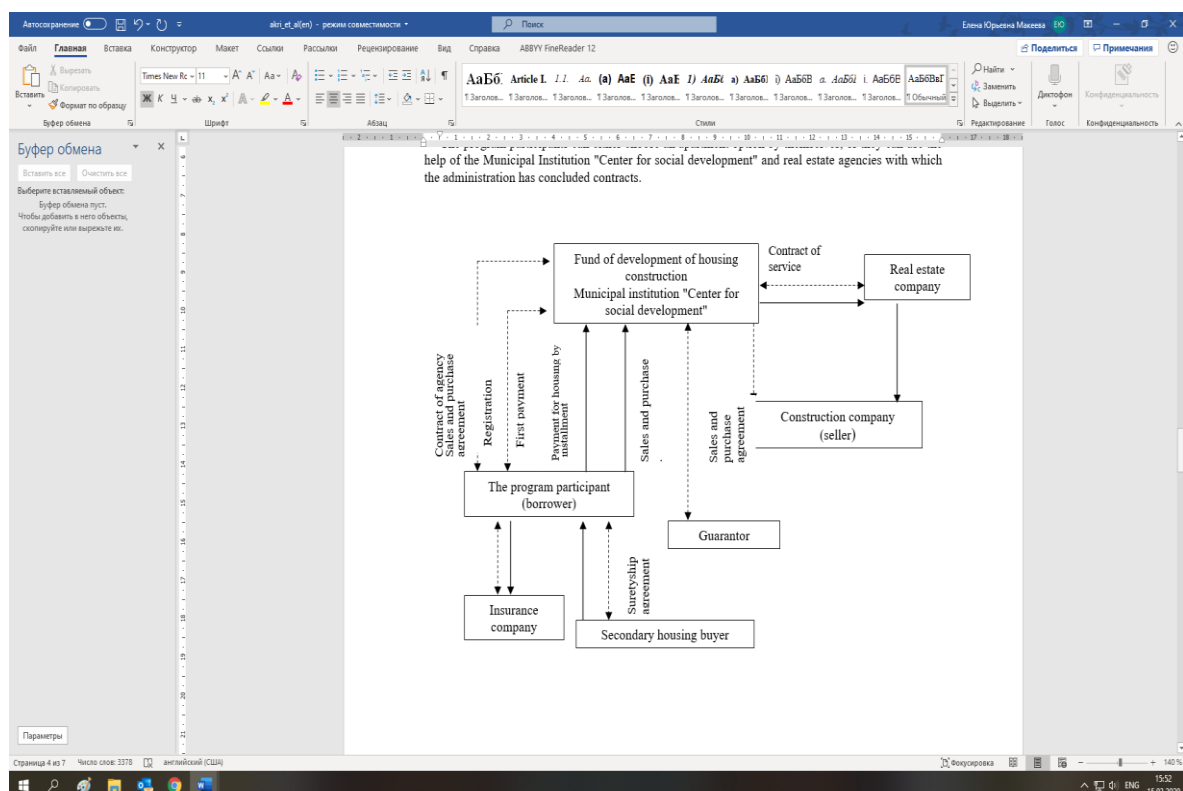


Figure 1. The model of social financing of housing construction and purchase from municipal property.

According to this model, in the social financing program for housing construction and purchase the city administration is presented by an Extra-budgetary trust fund for house construction (that is, a municipal institution "Fund for housing construction and purchase development") and as a municipal institution "Center of social development".

According to the scheme given above (see Fig. 1), the city administration registers participants who want to join the program on the basis of their preliminary applications.

After a contract between the administration and the program participant has been concluded, the administration is obligated to buy the selected housing option into municipal ownership, with its subsequent sale and transfer to the ownership of the program participants.

The program participants, in their turn, are obliged to make an initial payment of at least 20% of the cost of purchased housing to the city administration's current account and pay the difference between the cost of housing and the initial payment (loan) plus interest within the period specified in the contract.

There is also a contract for the provision of real estate services concluded between the administration and a real-estate company. Based on the terms of the agreement, the administration assumes the obligation to pay for the services of a real estate agent to select the desired option for the program participant.

The real estate company, in its turn, agrees to perform all work associated with finding a proper housing option, registration of municipal property rights and then transferring of the ownership to the borrower.

If the borrower offers previously used housing for the initial payment of the new purchased housing, the real estate company can help him sell his property. The borrower can sell it without assistance as well.

The administration also prepares a list of necessary documentation and sets specific criteria for program participants.

After signing the commission agreement, the borrower prepares a set of documents, including his certificate of insurance, contracts, certificates of income of all family members, etc. (according to the list provided by the administration).

The administration and the borrower sign a hire purchase agreement (an agreement with installment payments). In this case, the apartment is transferred from municipal ownership to the encumbered property of the program participant until the loan debt full repayment (with the administration being a pledge holder).

One of the main issues in the implementation of social housing credit programs is to determine the cost of investments.

When the annual interest rate changes, the number of people who want to become participants in the proposed social housing credit program always fluctuates. As the interest rate changes downward, the financial capacity of citizens increases, and thus the number of people who want to improve their living conditions increases in its turn. Conversely, with an increase in the annual interest rate, the number of applications from citizens for participation in social programs decreases, and there may come a time when the initial budget investments are unclaimed. Therefore, the balance and the demand for budget investments are directly dependent on the set interest rate, as well as on such factors as the standard of living in the region and on housing demand.

When forecasting and calculating the mathematical model of budget investments, it is required to take into account the values of the parameters mentioned above. Excessive demand may arise if the original budget investments are initially high. In this case, the administration can make a competitive selection of participants, which will reduce citizens interest in the program. In these conditions, it is also possible to increase the interest rate almost to the limit of the moment of non-demand for budget investments.

In the process of implementing the social housing credit program and dealing with the housing problem, the limit of non-demand will be gradually reduced.

Besides, it is necessary to control the cost of housing and the amount of interest rate, since at each subsequent stage of the program, the lack of demand for budget investments will grow.

To calculate the need for housing in physical units and in terms of housing cost, the number of families in the region who want to improve their living conditions should be determined. These figures can be found the citizens housing waiting lists in the city administration.

When designing a mathematical model, it is recommended to use the indicator of the cost expression of housing needs (C_h). This indicator is compared with the amount of attracted extra-budgetary funds (F_{at}), determined by calculating the cash flows of income from the implemented social housing credit program. It is also necessary to take into account the indicators of activity of budget investments:

t_1 – the time of excess supply, which corresponds to the duration of activity of budget investments at a fixed interest rate;

t_2 - duration of budget investment activity at a regulated interest rate.

If the condition that the need for housing is equal to the amount of attracted extra-budgetary funds ($C_h = F_{at}$) is met, then the housing problem of the region is solved.

If the need for housing is less than the amount of attracted extra-budgetary funds ($C_h < F_{at}$), the program is characterized by excessive supply. Therefore, it is necessary to reduce the amount of attracted extra-budgetary funds (A_f).

If the need for housing is greater than the amount of attracted extra-budgetary funds ($C_h > F_{at}$), the program is characterized by excessive demand. In this case, an increase in the initial budget investment (A_f) is required.

Similar calculations should be performed for different values of interest rates (h). In this case, with an increase in the annual interest rate (h), the volume of attracted extra-budgetary funds (F_{at}) increases if there is an excessive demand for social financing. However, as the annual interest rate increases, excessive demand decreases, and there comes a time when the volume of attracted extra-budgetary funds (F_{at}) begins to decrease as a result of a reduction in the number of participants in the program and the appearance of an excessive supply of social financing on the housing market. Having calculated the optimal value of the annual interest rate (h_{opt}) corresponding to the lack of demand for budget investments (P), and the required amount of initial budget investments (V), the housing problem in the region can be solved [16-21].

6. Conclusions

The paper proposes strategy for the development of the region in the housing construction sector which can be used to increase the attractiveness of the region for attracting investment and expanding the housing market. The authors also develop a methodological approach aimed at improving effective investment programs for housing construction and put forward a model for justifying the choice of a social housing loan program at the regional level.

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