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The Small Ruminant Sector in Romania: Developments, Challenges, and Market Concentration

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A B S T R A C T

The small ruminant sector is traditional for many regions in Europe, with effects on European agricultural outcomes and significant economic, social, and ecological implications. The article proposes an assessment of the sheep and goat sector at both the European and Romanian levels, analyzing the main trends, challenges, and development opportunities. For national-level research, the number of companies with the main field of activity under NACE 0145, turnover, net profit, and employment in the sector were used. The degree of market concentration was evaluated using HHI and GSI indicators. At the EU27 level, some member states with a tradition in raising these animals hold more than half of the livestock. The sector has a modest contribution to meeting the community's meat needs, with demand being partially covered by external imports. The study results showed that in Romania, the small ruminant sector benefits from favorable environmental conditions, tradition, and a specialized workforce. Although some counties have well-developed farms that generate consistent revenue and profit, primarily based on live animal exports to Arab countries, the market is fragmented, with a relatively uniform distribution of specialized firms nationwide. Some regions perform better, with differences in revenue and profit at the county level. The national sector faces challenges related to low profitability, declining consumption, and climate change. Support measures from authorities are needed for farmers, along with investment in processing units and the development of well-integrated value chains to increase the competitiveness of Romanian companies..

1. Introduction

The term small ruminants include sheep, goats, camelids, and farmed cervids (Bowen & Snyder, 2009). The definition provided by the National Agricultural Library (NAL) (2024) within the U.S. Department of Agriculture states that this category usually refers to the domestic goat (*Capra hircus*) and sheep (*Ovis aries*), distinguishing them from large ruminants such as cattle.

For the Romanian population, raising goats and sheep is a traditional activity, driven by the utilization of available natural resources, a tradition spanning thousands of years, and the benefits it brings to farmers and households, particularly in rural and mountainous areas.

2. Literature review

The raising of small ruminants is widespread globally, being predominant, especially in poor or less developed regions. Goats, sheep, camelids, and domesticated cervids serve as a food source for the population, providing meat and milk, raw materials for the textile industry (through the use of hair/wool, hides, horns, etc.), or for the industrial sector.

Studies by the Food and Agriculture Organization (FAO, 1985) estimate that goats and sheep are among the most efficient animals in converting low-quality forage into high-quality food. The global sheep and goat population is growing at an average annual rate of 1%, with specialists' forecasts being optimistic, expecting even higher growth rates. The presence of unexploited natural forage sources, as well as secondary products and waste from human activities with potential use as animal feed, could form the basis for the development of much larger populations. Unutilized resources suitable for small ruminant farming are available primarily in developed countries and, to some extent, in developing nations.

Meat is the primary economic output of raising these animals, contributing to food security. Compared to other domesticated warm-blooded animals raised for meat, the production rate of small ruminants is

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significantly higher. However, it appears that optimal values for this parameter have not yet been reached. The growth rate of sheep and goat meat production is higher in developing regions (Devendra, 2001).

A specific aspect of the sector is that in some regions, the evolution of meat production is inversely proportional to the number of animals. This trend is justified by a reduced number of animals being slaughtered, as they are kept for herd development.

The use of selection systems for specimens with high genetic potential, the application of modern technologies in managing and developing forage resources, and the utilization of lands with low agricultural potential but suitable for grazing could represent significant factors with a positive impact on global sheep and goat meat production (Devendra & McLeroy, 1982).

Some small ruminant breeders begin this activity as a hobby, but the relatively rapid growth of animal herds often exceeds the household's needs for meat, milk, or wool/hair. Some of these producers transition to commercial production, while others try to market their products in local markets for traditional products or through cooperatives and specialized feed stores.

Many of these small farmers lack specialized knowledge or training in raising these animals, considering that they started as hobbyists. In many cases, these categories of breeders are unaware of potential challenges or specific risks in this sector (Bowen & Snyder, 2009).

To address this lack of information, some universities have introduced support programs and professional training for farmers with limited resources, including courses on animal diseases, feeding and nutrition, pasture management, and product marketing. These courses provide participants with the opportunity to develop specialized skills, improve production efficiency, identify potential consumers, and access niche markets. Guidelines for best practices in farming (GMP/GAP) and viable strategies for improving the sector's activities at the national level are additional objectives of these educational programs (Lincoln University Cooperative Extension, n.d.).

The small ruminant sector plays a significant role in global food security and in providing nutritional resources for a large portion of the world's population. Raising these animals can ensure the livelihoods of millions of people, especially poor, marginalized farmers in rural areas who do not own agricultural land, or small farm owners in regions with low rainfall levels. Climate change and global population growth increase the importance of these local activities, particularly in underdeveloped areas of Asia and Africa.

At the European level, the sheep and goat sector holds economic importance. The study conducted by Ripoll, Joy & Muñoz (2020) highlights that, despite its economic, social, and environmental benefits, it is also one of the most vulnerable livestock sectors in Europe. The presence of a wide diversity of species, breeds, production systems, and products makes it difficult to conduct a conventional analysis of the sector. The authors identify economic challenges as a major issue, driven by price volatility for both outputs (meat, milk) and inputs (raw materials), low profitability, dependence on subsidies, and the lack of clear long-term policies from authorities. Limited skills, lack of specialized knowledge, and the absence of professional training programs at various levels contribute to the sector's low attractiveness for young farmers. Collaboration among stakeholders in the supply chain (producers, producer associations, processors, academia, and public authorities) could facilitate knowledge exchange, increase European production capacity, and improve the sector's efficiency.

The importance of the sector at the European level is also highlighted in the European Parliament Report (2018), which acknowledges the economic, social, and environmental roles of small ruminant farming, particularly in disadvantaged rural areas. While the share of sheep and goat meat production in Europe is relatively low, raising these animals significantly contributes to landscape conservation and biodiversity preservation. The report also highlights the declining attractiveness of the sector, shrinking animal populations, and increasing dependence on imports to meet internal demand. Reducing these issues requires administrative measures at the EU level and support for the sector's sustainability. The report recommends maintaining or increasing voluntary coupled support, rural development programs, and initiatives to promote local products to improve producers' incomes.

The sharp decline in the European sheep and goat population can be attributed to the outbreak of contagious diseases (such as scrapie—ovine spongiform encephalopathy, as noted by Stanciu, 2015) or changes in public funding schemes driven by the Common Agricultural Policy (CAP) (European Parliament, 2018). The European Parliamentary Research Service (EPRS, 2017) reported an estimated 98 million sheep and goats in 2017, but by 2024, the livestock population has decreased to approximately 68 million head, with an increased dependence on meat imports from Australia and New Zealand (Global Ag Media, 2024).

In Romanian farms, sheep and goat herds are estimated at 11.5 million head, placing Romania among the top-ranking European countries (Grodea, 2018).

However, high fragmentation in primary agricultural production, the large number of small farms with limited animal stocks, and the lack of slaughtering facilities place Romania in the mid-tier of European rankings for sheep and goat meat production and exports (Ciurciu et al., 2023).

Research conducted by the team led by Stanciu (Liptac & Stanciu, 2024; Liptac, Pila & Stanciu, 2024) indicates that Romania possesses remarkable natural resources, a specialized workforce, and a strong tradition in the small ruminant sector, which could allow for domestic demand for meat and milk to be met while generating substantial export benefits.

The main challenges facing the sector include artisanal processing and inefficient utilization of meat, milk, wool, and hides, a low per capita consumption of sheep meat, and exports focused on raw materials with low added value. The lack of specialized facilities for slaughtering and processing goat and sheep meat encourages live animal exports, which also have low added value.

Additionally, the sporadic and self-consumption-based use of sheep wool in the textile industry represents a potential economic opportunity for the domestic market.

Promotional campaigns focused on raising awareness of the nutritional benefits of sheep and goat meat and dairy products, investment in infrastructure, and better market organization could revitalize the sector. Increasing economic contracts through geographical diversification of exports while maintaining traditional partners, supporting processing industry development, and implementing a coherent strategy from authorities could stabilize domestic production and increase economic benefits for Romanian farmers.

3. Materials and Methods

The bibliographic documentation was conducted using open-access articles available in the Clarivate, Google Scholar, and ResearchGate databases. When necessary, information was supplemented with specialized studies and reports from national, European, and international authorities.

For the applied research, data was sourced from the National Institute of Statistics (INSSE), Eurostat, Termene.ro, and TopFirme.com. The collected data was systematized, statistically processed, graphically presented, and interpreted.

The market concentration assessment was conducted using the Herfindahl-Hirschman Index (HHI), the Gini Index (GI), and the Gini-Struck Index (GSI). The calculation and interpretation of the HHI, GI, and GSI indices followed the recommendations of Bușu (2022).

To organize information and verify the formatting and accuracy of the English language used in the article, artificial intelligence (ChatGPT) was utilized. The obtained results were analyzed, discussed, and compared with other specialized studies for validation.

4. Results

4.1 Small Ruminant Livestock at the European and Romanian Levels

The evolution of sheep and goat populations at the European and Romanian levels is presented in Table 1.

Table 1. Sheep and Goats. EU27 vs Romania (thousand heads/animals)

		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Sheep	EU 27	62,396.00	62,951.08	63,416.00	63,587.00	63,009.00	62,470.44	61,462.17	60,450.61	59,010.25	57,513.88
	ROU	15,431.83	16,026.37	15,962.89	15,963.11	15,852.53	15,478.62	15,439.22	15,081.35	14,452.59	13,596.56
Goats	EU 27	12,528.00	12,395.15	12,328.00	12,260.00	12,193.00	12,125.02	11,993.73	11,743.98	11,262.85	10,659.51
	ROU	1,417.20	1,440.20	1,483.10	1,503.30	1,539.30	1,594.80	1,611.80	1,492.50	1,483.20	1,421.70

Source: Authors, by using Eurostat (2024a), Eurostat (2024b).

At the European level, during the analyzed period, the small ruminant population recorded a decline of approximately 10%, from 74,924.00 thousand heads (2014) to 68,173.39 thousand heads (2023). The goat sector (-15%) was more affected compared to the sheep sector (-8%).

In Romania, the sheep population decreased by approximately 12% (from 15,431 thousand heads in 2014 to 13,596 thousand heads in 2023), while the goat sector recorded a slight positive trend, with an increase of 4.5 thousand heads (from 1,417 thousand heads in 2014 to 1,421 thousand heads in 2023).

The growth of the goat population in Romanian farms could be attributed to increased domestic demand for these products and national support measures for the sector.

Support actions for the sheep and goat sector have been implemented since Romania's integration into the European Union. Measure 121 of the National Rural Development Program (PNDR) 2007-2013 provided non-reimbursable funds to Romanian farmers for modernizing agricultural holdings, including the development of mixed farms and goat farms. During the 2010-2013 period, applicants could access non-reimbursable funds covering 40-70% of eligible project values, with maximum funding amounts of 2-3 million euros (Agenția pentru Finanțarea Investițiilor Rurale - AFIR, 2007).

Romanian farmers could capitalize on these opportunities and utilize niche markets to further develop the goat farming sector.

The decline in the European goat population is likely the result of economic factors (high raw material costs, fluctuating demand for meat/milk), administrative decisions (reduction of agricultural subsidies at the EU level), or environmental factors (climate change affecting forage availability).

With significant small ruminant livestock, representing approximately 13.5% of the EU's total goat population and about 23.6% of the total sheep population, Romania's sector could play a major role in the European market.

The significant decline in sheep populations, observed at both the European and national levels, necessitates support measures for local farmers and the development of favorable agricultural policies by decision-making authorities.

If Turkey is also considered, with a sheep population of approximately 42.06 million heads, the total number of sheep in Europe reaches around 100 million heads.

The distribution among EU27 Member States is dominated by Spain and Romania, which together account for over 40% of the total sheep population (Figure 1a).

Given the favorable natural conditions and strong traditions, southern European countries (Spain, Romania, Greece, Italy, France, Portugal) dominate the European sheep sector. The remaining European countries collectively hold approximately 21% of the total, with a fragmented distribution among the EU Member States.

Regarding goats, the 2023 agricultural census recorded approximately 21 million heads in Europe, including Turkey. Greece and Spain account for nearly half of the EU27's total goat population, followed by France, Romania, and Italy (Figure 1b).

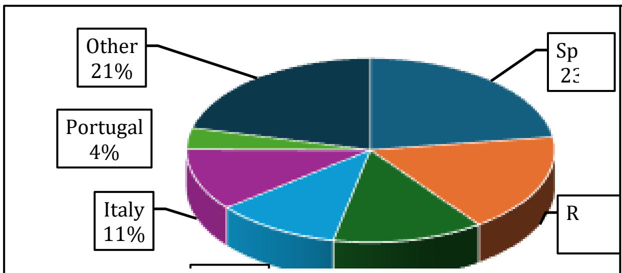

Fig. 1a. Sheep population by EU 27 countries
Source: Authors, by using Eurostat (2024a)

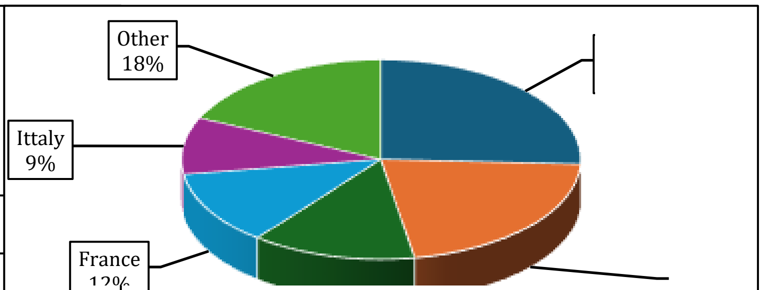

Fig. 1a. Goats population by EU 27 countries
Source: Authors, by using Eurostat (2024b).

The share of the goat population raised in Romania represents approximately 13% of the total, with national census values lower than those recorded in Greece and Spain.

Although in France and Italy, the goat populations are estimated at around 1 million heads, which is relatively lower compared to the leading countries (12% and 9%, respectively), producers in these countries are well known at the European level for their goat milk cheese production.

The remaining EU Member States collectively account for approximately 18% of the total goat population.

4.2 Economic Characteristics of the Small Ruminant Farming Sector in Romania

According to data recorded on the TopFirme platform, the small ruminant farming sector in Romania (NACE Code 0145) includes 410 active economic agents:

- The total turnover of the sector is 936.7 million RON (approximately 212.9 million EUR).
- The net profit of the companies in the sector amounts to 36.1 million RON.
- The total number of jobs in the sector is 737 employees (TopFirme, 2025).

The consolidation of data related to the top 20 companies by turnover, profit, and number of employees is presented in Table 2. Where necessary, some information has been supplemented with official statistical data from ListaFirme.ro (2025).

ROM BALKANELLAS IMPEX SRL (Brașov) recorded the highest turnover in the sector, amounting to 29.2 million euros, followed by AGROTEHNICA ZOO SRL (Hunedoara) with 22.8 million euros.

Comprehensive data for all companies in the sector was not available, as TopFirme.com only provides information on the top 20 companies in terms of turnover, profit, or number of employees.

Out of the 37 companies listed on the platform, only 20 declared revenue, which suggests a highly fragmented national market with many small-sized companies. Another notable aspect is the low profitability rate, with two of the top 20 companies reporting losses.

The top 10 companies by turnover account for a combined revenue of 131.5 million euros, representing over 60% of the total sector turnover.

Table 2. Companies in Romania NACE 0145

No.	Company	County	Turnover (mil euro)	Profit (euro)	Total employees
1.	ROM BALKANELLAS IMPEX SRL	Brașov	29,2	436.488	43
2.	AGROTEHNICA ZOO SRL	Hunedoara	22.8	753.805	30
3.	GAGEA SRL	Timiș	18.6	-147.075	20
4.	CRISTMIH SRL	Tulcea	12.5	562.652	25
5.	PAI AGROCOMPLEX SRL	Mureș	8.8	84.496	2
6.	ZOOTEHNICA COMPLEX S.R.L	Hunedoara	8.3	216.575	3
7.	MINCO IMPEX S.R.L.	Prahova	8.2	50.384	33
8.	MARILAND DOM SRL	Arad	7.9	56.676	15
9.	VAN-OVIS SRL	Tulcea	7,9	309.302	11
10.	ASTERI IMPEX S.R.L	Prahova	7.3	-122.446	22
11.	HORATIU SRL	Bistrita-Nasaud	5.3	7.038	22
12.	MARGINEANA SRL	Arad	5,3	78.591	13
13.	JASMIN LIVESTOK IMPORT EXPORT S.R.L.	Giurgiu	4.7	240.771	1
14.	TRANS AGROOVINEX SRL	Mureș	4.5	309.523	8
15.	OVIMIK SRL	Cluj	4.5	518.591	10
16.	RAJAMI INVEST SRL	Brăila	4.3	46.838	11
17.	AGRO INVEST OVIM SRL	Mureș	4.0	18.129	4
18.	MAGUS SRL	Timiș	3.4	21.904	7
19.	EPINEX SRL	Timiș	3.2	12.370	7
20.	MALCARA S.R.L.	Mureș	3.1	40.025	1
21.	FERMA OCTAVIAN TITUS SRL	Hunedoara	-	447.040	2
22.	REMODET TMB SRL	Timiș	-	270.589	-
23.	AGROZOOMED SRL	Constanța	-	258.819	11
24.	ROMLAND TRANSILVANIA S.R.L.	Brașov	-	250.019	30
25.	LGN ZOOINVEST 2020 S.R.L.	Sibiu	-	235.183	-
26.	JUST ZOO FARM S.R.L.	Dolj	-	192.720	-
27.	MAN FARM COOPERATIVĂ AGRICOLĂ	Satu Mare	-	191.108	-
28.	PLASTI PROD DEVELOPMENT SRL	Constanța	-	138.490	10
29.	FAFF CONSTRUCT SRL	Brasov	-	129.018	-
30.	MIRAC IMPORT EXPORT SRL	Bacău	-	116.282	-
31.	MIORITA JIANU SRL	Arad	-	115.160	-
32.	ZOO-GANA LUCA S.R.L.	Caras-Severin	-	97.286	-
33.	FRANKFURT IMPEX PROD SRL	Ilfov	-	-	31
34.	LOVAGRO SRL	Vâlcea	-	-	12
35.	KONSTANTINOS SRL	Hunedoara	-	-	11
36.	MOHA LIVESTOCK S.R.L.	Tulcea	-	-	10
37.	SIMO MULTISERV SRL	Hunedoara	-	-	9

Source: Authors, by using TopFirme.com (2025) & ListaFirme.ro (2025).

The distribution of specialized economic agents, cumulative turnover and profit, and the number of employees by county is presented in Table 3.

Table 3. Financial data for NACE 0145 Sector in Romania

County	Co.	Rev. (mil. euro)	Emp.	Pr (K Euro)	County	Co.	Rev. (mil. euro)	Emp.	Pr (K Euro)	County	Co.	Rev. (mil. euro)	Emp.	Pr (K Euro)
Alba	6	0.481	10	49	Constanța	28	4	43	468	Mureș	22	21.3	32	590
Arad	19	14.3	40	390	Covasna	4	0.001	0	2.7	Neamț	2	0.014	1	3
Argeș	9	0.048	2	8	Dâmbovița	6	0.578	10	45	Olt	3	0.064	0	82
Bacău	14	0.925	16	264	Dolj	8	0.509	3	234	Prahova	13	15.7	59	60
Bihor	12	0.108	2	17	Galați	12	0.171	3	65	Satu Mare	6	1.6	5	208
Bistrița Năsăud	14	5.4	25	72	Giurgiu	3	4.7	1	241	Sălaj	7	0.001	0	13
Botoșani	10	0.777	3	54	Gorj	4	0.041	2	18	Sibiu	18	2.8	12	365
Brașov	14	32.5	82	866	Harghita	8	0.036	1	22	Suceava	5	0.052	1	15
Brăila	7	8	25	137	Hunedoara	14	32.2	64	1500	Teleorman	6	0.371	8	27
București	10	0.340	11	2	Ialomița	6	0.036	2	0	Timiș	19	27	56	342
Buzău	10	0.386	9	29	Iași	7	0.269	8	66	Tulcea	9	23.5	54	924
Caraș Severin	6	2.4	13	136	Ilfov	7	2.1	47	27	Vaslui	6	0.021	2	5
Călărași	10	0.501	11	65	Maramureș	15	1.4	15	95	Vâlcea	8	1.4	18	42
Cluj	20	6.7	40	665	Mehedinți	-	-	-	-	Vrancea	3	0.042	1	16

Source: Authors, by using TopFirme.ro (2025)

The data presented in Table 4 systematizes the calculated information on market concentration for companies primarily operating in the NACE 0145 sector in Romania, by county. The table includes details on the number of economic agents, cumulative turnover, cumulative profit, and the number of employees.

Table 4. Market Concentration Analysis

Indicator	HHI	Gini Index	Gini-Struck Index
Revenue (Rev)	990.173549	0.75783376	0.776317511
Number of Employees (Emp)	584.1828234	0.601912831	0.616593631
Profit (Pr.)	823.7413496	0.678905701	0.695464376
Number of Economic Agents (Co.)	325.4015467	-	0.320175273

Source: Authors, own calculations

4.3 Interpretation of Results

The calculation of the Herfindahl-Hirschman Index (HHI) provides insights into the level of market concentration (Herfindahl, 1950). Based on HHI values, the market can be classified as fragmented (HHI < 1,500), moderately concentrated (HHI between 1,500 - 2,500), or highly concentrated (monopoly/oligopoly characteristics) when HHI > 2,500.

The distribution of turnover by county (HHI = 990.17) indicates a low level of market concentration and a relatively even distribution of revenues across Romania. Similarly, low HHI values were obtained for the number of employees (HHI = 584.18), profit (HHI = 823.74), and the number of economic agents (HHI = 325.40), confirming a highly fragmented market with a balanced distribution of labor, profits, and specialized companies across the sector. There is no clear dominance by major players, and the economic activity in the NACE 0145 sector is evenly spread across Romania's counties.

The Gini-Struck Index (GSI) helps evaluate inequality levels among counties based on four economic indicators. GSI values range from 0 to 1, with the following interpretations: GSI < 0.20 indicates a highly fragmented market with a relatively equal distribution of resources among firms/regions, values between 0.21 – 0.40 indicate a balanced market with minor differences, values between 0.41 – 0.60 indicate a moderately concentrated market, values between 0.61 – 0.80 indicate a highly concentrated market, and values between 0.81 – 1.00 indicate monopoly characteristics. For the small ruminant sector in Romania, the GSI for turnover is 0.776, indicating significant differences in business volume between counties. The GSI for employment is 0.616, indicating a moderate concentration of workforce distribution. The GSI for profit is 0.695, suggesting a concentration of revenues and profits in certain counties. The GSI for economic agents is 0.320, indicating a more uniform distribution of firms across counties.

Although the top 10 companies control about 60% of the sector's turnover, suggesting a moderate level of economic concentration, the overall sector remains highly competitive and decentralized. The uneven distribution of revenues and profits across counties indicates the emergence of strong economic centers in certain regions of Romania. Considering that Hunedoara, Timiș, and Tulcea record the highest cumulative turnover and profit values, these counties can be classified as major economic hubs for the small ruminant sector.

5. Conclusions

Sheep and goat farming is a traditional activity in Romania, making use of the country's rich natural resources and specialized workforce. The high number of animals places local farmers among the top in Europe. However, the lack of processing facilities and the excessive export of raw materials (live animals) prevent Romania from holding a significant position in the European goat and sheep meat market. Additionally, the limited promotion of the nutritional value of milk and meat from small ruminants does not encourage domestic consumption.

In Romania, 410 economic agents operate primarily in the NACE 0145 sector, with many companies classified as SMEs. There is a relatively uniform distribution across counties, and the domestic small ruminant market is decentralized, without excessive dominance by certain firms. In some counties, such as Hunedoara, Timiș, Tulcea, and Brașov, a significant share of revenues and profits is concentrated, as confirmed by the GSI values.

The sector provides jobs for 737 employees, a relatively small number compared to other agricultural sectors. The values obtained for HHI and Gini-Struck Index indicate that some counties attract more workers, but without any clear trend toward monopolization.

Strong measures and effective policies with a national impact are needed to revitalize this sector, which has strong economic potential and significant implications for national food security.

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