Russian shared construction market and specifics of assessment of the economic losses of citizens on distressed objects

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Abstract. The object of this research is the primary housing market related to the activities of investment and construction enterprises participating in attraction of investments based on the shared construction participation agreements for construction of multi-apartment residential blocks, as well as major trends in sphere of "distressed" objects and population. The purpose of this research is to perform complex analysis in sphere of issues in functioning of the shared construction market in relation to multi-apartment blocks, as well as to reveal major trends in the development of funding risks under shared construction participation agreements, as well as to analyze methodological issues related to the assessment of losses of deceived investing citizens. Results were obtained in major development trends of the shared construction market. Here we show the dynamics in the number of hoodwinked investors and objects, growth in the overall number of executed shared construction agreements in the all-Russian market, as well as the structure of this housing market segment pursuant to the types of executed agreements and the volume of economic losses for investors.

1 Introduction

In the nowadays Russia, one of the most problematic real estate markets is the market of shared construction. This is related to the issue of "hoodwinked investors" that diagnoses a wide range of economic risks for an investing citizen participating in the shared construction [1-6]. Analysis indicates that the risk of the purchaser to be deceived by a mala fide developer is quite large. This is confirmed by a large number of deceived investors. And in the past years their numbers have been continuously growing: from 66 thousand people in 2010 to 95 thousand people in 2012, and after a short decline in 2013-2014 that resulted in a decrease of hoodwinked investors to 60 thousand in 2014, their number has once again started growing reaching a mark of 70 thousand people by the beginning of 2017 [7].

At that, it is worth noting, that in the current economic situation in Russia, shared construction is the most affordable method for the majority of Russians to improve their housing conditions. Purchasing an apartment in a building that is being constructed allows to save significant amounts on acquisition of dwelling: at present, participation in shared construction is 25-30% cheaper than acquisition of an apartment in a completed building. In

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the past, the difference in the price for an apartment in a block being then built and in a completed house could reach 60% [3]. The opposite problems are also quite interesting, meaning consumer extremism in residential construction [7].

Significant changes in legislation [8,9] pointing at the increase of state regulation in the primary residential market are typical for Russia.

Research conducted by multiple international publications in international press [5,6,10-17] also points at how important it is to solve the issues of economy of residential construction and development. In this respect, the analysis of major development trends in the shared construction market and methodological modeling to assess the economic loss volume for "hoodwinked investors" is also of interest.

2 Methodology

The research methodological base is represented by the system and complex approaches to studying the issues of the primary housing market development in combination with the methods of abstraction, comparison, analysis, synthesis, contra positioning, modeling, forecasting, analysis of the notion and terminology system, etc.

The research theoretical base is represented by fundamental and applied developments of Russian and international scientists in sphere of housing market theories, theory of risks using methods of mathematical, structural, technical, economic and logical analysis, as well as regulatory acts and documents of the Russian Federation that determine development of the primary shared construction housing market.

The research empirical base is represented by official documents of state, regional and industrial statistics, primary materials related to the dissertation subject, collected and processed by the author during 2008-2017 on the level of the Russian Federation and separate territorial housing markets of the Russian Federation constituents.

The research informational base is represented by legislation and regulatory documents of federal and regional governments; statistical data of the Federal State Statistics Service; printed and digital publications; materials of empirical studies and scientific conferences devoted to the studied problem; results of the research performed by the author in 2008-2017.

Methods of mathematical statistics, elements of the risks theory, probability theory, economic and mathematical modeling, logical analysis, expert opinions, comparative analysis of the Russian Federation housing market and other methods were used for analytical studies.

It is worth noting, that in order to assess the amount of loss we used the methodological approach [19] assuming calculation based on the price of 1 sq.m. of housing as of the date of the loss. Thus, the following methodological stages are proposed:

We calculate the number of citizens whose rights were violated in the course of construction of shared construction objects and who suffered economic losses (N_{gr});

We determine the share of participants of the shared construction who participated in the construction of multi-apartment residential blocks Δ_{MH} (in 2014, 88% of investors took part in the construction of multi-apartment blocks, in 2015, this number was 82% of investors);

We determine the number of apartments for which the rights of title holders were violated when they were acquired via shared construction (for that purpose the calculation was made based on the assumption that for 1 citizen there is 1 shared construction participation agreement, i.e. 1 apartment);

We use the average area of acquired apartments D_{kv} (according to the Federal State Statistic Service, the average area of one apartment in the RF was 54 sq.m. in 2014, and 54.6 sq.m. in 2015);

The average price of 1 sq.m. of residential premises is determined on the date of the loss S_{rasch} ;

The share of funding by the participants of shared construction is determined Duch (according to data of the State Council on the issues of the construction complex development and urban development activities improvement in the Russian Federation, it was noted that in 2015 in Russia more than 12,000 real estate objects were constructed being financed by citizens, the amount of funding amounted to RUR 2.5 trn, including RUR 1.5 trn (60%) financed by shared construction participants);

Then the economic losses of participating citizens on problematic objects are calculated – Y1 in rubles (formula 1):

$$Y1 = Ngr \times Dmn \times Skv \times Crasch \times Duch \quad (1)$$

3 Results

Let us analyze major trends of the problematic development of the Russian shared construction market. It is worth noting persistence trends in the amount of deceived investors. Thus, for instance, performed review [1, 2, 4] points at the continuous growth in their numbers in the past years: from 66 thousand people in 2010 to 95 thousand people in 2012, and after a short decline in 2013-2014 that resulted in a decrease of deceived investors to 60 thousand in 2014, their number has once again started growing reaching a mark of 70 thousand people by the beginning of 2015. Despite the expansion of authorities of those bodies controlling developers in terms of the targeted use of monetary funds received from the investing participants [4], dishonest developers still have an opportunity to use the funds for other purposes, which fact had a negative impact on the construction process. The "Polonsky case" is the most famous case on misapplication of funds of shared construction participants of the residential complex "Kutuzovskaya Mile" in the amount of RUR 5.7 bn and shared construction participants of the residential complex "Rublevskaya Riviera" in the amount of RUR 150 mln by the developer Mirax Group and its director Sergey Polonsky.

Nevertheless, in spite of the guarantees provided to the shared construction participants by Federal Law No. 241-FZ, each year there appear new deceived investors [1, 2, 4]. The growing trend in the number of deceived shared construction participants remains: only in 2015, their amount increased by 18 thousand people, not accounting for 29 thousand participants and investors of the SU-155 Group of Companies. At present, this number is around 85 thousand people. In total, as of the end of 2014, there were 560 "on hold" projects in 66 constituents of the Russian Federation [1, 2, 4]. Given that in 2015 people in Russia executed 680 thousand shared construction participation agreements [4], and the total amount of deceived investors and shared construction participants in 2015 was 47 thousand people, we can conclude that at present the risk of being betrayed is 6.91%.

Conducted studies point at the pattern of growing numbers of executed shared construction participation agreements in the Russian Federation. Thus, in 2012-2016 the trend was as is shown on in Figure 1.

Fig.1. Analysis of the total number of shared construction participation agreements in 2012-2016.

At that, distribution of executed shared construction participation agreements by their types in 2012-2016 was nonuniform (Table 1).

In 2013, there was a growth in the general number of agreements by 25% as compared to the previous year (+120,635 agreements), in 2014, the maximum growth was observed – by 38% (+235,224 agreements), and in 2015 there was a decrease by 20% (-167,556 agreements). At that, the number of agreements with acquisition of borrowed funds and special-purpose loans was also steadily growing until 2015, and then went down by 7% in 2016 (Figure 2).

Participation in the shared construction of multi-apartment blocks is specifically described in Federal Law 214-FZ "On Participation in Shared Construction of Multi-Apartment Buildings and Other Real Estate Objects", although it also stipulated for participation in construction of other real estate objects, mostly for commercial purposes. In 2013, there was a growth in the total number of agreements by 20% as compared to the previous year (+73,457 agreements), in 2014, the maximum growth was observed – by 69% (+303,432 agreements), and in 2015 there was a decrease of 25% (-186,550 agreements), while in 2016 there was a growth of 3% (+16,959 agreements).

Analyzing the data of shared construction participation agreements it is possible to conclude, that in 2012 shared construction participation agreements for multi-apartment residential blocks amounted to 75% of the total number of shared constructions agreements, and in 2013, their share fell to 72% as compared to the previous year, 2014 showed a significant growth to 88%, while in 2015 the share fell to 82%, being on the same level also in 2016.

We can observe the largest irregularity in the segment of shared construction agreements in relation to the developer's title for the objects of incomplete construction. Already in 2013, we saw a decline of 23% as compared to the previous year (-19 agreements), in 2014 the growth amounted to 97% (+62 agreements), and in 2015 there was another decline of 71% (-89 agreements), and again in 2016 the amount declined by 8% (-3 agreements).

When analyzing trends in the changes in the amount of shared construction agreements and forecasting the trends in the changes in the number of agreements, it was found that there is a tendency of a decreasing number of said agreements.

Table 1. Analysis of the structure and number of shared construction participation agreements in 2012-2016.

Item name			Total number of agreements				
			2012	2013	2014	2015	2016
Registered	shared construction participation agreements in total in the RF		490,894	611,529	846,753	679,197	701,810
			100%	100%	100%	100%	100%
	including	shared construction participation agreements for multi-apartment blocks	366,717	440,174	743,606	557,056	574,015
			75%	72%	88%	82%	82%
		using borrowed funds and special-purpose loans	83,271	143,412	215,151	199,552	269,429
	changes in the participation agreements		87,601	115,173	146,136	158,240	168,658
	assignment of claim rights under participation agreements		128,260	146,667	205,376	190,603	204,131
	title rights of the developer		9,611	10,190	13,243	12,781	10,462
	including	for the object of incomplete construction	83	64	126	37	34
	title rights of the participant		351,529	446,443	612,136	716,454	778,941
	including	for residential premises in multi-apartment blocks	267,388	353,315	505,964	544,849	578,486

The development of the shared construction market in sphere of multi-apartment blocks construction was also nonuniform.

Fig. 2. Segmentation of the shared construction market by the segment of multi-apartment residential blocks construction (82%) and other objects (18%) in the RF for 2016.

Thus, when analyzing major trends and patterns in the amount of executed shared construction agreements in the Russian Federation during 2012-2016 it was revealed, that during last years the total number of shared construction agreements was reducing, the number of shared construction participation agreements for multi-apartment blocks was reducing, the number of shared construction agreements in relation to the developer's title for

incomplete construction objects was reducing, as well as the number of agreements of assignment of claims under shared construction agreements for incomplete construction objects; and in general, we can observe an overall decline for all reviewed categories due to a high risk of investments.

We would like to point at the figures in Table 2 as major results of application of the methodology used to assess the loss.

Table 2. Calculation of economic loss of participating citizens based on the price of 1 sq.m. of housing as of the date of the loss in 2014 and 2015.

No.	Calculation period	Total number of citizens for "distressed" objects Ngr, pers.	The share of participants who took part in the construction of multi-apartment residential blocks Ddm, %	Average area of acquired apartments Dkv, sq.m.	Average price of 1 sq.m. of residential premises as of the date of the loss Srasch, RUR.	Share of funds of the shared construction participants Duch, %	Amount of loss from problematic objects D1, mln RUR
1	As of 2014	44,679	88	54.0	51,714	60	65,878
2	As of 2015	42,035	82	54.6	51,530	60	58,187

We should mention that the advantage of this used methodological approach to assess the amount of loss of deceived participants is the possibility to determine economic losses in the prices as of the date of the loss, which allows to determine the amount of loss with more precision in specific economic conditions of the reviewed period. At that, the disadvantage of this methodological approach to determine the loss is that it is impossible to calculate the total figure for several periods without account for adjusting the loss values for several years to the common single date, which can lead to additional errors in the calculation accuracy.

4 Discussion

Research results were discussed at the international research and practical conferences in Novosibirsk, Saratov, Ufa, Tomsk, Moscow. Theoretical and practical conclusions of the research were implemented in the activities of the Moscow Government Committee for assurance of implementation of construction investment projects and control in sphere of shared construction, International Association of Residential Construction and Mortgaging Funds (MAIF), Center of Independent Expertise of Property LLC (Moscow), as well as in the educational process for students of construction professions of the Moscow State University Of Civil Engineering (National Research University), as well as in the educational process of the Penza State University of Architecture and Construction.

It was established, that the biggest part of issues and risks of shared construction is related to the imperfection of the Russian Federation legislation and the current organizational and economic mechanism of the primary housing market state regulation. Changes made in the current legislation of the Russian Federation in terms of the increase in the registered capital of developers, insurance system development, etc., regulating shared construction in Russia, allows to significantly decrease the risk of investing participants and thus contribute into the development of primary real estate market and, as a consequence, of the Russian construction industry in general.

The most complex and promising matters of development of the shared construction theory and practice are improvements of the partner relations system in the primary market,

as well as development of the economic mechanism to regulate the safety of transactions in the primary housing market due to an increase in the targeted use of funds of the participating investors on account of project financing tools, introduction of escrow accounts, a system of efficient insurance and other economic tools of state regulation in this market.

5 Conclusions

This way, when studying the development of the shared construction market in the Russian Federation, we have reviewed major trends on the problem development of the shared construction market in Russia. We analyzed both the structure and the dynamics of changes in the number of shared construction participation agreements for the period from 2012 to 2016. We noted persistence trends in the number of deceived investing participants. We performed segmentation of the shared construction market by the key segment of construction of multi-apartment residential blocks (82%) and other objects (18%) in the RF in 2016, as well as calculated economic loss of participating citizens based on the proprietary methodology.

We identified both the complexity and the prospective of studies in this sphere of scientific and applied activities on development of regulation systems for economic tools of the shared construction market functioning in Russia as the priority housing strategy to provide the population with affordable and comfortable housing.

References

1. S. Baronin, N. Esafyev, A. Tutundjan, *Economics of Russia and the CIS Countries: Reality and Prospective*, **5** (2016)
2. V. Grebenshchikov, A. Tutundjan, *Real Estate: Economics, Management* **3**, 13-17 (2016)
3. S. Baronin, N. Lomonova, Y. Shchegolkova, *Science Alley* **1(8)**, 380-389 (2017)
4. A. Tutundjan, *Modern Science Success* **3(7)**, 67-72 (2016)
5. S. Baronin, K. Kulakov, *Journal of applied economic sciences* **11**, 698-708 (2016)
6. S. Baronin, A. Yankov, S. Bizhanov, *Life science journal* **8s**, 249-253 (2014)
7. S. Baronin, N. Esafyev, A. Tutundjan, *Competitive Abilities in the Global World: Economics, Science, Technologies* **6-1(49)**, 10-13 (2017)
8. An. Mottaeva, *World of economy and law* **11**, 15-18 (2010)
9. An. Mottaeva, *Online magazine of science* **6 (19)**, 69 (2013)
10. T. Bajura, *Economie si Sociologie: Revista Teoretico-Stiintifica* **1**, 44-48 (2015)
11. S. Ching, Fu Yu, *Regional Science and Urban Economics* **33(6)**, 695 (2003)
12. P. Grabovyi, I. Avilova, *Life science journal* **12s**, 610-615 (2014)
13. A. Ivasenko, *World Applied Sciences Journal* **27(13)**, 130 (2013)
14. O. Siomchenkov, *Collection of scientific works of the Vinnitsa National Agrarian University. Series: economic sciences* **4(81)**, 225-236 (2013)
15. P. Thorsnes, G. Simons, *Contemporary Economic Policy* **17(2)**, 256-266 (1999)
16. Y. Yang, D. Zhang, Q. Meng, C. McCarn, *Sustainability* **7(12)**, 16849-16865 (2015)
17. R. Yerezhepkyzy, M. Akhtamberdiyeva, *News of Science and Education* **3(8)**, 035-040 (2017)
18. A. Tutundjan, *Izvestiya of the South-Western University* **5(38)**, 316-320 (2017)