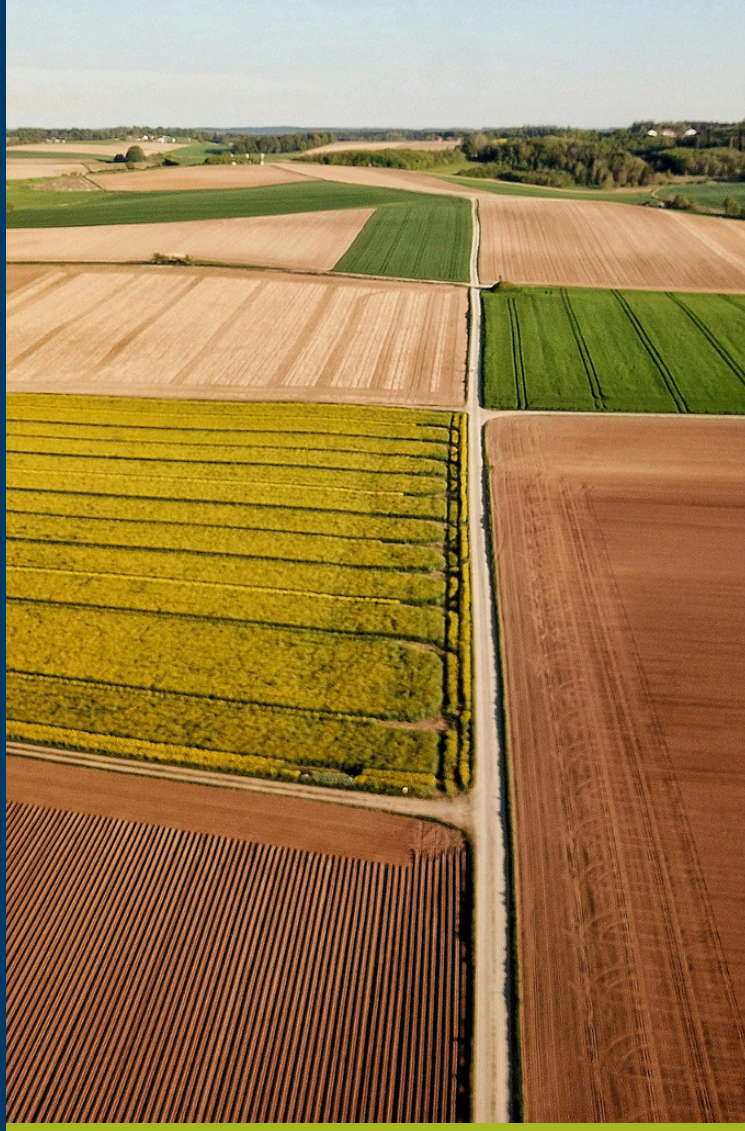
The Invincible LAND



Land Market Review Ukraine

FINAL ANALYTICAL REVIEW

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KEY INDICATORS OF THE AGRICULTURAL LAND MARKET IN UKRAINE

Total land registered in the state land cadastre	44.9 mln. ha (74.4%)
Total agricultural land registered in the state land cadastre	33.0 mln. ha (77.2%)
Average regulatory monetary valuation of arable land	32,395 UAH/ha
Average weighted rent for agricultural land plots owned by municipalities (at land auctions)*	9,306 UAH/ha
Average weighted purchase and sale price of agricultural land**	53,396 UAH/ha
Loan secured by agricultural land with an area of ***	15,460 ha
Average number of purchase and sale transactions per day in 2025.****	397
Average size of land plot in purchase and sale agreement	2.24 ha
Number of concluded purchase and sale agreements, total	371,281
Total area of registered purchase and sale agreements, total	832,402 ha

* according to “Prozorro.Sales”, from 01.01.2024 to 01.01.2025, larger plots are given greater weight when calculating the average price per hectare.
** weighted average price for the period from 01.01.2025 to 01.06.2025, with larger plots receiving greater weight in the calculation of the average price per hectare, 1% most expensive and 1% cheapest plots are not included in the calculation.
***From 01.01.2022 to 31.12.2023
**** from 21.01.2025 to 01.06.2025

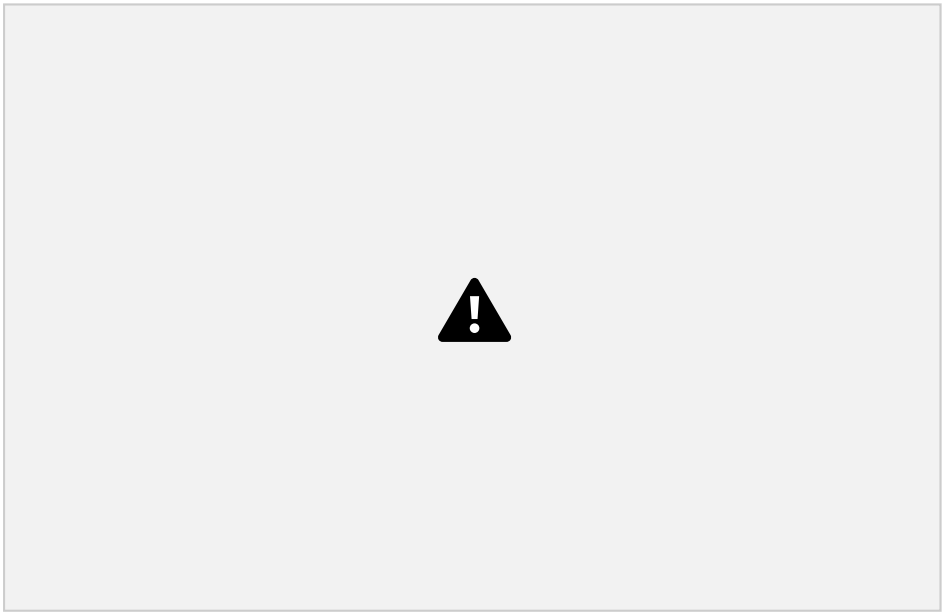
Note from the authors of the report
This report is the final report on the “Land of Resilience” project, which has been supported by the USAID AGRO project for the past two years. We are grateful to our partners and readers for their long-standing support and attention.

THE STATE OF THE AGRICULTURAL LAND MARKET IN 2025 AND PROSPECTS FOR DEVELOPMENT

The volume of the agricultural land market in Ukraine in 2025 (from January to May inclusive) corresponds to the volumes observed at the end of 2024, which were record highs since the start of russia's full-scale aggression against our country. The exception to this is January, when only 10,300 ha of agricultural land were in circulation, but this is most likely due to the consequences of russia's attack on Ukrainian registries. As a result of this attack, no real estate transactions were concluded between December 18, 2024, and January 20, 2025. Transactions resumed on January 21, which explains the rather low market volume in the first month of this year. However, if we take into account the average monthly area of land in circulation during February-May 2025, it amounts to 25,900 ha, which significantly exceeds the same indicator in 2024 (21,100 ha) and corresponds to the record levels of October and November last year, when 25,700 ha and 25,000 ha were in circulation, respectively. It should be noted that throughout 2025, the market

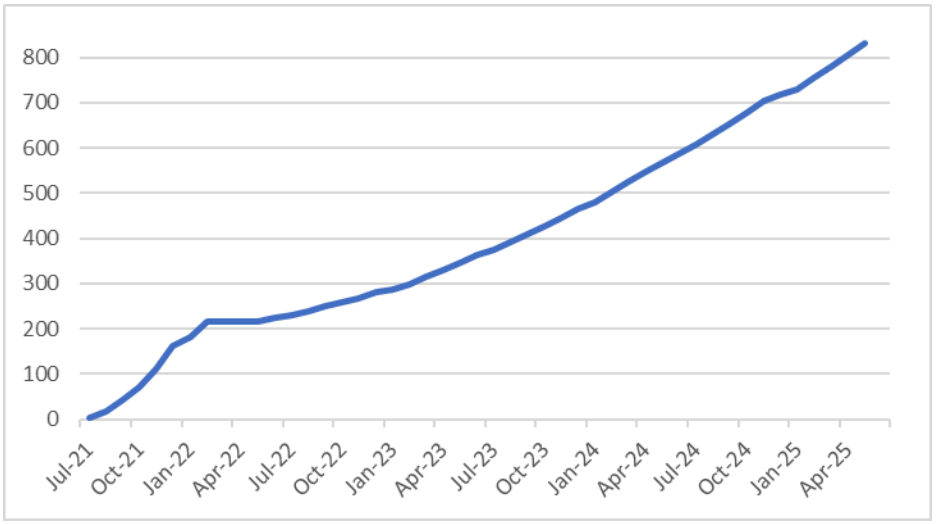
volume remained stable and did not show significant growth dynamics. This may indicate that the agricultural land market is gradually reaching a plateau, and we can assume that no significant further growth in market volume is likely in the near future.

Fig. 1. Dynamics of the volume of purchase and sale agreements (monthly), thousand hectares



** According to the State Land Cadastre for the period from 01.07.2021 to 31.05.2025*

Fig. 2. Dynamics of the volume of purchase and sale agreements (cumulative), thousand hectares



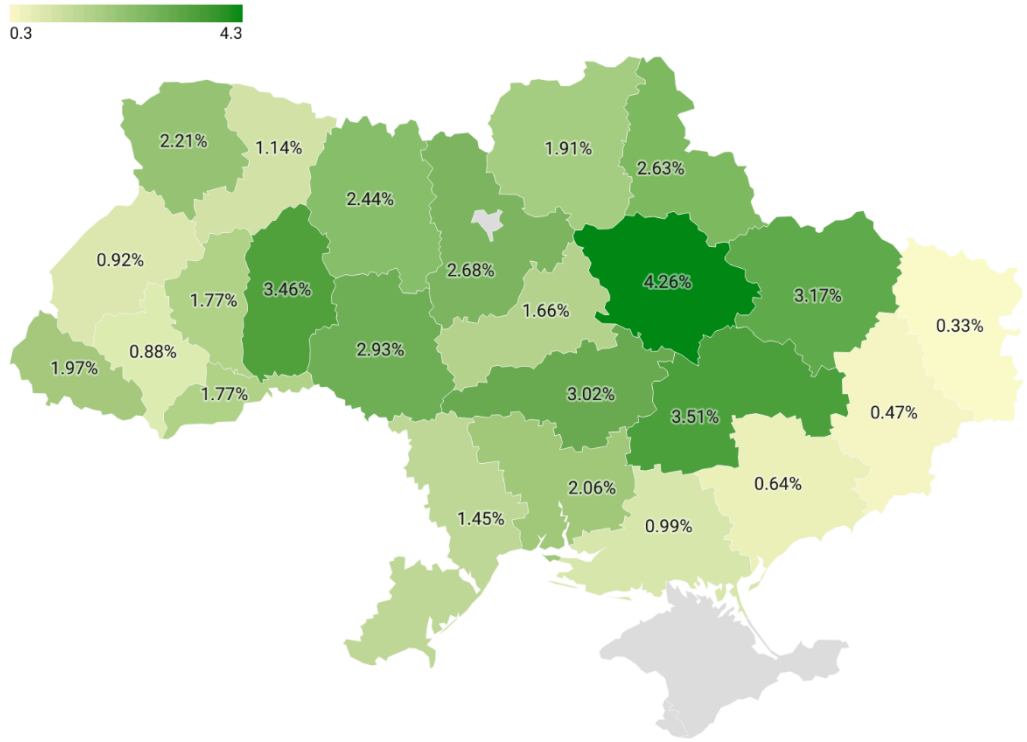
** According to the State Land Cadastre for the period from 01.07.2021 to 31.05.2025*

As noted in previous analytical reviews, throughout 2024, the growth rate of the agricultural land market slowed down, reaching about 3.5% quarter-on-quarter. This may indicate that we are reaching a stable market volume in Ukraine. Historically, if we analyze the initial period of the land market in Ukraine (before the start of the full-scale invasion), the average monthly volume of transactions was 33,000 ha in September 2021 and February 2022. Assuming that this is the "natural" market volume in Ukraine, we can assess the extent to which the current figures reflect the new market reality shaped by the full-scale aggression and occupation. Currently, about 20% of the land is temporarily occupied by the russian federation, which limits the potential market volume to 26,400 ha per month. To this should be added the fact that transactions in a significant part of the territories adjacent to the combat zone are, in fact, not concluded. Thus, during the first five months of 2025, purchase and sale transactions were concluded for about 300 ha in the entire Kherson region, which indicates extremely low market activity due to the proximity to the fighting and the temporary occupation of part of the region by russia. Therefore, assuming that the average market volume prior to the full-scale invasion is representative, we have already reached the pre-invasion levels, taking into account market losses in areas where the land market is hampered by occupation or hostilities.

However, this analysis does not take into account two key factors. The first is that the land market had been growing steadily prior to the full-scale invasion (which would have led to an increase in the amount of land in circulation in the future, had it not been for the full-scale aggression), and the second is that some of the land for which agreements were concluded in 2021 was sold during the moratorium, and the purchase and sale agreements reflect the legalization of agreements rather than new sales, which had a negative impact on the real volume of the land market in Ukraine. These two factors complicate the determination of the potential volume of the land market.

As noted in the previous report, there is another approach that helps to determine the potential size of the land market in Ukraine—examples from other countries. In countries with developed agricultural land markets, the average amount of land in circulation is about 1% of the total agricultural land area. Since the establishment of the agricultural land market in Ukraine (July 01, 2021), 832,400 ha of agricultural land, or 2.0% of the total agricultural land area in the country, have been in circulation. However, this figure should be interpreted with caution, as most of the time the land market has been hampered by full-scale aggression from the russian federation. If we calculate the percentage of land in circulation without taking into account the regions affected by active hostilities, the figure rises to 2.5% of the total agricultural land area in Ukraine.

Fig. 3. Share of land in circulation out of the total agricultural land area in the region for the entire period of the agricultural land market's existence

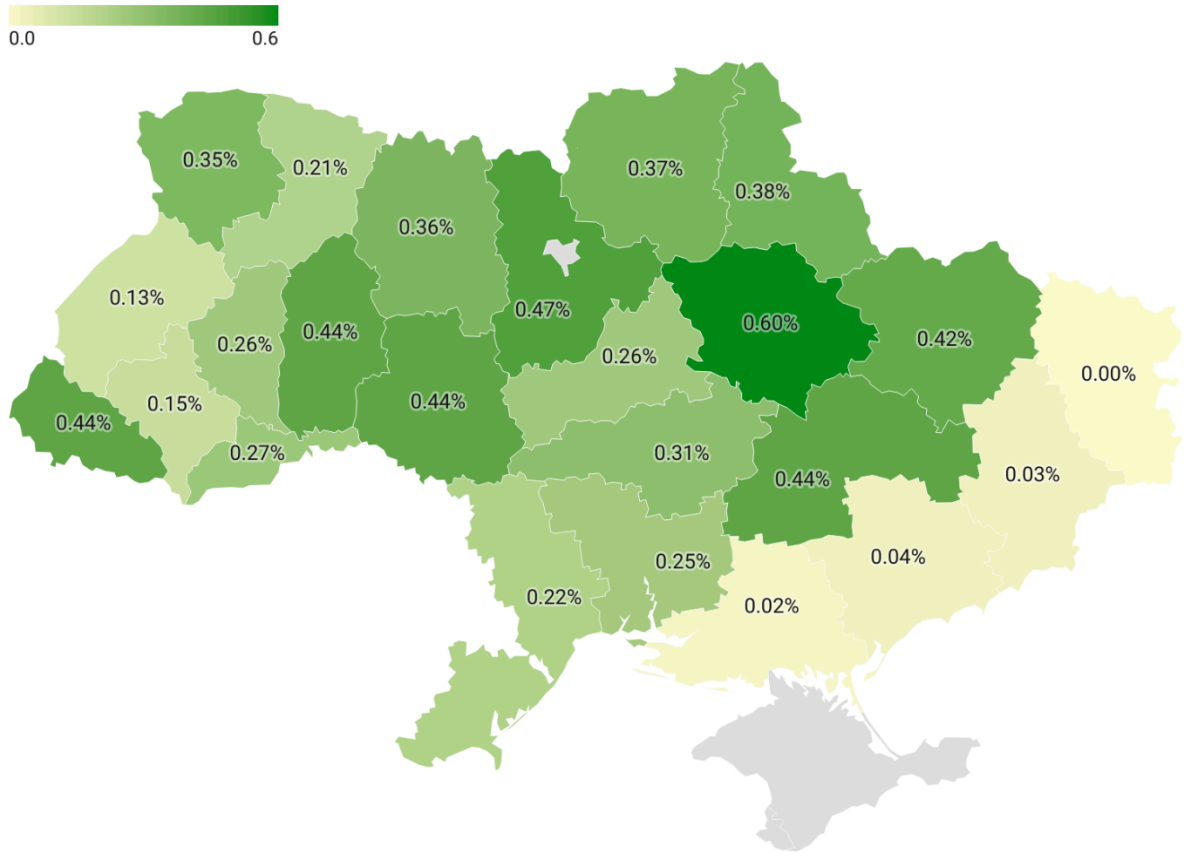


** According to the State Land Cadastre for the period from 01.07.2021 to 31.05.2025*

At the same time, even despite full-scale aggression, the area of land in circulation in some regions corresponds to the indicators of developed markets. Thus, in Khmelnytskyi and Dnipropetrovsk regions, 3.5% of land has been put into circulation since the opening of the land market, and in Poltava region, almost 4.3%.

If we analyze the figures for 2025, then in total, during the first five months of 2025, 114,000 ha of land were in circulation, or 0.28% of the total agricultural land in Ukraine. If we exclude the regions where the land market is still hampered by hostilities and occupation, the share of land in circulation at the end of May 2025 was 0.36%. If we extrapolate the results of the first five months to the whole year, we can see that if these volumes are maintained in 2025, 0.86% of the total agricultural land in the country will be in circulation. This figure is fully in line with the figures for developed markets. Moreover, we can expect moderate market growth in the second half of the year, since, firstly, the land market was not functioning for most of January, and secondly, in all previous years, the second half of the year was marked by greater activity in the land market. This may be due to the fact that after the harvest, farmers have higher liquidity to purchase additional assets. Overall, all available data indicate that there will be no significant growth in the land market without additional policy changes.

Fig. 4. Share of land in circulation out of the total agricultural land area in the region in 2025



** According to the State Land Cadastre for the period from 01.01.2025 to 31.05.2025*

At the same time, as we can see, since the beginning of this year, in some regions, the volume of agricultural land on the market has significantly exceeded 1% of the annual turnover. For example, in Poltava region, 0.6% of land was in circulation in the first five months of 2025. At the same time, in some regions in the west of the country, the land market is not growing rapidly. This may be due to significant transaction costs for registering land plots and the small average size of land plots. For example, if the size of a land plot is 0.5 ha and the average price per hectare is 53,400 UAH, the transaction costs average about 12,000-15,000 UAH per plot, which is about half the cost of the plot itself, reducing the attractiveness of the legal deed. Under such conditions, smaller plots are not sold, which reduces the share of land in circulation in regions with a low average plot size (primarily Lviv and Ivano-Frankivsk regions). To revitalize the land market in such regions, it is necessary to reduce the cost of concluding purchase and sale agreements. Based on in-depth interviews with representatives of the notary profession, the high cost of concluding an agreement is due to the large number of checks that a notary must perform when concluding an agreement. Under such conditions,

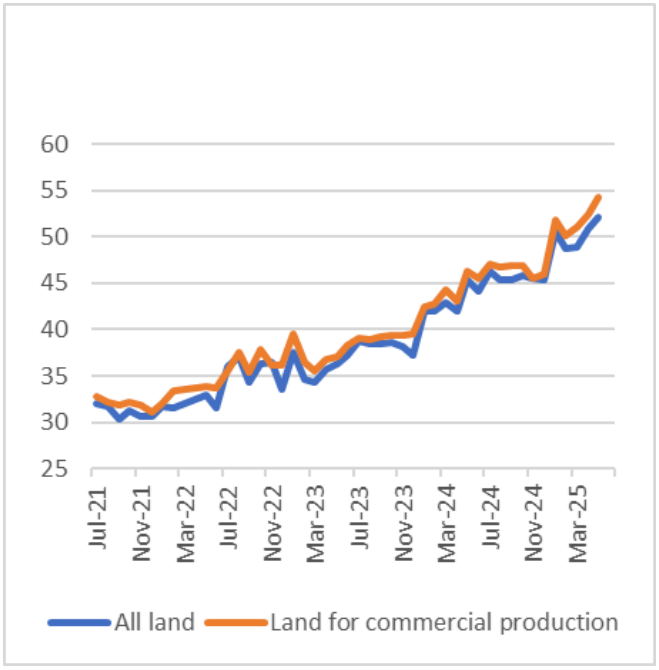
deregulation of the land market could reduce transaction costs and lead to a revitalization of the land market.

THE VALUE OF AGRICULTURAL LAND CONTINUES TO GROW

Last year was remarkable due to the opening of the land market for legal entities, which led to a significant increase in the value of land as an asset. Thus, while the average monthly price per hectare in 2023 was UAH 37,100, in 2024 this figure rose by 19.4% to UAH 44,300 per hectare. The upward trend continued in 2025, with the average monthly price per hectare of land reaching UAH 50,200, which is 13.3% higher than the same indicator last year[1]. The weighted average price per hectare rose to UAH 52,100 in May, which is a record high for the entire history of the agricultural land market. It is noteworthy that this figure is a record not only in national currency but also in US dollars. The average price of all land in the first five months of 2025 was USD 1,255 per hectare, and for so-called “commodity land” it reached USD 1,305 per hectare, which exceeds the value of agricultural land even at the time of the market's opening, despite the depreciation of the national currency.

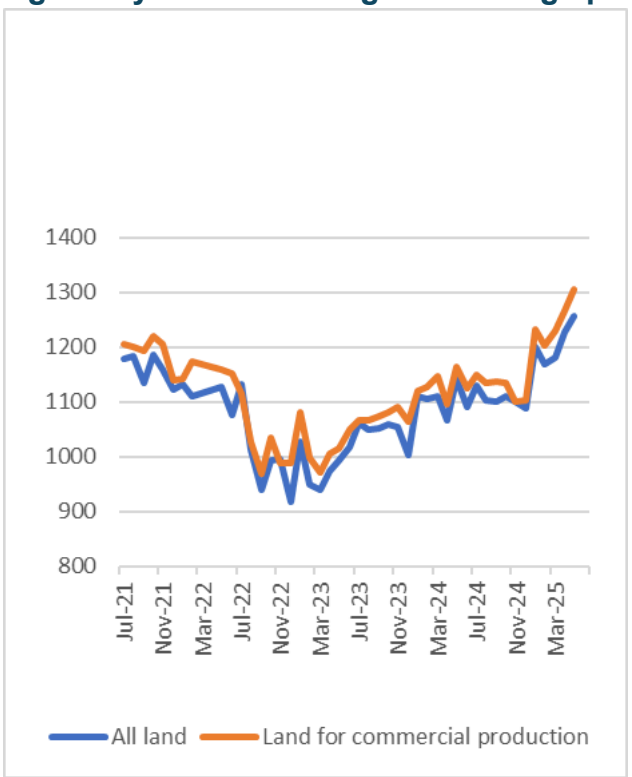
[1] The prices in this section differ from those in Table 1 due to differences in the data cleaning process. While the 1% cheapest and most expensive plots were excluded to obtain the weighted average price per hectare in Table 1, the 5% cheapest and most expensive plots were excluded for the calculations in this section (converted to hectares).

Fig. 5. Dynamics of weighted average prices, thousand UAH/ha



** According to the State Land Cadastre for the period from 01.07.2021 to 31.05.2025*

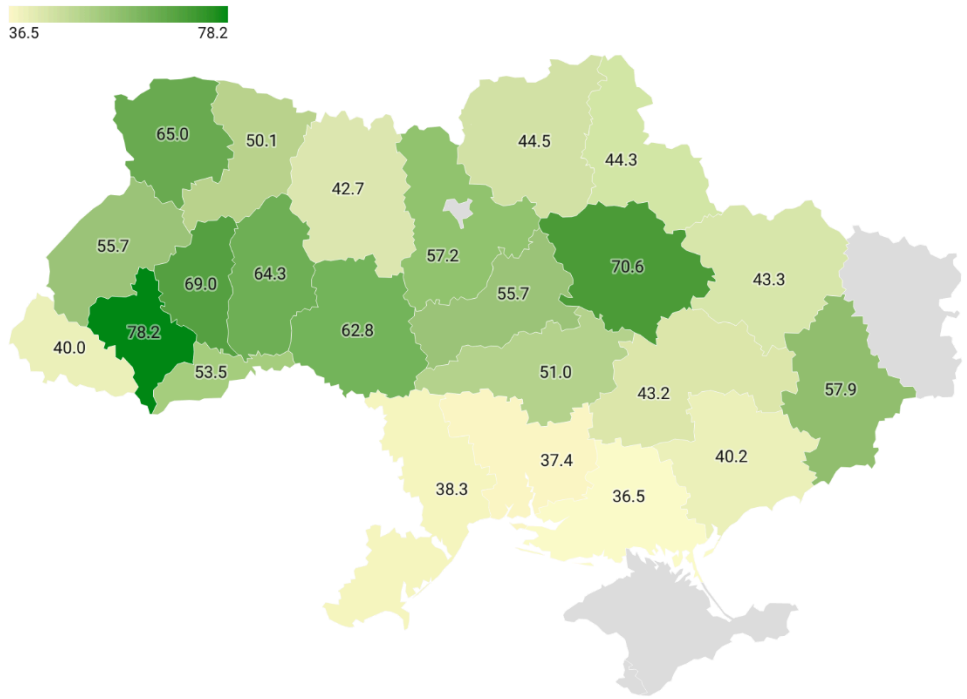
Fig. 6. Dynamics of weighted average prices, USD/ha



** According to the State Land Cadastre for the period from 01.07.2021 to 31.05.2025*

Thanks to the increase in the value of agricultural land, market capitalization has also grown significantly. Thus, between December 2024 and May 2025, the capitalization of the agricultural land market grew by UAH 277,6 bln., which increased the value of assets for landowners, as well as the potential amount of credit funds that farmers could attract as collateral for agricultural land plots. As of the end of May 2025, the total capitalization of the agricultural land market in Ukraine reached UAH 2,154 bln., or USD 51,9 bln. Naturally, prices in Ukraine vary significantly from region to region.

Fig. 7. Weighted average prices per regions in 2025, thousand UAH/ha



** According to the State Land Cadastre for the period from 01.01.2025 to 31.05.2025 - for lands with the purpose "for commercial agricultural production"*

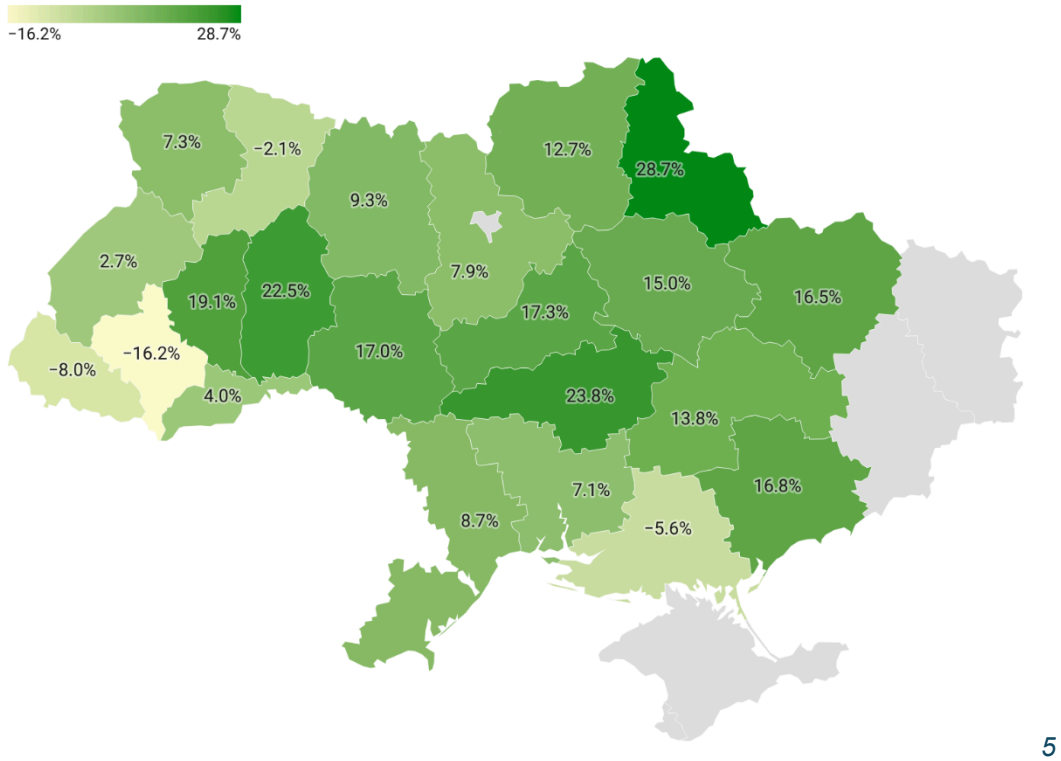
Thus, prices in southern Ukraine are the lowest, ranging up to UAH 40,000 per hectare. In the most attractive regions for agriculture, prices range from UAH 60,000 to UAH 70,000 per hectare. The region with the most expensive land is Ivano-Frankivsk, where the average price per hectare reaches UAH 78,000 per hectare, which is probably due to the fact that only the most expensive plots are sold in this region (as mentioned earlier). This is due to the small average size of plots (which leads to a high price per hectare), as well as the fact that some transactions are concluded for plots that can be used for recreational purposes in the future, which leads to a significant increase in the average price per hectare.

We can also observe that the average price per hectare is lower in regions close to the border with the aggressor country, which is likely due to security risks. At the same time, the relatively high price of land in Donetsk region is not representative due to the low

number of plots available for sale in this region, which means that the small number of plots sold at high prices had a significant impact on the average price.

Despite the fact that the weighted average price per hectare of agricultural land in Ukraine increased, the growth in prices was uneven across regions. Thus, the highest growth was observed in the central part of Ukraine, while in the western regions, growth was either negative or minimal due to the base for comparison. The region that showed the highest growth was Sumy, where land prices rose by almost 29%. This increase in land prices was due to the low base for comparison, as the weighted average price of land in this region in 2024 was only UAH 33,500 per hectare.

Fig. 8. Change in the weighted average price by region in 2025 compared to 2024



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** According to the State Land Cadastre*

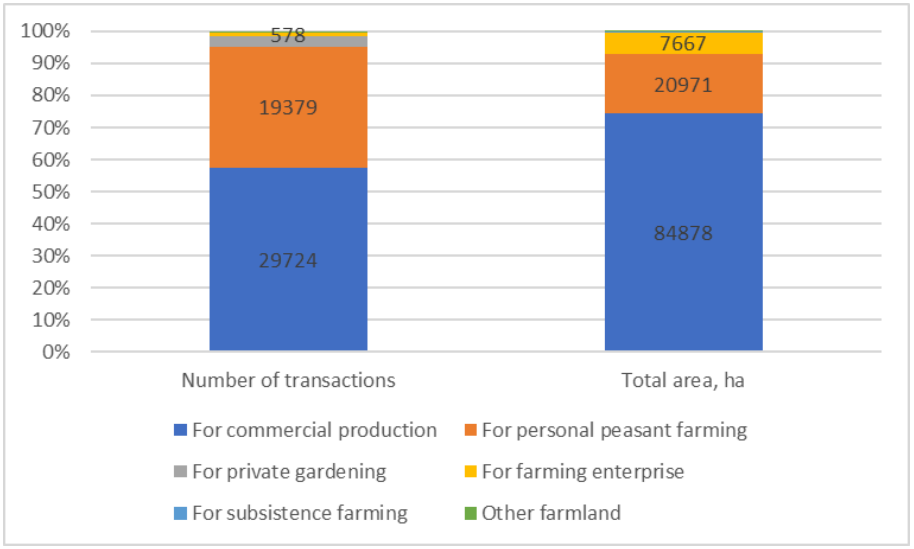
As repeatedly noted in previous analytical reviews, a large share of transactions are consistently concluded at a price close to the RMV (regulatory monetary valuation of land, minimum sale price for former moratorium lands). Thus, in 2023, almost 54% were concluded at a price not exceeding the RMV by more than 2%. This indicator is gradually decreasing. Thus, in 2024, the share of such transactions was already 47%, and in 2025 – 44%. The reduction in the share of transactions concluded at a price close to the RMV may be due to increased activity in the market by legal entities, which on average pay higher prices for agricultural land than

individuals purchasing agricultural land. Therefore, actual market prices for land may be higher than those indicated in the report.

FORMER MORATORIUM LAND PREDOMINATES IN CIRCULATION

In January-May 2025, as before, former "moratorium" lands dominated the market. These are so-called commercial lands and lands for personal farming (LPF). In January-May this year, 58% of all legal deeds with agricultural land plots were concluded for commercial land, which, due to the larger average size of the plots, accounted for 75% of the total area of all land sold. Purchase and sale agreements for LPF accounted for 38% in terms of number and 18% in terms of area in the transaction structure. Another category of land that had a small volume in terms of the number of transactions (1%) but a significant share in terms of area (7%) was land for farming, due to the large average size of the land plots.

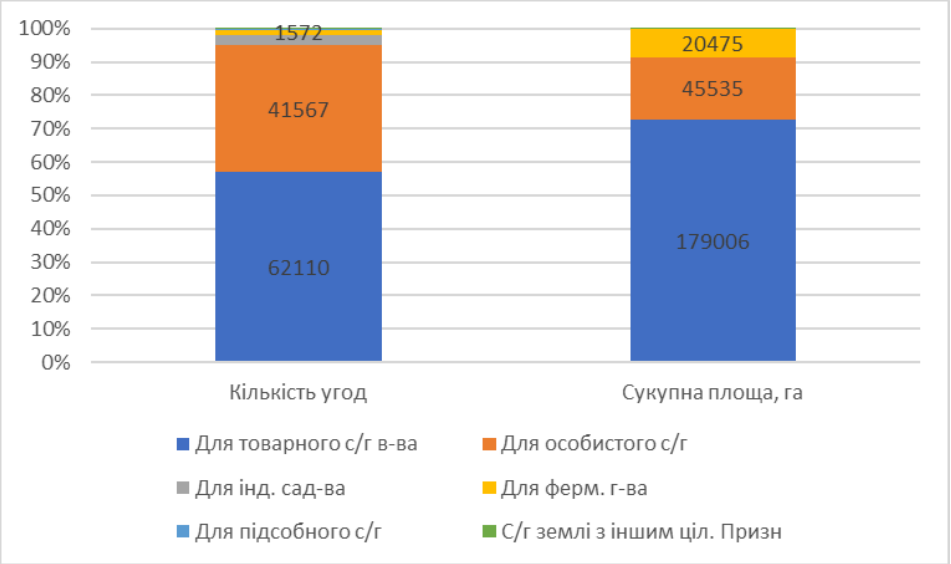
Fig. 9. Distribution of purchase and sale agreements by intended use of land plots in January-May 2025



** According to the State Land Cadastre for the period from 01.01.2025 to 31.05.2025*

The structure of the land market in terms of the intended use of lands subject to purchase and sale is stable over time. Data for the first five months of 2025 de facto correspond to the structure of the land market for the whole of 2024, which in turn corresponds to data for previous periods. Thus, in 2024, legal deeds were mainly concluded with former "moratorium lands": 57% of legal deeds were concluded for "commercial" lands, which total area accounted for 73%. LPF were present in 38% of legal deeds with a total area of 19% of the total area of all sold plots. Lands for farming accounted for only 1% of the legal deeds, but thanks to its large average size, its total area accounted for 8% of the lands in circulation, which is almost identical to the figures for the first five months of 2025.

Fig. 9. Distribution of purchase and sale agreements by intended use of land plots in 2024



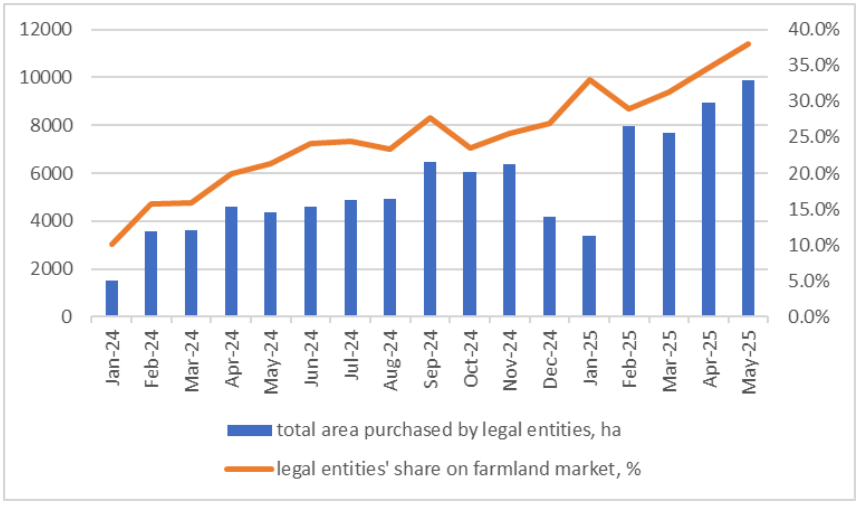
** According to the State Land Cadastre for the period from 01.01.2024 to 31.12.2024*

PARTICIPATION OF LEGAL ENTITIES IN LAND MARKET

From January 01, 2024, legal entities were granted the right to purchase agricultural land. At the same time, the limit on the purchase of land by a single entity was increased from 100 to 10,000 hectares. This raised concerns among some market participants that certain large players would accumulate significant areas of agricultural land. Based on the results of the first year and a half (up to and including May 2025) of the agricultural land market's operation with the participation of legal entities, these fears have not been justified. In total, during the first nine months after the opening of the land market for legal entities, 2,142 legal entities exercised their right to purchase agricultural land. During this time, they concluded 32,600 agreements with a total area of 93,000 ha. The share of legal entities for the entire period of the land market's existence for legal entities was 25.3%.

At the same time, we see that in 2025, legal entities became significantly more active in the market. During 2025, 1,316 legal entities exercised their right to purchase agricultural land. Legal entities accounted for 38,000 ha of agricultural land of the 114,000 ha that were in circulation in 2025, so their share in the market at the end of the first 5 months of 2025 was 33.2%. At the same time, the share of legal entities in the market in May 2025 was the highest for the entire period since the market was opened to legal entities, namely 38.0%.

Fig. 10. Share of legal entities in the agricultural land market



** According to the State Land Cadastre for the period from 01.01.2024 to 31.05.2025*

An analysis of the dynamics of land acquisition by legal entities shows that both the area of land acquired by legal entities and their share in the market are growing over time. May was a record month not only in terms of the share of agricultural land agreements involving legal entities, but also in terms of the area of land covered by these agreements - almost 9,900 ha.

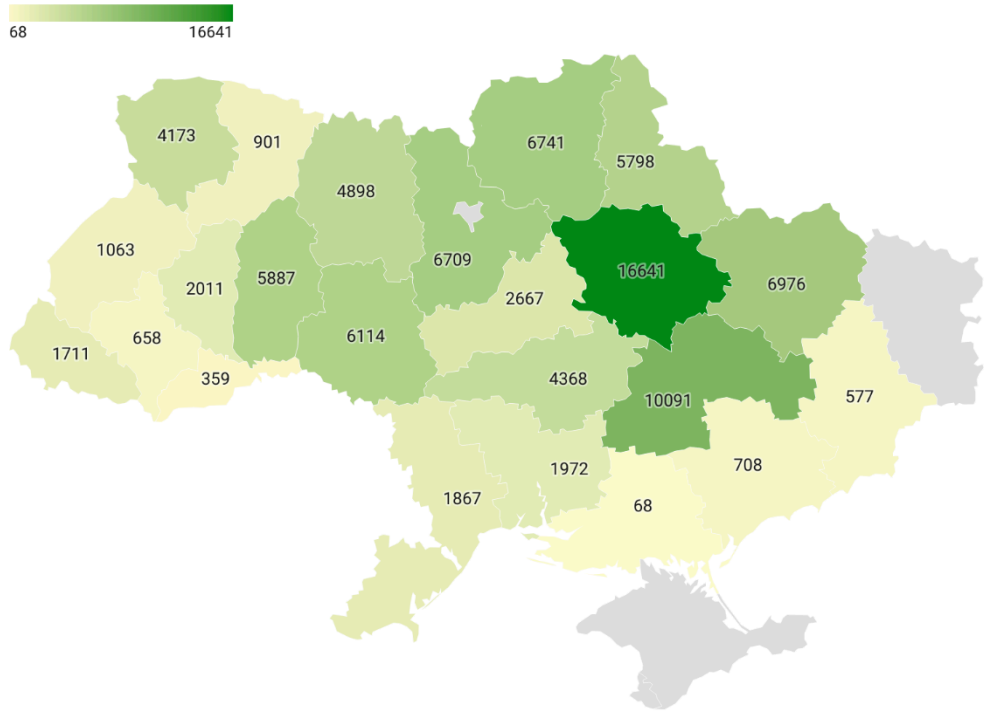
Despite this obvious increase in the role of legal entities in the land market, it would be inappropriate to talk about excessive concentration of land by legal entities on a national scale. Firstly, since gaining access to the market, legal entities have purchased only 93,900 ha, or 0.22% of the total agricultural land area in the country, or 0.30% of the agricultural land area in regions where the land market is not complicated by hostilities and occupation. Second, we do not see a trend of a large number of farmers approaching even the limits set by law at 10,000 hectares per owner. Currently, only 11 legal entities have purchased more than 1,000 hectares. Only two companies of these, which are likely to be related, have acquired 2,800 and 4,300 ha, respectively.

The vast majority of land plots purchased by legal entities are former moratorium lands. Among the plots purchased by legal entities, 75.5% are commercial lands, and another 23.2% are LPF (which were also partially under moratorium until July 2021). Due to the fact that commercial lands have a larger average size, their total area among the lands purchased by legal entities is 79.3%, while the area of LPF is 15.4%. Other lands account for only 1.3% of the total number of plots purchased by legal entities and 5.3% of their total area.

The area of plots acquired by legal entities since the market opened in 2024 is unevenly distributed across regions, with 17.9% located in Poltava region. The top three regions also include Dnipropetrovsk (10.9% of the area of plots purchased by legal entities) and Kharkiv (7.5%) regions. Legal entities did not acquire any plots in only two regions of Ukraine, a significant part of territory of which is

under occupation – in Luhansk region and in the Autonomous Republic of Crimea.

Fig. 11. Area of agricultural lands acquired by the legal entities, ha

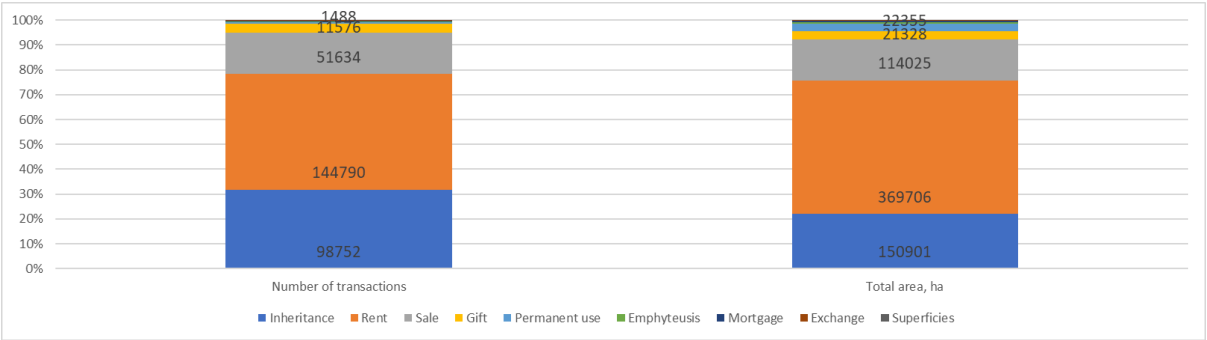


** According to the State Land Cadastre for the period from 01.01.2024 to 31.05.2025*

LAND AGREEMENTS BY TYPES OF LEGAL DEEDS

During the first 5 months of 2025, the agricultural land market was dominated by lease agreements (144,800 agreements), inheritance (98,700), and purchase and sale agreements (51,600). Thus, the volume of agricultural land leases exceeds the volume of purchases and sales by approximately three times.

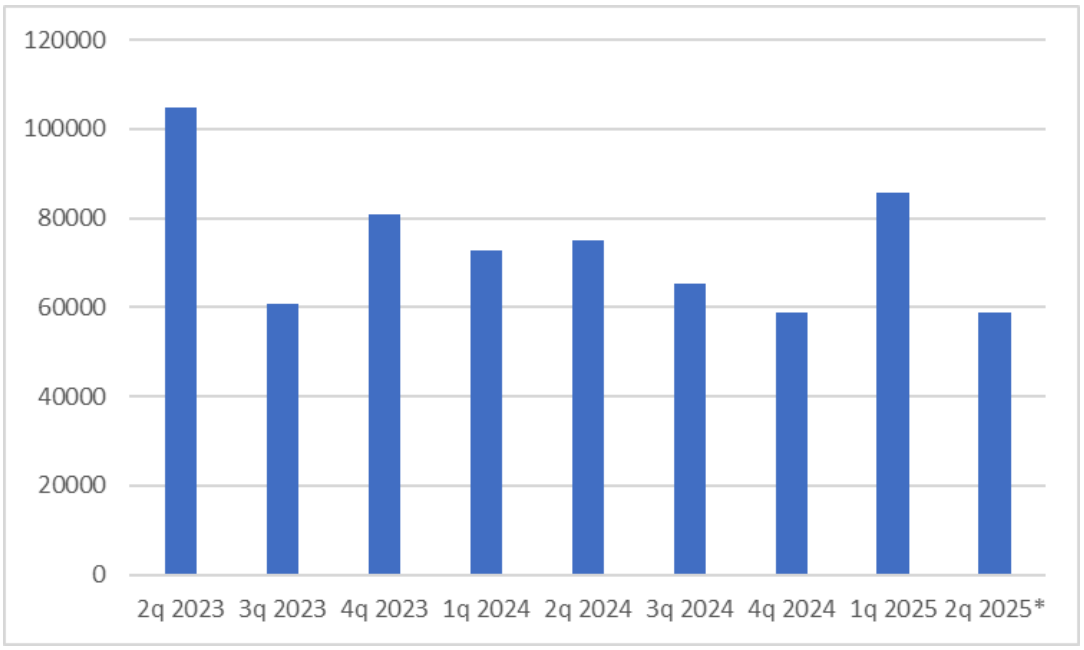
Fig. 12. Land agreements by types of legal deeds in January-May 2025



** According to the State Land Cadastre for the period from 01.01.2025 to 31.05.2025*

In the previous issue of the Review, we noted that although the rental market dominated all other types of legal deeds with land, there was a downward trend. However, after a steady decline in the volume of lease agreements concluded since the fourth quarter of 2023, the number of lease agreements concluded began to grow in 2025. The volume of the rental market in the first quarter exceeded the figure for the entire period since the third quarter of 2023. The second quarter of 2025 also promises to be a record-breaking one. Therefore, we can note that the rental market in Ukraine is recovering, and the average monthly volume of lease agreements concluded in 2025 is 27% higher than the same indicator in 2024.

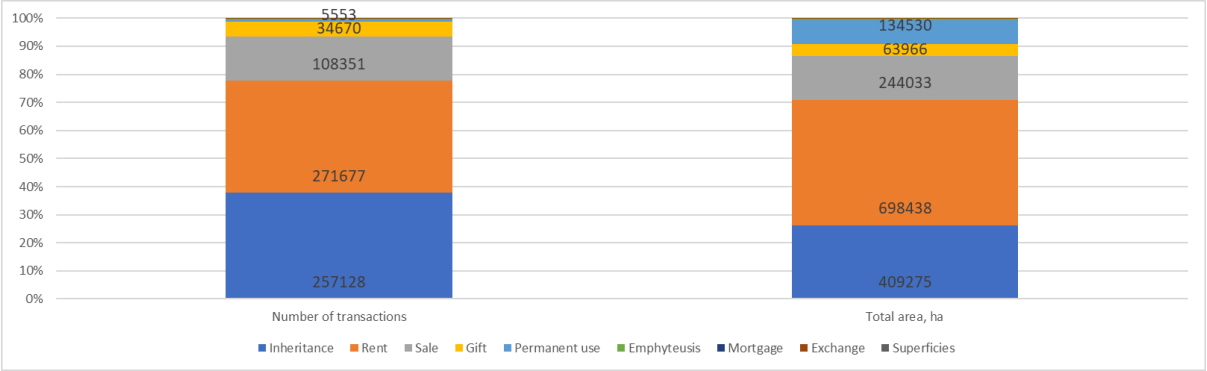
Fig. 13. Number of lease agreements concluded



** According to the State Land Cadastre. 2 quarter of 2025 includes only April and May of 2025*

It is also worth noting the trend towards a reduction in the number of permanent use agreements in 2025 compared to 2024. Recall that in the third quarter of 2024, an abnormally high number of permanent use agreements were concluded, with a total area of over 100,000 ha. In 2025, the average monthly volume of permanent use agreements decreased to less than 300 agreements with a total area of 4,500 ha, reflecting a 60% decrease compared to the average monthly figures for 2024.

Fig. 14. Land agreements by types of legal deeds in 2024



** According to the State Land Cadastre for the period from 01.01.2024 to 31.12.2024*

Another significant difference in the figures for the first 5 months of 2025 compared to 2024 is a significant increase in mortgages. While in 2024, an average of 80 mortgage agreements were concluded per month for agricultural land (with a total area of 266 ha per month), in the first 5 months of 2025, the average monthly figures rose to 236 agreements with a total area of 914 ha.

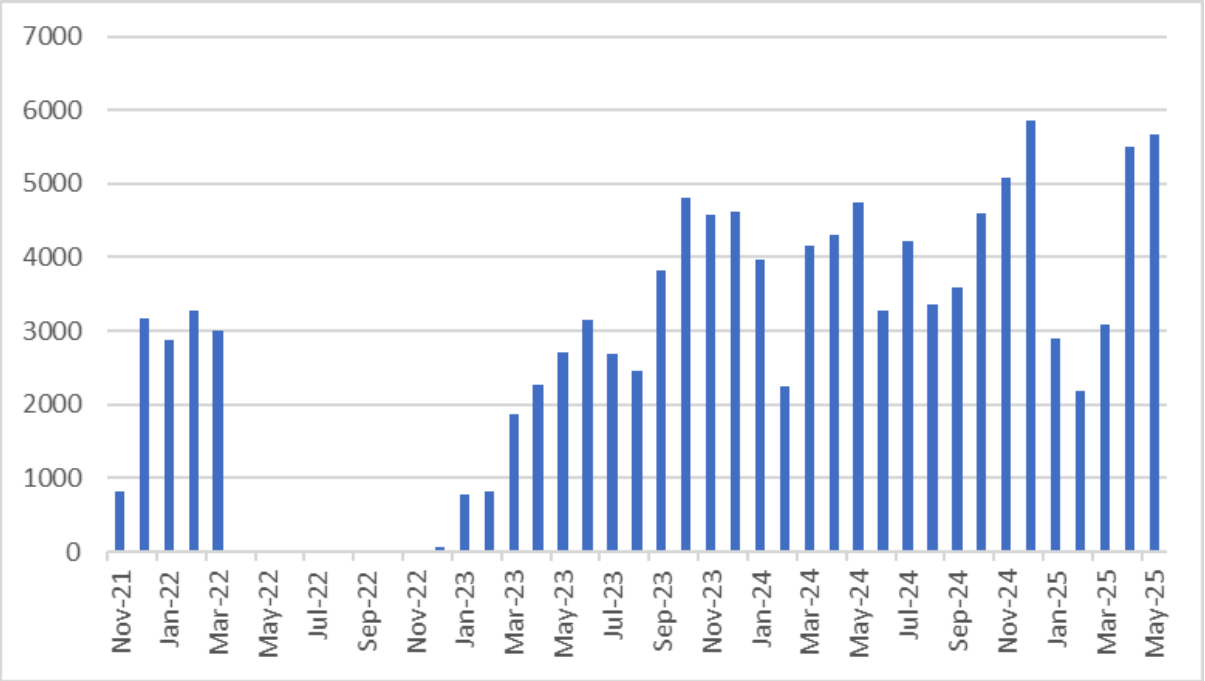
LAND AUCTIONS ON THE "PROZORRO.SALES" PLATFORM

Starting in October 2021, municipal land is leased through electronic auctions on the Prozorro.Sales platform. In this section of the Review, we consider only the results of auctions for municipal land lease rights, without taking into account auctions for sublease rights to state land within the framework of the "Land Bank" project.

Since the start of land auctions on the Prozorro.Sales platform, 13,636 agricultural land plots of municipal property with a total area of 116,400, ha have been successfully leased, bringing communities an annual income of UAH 1,085 billion. For the entire duration of land auctions on the Prozorro.Sales platform, the weighted average lease price is 9,300 UAH/ha, with a weighted average starting price of 2,500 UAH/ha. Thus, land auctions on the Prozorro.Sales platform have proven to be an effective and transparent mechanism for leasing municipal land.

In the previous issue of the Review, we noted that the pace of land leasing through land auctions did not show steady growth last year; it increased in the first half of the year, followed by a slight decline in the third quarter and growth in the fourth quarter of 2024.

Fig. 15. Dynamics of sale of lease rights on land auctions, ha



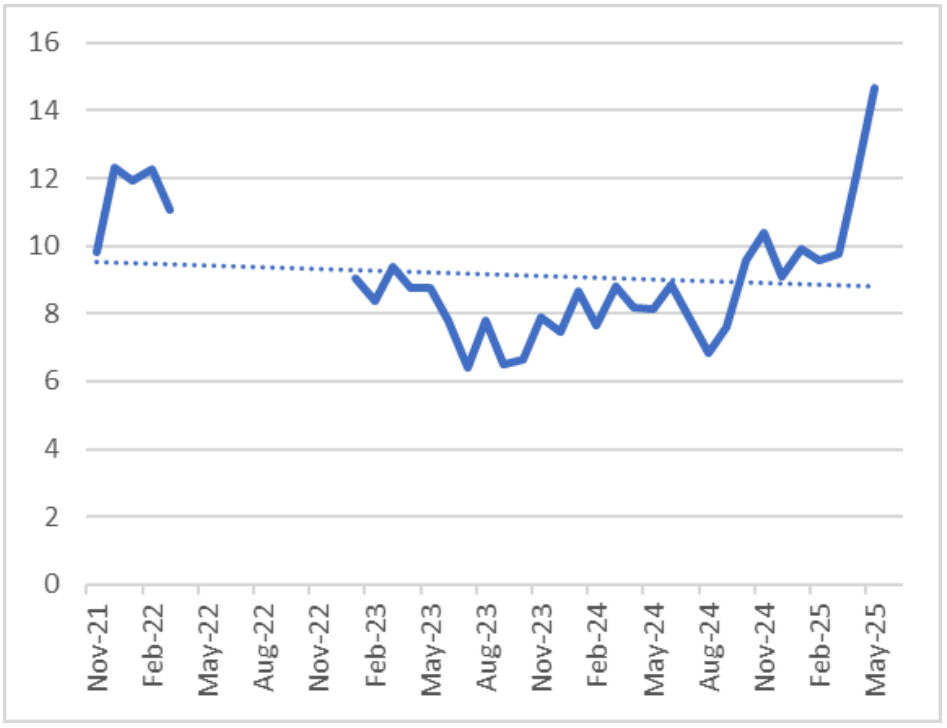
** According to the State Land Cadastre for the period from 01.07.2024 to 31.05.2025*

Since the beginning of 2025, the volume of successfully leased agricultural land has been steadily growing. Although the figures for the first quarter of 2025 were among the lowest since the start of full-scale aggression, in April-May 2025, the volume of successful auctions approached record levels for the entire history of land auctions on the Prozorro.Sales platform.

In 2025, there was a significant increase in the cost of leasing municipal land. This year, for the first time, lease prices at land auctions exceeded pre-invasion levels, setting new records. The highest prices were recorded in April and May — 12,000 UAH and 14,600 UAH per hectare, respectively, which is 2,400 UAH higher than the previous monthly average record (in nominal terms) recorded in February 2022. One possible explanation for the high cost of land leases at land auctions is the favorable conditions for agribusiness in 2025 (after several unprofitable years in 2022-2023 due to low purchase prices for products), as well as, possibly, the emergence of a new target benchmark for land lease costs thanks to the “Land Bank”'s auctions.

The weighted average purchase price of land plots in May 2025 was approximately equal to the cost of 3.5 years of land lease through electronic auctions. Such a small gap between purchase prices and land lease prices indicates that official purchase and sale prices may be underestimated and do not reflect the real market value of land plots. It may also be a signal that we can expect an increase in the cost of buying and selling land.

Fig. 16. Dynamics of prices on land auctions, thousand UAH/ha



** According to Prozorro.Sales for the period from November to May 2025*

AGRICULTURAL LAND PLAYS AN IMPORTANT ROLE IN FILLING LOCAL BUDGETS

The circulation and use of agricultural land continues to provide significant revenues to local community budgets. Among the key tax revenues related to such land, the following can be highlighted:

- rental fees for the use of municipal land;
- land tax;
- single tax on agricultural producers;
- personal income tax (PIT) received from the lease or sale of land plots;
- in certain cases – minimum tax liability (MTL).

According to operational data from the official portal of the Ministry of Finance of Ukraine, OpenBudget, in March 2025, local community budgets received more than UAH 3,5 bln. in tax revenues related to the circulation and use of agricultural land. This is 17.6% (i.e., UAH 525 mln.) more than in March 2024. At the same time, the overall increase in tax revenues to local budgets was even higher — 21.1% on an annual basis.

As a result, the share of revenues from the circulation and use of agricultural land in the structure of tax revenues of local communities in March 2025 decreased slightly — to 14.7% compared to 15.1% in March of the previous year (i.e., by 0.4 percentage points).

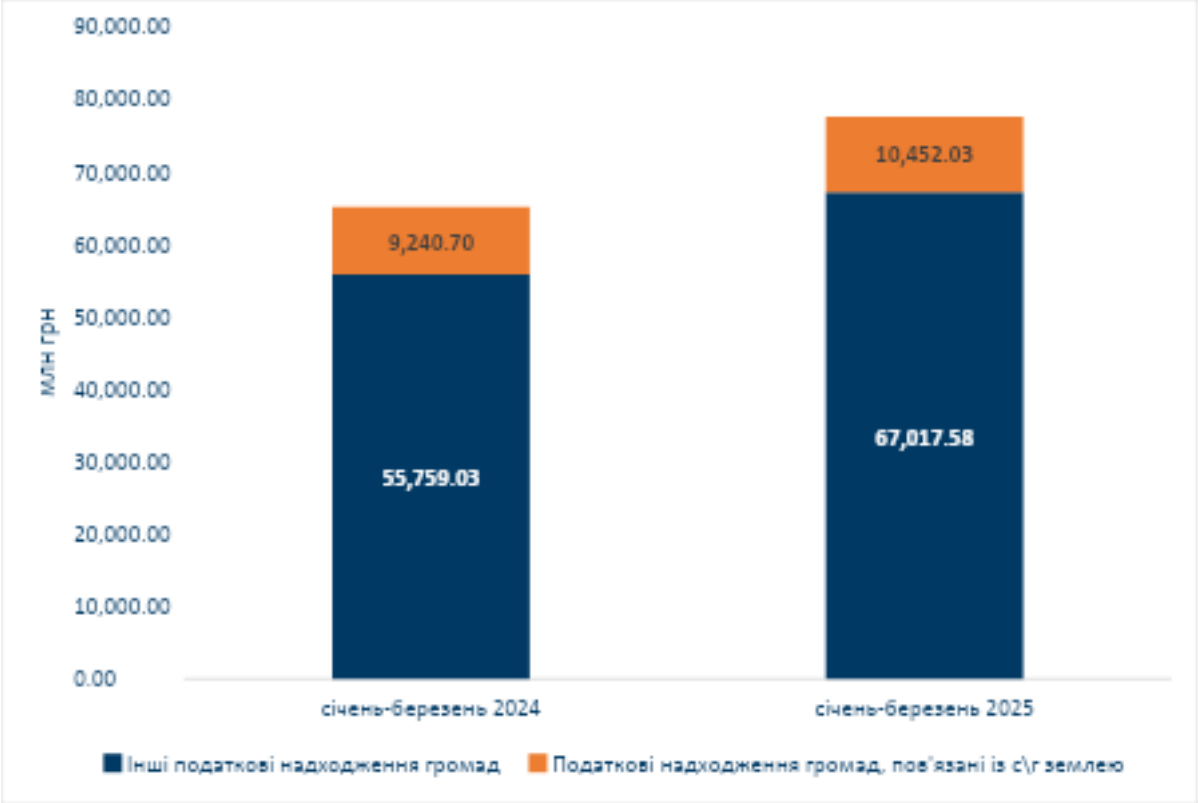
According to the results of the first quarter of 2025, the total tax revenues of communities from the circulation and use of agricultural land exceeded UAH 10,4 bln., which is 13.1% more than in the same period of 2024. The share of these revenues in the overall structure of local government tax revenues also decreased — from 14.2% in the first quarter of 2024 to 13.5% in the first quarter of 2025.

This tendency is explained by higher growth dynamics of revenues from other tax sources at **19.2%** on an annual basis. Thus, revenues from agricultural land transactions continue to play an important role in shaping the revenue side of local budgets, but their growth rate is slightly lower than that of other tax instruments. At the same time, this indicates that there is room for increasing the fiscal significance of this source of revenue, in particular by strengthening its impact on the financial capacity of local communities.

Current problems in land tax administration and potential areas for improvement	Priority areas for improving administration
Land fees remain one of the key sources of revenue for local budgets. At the same time, their administration is accompanied by a number of systemic problems: • **The updated regulatory monetary valuation is not taken into account in existing lease agreements,** which leads to distortion of the tax base and losses for local budgets. • **Insufficient inventory of land plots:** a large number of plots are not registered or contain outdated data in the State Land Cadastre. • **Uncertainty of local communities' boundaries:** very few communities have developed appropriate land management projects, which complicates the maintenance of the cadastre. • **Informal land use:** a significant portion of land is in "shadow" circulation without legal grounds. • **Outdated tax addresses of taxpayers,** resulting in the return of approximately 40% of tax notices and decisions to the State Tax Service. • **Limited interaction between local authorities and the State Tax Service regarding the updating of information on beneficiaries,** in particular persons with disabilities, pensioners, large families, and veterans. The problem has	• **Strengthening the role of local authorities** in maintaining rental registers, regularly monitoring revenues, and conducting reconciliations with the State Tax Service regarding taxpayers, regulatory monetary valuation, and the actual amounts paid. • **Establishing information exchange between local authorities and the State Tax Service (in all regions),** including adjustments to databases on preferential categories of taxpayers. • **Updating data in the State Land Cadastre** and ensuring functional access for local authorities to thematic layers and analytical reporting (by intended purpose, form of ownership, etc.). • **Developing mechanisms for confirming the delivery of tax notices** that will have legal force as proof of notification to taxpayers (e.g., through electronic tools)

been exacerbated by the reorganization of the territorial divisions of the tax service. • **Abuse of the simplified taxation system:** single tax payers are exempt from paying land tax, which creates risks of reducing the tax base.	

Fig. 17. Tax revenues of communities, mln. UAH



** Own calculations based on OpenBudget data of the Ministry of Finance of Ukraine*

The main driver of growth in tax revenues related to agricultural land in the first quarter of 2025 was rent for the use of municipal land plots. This type of revenue accounted for more than half **(54.7%)** of all municipal revenues related to the circulation of agricultural land. A significant contribution was also made by the single tax on agricultural producers, which shows the most dynamic growth among the relevant sources of income.

In March 2025, local communities received **over UAH 2 bln.** of rent (from land), which is **UAH 222 mln. more** than in March 2024. At the same time, growth is being held back by a number of factors, including problems with updating the regulatory monetary valuation of land in existing lease agreements. This creates difficulties in forming an up-to-date tax base, which, in turn, leads to shortfalls in local budgets. Among rent payers, legal entities, mainly agricultural enterprises,

traditionally account for the largest share. In March 2025, they provided the bulk of local budget revenues from land payments.

The second largest source of revenue from land circulation and use is land tax, which accounted for 28.8% of the total amount of such revenues. In March 2025, communities received more than UAH 1 bln. from it, which is UAH 150 mln. more than in March of the previous year.

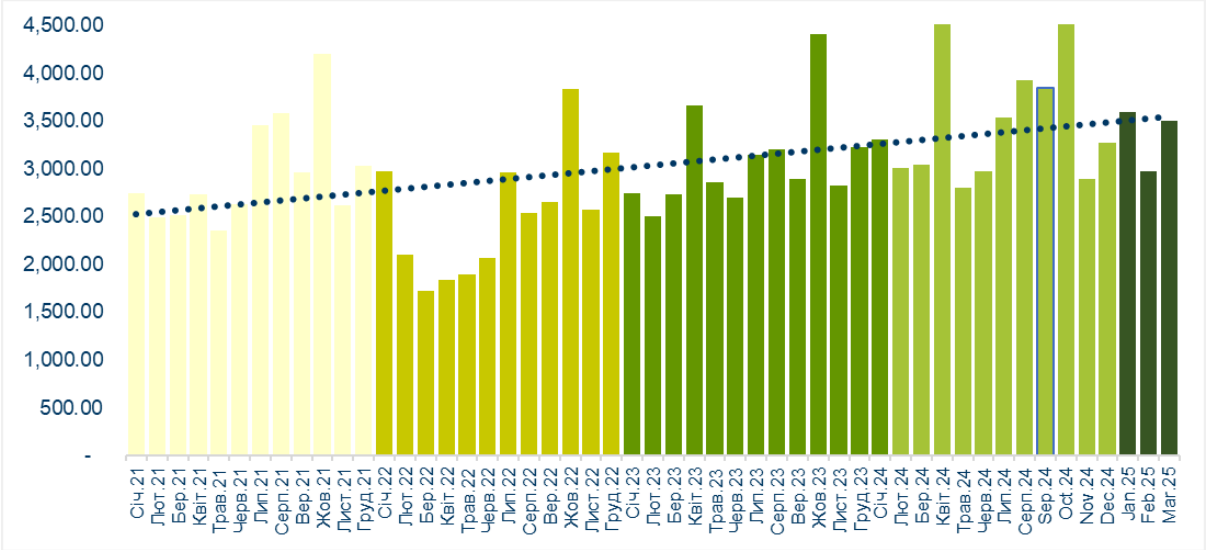
At the same time, revenues from the minimum tax liability (MTL) decreased. In March 2025, local community budgets received UAH 36,7 mln., which is one-third less than in March 2024 (UAH 53,9 mln.). The share of MTL in the structure of land revenues was only 1%, which indicates the limited scope of application of this tax instrument.

The single tax on agricultural producers (fourth group) in March 2025 provided almost UAH 400 mln. in revenues, which is UAH 170 mln. more than in the same period last year. The 74.6% increase makes this tax the most dynamic among all components of tax revenues related to the use of agricultural land.

Fig. 18. Budget revenues of communities, related to agricultural land, mln. UAH

** Own calculations based on OpenBudget data of the Ministry of Finance of Ukraine*

Fig. 19. Dynamics of budget revenues of communities, related to agricultural land, mln. UAH



** Own calculations based on OpenBudget data of the Ministry of Finance of Ukraine*

In March 2025, the largest amounts of tax revenues related to the circulation and use of agricultural land were recorded in the local communities of Dnipropetrovsk (UAH 688,9 mln.), Odesa (UAH 341,5 mln.), Lviv (UAH 275 mln.), and Kyiv (UAH 235 mln.) regions. These regions remain the leaders in terms of absolute fiscal revenues from this source.

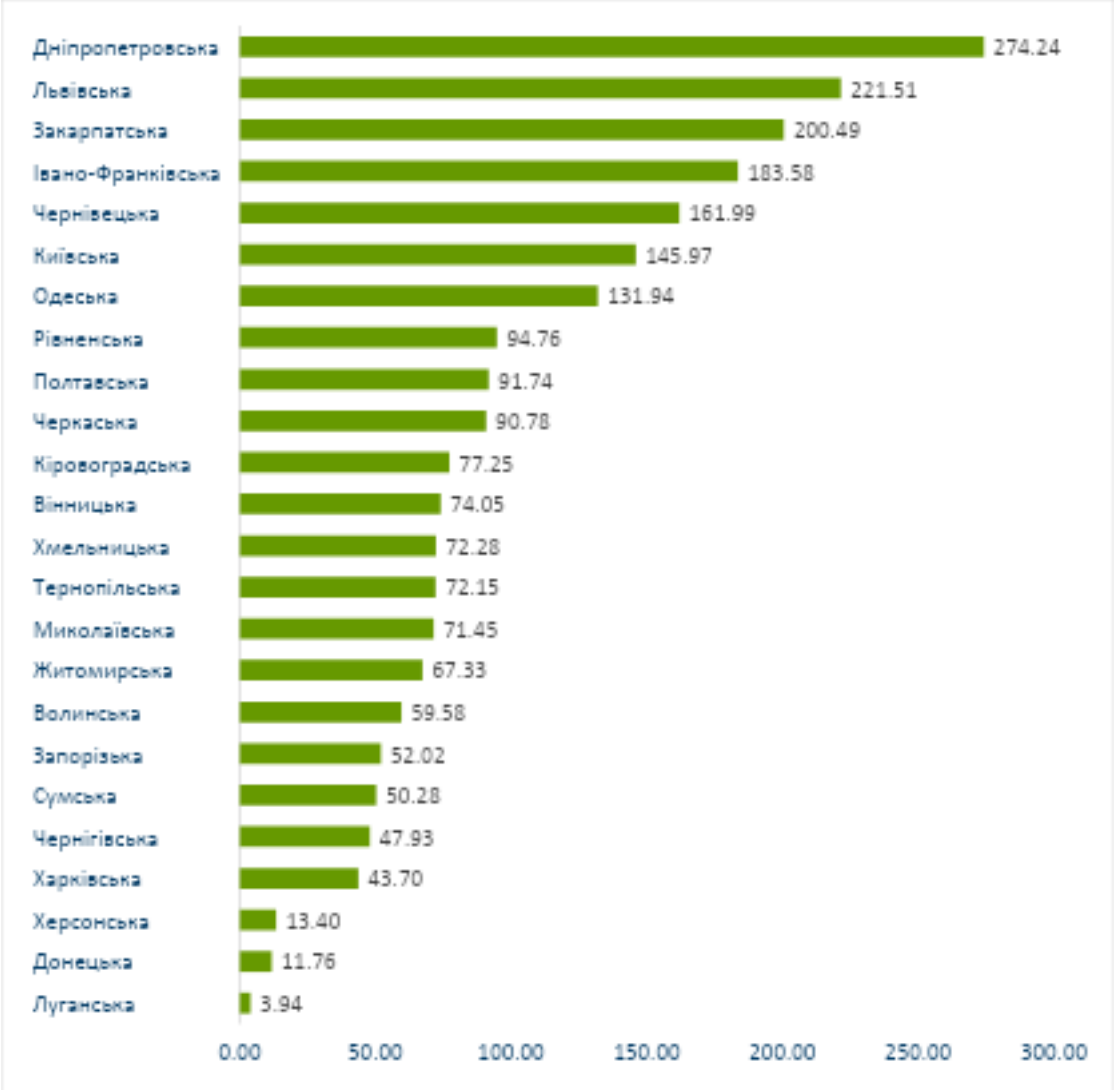
At the same time, tax revenues of communities in regions where a significant part of the territory is temporarily occupied or located in a combat zone, remain at a minimum level. In particular, only UAH 7,5 mln. in revenues were recorded in Luhansk region, and UAH 26,3 mln. in Kherson region. Despite the current tax exemption that exempts land located in occupied territories or areas of active combat operations from land tax, Kherson region has seen a 50% increase in revenues compared to March 2024. A similar trend is

observed in Luhansk region, where, with a small absolute base, revenues increased by 272%, bringing in an additional UAH 5 mln.

Zaporizhzhia region recorded a 47.6% increase, which may indicate a gradual recovery of the tax base and improved administration of land payments in the region. At the same time, a number of frontline regions continue to experience negative dynamics. In particular, tax revenues fell by 37.8% in Kharkiv region and by 46.9% in Donetsk region. In addition, a 25% decline was observed in Khmelnytskyi region, indicating a decline in the activity of the agricultural sector or a decrease in the effectiveness of land taxation.

When considering revenue per 1 hectare, the highest results were demonstrated by communities in Dnipropetrovsk region — 274,3 UAH/ha, which is almost three times higher than the national average (96,4 UAH/ha). High fiscal returns per unit of area were also recorded in communities in Lviv (221,5 UAH/ha), Zakarpattia (200 UAH/ha), and Ivano-Frankivsk (183,5 UAH/ha) regions, indicating more efficient use of land potential and better administration of relevant payments.

Fig. 20. Tax revenues of communities, related to agricultural land in March 2025, UAH/ ha



** Own calculations based on OpenBudget data of the Ministry of Finance of Ukraine*

Special topic

THE IMPACT OF OPENING THE MARKET FOR LEGAL ENTITIES ON LAND PRICES

Legal entities pay on average 47% more for agricultural land than individuals. However, since most legal deeds between individuals are conducted at a price equal to the RMV, there are suspicions of fictitious prices in such deeds. If we take a subsample of plots sold at a price exceeding the RMV by more than 2%, the so-called "market price" sample, it turns out that legal entities pay 17% more for agricultural land than individuals, taking into account all other factors. Other factors that significantly affect the cost of land are the RMV (a 1% increase in the RMV leads to a 0.52% increase in the cost of land) and the cost of land rent (a 1% increase in the cost of rent leads to a 0.21% increase in the cost of land). Also, according to the analysis, opening the land market to legal entities correlates with a 9-10% increase in prices for transactions involving individuals.

As we have already discussed in previous analytical reviews, analyzing the prices paid for land by legal entities is complicated, so a simple comparison of the average purchase price of land for individuals and legal entities cannot provide a clear answer to the question of whether there is a difference between the prices paid by the former and the latter. For example, 24% of all land purchased by legal entities is located in Poltava region. However, if we consider all purchase and sale transactions, only 11% of the land that has been bought and sold since the land market was established is located in Poltava region. Therefore, given that land prices in Poltava region are significantly higher than the average for Ukraine, failure to take this factor into account when simply comparing average prices may lead to the conclusion that legal entities pay more for land sales than individuals. The difference between plots purchased by individuals and legal entities may lie not only in the location, but also in the size of the land plot, its intended use, etc. For example, the results of comparing average prices will be incorrect if legal entities on average purchase larger plots, or if most of their plots are commercial land, compared to buyers who are individuals. Therefore, for a correct analysis of the prices paid by individuals and legal entities when purchasing land, all these factors must be taken into account.

ANALYSIS METHODOLOGY

One method of taking such factors into account is regression analysis. This method allows us to calculate the difference between the prices paid by individuals and legal entities for agricultural land under *ceteris paribus* conditions, i.e., all other things being equal.

One of the complexities of regression analysis of the land market is the so-called spatial autocorrelation. In other words, prices for neighboring land plots correlate with each other, and the greater the distance between one plot and another, the weaker the correlation between prices. Failure to take this factor into account leads to systematic errors in estimates, and therefore we cannot trust the results of

simple regression analysis. For this purpose, we will use a model with a so-called spatial lag in this study, where the spatial lag of the dependent variable is included in the analysis as one of the independent variables.

Another complication arising from comparing the prices paid for land by individuals and legal entities is the fact that more than half of all transactions involving individuals are conducted at a price that does not exceed the regulatory monetary valuation (RMV, the minimum sale price for former moratorium lands). At the same time, this trend is not observed for buyers who are legal entities, and this may be a potential signal that individuals are artificially lowering the sale price of their plots and indicating the minimum price allowed by law. Therefore, when comparing these two samples, if individuals are indeed artificially lowering the value, a systematic measurement error arises, leading to unreliable results. To mitigate this problem, we will calculate our regression model for two separate samples. The first is all land transactions, and the second is a subsample of land transactions that occur at a price at least 2% higher than the RMV, assuming that those transactions reflect the market value of land plots.

When calculating spatial models on large data sets, there is also the complexity of the computing power required to successfully perform the calculations. For example, when attempting to calculate a spatial model for the entire sample of land transactions, it was not possible to obtain a calculation even when using cloud technologies with 128 GB of RAM. Therefore, in order to obtain the results of the analysis, 10,000 observations were randomly selected from each sample (all transactions and transactions at a price higher than the RMV) for which the calculation was performed. Such a reduction in the number of observations increases the confidence intervals for the calculated coefficients, but does not lead to a systematic error in the coefficients. However, given that a sample of 10,000 is sufficient for the accuracy of the calculations, we do not expect a significant change in the confidence intervals for the calculated coefficients.

A separate aspect of regression analysis is that if factors that (from a theoretical point of view) have a significant impact on the dependent variable, in our case the price per hectare of land, are not included in the model, such a model may lead to systematic errors in the calculation of coefficients. Therefore, in addition to the factors included in the land transaction dataset, we also include several factors from other datasets. Using statistical form 50-AHs, we calculate the average revenue of companies registered within a 5 km radius of the village council where the land plot to be sold is registered. Similarly, using statistical form 29-AHs, we calculate the number of commercial agricultural producers also registered within a 5 km radius. From a theoretical point of view, we can expect that in an area with greater competition for land resources (in an area with a larger number of agricultural producers), the price of land may be higher. Similarly, we expect that higher revenue per hectare may correlate positively with land prices because, all else being equal, higher revenue may be the result of higher yields and, therefore, a sign of

higher land quality in the area, resulting in higher prices. Alternatively, higher revenue may correlate with higher farm profitability, leading to higher rental prices and, consequently, higher land prices. Due to data limitations, these two variables are calculated for 2018, the last year for which data is available.

As we have already noted, one of the key factors affecting the cost of buying and selling land is the cost of land lease. This is because agricultural producers must be indifferent between the option of buying land or continuing to lease land (taking into account the cost of raising capital). To take this factor into account, we calculated the average cost of land lease for each village council for the period from October 2021 to June 2024.

DESCRIPTIVE STATISTICS

After discarding observations that lack information for at least one variable to be included in the model (or the coordinates of the settlement to which the plot belongs), as well as discarding the 5% cheapest and 5% most expensive land plots per hectare, the sample size is 116,000 observations, the descriptive statistics for which are presented in Table 2. From this sample, 10,000 observations were randomly selected to calculate the regression model. Studying the descriptive statistics for this sample, we can make a preliminary conclusion that the lack of information on certain variables (such as regulatory monetary valuation, land plot price, etc.) may not be accidental, since the average land plot area for this sample is 2.9 hectares, while for all sold plots, this area is 2.2 hectares. However, given the standard deviation of 3.7 hectares, we cannot say that there is a statistically significant difference between the average size of land plots in this sample and plots for all purchase and sale agreements.

Table 2. Descriptive statistics of the sample of plots with all land transactions

Description of the variable	Name of variable	Average	Median	St. Dev.	Min	Max
Price per hectare, UAH/ha	price_pha	36148	31852	22803	6450	141071
Area, ha	area	2,9	2,0	3,7	0,0	374,6
RMV per hectare, UAH/ha	nlv_pha	26937	28642	19391	4	2892297
Number of agricultural holdings*	nfarms_neighbors5	8,6	6,0	8,5	0,0	117,0
Average income per hectare*, thousand UAH	avg_output5	11,3	10,6	6,4	0,0	58,7
Average rent per hectare**, UAH/ha	avg_rent_in_vc	3108	2927	1552	393	14424
Buyer – legal entity	dummy_le	0,06				
Type of land - arable land	dummy_arable	0,87				
Type of land - hayfields and pastures	dummy_hays_pastures	0,12				
Type of land - other	dummy_other	0,01				
Intended use - for commercial agricultural production	int_0101	0,64				

Intended use - for farming	int_0102	0,02				
Intended use - for LPF	int_0103	0,32				
Intended use - other	int_other	0,01				
Transaction took place before the full-scale invasion	dummy_before_inv	0,24				
Transaction took place from 24.02.2022 and up to 01.01.2024	dummy_after_inv_before_le	0,42				
Transaction took place after legal entities gained access to the market	dummy_after_le	0,34				
Number of observations		116658				

** calculated for the village council to which the land plot subject to purchase and sale belongs, as well as for all village councils located within a 5 km radius of the village council to which the land plot belongs.*

*** calculated for agricultural land in the village council to which the land plot belongs for 2021-2024.*

To obtain our second sample – the so-called "market price samples" – from these 116,000 observations, all transactions that took place at a price that did not exceed the RMV by more than 2% were excluded, which reduced the size of the second sample to 46,000 observations (descriptive statistics is given in Table 3). From these, we also randomly selected 10,000 observations for regression analysis. Comparing the two samples, we can cautiously conclude that not all transactions concluded at a price equal to the RMV have fictitious prices. The sample with "market transactions" has smaller land plots, higher rental prices, and lower RMV. However, we cannot draw a clear conclusion about the difference in these variables due to the high standard deviations for these variables, which means that the above-mentioned difference in mean values is not statistically significant.

What difference is significant is the share of transactions concluded by legal entities. While only 6% of all transactions were concluded by legal entities, this share is twice as high, 12%, for the subsample of transactions with "market prices".

Table 3. Descriptive statistics for a subsample of land plots sold at "market price"

Description of the variable	Name of variable	Average	Median	St. Dev.	Min	Max
Price per hectare, UAH/ha	price_pha	48400	41324	29889	6452	141071
Area, ha	area	2,2	2,0	2,3	0,0	136,0
RMV per hectare, UAH/ha	nlv_pha	22423	22923	12379	4	92700
Number of agricultural holdings*	nfarms_neighbors5	7,6	6,0	8,1	0,0	117,0

Average income per hectare*, thousand UAH	avg_output5	11,5	10,7	6,9	0,0	58,7
Average rent per hectare**, UAH/ha	avg_rent_in_vc	3310	3222	1581	393	14424
Buyer – legal entity	dummy_le	0,12				
Type of land - arable land	dummy_arable	0,77				
Type of land - hayfields and pastures	dummy_hays_pastures	0,22				
Type of land - other	dummy_other	0,01				
Intended use - for commercial agricultural production	int_0101	0,60				
Intended use - for farming	int_0102	0,01				
Intended use - for LPF	int_0103	0,37				
Intended use - other	int_other	0,02				
Transaction took place before the full-scale invasion	dummy_before_invasion	0,19				
Transaction took place from 24.02.2022 and up to 01.01.2024	dummy_after_war_before_le	0,41				
Transaction took place after legal entities gained access to the market	dummy_after_le	0,39				
Number of observations		46140				

** calculated for the village council to which the land plot subject to purchase and sale belongs, as well as for all village councils located within a 5 km radius of the village council to which the land plot belongs.*

*** calculated for agricultural land in the village council to which the land plot belongs for 2021-2024.*

RESULTS

The key finding of our models is that legal entities pay more for agricultural land than individuals.

Based on a sample of all land transactions, legal entities pay 47% more for agricultural land than individuals. However, if we consider a subsample of transactions concluded at "market price," the gap between individuals and legal entities remains, but is not as dramatic, amounting to only 17%. These indicators for both models are statistically significant at a 1% confidence level.

Another significant factor is the opening of the land market to legal entities. We cannot establish a causal link between the opening of the land market to legal entities and changes in market prices, but after the opening of the land market to legal entities, prices for transactions involving individuals increased by 9-10%, depending on the sample on which the analysis was based. At the same time, after the full-scale invasion, the growth in land market prices was 15% for the entire sample and 24% for the subsample of transactions "at market prices."

The two factors that have the greatest impact on price formation are

regulatory monetary valuation and rental cost. A 1% increase in the RMV leads to a 0.54% increase in the sale price of land, while an increase in the rental cost in the village council where the land plot is located leads to a 21% increase in the cost of land, regardless of the specifications.

Table 4. Results of regression analysis

	All sample		Subsample with a price higher than RMV	
Name of variable	Total marginal effect	p-value	Total marginal effect	p-value
area	-0.01	0.00	-0.02	0.01
lnlv_pha	0.54	0.00	0.52	0.00
dummy_hays_pastures	-0.26	0.00	-0.38	0.00
dummy_other	-0.04	0.00	-0.23	0.02
int_0102	-0.18	0.71	0.36	0.01
int_0103	-0.14	0.00	0.00	0.92
int_other	0.87	0.00	0.80	0.00
dummy_after_invasion_before_le	0.15	0.00	0.24	0.00
dummy_after_le	0.25	0.00	0.33	0.00
nfarms_neighbors5	0.00	0.00	0.00	0.01
lavg_output5	-0.02	0.33	-0.03	0.03
lavg_rent_in_vc	0.21	0.06	0.21	0.00
dummy_le	**0.47**	**0.00**	**0.17**	**0.00**
Rho	0.41	0.00	0.42	0.00
Number of observations	10000		10000	

**Rho – spatial autocorrelation coefficient.*

Special topic

THE IMPACT OF PREEMPTIVE RIGHTS OF PURCHASE ON THE LAND MARKET [2].

Preemptive right increases the likelihood that the tenant (who has preemptive rights) will purchase the land. At the same time, preemptive right negatively affects land value, leads to inefficient allocation of land resources, and causes welfare losses.

One of the key features of the land market design in Ukraine is the preemptive right to purchase land. It allows the seller of a land plot to receive an offer to purchase the plot from anyone on the market, but obliges them to offer the owner of the preemptive right the opportunity to purchase the plot on the same terms as in the offer received. The preemptive right to purchase a plot is granted to several categories of land users, but the most common category is land tenants. Therefore, under current legislation, a landowner cannot sell a land plot without offering it to the current tenant for purchase.

In this study, we will analyze the impact of the preemptive right to purchase a land plot on the land market.

For the purposes of this modeling, we need to simplify the system of preemptive right that exists in Ukraine. In Ukraine, renegotiation is permitted if the tenant decides to exercise their preemptive right (PR). Thus, after the tenant has decided to exercise their PR, the landowner can offer the buyer without PR to make the next price offer. In this model, we assume that the landowner does not have this option. Next, after discussing a simple theoretical model of the impact of preemptive right, we will also discuss the expected effects of complicating the model if the landowner has the right to renegotiate with a buyer without PR.

THEORETICAL MODEL OF THE IMPACT OF PREEMINENT RIGHT

To model the impact of preemptive right, we will use a simple model with only three players: the landowner, the tenant (who may have preemptive right), and a third-party buyer (a buyer without preemptive right).

First, let's imagine that there is no preemptive right and the third-party buyer makes a price offer to the landowner. The weakly dominant strategy (relatively speaking, the most profitable) for the landowner in this case is to contact the current tenant and offer him/her to respond to this price offer. If the tenant's valuation of the land (their maximum willingness to pay) is higher than the third-party buyer's price offer, the tenant's weakly dominant strategy is to submit his/her price offer. This starts an auction between the two participants — the third-party buyer and the tenant — which continues until the lower (of the two) valuation of the land plot is reached.

If the tenant has a preemptive right, the third-party buyer has only one opportunity to make a price offer. If the price offer is lower than the tenant's valuation of the land plot, the tenant will exercise his/her preemptive right

[2] *This study is being prepared for publication by R. Neiter and O. Nivievskyi*

and the third-party buyer will not be able to purchase the land plot. If it is higher, the third-party buyer "wins" and purchases the land plot. Under these conditions, the third-party buyer chooses a price offer that maximizes his/her expected profit—the difference between his/her appraisal of the land plot and the price offer, weighted by the probability of "winning" over the tenant.

Therefore, we compare in our modeling two scenarios – with and without preemptive right. If renegotiation is allowed, this will lead to an intermediate result between these two scenarios, as it will be equivalent to a second-price auction with transaction costs at each bid.

EMPIRICAL APPROACH

We do not know the estimated value of the land plot for any buyer or seller.

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Category of agricultural producer	Size, ha
Micro	<50
Small	>=50 & <250
Medium -	>=250 & <1300
Medium +	>=1300 & <6300
Large	>6300

Therefore, we use the capitalization approach and assume that the capitalization rate is 20. Thus, the landowner is ambivalent between receiving rent for 20 years or selling the plot at the same price. The buyer's valuation of the land plot (per hectare) (the maximum price the buyer is willing to pay for the plot) is equal to 20 years of profit from cultivating such a plot. We calculate information about company profits and rent from statistical forms 50-AHs and 2-farms and combine it with information from statistical form 29-AHs for 2016. We also classify agricultural producers by size (creating a separate classification for each category of agricultural producers to calculate the probability of "winning" when determining the optimal rate). Accordingly, we also present all results by category of agricultural producers

To simulate the impact of preemptive right, using data on the location of producers, information on profitability, and the cost of land lease (calculated as the average lease cost for all land leased by the producer), we generated a set of potential pairs of "tenant" - "third-party buyer" pairs using a 10 km radius from the location of producers who have leased land. We then selected only those pairs for which a third-party buyer could initiate the process of purchasing the land plot – his/her assessment of the land plot's value exceeded the landowner's assessment of the plot's value.

Using the approach described in the previous section, we determined for each of these pairs the final price of the land plot (1 hectare in size) without preemptive right, the optimal price offer for a third-party buyer in a scenario with preemptive right, and the result of "bidding" for both scenarios.

RESULTS
IMPACT OF PREEMPTIVE RIGHT ON THE LIKELIHOOD OF LAND PURCHASE BY TENANT

Table 5. The share of transactions in which the "winner" (the party that purchased the land plot)

Size of tenant	Without PR	With PR	t-value
	Percentage of transactions in which the tenant "won"		
Micro	0,12	0,28	-128***
	(0,0011)	(0,0015)	
Small	0,23	0,45	-169***
	(0,0013)	(0,0015)	
Medium -	0,42	0,65	-140***
	(0,0019)	(0,0019)	
Medium +	0,44	0,66	-96***
	(0,0028)	(0,0027)	
Large	0,45	0,65	-32***
	(0,0078)	(0,0075)	
Chi2 (4 df)	14776***	950***	

** tenant in a scenario without preemptive right (PR) and with PR.*
*** Standard deviation – in brackets.*

As we can see from Table 5, a significant number of current tenants, based on their financial results, cannot afford to purchase land if a third-party buyer makes a price offer to the landowner. This is because some agricultural producers who are tenants are unprofitable, and even if a company generates a profit, this profit may not be sufficient to form a valuation of the land (maximum willingness to pay for the land) that exceeds the minimum amount that the landowner is willing to accept for his/her land, or to compete with the valuation of the land plot by a third-party buyer (who makes a price offer only if his/her valuation of the plot exceeds the landowner's valuation).

If we talk about a scenario without a preemptive right, we see that the tenant's ability to purchase a land plot increases with the growth of the tenant's land bank. If a micro-agricultural producer has less than 50 hectares under cultivation, his/her probability of purchasing the land plot he/she cultivate without a preemptive right is only 12% (if a third-party buyer makes a price offer). For medium and large companies, this percentage is already over 40% and ranges from 42% to 45%. At the same time, the preemptive right significantly

increases the likelihood that the tenant will be able to buy out this land. The largest increase was recorded for micro-producers, from 12% to 28%, but it is still significant for small producers (from 23% to 45%) and for medium and large companies (from 42-45% to 65-66%).

THE IMPACT OF PREEMPTIVE RIGHT ON LAND VALUE

When modeling the impact of preemptive right on land prices, there are two important elements. First, in a scenario without preemptive right, the starting price offered by a third-party buyer is equal to the minimum price that the landowner is willing to accept for his/her land plot. If the tenant is not willing to pay the same or a higher price, then this price is the final price.

In the case of preemptive right, a third-party buyer makes their initial price offer taking into account the likelihood that the tenant will exercise their preemptive right. Therefore, the optimal price offer in this case is usually higher than the minimum price that the landowner is willing to accept.

Table 6. Impact of preemptive right on value.

Size of buyer without PR	Percentage of observations, price with PR > price without PR	Price (USD/ha) Without PR	With PR	t-value
Micro	55%	1259	977	144***
		(2,6)	(1,4)	
Small	53%	1477	1133	132***
		(3,2)	(1,7)	
Medium -	56%	1558	1203	108***
		(1,8)	(1,8)	
Medium +	56%	1575	1214	78***
		(5,4)	(2,5)	
Large	60%	1647	1313	26***
		(15,2)	(6,8)	
Chi2 (4 df)	6,84	4562***	390***	

** Standard deviation – in brackets.*

Therefore, if we consider the two cases mentioned above, the price with preemptive right may be higher than the price without preemptive right.

However, if the tenant has a relatively high valuation of the land plot, the increase in the value of the plot during negotiations between the tenant and a third-party buyer in a scenario without preemptive right may be significant, and this may significantly affect the expected value of the land plot for the landowner in a scenario without preemptive right.

If we look at the simulation results presented in Table 6, the price with preemptive right in more than half of the cases will be higher than the price without preemptive right. Moreover, the proportion of such cases does not depend on the size of the third-party buyer (the Chi2 coefficient is not statistically significant). However, the expected value of the land plot is lower for the scenario with preemptive right for all sizes of third-party buyers, and this difference is statistically significant. If the third-party buyer is a medium-sized agricultural producer, we can expect a price of USD 1,500 per hectare in the scenario without preemptive right. If the tenant obtains preemptive right, the value of the land decreases to USD 1,200, or approximately 20%.

It is also important to understand that the land value shown in Table 6 may not correspond to the current market value, as it is based on the maximum amount that the agricultural producer was willing to pay per hectare of land, based on its profitability in 2016 and the level of capitalization.

INEFFICIENT DISTRIBUTION OF LAND RESOURCES AS A RESULT OF PREEMPTIVE RIGHT

An important prerequisite for the land market to translate into productivity growth in the agricultural sector is that the redistribution of land resources as a result of the market should take place from less efficient to more efficient owners and users. Therefore, when choosing between two agricultural producers, efficient land distribution occurs when the agricultural producer who is willing to pay more for a land plot receives it.

However, preemptive right can lead to inefficient distribution when a third-party buyer is willing to pay more for a land plot, but the tenant has exercised his/her preemptive right and obtained the land plot.

Table 7. Inefficient allocation of land resources due to preemptive right.

Size of tenant	% transactions with inefficient distribution
Micro	14,50%
Small	20,40%
Medium -	22,50%
Medium +	22,30%
Large	19,80%
Chi2 (4 df)	2797***

As we can see from Table 7, cases where preemptive right leads to inefficient distribution of land resources are not uncommon. And while for micro agricultural producers – tenants – this happens in only 14.5% of transactions, for medium-sized producers more than 22% of transactions will lead to inefficient distribution.

ECONOMIC LOSSES RESULTING FROM THE INTRODUCTION OF PREEMPTIVE RIGHT

The last part of the results concerns the welfare losses caused by the

implementation of this policy. We estimated welfare losses as the difference between total surpluses (the sum of the landowner's surplus - the transaction price, the tenant's surplus, and the third-party buyer's surplus) in scenarios with and without preemptive right. The losses in social welfare caused by the implementation of the PR are statistically significant (with a t-value of 195) and average USD 233 per hectare. It should be noted that because Ukraine allows for the possibility of revising the price offer after the preemptive right has been exercised, the economic losses from the PR will be lower.

Special topic: Portrait of legal entities purchasing agricultural land

AREAS OF ACTIVITY

As demonstrated by the analysis of agricultural land purchase and sale agreements involving legal entities, most transactions were concluded by legal entities which main activity is directly related to agriculture (CTEA 01.XX). Transactions concluded by such legal entities accounted for 76.0% of the total number of transactions involving legal entities, or 75.5% of the total area of agricultural land purchased by legal entities. Of these, 92% of transactions were concluded by companies which main activity is the cultivation of cereals (except rice), legumes, and oilseeds. Compared to the first five months of 2024, the share of agreements concluded by agricultural enterprises decreased by 1.8 percentage points, and the total area decreased by 4.7.

In addition, a significant share of transactions involving legal entities (17.2%), although significantly smaller, were concluded by legal entities which main activity is the lease, management, and sale of real estate (CTEA 68.20, 68.10, and 68.32). Such transactions accounted for 17.0% of the total area of agricultural land sold by legal entities during the period under review.

Table 2. Top 10 areas of activity (CTEA) of legal entities purchasing agricultural land

CTEA	Share of agreements	Share of area
01.11 Growing of cereals (except rice), leguminous crops, and oilseeds	67.71%	68.95%
68.20 Leasing and operating own or leased real estate	13.69%	14.45%
68.10 Purchase and sale of own real estate	3.11%	2.64%
01.41 Breeding of dairy cattle	3.03%	2.37%
01.50 Mixed farming	1.95%	2.04%
64.30 Trusts, funds, and similar financial entities	1.77%	1.60%
01.24 Growing pome and stone fruits	0.86%	1.22%
46.21 Wholesale trade in grain, unprocessed tobacco, seeds, and animal feed	0.63%	1.13%
01.46 Pig breeding	0.41%	0.49%
10.91 Production of ready-made feed for farm animals	0.58%	0.46%

RELATIONS WITH AGRICULTURAL HOLDINGS

25% of agreements (22% of the total area) with the land acquired by legal entities in 2024, were concluded by legal entities that are part of agricultural holdings[3]. This indicator has significantly decreased compared to the first five months of 2024, when it accounted for 38% of agreements (34% of the total area), indicating a relative decline in the activity of agricultural holdings in the land market in the second half of 2024.

We classify agricultural producers that are linked by holding relationships and have a

[3] The list of legal entities belonging to agricultural holdings was obtained from the Tripoli portal (https://tripoli.land/ua/agrokholdingi-ukrainy)

land bank of more than 11,000 hectares as agricultural holdings. However, the average size of the plots they purchased is smaller (2.50 hectares) than that of legal entities that do not belong to holdings (2.99 hectares). Thus, legal entities belonging to agricultural holdings purchased 11,700 hectares during the year after the land market was opened to legal entities.

4,900 hectares of these were purchased by agricultural holdings with a total land bank of over 50,000 hectares, which is only 900 hectares more than in the first five months of 2024. At the same time, during 2024, only 27.7 hectares of agricultural land were purchased by the largest holdings with a land bank of over 100,000 ha.

PLACE OF REGISTRATION

More than a quarter (28.1%) of agreements with agricultural land purchased by legal entities, were concluded by legal entities registered in Kyiv region or the city of Kyiv. A significant portion of agreements were also concluded with legal entities from Poltava (14.4%) and Volyn (9.2%) regions. During the year, legal entities mostly purchased land plots located in the region of their registration — the share of such agreements amounted to 70.1%. Compared to the first five months of 2024, this indicator decreased by 6 percentage points. In addition, the share of enterprises from Kyiv region increased in the structure of agreements.

Table 3. Distribution of legal entities purchasing agricultural land by place of registration

Region	Share of agreements	Share of area
Kyiv region	28.10%	27.46%
Poltava region	14.43%	16.78%
Volyn region	9.22%	5.08%
Sumy region	8.14%	4.61%
Dnipropetrovsk region	4.95%	10.61%
Khmelnytskyi region	3.82%	3.62%
Chernihiv region	3.19%	2.46%
Kharkiv region	3.01%	4.79%
Ternopil region	2.87%	1.77%
Lviv region	2.82%	1.62%
Ivano-Frankivsk region	2.81%	0.85%
Zhytomyr region	2.79%	2.40%
Vinnytsia region	2.59%	2.54%
Kirovohrad region	2.57%	4.58%
Zakarpattia region	2.45%	1.75%
Cherkasy region	1.62%	2.74%
Mykolaiv region	1.41%	2.59%
Odesa region	1.37%	1.63%
Rivne region	1.20%	0.67%
Zaporizhzhia region	0.28%	1.12%
Chernivtsi region	0.24%	0.24%
Donetsk region	0.07%	0.07%

Kherson region	0.02%	0.02%

Special topic. Results of the “Land Bank” project in 2024

Since the launch of electronic land auctions on the “Prozorro.Sales” platform on November 01, 2021, as of January 01, 2025, 19,564 auctions have been held for the transfer of lease rights to municipal and state-owned land.

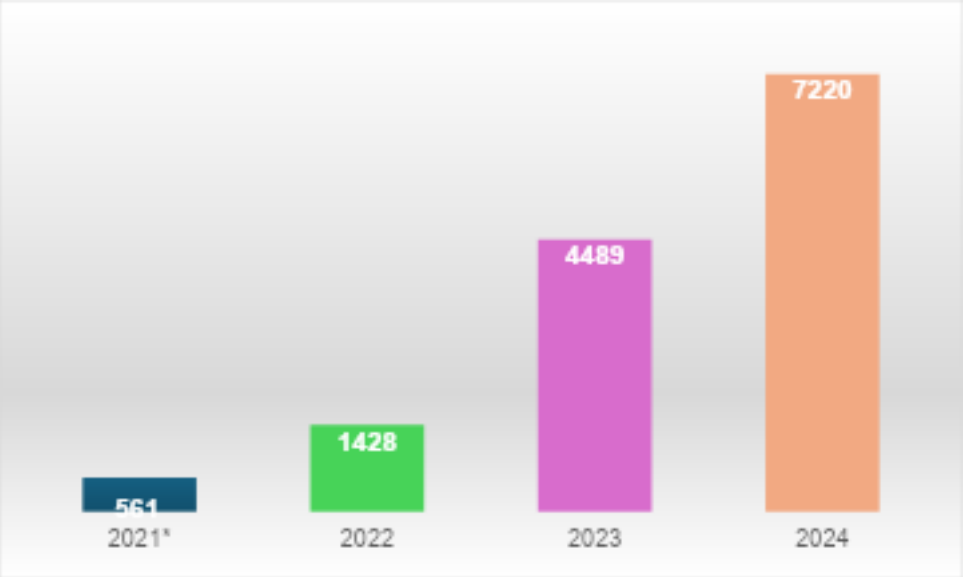
At the same time, 13,698 unique land plots with a total area of 139,000 ha were put up for auction on “Prozorro.Sales” during the entire period of land auctions, as one plot can be put up for auction several times. 7,220 plots, or 53% of these were put up for land auction in 2024.

Almost all auctions — 13,431, or 98% — concerned the sale of lease rights to municipal land with a total area of 114,800 ha.

Starting in October 2024, as part of the State Property Fund of Ukraine's “Land Bank” project, auctions began to appear on “Prozorro.Sales” for the sale of sublease rights to state-owned agricultural land plots. A total of 267 auctions were held for the lease of state-owned land, with a total area of 24,300 ha, or about a quarter of the land that was planned to be put up for auction by the end of 2024. 207 auctions covering a total area of 13,700 ha worth UAH 350 million 651 thousand can be considered successful – these are auctions with the status “completed”, “payment pending” or “signing pending”. The average cost of subleasing a hectare of state land based on the results of successful auctions reached UAH 20,757/ha. Thus, according to last year's results, the “Land Bank” project successfully leased less than 15% of the planned volume of 100,000 ha.

According to the law, income from land leases is distributed between the state budget (90% of the lease value + VAT) and the local budget (10%). Thus, thanks to the “Land Bank” project, in 2024, the state budget received revenues of UAH 322.6 mln., and local budgets received approximately UAH 28 mln.

Fig. 23. Total number of unique land auctions – leases by year



In this review, we want to summarize the indicators of trading in lease rights to municipal and state-owned lands, as well as compare these auctions:

- 3.1 price quotations – average number per successful auction (9.2 quotations for state-owned land and 3 quotations for municipal land);
- 9.7 years – average lease term for land plots (14 years for state-owned land and 9.5 years for municipal land);
- ~17 days – average time required to sign a contract after the auction (20.5 days for state-owned land and 16.8 days for municipal land);
- ~ 5 times – average increase in the starting price of a lot during auctions (8.05 times for state-owned land and 4.92 times for municipal land);

As we can see, auctions for state-owned land have higher starting prices and are more competitive. The average cost of leasing state-owned land at auction is approximately UAH 20,757/ha, with an average land plot size of approximately 66.1 ha, while the average cost of leasing municipal land is UAH 8,119/ha, with an average land plot size of 8.6 ha.

Thus, it can be argued that the “Land Bank” project is successful in terms of competition at auctions and auction profitability. However, the pace of putting plots up for auction lags behind the planned schedule. One of the key goals of the “Land Bank” is to reduce corruption in the land sector. It is quite common for state-owned enterprises to illegally lease land instead of using it themselves, thereby receiving corrupt rents . The idea behind the “Land Bank” is to concentrate such land in the hands of a state operator and effectively sublease it to the private sector. However, if the pace of putting land up for auction is insufficient, we run the risk of concentrated corruption, because all this state land will be managed by a single state structure, which officials will be able to abuse their power by postponing the auction of these plots for the purpose of further illegal leasing. This scenario is not a foregone conclusion. In order to prevent this, it is necessary to monitor the volume of land put up for auction, ensure public accountability, and maintain constant communication with the professional community and the public sector.

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Special topic

Market power of various groups of legal entities

INTRODUCTION AND METHODOLOGY

When assessing the results and consequences of the implementation of the second stage of the agricultural land market, which began on January 01, 2024, and allowed legal entities to acquire agricultural land, it is important to answer two questions. First: are the conditions for participation in the land market equal for small, medium, and large agricultural producers? Second: does the market have sufficient safeguards to prevent investors and intermediaries who do not intend to cultivate the land from squeezing farmers out of the market?

It is well known that large producers usually have greater financial capacity. In order to measure the market power of different market participants, we decided to analyze how much different categories of buyers – legal entities – pay for land. To do this, we used data on land buyers – legal entities. We determined the main and additional CTEA (Codes of types of economic activity) for each of them, and we determined the size of the land bank for buyers – farmers. Data on legal entities that have an agricultural CTEA but for which information on the size of the land bank is not available were not taken into account in the analysis. Unlike the section “Portrait of legal entities” in this report, we identify buyers who are “non-agricultural” using not only the main CTEA but also additional ones. We classify a buyer as a “non-agricultural” buyer only if the company does not have an agricultural CTEA in either its primary or additional CTEA.

We have divided legal entities purchasing land plots into six categories: “Investors” (companies that do not have an agricultural CTEA) and five categories of farmers according to the size of their land bank:

- Up to 300 ha
- From 300 to 1,000 ha
- From 1,000 to 2,500 ha
- From 2,500 to 7,000 ha
- Over 7,000 ha

These categories roughly reflect the 25th, 50th, 75th, and 95th percentiles of the size of the land bank of agricultural land buyers (without taking into account how many plots each of them purchased).

Next, we built a regression model with a spatial lag for our dependent variable (the logarithm of the price per hectare of the sold plot), which allows us to take into account the similarity of prices between land plots located close to each other.

We selected farmers with up to 300 hectares for the analysis as the base category (reference) and compared the prices paid by other categories of legal entity buyers with the prices paid by small farmers with a land bank of up to 300 hectares.

The key results of the analysis are presented in the text and Table 4, while descriptive statistics and complete analysis results are available in Tables 5 and 6, respectively.

RESULTS

According to the results of the study, there is a statistically significant difference between how much different categories of legal entity buyers pay for land. At the same time, the smallest farmers (up to 300 ha) are not the category that pays the least for land. Farmers with land holdings ranging from 300 to 1,000 hectares pay the least for land. The latter pay almost 15% less for land than small agricultural producers with land holdings of up to 300 ha.

Table. 4. Main results

Size of enterprise	Price comparison
up to 300 ha	*Reference*
300-1,000 ha	-14,8%
1,000-2,500 ha	10,5%
2,500-7,000 ha	20,9%
over 7,000 ha	17,7%
Investors	-7,9%

Farmers with a land bank of more than 1,000 hectares pay more for land than small producers. Those who cultivate between 1,000 and 2,500 hectares pay 10% more for land than small producers. Agricultural producers who cultivate between 2,500 and 7,000 hectares pay 21% more for land than producers with a land bank of up to 300 hectares, and large producers (with a land bank of over 7,000 hectares) pay 18% more than small farmers.

Table. 5. Descriptive statistics

Description of variable	Name of variable	Average	Median	St. Dev.	Min	Max
Price per hectare, UAH/ha	price_pha	57981	45177	41151	1109	256356
Area, ha	area	3	2	6	0	375
RMV per hectare, UAH/ha	nlv_pha	27144	29735	12068	15	193946
Number of agricultural holdings*	nfarms_neighbors5	8	6	8	0	116
Average income per hectare*, thousand UAH	avg_output5	12	11	7	0	44
Average rent per hectare**, UAH/ha	avg_rent_in_vc	3249	3033	1591	393	12500
Type of land - arable land	dummy_arable	0,84				
Type of land - hayfields and pastures	dummy_hays_pastures	0,16				
Type of land - other	dummy_other	0,01				

The legal deed took place in the first quarter	quarter1	0,18				
The legal deed took place in the second quarter	quarter2	0,24				
The legal deed took place in the third quarter	quarter3	0,29				
The legal deed took place in the fourth quarter	quarter4	0,29				
Intended use - for commercial agricultural production	int_0101	0,77				
Intended use - for farming	int_0102	0,01				
Intended use – for LPF	int_0103	0,21				
Intended use - other	int_other	0,00				
Size of buyer – up to 300 ha	d_buyer1	0,12				
Size of buyer - 300-1000 ha	d_buyer2	0,09				
Size of buyer - 1000-2500 ha	d_buyer3	0,13				
Size of buyer - 2500-7000 ha	d_buyer4	0,38				
Size of buyer - over 7000 ha	d_buyer5	0,29				
Buyer is not farmer	d_non_agri_buyer	0,09				

It can also be argued that buyers who are not agricultural companies (which we have referred to as “Investors” in Table 4) pay less for land than all categories of agricultural producers, except for farmers with land holdings ranging from 300 to 1,000 hectares. Therefore, there is no reason to expect that investors and intermediary companies will drive agricultural producers out of the land market. It should also be taken into account that some of the “investors” may be associated with agricultural producers who have created a separate legal entity for the purpose of purchasing land.

Table. 6. All results

	Impacts	Estimate	p-value
(Intercept)		1,14	0,00
area	-0,01	0,00	0,01
lnlv_pha	0,59	0,26	0,00

dummy_hays_pastures	-0,59	-0,26	0,00
dummy_other	0,13	0,06	0,43
quarter2	0,09	0,04	0,02
quarter3	0,16	0,07	0,00
quarter4	0,18	0,08	0,00
int_0102	-0,73	-0,32	0,00
int_0103	0,25	0,11	0,00
int_other	0,00	0,00	0,99
nfarms_neighbors5	0,00	0,00	0,32
lavg_output5	-0,06	-0,02	0,00
lavg_rent_in_vc	0,27	0,12	0,00
d_buyer2	-0,15	-0,06	0,00
d_buyer3	0,10	0,05	0,02
d_buyer4	0,21	0,09	0,00
d_buyer5	0,18	0,08	0,00
d_non_agri_buyer	-0,08	-0,03	0,15
Rho (autocorrelation coef.)		0,56	0,00

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