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Structure of Transactional Costs of Business Entities in Construction

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Abstract: The article discusses the economical problems in the Russian investment-building sphere: high transactional costs have been determined as an obstacle for investment-building activity development. Problems of economical development of "Construction" sphere was determined - high level of transactional costs which gives place to high cost of investment-building projects and products. Comparative analysis of the main economical-and-institutional indexes was represented. Two types of costs were singled out: 1) entrepreneurial costs arising as an answer to low level of organization of the investment-building market and lack of the established practice of counterparts interaction; 2) regulatory costs arising in the process of implementation by the entities of legislative rules and guidelines for drawing-up of contracts, proprietary rights and permits, licenses, approvals. The results of investigation made it possible to single out spheres of investment-building cycle costs concentration: 47% - processes of investigation and search of information by the participants of investment-building cycle; 29% - costs for contracting; 8% - low level of technological innovations; 16% - regulatory (legal) costs. According to the revealed structural relations the transaction specific character of investment-building activity is quite objective - low level of institutional structure development, competence and specialization of participants which leads to excessive overhead costs for information acquisition and primary communications.

Key words: Business · Construction · Transactional costs · Entrepreneurial costs · Development indexes · Investment-building cycle · Contracting

INTRODUCTION

In the mesoeconomical investigations two primary issues are emphasized [1, 2]: actual problems of the complex (sphere) and its influence on development of the real economy. In the investment-building complex (IBC) this thesis becomes apparent especially distinctly: its condition determines development of all key aspects of the Russian economy competitiveness creation. Firstly, IBC creates a basis for production forces development, provides residential possibilities of migration and territorial consolidation of effective labour resources. Secondly, a level of regional IBC development determines qualitative and economical parameters of territory, transport and engineering infrastructure development. And, thirdly, the cost of construction products determines the effectiveness of investment processes in the industry [3, 4]. In the structure of investment capital of the industry, up to 70% of costs [5] are allocated in the capital construction, equipment and engineering support of sites and real estate objects. That is why the regional IBC development shall be considered in qualitative and economical aspects. Qualitative aspect has a technological character and it is expressed by the current level of performance, innovation, technical-technological equipment of the complex, being a subject of investigation in engineering and technical-economical disciplines. The economical aspect - the subject matter of the present investigation is determined by integrative method of the construction products cost evaluation. In particular,

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Table 1: Comparative indexes of national IBC development in 2012.

Countries	PM2, €/m²	COMP	LOW	EFREE	TRANS, %
Austria	5.109	5.14	90	71.88	11.82
Belgium	2.753	3.83	20	57.51	17.88
Bulgaria	1.305	4.16	30	64.91	24.88
Denmark	3.782	5.4	90	78.64	2.05
Estonia	2.153	4.62	80	75.2	3.81
Finland	6.184	5.47	90	74.04	10.15
France	13.380	5.14	80	64.59	16.30
Germany	3.094	5.41	90	71.79	11.46
Hungary	1.645	4.36	65	66.58	10.58
Italy	7.213	4.43	50	60.33	17.00
Latvia	2.657	4.24	50	65.83	5.16
Lithuania	2.189	4.41	60	71.26	2.35
Luxembourg	5.647	5.03	90	76.23	15.65
Netherlands	4.271	5.41	90	74.68	11.03
Poland	3.326	4.46	60	64.1	6.61
Portugal	2.213	4.4	70	64.01	13.65
Rumania	2.043	4.08	40	64.71	7.58
Russia	**10.302**	**4.21**	**25**	**50.47**	**25.00**
Serbia	2.135	3.88	40	57.96	8.15
Slovenia	2.786	4.3	60	64.56	6.92
Spain	4.022	4.54	70	70.15	12.16
Sweden	6.991	5.61	90	71.87	6.54
Switzerland	11.397	5.74	90	81.95	5.74
Turkey	3.384	4.28	50	64.21	9.93
United Kingdom	15.187	5.39	85	74.53	5.03
Ukraine	2.807	4	30	45.76	12.50

Notes.

1. Interpreted by the data of "Residential property markets and investment" [8] (Global Property Guide).

2. PM2 - unit cost of construction; COMP - complex rating of IBC competitiveness (7 - maximum); LOW - IBC normative-legislative base implementation index (100 - the highest point); EFREE - IBC entities entrepreneurial freedom index (100 - maximum); TRANS - level of transaction costs.

the cost of products determines both the effectiveness of investment-building cycle participants' business activity and the effectiveness of all spheres of activity connected with investment and social-infrastructural relations [6-7].

The most interesting description of economical and institutional aspects of construction spheres development is represented by the research association Global Property Guide, specializing in the sphere of real estate, within the frames of annual report "Residential property markets and investment" [8] (Table 1).

High transactional costs prevent from creation of the system of effective territorial distribution of labour resources, reduce a possibility of migration and consolidation in the areas of potential industrial breakthrough. Actually, "…housing in the country makes 40% of the developed countries level" [9] and prices existing in the regions not only high but are growing much faster than annual inflation rate and salary increase index. Thus, in Moscow, only in I Quarter 2012 the growth of living area cost has grown by 2.3% (exposed average price 146.9 thous. RUR per m^2) and in Saint Petersburg the growth was 1.3% (with the price of 77.3 thous. RUR per m^2). For comparison: during the same period, change in the real wages fund in Saint Petersburg was -0.6% [5].

The constraining factor for implementation of the modernization course, declared by the government, objectively is the high construction cost and, as a consequence, comparatively long-term recoupment of investments. The cost of construction-assembly works in investment budgets of the Russian Federation industry is 70% [5], while in Eastern European countries - 20-30% [8], while in the Asia-Pacific Region - 10-22%. It is obvious that in the context of world economy the investment conditions of the Russian Federation regions do not appear competitive (Table 1, COMP index - 4.21).

MATERIALS AND METHODS

The methodological basis for investigation of transactional costs in our study are publications of R. Coase, Y. Barzel, D. Bromley, H. Demsetz, D. North, K. Arrow, R. Jensen, R. Joskow, W. Meckling, C. Menard, O. Williamson, T. Eggertsson. Within the frames of the established basis, their definition can be formalized - "costs following the relationship of economic agents" (Dalman C. J. [10]), as well as the established classification (Table 2), consisting of 4 groups:

- Investigations (information search);
- Contracting;
- Provision of technological processes;
- Protection of proprietary rights.

The Main Part: The key issue of the discussion is presented by concepts, approaches and instruments to reduce the level of transactional costs of the regional IBC [16-17]. We are supported by the consolidated point of view on the character of transactional costs of the investment-construction cycle. They occur by the reason of informational and communicational uncertainty in activities of the participants of investment, construction and operation processes [18]. Search of information and counterparts of relations, planning and forming of construction and operation cycles, drawing-up of legal documents and agreements and obtaining permits, licenses and approvals do not actually create the added value to the construction products; they are

Table 2: Structure of IBC transactional costs

Groups as per R. Coase [11-12]		Classification of costs in group	SSA, %	Types of IBC transactional costs classified as academic groups as per R. Coase [13-14]
R	Investigations (information search)	Costs for acquisition, search, processing, analysis of market information ensuring the process of making marketing decisions on the IBC markets of physical and legal entities.	47	Collection of information on the current IBC state
C	Contracting	Costs for contractual activities of physical and legal entities: negotiations, process of agreement and signing of contracts, control over their execution, closing of contracts, settlements of contracting conflicts	29	Planning of interaction between entities. Negotiations, discussion of interests, interaction plans. Decisions on its forms, character and terms. Consolidation of agreements with application of procedures on drawing-up contracts, making of deals. Control over execution of liabilities by the entity in the process of interaction
T	Provision of technological processes	Non-production expenses for provision of technological process and conditions of its implementation	8	Interaction of participants in the process of joint use of material and non-materials resources
J	Protection of proprietary rights	Costs of physical and legal entities arising at execution of legislative and legal acts of property rights registration, its protection, payment of fees and taxes, licensing.	16	Specification and protection of property rights. Legal implementation of construction (reconstruction) sites and objects

Note: SSA is IBC cost fraction. The example is given by the results of investigations of scientific school "Methodical problems of effectiveness of regional investment-construction complexes as self-organizing and self-administered system" at SPbGASU [15].

Table 3: Structure of transactional costs within the investment-construction cycle stages

	Groups of transactional costs (designated as per Table 2)			
Investment-construction cycle stages	R, %	C, %	T, %	J, %
Stage A. Evaluation and selection of investment aims	6.2	0.7	0.0	0.0
Stage B. Development of business plan	35.7	0.5	0.0	0.0
Stage C. Legal implementation	0.0	11.5	0.0	7.3
Stage D. Preliminary design preparation, designing	2.3	6.3	3.7	0.0
Stage E. Construction (reconstruction), handover of object	1.2	4.9	4.3	0.0
Stage F. Implementation of project results, registration of rights	1.6	5.1		8.7
Stage G. Operation of object	0.0	0.0	0.0	0.0
Total	47.0	29.0	8.0	16.0

off-production costs of the organization [19]. The higher the level of uncertainty in these processes, the more resource costs of the regional IBC participants for their compensation.

Determination of nature of transaction costs in the regional IBC made it possible to allocate certain costs of economical activity of the regional IBC entities classified as R. Coase groups. The decision offered in the work [14] makes it possible to distinguish certain operations and processes of the regional IBC participants creating the investigation, contractual, technological and legal costs, so it is possible to consider representation of the structure of transactional costs of the investment-construction cycle as the formed ones.

In elaboration of representations on the transactional costs concentration point the quantitative relations were specified both within the frames of academic groups as per R. Coase and in the context of investment-construction cycle stages, which made it possible to localize the process stage and participants generating the bulk of transactional relations. Values obtained in the process of investigation are standardized (by percentage) and linked to the investment-construction cycle stages. The result of the experiment is given in Table 3.

Concentration of costs under study is objectively discovered at the stage of business-plan development - 35.7% of total transactional cost of the cycle. The most *market uncertainty* is typical for pre-investment stages of projects, when selection of investment aims takes place, the corresponding communications are formed, risks are evaluated and marketing environment of territories and objects is investigated.

CONCLUSIONS

In the context of scientific and research problems conceptualization the following conclusions are made:

- Comparative analysis has shown that the unit cost of the investment-construction activity products is disproportionately high due to disharmony in factors of institutional development of "Construction" type of economical activity;
- Domestic construction products, by force of the established institutional contradictions in the investment-construction sphere as economical system, have the highest level of transactional costs in Europe - 25% and this is the main problem for development of the Russian regional IBC;
- Modern theoretical ideas about essence, nature and structure (quantitative relations) of transactional costs of the regional IBC, determined as a theoretical basis of the present investigation, were compiled and formalized;
- Concentration of transactional costs occurs on the pre-investment stage (35.7% - business-planning process), when selection of investment aims takes place, the corresponding communications are formed, risks are evaluated and marketing environment of territories and objects is investigated.

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REFERENCES

1. Duina, F., 2011. Institutions and the economy. Cambridge, UK; Malden, US: Polity Press, pp: 206.
2. Zotov, V.V., B.F. Presnjakov and O.V. Rozental, 2001. Institutional problems of economy system functions implementation. Economical Science of Modern Russia, 3: 51-69.
3. Schwartz, E.S. and L. Trigeorgis, 2004. Real options and investment under uncertainty: Classical readings and recent contributions. Cambridge, US: MIT Press, pp: 871.
4. Asaul, A.N., 2011. Tendencies of regional investment-construction complexes in Russia. Advances of Modern Natural Science, 2: 124-127.
5. Russia in figures. 2011. Concise statistical collector. Prelim. rev. of coll. V.L. Sokolin. Moscow, RU: Rosstat Publishing House, pp: 581.
6. Asaul, A.N., 2004. Construction cluster - new regional production system. Construction Economics, 6: 16-25.
7. Manseau, A. and R. Shields, 2005. Building tomorrow: Innovation in construction and engineering. Aldershot, Hants, UK; Burlington: Ashgate, pp: 184.
8. Real estate market 2011: Russia. World. Global Property Guide, Annual report.
9. Housing market in the cities of Russia. Results of September 2011, Real Estate & Prices, 42(447): 30-33.
10. Dalman, C.J., 1979. The problem of externality. The Journal of Law and Economics, 22(1): 141-162.
11. Coase, R.H., 1960. The problem of social cost. Journal of Law and Economics, 3(1): 1-44.
12. Olejnik, A.N., 1999. Institutional economy. Moscow, RU: Infra-M, pp: 416.
13. Lyulin, P.B., 2012. Modelling of investment-construction complex as living system. Fundamental Research, 11(6): 1544-1549.
14. Asaul, A.N., 2004. Theory and methodology of institutional interactions of the regional investment-construction complex entities. St. Petersburg, RU: Humanistics, pp: 280.
15. Asaul, A.N. and S.N. Ivanov, 2008. Decrease in transactional costs in construction by means of information space optimization. St. Petersburg, RU: ANO IPEV Publ., pp: 300.
16. Asaul, A.N., N.A. Asaul, A.A. Alekseyev and A.V. Lobanov, 2009. Investment-construction complex: frames and boundaries of the term. Bulletin of Civil Engineers [Mercury of Civil Engineers], 4(21): 91-96.
17. Jauhiainen, J.S. and H. Moilanen, 2011. Towards fluid territories in European spatial development: regional development zones in Finland. Environment and Planning C: Government and Policy, 29(4): 728-744.
18. Groa´k, S., 2013. The idea of building: Thought and action in the design and production of buildings. London, UK: Spon, Taylor & Francis, pp: 272.
19. McCaffer, R. and F. Harris, 2013. Modern construction management. New York, US: John Wiley & Sons, pp: 576.