

**STRUCTURAL CHANGES IN ROMANIAN AGRICULTURAL HOLDINGS
FOLLOWING EUROPEAN UNION ACCESSION: A POST-2007 PERSPECTIVE**

**IANOSEL PETRICA^{1*}, FOGHIS GIORGIANA MARIA¹,
ȘÎRBULESCU CLAUDIA ELENA¹, FEHER ANDREA^{1,2}**

*¹University of Life Sciences "King Mihai I" from Timisoara, Faculty of Management and Rural
Tourism, Romania*

*²Romanian Academy-Timisoara Branch, Research Centre for Sustainable Rural
Development of Romania, Timisoara, Romania*

Corresponding author's e-mail: petrica.ianosel@usvt.ro

***Abstract:** The paper analyses the structural transformations of Romanian agricultural holdings after EU accession in 2007, focusing on farm size, legal forms, and distribution by size classes. Using data from Eurostat and national sources, the study shows a decline in subsistence farms and a growth of medium and large commercial holdings, driven by land consolidation, access to EU funds, and regulatory compliance. Many farms shifted to legal entities, improving financing and productivity, though regional disparities persist. While efficiency and competitiveness increased, challenges remain, including ageing rural populations, land abandonment, and unequal resource access. The findings highlight the need for sustained rural development policies to ensure balanced and sustainable growth in Romanian agriculture.*

***Key words:** structural change, EU accession, Romania, farm size, rural development*

INTRODUCTION

Romania's accession to the European Union in 2007 represented a fundamental turning point for the country's agricultural sector [7]. Prior to EU membership, Romanian agriculture was characterized by significant structural fragmentation, a dominance of subsistence and semi-subsistence holdings, outdated technology, and low market orientation [20]. The integration into the EU Common Agricultural Policy (CAP) framework introduced new opportunities and challenges for both smallholders and large-scale producers [21].

In addition to the structural disparities, Romania's agricultural transition has been hindered by demographic decline in rural areas, low levels of digitalization, and a relatively aged farming population [4,5]. These factors compound the difficulties of modernizing traditional practices. The EU's rural development strategies, particularly those under CAP Pillar II, aimed to enhance competitiveness, promote innovation, and strengthen the environmental sustainability of agriculture. However, implementation challenges persisted due to weak administrative capacity, fluctuating political will, and delays in funding disbursement [12,13]. Moreover, accession brought stricter food safety regulations and market requirements that many small farms found difficult to meet [11]. As a result, their market participation declined or remained informal.

This dichotomy created a dual-speed agricultural model: one segment integrated into European markets, the other marginalized. The persistence of informal land arrangements, partial land registration, and overlapping inheritance rights added layers of complexity to land use efficiency [6, 8].

This paper's structure reflects both quantitative analysis and qualitative interpretation, aiming to map not just what changed, but also how and why, and what implications those changes carry for Romania's agricultural future.

MATERIALS AND METHODS

This research uses a longitudinal, descriptive methodology based on official statistical data covering the years 2002 to 2020. Data were collected from Eurostat, Organisation for Economic Cooperation and Development and World Bank.

The key indicators analysed include the number of farms, average farm size, distribution of farms by size class, legal forms of organization (physical vs. juridical persons), production typology (crop/livestock/mixed), and the degree of land consolidation. Each dataset was harmonized to allow temporal comparison.

Descriptive statistical tools were used to assess trends and structural shifts, while interpretative analysis focused on evaluating policy effects and structural efficiency. Graphs and tables complement the text to visualize the evolution of Romanian agriculture in the post-accession context.

To ensure comparability, the data were adjusted for definitions that changed slightly across census years, particularly regarding the threshold for defining an agricultural holding. Where necessary, cross-validation with academic literature and policy evaluations was performed to fill data gaps.

The study offers a robust and policy-relevant analysis, particularly useful for national and regional decision-makers, agricultural consultants, and researchers focused on Eastern European agricultural transitions.

The following indicators were selected for a comprehensive understanding of Romania's agricultural transformation:

- Total number of holdings: to show how the farming population and landscape changed over time.
- Average farm size (ha/holding): reflecting the extent of land consolidation or fragmentation.
- Size class distribution: dividing farms into categories (e.g., <1 ha, 1–5 ha, 5–20 ha, >50 ha) to reveal polarization.
- Form of organization: identifying the prevalence of physical persons (individual farms) versus juridical persons (companies/cooperatives).
- Production typology: differentiating crop farms, livestock farms, and mixed farms.
- Degree of land consolidation: assessing the physical and legal merging of small plots into viable farming units.

By analysing these variables across three key moments (2002, 2010, and 2020), we can detect major patterns and draw conclusions about Romania's adaptation to EU standards.

RESEARCH RESULTS

1. Holdings and Farm Size

In 2002, Romania had over 4.48 million agricultural holdings, most of them small, under 5 hectares. By 2010, this number declined to 3.86 million, and by 2020, to 2.88 million [11].

This drastic drop reflects not only demographic and economic shifts but also policy effects, such as CAP incentives favoring larger farms. Meanwhile, the average farm size increased from 3.1 ha in 2002 to 4.3 ha in 2020.

Table 1.

Evolution of the number of farm holdings in Romania and the EU-27 by farm size (2010–2020)

Size of farm holdings	Romania Number of farm holdings		Δ numbers	Δ %	EU27 Number of farm holdings		Δ numbers	Δ %	Romania Share (% of EU farm holdings)	
	2010	2020			2010	2020			2010	2020
0 ha	134,710	45,570	-89,140	-66.2	248,160	126,500	-121,660	-96.2	54	36
0-2 ha	2,731,730	2,042,630	-689,100	-25.2	5,751,090	3,733,420	-2,017,670	-54.0	47	55
>2-5 ha	727,390	519,440	-207,950	-28.6	2,467,680	1,925,520	-542,160	-28.2	29	27
>5-10 ha	182,440	161,020	-21,420	-11.7	1,311,310	1,121,510	-189,800	-16.9	14	14
>10-20 ha	43,610	56,200	12,590	28.9	889,330	789,040	-100,290	-12.7	5	7
>20-30 ha	9,730	18,160	8,430	86.6	366,380	341,690	-24,690	-7.2	3	5
>30-50 ha	8,210	16,890	8,680	105.7	375,070	353,530	-21,540	-6.1	2	5
>50-100 ha	7,480	11,150	3,670	49.1	359,780	349,630	-10,150	-2.9	2	3
>100+ ha	13,730	16,010	2,280	16.6	286,530	326,470	39,940	12.2	5	5
Total	3,859,030	2,887,070	-971,960	-25.2	12,055,330	9,067,310	-2,988,020	-33.0	32	32

Source: Eurostat, 2025, online data code: ef_m_farmleg [11]

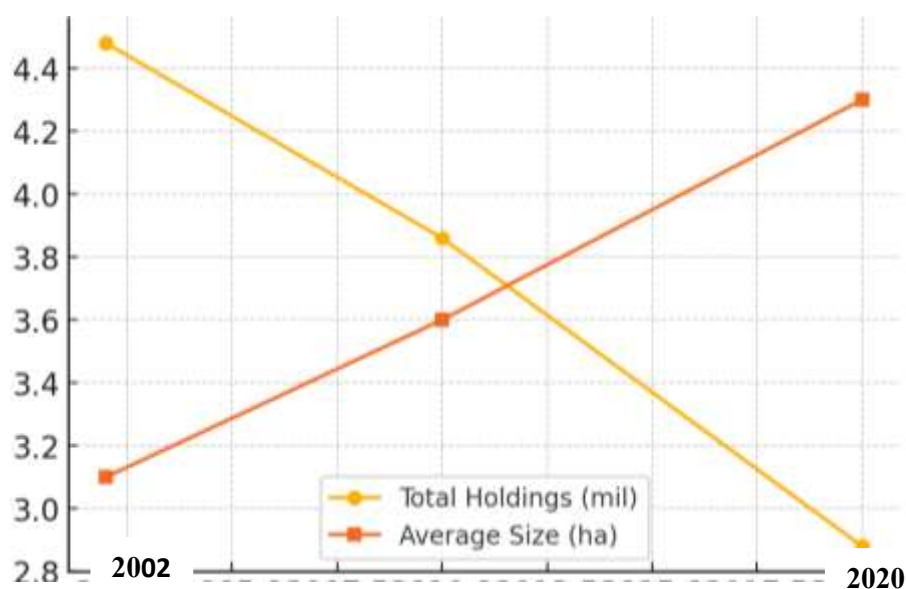


Figure 1. Trends in Romanian agricultural holding.

Source: Developed according Eurostat, Agricultural Census, 2000, 2020 [17]

The redistribution is uneven. Holdings under 2 ha dropped by more than 35% between 2002 and 2020, while those over 50 ha almost doubled. This polarization indicates that smallholders either exited the sector or failed to formalize their activity, while medium and large farms benefited from subsidies and technological improvements. Despite progress, Romania's average farm size remains the smallest in the EU, revealing persistent fragmentation [1,9].

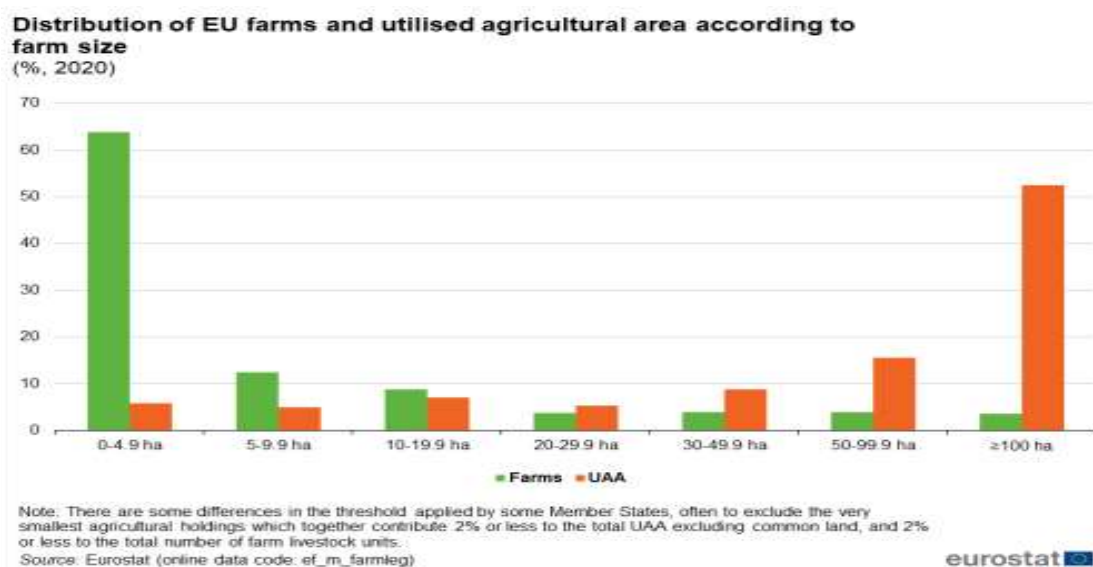


Figure 2. Distribution of EU farms and utilised agricultural area according to farm size (% , 2020)

Source: Eurostat, 2025, online data code: ef_m_farmleg [15]

Structural changes were more pronounced in regions with high land quality and market access, such as the southern plains and western Romania. In mountainous and hilly areas, smallholdings remain prevalent, often for subsistence purposes.

The polarization trend is particularly worrying: as large farms scale up and dominate exports and access to funds, small farms are left with diminishing returns and weak political representation. Many young people migrate out of rural areas due to low income potential and limited services, deepening the structural divide.

In terms of land use, average farm size increases were often achieved through informal arrangements (e.g., verbal lease agreements), which hinder legal security and investment. Moreover, the prevalence of multi-parcel holdings complicates mechanization and infrastructure development.

Data from the 2020 census show that holdings between 50–100 ha increased by over 60% since 2010, while those under 2 ha decreased by 34%. This indicates consolidation at the top, with stagnation or disappearance at the bottom. Without interventions, Romania risks a scenario where most rural inhabitants are land-poor and economically marginalized.

2. Legal Forms and Organizational Structure

Romanian agriculture continues to be dominated by individual (physical) persons, who represented over 96% of all farms in 2020, but this share is slowly declining. Juridical persons play an increasingly important role in large-scale production [10].

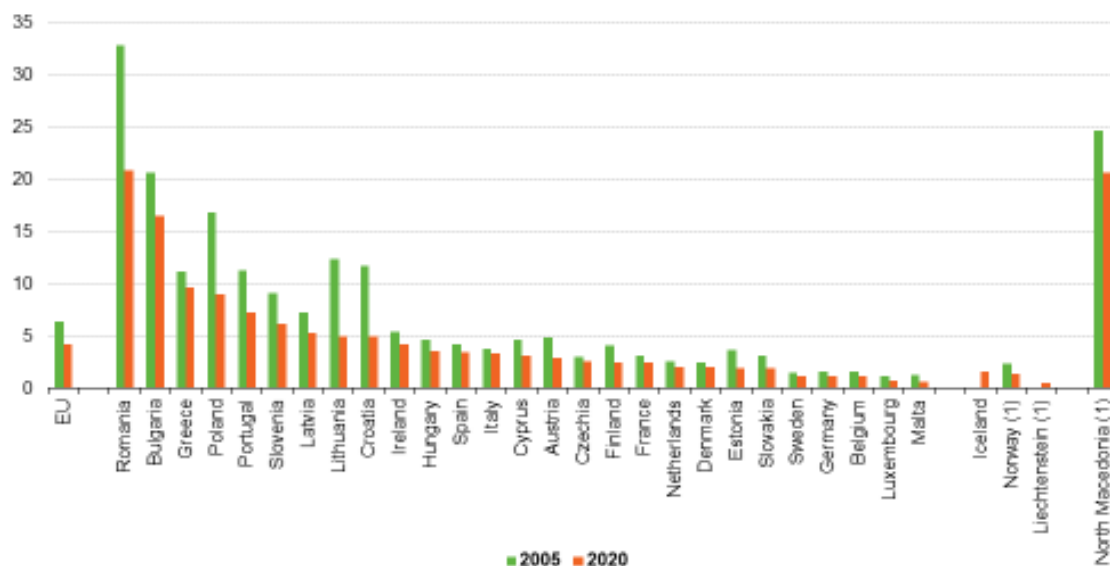


Figure 3. Employment in agriculture (% of total employment, 2005 and 2020)

Source: Eurostat, 2025, online data code: nama_10_a64_e [16]

The area managed by juridical persons increased substantially. Although they represented less than 5% of total farms in 2020, they controlled over 35% of the utilized agricultural area [6].

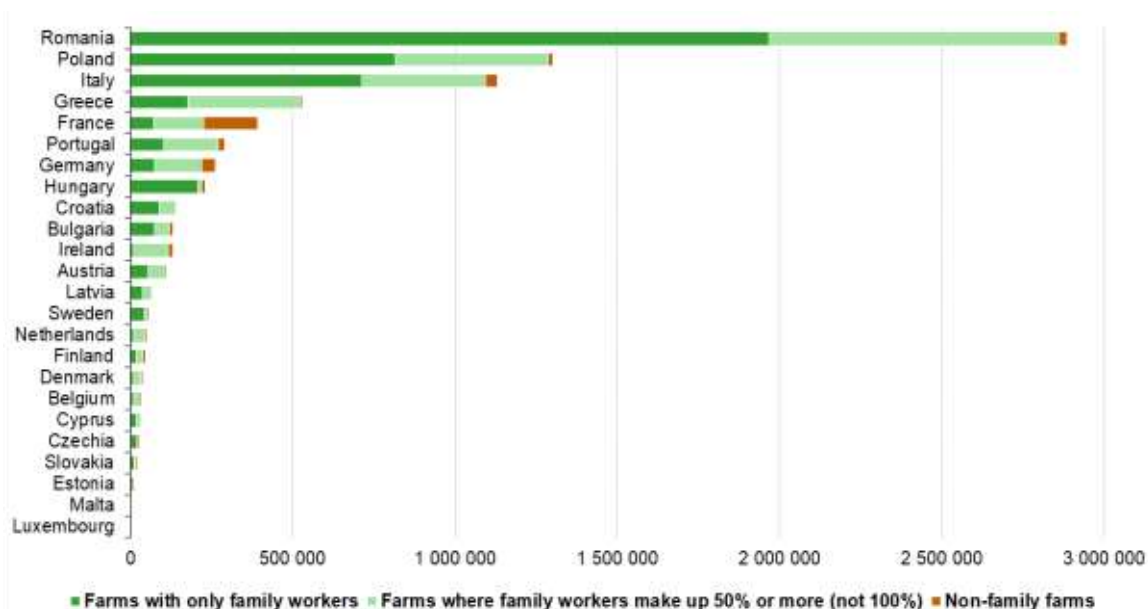


Figure 4. Farms in the EU, 2020

Source: Eurostat, Agricultural Census 2020 [17]

This reflects a clear shift toward formalization and commercialization of agriculture, especially for cereal production and industrial-scale livestock operations.

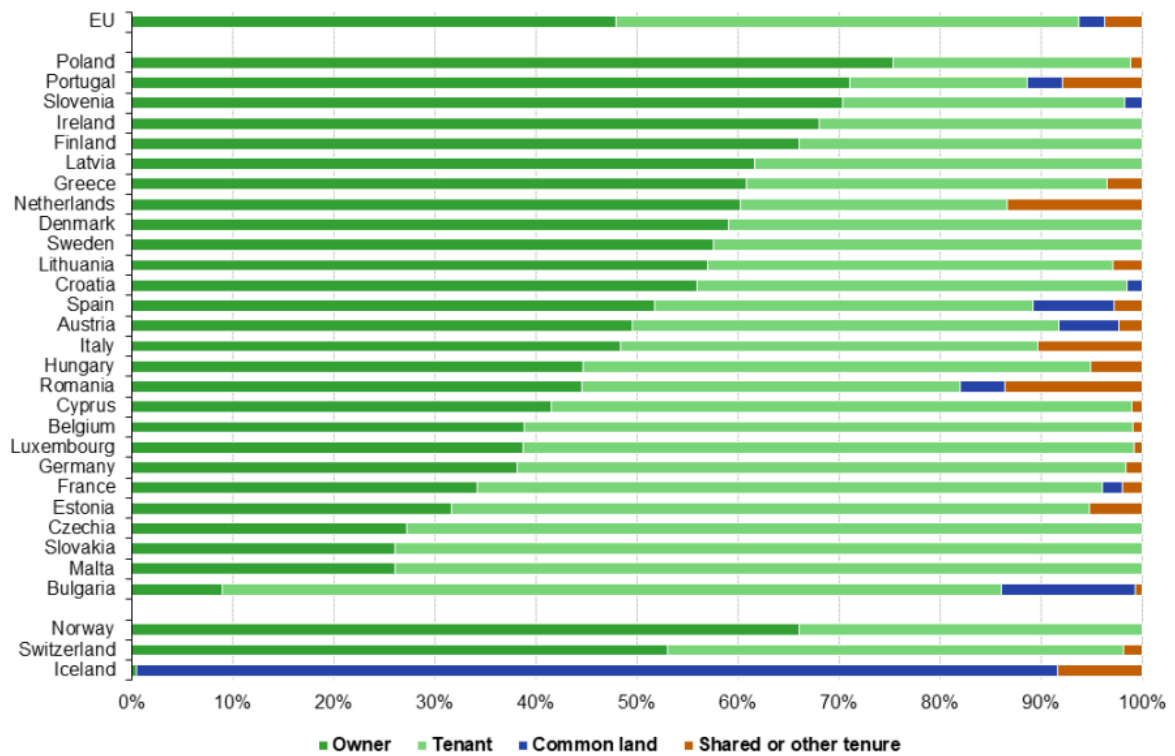


Figure 5. Utilised agricultural area by type of farm tenure (% share of total, EU and countries, 2020)

Source: Eurostat, 2025, online data code: ef_mp_tenure [18]

Although the amount of utilised agricultural area in the EU declined by an estimated 1.1 million hectares between 2010 and 2020 to 157.4 million hectares, the amount of land that was rented increased by an estimated 1.5 million hectares, whilst the amount of own-land farmed declined by an estimated 5.6 million hectares.

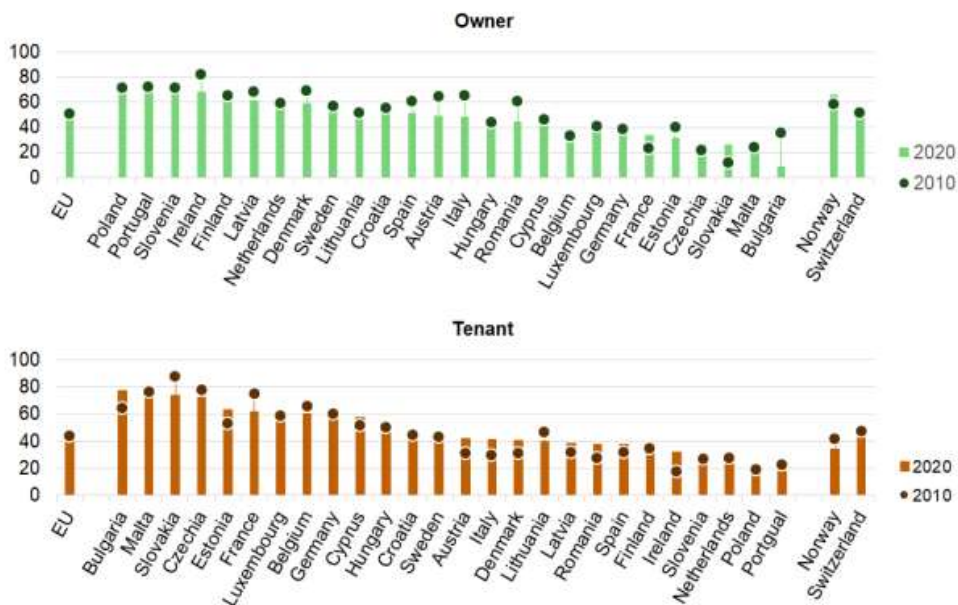


Figure 6. Change in type of farm tenure of utilised agricultural area (% share of total, EU and countries, 2020)

Administrative and fiscal incentives (e.g., easier access to subsidies and investment grants) have encouraged farm formalization [2]. However, bureaucracy and mistrust still discourage many smallholders from forming cooperatives or registering their activity legally.

Further data from Eurostat indicate that juridical farms are responsible for more than 60% of commercial production, particularly in grain exports, livestock processing, and industrial farming. However, small and medium physical-person farms still serve a vital role in food security, local markets, and agro-ecological diversity.

Legal fragmentation remains a systemic problem. Many farmers operate without clear title or inheritance resolution, preventing them from accessing loans or joining formal associations [3]. The low number of cooperatives compared to other EU countries (less than 1 per 1,000 farms in 2020) shows mistrust in collective action, a legacy of communist-era abuses.

New cooperative laws (2016 and 2018) tried to incentivize legal restructuring, but uptake has been slow. Still, recent years show a modest rise in registered family farms, suggesting that cultural shifts may support legal formalization if policies are consistent and clearly communicated.

3. Farm Typology: Crop, Livestock, and Mixed Holdings

The dominant model remains the mixed farm, combining crops and livestock, especially among small and medium farms [19]. However, specialization has increased, particularly in larger farms, due to economic advantages and CAP incentives for monocultures and targeted production lines.

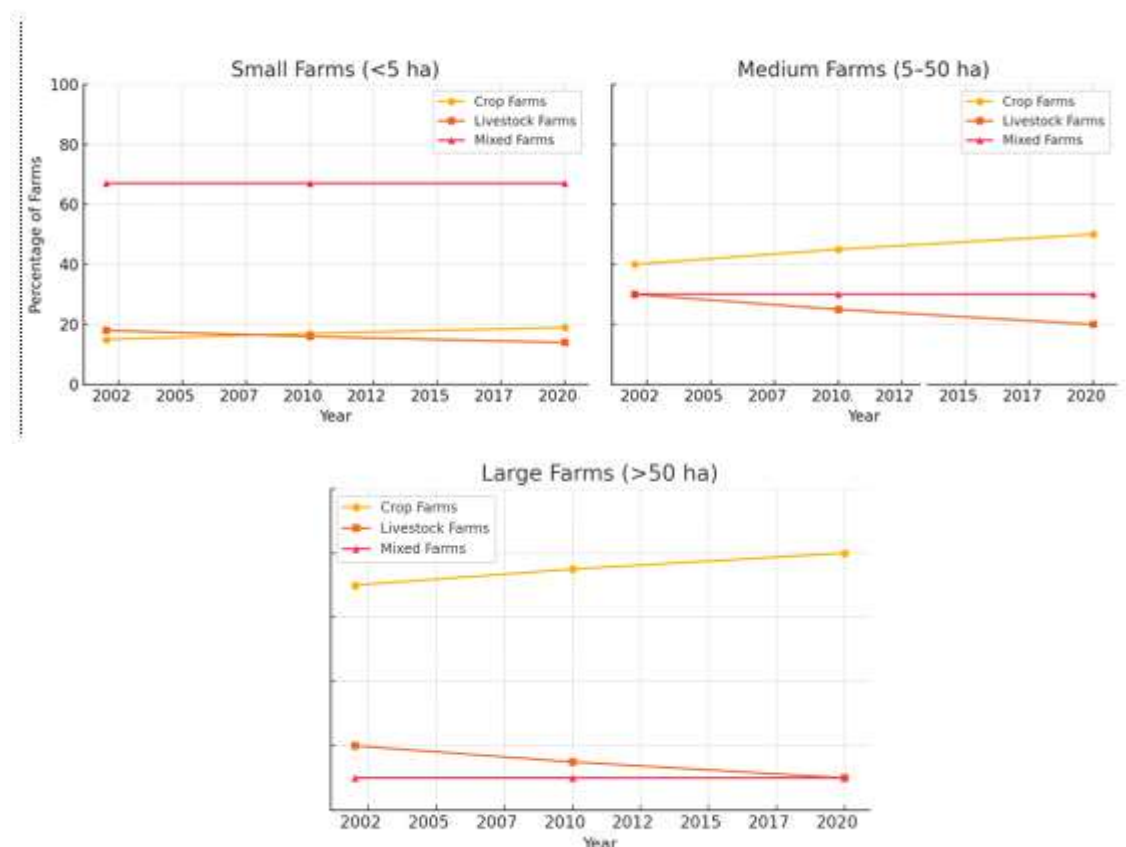


Figure 7. Farm typology by size class in Romania (2002-2020)

Source: Eurostat, *Agricultural Census 2020* [17]

Figure 7 presents the evolution of Romanian farm typology between 2002 and 2020, segmented by farm size: small (<5 ha), medium (5–50 ha), and large (>50 ha) holdings. A clear trend emerges across all categories, a steady increase in crop specialization, especially within larger farms, driven by CAP incentives and market-oriented production advantages. For small farms, mixed farming continues to dominate, with over 65% of holdings consistently combining crop and livestock production. However, there is a slight upward trend in crop-only farms, possibly reflecting attempts at modest specialization or adaptation to subsidy schemes.

Medium-sized farms show a more balanced shift. Crop farms increased from 40% in 2002 to 50% in 2020, while livestock farms declined. This suggests a move away from diversified operations toward more focused, scalable practices.

The most striking transformation is visible in large farms. Crop specializations rose from 70% to 80%, while both livestock and mixed farms declined sharply. This reflects the commercial intensification of agriculture, where economies of scale and export potential are key drivers. In summary, the data underscore a dual trend: persistence of traditional mixed systems among smallholders, and specialized, capital-intensive crop production among larger enterprises. This divergence raises challenges for inclusive rural development and equitable policy outcomes.

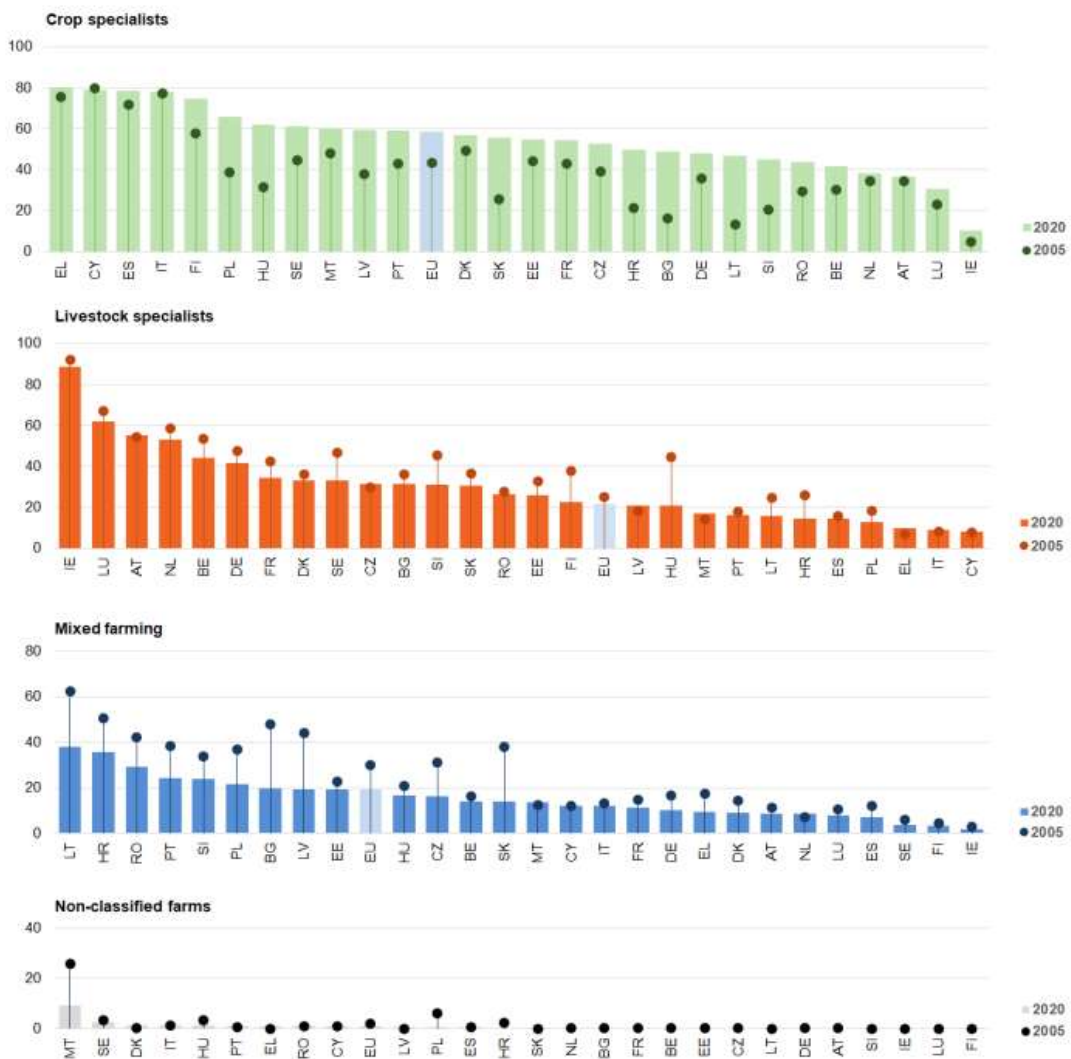


Figure 8. Farm specialisations in EU countries (% share of all farms, 2005 and 2020)
 Source: Eurostat, 2025, online data code: ef_lus_main [19]

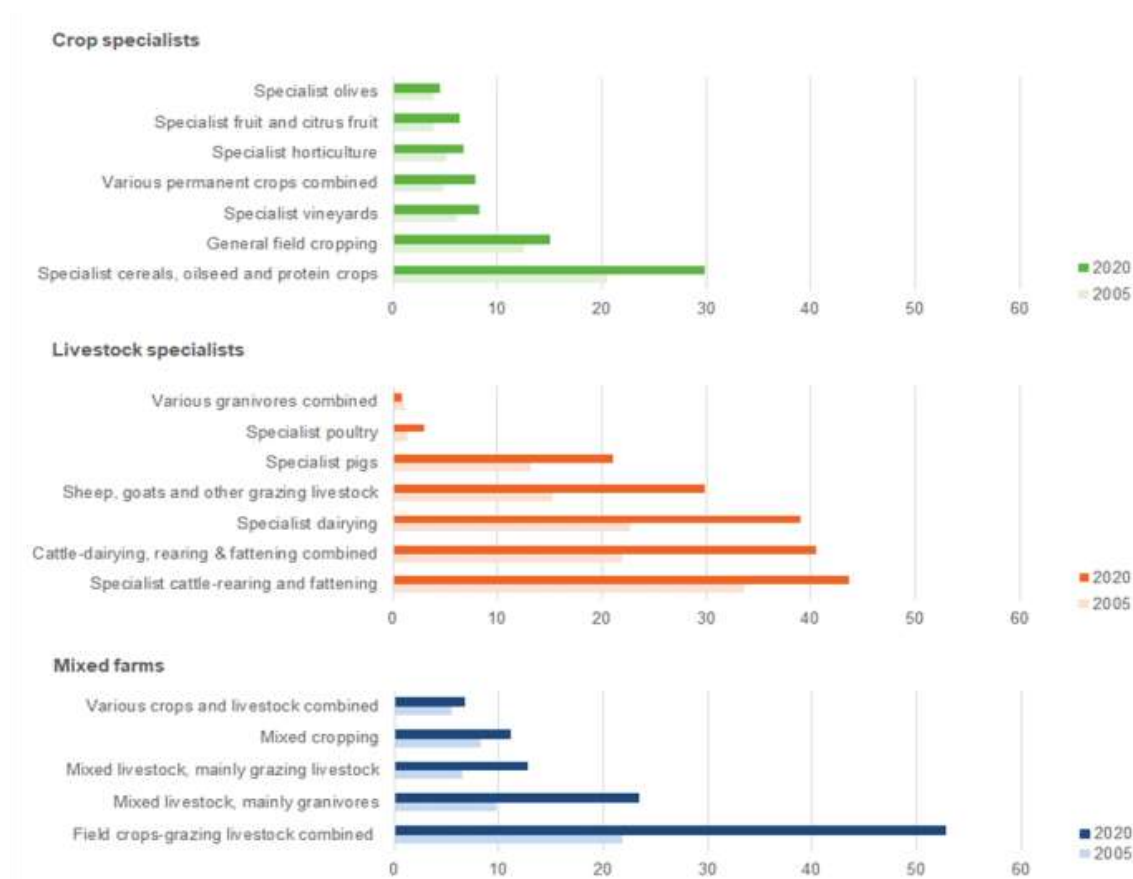


Figure 9. Average size of specialist farms (ha per holding, EU, 2005 and 2020)

Source: Eurostat, 2025, online data code: *ef_lus_main* [19]

Data from the 2020 census suggest that while land use concentration improved slightly, parcel consolidation remains slow [17]. A typical holding still comprises 3–5 plots, often in different locations, raising transaction costs. The National Land Consolidation Strategy (adopted in 2022) aims to address this, but implementation is still in early stages.

Land leasing is increasingly common: around 36% of UAA was leased in 2020, mostly by large juridical holdings. However, informal rental arrangements dominate smallholder practices, creating uncertainty and limiting long-term investment. Poor cadastral coverage (only 60% of land registered in 2021) compounds the issue. Land consolidation must go beyond technical solutions. Integrated approaches combining legal reform, digital cadastre, and targeted subsidies are needed. The experience of countries like Poland and Hungary shows that successful consolidation requires clear property rights, trust in institutions, and financial incentives for voluntary land exchange.

CONCLUSIONS

The post-2007 evolution of Romanian agriculture reveals a structurally dual model. On one side, we observe a dynamic, market-oriented sector made up of larger, legally registered holdings. These farms benefit from EU support, have access to modern equipment, and contribute significantly to exports. On the other side, a vast number of smallholders, often overaged and undercapitalized, continue operating in semi-subsistence or informal systems [14].

This structure creates multiple imbalances:

- Access to CAP funds is skewed, with smallholders receiving only a fraction of available support.
- Technological diffusion is limited in fragmented regions.
- Economies of scale are constrained by legal and physical land fragmentation.

Another notable outcome is the spatial disparity. Western and southern Romania are more integrated into agro-industrial chains, while the northeast and mountainous zones lag in modernization. This territorial divide reflects historical, infrastructural, and economic inequalities.

Without targeted interventions, Romania risks deepening rural poverty, land abandonment, and social tensions. The current model is functional for competitiveness, but weak on equity and inclusiveness.

REFERENCES

- [1]. **ADAMOV T., BRAD L., FEHER A., TIBERIU I.**, 2016, Characterization of Romanian Agricultural Holdings, Review on Agriculture and Rural Development, vol. 5(1-2), pp. 13-18
- [2]. **BERGER P.L., LUCKMANN T.**, 1996, The Social Construction of Reality, Garden City, Anchor Books, New York
- [3]. **CASTELLS M.**, 2010, The Rise of the Network Society, Wiley-Blackwell, Oxford
- [4]. **FEHER A.**, 2025, European Union policies and funding programmes. The case of Romania, Pro Universitaria, București
- [5]. **FEHER A., STANCIU S., IANCU T., ADAMOV T.C., CILOAC R.M., PASCALAU R., BANES A., RAICOV M., GOSA V.**, 2022, Design of the macroeconomic evolution of Romania's agriculture 2020-2040, Land Use Policy, vol. 112, 105815, DOI: <https://doi.org/10.1016/j.lusepol.2021.105815>
- [6]. **FESHCHENKO A.**, 2020, Development of Large-scale Farming in Romania: The Role of Policies and Reforms. Large Scale Agriculture, 1, pp. 23–41, <https://doi.org/10.22004/ag.econ.303603>
- [7]. **HUBBARD C., LUCA L., LUCA M., ALEXANDRI C.**, 2014, Romanian farm support: has European Union membership made a difference?, Studies in Agricultural Economics, Research Institute for Agricultural Economics, vol. 116(2), 1-7, DOI: 10.22004/ag.econ.183184
- [8]. **OTIMAN P.I., MATEOC-SÎRB N., FEHER A., BĂNEȘ A., RAICOV M., ȘUSTER G., SĂLĂȘAN C.**, 2024, Romania's agriculture: where it stands and where it is going in the post-accession period (2007-2024), Conference Proceeding, Belgrad, Serbia, pp. 65-76
- [9]. **POPESCU A.**, 2015, Considerations on Romania's Agri-food Trade Balance in the Post-accession Period, Agricultural Economics and Rural Development 12(1), pp. 45–54
- [10]. **RUSALI M.**, 2013, Common Agricultural Policy Implications in the Evolution of Romanian Agriculture Geography, IBIMA Publishing, <https://ibimapublishing.com/articles/JAGRM/2013/257268/>
- [11]. **SĂLĂȘAN C., MATEOC-SÎRB N., DUMITRESCU C., ADAMOV T., MOISA S., FEHER A., IOSIM I., RAICOV M.**, 2020, Small farms' and agricultural households' labor perspective, challenges and key influence factors in Romania, Proceedings of the XI International Scientific Agricultural Symposium "Agrosym 2020", pp. 914-919
- [12]. **VELCOTĂ I. I., GHEORGHESCU I. C., MATEOC-SÎRB N.**, 2019, The Evolution of Agriculture in Romania after Accession to the European Union." *Lucrări Științifice Management Agricol* 15, no. 1, pp. 307–312

- [13]. **ZAHIU L., DACHIN A.**, 2008, Romanian Agriculture Adjusting to the New Strategic Guidelines of the European Union, Bulletin of University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca. Horticulture 65, no. 1, pp. 78–84. <https://www.cabdirect.org/cabdirect/abstract/20093314352>
- [14]. ***, **EUROPEAN COMMISSION**, 2022, CAP Strategic Plans 2023–2027, https://agriculture.ec.europa.eu/cap-overview/cap-strategic-plans/cap-strategic-plans-2023-2027_en
- [15]. ***, **EUROSTAT**, 2025, Farm indicators by legal status of the holding, utilised agricultural area, type and economic size of the farm and NUTS 2 region, online data code: ef_m_farmleg
- [16]. ***, **EUROSTAT**, 2025, Employment by detailed industry (NACE Rev.2) - national accounts, online data code: nama_10_a64_e
- [17]. ***, **EUROSTAT**, 2025, <https://ec.europa.eu/eurostat/web/agriculture/information-data/agricultural-census>
- [18]. ***, **EUROSTAT**, 2025, Tenure of agricultural holdings by utilised agricultural area, sex and age of farm manager, online data code: ef_mp_tenure
- [19]. ***, **EUROSTAT**, 2025, Main farm land use by NUTS 2 region, online data code: ef_lus_main
- [20]. ***, **ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (OECD)**, 2020, Agricultural Policy Monitoring and Evaluation 2020, <https://www.oecd.org/publications/agricultural-policy-monitoring-and-evaluation-2020-928181a8-en.htm>
- [21]. ***, **WORLD BANK. ROMANIA**, 2014, Rural Development Strategy 2014–2020, <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/781101468294069472/romania-rural-development-strategy-2014-2020>