

Overview of Farmland Fair Value with a Specific Look at Southwestern Orel

November 2015

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The farmland market is limited both in Russia and in the world. Due to such limitation and the high demand for food, the value of agricultural land is going to grow inevitably. This is an ideal investment for the investors with a long-term strategy

The core buyers of the asset to date are agricultural companies with a strategy of creating land portfolios in the form of regional clusters with a total area of 15,000–20,000 ha and more. These land portfolios contribute to a more efficient agricultural production in crop sector.

Key sellers operating in the farmland market are:

- holding companies optimizing their assets and selling particular regional clusters;
- farmers who are unable to cultivate land due to the lack of investment resources, or in the absence of a successor;
- small farms of 1,500–5,000 ha which are no longer competitive due to the rising prices of agricultural machinery and increasing interest rates on loans;
- resellers who buy land with title defects at a low price and then sell it at market value.

To date, the supply of clusters almost equals the demand in the most regions of the Central Federal District (CFD). Although, in some regions, demand is greater than supply and vice versa. The modern sale and purchase transactions for farmland are characterized by more prepared buyers who are also more demanding to the quality of land. They seek a legally sound arable land packed in clusters.

The share of arable land in the total amount of land available for sale has become especially significant. Transaction prices are adjusted if land with severe limitations exceeds 5 % of the cluster for sale; many buyers demand the latest agrochemical soil

analysis, etc.

Despite the scrupulous approach to the transactions, “pai” land (see definitions on page 15) is being actively consolidated. Agricultural companies buy “pai” land in leased / arable land plots in order to reduce legal risks.

Resellers don’t miss out on the opportunity to buy “pai’s” in land plots with less than 3 years of remaining lease term, or if the leasehold has legal defects that allow resellers the release of land plots from lease encumbrance. The ratio of arable land price to “pai” land price ranges from 2 to 3, which continues to generate high profitability for resellers.

This overview focuses on the southwestern part of the Orel region because it offers attractive conditions for investment in agricultural land in terms of land prices (see figure on page 4). BEFL experts intended to show the expected prices of agricultural land for potential investors, as well as the opportunities coming up because of the good investment period we have entered. Land prices in foreign currency have become very attractive after ruble devaluation. However, land is still valued in home currency. The market has not fully responded to the situation.

Besides, the key players have not distributed all the land among themselves so far (see chart on page 5). There is still land available for purchase in the central part of Russia, including the Orel region. Shortage of farm land supply is a real problem in some districts of the region. For example, in the Livny and Dolzhansk districts (in the southeastern part of the region), very few land assets are offered for sale, among which there are next to none instances of clusters larger than 1,000 ha. It is the southwestern part we focus on here, where the investment picture is much brighter.

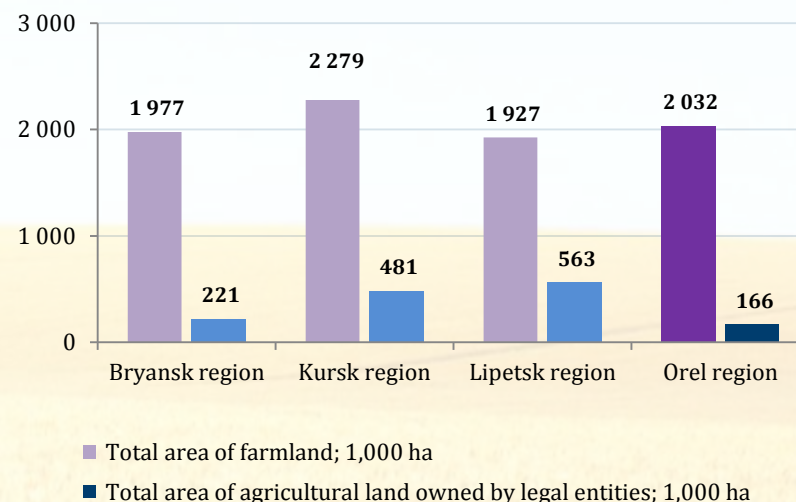


The share of agricultural land owned by legal entities is increasing. It means that, first of all, successful agricultural companies continue to acquire and consolidate land. Several years ago, the abundance of accessible land created a tendency of leasing rather than buying. Nowadays the tendency is changing. The short supply of land in particular districts causes many companies to increase their share of land in ownership.

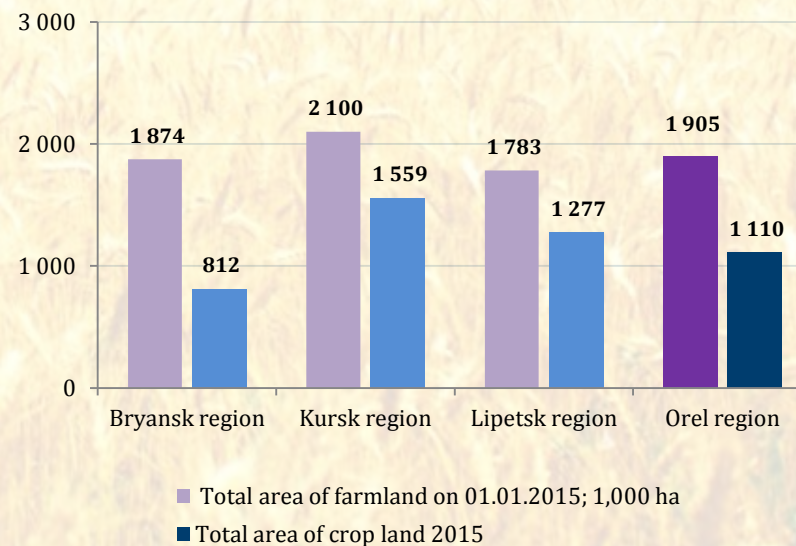
Compared to the adjacent regions, the share of agricultural land owned by legal entities in the Orel region is the lowest – 8.1%; the share in the Lipetsk region, for example, is 29.2%. The low rate of agricultural land owned by legal entities is beneficial for investors as it creates opportunities to acquire land assets.

Over the last 3 years the crop area in the CFD has largely remained unchanged. Crop areas in the Orel region are also stable with a slow tendency to grow. Grains and grain legumes have always been cultivated in the region. Additionally, it is strategically profitable to grow sunflowers and rape here; agricultural conditions and climate are ideal for sugar beet. The Orel region is the 8th in Russia in the yield of grain and grain legumes, in fact, the region set a historical record of gross grain and soybean yield in 2014. In the same year, the region ended up 3rd and 4th in sunflower and rape yield respectively.*

Area of agricultural land owned by legal entities versus total area of agricultural land in the region as of 01.01.2015; 1,000 ha



Area of crop land versus total area of farmland; 1,000 ha



**) Digital data provided by: The Report presented at All-Russian Agricultural Meeting by P. A. Chekmarev., the Director of Department of Crop Production, Chemicalization and Plant Protection of the Russian Ministry of Agriculture .*

The Orel region is an attractive region for investment in agriculture primarily due to the favorable agricultural conditions and climate. Essentially, the region represents a stable agriculture zone. Other advantages of the Orel region for agricultural producers include:

- ☛ natural stable yields (yield without any additives stimulating the soil, including potassium, phosphorous and other fertilizers);

- ☛ compact logistics and the level of region development, its vicinity to the Moscow agglomeration;

- ☛ lack of grain storage capacity, which gives the investors the opportunity of a vertical integration;

- ☛ logistic vicinity of the Orel region to the Baltic ports (see page 4) taking up an increasing share of grain export every year.

Agroclimatic conditions, soil quality and weather conditions of the recent years contribute to a good stable yield of grain and oilseeds (see charts on page 8).

Gross grain yield is increasing in the region as well as in the adjacent areas (Bryansk, Kursk, Lipetsk) due to the growth of crop yield over the recent years. 2014 grain yield in the Orel region exceeded the average rate in Russia by 65 %, and the average rate in the CFD by 14.4 % (Kursk is the leader among the four regions, outdoing Orel only by 8 %).

Arguably, even the highest average crop yield in Russia would be lower than the average crop yield of the same crop in many western countries. And it is not about the fertility of the land (Russian black soil is one of the most fertile soils in the world), the problem is that there is a huge systematic gap between Russia and other countries in application of agricultural technologies. Agricultural technologies require increased investments, better agricultural machinery and powerful, more expensive tools for cultivation. The quality of seeds, plant protection products and

fertilizers is also much lower. All agricultural companies need to increase their working capital to raise the game, which means more investment in land to generate more profit.

In other words, the gap is primarily the result of insufficient financial resources on the market. However, the cost of land in Russia still remains one of the lowest in the world; crop yield in the regions is rising due to the competent approach of agricultural companies to agricultural business and land cultivation.

Speaking of the public support, the statistics of October 15, 2015 show that subsidies in the form of actual amounts credited to agricultural producers are as follows (for more information see page 7):

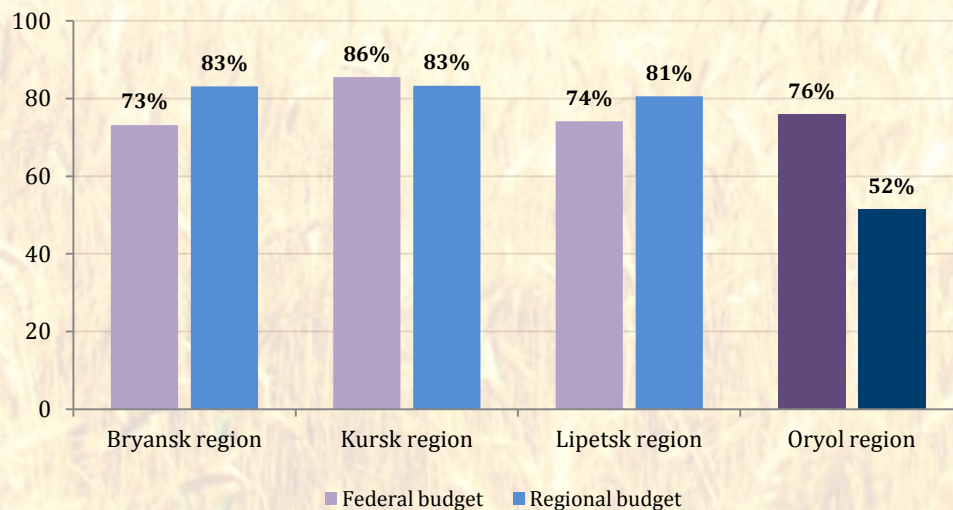
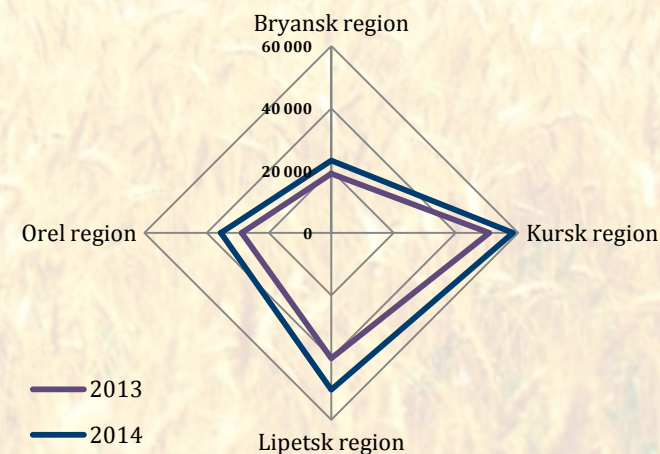
	Total area of arable land, 1,000 ha (01.01.2015)	Amount of subsidies per 1 ha of arable land, RUB/ha
Bryansk region	1,068.0	5,283.8
Kursk region	1,943.6	2,067.0
Lipetsk region	1,553.9	2,169.1
Orel region	1,508.2	1,126.8

As the table shows, the amount of subsidies in the four regions averages out to 3,182 RUB / ha. At the same time investments in agricultural production to get a reasonable yield of, say, grain for the most businesses start from 14,000 RUB / ha. Thus, subsidies support only those businesses which are unable to get funding from the market. In other words, subsidies by definition are a mere support and not the investment driver. Zero income tax has a greater effect and offers a greater benefit to agricultural producers.

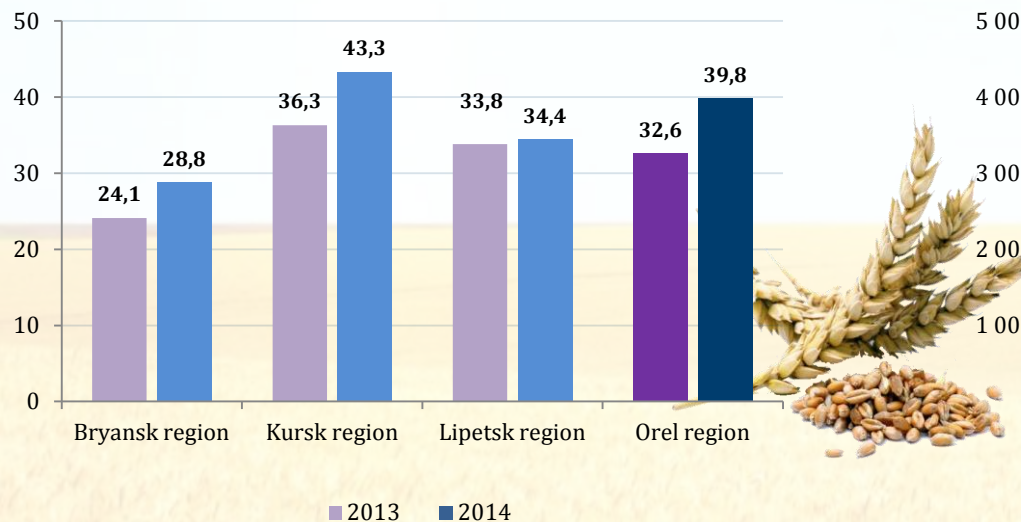
Updated information on federal and regional spending sourced from subsidies, as of October 15, 2015

	Federal budget			Regional budget		
	Sent by budget schedules to the accounts of local agencies of the Federal Treasury in the current year as of the reporting data*	Transferred to agricultural producers out of the federal budget as of the reporting data	Percentage of public funds spending, %	Regional budget distribution plan for the current year (under effective contracts)	Transferred to agricultural producers out of the regional budget as of the reporting data	Percentage of regional budget spending, %
Bryansk region	7,309.69	5,348.81	73.17	354.05	294.33	83.13
Kursk region	4,271.82	3,652.76	85.51	437.85	364.73	83.30
Lipetsk region	3,388.40	2,511.73	74.13	1,065.42	858.88	80.61
Orel region	2,101.34	1,596.00	75.95	200.70	103.38	51.51

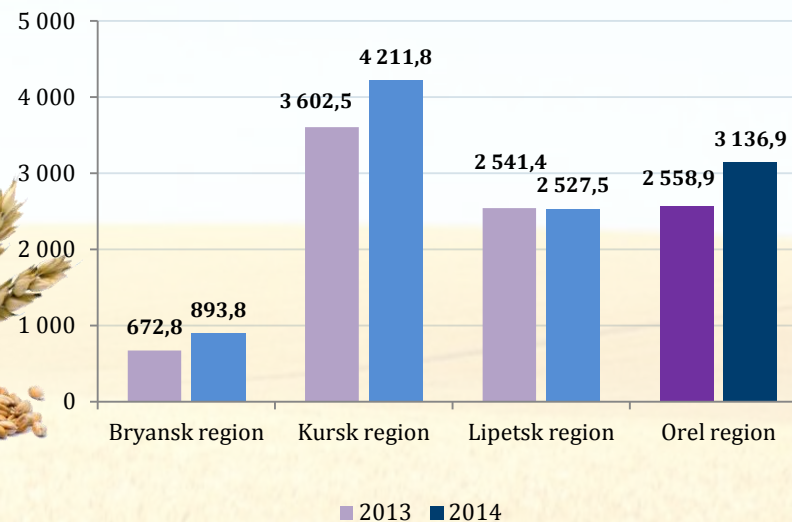
**) According to the Government of the Russian Federation, considering the remaining amount of the federal budget on January 01, 2015 with confirmed demand.*

Percentage of public funds spending

Agricultural production in actual prices for 2013-2014, mln RUB


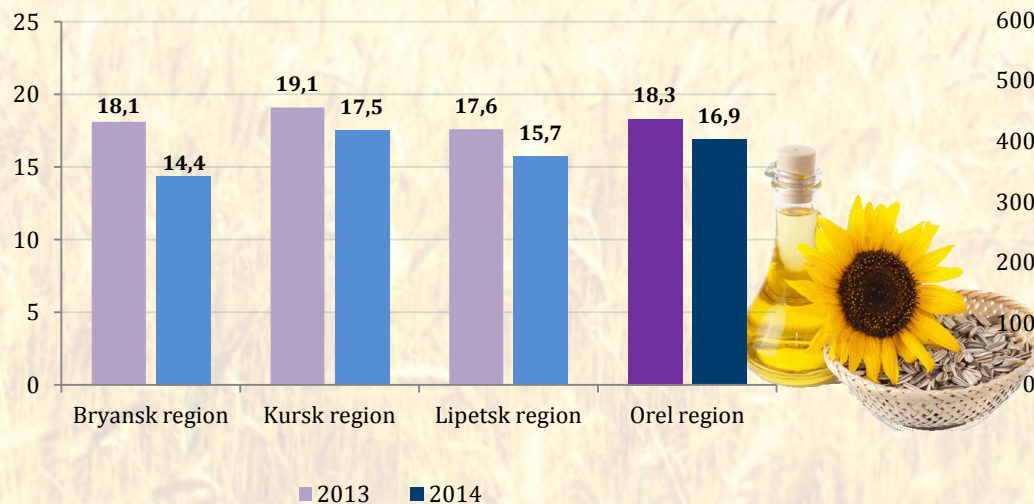
Average grain and grain legumes yield (with corn) in 2013–2014, 100 kg / ha



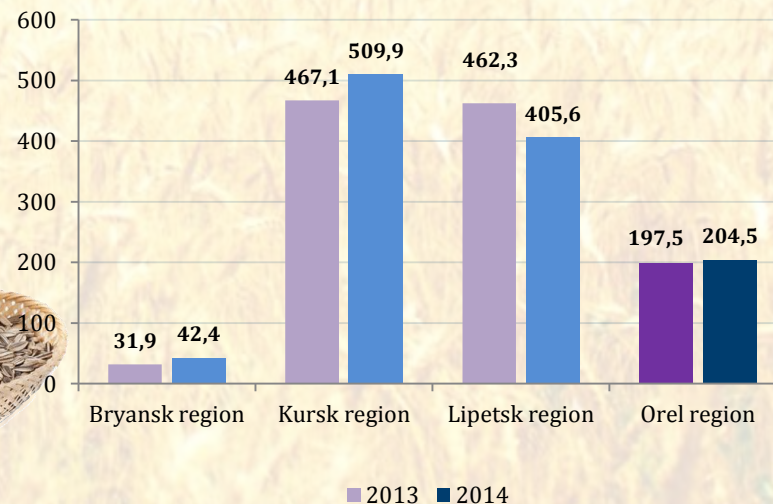
Gross grain and grain legumes yield (without corn) in 2013–2014; 1,000 tons



Average oilseed yield in 2013–2014, 100 kg / ha



Gross oilseed yield in 2013–2014; 1,000 tons



This year, the value of farmland has been visibly rising in all regions of the Central Federal District. The Kursk and Tambov regions are the leaders at price increase rate. The price rise in the Orel region is not that significant, but large agricultural companies instigate land demand.

Average cadastral value doesn't match the realities of the market. Undoubtedly, the cadastral value within one area allows the determination of how different each land plot is according to its transport availability, proximity to major highways and processing facilities, but cadastral value takes into account the income approach only and does not encompass the current state of the land market and the unique characteristics of each region.

In addition, a high cadastral value is of interest to local authorities, because it serves as a basis for calculating land tax.

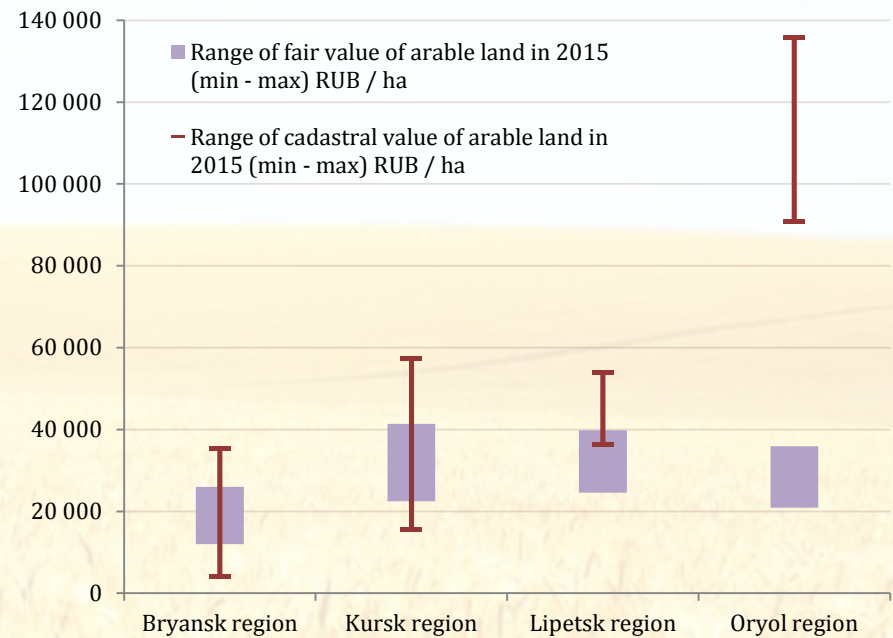
Until recently, the law required a review of cadastral value once in several years, which means cadastral value anticipates market value and is always higher.

Cadastral values shown in the chart were established on the following dates:

- 🌾 Bryansk region – January 01, 2006;
- 🌾 Kursk region – January 01, 2012;
- 🌾 Lipetsk region – January 01, 2011.;
- 🌾 Orel region – January 01, 2014.

The current tendency for the rise in market value causes a partial overlap of cadastral and market values in certain regions (see the chart), but if we take the cadastral value of a particular land plot, we won't be able to use it as an indisputable basis of the fair value of that land plot.

Cadastral value versus fair value of arable land in 2015






Such coincidence is an exception rather than a common case. There is no correlation or dependence between the cadastral value and the fair value of land in the regions.

We can see from the chart that the fair value of arable land in the Orel region is average in comparison with the adjacent areas.

Farmland market prices rose significantly in 2013–2014 and are still going up in 2015. All regions of the CFD see an active and competitive market, with a wide range of market values; the ratio of arable land / "pai" land is decreasing.

The chart proves that fair value tends to increase in ruble equivalent almost everywhere. Compared with 2012, the most drastic rise in maximum fair value was seen by Kursk and Lipetsk:

-  Bryansk region – 40 %;
-  Orel region – over 70 %;
-  Kursk and Lipetsk regions – over 80 %.

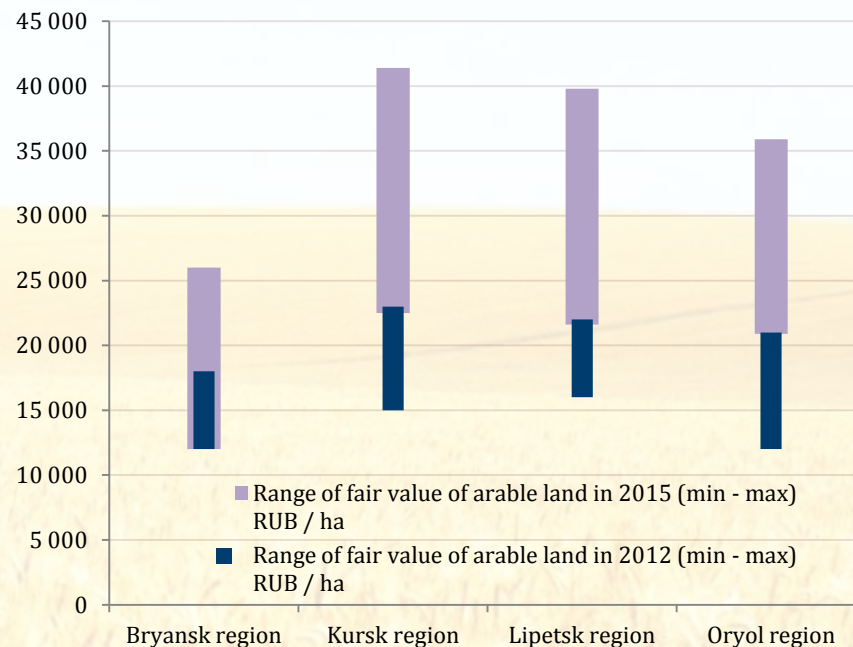
Krasnodar Krai is a clear leader both in absolute value and the growth rate of fair value.

The fair value in the Orel region has a solid growth potential and a tendency to go up. BEFL predicts an upturn of farmland fair value, in rubles and in foreign currency, in the Orel region as well as in other regions of the Central Russia.

BEFL has processed the information on sale and purchase transactions for farmland in ownership and land lease assignment transactions. Wide experience of BEFL in supporting such transactions for standalone agricultural companies and large holdings has facilitated the demanding and complicated process. Today BEFL has a unified price database for farmland in the regions of the Central Federal District, the Southern Federal District and the Volga Federal District for 2014-2015.

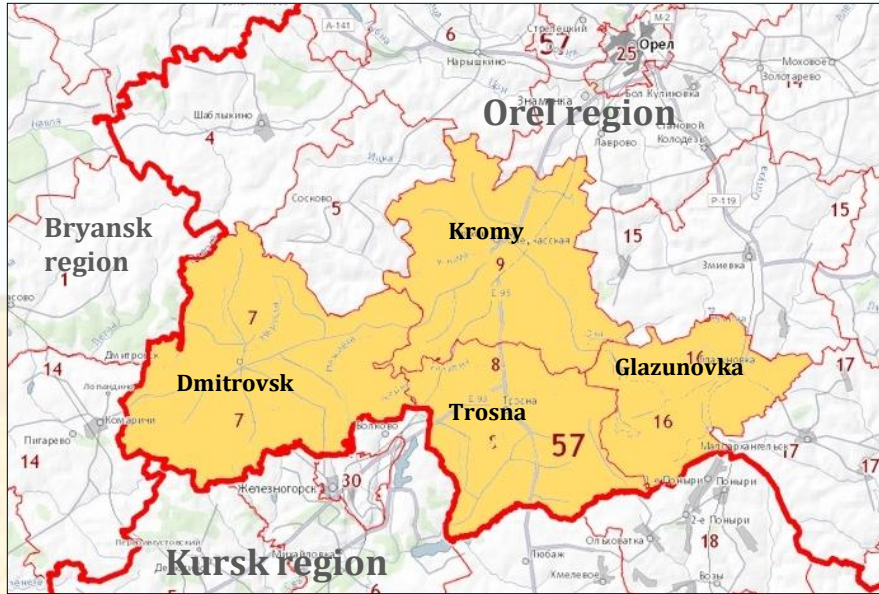
Investors planning to enter the agricultural sector may use this information to assess the price ranges and come up with the appropriate investment strategy, and investors expanding their

Changes of fair value of arable land for a period of 2012–2015



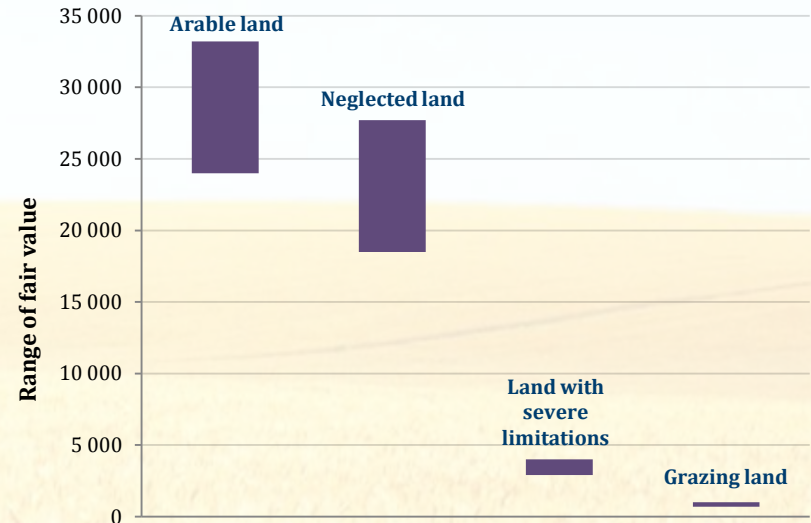
land portfolios may use it to map out their investments against market prices.

The following section summarizes the fair value for each category of farmland and shows price ranges of land lease transfer for a period of over 25 years in four districts of the southwestern Orel: Dmitrovsk district, Kromy district, Trosna district, Glazunovka district.



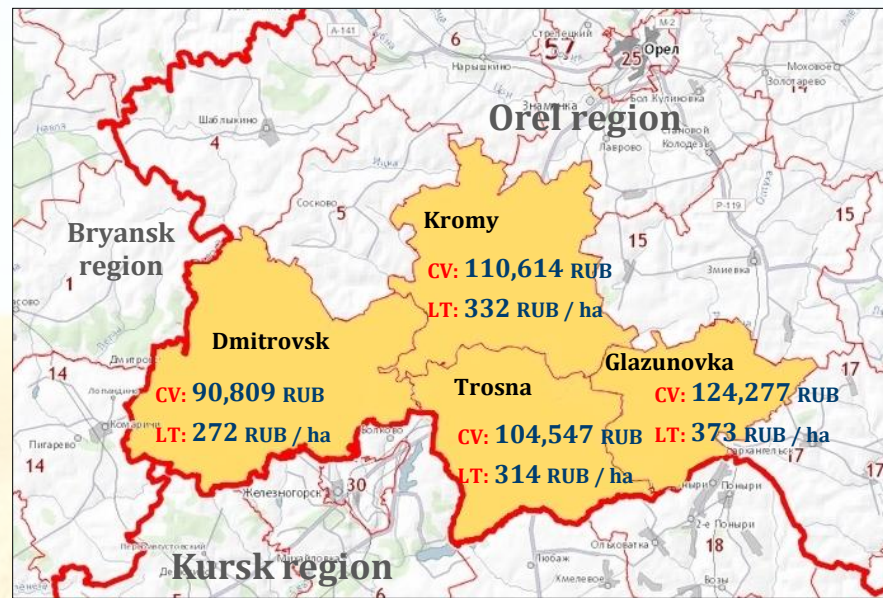
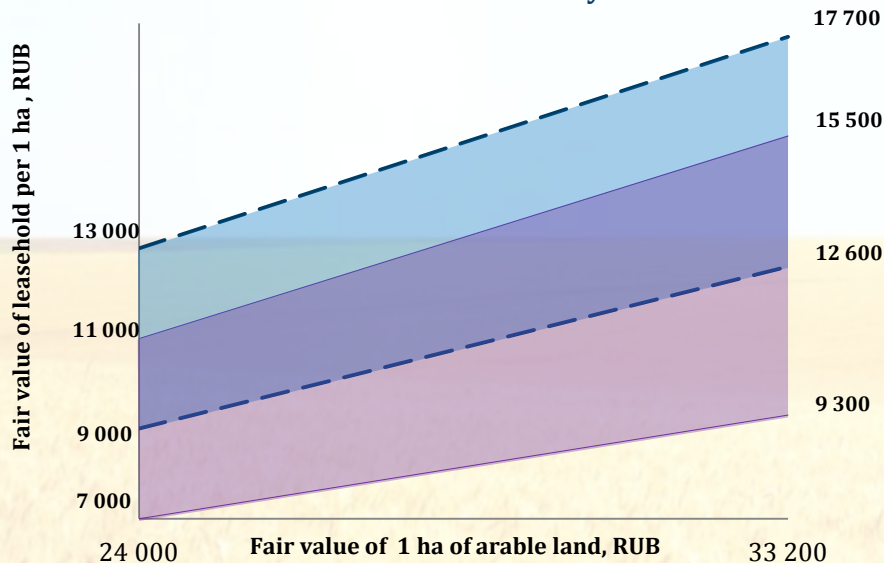
Districts in the southwestern part of the Orel region

Range of fair value of agricultural land according to farmland classes, RUB /ha



Area of Focus	Fair value of arable land, RUB / ha		Fair value of neglected land, RUB / ha		Fair value of land with severe limitations, RUB / ha		Fair value of grazing land, RUB / ha		Cost of leasehold over 25 years, RUB / ha		Average price of 1 ha of arable land to average purchase price of 1 ha of land in joint ownership	
	min	max	min	max	min	max	min	max	min	max	Value	Deviation, +/-
Southwestern part of the Orel region	24,000	33,200	18,500	27,700	700	1,000	2,900	4,000	7,000	17,700	3.01	26 %

Range of fair value of land lease transfer for leasehold over 25 years



CV – average cadastral value in the region

LT – annual average rate of land tax for legal entities, individuals and individual entrepreneurs.

Fair value of arable land		min, RUB / ha	max, RUB / ha
		24,000	33,200
Lease of land in the state and municipal ownership for over 25 years	min	9,000	12,600
	max	13,000	17,700
Lease of land in joint ownership ("pai" land) for over 25 years	min	7,000	9,300
	max	11,000	15,500

Over the past three years the price of long-term lease (lease transfer) of land has increased in all regions of the CFD. However, even if the lease term is more than 25 years, the price of lease transfer differs significantly from the price of land title.

The market of rental rates and lease transfer prices is not transparent, and there is a number of reasons for it:

Firstly, Russia still has plenty of "historical" lease of "pai" land; simply put, lease contracts that have been concluded over the last 10 years set the rent either in the form of a fixed price per "pai" or in kind, for example, as a certain quantity of products made from the crops that may be grown on a particular land plot.

Natural figures have increased due to the rise in the market prices of the products, and fixed figures were subject to inflation. As a result rental rates based on market data turned out to be quite low. The above data differ greatly, even within a single region.

Secondly, in the majority of cases and regions, rent for the so-called “administrative lease” (lease of land owned by the state and the subjects of the Russian Federation (state property) and by the regions and local settlements (municipal property)) is equal or close to the amount of the land tax, that is 0.3% of the cadastral value. Neither the “historical” lease of “pai” land nor the lease of administrative land often exceeds the rates of commercial lease.

Commercial lease market is only systematically emerging, but one may certainly say that rent in the Orel region ranges from 900 to 2,500 RUB / ha, excluding land tax and VAT.

Knowing the minimum and maximum rental rates and the gross rent multiplier (here: the ratio of the average value of arable land in ownership to the average rent for commercial land per year), it is possible to have an idea of the average land value in any region. Conversely, knowing the average land value in the region and the gross rent multiplier, one can calculate the average rate of commercial rent. This figure is very indicative when it comes to the price of arable land as the main indicator of the quality of the land as commodity.

The following table shows the values of the gross rent multiplier for the lease of “pai” land and commercial lease. Based on the average gross rent multiplier of commercial lease in four regions, we may conclude that the investment profitability of agricultural land in the areas is slightly higher than 6%.

	Annual average <u>rent for “pai” land net of Land Tax and PIT*</u> , RUB / ha per annum		Average <u>commercial rent net of Land Tax and VAT</u> , RUB / ha per annum		Ratio of average value of arable land in ownership to average <u>rent for “pai” land per annum</u>	Ratio of average value of arable land in ownership to average <u>commercial rent per annum</u>
	min	max	min	max		
Bryansk region	300	1,000	500	1,800	29.23	16.10
Kursk region	500	1,200	1,000	2,900	37.59	16.34
Lipetsk region	500	1,200	1,100	2,800	37.88	16.54
Orel region	400	1,000	900	2,500	40.57	16.45

*PIT – Personal Income Tax

BEFL notifies that all prices in this overview are based on the assumption that the clusters are formed without legal risks or with manageable legal risks.

The legal “culture” of market participants is increasing, although many buyers still consolidate clusters (in ownership or long-term lease) with legal risks. If land plots or clusters have any legal risks, it inevitably leads to discounts, i.e. a reduced land price. A significant part of such risks is associated with “administrative” lease.

Our expertise to carry out legal due diligence over agricultural land rights (legal reviews for over 2.5 mln ha), to manage and support purchase and lease transactions with farmland, is one of the most extensive in Russia. It includes:

- confirming the ownership of the current landholder;
- carrying out legal due diligence of land rights, i.e. investigating the complete history of transactions with land, detecting risks for the current landholder as well as for the purchaser, assessing the risks, providing advice on eliminating / minimizing the risks;
- identifying reasons for any other arising adverse consequences for the current landholder and / or the purchaser, including the possible loss of control over the land plot caused by any actions of third parties;
- providing advice on registering title to land plots used without proper legal grounds;
- structuring, planning and supporting land purchase transactions;
- creating an electronic archive for legal documents on land and monitoring land rights, introducing a unified electronic system of managing the process of securing land ownership and

organizing document workflow on this process.

BEFL experts are ready to provide support in securing land titles, purchasing land and land shares, leasing and selling land, resolving land disputes, and assessing the legal risks associated with land acquisition.

For further information please see “Solutions for Agricultural Business” at our official website www.befl.ru.

ABBREVIATIONS AND TERMS USED IN ANALYTICAL OVERVIEW

Arable land is the land cultivated by agricultural machinery without the need for additional investment to prepare land for normal crop rotation, i. e. regularly generating income.

Neglected land is the land that has not been cultivated for more than 3 years, but can be included in crop rotation at economically reasonable costs, i. e. the land can generate income in the future.

Land with severe limitations is the land that physically and / or economically cannot be included in crop rotation or used as grazing land, but is technologically necessary (windbreak, technological roads, parking space for agricultural machinery, etc.), however such land cannot generate direct income.

Grazing land is the land that can be used for grazing and otherwise involved in generating income.

“Pai” land is the land plots with identified boundaries registered in the State Cadastre and with the registered title of the participant of joint ownership.

Land lease transfer (assignment) is the assignment of contractual rights and obligations of the lessee to a third party.

Commercial lease is long-term lease of land plots, whose private owners intend to generate regular rental income and cultivate the land plots themselves.

Administrative lease is long-term lease of land plots in public or municipal ownership.

CV: cadastral value

FV: fair value

LT: land tax

min: minimum

max: maximum

VAT: value added tax

ASSUMPTIONS AND LIMITATIONS IN ANALYZING AND USING OVERVIEW RESULTS

Value data given in the analytical overview have been estimated on the basis of aggregated sale and purchase prices of land plots, which are observable (public) / unobservable and market-corroborated.

The fair value of land ownership and lease titles (arable land, neglected land, land with severe limitations, grazing land) is established by methods of mathematical modeling, considering the influence of a single integrated indicator of land quality – soil productivity – on land value. The land analyzed here is not irrigated; its quality allows the production of grain legumes and sugar beet.

The value of leasehold is an economically justifiable cost of ownership and use of land depending on the cost of the property and the period of lease.

The value of land lease transfer (regardless of the transaction subject) is given in the analytical overview net of VAT.

While determining fair value, we assumed that the land plots are in clusters allowing to run economically justified large-scale agricultural business of crop production, with liquidity and unlimited turnover (there are no legal, environmental, functional risks or their level is not significant).

The conclusions regarding the final amount of fair value for land titles are only valid on the dates around the date of issuance. BEFL expressly disclaims any responsibility for changes of economic, legal or other factors that may occur in the future affecting the market situation and, consequently, the fair value of land.

TERMS AND DEFINITIONS

The sole aim of this analytical overview is to present the information on the fair value of agricultural land, which is most effectively used by the owners (users) for the cultivation of agricultural products without irrigation.

The term “fair value” is defined in the overview according to the provisions of the International Valuation Standards (IVS 2011) and the International Financial Reporting Standards (IFRS).

International Financial Reporting Standards (IFRS 13) “Fair value measurement”	
Fair value	– the price that would have been received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date
Market-corroborated inputs	– inputs that are derived principally from or corroborated by observable market data by correlation or other means
Observed inputs	– inputs that are developed using market data, such as publicly available information about actual events or transactions, and that reflect the assumptions that market participants would use when pricing the asset or liability
Unobserved inputs	– inputs for which market data are not available and that are developed using the best information available about the assumptions that market participants would use when pricing the asset or liability

International Valuation Standards (IVS 2011)	
<i>Fair value</i> , IVS 300. Fair value for the IFRS	– the price that could be received to sell an asset, or paid a liability, in an orderly transaction between market participants at the measurement date
<i>Market value</i> , IVS definitions	– the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm’s length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion
<i>Marker rent</i> , IVS definitions	– the estimated amount for which an interest in real property should be leased on the valuation date between a willing lessor and a willing lessee on appropriate lease terms in an arm’s length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion

DISCLAIMER

The sole purpose of the data analysis was to identify the range of the fair value of agricultural land suitable for cultivation in areas covered by this overview. We did not intend to conduct an in-depth performance analysis of the relationship between farmland value data and soil fertility in each district.

The analytical data were consolidated from public sources of information which are considered reliable by our experts. The information provided is the property of BEFL. Any use of this information, or part of it, such as making references, quoting, copying, reproducing, distributing etc., is permitted only in its original form and format, with reference to BEFL.

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This material is not and cannot be considered as strategic, investment, financial, legal, tax and / or other advice. The recipient of this material should seek consultancy of specialists while establishing the value of a particular land plot. The information expressed herein may be altered, corrected, revised or updated whereas BEFL disclaims any obligation to notify any person in whose possession this material or any part of it may come of such alterations, corrections and additions.

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