

Industrial Activities vs Agricultural Activities in the Profile of the Regions of the Republic of Moldova

Ina Mogildea^{*}, Maria Magdalena Turek Rahoveanu^{**}

ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Accepted July 2024 Available online August 2024</p> <p><i>JEL Classification:</i> O13, J21</p> <p><i>Keywords:</i> non-agriculture, Moldova, rural development, gaps</p>	<p>The study analyses the development of non-agricultural activities in the Republic of Moldova, a region characterized by the strong influence of a polarizing zone, due to the convergence of current and historical socio-economic relations. Urban areas were chosen to develop the methodology for determining the role of non-agricultural activities in regional development. The study proposes to emphasize the polarization potential of some rural regions, to bring to the influence of predominantly urban regions. The non-agricultural rural economy provides the theoretical framework for this analysis, which investigates the complexity of non-agricultural activities. The case study highlights how the urban area polarizes the labour force from the nearby rural area.</p>

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1. Introduction

The Central Region of the Republic of Moldova significantly contributes to the national economy, representing approximately 20-22% of the country's GDP (European Commission EC, 2020). With a population of about 1.2 million inhabitants, the region is characterized by diversified agriculture, including grape, fruit, and vegetable crops. The wine sector is particularly important, with the area being known for the production of quality wines. The local industry includes food production, textiles, and building materials.

The unemployment rate in the Central Region is relatively low, at around 3%. Infrastructure is better developed compared to other regions, facilitating access to services and markets. Foreign direct investments and projects funded by the European Union and other international organizations support regional development, promoting infrastructure modernization and increasing productivity in agriculture and industry.

2. Literature review

Rural disparities in the Republic of Moldova are deepened by several key issues affecting the quality of life and economic development of rural communities (*Guvernul Republicii Moldova*, 2024).

Many rural communities in Moldova face severe shortages in basic infrastructure, including paved roads, water and sewerage networks, and access to electricity and internet (Sima, 2020).

^{*}, ^{**} Dunarea de Jos University of Galati, Romania. E-mail addresses: ina.mogildea@ugal.ro (I. Mogildea), mturek2003@yahoo.com (Corresponding author - M. M. Turek Rahoveanu)

Access to quality medical and educational services is limited in rural areas, with a small number of hospitals and schools, and those that exist are often underfunded and under-equipped. The poverty rate is significantly higher in rural areas compared to urban areas. Employment opportunities are limited, with few industries and jobs available outside the agricultural sector.

Agriculture remains the main source of livelihood for many rural inhabitants, but productivity is low due to outdated technologies and inadequate infrastructure. Young people leave villages in search of job opportunities in cities or abroad, leaving behind an aging and vulnerable population.

Access to credit and other financial services is limited, hindering the growth of small and medium enterprises in rural areas. Women in rural areas face multiple barriers to education and employment opportunities, contributing to the perpetuation of poverty. Waste, pollution, and unsustainable agricultural practices can worsen environmental problems in rural areas, affecting the health and well-being of communities. Modern technologies, such as high-speed internet and other technological innovations, are rarely available in rural areas, limiting access to information and opportunities.

Many rural development projects rely on external funding and infrastructure, which may not be sustainable in the long term. These issues reflect the serious challenges faced by rural communities in Moldova and require effective government strategies and policies to promote sustainable development and inclusion in all regions of the country (Sima, 2020). The development of the rural area in the Republic of Moldova requires a multidimensional approach, including investments in infrastructure, education, and health, effective agricultural support policies, and programs to combat migration and support the return of those who have left.

Additionally, good governance and the fight against corruption are essential to ensure that available resources are efficient and benefit rural communities.

3. Material and methods

Evaluating the development gaps between the Central Region and other regions of the Republic of Moldova can be approached through various methodologies and analytical tools, such as:

1. Using a diverse set of socio-economic indicators to measure regional performance in areas such as GDP per capita, unemployment rate, access to education and health, infrastructure etc.
2. Comparing the performance of different regions based on relevant socio-economic indicators to identify regions with low levels of development and potential for interventions.
3. Using the Human Development Index (HDI), which combines income, education, and health indicators, to assess the quality of life and human development in regions.
4. Using Geographic Information Systems (GIS) to map and analyze the distribution and accessibility of infrastructure, resources, and services in different regions.
5. Using economic modeling to assess the impact of various economic and development policies on regions and to forecast potential economic growth.
6. SWOT analysis (Strengths, Weaknesses, Opportunities, Threats): Identifying strengths, weaknesses, opportunities, and threats for each region to develop appropriate regional development strategies and policies (Gorgos, Cimpoieş & Racul, 2016).

7. Conducting comparative studies between similar regions in the Republic of Moldova and other countries or regions with comparable socio-economic situations to extract lessons and best practices.
8. Involving the local community in the evaluation process and identifying development needs and priorities to ensure the relevance and sustainability of proposed policies and projects.
9. Using economic models and forecasting technologies to estimate future trends and the potential impact of various interventions and regional development policies (Gutium, n.d.).
10. Implementing a continuous monitoring and evaluation system of the progress made in addressing development gaps to adjust and improve policies and projects as the situation evolves.

These methodological approaches can be applied in an integrated manner to achieve a comprehensive evaluation of development gaps between the regions of the Republic of Moldova and to guide regional development efforts in the right direction.

Table 1. Indicators Characterizing the Level of Development and Economic Potential of the Central Region of Moldova, in 2022

Indicators	Central Region	Regional Average
I. Overall level of economic development		
GDP per person (2022) (euro)	2561	4301.8
II. Infrastructure		
1. Density of public roads/100 km (%), (2023)	34.0	18.8
2. Share of national roads in total public roads (%), (2023)	64	65.4
3. Localities with sewerage system (%)	12.2	27.34
4. Localities with hot water network (%)	-	-
III. Labour resources and employment		
1. Average number of employees, of which:		
- in agriculture (thousands)	8.8	6.76
- in industry (thousands)	26.3	25.8
2. Share of employed population/total population	18%	26.2%
IV. Unemployment		
1. Unemployment rate (%)	2.5	13.6
2. Female unemployment rate (%)	1.6	11.66

Source: (Biroul Național de Statistică al Republicii Moldova, 2024)

4. Results and discussions

In this context, we aimed to analyze the stage of development of non-agricultural activities in the Central Region compared to the regional average and each region within it compared to a reference level - the regional average (Coban, 2016.).

The adopted method allows the quantification of the state of an economic process based on its actual manifestation parameters, expressed through a multitude of specific technical-economic indicators, supplemented by qualitative data and information. For the use of the multi-criteria diagnostic method

in the analysis of regional agricultural development, the available indicators were ordered into 8 groups or typologies or directions of analysis as follows (Vidal, 2009):

Table 2. Importance coefficients/specific weights by criteria for calculating the global estimator of regional non-agricultural development in the Republic of Moldova

Indicators	Specific weight
Average number of employees	0.1
Turnover	0.2
Gross value added of activities	0.18
Household structure	0.17
Area per individual farm	0.06
Availability of Human Resources in agriculture	0.15
Food industry activities	0.08
Animal density	0.16
Total	1.0

Source: own calculations (Biroul Național de Statistică al Republicii Moldova, 2024)

The disparities were closer between the North and South regions (Figure 1) regarding trade activities. This is due to the high heterogeneity of the regions in this country in terms of natural conditions, which will produce a series of economic effects on the population's living standards and the development of secondary economic sectors – the food industry, agritourism, etc.

The North Region has some industrial centers, but most are small and medium-sized, and the infrastructure is often less developed compared to the central region, with roads and public facilities needing modernization.

The community in Chișinău municipality can become more attractive by increasing the probability of real earnings from non-agricultural activities.

Very large disparities between Chișinău Municipality and the Central Region refer to all selected categories of economic activities. For salaried employees, the disparity is 6 to 2 in favor of the former.

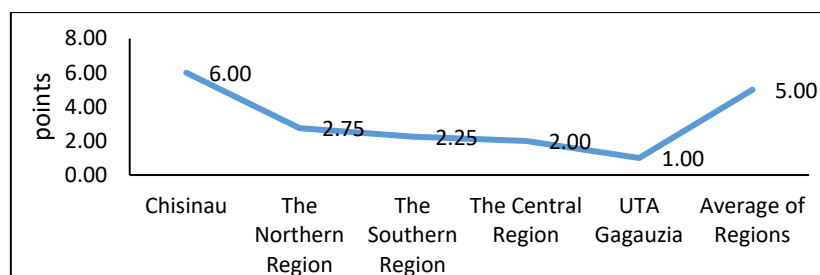


Figure 1. Disparities in the number of employees in non-agricultural activities between the regions of the Republic of Moldova

Source: Author, by using Biroul Național de Statistică al Republicii Moldova BNS (2024)

The turnover from non-agricultural activities in Moldova (Figure 2) is an important indicator of the diversity and resilience of the country's economy.

The non-agricultural sector significantly contributes to the national GDP, providing jobs and stimulating economic development through innovation and investments. Supportive policies, foreign investments, and integration into the global economy are key factors that will continue to positively influence this sector. Very large disparities between Chişinău Municipality and the Central Region refer to all selected categories of economic activities. For turnover, the disparity is 6 to 1.6 in favor of the former.

Moldova benefits from a strategic position, facilitating the transit of goods between Eastern and Western Europe. The transport and logistics sector significantly contributes to GVA due to import-export and transit activities. Although affected by the COVID-19 pandemic, the tourism and hospitality sector has the potential to generate considerable GVA as it recovers.

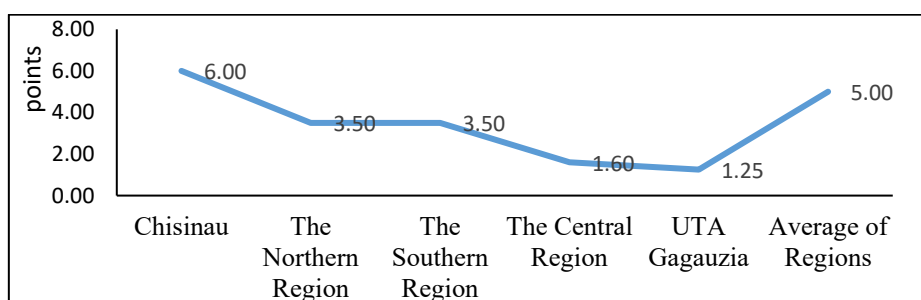


Figure 2. Disparities in turnover of major non-agricultural activities by region

Source: Author, by using BNS (2024.)

Microenterprises and small and medium-sized enterprises (SMEs) play a crucial role in Moldova's economy, generating significant GVA and contributing to job creation. Compared to the regional average, Chişinău Municipality ranks highest in accommodation and food services, trade, and transport activities, while other regions are below the regional average for each category.

The average aggregated score (AAS) for GVA in Moldova is 5.0, with the disparity between the specific regional AAS and the minimum AAS from the North Region being 5.0 to 1.0 in favor of Chişinău Municipality.

These results indicate that for the GVA indicator group, regional disparities are significant compared to the regional average (Figure 3).

Rural households are often larger, with an average of 4-5 members, frequently including extended family members. Agriculture is the predominant economic activity.

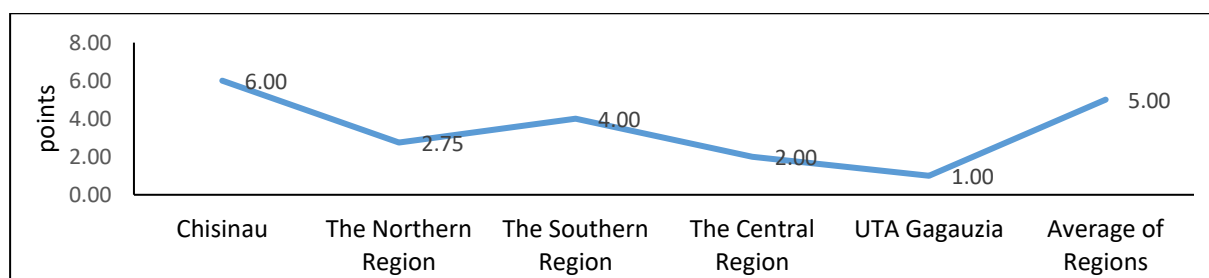


Figure 3. GVA indicator

Source: Author, by using BNS (2024.)

Many rural households are involved in land cultivation, animal husbandry, and food production for both self-consumption and sale. Incomes in rural households are generally lower, often supplemented by state aids.

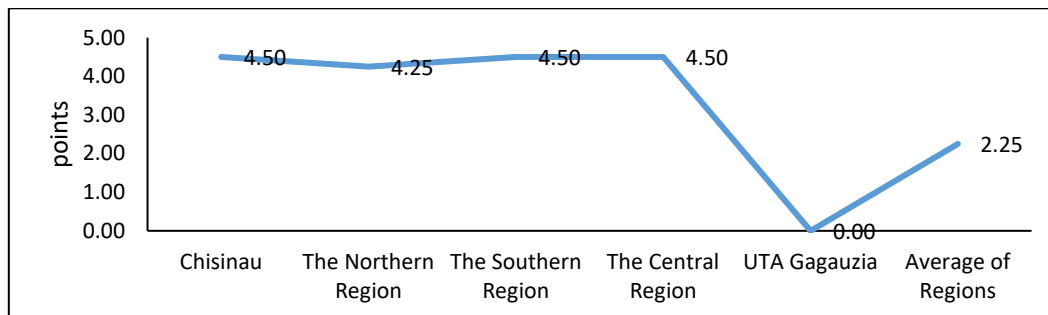


Figure 4. Disparities in household size by region in Moldova

Source: Author, by using BNS (2024.)

Compared to the regional average, there is some balance in household size. The UTA Gagauzia region lacks data, which is why the regional average is lower in each category.

The Average Aggregated Score (AAS) for household size in Moldova is 2.35, with the disparity between the specific regional AAS and the minimum AAS from the Central Region being 2.35 to 4.25 in favor of the Region; the disparity between the specific regional AAS and the maximum AAS from the Chişinău Region is 2.35 to 4.5 in favor of the Region (Petrea et al., 2016).

Considering these results, it can be stated that for the group of indicators related to household size, the disparities between regions are not large compared to the regional average (Figure 4), with a lack of potential being noted for UTA Gagauzia (Petrea et al., 2020).

Investments in land modernization and consolidation are limited. Access to finance and technology is essential for increasing the average area of farms and improving productivity. Land consolidation policies could help reduce fragmentation and increase the average farm size. These policies should encourage land consolidation and support farmers in this process.

The UTA Gagauzia region recorded the highest rank regarding the area per individual farm, which is 2.99 ha, with a disparity of 5 to 3 compared to the Central Region at 1.6 ha (excluding Chişinău Municipality) (Figure 5).

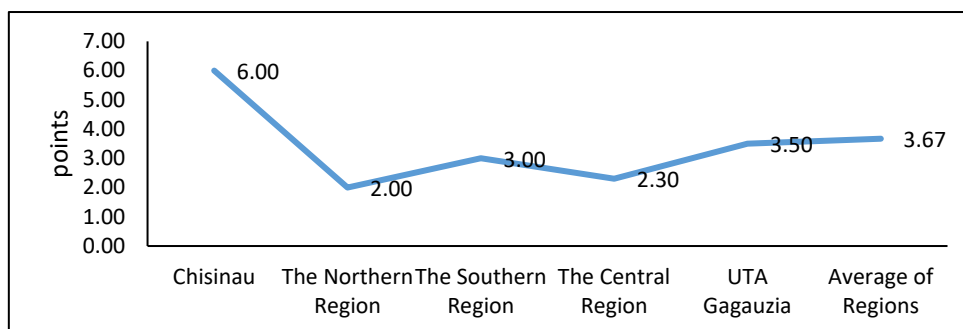


Figure 5. Disparities in farm area between regions in Moldova compared to the regional average

Source: Author, by using BNS (2024)

Very large disparities are recorded between the Chişinău region (low rurality) and the North region, with a ratio of 6 to 1. Regarding aggregated scores, the disparity between the regional average AAS and the Central AAS is 4 to 3. UTA Gagauzia has a rurality degree (rank 2), which further accentuates the disparities between Regions and the regional average (Figure 6).

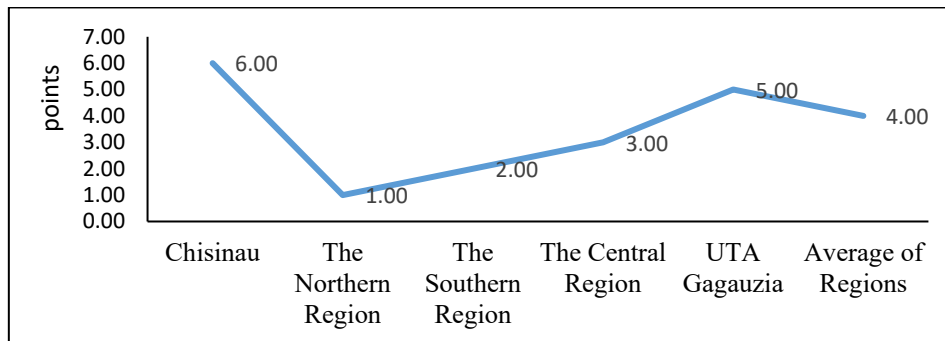


Figure 6. Disparities in human resources between regions and the regional average

Source: Author, by using BNS (2024)

Agricultural product processing activities, more commonly practiced by agricultural farms, include milling activities (North), followed by meat processing activities (Central), dairy processing activities (UTA Gagauzia), vegetable and fruit processing (North), and grape processing (South). Agrotourism, fish farming, and crafts have a very low share. The availability and qualification of the workforce can influence the performance of the processing sector. The emigration of skilled labor is a problem. Investments in modern technology and equipment can improve production efficiency and quality (Figure 7).

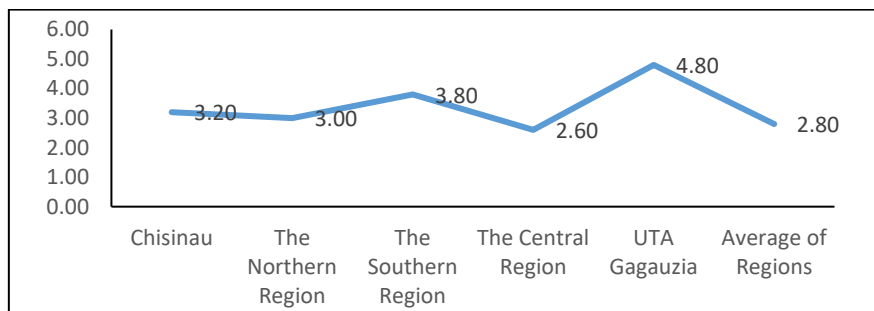


Figure 7. Disparities in processing activities between regions and their average

Source: Author, by using BNS (2024)

Animal density per hectare in Moldova varies depending on the type of animals and specific agricultural practices. In general, density is influenced by resource availability, pasture management, and animal husbandry practices. To ensure sustainable and efficient animal growth, it is crucial to adopt modern and sustainable land and resource management practices (Figure 8).

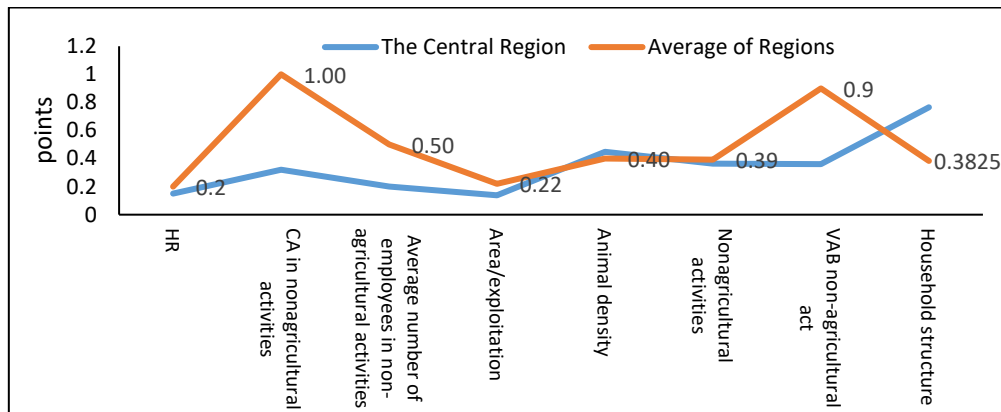


Figure 8. Summary of non-agricultural potential in the Central Region

Source: Author, by using BNS (2024)

5. Conclusions

The study "Agricultural Disparities in the Regions of the Republic of Moldova" analyzed the situation of agriculture and rural development, examining their significant proportion and importance for the national economy and directions for investment in the coming period (Stonawska & Vaishar, 2018).

The study's results allowed us to outline some directions for reducing regional disparities, and we consider some aspects of rural development as specified. Firstly, it is particularly important to increase employment in sectors other than agriculture, which will absorb the workforce released from the agricultural economy. Consolidation of agricultural farms will increase their economic efficiency in response to market pressures (Esparcia, 2014).

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