

Characteristics of Spatial Transformation of the Regional Economy

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Abstract This paper describes the process of agglomeration , arising from territorial concentration of production and other economic entities; the main objectives of the agglomeration process of regional areas have been identified. The author focuses on the key criteria of agglomeration in modern conditions , such as the presence of the " core city " with a population of over 100 thousand people; the author analyzes the Rosstat data for the period from 1989 to 2012 for a number of cities , urban and rural settlements in the Russian Federation , the population in these areas; the characteristics of spatial transformation of the regional economy have been defined.

Keywords regional economy; spatial transformation; agglomeration effect; economic development; core of agglomeration; urban settlement; core city center; rural-urban continuum.

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区域经济的空间转换特征

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摘 要 阐述了因生产及其他经济实体地理位置集中化的集聚过程 ,确定了区域面积集聚过程的主要目标.重点论述了在现代条件下聚集的关键标准 ,如人口超过 10 万人的“核心城市”的出现;分析了来自俄罗斯联邦从 1989 年到 2012 年的城市、城乡定居点的数据 ,包括在这些区域的人口数据;给出了区域经济的空间转换特征的定义.

关键词 区域经济;空间转换;集聚效应;经济发展;集聚核心;城市定居;核心城市中心;城乡连接

The processes of transformation being quite intensive in modern Russian society put forward the issues of territorial organization of society , including the process of agglomeration , arising from territorial concentration of production and other economic facilities^[1]. It should be noted that , first of all , the agglomeration effect is associated with a complex arrangement of various interrelated objects , more effectively performing their production and economic

activities than those operating in isolation. Thus , the agglomeration effect causes intensive growth of regional economic development , as evidenced by the data of contributions made by large agglomerations in the economy of the regions , in which they are located. The key tasks of the agglomeration process are:

- developing and improving the efficiency of industrial production areas , turning agglomerations into large commercial and industrial centers;

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- creating common labor market on the territory of agglomeration;
- ensuring the growth and quality of living standards.

For the comprehensive development of agglomerations it is necessary to use effectively the existing potential of core cities and coordinate the interaction the core cities with the neighboring areas^[2]. The key criterion of agglomeration in modern conditions is the presence of the core city with a population of over 100 thousand people, which can be reached from neighboring urban and rural settlements within 1.5 ~ 2 h by public transport. The core of agglomeration has a direct impact on the development of neighboring areas; it can cause changes in the structure of a settlement, its industrial activity and the environment. In addition, the city is responsible for maintenance of the neighboring territories, and it has the right to use them to solve its own problems, leading to the transformation of the city itself. It has an opportunity to change its functional structure and develop the neighboring territories, ensuring their social and economic growth^[3]. The city as the core of agglomeration is continuously involved in design and construction work, urban development, monitoring of the ecological situation in the region, the construction and repair work, the development of engineering, environmental and transport infrastructure, etc. Thus,

the city creates the conditions for the involvement of the population from the neighboring territories to have access to the benefits of culture, art, education, science and technology concentrated in the city, as well as providing job opportunities^[4].

To date, the agglomeration is the most effective form of territorial organization of the economy, since its activities and development enable to obtain a significant economic effect on all levels. Furthermore, the urban agglomeration concentrates the main productive forces, becoming the main form of resettlement of the population in the current conditions^[5].

According to the United Nations data, currently, there are hundreds of urban agglomerations inhabited by about 1.3bn people, which is 56.4% of the urban population of the world. At the same time, according to experts, it is expected that in 2015 the population of urban agglomerations will increase by 900m and will reach more than 2.2bn people^[6].

According to the Rosstat data for the period from 1989 to 2012 the number of cities increased to 1100, while the number of people permanently residing in urban areas increased by 3663 ths people, as evidenced by the data of the Table below.

As a result of the migration of nearly half the population of the rural areas and urban settlements, their number decreased dramatically (Tables 1 ~ 4).

Tab.1 The number of cities in the Russian Federation^[7]

表1 俄罗斯联邦城市的数量

	1989	2002	2010	2011	2012
Total number of cities	1037	1098	1100	1100	1100
including those with the population, thousand people					
up to 3	7	11	13	13	12
3 ~ 4.9	17	21	28	28	29
5 ~ 9.9	82	101	115	117	125
10 ~ 19.9	243	277	264	264	255
20 ~ 49.9	360	358	361	360	362
50 ~ 99.9	163	163	155	154	152
100 ~ 499.9	131	134	127	127	129
500 ~ 999.9	22	20	25	25	3
1000 and over	12	13	12	12	13

Tab. 2 The population in the cities of Russia, thousand people

表 2 俄罗斯人口在 1000 人以上的城市

	1989	2002	2010	2011	2012
Total number of cities	94450	95916	97527	97694	98113
including those with the population , thousand people					
up to 3	12	23	26	26	23
3 ~ 4.9	73	88	118	117	120
5 ~ 9.9	629	772	899	917	985
10 ~ 19.9	3611	4094	3815	3828	3696
20 ~ 49.9	11595	11646	11587	11586	11606
50 ~ 99.9	11169	11083	10854	10801	10653
100 ~ 499.9	28162	28391	26251	26266	27004
500 ~ 999.9	14040	12403	15755	15858	14510
1000 and over	25159	27416	28222	28295	29516

Tab. 3 The number of urban settlements and population , thousand people

表 3 人口在 1000 人以上的城市居住区数量

	1989		2002		2010		2011		2012	
	Number of settlements	Population	Number of settlements	Population	Number of settlements	Population	Number of settlements	Population	Number of settlements	Population
Total number of urban settlements	2193	13509	1842	10513	1286	7787	1281	7727	1261	7629
including those with the population (thousand people)										
up to 3	595	1072	595	989	348	584	347	579	330	562
3 ~ 4.9	524	2072	393	1554	278	1096	283	1117	290	1149
5 ~ 9.9	713	5049	582	4108	455	3178	448	3133	436	3066
10 ~ 19.9	321	4262	247	3231	180	2314	177	2263	173	2233
20 ~ 49.9	38	937	25	631	25	615	26	635	25	619
50 and over	2	117	-	-	-	-	-	-	-	-

Tab. 4 The number of rural settlements and population , thousand people^[7]

表 4 人口在 1000 人以上的农村居住区数量

	1989		2002		2010	
	Number of settlements	Population	Number of settlements	Population	Number of settlements	Population
Total number of rural settlements	152922	39063	155289	38738	153124	37543
including those with the population , thousand people						
up to 6	16925	50	32997	58	42387	64
6 ~ 10	13245	105	14092	110	13254	103
11 ~ 25	24735	423	22303	377	19225	324
26 ~ 50	19939	727	15770	573	13522	494
51 ~ 100	18094	1312	14901	1082	13798	1006
101 ~ 200	17895	2595	15833	2302	14682	2133
201 ~ 500	22177	7116	20475	6618	18729	6053
501 ~ 1000	11524	8087	10836	7571	9720	6780
1001 ~ 2000	5718	7759	5182	7050	4737	6492
2001 ~ 3000	1266	3060	1220	2946	1217	2947
3001 ~ 5000	803	3067	873	3321	979	3756
5001 and over	601	4762	807	6730	874	7391

The data presented for 1989 – Census of January 12 , 2002 – Census on October 9 , 2010 – Census of October 14 , over the next few years – evaluation on 1 January of that year. Resident population.

To date , the process of creating agglomerations is gaining pace , acquiring qualitatively new shape. Thus , the urban space expansion , resulting in blurred boundaries between urban and rural settlements , the separation of the city and the countryside becomes negligible , causing the emergence of " rural-urban continuum" , characterized by the interpenetration of resettlement and places of employment , lifestyle and value concepts of urban and rural residents^[8] .

The transition to postindustrial society put forward the problem of forming agglomerations at the regional level. It should be noted that the interest in this subject increased in 1960 ~ 1980 , which was due to the rapid creation of " industrial urban agglomerations" based on the principle of combining groups of convenient facilities (generating interconnected value added chains) and their placement near the centers of production of the necessary manpower^[9]. In this case , the inclusion of certain settlements in the agglomeration was determined primarily by the industrial relations of these settlements with the " center".

In present conditions , sustainable development of urban agglomerations is possible only through the effective use of existing potential , taking into account the priority needs of the city and the surrounding settlements. Fundamental changes in the Russian society in recent years have necessitated the revision of the concept of agglomeration , which is currently characterized by the unity

of the labor market , land and real estate rather than the unity of the territory and the system of resettlement.

Thus , the further development of agglomerations becomes possible only through the effective development of horizontal agglomeration links.

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