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LAND MARKET OF LAND PLOTS OF LAND SHARE OWNERS IN UKRAINE: STATE AND INSTITUTIONAL PROBLEMS

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Abstract

During the research, it has been highlighted that there are no two countries in the world where the legal regulation of land relations would be identical, and the following four typical models of platform interactions have been established: closed market model, open market model, with some minor restrictions for agricultural and natural real estate (lands); closed for foreigners; open with restrictions. It has been substantiated that there is a stereotype in Ukraine as regards the efficiency of large-scale agriculture, and has been highlighted that most European countries prefer family farms, by ownership, and try to maintain small/medium-sized farm size, rather than increase the influence of monopolistic companies with large-size land use. Also, the paper highlights the factor of land consumption, in the process of which it has been found that in European countries this indicator is much better as compared to that in Ukraine. The authors' correlation analysis revealed a close relationship between these factors and the average value of agricultural lands. SWOT analysis tools have been applied to study the institutionalization of the land market. In addition, the authors have analyzed the average value of land plots of the owners of land shares(units) after the lifting of the moratorium on the turnover of agricultural lands, which allowed to state a significant regional difference in the value of these lands. Where twelve regions of Ukraine have a lower market value of land plots compared to the lowest limit of normative monetary valuation of arable lands. Using the diagram, the authors have shown the lack of mutual coordination between the indicators of the normative monetary valuation of arable lands and the average value of sold land plots of the owners of land shares (units).

Key words**:** *value of land plots, owners of land shares (units), turnover of land plots, normative monetary valuation, sustainable development*

INTRODUCTION

The land basis of the market economic system of Ukraine is subject to it when many more complex elements and mechanisms of this system have already developed and function. There is an institutional contradiction in the process of formation of the economic system of modern Ukraine, which determines its specific characteristics, and therefore has a significant heuristic potential. The formation of the market (turnover) of agricultural lands, in particular land plots of the owners land shares (units) affects the fundamental interests of Ukrainians, since it comes to a commercial turnover of the factor of socio-economic

process, which the classics of political economy rightly described as a "mother of wealth" and, according to the Constitution of Ukraine, as "national wealth under special protection of the state" [18]. The issue of the market (turnover) of land plots of the owners of land shares (units) in the context of Ukraine's economic development has been covered in recent years more and more often, in particular, by the Ukrainian scientists such as E. Dankevych, V. Dankevych and O. Chaikin [8], O. Tomchuk, V. Kozhukhar [22], I. Zrybnieva and T. Zavolichna [24], R. Stupen and Z. Ryzhok [16], R. Stupen, M. Stupen and G. Dudych [17], V. Onegina and Y. Vitkovskyi [13], O. Borodina and V. Krupin [3]. However, despite the significant number of researches on the land market in Ukraine and the development of proposals for the formation and development of prospects for the turnover of land plots of the owners of land shares (units), the problem is still insufficiently studied, especially at present, after lifting the moratorium on turnover of the above land plots. In addition, in connection with the adoption of the Law of Ukraine "Amount Modifications of Some Legislative Acts of Ukraine Concerning Conditions of Circulation of the Lands of Agricultural Purpose" [21], the need for revising the basic conceptual principles of institutional development of the turnover of land plots of the owners of land shares (units) in Ukraine as one of the main bases of sustainable (balanced) development of agricultural land use in the country as a whole and its regions, as well as the territories of united territorial communities.

MATERIALS AND METHODS

The theoretical and methodological basis of the study is the analysis of the state and institutional problems of the agricultural land market in Ukraine, and also the impact of supply and demand on the cost of land use. In the process of work the authors used the following research methods for the article: monographic – in the process of analyzing scientific sources and normative legal acts relating to the object of research, for the systematization of publications on the land market of land plots of land share owners; analysis, synthesis, comparison – when comparing the land value in European countries and in Ukraine, and also in the analysis and comparison of land value according to OLX and Landlord platform, normative monetary valuation of land and land value after the end of the land moratorium; graphical method – for visualization of the average land value; abstract-logical – in the formation of theoretical generalizations and conclusions. The authors used data from the official websites of the State Service of Ukraine for Geodesy, Cartography and Cadastre and the State Statistics Service of Ukraine to reflect real quantitative indicators of the state of the land market in Ukraine.

RESULTS AND DISCUSSIONS

Studying the experience of foreign countries, it must be said that the land market abroad has been formed for a long time and is closely interconnected with the permanent existing land structure of the country. Its emergence is closely interconnected with the general processes of the formation of market economic relations, the functioning of private ownership of land and other natural resources, the formation of economic and legal foundations for the existence of the real estate market, in particular, agricultural, natural and material.

The main principles of the European Union's policy on land ownership, including agricultural land, are ensuring the right to free movement of capital, opening and running private business and avoiding discrimination. In most member states of the European Union there are no legal restrictions on the ownership of agricultural land (any individual or legal entity can legally purchase and own agricultural land). Legal restrictions on the ownership of agricultural land include limiting the number of potential buyers and competition from the agricultural land sales market. In countries that later became members of the European Union, restrictions on the ownership of agricultural land for

foreigners (including citizens of EU member states) are usually introduced [20]. It should be noted that there are no countries in the world where the legislative regulation of land relations would be identical. At the same time, the scientific community distinguishes four typical models of platform interactions, which fall under almost all countries of the world:

1) closed market model – all operations with land are prohibited, both for residents of the country and for foreigners;

2) open market model, with some minor restrictions for agricultural and natural real estate (land) – practically does not limit the turnover of land resources inside the country and is open to foreigners;

3) closed for foreigners – the land market is closed for foreigners, namely, any operations with land are prohibited for them;

4) open with restrictions – despite the open market, there are certain restrictions, for example: the minimum sale price is set, the area of land owned by one person is regulated, etc., both for residents and foreigners.

Selecting the land market model gives impetus not only to the socio-economic development of land use of the respective territories, but also to the ecological, in particular rational and efficient, use thereof. At the same time, the establishment of restrictions and encumbrances with respect to the land market turnover depends on the factors of land structure [23]: on natural-economic zoning; by administrative-territorial division; forms of land ownership and their varieties; forms and methods of land use. In addition, the establishment of restrictions and encumbrances on the land market turnover leads to a situation when the price of land plots is underestimated due to the regulation of circulation or imperfection of its institutional environment and, accordingly, an artificial reduction in demand.

In order to confirm this statement, Figure 1 shows the average value of agricultural lands in some European countries and in Ukraine before the lifting of the moratorium on agricultural lands, including land plots of the owners of land shares (units), which actually reflects the market value of land ownership as the main asset, but not in our state.

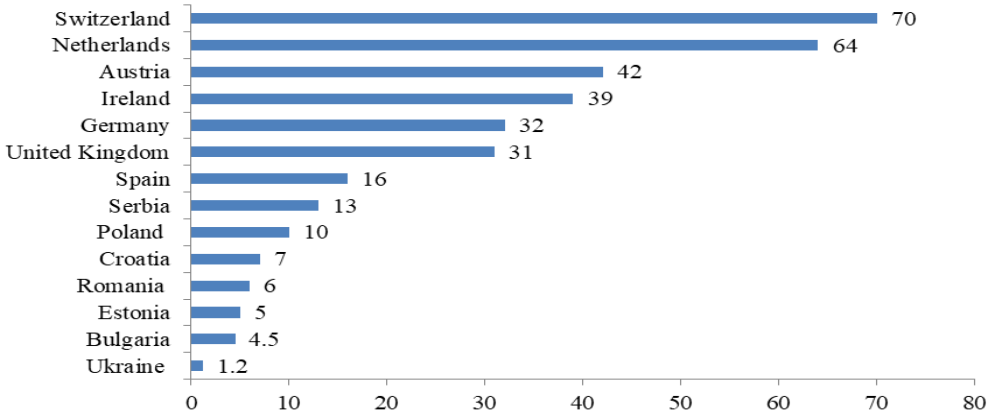

Fig. 1. The average price of agricultural land before the lifting of the moratorium on the purchase and sale of land plots of land share owners, thous. USD
Source: [20].

It should be noted that before the expansion of the market (turnover) of agricultural lands in Ukraine due to the moratorium on the turnover of land plots of the owners of land shares (units) lease relations of these lands were actively developed, the value of which was calculated using normative monetary valuation (hereinafter referred to as the NMV). Therefore, when comparing prices with European countries, the Strategy for Improving the Management Mechanism in the Field of Use and Protection of State-Owned Agricultural Lands and Their Disposal of June 7, 2017, No. 413, set forth the average value of normative monetary valuation of land in Ukraine, which at that time amounted to 1.2

thousand dollars per 1 ha [20].

As noted by the analytical center Easy Business, it is indicative that in countries with an open market model, the average price for 1 hectare of agricultural land is one and half times higher than in countries where market operates with restrictions [1]. As for our country, it appears that the land value, even according to the NMV, is underestimated.

In accordance with Article 1 of the Law of Ukraine «On Land Valuation» of December 11, 2003 No. 1378-IV, normative monetary valuation of land plots is a capitalized rent income from the land plot determined according to established and approved standards. Where normative monetary valuation of agricultural land is carried out at least once every 5-7 years (Article 18 of this Law) [19].

It should be noted that the central executive body, namely the State GeoCadastre of Ukraine, every year since 1995, publishes indicators of NMV of 1 hectare of agricultural land (arable land and fallow lands, perennial plantations, natural hayfields, pastures) on average in Ukraine and in the context of regions of Ukraine. Until November 2016, the assessment was carried out in accordance with the Methodology of NMV of agricultural land in settlements, approved by the Resolution of the Cabinet of Ministers of Ukraine of March 23, 1995 No. 213 [4], then the new methodology of NMV of agricultural land of November 16, 2016 No. 831 [6] have been approved.

Table 1. Characteristics of normative monetary valuation of agricultural land in Ukraine as of 01/01/2021*

No	Administrative region	Arable land and fallows		Perennial plantations		Hayfields		Pastures	
		thous. UAH/ha	D_C**	thous. UAH/ha	D_C**	thous. UAH/ha	D_C**	thous. UAH/ha	D_C**
1	Vinnytsia	27.2	-1.1	47.1	-6.9	3.1	-53.2	1.6	-68.7
2	Volyn	21.8	-20.7	41.3	-18.2	6.0	-9.9	4.5	-10.2
3	Dnipropetrovsk	30.3	10.0	55.6	10.0	8.0	18.9	6.2	25.0
4	Donetsk	31.1	13.1	58.5	15.7	7.2	8.1	6.0	21.1
5	Zhytomyr	21.4	-22.1	35.6	-29.5	5.1	-24.4	4.1	-18.0
6	Zakarpattia	27.3	-0.8	37.1	-26.6	6.5	-2.7	5.3	5.5
7	Zaporizhzhia	25.0	-9.1	41.3	-18.2	6.0	-9.9	4.9	-2.3
8	Ivano-Frankivsk	26.1	-5.1	37.1	-26.6	4.8	-28.0	4.5	-10.2
9	Kyiv	26.5	-3.5	42.8	-15.3	6.3	-6.3	4.5	-10.2
10	Kirovohrad	31.9	16.0	67.0	32.6	8.7	29.7	6.0	21.1
11	Luhansk	27.1	-1.4	47.1	-6.9	8.2	22.5	5.8	17.2
12	Lviv	21.5	-21.8	27.1	-46.4	5.8	-13.5	4.1	-18.0
13	Mykolaiv	27.0	-1.7	47.1	-6.9	8.2	22.5	5.8	17.2
14	Odesa	31.0	12.8	62.7	24.2	8.9	33.3	7.0	40.6
15	Poltava	30.4	10.5	64.2	27.0	5.6	-17.1	4.3	-14.1
16	Rivne	21.9	-20.2	37.1	-26.6	5.1	-24.4	3.7	-25.8
17	Sumy	26.8	-2.6	49.9	-1.2	6.5	-2.7	4.7	-6.3
18	Ternopil	29.0	5.6	57.0	12.9	6.3	-6.3	5.6	13.3
19	Kharkiv	32.2	17.2	67.0	32.6	6.3	-6.3	6.4	28.9
20	Kherson	24.5	-11.1	37.1	-26.6	5.3	-20.7	4.3	-14.1
21	Khmelnytsk	30,5	10.8	52,8	4.4	6,8	0.9	5,3	5.5
22	Cherkasy	33,6	22.4	74,1	46.7	8,5	26.1	5,6	13.3
23	Chernivtsi	33,3	21.0	62,7	24.2	5,6	-17.1	5,1	1.6
24	Chernihiv	24,1	-12.5	55,6	10.0	8,7	29.7	5,1	1.6
	Ukraine	**27,5**	**0.0**	**50,5**	**0.0**	**6,7**	**0.0**	**5,0**	**0.0**

Note: * the value of normative monetary valuation of agricultural land in accordance with the nationwide (all-Ukrainian) normative monetary valuation of agricultural land; ** deviation coefficient (D_C, %) is the ratio of indicators in a separate region and the average in Ukraine.

Source: compiled by the authors using the operational data of the State GeoCadastre of Ukraine [0].

The Resolution of the Cabinet of Ministers of Ukraine «On conducting a nationwide (all-

Ukrainian) NMV of agricultural land and amending certain resolutions of the Cabinet of Ministers of Ukraine» of February 7, 2018 No. 105 [7], defines the procedure for conducting a nationwide (all-Ukrainian) NMV of agricultural land, which simultaneously covered the entire territory of Ukraine. The assessment was carried out in accordance with the new Methodology of NMV of agricultural land, approved by the Resolution of the Cabinet of Ministers of Ukraine of November 16, 2016 No. 831.

According to the operative data of the State GeoCadastre of Ukraine [12], Table 1 shows the data of the normative monetary valuation of agricultural lands in Ukraine, as of 01/01/2021.

The analysis of the Table shows that for the specified period the normative monetary value of arable land and fallows in Ukraine ranged from 21,411.0 UAH/ha – in Zhytomyr region up to 33,646.0 UAH/ha – in Cherkasy region; perennial plantations from 27,091.2 UAH/ha – in Lviv region up to 74,144.4 UAH/ha – in Cherkasy region; hayfields from 3,140.4 UAH/ha – in Vinnytsia region up to 8,938.0 UAH/ha – in Odesa region; pastures from 1,558.1 UAH/ha – in Vinnitsa region up to 7,011.4 UAH/ha – in Odesa region. It should be noted that the average value according to the normative monetary valuation of arable lands in Ukraine in the analyzed period was 1.0 thousand dollars per 1 ha. In general, the data indicates significant regional deviations, as well as imperfection of the Methodology of Normative Monetary Valuation of Agricultural Lands, and, accordingly, non-feasibility of using it as a main basis for determining the starting market value of agricultural lands. In general, the evolution of improving the normative monetary valuation of agricultural lands is also emphasized by the academic community, in particular by O. Kovalova, I. Yarova, G. Mishenina, T. Pizniak, O. Dutchenko [9] etc.

B Table 2 shows a comparative description of the state of land use in European countries, EU countries and Ukraine, which indicates a significant unused potential of Ukrainian agricultural land use (with 46.4 % of black soil) compared to European countries (8.3 %). Although the share of arable land is less than in Ukraine, the share of organic and irrigated land is higher, which indicates a higher intensification and capitalization of land use.

Table 2. Comparative characteristics of land use in European countries, EU and Ukraine

Name of the indicator	Ukraine	European countries	EU
Price per hectare of agricultural land, thousand USD per 1 ha	1.0	3.7	7.2
Average size of land wnership, ha	474	-	85
Land capacity, ha per 1,000 EUR of gross production	3.72	-	0.46
Investment price, thousand USD per 1 ha	1	4	5,5
Grain Export, mln tons	34.8	130	38.5
Total area vs European countries, %	5.9	100	43.1
Share of lands vs the total area by country, %			
Agricultural lands per capita	1.2	0.1	0.1
Agricultural lands, including:	70.7	46.8	40.6
- leased agricultural lands	65	62	53
- arable lands	53.8	27.4	26.5
- chernozems	46.4	8.3	4.1
- irrigated lands	0.8	2.0	2.5
- lands certified as organic ones	0.5	1.1	1.2

Source: generated by authors using source [14; 20].

In addition, when analyzing the Table, the average size of land ownership and land use is important in comparison, while in the EU the average size was 85 hectares, and in Ukraine it was 474 hectares. Moreover, land consumption, which in the EU was 0.46 ha/1,000 EUR of gross output, and in Ukraine was 3.72 ha/1,000 EUR of gross output. According to scientific research [2; 22], this characterizes the intensity of agricultural land

use due to the efficiency of their use and depends on the ratio of land area and cost of production produced from this area, where the cost of production is affected not only by the yield but also by the structure of crops cultivated, their complexity. That is, the less land is ultimately needed to produce a unit of output in monetary terms, the greater the value (profitability) of the land itself.

According to some studies [11], in European countries family farms (individual ownership) make up 85% of all agricultural enterprises. In Western Europe, they cultivate 68% of agricultural land and 25% in Eastern Europe. They produce 71% of agricultural products in old EU member states (EU-15). Of course, there are significant differences between European countries (Table 3), in particular [11]: Italy and Austria focus on small and medium-sized family farming; Spain and France (to a lesser extent) for large-scale agricultural production by agricultural enterprises and large family farms; Germany on large in area (100-250 hectares) family farms. However, even large farms in Germany are much smaller than agricultural enterprises in Eastern Europe, which is also aimed at family farms.

Table 3. Distribution of land ownership and land use by size in some European countries and in Ukraine

Country	Small farms (up to 20 hectares)		Medium farms (20-100 hectares)		Large farms (more than 100 hectares)	
	% of farms	% of land	% of farms	% of land	% of farms	% of land
Italy	91	38	8	37	1	26
Austria	70	27	27	55	2	18
Germany	46	8	32	33	11	55
France	46	5	36	36	18	59
Spain	76	15	16	30	5	55
Greece	95	61	5	32	0	7
Poland	92	52	7	27	1	22
Romania	99	43	0	8	0	49
Estonia	73	10	20	17	9	73
Bulgaria	95	9	4	10	1	82
Ukraine*	21	0	40	4	39	96

Note:* Data taken as of November 1, 2019.
Source: generated by the authors using sources [11; 15].

So, despite some Ukrainian stereotype about the effectiveness of large-scale agriculture, the countries of Europe, for the most part, prefer family farms – in terms of ownership and try to maintain a small / medium-sized farms, rather than increase the influence of monopoly companies.

The land consumption rate for some European countries and Ukraine is shown in Figure 2, the analysis of which suggests that less land is ultimately needed in European countries to produce a unit of output that is much different from Ukraine. At the same time, Germany and France have the best indicators of efficiency of agricultural land use among the represented Eastern European countries, and the more so compared to Ukraine.

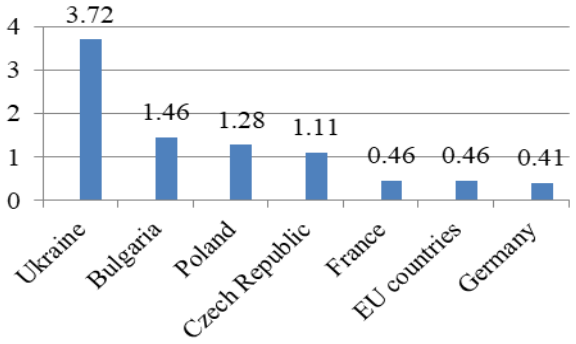

Fig. 2. Land consumption of agricultural lands use in some European countries and in Ukraine
Source: generated by the authors using the source [2].

Obviously, from the point of view of the law of economy on supply and demand, the value of land plots of the owners of lend shares (units) is primarily influenced not only by the regulation of land plots turnover, but also by the demand for them.

The higher is the demand, the greater is the

value of land plots of land share owners, the lower is the demand, the lower is their value. Since, as already noted, small and medium-sized land users prevail in Europe and the number of farms is several times more than in Ukraine, the demand for land is greater. Small and medium-sized farms are interested in purchasing even small plots of land (up to 1 hectare), since with an average farm size of 2 hectares, 10 hectares, 30 hectares – even such a small increase in area gives a powerful increase in productivity. And a large number of these farms provides high competition among themselves, which leads to an increase in the cost of land [11]. As an example, the cost of land in Bulgaria (5,546 USD) (Figure 3), the most successful country with corporate cultivation, is half that of Poland (11,639 USD), where farm land use predominates (average farm size – 10 ha) and 3 times less than in Greece (15,152 USD), where farming land use also predominates (average farm size – 1.5 ha). Romania and Estonia (2,502 USD and 3,468 USD respectively), which can be considered typical countries with a corporate structure of agriculture, are even more behind in this indicator.

In addition, as figures from Figure 3 and Table 3 show, land in Italy, who focuses on small and average land use of family farmers, costs an average of 40,246 USD, that is 2.6 times more expensive than in Spain, where land costs 15,392 USD and where they focus on medium and large farms. Thus, in countries where agriculture is dominated by small and medium-sized family farm land use, land values are higher than countries where agricultural enterprises dominate.

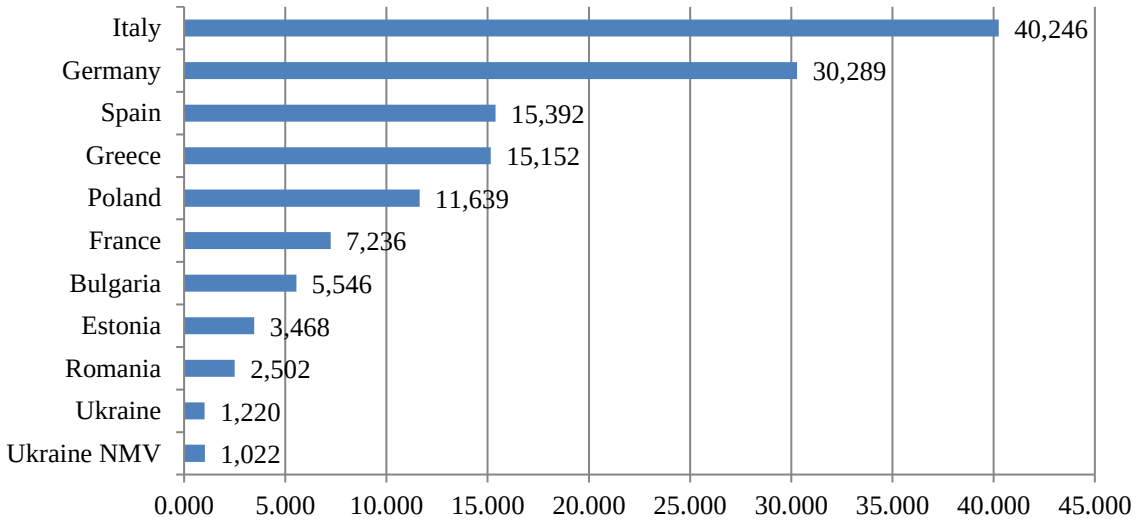

Fig. 3. The average value of a hectare of agricultural land in some European countries and in Ukraine, USD
Note: where Ukraine is the average value of land plots of the owners of land shares (units) after the lifting of the moratorium (in 2021), Ukraine NMV is normative monetary valuation (NMV, see Table 1) (as of 01/01/2021). Data for other countries is taken for 11/12/2019.
Source: formed by the authors using the data of Eurostat and the State GeoCadastre of Ukraine [12].

Thus, in European countries where small and medium land use of family farms predominates in agriculture, the value of land is higher than in countries where agricultural enterprises predominate.

In addition, land consumption in these countries is 8 times better than in Ukraine (Table 2 and Fig. 2).

And this, in turn, indicates the intensity of agricultural land use by these countries by means of effective application.

This is due to the better structure of crops, in particular the higher share of labor-intensive crops and their yields (Table 4) as well as prices for such agricultural products.

Table 4. Crop yields in some European countries, hundredweight per hectare

Crops	Ukraine	Romania	Bulgaria	Poland	Greece
Vegetable crops					
Cabbages (all kinds)	212	208	302	434	277
Carrots	161	135	212	390	363
Onions	153	109	115	244	273
Potatoes	132	133	182	179	252
Tomatoes	218	154	392	510	581
Cucumbers	161	136	-	295	-
Pumpkins	208	155	149	347	207
Vegetables (another)	68	109	33	254	258
Fruits and berries					
Apples	85	98	83	110	233
Apricots	84	91	16	20	102
Cherries	58	101	17	33	39
Peaches	37	57	44	28	169
Plums	79	90	19	47	108
Strawberries	70	80	-	41	354
Fruits (other)	17	82	19	82	37

Source: [11].

Thus, the undoubted leaders in the yields of vegetable crops are Poland and Greece, where the difference in yield compared to Ukraine sometimes can differ several times. As for the yield of fruit crops and berries, the undisputed leaders are the small farms of Greece, which in comparison with our country significantly exceed us in growing such traditional crops as apples – 2.7 times, plums – 1.4 times, strawberries – as much as 5 times. In order to confirm the hypothesis that there is a relation between the value of agricultural lands and the size of land use and land consumption, Table 5 shows the calculated correlation coefficient for the studied factors using Excel. It should be noted that in the scientific community, indicators of over 0.50 indicate a significant correlation relation. However, it has to be noted that the land consumption indicator is inverse to the growth of land value, that is why the correlation coefficient is negative and by its nature characterizes the close relation with land consumption. There is also a close relation between the average value of lands and the size of land use, namely for farming households sized between 20 and 100 ha.

Table 5. Calculation of the correlation coefficient between the average value of agricultural lands and the size of farm land use and land consumption

Countries	X	Y			
	The average value of agricultural land, USD/ha	Land consumption, ha/1000 euros of gross output	The size of land use of farming households, %		
			up to 20	20–100	over 100
Ukraine	1,220	3.72	0	4	96
Romania	2,502	N/a*	43	8	49
Estonia	3,468	N/a	10	17	73
Bulgaria	5,546	1.46	9	10	82
France	7,236	0.46	5	36	59
Czech Republic	7,754	1.11	N/a	N/a	N/a
Poland	11,639	1.28	52	27	22
Greece	15,152	N/a	61	32	7
Spain	15,392	N/a	15	30	55
Germany	30,289	0.41	8	37	55
Italy	40,246	N/a	37	37	26
Correlation coefficient		-0.60883**	0.210314	0.748389	-0.51645

Note: * N/a is not available; ** the negative correlation coefficient is due to the fact that the land consumption indicator is inverse to the growth of the value of land plots.
Source: Own results.

Table 6. SWOT analysis of modern institutional support of the land market of land plots of land share owners

Strengths	***Weaknesses***
Economic factors:	
• formation of market-oriented land structure of the country, regions and territorial communities; • implementation of basic directions of state policy in the field of land resources; • implementation of territorial and spatial planning of land use, in particular, zoning of land by types (subtypes) of land use; • favorable institutional conditions for positive examples of the use of levers of financial, economic, land management and legal regulation; • modification on a rent basis of normative and expert (market) monetary valuation of land; • formation of favorable environment for the functioning of individual entities (family farms and private farms) due to institutional support; • expansion of non-conventional (organic) land use.	• imperfect mechanism for regulating economic and environmental relations of property rights and land use; • the problem of determining the rational scale of state intervention in the process of distribution (redistribution), use and restoration of land resources; • self-disqualification of the state from the implementation of land management of the formation of agricultural land tenure and land management, zoning of land and organization of crop rotation and arrangement of land; • inconsistency in the assessment of agricultural land, their value; • lack of order for creating new and streamlining existing land tenures and land management in communities; • lack of a land and land ownership accounting system and its inconsistency with international standards and current legislation; • leveling the function of territorial and spatial planning of land use in the territory management system.
Environmental factors:	
• implementation of the institute of territorial and individual restrictions (encumbrances) in the use of land and other natural resources; • implementation of the norms of the laws of Ukraine «On Land Protection», «On the Ecological Network of Ukraine»; • implementation of environmental measures (construction and reconstruction of anti-erosion hydraulic structures, conservation of land, creation of field-protective forest strips, etc.).	• lack of the necessary list of state standards, norms and rules in the field of land protection, land management, sustainable land use; • the need to develop a system of zoning of land by types (subtypes) of land use outside settlements; • no established environmental restrictions on the use of land.
Social factors:	
• social rationing, regulation of the size of private land ownership; • expansion of non-conventional (organic) land use; • increase in the number of family farms.	• high level of corruption and legal nihilism of the population; • the need for legislative distinction between land use of family farms and personal farms and their stimulation; • lack of information on land rights and other natural resources in territorial communities.
Possibilities	***Threats***
Economic factors:	
• implementation of measures for land management with the aim of zoning land by types (subtypes) of land use outside settlements to form its investment attractiveness and increase capitalization; • institutional prerequisites for the formation and functioning of the land-mortgage bank; • implementation of land management to create new and streamline existing land properties in communities.	• lack of land registration and redistribution of agricultural land between various business entities in a non-market way; • lack of authority for territorial communities to manage land use outside settlements; • significant risks of unsatisfactory level of information about land and other natural resources in territorial communities; • lack of concept of market-oriented and environmentally safe land structure in the countryside and their regional and local models.
Environmental factors:	
• implementation of a set of measures to reduce plowing in the steppe zone, improve the structure of land, increase the area of environmentally stabilizing land; • implementation of territorial and spatial planning of land use, in particular, zoning of land by types (subtypes) of land use; • introduction of environmental insurance system.	• incomplete formation of the ecological network at the local level (only 12.5%); • uncertainty of restrictions (encumbrances) on the use of land and other natural resources; • threat of continued degradation of land and other natural resources, climate change and desertification; • violation of environmental equilibrium in the ratio of the main types of land.
Social factors:	
• monitoring and construction of models of market-oriented land structure to identify trends and prospects of social development; • prerequisites for the creation of the necessary and effective infrastructure of the land and agricultural products market; • institutional stimulation of the development of non-conventional (including organic) land use of peasant farms and individual farms.	• legal and bureaucratic traps in access to land resources, which will lead to the formation of protest sentiment among the population; • low incentives for active involvement of the population in the process of development of the civilized agricultural land market; • lack of social consensus on regulating the development of family farm land use and regulating the land use of agricultural holdings between entrepreneurs and the local community; • lack of necessary and efficient infrastructure of land and agricultural products market.

Source: developed by authors.

Table 7. Information on the sale of land plots by owners of land shares in the context of regions of Ukraine

No.	Administrative region	For the period of 07/01/2021 to 08/19/2021			Average price			Rating by price per 1 ha
		Quantity	Area, ha	Price, UAH	UAH/ha	USD/ha*	D_C**, %	
1	***Kyiv***	***1,009***	***1,174.3***	***173,640,462***	***147,865.2***	***5,497***	***350.6***	***1***
2	***Lviv***	***167***	***119.4***	***14,327,938***	***120,006.8***	***4,461***	***265.7***	***2***
3	***Odesa***	***100***	***235.4***	***20,992,405***	***89,160.2***	***3,315***	***171.7***	***3***
4	***Ivano-Frankivsk***	***157***	***56.1***	***3,791,615.2***	***67,560.2***	***2,512***	***105.9***	***4***
5	Rivne	125	164.3	6,367,346.3	38,756.7	1,441	18.1	5
6	Chernivtsi	102	67.5	2,342,309.6	34,724	1,291	5.8	6
7	Zhytomyr	261	379.7	12,885,548	33,938.1	1,262	3.4	7
8	Khmelnytsk	482	821.2	26,555,106	32,336.5	1,202	-1.5	8
9	Cherkasy	282	497.4	13,609,270	27,360	1,017	-16.6	9
10	Ternopil	130	156.2	4,142,368.4	26,515.7	986	-19.2	10
11	Donetsk	109	498.5	11,536,508	23,142.5	860	-29.5	11
12	Poltava	831	2,020.1	42,012,473	20,797.3	773	-36.6	12
13	Volyn	416	620.2	12,231,020	19,721.7	733	-39.9	13
14	Kharkiv	480	1,866.7	35,944,422	19,256	716	-41.3	14
15	Sumy	712	1,112.2	20,332,980	18,281.8	680	-44.3	15
16	Zakarpattia	118	110.7	1,994,528.6	18,019	670	-45.1	16
17	Zaporizhzhia	157	486.5	8,180,837.2	16,816.9	625	-48.7	17
18	Mykolaiv	146	521.9	8,549,960.1	16,383.8	609	-50.1	18
19	Kherson	284	1,253.5	17,990,745	14,351.9	534	-56.3	19
20	Chernihiv	409	922.7	12,271,099	13,299.7	494	-59.5	20
21	Kirovohrad	377	1,350.3	16,210,275	12,005.2	446	-63.4	21
22	Vinnytsia	516	795.2	9,516,286.1	11,967.8	445	-63.5	22
23	Dnipropetrovsk	410	1,364.6	14,505,957	10,630.3	395	-67.6	23
24	Luhansk	31	41.5	352,620.39	8,502.1	316	-74.1	24
	Ukraine	**7,901**	**16,641.5**	**546,058,607**	**32,813.1**	**1,219.8**		

Note: * at the dollar rate of 1 USD=26.9 UAH; ** deviation coefficient (D_C, %) is the ratio of indicators in a separate region and the average in Ukraine.
Source: compiled by the authors using the operational data of the State GeoCadastre of Ukraine [12].

An informative reflection for the study of the institutionalization of the land market is the SWOT analysis, which determines strengths and weaknesses, opportunities and threats (Table 6).

On July 1, 2021, the Law of Ukraine «On Amendments to Certain Legislative Acts of Ukraine on the Conditions of Circulation of Agricultural Land», which lifted the moratorium on the turnover of land plots of the owners of land shares (units) in agriculture. According to the operative data of the State GeoCadastre of Ukraine, Table 7 shows the first sales of land plots by the owners of land shares (units), which indicate the ambiguity of the institutional environment of market turnover of these land plots, namely as regards the institution of pricing, form developments planning and greening of agricultural land use, information support, etc.

The rating analysis of the average value of sold land plots of the owners of land shares (units) shows a very large regional difference in value. In particular, the deviation coefficient ranges from -74.1% to 350.6%. Thus, the sale price of land plots in the context of Ukraine ranged from 8,502.1 UAH/ha in Luhansk region. To 147,865.2 UAH/ha in Kyiv region, which is 17 times more (the difference is 139.4 thousand UAH/ha). This is despite the fact that at the same time the value of the normative monetary valuation of arable lands in Ukraine ranges from 21,411.0 UAH/ha in Zhytomyr region to 33,646.0 UAH/ha in Cherkasy region (see Table 1), which is only 1.6 times higher.

It should also be noted that the value of land plots of the owners of land shares (units) in Kyiv, Lviv, Odesa and Ivano-Frankivsk regions has already reached the level of European countries such as Romania, Estonia

and Bulgaria at the initial stage of turnover.

Figure 4 is a comparison of indicators for identifying the presence or absence of a certain mutual coordination of indicators of normative monetary valuation of arable lands and the average value price of sold land plots of the owners of land shares (units) after the lifting of the moratorium. In addition, the authors have used the study by V. V. Makarova [10] who conducted a study using the largest ad service by regions of Ukraine (OLX – https//www.olx.ua) were used for real private offers in public announcements on the sale of agricultural land for the period of 2020 and Landlord data «How much is a hectare? Regions of Ukraine for real sales of agricultural land» for the period 2019–2020. Wherein, the researcher, for each region (area) selected 15 to 25 private proposals in public announcements regarding the sale of agricultural lands and made the correlation of the average value. The analysis conducted by the researcher gives an understanding that even before the lifting of the moratorium on the turnover of land plots of the owners of land shares (units), the owners were little aware of the real price of their land plots. In addition, Figure 5 shows that twelve regions of Ukraine have a lower market value of land plots of the owners of land shares (units) compared to the lowest limit of the normative monetary valuation of arable lands, including the regions such as Vinnytsia, Poltava regions where highly fertile soils predominate.

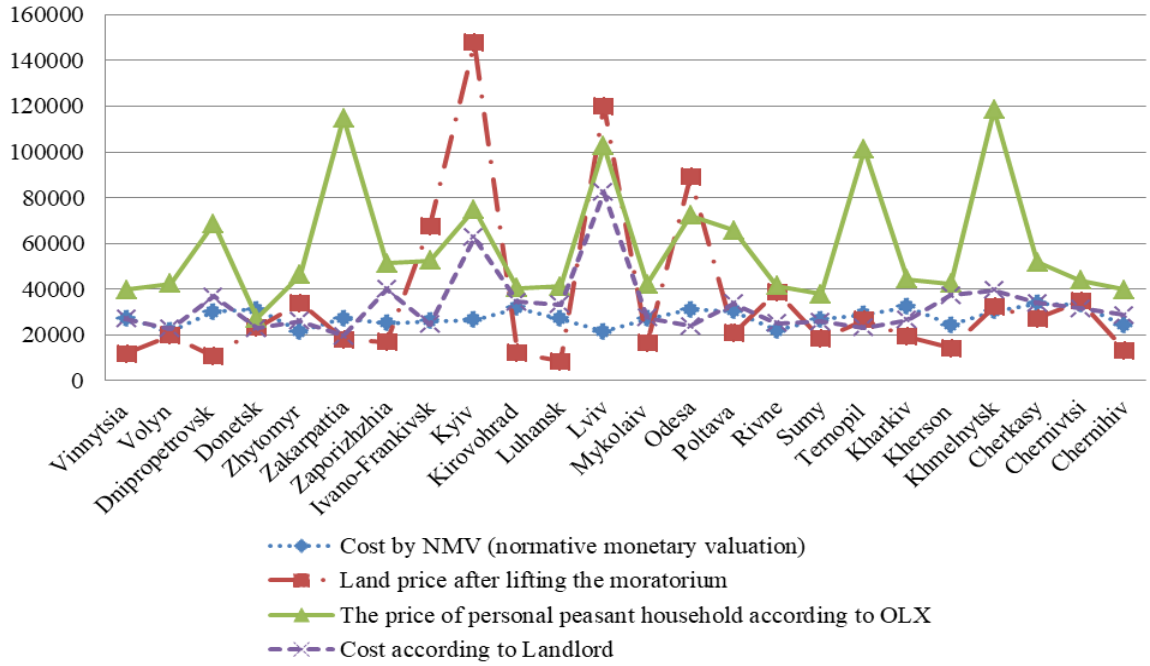

Fig. 4. Comparison of indicators of average value of agricultural lands by regions of Ukraine, UAH/ha
Source: compiled by authors using sources [0; 19; 21].

The data indicate the need for further research into the institutional pricing environment in the agricultural land market and a deeper analysis of this environment. In particular, in most regions of Ukraine (except Kyiv, Lviv, Odessa and Ivano-Frankivsk, where prices range from 2.5 to more than 5 thousand USD per 1 hectare, and this is already European indicators), the indicators of land sales prices in general correlate with the indicators of NMV based on understated indicators.

It should be noted that the estimated value of the normative monetary valuation is not currently dependent on the specific date of assessment, the existing market characteristics, the official exchange rate, the average monthly wage in the regions, etc. Consequently, the normative assessment does not determine neither the probable potential value nor the market value of farmland [10]. At the same time, the value of the normative monetary valuation of a land plot remains the basis for determining the rent for land, determining the amount of land tax, state

duty, etc., pursuant to the law [10], i.e., it is used in regulating land relations. Expert (market) monetary valuation of agricultural land plots or rights to them is carried out in order to determine the probable value of the object at the date of evaluation for the implementation of civil law agreements [4; 5].Therefore, the authors believe, based on this study, that when determining the market value of agricultural land plots in the Methodology of Expert Monetary Valuation of Land Plots, the following factors should be taken into account: the size of land use and land consumption. In addition, the study can serve as an informative basis for specific recommendations for improving the normative monetary valuation.

Therefore, it is necessary to state the need to improve the institutional environment. In particular, regarding pricing, environmental rationalization, capitalization (by reducing land intensity, expanding non-conventional land use, etc.) and socialization (family farming and intensification of the development of personal farms) agricultural land use, which will be the subject of our further research.

CONCLUSIONS

The work carried out in the article was aimed at studying the state and institutional problems of the market (turnover) of land plots of the owners of land shares (units) and identifying factors influencing the value of agricultural lands in Ukraine. In the course of this, the authors have drawn the following conclusion:

(1) in Europe, small and medium-sized land ownership and land uses predominate, and the number of farming households is many times higher than in Ukraine, and the demand for land is higher. The relation between the value of agricultural lands and the size of land uses is confirmed by the calculation of the correlation coefficient. In particular, this showed a close relationship between farming households ranging in size from 20 to 100 ha, which amounted to 0.748389. At the same time, the farming households with more than 100 ha received a negative correlation. For example, land in Italy, which focuses on small and medium land use of family farmers, costs in average 40,246 USD, which is 2.6 times more expensive than in Spain, where land costs 15,392 USD and which focuses on large farming households. Thus, in countries where in agriculture both small and medium land uses of family farms predominate, the value of land is higher than in the countries where agricultural enterprises predominate.

(2) in European countries, the land consumption is 8 times better than in Ukraine. It is noted that the land consumption indicator is inverse to the growth of the value of agricultural lands and the calculated correlation coefficient has a negative value that by its nature characterizes the close relation (-0.60883). The low land consumption is characterized by efficient use of agricultural lands. For example, by the higher share of labor-intensive crops, their yields and prices for agricultural products. In particular, fruit and berry crops, where small and medium-sized farming households in Greece are an undisputed leader of this example, which country, in comparison with our country, has much higher indicators than those of Ukraine in the crops traditional for us such as growing of apples – 2.7 times, plums – 1.4 times, strawberries – as much as 5 times.

(3) analysis of the average value of sold land plots of the owners of land shares (units) shows a very large regional difference in value. Thus, the sale price of land plots in the context of Ukraine ranged from 8,502.1 UAH/ha in Luhansk region to 147,865.2 UAH/ha in Kyiv region and the coefficient of deviation of regions to the average value throughout Ukraine is -74.1% to 350.6%. In addition, the study demonstrated that twelve regions of Ukraine had a lower market value of land plots compared to the lowest limit of the normative monetary valuation of arable lands, which amounts to 21,411.0 UAH/ha (Zhytomyr region).

REFERENCES

[1]Akpoti, K., Kabo-Bah, A., Zwart, S., 2019, Agricultural land suitability analysis: State-of-the-art and outlooks for integration of climate change analysis.

Agricultural systems, Vol. 173, 172-208.
[2]Bondarevska, K., 2014, The leading tendencies of the development of agrarian sector of Ukraine. Ekonomika APK, Vol. 11, 36–42.
[3]Borodina, O., Krupin, V., 2018, Is it Possible to Utilise the Agricultural Potential of Ukraine under the Current Agrarian System? EuroChoices, Vol. 17(1), 46–51.
[4]Cabinet of Ministers of Ukraine, 1995, Resolution of the Cabinet of Ministers of Ukraine «On the methodology of monetary evaluation of agricultural lands and settlements», http://zakon2.rada.gov.ua/laws/show/213-95-%D0%BF/ed20111031, Accessed on 30 October, 2021.
[5]Cabinet of Ministers of Ukraine, 2002, Resolution of the Cabinet of Ministers of Ukraine «About expert monetary valuation of land plots», https://zakon.rada.gov.ua/laws/show/1531-2002-%D0%BF#Text, Accessed on 31 January, 2021.
[6]Cabinet of Ministers of Ukraine, 2016, Resolution of the Cabinet of Ministers of Ukraine «On approval of the Methodology of normative monetary evaluation of agricultural lands», http://zakon2.rada.gov.ua/laws/show/831-2016-%D0%BF/paran11#n11. Accessed on 31 January, 2021.
[7]Cabinet of Ministers of Ukraine, 2018, Resolution of the Cabinet of Ministers of Ukraine «On conducting a nationwide (all-Ukrainian) normative monetary valuation of agricultural land and amending some resolutions of the Cabinet of Ministers of Ukraine», https://zakon.rada.gov.ua/laws/show/105-2018-%D0%BF#Text. Accessed on 31 January, 2021.
[8]Dankevych, Y., Dankevych, V., Chaikin, O., 2017, Ukraine agricultural land market formation preconditions. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, Vol. 65(1), 259–271.
[9]Kovalova, O., Yarova, I., Mishenina, H., Pizniak, T., Dutchenko, O., 2021, Evolution Of Improving the Normative Monetary Evaluation of Agricultural Lands. Agricultural and Resource Economics: International Scientific E-Journal, Vol. 7(1), 137–163.
[10]Makarova, V., 2021, Ecological and Economic Organization of the System of Sustainable Agricultural Land Use. Sumy, Ukraine.
[11]Markitanenko, S., 2018, Efficient Farmers or Inefficient Agricultural Holdings? Latifundist Media, https://latifundist.com/193-efektivn-fermeri-chi-neefektivn-agroholdingi. Accessed on 30 October, 2021.
[12]Official site of the State Service of Ukraine for Geodezy, Cartohraphy and Cadastre, 2021, https://land.gov.ua/category/napriamy-diialnosti/rynok-ta-otsinka-zemel/. Accessed on 31 January, 2021.
[13]Onegina, V., Vitkovskyi, Y., 2020, Investments and land reform in agriculture of Ukraine. Agricultural and Resource Economics: International Scientific E-Journal, Vol. 6(4), 187–210.
[14]Satyr, L., 2013, Organizational and Economic Aspects of the Logistics of Agricultural Enterprises. Agrosvit, Vol. 3, pp. 6–9.
[15]State Statistics Service of Ukraine, 2020, Statistical Yearbook Agriculture of Ukraine for 2019. Kyiv, http://www.ukrstat.gov.ua/druk/publicat/kat_u/2020/zb/09/zb_sg_Ukr_2019.pdf. Accessed on 30 October, 2021.
[16]Stupen R., Ryzhok Z., 2018, Methodological Approaches on the Effective Land Resources Use in the Regions of Ukraine. Scientific Papers Series Management, Economic Engineering in Agriculture and rural development, Vol. 18(4), 353–358.
[17]Stupen, R., Stupen, M., Dudych, H., 2019, The Features of the Formation and Development of Agricultural Land Market in Ukraine. Scientific Papers Series Management, Economic Engineering in Agriculture and rural development, vol. 19(3), 543–548.
[18]The Verkhovna Rada of Ukraine, 1996, The Law of Ukraine «The Constitution of Ukraine», http://zakon2.rada.gov.ua/laws/show/254к/96-вр/print1476586411943513. Accessed on 26 January, 2021.
[19]The Verkhovna Rada of Ukraine, 2003, The Law of Ukraine «About land valuation», https://zakon.rada.gov.ua/laws/show/1378-15#Text. Accessed on 26 January, 2021.
[20]The Verkhovna Rada of Ukraine, 2017, Resolution of the Cabinet of Ministers of Ukraine «Strategy for improving the management mechanism in the field of use and protection of state-owned agricultural lands and their disposal»,https://zakon.rada.gov.ua/laws/show/413-2017-%D0%BF#Text. Accessed on 26 January, 2021.
[21]The Verkhovna Rada of Ukraine, 2020, The Law of Ukraine «About modification of some legislative acts of Ukraine concerning conditions of circulation of the lands of agricultural purpose», https://zakon.rada.gov.ua/laws/show/552-20#Text. Accessed on 31 January, 2021.
[22]Tomchuk, O., Kozhukhar, V., 2019, Analysis of Efficiency of Land Resources, Agrosvit, Vol. 19, pp. 38–46.
[23]Tretiak, A., Tretiak, V., Panchuk, O., 2017, A New Model of Land System in Ukraine With Regard to the Local Government Reform. Land management, cadastre and land monitoring, no. 2, pp. 3–12.
[24]Zrybnieva, I., Zavolichna, T., 2017, Perspectives to the Liberalization of the Agricultural Land Market in Ukraine. Baltic Journal of Economic Studies, Vol. 3(2), 43–50.