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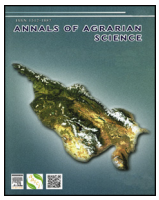

Specific of agricultural land's price formation

Paata Koguashvili*, Badri Ramishvili

Georgian Technical University, 69, Kostava Str, Tbilisi, 0175, Georgia

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ABSTRACT

The land issue is strategically important for any country, and countries like Georgia it is vitally important. In the work below we concentrate attention around the issue of putting agricultural land in the international free market. The problem is analyzed in condition of land price, land rent, demographic situation, agricultural subsidies and so on. As conclusion we represent opinion that, it is unacceptable to put Georgian agricultural land in international free turnover, because country can lose significant part of agricultural land and the possibility of development profitable agricultural sector.

Introduction

There has long been a discussion on land legislation in Georgia. The idea of placing agricultural land on the free international market is still valid, which is allegedly justified by the economic arguments. Proponents of this approach state that the sale of agricultural land to foreign nationals will increase its value and consequently, will increase the capitalization of agricultural enterprises that in turn, will make it easier for farmers to search for resources and will contribute to the growth of economic activity. In classical economic sense, the higher the demand for goods, the higher is the price, although this seemingly doubtless truth, only partially and within certain limits reflects the mechanism of pricing on agriculture land and the justification of rise in prices of Georgian agricultural lands only by this argument is just economic primitivism. In the article, the authors indicate the absurdity of the abovementioned position and, on the basis of a clear economic logic, assert that the placement of agricultural land on the free international market will not promote the development of agriculture in Georgia.

In agricultural land pricing, a number of factors should be taken into consideration, of which the most important is the land rent and legislative regulations related to agricultural lands. It is not by accident that the land rent is an important component of the land price determining formula. On the other hand, the essential part of the rent of agricultural land is land capacity. The universally recognized formula for determining land price is as follows:

$$Land\ price = \frac{Rent}{ir} X100\% , \quad (1)$$

where rent is an annual rental value of land, but *ir* is a real average bank interest rate. Rental value of agricultural land is directly linked to land capacity, its quality, proximity to markets and means ♯a communication.

As David Ricardo once noted, the land price is determined by the value of grown products, and not the other way around [1]. This finding of the great classicist of economics will be used during our subsequent discussions.

At the beginning of article, the authors criticize the allegation that the growing demand for agriculture land is permanently causing an increase in land price. They believe that there is a certain ceiling in this case, after reaching of which, the land actually loses the agricultural status. In order to prove that, first of all, they use precisely the analysis of the land price formula.

$$Rent = \frac{Land\ priceX\ ir}{100\%} \quad (2)$$

From formula (2), which is a transformed version of formula (1), it follows that in case of a permanent rise in land price, the rent rate should also be increased. However, the basis for agricultural land rent is land capacity, and the value of products grown on this land determines land price, and not vice versa, when the value of agricultural products is determined by land price. Land capacity, as well as the yield, has an upper limit, and these qualities are restricted by the rates of technological development.

For more detailed and specific judgment, let's consider the following example: let's just say that the land price has increased significantly due to increased demand. The upper limit of non-agricultural lands really depends on demand, and considering that land is a limited resource, its

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* Corresponding author.
E-mail address: paata_koguashvili@hotmail.com (P. Koguashvili).

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price may even be too high. The prices of different categories of land in the world are quite variable and its value for 1 ha of non-agricultural land can reach several dozens of million dollars and more. Based on the analysis of world prices on agricultural lands, we can conclude that the highest rate in is recorded in the Netherlands, where it reaches $ 57,000 [1] per hectare. Here, we do not discuss the appropriate data of Malta and some other European resorts, which they reach $ 100,000–150,000 [2] per 1 ha, because tourism is developed in these regions, due to which no considerable agriculture production is developed here, and consequently, the purpose of agricultural land changes here accordingly. As for the Netherlands, if we use the (2) formula and assume that a real average bank interest rate is about 1.5%, the land rent in this country is about $ 850 per year. Considering that the Netherlands's agriculture structure and the fact that they produce products worth $ 10,000- $ 15,000 per hectare, this value is economically realistic.

Let's go back to our hypothetical example and discuss the situation when the price of 1 ha of agricultural land reaches $ 0,5 million, and the real average bank interest rate is 10% (which is minimal for Georgia), in this case the land rent should be $ 50,000 per year. There is no agricultural culture and technology on the Earth, which can provide such productivity, which may cover even the smallest part of this rent. Consequently, we can conclude that if the price of agricultural land exceeds a certain limit, this land loses its agriculture status, because there are some other factors that produce a much stronger rent influencing the yields, and growing any culture on it becomes unprofitable. For example, in the case of wheat production, for creating this volume of rent, the yields should be more than 100 tons per hectare, and for potatoes - more than 500 tons per hectare, and so on, which must be ensured at the expense of the natural productivity of land.

The hypothetical example we have examined clearly demonstrates that under conditions of permanent growth of the price of agricultural land, when it goes beyond a certain limit, it loses the status of agricultural land. In many parts of the world, such a situation does not constitute a severe emergency for various reasons. For instance, in the case of Netherlands, the situation is mitigated by the lowest average bank interest rate, which, considering the logic of the land price formula, reduces the rent tax, and such a sectoral structure of agriculture that ensures the maximum yields from agricultural land unit. In the United States, the above-mentioned problem is not so acute, as the country possesses one of the most productive agricultural lands throughout the world. In addition, we should take into account the highest level of agricultural technologies in the EU and the United States, as well as the largest state support for the agricultural sector in these countries. We will refer to the latter again at the end of this article.

In Georgia, there is a completely contradictory situation, one of the major reasons for which is unique natural and climatic conditions in the region, which are the best in terms of tourism development and accommodation, and if we add to this extremely small farm size and fragmentation of lands, all this creates a severe background for industrialization of agriculture. As a result, Georgia is facing the threat that a rise in land price could make it even more unprofitable for local agriculture, and this may result in withdrawal of large areas from agricultural use. In order to justify this view, we use the local land market data.

During the first half of April of the current year, we studied the prices of lands offered by sellers, for which we used the data the estate trading site www.myhome.ge, which is the unconditional leader in this area. During the analysis, we have excluded the completely marginal data, and analyzed the prices of lands, which, when observed, were free from perennials and significant capital-investments.

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The analysis revealed the regions of Georgia, where some agricultural land prices are so high that they have actually lost their agricultural value, and this name has only been formalized. These include Mtskheta, Borjomi, Dusheti, Gardabani and seaside districts. In this regard, Mtskheta and Borjomi deserve special attention, where the prices of the vast majority of the locations of land vary between $ 50,000- $ 1,000,000 per hectare.

If we apply to the above hypothetical analysis, the rent of 1 ha of such lands should be in the range of $ 5000- $ 100,000, while the income of the entrepreneur should be even higher. That's, not to say anything on the high limit, is impossible to reach even the low limit under conditions of Georgia. The same situation is in the significant parts of Dusheti, Gardabani and Georgian seaside areas. That is why we can conclude that in Mtskheta and Borjomi almost entirely, and in Dusheti, Gardabani and Seaside regions largely, agricultural products can not be manufactured.

Now let's see what the outcome for Georgia would be produced by placing agricultural lands on the free international market. It is absolutely enough to look at the natural-climatic and demographic indicators in Georgia's neighboring countries. The full truth will be to conclude that Georgia has the natural climatic conditions in the region. Moreover, several hundred kilometers south, there begins one of the most extensive desert zone in the world. If we look at demographic indicators, we see that for Russia, Georgia is the most sparsely populated country among the neighbors. According to the 2015 data, in Azerbaijan, 113 [4] people live per square kilometer, in Armenia 103 [4], in Turkey 101 [4], and Georgia's similar indicator is 53 [4] people per square kilometer. The population density indicators of Iran and Iraq are 50 [4] and 85 [4] people, respectively, which is not very high, but other demographic data such as the total number of population and the annual growth rates are impressive. Iran's population in 2015 was 82 [4] million and Iraq's 37 million. Iranian population grew by 1.2% [4] and in Iraq - by almost 3% [4], making it one of the highest indicators in the world. It is also necessary to bring data of the population density in such countries as Pakistan, Israel, India and Bangladesh, which are not far from Georgia, these figures are 250, 389, 381 and 1134 [4] people per square kilometer, respectively. To be more visible, we note that if the population density of Georgia would be similar to Pakistan, here should live 17.5 million people, and if this indicator would be similar to Israel and India, here should live 26–27 million people, and with account for the population density in Bangladesh's, the population in Georgia should reach 80 million people [5].

The above data suggests that if in Georgia, the agricultural lands are allowed to place on free international market, it will be purchased by the population of neighboring countries, and highly likely, the most part of such lands will be converted to non-agricultural uses that will destroy agriculture in Georgia as an economic sector. For example, in order to utilize Georgia's agricultural lands entirely, and to make a titular nation a minority, the demand for land acquisition is required to be generated in 0.01% of the population of the above-mentioned countries annually, and this process should last for 20 years. In such conditions, Georgian lands are really so expensive that they will be converted to non-agricultural uses, because they will be used primarily by the buyers, following from the natural climatic conditions of Georgia, and we already have such examples in Georgia. In extreme cases, if the individual plots will be used for growing agriculture crops, they will be occupied by farm non-traditional for Georgian. In addition, it is impossible to have a commodity production on the fragmented landplaces, and this will be also contributed by the population's aspirations, which will replace the indigenous ones. For example, a considerable number of poor peasants in the majority of the considered countries can purchase a few hectares of land and start a farm here, providing them and their families with foods, and this is a great

pleasure for them.

The value of the agricultural lands is an essential element for organizing successful farming. The examples presented in the preceding part of this article show that in a number of areas, which have a garden-tourist bearing, the value of land (including agricultural land) has reached a level that makes impossible to carry out the cost-effective agriculture activities. And below, the matter of our consideration will be those territories that should remain in agricultural uses.

According to information placed on the eal estate trading website www.myhome.ge, that the price offered by Georgian agricultural land sellers ranges from $ 500 to $ 50000 [3]. Such a great amplitude is caused by geographical and natural-climatic diversity, as well as by the fact that the levels of economic development of the country's regions differ significantly from each other. Pastures are sold for about $ 500, whose relief, even in the long-term, does not allow for using heavy equipment and irrigation systems. For about $ 1000 are sold the quality pastures and hay lands, which can be reclaimed in the future. $ 1000- $ 2000 worth arable lands, whereas the price of lands located in the good places, or the high-category irrigation lands is considerably higher. Among the agricultural lands of Georgia, especially expensive are those, where the cultivation of perennial crops is possible. By their importance in the economy of Georgia, there are distinguished several cultures: in western Georgia - nuts, citruses and some vineyards, in eastern Georgia - vineyard and some walnuts, as well as various traditional fruits. It is also necessary to note that in Georgia, there is gradually being started growing of crops, which were not traditional for our country. These are: kiwi, bog blueberry, raspberry, etc. The price of 1 ha of land, where the cultivation of the above-mentioned perennial crops is possible may reach $ 50,000.

We justified that the increase in the agricultural land price can not proceed forwever, but it is also interesting to compare the prices of agricultural land in Georgia and economically developed countries, the argument of those who favor liberalization of the agricultural land market, is that the price of agricultural land in Georgia is lagging far behind the same data in the developed countries, and in order to align it, it is necessary to thoroughly analyze this issue. The most expensive agricultural lands in the world are in the EU countries and USA. In addition, they have the most developed agriculture sector. So the attention of the authors is concentrated on them.

The authors believe that the view, according to which the price of agricultural land in Georgia is lagging far behind the same data in the developed countries, and in order to align it, it is necessary to thoroughly analyze this issue. The most expensive agricultural lands in the world are in the EU countries and USA. In addition, they have the most developed agriculture sector. So the attention of the authors is concentrated on them.

The average price of 1 ha of agricultural land in the USA, in 2014–2017, was $ 7500. The price of approximately one third of all agricultural lands in the United States is $ 5500 or less per hectare, and the maximum price is $ 21,000 or over, which is observed in the states of New York and California. To judge by the categories, the average price of 1 ha of arable lands is $ 10,000, while the price of pasture is $ 3300.

The prices of agricultural lands in the EU countries differed sharply. The lowest land prices are in the countries of former Soviet Union, such as Lithuania, Latvia and Estonia, as well as in Romania, where the average price of arable lands in 2014 was about $ 3000- $ 3300, while the pasture land price was $ 1700- $ 2600. The highest prices for agricultural lands In the European Union have already been discussed above, but as to the average prices for the same period, they vary between $15,000 and $20000.

By comparing these data and similar indicators of Georgia, becomes obvious that the prices of agricultural lands in Georgia are not low at all. However, considering the extent to which the agricultural sector in the USA and the EU is supported, it can be concluded that the agricultural land price in Georgia, before the application of this policy, has reached its maximum level. For example, the budget of the US Department of Agriculture was $156 billion in 2016, and the expenditure amounted $148 billion [6]. In the EU, in 2014–2020, at 2011 price, there are envisaged € 362.79 billion, from which, € 277.85 billion will be spent on the “General Agricultural Program”, and € 84.94 billion [7] on the “Rural Development Program”. Obviously, such a huge financial aid contributes to a raise in agricultural land prices, and in case of similar financing, the prices of Georgia's agricultural lands will raise significantly [8].

Conclusion

The form of a conclusion, we can assert that the price of high-category agricultural land in Georgia has already reached the maximum level. From now on, the possibility of raising this price will be associated mostly to systemic public policy of government subsidies, without which it is impossible to develop a cost-effective and competitive agricultural production. In addition, a significant problem is that a large portion of Georgia's agricultural lands, in fact, are no longer suitable for agricultural use, as the cost price of products grown on these lands will be too high because of high land price. In this case, a State must make timely and adequate changes in the land status, because agricultural land taxes fall into the completely different, favorable tax treatment field, which is prejudicial to the country budget (mainly local municipal budgets). With regard to the territories, where agricultural production will be organized, their status of agricultural lands should be enhanced by legislation, and it should be in fact impossible to change, and the sale of such land to persons who are citizens of Georgia must be ruled out by legislation.

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