

## SMALL VS. LARGE FARMS IN ROMANIA: ECONOMIC PERFORMANCE AND POLICY IMPLICATIONS FOR SUSTAINABLE RURAL DEVELOPMENT

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**Abstract:** *The study explores the relationship between farm size, economic performance and sustainable rural development in Romania. It investigates how the coexistence of many small family farms and a limited number of large commercial holdings shapes the efficiency and competitiveness of the agricultural sector. Based on official statistical data and a comparative analysis, the research identifies persistent structural disparities that influence productivity, income distribution and access to development opportunities. The paper also examines the effects of current agricultural policies, including the new Common Agricultural Policy, on farm viability and rural cohesion. The findings highlight that policy support remains uneven, favouring larger beneficiaries, while small farms continue to play a key social role but face constraints in modernization and market integration. The study concludes that promoting balanced rural development requires differentiated policy measures, stronger cooperation between farms, and enhanced managerial and digital capacities to ensure long-term sustainability.*

**Key words:** *agricultural structure, economic performance, rural development, farm management, agricultural policy*

### INTRODUCTION

In the context of profound structural and technological transformations affecting European and global agriculture, Romanian farms face major challenges related to economic efficiency, competitiveness, and compliance with the principles of sustainable rural development. Beyond its traditional economic function, agriculture today is viewed as a strategic sector that must simultaneously ensure food security, protect natural resources, and sustain social cohesion in rural communities [8 ,9].

Romanian agriculture remains one of the most polarized systems in the European Union, characterized by the coexistence of numerous small-scale, semi-subsistence farms and a much smaller number of large, capital-intensive enterprises. This dual structure shapes the sector's productivity, resource use efficiency, and capacity to adapt to the sustainability objectives promoted through the European Green Deal and the Common Agricultural Policy (CAP). While small farms play a crucial role in maintaining rural employment, cultural heritage, and agrobiodiversity, large farms contribute disproportionately to output, market integration, and export performance [1,2, 13].

Since Romania's accession to the European Union, the agricultural sector has undergone profound changes under the influence of CAP reforms, access to structural funds, and growing pressure to meet European standards of quality, environmental protection, and technological innovation. Yet, disparities between small and large farms remain significant, both in terms of land concentration and access to investment capital, technology, and policy support. These disparities raise essential questions about the future direction of rural development and the inclusiveness of public policies [10,11].

The present study aims to analyze the structural and economic differences between small and large farms, focusing on their respective contributions to rural sustainability. The research explores the relationship between farm size, productivity, and access to CAP payments, as well as the impact of modernization, eco-schemes, and digitalization on overall farm performance [3,5,12].

**MATERIALS AND METHODS**

The study applies a descriptive and comparative research design to evaluate the structural and economic performance of Romanian farms by size category, in the context of sustainable rural development. Statistical data were collected from official sources, including the National Institute of Statistics (INS), Eurostat, and the Ministry of Agriculture and Rural Development (MADR), covering the period 2010–2023. The analysis focused on key economic indicators such as farm number and size, utilized agricultural area, productivity, and access to Common Agricultural Policy (CAP) support.

A combination of quantitative and comparative methods was used to identify trends and structural disparities between farm types. Time-series analysis was applied to observe changes in efficiency and productivity, while graphical representation and tabular comparison allowed a clear interpretation of the data. The results were synthesized to highlight the relationship between farm scale, economic performance, and policy support, emphasizing implications for sustainable rural development in Romania.

**RESEARCH RESULTS**

The analysis of statistical data reveals several significant patterns that define the structural and economic profile of Romanian agriculture. The following results present the main trends observed in the evolution of agricultural holdings, land use, and farm size distribution, reflecting the ongoing transformation of the sector under the influence of European policies and market dynamics [14,15].

The structure of agricultural holdings represents a key factor in understanding the efficiency and adaptability of Romanian agriculture to the principles of sustainable rural development. The way farms are organized, in terms of physical size, economic capacity, and resource utilization, directly affects competitiveness, farmers’ market integration, and their ability to adapt to technological and climatic changes [8, 10, 13].

Over the past two decades, Romania’s agricultural sector has undergone major structural transformations, influenced by European integration, CAP implementation, and increasing economic and social pressures. Analyzing the evolution of farm structure is essential to understand the current dual configuration, marked by the coexistence of millions of small semi-subsistence holdings and a limited number of large commercial farms that dominate production and land use [1, 11].

Official data show a steady decline in the number of agricultural holdings, from 4.485 million in 2002 to 2.859 million in 2023, representing a total reduction of approximately 36.3% (Table 1). The most pronounced decrease occurred between 2010 and 2020, when the number of holdings fell from 3.859 million to 2.887 million, a drop of nearly 972,000 holdings. This reduction mainly reflects the disappearance of very small farms, either absorbed by larger entities or leaving agricultural activity altogether. The consolidation process has, however, slowed in recent years, suggesting a relative stabilization of the farm structure [2, 15].

**Table 1.**  
**Evolution of the number of agricultural holdings in Romania (2002–2023)**

Year	Number of agricultural holdings (million)
2002	4.485
2010	3.859
2020	2.887
2023	2.859

Source: General Agricultural Census 2002, 2010, 2020, 2023 (INS, Structural Agricultural Survey 2023)

Despite this decline, the utilized agricultural area (UAA) has remained relatively stable, fluctuating around 12.5 million ha in recent years (Table 2). In 2020, Romania’s total UAA amounted to 12.768 million ha, while in 2023 it slightly decreased to 12.555 million ha (-1.7%). This reduction is mainly due to land abandonment and conversion to non-agricultural uses. The relative stability of UAA, despite the sharp fall in the number of holdings, confirms a gradual consolidation and concentration of land ownership [13, 15].

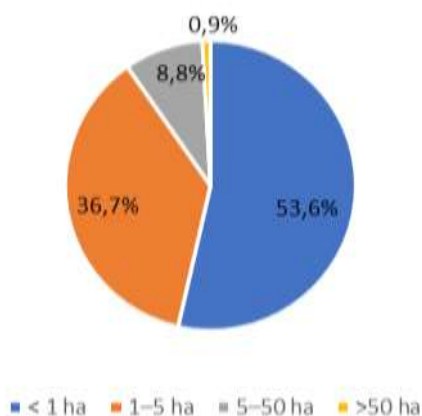
**Table 2.**

**Evolution of the utilized agricultural area in Romania (2020–2023)**

Year	Total utilized agricultural area (mil. ha)	Arable land (mil. ha)	Permanent grassland (mil. ha)	Permanent crops (mil. ha)
2020	12.770	8.570	3.725	0.475
2023	12.550	8.483	3.617	0.450

*Source: Structural Agricultural Survey, 2023 (National Institute of Statistics).*

According to the 2023 Structural Agricultural Survey, approximately 90.3% of Romanian farms operate on less than 5 hectares, while more than half (53.6%) cultivate under 1 hectare (Figure 1). These farms are predominantly subsistence or semi-subsistence, often relying on family labor and limited access to markets or financial instruments. In contrast, only 0.9% of holdings exceed 50 hectares, yet they control about 54% of the total UAA, illustrating a highly polarized agrarian structure [1, 2, 4].



**Figure 1. Distribution of agricultural holdings in Romania by farm size (2023)**

*Source: Structural Agricultural Survey in Agriculture, 2023 (processed data)*

This extreme duality, millions of micro-farms coexisting with a small number of large, capital-intensive enterprises, positions Romania as one of the most polarized agricultural systems in the European Union. While small farms remain crucial for maintaining rural employment and social balance, they contribute only marginally to total output and productivity. Conversely, large commercial farms achieve significantly higher economic performance and competitiveness, but their limited number constrains the overall inclusiveness of rural development [5,12,14].

In addition to physical size, the economic dimension of farms, expressed through Standard Output (SO), the official Eurostat indicator measuring the average monetary value of agricultural production, provides a clearer picture of farm viability. About 94.6% of Romanian holdings generate an annual Standard Output (SO) below €8,000, confirming their semi-subsistence character. Only 5–6% of farms exceed this threshold, representing

economically viable and market-oriented units capable of investing and modernizing [2,14].

This structural imbalance largely explains the low average economic efficiency of Romanian agriculture and its modest contribution to national GDP, despite the high number of holdings. The slow pace of structural consolidation, combined with persistent fragmentation, continues to hinder productivity growth and the adoption of sustainable farming practices. Understanding this dual farm structure is therefore essential for designing coherent agricultural policies that promote both economic competitiveness and inclusive rural development [3,9].

This structural polarization is closely reflected in the economic performance of farms, as measured by Standard Output (SO) and productivity indicators, with significant productivity and income gaps persisting between small and large holdings.

Farm size represents one of the most significant determinants of economic performance within Romanian agriculture. In a sector characterized by fragmentation and duality, the gap between small, medium, and large farms is evident in productivity levels, market integration, and access to financial and technological resources. These structural differences shape the sector's overall efficiency and capacity for sustainable growth.

Small family farms, which account for the overwhelming majority of agricultural holdings in Romania, are characterized by low productivity and a predominant orientation toward self-consumption. According to official data, the average Standard Output (SO) of a small family farm is estimated at around €2,750 per year, reflecting a very low level of efficiency compared to European standards. Most of these farms generate only minimal income, insufficient to support investments or commercial development. Their activities are primarily subsistence-oriented, with limited market access and low labor productivity [2, 4].

At the opposite end, large commercial farms record significantly higher levels of economic performance. Although they represent less than 1% of total agricultural holdings, they manage approximately 54% of the utilized agricultural area (UAA) and contribute disproportionately to national agricultural output. The average Standard Output (SO) of a large farm reaches around €165,456 per year, which is more than 60 times higher than that of a small family farm. This productivity gap reflects economies of scale, greater technological adoption, and stronger integration into market and policy frameworks [3, 5].

The superior performance of large farms can be attributed to several factors:

- easier access to credit and consistent CAP subsidies;
- intensive use of modern technologies (mechanization, precision agriculture, high-yield inputs);
- skilled labor and professional management;
- integration into national and international value chains.

**Table 3.**

**Comparative economic performance of small and large farms in Romania**

Indicator	Small farms	Large farms
Average size (ha/farm)	~2.7 ha	~190.5 ha
Standard Output/farm	~€2,750	~€165,456
Labor type	Family labor (1–2 persons)	Hired employees + professional management
Labor productivity	Very low (< €3,000/worker)	High (tens of thousands €/worker)
Technological level	Low (minimal inputs)	High (modern integrated systems)
Production orientation	Subsistence, local markets	National and international markets

*Source: Eurostat, Structural Agricultural Survey in Agriculture 2023 (processed data)*

The data presented in Table 3, particularly the differences in Standard Output (SO) and productivity indicators, illustrate the deep structural divide between the two farm categories. While small farms operate primarily for self-consumption and rely on family labor, large commercial enterprises benefit from economies of scale, capital-intensive technologies, and better market access. These disparities directly affect labor productivity, income generation, and the sector's contribution to national GDP, which remains modest at around 4–5%, despite the high number of people employed in agriculture (approximately 20% of total employment).

Significant differences also emerge in terms of production factor productivity, particularly land and labor efficiency. Large, mechanized farms equipped with advanced technologies achieve yields comparable to Western European standards. By contrast, small farms using traditional methods and limited inputs achieve considerably lower yields, reflecting their extensive and low-input production systems [3,10].

In the livestock sector, fragmentation and the absence of economies of scale result in low productivity. For example, average milk yields per cow in small Romanian farms are among the lowest in the EU, largely due to limited access to quality feed, technology, and breeding programs. This situation not only constrains economic performance but also reduces the competitiveness of animal-origin products on both domestic and international markets [15].

Although representing only about 10% of total farms, medium-sized holdings (10–50 ha) form a potential nucleus for the development of a competitive and sustainable agricultural model. Despite facing challenges in accessing credit and modern technology, these farms show the greatest potential for modernization and adaptation to CAP eco-schemes and innovation incentives [8].

Overall, the analysis of economic performance by farm size in Romania reveals a pronounced polarization between small, low-efficiency farms and large, capital-intensive enterprises. This structural disparity directly affects the general economic efficiency of Romanian agriculture and its ability to sustain sustainable and competitive rural development. Understanding these differences is essential for designing agricultural policies that promote a balanced transition toward a more efficient, inclusive, and sustainable farming model [1, 2].

Agricultural policies and financial support instruments have played a crucial role in shaping the economic performance of Romanian farms, particularly after the country's accession to the European Union in 2007. Through the Common Agricultural Policy (CAP), Romanian farmers have benefited from substantial European funds, both through direct payments supporting income stability and through structural funds dedicated to investment and rural development [3, 6].

These interventions have significantly influenced farm operations by directing investments toward modernization, encouraging young farmer integration, and promoting the transition to more sustainable agricultural practices. Financial support has also contributed to maintaining a large number of small farms in activity, preventing land abandonment in disadvantaged rural areas.

However, the impact of CAP measures has been uneven. Large, well-capitalized farms have had easier access to funds, while small family farms have faced administrative and financial barriers. As a result, a polarized development model has emerged, in which a small number of competitive, commercial farms have consolidated, while subsistence-oriented farms remain marginalized [3, 4].

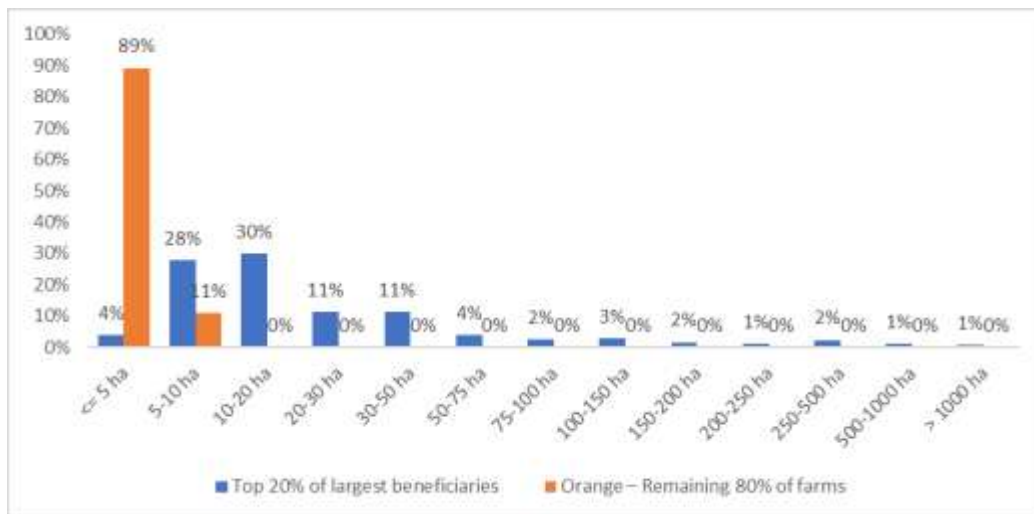
Direct payments, one of the main CAP instruments, have played a major role in income stabilization and in ensuring a minimum level of security for farmers. In Romania,

the Single Area Payment Scheme (SAPS) has been the primary mechanism, later complemented by redistributive and coupled support schemes. Although these payments helped prevent land abandonment and sustain basic incomes, their proportional allocation by area favored large farms and provided little incentive for efficiency or market orientation [11, 7].

According to European Commission data (AgriData Dashboard, 2023), the distribution of direct payments remains highly unequal:

- about 89% of very small farms (<5 ha) belong to the bottom 80% of beneficiaries, who receive only a marginal share of total payments;
- the top 20% of farms, especially those between 10 and 100 hectares, concentrate almost all financial support.

This imbalance confirms that CAP funding continues to favor medium and large farms capable of meeting administrative and financial requirements, while over 90% of small holdings capture only a minor share of available funds. Consequently, the Romanian agricultural model remains dualistic, a small segment of competitive enterprises coexisting with a vast number of semi-subsistence farms [7].



**Figure 2. Distribution of direct payments by farm size in Romania, 2022**

Source: European Commission, AgriData Dashboard – Romania, Analytical Factsheet, 2023

Although investment programs under the National Rural Development Programme (NRDP) have supported modernization, young farmers, and sustainability initiatives, access has remained unequal. Medium and large farms have absorbed most investment funds due to their stronger financial capacity, administrative skills, and access to co-financing. In contrast, small farms often lack the resources and expertise to apply, reinforcing the structural imbalance of the sector [5].

The 2023–2027 CAP Strategic Plan introduces new mechanisms, such as redistributive payments and eco-schemes, designed to mitigate polarization and strengthen the competitiveness of small and medium-sized farms. These instruments offer additional support for the first 50 hectares and reward environmentally friendly practices such as green cover, reduced input use, organic farming, and animal welfare. Their effective and equitable implementation will be essential for achieving a more balanced and sustainable agricultural model in Romania [4,14].

In conclusion, while CAP policies have supported the overall stability of Romanian agriculture, they have not yet succeeded in correcting the sector’s structural imbalances. For a more sustainable and equitable development, a paradigm shift is required, one that

emphasizes performance, value creation, and social inclusion. If the new CAP measures are applied effectively, they can contribute to reducing polarization and strengthening a resilient and competitive agricultural model in the long term [13, 14, 16].

Ultimately, the future success of Romania's agricultural sector will depend on its ability to balance economic efficiency with social inclusion and environmental responsibility — the three essential pillars of sustainable rural development.

## CONCLUSIONS

The study highlights the persistent duality and polarization of Romanian agriculture, characterized by the coexistence of millions of small, semi-subsistence farms and a limited number of large commercial holdings. This structural imbalance continues to constrain productivity, competitiveness, and rural cohesion, despite gradual modernization and European integration.

The analysis confirms that farm size remains a key determinant of economic efficiency. Small family farms generate low output and rely heavily on self-consumption, while large commercial farms achieve high productivity through economies of scale, access to finance, and technological innovation. Medium-sized holdings, although relatively few, represent a potential foundation for a more balanced and sustainable agricultural structure if supported through targeted measures.

In this context, strengthening the digital capacities of medium-sized farms (10–50 ha) can play a decisive role in supporting a sustainable and competitive agricultural model. Digital solutions such as precision agriculture technologies, farm management software, and digital platforms for market access enable these farms to optimize input use, improve productivity, and enhance decision-making. Given their scale and market orientation, medium-sized holdings are particularly well positioned to adopt digital tools and translate them into economic efficiency gains, environmental benefits, and stronger integration into agricultural value chains.

Current agricultural policies under the Common Agricultural Policy (CAP) have contributed to sectoral stability and investment, but their impact has been uneven. Financial support has primarily benefited large and well-capitalized farms, whereas small holdings continue to face significant barriers to accessing funds, modern technologies, and markets. These disparities reinforce a dual agricultural model and limit the inclusiveness of rural development.

To achieve a more efficient and equitable agricultural transition, policy interventions must focus on enhancing access to funding and eco-schemes for small and medium farms, simplifying administrative procedures, and encouraging cooperation among farmers. Strengthening advisory networks, supporting technological adoption, and promoting market-oriented diversification can significantly improve rural resilience and competitiveness.

Ultimately, sustainable rural development in Romania depends on the country's ability to balance economic performance with social inclusion and environmental responsibility. Bridging the gap between small and large farms through coherent, data-driven agricultural policies will be essential for building a more competitive, resilient, and sustainable agricultural system in the long term

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