

COMPARISON OF THE AGRICULTURAL LAND MARKET OF UKRAINE AND POLAND IN THE CONTEXT OF SUSTAINABILITY

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Abstract

The aim of the article is to compare the features of the formation and development of agricultural land markets in Ukraine and Poland in the context of sustainable development. The following methods were used during the research: system analysis, statistical analysis, comparative legal analysis, historical method. To calculate the price index, the price of agricultural land in the specific year for which the index is calculated and agricultural land in a selected base year.

A comparative analysis of the initial years of the market was carried out based on the calculation of the agricultural land price index in Ukraine and Poland. The impact of the full-scale war on agricultural land prices and contractual practices in Ukraine and Poland was analyzed. The institutional similarities and differences in the formation of the agricultural land market in Poland and Ukraine are investigated. The relationship between land value and purchase and sale contracts as one of the main regulators of achieving sustainable development goals was investigated.

Keywords: Land Market, Agricultural Land, Sustainable Development Goals, Regulation of Land Relations, Land Policy.

JEL Codes: Q01, I5, I3.

Introduction

Ukraine and Poland have a long-standing relationship, shaped by both historical ties and modern interaction at the political, economic and social levels. Both countries share a common border and closely cooperate in various areas, including economy, trade, culture and security. An important aspect of this cooperation is the agricultural sector, where there are significant opportunities for the exchange of experience, innovation and best practices. Poland, as a member state of the European Union, has extensive experience in reforming its agricultural sector in line with European standards and norms. Its successful transition from a centrally planned economy to a market model with competitive agriculture is an important example for Ukraine.

Of particular importance for Ukraine is Poland's experience in developing the agricultural land market, which has undergone significant transformations in the process of accession to the EU.

For Ukraine, which aspires to become part of the European Union and achieve sustainable development, Poland's experience in implementing reforms in land relations is extremely valuable. Poland has demonstrated how effective legislative regulation and support from public and private institutions can contribute to the formation of a stable and transparent land market, which is crucial for the sustainable development of agriculture. Ukraine, in turn, is making significant steps towards integration into the European community, adapting its legislation

and economic policy to European standards and principles of sustainable development.

In this context, Poland's experience can serve as a guide in the process of implementing reforms aimed at creating an effective land market that will meet EU requirements and standards and contribute to achieving sustainable development goals.

The interaction between Ukraine and Poland, in particular in the agricultural sector, contributes to achieving sustainability in the context of food security and the creation of sustainable institutions. Poland, as a neighboring country with a successful market economy model and a member of the European Union, is an important partner for Ukraine in the context of implementing its European integration ambitions and achieving sustainable development. Thus, studying Poland's experience in regulating the agricultural land market is relevant and useful for Ukraine, as it can help in the development and implementation of effective reforms that will contribute to the development of the land market, overall economic growth and the achievement of relevant sustainability indicators.

The war in Ukraine significantly affected the achievement of Sustainable Development Goals indicators both in Ukraine itself, in Europe, and in the world as a whole (Zawojnska *et al.*, 2025).

Land market regulation has a direct link to several Sustainable Development Goals (UN SDGs, Agenda 2030), as land is a key resource for food security, economic development, environmental balance and social justice. The land market is a cross-sectoral tool that affects both the socio-economic and environmental components of sustainable development.

The aim of the study is to compare the features of the formation and development of agricultural land markets in Ukraine and Poland in the context of sustainable development, identifying key differences and common features in their legal regulation and economic mechanisms.

Object - land policy and land market in Poland and Ukraine.

Subject - regulatory and legal regulation of land in the context of sustainable development.

Literature Review

The market circulation of agricultural land has been studied in the scientific works of various scientists. Bański (2011) investigated changes in ownership of agricultural land in Poland from 1989 to 2004. The researcher analyzes the processes of privatization of state farms and differences in the dynamics of ownership changes in different regions, in particular the increase in private ownership in the west and north of the country compared to limited changes in the east and center of Poland. Kryszk *et al.* (2022) investigated the influence of the state on the regulation of the agricultural land market. In particular, they examined legal provisions restricting the acquisition of land by the National Agricultural Support Center (KOWR) through the exercise of the right of priority purchase in Poland. Dacko *et al.* (2021) in their works analyze how the market value of agricultural land depends on such characteristics of land plots as area, shape, and access to public roads.

In turn, the analysis of the problems of the agricultural land market in Ukraine is reflected in the works of Khodakivska & Yurchenko (2023), who evaluate the transactions of purchase and sale of ownership rights to agricultural land in Ukraine, determine the main market trends, the cost of land depending on remoteness, location and intended use, as well as the activity of market participants.

A group of Ukrainian scientists Ibatullin *et al.* (2024) and others, are trying to analyze the functioning of the agricultural land market in Ukraine, using PostgreSQL, Python, SQL, QGIS and Metabase databases. As a result, scientists conclude that the market volume remains insignificant, and land prices are low, which indicates insufficient capitalization. An effective land policy is necessary for the further development of the market.

Krokhtiak *et al.* (2022) study the agricultural land market in Ukraine after the lifting of the moratorium. Scientists analyze the volume of land alienation, its distribution by region, and land prices. The authors define the market situation as stable.

A number of scholars have investigated the role of innovation in increasing the investment attractiveness of the agricultural sector and ensuring sustainable development. However, this research did not touch on the narrow impact on the land market (Bilochenko).

Therefore, the study of the differences in the formation of the agricultural land market in Poland and Ukraine and the impact on sustainability is being conducted for the first time, which made the research relevant.

Materials and methods

System analysis was applied for a comprehensive study of the land market as a complex system, including economic, social and environmental aspects in the context of sustainable development. Analysis of market dynamics (average prices, number of transactions, volumes of land lease/sale), comparison of the pre-war and war periods was carried out using statistical analysis. Analysis of the regulation of the land markets of Ukraine and Poland, as well as identification of differences in the protection of property rights and maintenance of the stability of contractual practices was carried out using comparative legal analysis. The historical method was used in the analysis of institutional similarities and differences in the formation of the agricultural land market in Poland and Ukraine.

The main criterion for comparing land markets is its price. The open land market in Poland has been operating since 2004, and in Ukraine since 2021. This led to the choice of a period to ensure data comparability. For Poland, we chose a three-year period of 2004-2007, which corresponds to the early stage of the market. During this period, Poland was just beginning to integrate into the European economic and legal system. The choice of this stage gives us the opportunity to analyze the initial changes in price dynamics under the influence of new regulatory norms and market conditions.

In Ukraine, the land market has been open since 2021. Therefore, a similar period of market relations formation was chosen for comparison - 2021-2024. An analysis of this period in Ukraine makes it possible to understand how the new

market adapts to conditions comparable to those in Poland at the beginning of its market reforms.

Thus, the choice of the periods 2004-2007 for Poland and 2021-2024 for Ukraine is justified, as it allows for comparisons at equal stages of market development, ensuring the correctness and accuracy of the analysis of price dynamics.

In addition, to identify price patterns, it is necessary to take into account the time factor, namely that we have different time intervals characterized by different economic and political conditions that are reflected in land prices. To mitigate this problem, we will calculate a price index for analysis. The importance of calculating a price index lies in its ability to isolate and identify the effects of market changes without interfering with the general rise or fall of prices. This allows us to compare periods with different economic conditions and determine trends in land value changes.

The formula for the price index is:

$$\text{Price Index} = \left(\frac{\text{Price in the Current Year}}{\text{Price in the Base Year}} \right) \times 100;$$

Here is a breakdown of the components in the formula for the price index:

- **Price Index:** This is the result of a calculation, expressed as a percentage. It shows how the price in the current year compares to the price in the base year.

- **Price in the Current Year:** This reflects the price of agricultural land in the specific year for which the index is calculated. It reflects the market value of land in the current period under analysis.

- **Price in the Base Year:** This is the price of agricultural land in a selected base year, which serves as a point of comparison. The base year is usually chosen as the reference point for measuring changes over time.

The formula calculates the relative price change by dividing the current year's price by the base year's price. Multiplying the result by 100 converts this ratio into a percentage, allowing for standardized comparisons across time periods. A price index greater than 100 indicates an increase in prices compared to the base year, while an index less than 100 indicates a decrease.

The sources of the study were the State Statistics Committee, the State Geocadaastre, the Polish GUS, Eurostat, the World Bank, UN

SDGs, Agenda 2030, scientific works and analytical reviews.

Results

The analysis of the price indices presented in Table 1 allows us to assess the dynamics of the cost of agricultural land in Ukraine and Poland during the first three years after the market opening.

Table 1. Calculation of the agricultural land price index in Ukraine and Poland: comparative analysis of the initial years of the market

Year	Price in Ukraine (thousands UAH/ha)	Price Index Ukraine	Price in Poland (thousands EUR/ha)	Price Index Poland
2004	-	-	1.8	100
2005	-	-	2.1	116.7
2006	-	-	2.4	133.3
2007	-	-	3.2	177.8
2021	25.2	100	-	-
2022	32.5	129.2	-	-
2023	28.4	112.8	-	-
2024*	31.9	126.5	-	-

**Source: developed based on data from the State Service of Ukraine for geodesy, cartography and cadaster (n.d.), World Bank (n.d.), State Statistics Service of Ukrain. (n.d.), Eurostat. (n.d.).*

A comparative analysis of price indices for Ukraine and Poland shows different trajectories of market development. In Ukraine, where the market is still forming, price fluctuations are observed, which may indicate periods of adaptation and some instability. The Polish market, on the contrary, demonstrated more stable growth at a similar stage of its development, which may be due to a more structured approach to land market regulation and farm support.

The development of the land market in both Ukraine and Poland was affected by Russia's war against Ukraine. A direct consequence of the military aggression was the complete cessation of

land transactions in Ukraine during the first three months of hostilities (February-April 2022), as administrative mechanisms required adaptation to wartime conditions, and the general destabilization affected all market participants. When transactions resumed in May 2022, the market structure underwent fundamental changes: the share of purchase and sale contracts sharply decreased from 26.1 % in the pre-war period to only 7.1 % in May 2022, while inheritance procedures increased to 91 % of all transactions, indicating a shift to more conservative forms of land ownership transfer during the crisis period (table 2).

Table 2. The impact of full-scale war on agricultural land prices and contractual practices in Poland and Ukraine

Poland	Ukraine
<i>Agricultural land prices 2022–2025</i>	
Average private market prices remain high in 2023–2025: official average for IV quarter 2024 - 69 655 pln/ha (19210 \$/ha) (arable) with a breakdown by quality; the spread across provinces is very large. In 2024–I half of the 2025 average prices for “good”/“medium” soils fluctuated around ~75–85 тис. pln/ha (20681 – 23439 th \$/ha) (depending on class and region)	Weighted average price with ~37 thousand UAH /ha (897 \$/ha) in 2023 increased to ~44 thousand UAH /ha (1066 \$/ha) in 2024 (+19 %). In 2025 growth continues: average values across different samples – ~50–70 thousand UAH/ha (1212-1697 \$/ha); as of July 2025 ≈ 69,6 thousand UAH/ha (1687 \$/ha)

Aggregate sale of land	
Since the market opened (after 1992), a total of over 3 million hectares of land have been sold from the state resource ZWRSP/KOWR	Cumulatively, > 636 thousand hectares have been sold since the market opened (July 2021)
Contracts (purchase and sale, lease/emphyteusis)	
Land purchase is controlled by KOWR: preferential rights, requirements for “rolnik indywidualny”, obligation to manage personally, etc. (after 2016 the rules were strengthened and further clarified). This restrains speculative demand and makes the market “slower”. State-owned land is leased through tenders; the rental rate is expressed in decitons of wheat/ha (dt/ha) indexed to the average wheat purchase price. The outbreak of the war in Ukraine in 2022 raised world grain prices, which supported the capitalization of land as an asset, despite inflation and interest rates.	During martial law, special regulations apply: automatic extension of lease/communal lease agreements, tenant's right to early termination; rent benefits for mobilized personnel; individual decisions of local governments regarding deferments/discounts.

**Source: developed based on data from the State Service of Ukraine for geodesy, cartography and cadaster (n.d.), World Bank (n.d.), State Statistics Service of Ukrain. (n.d.), Eurostat. (n.d.).*

In Ukraine, price indices show significant fluctuations during the first three years of the land market. In 2022, the price index was 129 (relative to 2021, taken as the base year with an index of 100), indicating a 29 % increase in prices compared to the first year. This sharp jump may be due to high demand and limited supply at the initial stage of market opening. However, in 2023, the index decreases to 112.7, indicating a 12.7 % decrease in prices compared to the previous year. This may be a result of market saturation or participants adapting to new trading conditions. In 2024, the price index increases again to 126.6, reflecting market stabilization and a recovery of prices to a level close to the previous peak.

For Poland, the price indices for the same period (2004-2007) show a more stable dynamic. In 2005, the index is 116.7, which indicates a price increase of 16.7 % compared to 2004. In 2006, the index increases to 133.3, which means a further increase of 14.2 %. In 2007, the price index reaches 177.8, which represents an even greater increase of 33.4 %. Such dynamics indicate a gradual but steady increase in prices for agricultural land, reflecting high and stable demand, as well as the positive impact of political

and economic stability caused by integration into the European Union.

This divergence in price trajectories suggests fundamental differences in market maturity and institutional frameworks. The steady upward trend in Poland (from 116.7 % to 177.8 %) reflects the stabilizing effect of EU integration, which has provided access to agricultural subsidies, rural development funds and established a legal framework that has reduced investment risks. The projected annual growth of 16-33 % suggests that the market is responding to genuine supply and demand dynamics, supported by comprehensive institutional mechanisms.

In contrast, the volatile picture in Ukraine (from 129 % to 112.8 % to 126.5 %) suggests that the market lacks mature institutional support systems. The sharp initial increase likely reflects the release of pent-up demand and constrained supply as landowners tested new market conditions. The subsequent decline and partial recovery suggest ongoing price-setting processes in the absence of stabilizing mechanisms, such as agricultural credit systems, land valuation standards, or market intervention tools, that characterize mature land markets.

Table 3. Institutional similarities and differences in the formation of the agricultural land market in Poland and Ukraine

Poland	Ukraine
<i>Historical background</i>	
- Since the beginning of the 1990s, after the fall of the socialist system, there has been a return to private ownership of land - The dominant model was small farms, which formed the basis of the agrarian economy - Land relations were quickly integrated into the EU legal system after Poland's accession in 2004	- In the 1990s, the land of collective farms was divided and ownership rights were transferred to peasants - At the same time, a moratorium on the sale of agricultural land has been in effect since 2001, which limited the formation of a full-fledged market - Only from July 2021 did the phased launch of the land market begin
<i>Institutional regulation</i>	
- The Agricultural Property Agency of the State Treasury (later KOWR) was created, which regulated the process of privatization of state lands - Clear mechanisms for land turnover, including requirements for land purchase only by qualified individual farmers - The legislation takes into account the principle of “land for those who cultivate it”	- Institutional support was limited for a long time due to the moratorium - The 2020–2021 reform provided for gradual access to the market: first individual citizens, then legal entities (from 2024) - Control over land concentration (limiting the area owned to 100 hectares by 2024, and subsequently to 10 thousand hectares) - Creation of electronic cadastres, but the issue of transparency of transactions and judicial protection still remains weak
<i>The impact of European integration processes</i>	
Had an adaptation period regarding the opening of the market to foreigners after joining the EU, but gradually liberalized land turnover, while maintaining control mechanisms	Land market reform has become one of the key conditions of international financial partners (IMF, World Bank) and is an important element in the context of European integration
<i>Socio-economic consequences</i>	
- preservation of small-scale farming - farmers' access to European subsidies ensured modernization of farms - reduction of the risk of mass concentration of land in large corporations	- dominance of agroholdings in agriculture - risk of concentration of land resources in large companies with weak protection of the rights of smallholders - need for effective institutions to ensure transparency and equal conditions for farmers

**Source: author's development based on Ustawa (1991) (n.d.), Ustawa (1920) (n.d.), Ustawa (2003) (n.d.), Ustawa (2011) (n.d.), Konstytucja Rzeczypospolitej Polskiej (n.d.), Zemelnyi kodeks Ukrainy (n.d.), Law of Ukraine (2020).*

So, the key similarities between the land markets of Ukraine and Poland are:

- the transformational nature of land reform after the socialist period;
- restrictions on the sale of land to foreigners;
- the presence of state agencies to regulate land turnover.

Land market and price policy regulation is essential for sustainable development and will: ensure property rights and access to land for small farmers and vulnerable groups, reduce the risk of marginalization and increase incomes. A regulated land market contributes to the development of efficient agriculture, food security

and sustainable agricultural practices. A transparent land market stimulates investment, the development of farming and agribusiness. Effective land management supports the development of rural areas, prevents chaotic urbanization, promotes the formation of environmentally friendly land use practices, regulates soil degradation, promotes the restoration of ecosystems, preservation of land fertility, biodiversity, and prevention of desertification. The institutional features of the formation and development of the land market of each country have different effects on the achievement of sustainable development goals (table 4).

Table 4. Comparison of the agricultural land market of Ukraine and Poland in the context of sustainability

Poland	Ukraine
The land market has been developing since the early 1990s, with an emphasis on supporting family farming	There was a moratorium on land sales for about 20 years, which hindered the formation of a sustainable market
The state applies restrictions to prevent excessive land concentration and speculation	Only since 2021 has the market begun to gradually launch, but the institutional base is still weak
The state applies restrictions to prevent excessive land concentration and speculation	The dominance of agroholdings creates the risk of land concentration and a reduction in the role of small farmers
Integration into EU policies has provided access to subsidies, which increases the economic and social sustainability of farms	Existing challenges in the area of transparency of transactions, protection of property rights and ensuring equal access to land

**Source: author's development based on UN SDGs, Agenda 2030. (n.d.), Ustawa (1991) (n.d.), Ustawa (1920) (n.d.), Ustawa (2003) (n.d.), Ustawa (2011) (n.d.), Konstytucja Rzeczypospolitej Polskiej (n.d.), Zemelnyi kodeks Ukrainy (n.d.), Law of Ukraine (2020).*

The value of land and the terms of purchase and sale contracts directly affect the balance between economic, social and environmental aspects of development. Below is a summary of how this impacts the achievement of the Sustainable Development Goals (table 5).

Table 5. Land value and purchase and sale contracts as one of the regulators of achieving sustainable development goals

Indicator	Influence
Land cost	Economic dimension (SDG 8 – Decent work and economic growth) A fair market price creates incentives for investment, modernization of agricultural production, and increased productivity
	Social dimension (SDG 1 – End poverty, SDG 10 – Reduce inequality) If the price is too high, small and medium-sized farmers lose access to land, which increases the concentration of ownership in large agricultural holdings. If the price is adequate, it expands opportunities for small producers
	Environmental dimension (SDG 15 – Life on land) A high price encourages intensive land use for a quick return on investment, which leads to the risk of soil degradation. A moderate price, in turn, promotes a long-term approach and sustainable use
Land purchase and sale contracts	Transparency and security of agreements (SDG 16 – Peace, justice and strong institutions) Clear rules, notarization, and protection of property rights reduce corruption and conflict
	Accessibility of financial mechanisms (SDG 5 – Gender Equality, SDG 1 – Poverty Eradication) If contracts provide for fair credit/mortgage terms, vulnerable groups (small farmers, women) gain access to the land market
	Conditions for sustainable land use (SDG 12 – Responsible consumption and production, SDG 13 – Climate) Contracts can include restrictions on the type of activity (for example, a ban on changing the intended use of valuable agricultural land), requirements for environmental standards, which contributes to sustainable resource management
Total impact on the Sustainable Development Goals	Positive A transparent pricing system and contracts with protection of owner rights and requirements for sustainable land use contribute to economic growth, reduced inequality, and food security
	Negative Inflated land prices, speculative deals, and weak contract regulation lead to monopolization, social tension, and environmental degradation

**Source: author's development based on UN SDGs, Agenda 2030. (n.d.).*

A fair market price creates conditions for investment, increased productivity and support for smallholder farmers, while encouraging long-term and environmentally sustainable land use. Transparent and fair contracts ensure the protection of landowner rights, access to finance, integration of environmental requirements and thus contribute to SDGs 5, 8, 12, 13 and 16.

Opaque and speculative deals breed corruption, undermine trust in institutions, and threaten the sustainable development of territories. The land market can become a driver of sustainable development only with transparent pricing and clear contractual rules that combine economic incentives with social justice and environmental responsibility.

Conclusions

The analysis of agricultural land price indices in Ukraine and Poland allows us to conclude that at the stage of market opening in Poland, price dynamics were more predictable and stable, while in Ukraine significant fluctuations are observed, which fully reflects market patterns. In Ukraine, the land market operates chaotically without a clear purpose of functioning, which is reflected in unstable price dynamics, further emphasizing the shortcomings of the current market policy.

In both countries, land has maintained or increased its value after the 2022 shock. In Ukraine, despite the fighting, prices are rising due to supply shortages and institutional changes (admission of legal entities to the land market). In Poland, prices are structurally high (CAP, farm incomes, investment demand), with local adjustments.

The main differences between the land markets of Ukraine and Poland are that Poland implemented the land reform earlier and in more stable economic conditions, integrating it with EU policy. In Ukraine, the land market actually began to operate only in 2021, after a twenty-year moratorium. Poland has retained the priority of

small-scale farming, while in Ukraine large agrarian corporations have significant influence. Institutional capacity in Poland is much higher (judicial system, cadastral registration, transparency) than in Ukraine.

The value of land resources and the terms of purchase and sale contracts are decisive factors influencing the achievement of sustainable development goals. Fair market valuation of land provides conditions for attracting investment, increasing agricultural productivity and maintaining access to resources for small and medium-sized producers. This, in turn, contributes to the implementation of SDG 1 “End poverty”, SDG 2 “End hunger”, as well as SDG 8 “Decent work and economic growth”. In contrast, inflated or speculative land prices lead to excessive concentration of ownership, increasing social inequality and increasing environmental threats, which contradicts the achievement of SDG 10 “Reduce inequalities” and SDG 15 “Life on land”.

At the same time, transparency and fairness of contractual relations in the land market are directly linked to the effectiveness of the institutional environment (SDG 16 “Peace, justice and strong institutions”). Establishing clear legal norms, protecting property rights and integrating environmental requirements into land purchase and sale contracts create conditions for responsible land use (SDG 12, SDG 13) and contribute to ensuring gender equality in access to resources (SDG 5). Thus, regulating land values and contractual mechanisms becomes a critical tool for combining the economic, social and environmental components of sustainable development.

The practical significance of the study is that this study can become a reference point for reformers, a tool for predicting risks and opportunities for farmers, and a basis for harmonizing Ukraine's land policy with European standards.

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