

Agricultural landscapes and financial factors affecting soil microzones in the Kursk region

*Ekaterina V. Malisheva*¹, *Alexander V. Musyal*¹, *Natalia V. Dolgoplova*^{1*}, *Tatiana M. Novikova*², and *Marina I. Pashkova*¹

¹Kursk Agricultural Academy, 70, Karla Marksa Street, Kursk, 305021, Russia

²Southwest state university, 94, 50 Let Oktyabrya Street, Kursk, 305040, Russia

Abstract. Over the past twenty years price changes in real estate market have been unstable for many reasons. Events in twenty-year dynamics in Kursk region which influenced pricing in real estate market are described. Main factors affecting the cost of real estate are also described. The main purpose of the article is to analyze price dynamics in real estate market of Kursk region over past twenty years, to highlight main factual factors that have an impact on the cost of real estate. Main tasks of the article are to identify factors influencing prices of real estate in Kursk region. Methodology of the article is based on a systematic approach, as well as methods for analyzing and synthesizing multiple indicators of real estate market in Kursk region. The results of the article are concluded in the allocation of the main determining value-forming factors in real estate market of Kursk region.

1 Introduction

The economic development of Kursk region was under the influence of several factors: historical, geopolitical, natural-resources, innovative, agroclimatic. In fact, region economy actively began to form in the 20 th century. It was during this period that the region switched to market relations. The global instability of 2012 had shown that the reserves of potential economic growth had been exhausted, and dependence on the conjuncture of foreign markets had significant risks to the entire economy. One of the characteristic features of Kursk region was highly qualified population (the number of specialists with higher and secondary education is more than 30% of the total number of inhabitants) and its ethnic homogeneity (95.9% - Russians). However, economy instability has changed statistical picture of population employment. The average annual number of people employed in the economy was 592 thousand. The number of unemployed increased in 2014 to 11 thousand people. During this period, the employment of Kursk region population has changed significantly. It is shown in figure one. Employed population in the age range from fifteen years for the first quarter of 2020 was 561 thousand people, including 537.0 thousand people who were unemployed and 23.7 thousand people who did not have any job. [1,2,3,4,5].

* Corresponding author: dunaj-natalya@yandex.ru

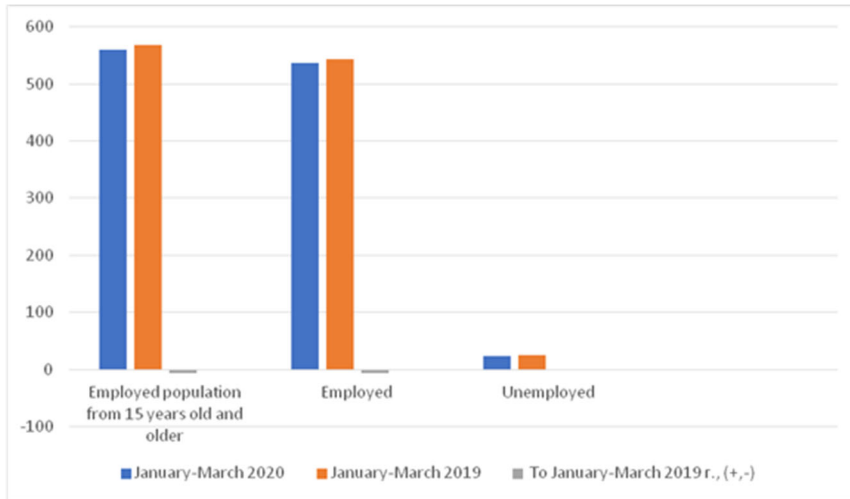


Fig 1. Dynamics of qualitative structure of labor force in the region.

2 Objects and methods of the study

The center of Kursk region is Kursk city with the population of more than 405 thousand people. Distance from the capital of the Russian Federation is 540 km. Peculiarities of territorial location of Kursk region determine its level of general development. The length of region borders is in the north-west 120 km with Bryansk region, in the north 325 km with Oryol, in the north-east 65 km with Lipetsk, in the east 145 km with Voronezh, in the south 335 km with Belgorod region. The southern and western borders are the state borders of Russia (245 km g with the Sumy region (Ukraine)). The length of the borders is 1250 km. Peculiarity of socio-economic development of border regions within the constituent entity of the Russian Federation is the impact of the economy, social and political situation in regions adjacent to this entity. Cross-border cooperation is a competitive advantage of Kursk region, initiating additional opportunities for region development. Features of geopolitical situation of Kursk region affect socio-economic indicators of the region in relation to main indicators of the Russian Federation. (Table 1) [6,7].

Table 1. The share of the main indicators of the Kursk region in all Russian indicators for 2019.

Indicator	Percentage
territory	0.21
population	0.81
Produced products according to economic activity:	
deposits	0.5
manufacturing industry	0.4
engineering network	0.7
AIC production	3
trade services	0.7
paid services	0.6
investment activity	0.8
putting the housing stock into operation	0.7

At the same time, Kursk region has resources that create its competitive advantages:

1. A rich reserve of natural resources: black soil (chernozems) (about 80% of land), a reserve of iron ores (the volume of explored reserves of Mikhailovsky deposits is

about 11 billion, phosphorites, peat, chalk, clay, loam, quartz sands, mineral groundwater).

2. Advantageous spatial arrangement and related infrastructure-tour support. Road and rail transport is developed in the region. Road and rail transport is the basis for ensuring the development of region economy. Transport network is 1538.4 km
3. High availability of energy resources is associated with the presence of Kursk NPP.
4. Highly developed industrial complex. Multisectoral business complex includes more than 800 large and medium-sized enterprises.
5. Developed agricultural sector. Kursk region is a region with a large agro-industrial complex. Agriculture accounted for more than 13 per cent of the gross regional product of Kursk region. [8].

Characteristics of real estate market in the region are formed under the influence of above-mentioned factors. There were four rounds of agricultural land assessment according to data on the nature and technological properties of land and the production and economic activity of collective farms and state farms. It was done from 1971 to 1989. The executor of the work was Hypro-Zem Research Institute. There were no market relations during this period, but evaluation results were actively used by planning bodies, managers, and farm specialists. They were intended to provide evidence-based solutions to practical problems such as justification of tasks by production units, planning of yields and costs to produce crop products, regulation of economic relations, determination of rent and rent for land under collective and individual procedure, and the organization of land rational use.

The state of land market, differentiation of value characteristics of certain rights to real estate in regions could be determined based on the analysis of legal transactions.

The analysis of market development for land plots in Kursk and Kursk region showed that the main principles of its development were:

- control over the use of land on the basis of rental relations, gradual increase of rental rates;
- use of land as means of attracting investments for the implementation of city and regional programs. [9].

3 Results of the study

Any land plot is unique in its characteristics - by location, geometric characteristics, soil conditions, landscape, environment, transport accessibility, engineering arrangement. The number of proposed sites with similar characteristics in Kursk market is limited. Demand for them is not interchangeable, and supply in short term is not elastic. In other words, the seller cannot increase supply of new land in a short-term period, no matter how much they pay for it. And it is not profitable for him to withdraw from sale, since in this case he generally risks to lose income. Nowadays there is an increase of land market value in region's settlements. The most profitable type of land use in the center is the use of land under housing, trade, business development.

An up-to-date analysis of land prices is carried out by using information posted on the official websites of such newspapers as "Moya reklama", "Drug dlya druga", "Iz ruk v ruki", as well as an information portal on real estate (www.rosreal.ru), www.avito.ru, www.slando.ru, www.olx.ru.

Based on the analysis of current market prices, there is a certain dependence of market value of land plots in Kursk region on the following characteristics:

- from the location – Kursk city is the most prestigious. The cost of plots varies in the average range from 250 to 5,000 rubles. per square meters. Rural areas are less

prestigious. The cost of land plots is lower and varies in the range from 25 to 400 rubles per square meter depending on the location of the plot and distance from the city;

- geometric shape, the landscape of the site - the flatter the site of the landscape, the higher its cost because irregularities of the landscape impose restrictions and make construction more expensive. Geometric shape also affects the cost. Possibility and nature of the construction and placement of objects on the site in accordance with its type of use depends on these characteristics;
- difference in transferred rights to the land – rent right is less prestigious. The lease does not have all the rights to the land until the right of ownership is acquired. In such cases, the adjustment for transferable rights ranged from 15 to 25 per cent in determining the value of land. The distribution of land by forms of ownership in Kursk region is shown in figure two.

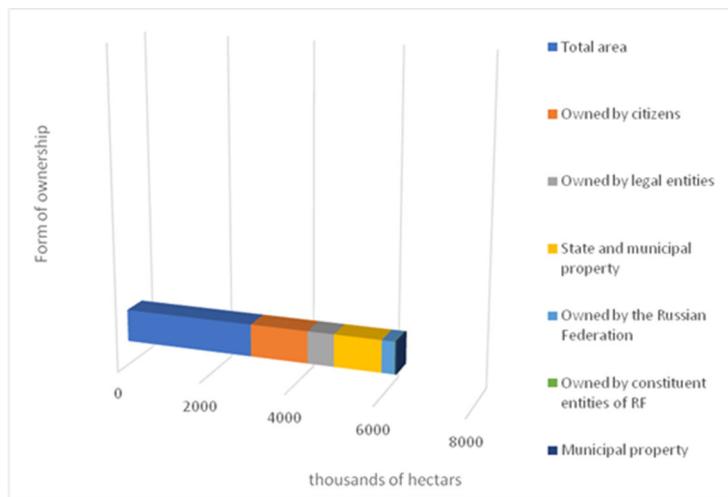


Fig. 2. Distribution of lands of Kursk region by forms of ownership (January 1, 2019, thousand hectares) [10].

- acreage – there was a tendency for lands from the category of settlements for commercial purposes, that the size of the cost was reversed, but proportional to the plot area. So, the larger the area of the plot, the lower the cost per 1 sq.m.
- availability of communications and engineering systems - the cost of the land plot is higher, the more engineering communications are on it. In future, it is necessary to have gas and electricity for the construction on a land plot. Such requirements are mandatory in the construction of real estate on the territory of a land plot. Otherwise, the buyer incurs the costs of communications, which affects the increase in the total value of a land plot;
- encumbrances - security zones, for example, gas pipelines, electric cables can also affect the cost of a land plot. The location can affect the possibility of using the area of a land plot, change the configuration, which sometimes significantly limits the use of a land plot for its intended purpose. The price formation on this factor is formed individually, in accordance with the degree of influence of the encumbrance on physical and functional characteristics of a land plot.
- location of the plot relative to a red line (motorway) - the closer a land plot is located to the motorway, the higher the cost. The location of the land for commercial use,

within residential quarter, makes it less accessible and attractive to potential customers. So, the cost is lower [18].

An average cost of land plots in Kursk district from the lands of settlements is 75,000 rubles. per acre or 750 rubles. per 1 square meter for the land from the category of settlements for PHP. The cost was:

- from 80 rubles. per 1 sq.m. to 1500 rubles. per 1 sq.m.
- from 50 to 150 rubles. per 1 sq.m. for gardening;
- from 300 to 1000 rubles for the placement of industrial and warehouse facilities;
- from 500 to 5000 rubles for the placement of commercial objects.

4 Conclusions

We can draw basic conclusions regarding real estate in all categories of Kursk region. These conclusions are necessary for the valuation of objects. Commercial real estate offers have become stable, and investments in this direction decreased in the second half of 2015. Cushman & Wakefield statistical departments concluded that commercial real estate market was in mini-small importance in summer 2015.

Thus, the development of Kursk region and Kursk city allows us to consider trends and factors acting on the market that are critical for Russia as a whole. There are no specific conditions in the field of state regulation and the level of wages. The level of industrial type of settlement is high in the region. Most of region production is in city-administrative centers. In this regard, real estate market is represented primarily by the market of Kursk city. New trends typical for the development of commercial real estate market in Kursk extend to the development of real estate market in settlements of regional subordination.

References

1. T. M. Abelyasheva, *Tekhnologicheskaya skhema izucheniya antropogennogo vozdeystviya na gorodskuyu sredu i monitoring gorodskih zemel'*. (Geo-ekonomicheskie issledovaniya Kurskoj oblasti sbornik nauchnyh statej. Kurskij gosudarstvennyj universitet; redkollegiya: M. V. Kumani (Kursk, 2005), 86-92
2. N. V. Dolgoplova, *Bulletin of the Kursk State Agricultural Academy* **9**, 60-67 (2015)
3. T. M. Abelyasheva, *Transportnaya nagruzka na territorii goroda Kurska i ee posledstviya*, *Agrarnaya nauka - sel'skomu hozyajstvu materialy Vserossijskoj nauchno-prakticheskoy konferencii. Otvetstvennyj za vy-pusk I.YA. Pigorev* 34-36 (2009)
4. A. S. Akimenko, T. A. Dudkina et al., *Agriculture* **4**, 8-11 (2021). <https://www.doi.org/10.24411/0044-3913-2021-10403>
5. T. Novikova, V. Khaustov, T. Guseinov, *Journal of Applied Engineering Science* **16(1)**, 104-106 (2018)
6. T. M. Novikova, V. F. Grankin, *Izvestiya Yugo-Zapadnogo gosudarstvennogo universiteta* **2(77)**, 102-110 (2018)
7. E. V. Malysheva, I. Ya. Pigorev et al., *Bulletin of the Ryazan State Agrotechnological University named after P.A. Kostychev* **13(4)**, 97-103 (2021)
8. T. A. Dudkina, *Bulletin of the Kursk State Agricultural Academy* **8**, 38-41 (2019)
9. E. A. Batrachenko, N. V. Dolgoplova et al., *IOP Conf. Ser.: Earth Environ. Sci.* **677** 042081 (2021)
10. T. A. Dudkina, I. V. Dudkin, *Agrochemical bulletin* **4**, (2018)