

REGIONAL DIFFERENCES IN AVERAGE MONTHLY INCOME PER PERSON BY SOCIAL CATEGORY. THE CASE OF ROMANIA

ȘTELIAC NELA

LECTURER PH.D., "BABEȘ-BOLYAI" UNIVERSITY, CLUJ-NAPOCA,
FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION
e-mail: nela.steliac@econ.ubbcluj.ro, steliacn@yahoo.com

Abstract

Household income is a fundamental indicator in assessing the living standards of the population, having a direct impact on the size and structure of consumption. The aim of this paper was to analyze the evolution of interregional disparities in average monthly income per person in households headed by four socio-professional categories: employees, farmers, unemployed and pensioners. The results showed that households headed by employed persons recorded the highest income levels, while those headed by unemployed persons were at the opposite pole. Regional concentration poles were also identified for each category analyzed. The Bucharest-Ilfov region stood out as the main regional pole in the case of households headed by employed, unemployed and retired persons, while for households headed by farmers, this status was held by the Center region. Although territorial disparities were present among all the categories analyzed, the most pronounced differences were found for the unemployed and farmers, highlighting the increased economic vulnerability of these groups in relation to the regional income distribution.

Keywords: interregional disparities, regional poles, average monthly income per person, social categories

JEL classification: D10, D31

1. Introduction

Income plays an essential role for every person, as it is the main source through which they can meet their own needs □1□. At the same time, it is the main factor that determines the standard of living and consumption capacity of individuals. Together with the prices of consumer goods, incomes directly influence the purchasing power of the population, as the demand for goods and services is directly dependent on income □2□-□3□. Any increase in income has a positive impact on the demand for goods and services, stimulating domestic consumption and economic growth. The sources of household income are diverse, including wages, pensions, self-employment and investment income.

At the same time, in Romania, household incomes vary significantly from one region to another, these differences being influenced by the degree of economic development, employment structure and level of urbanization. The Bucharest-Ilfov region is consistently characterized by the highest incomes, due to the concentration of economic activities and higher wage levels. In contrast, the North-East region is frequently at the bottom of the ranking, as a result of weaker economic development and a high share of agricultural activities. Household income levels also differ considerably by socio-professional category, reflecting both distinct sources of income and differences in living standard.

In this paper, we set out to conduct an analysis of regional disparities in average monthly income per person by household category. The analysis covers the period 2011-2023, for which relevant statistical data were available. The social categories considered were: employees, farmers, unemployed and pensioners. Although it was intended to include an additional category, the self-employed, the absence of regional data for this category prevented its inclusion in the analysis. The statistical data used were taken from official sources of the National Statistical Institute.

2. Overview of average monthly income/person, by social categories and regions

The regional evolution of the average monthly income per person in 2023 compared to 2011, by household categories, is presented in Table 1. The analysis reveals significant differences between regions, both in a static (at a point in time) and dynamic (over time) perspective. The growth rates calculated by social category and by region highlight these disparities. The following can be noted:

- in the case of households headed by employees, the highest increase in average monthly income per person was recorded in the South-East region, with an increase of about 4 times over the period analyzed. This was followed by the Bucharest-Ilfov region, with an increase of 3.9 times. The lowest growth was observed in the West region, where incomes increased by only 3.1 times;
- for households headed by farmers, the most significant increase occurred in the North-West region (3.5 times), while the smallest increase was recorded in the West region, with an increase of only 1.7 times;
- for households headed by the unemployed, the South-West region recorded the highest increase in income (4.8 times), while the South-East region recorded the smallest increase (1.7 times);
- for pensioner-headed households, the highest increase was observed in the South-West region, where incomes rose by 3.2 times, and the lowest in the North-West region, with a 2.5-fold increase.

Overall, over the period 2011-2023, the largest increase in average monthly income per person was among the unemployed in the South-West region (4.8 times), while the smallest increases were among farmers in the West region and the unemployed in the South-East region, both with an increase of only 1.7 times.

Table 1 Average monthly income/person, by social categories and regions (RON)

Categories	Years	Regions							
		NV	C	NE	SE	S	BI	SV	V
Employee	2011	1,015.4	975.7	886.4	864.4	940.0	1,344.4	1,005.8	1,057.0
	2023	3,701.0	3,316.3	2,889.5	3,474.8	3,283.3	5,188.6	3,351.2	3,260.7
	$\pm\Delta$ 2023/2011	2,685.6	2,340.6	2,003.1	2,610.4	2,343.4	3,844.2	2,345.4	2,203.7
	(RON; times)	3.6	3.4	3.3	4.0	3.5	3.9	3.3	3.1
Farmer	2011	544.0	878.9	543.0	728.6	634.3	418.9	461.6	710.4
	2023	1,922.3	1,945.0	1,444.0	1,666.9	1,933.2	:	1,293.9	1,218.5
	$\pm\Delta$ 2023/2011	1,378.2	1,066.1	900.9	938.3	1,298.9	:	832.3	508.2
	(RON; times)	3.5	2.2	2.7	2.3	3.0	:	2.8	1.7
Unemployed	2011	476.4	413.5	532.5	438.3	571.6	601.4	447.4	525.7
	2023	1,378.2	774.6	1,168.4	758.2	1,648.7	2,276.9	2,129.1	1,503.0
	$\pm\Delta$ 2023/2011	901.8	361.2	635.8	319.9	1,077.2	1,675.5	1,681.7	977.3
	(RON; times)	2.9	1.9	2.2	1.7	2.9	3.8	4.8	2.9
Pensioner	2011	914.9	867.3	790.1	746.6	793.0	1,024.7	701.0	842.4
	2023	2,291.5	2,428.1	2,114.2	2,161.6	2,311.7	2,932.8	2,252.7	2,157.5
	$\pm\Delta$ 2023/2011	1,376.6	1,560.7	1,324.1	1,414.9	1,518.7	1,908.1	1,551.6	1,315.1
	(RON; times)	2.5	2.8	2.7	2.9	2.9	2.9	3.2	2.6

Source: processed by author based on NSI data

In absolute terms, households headed by employees enjoy the highest average monthly income per person. This is explained by the stability of employment and higher wage levels in the industrial and service sectors, where this category is predominantly employed. Income consists mainly of wages and salaries, but to a lesser extent also includes social benefits, income from self-employment or investment income.

In contrast, households headed by the unemployed had, with few exceptions, the lowest levels of income, reflecting the lack of a stable income from work. The main sources of income for this category are unemployment benefits and various forms of social assistance.

Average monthly incomes per person in households headed by farmers are generally low, but slightly higher than those of the unemployed. They ranged from 543 lei to 878.9 lei in 2011 and from 1,218.5 lei to 1,945 lei in 2023. The low levels of these incomes are mainly determined by the seasonal nature of agricultural activities and the dependence on weather conditions (also evidenced by the wide variation in values). The main sources of income are self-consumption and the sale of agricultural products and, in contrast to wage earners, social benefits account for a larger share.

As for households headed by pensioners, incomes can be characterized as moderate, consisting mainly of pensions, supplemented by social benefits and occasionally personal savings or other supplementary sources.

Turning to the regional poles in terms of average monthly income per person of wage earners and farmers, they are highlighted in Table 2.

For households headed by wage-earners, the Bucharest-Ilfov region consistently recorded the highest income levels, with values ranging from 1,309.6 lei (in 2012) to 5,188.6 lei (in 2023).

At the opposite pole were the South-East, North-East and West regions, where the values ranged between 864.4 lei and 2,889.5 lei. Compared to the beginning of the analyzed period, the maximum values of income in the year 2023 were 3.86 times higher and the minimum values were 2.89 times higher.

For households headed by farmers, the average monthly income per person was significantly lower relative to that of wage earners, both in terms of maximum and minimum levels. The increase in maximum values in 2023 compared to 2011 was 2.21 times. The highest values were recorded in the Center, Bucharest-Ilfov and South regions, while the lowest values were observed in the Bucharest-Ilfov, North-East, South-West Oltenia and West regions. The Bucharest-Ilfov region was the only region that recorded both minimum values in certain years (2011, 2013, 2014, 2017, 2021, 2022) and maximum values (in 2012, 2016, 2019). As for the minimum values, they tripled in 2023 compared to 2011.

Table 2 Regional poles - average monthly income/person (RON), employees and farmers

Year	Employees				Farmers			
	Max.	Region	Min.	Region	Max.	Region	Min.	Region
2011	1,344.4	BI	864.4	SE	878.90	C	418.85	BI
2012	1,309.6	BI	900.8	SE	789.90	BI	519.05	NE
2013	1,490.9	BI	939.0	SE	923.27	C	474.36	BI
2014	1,598.4	BI	1,000.2	SE	844.68	C	371.96	BI
2015	1,663.2	BI	1,030.0	NE	1,168.93	C	524.26	NE
2016	1,859.2	BI	1,239.3	NE	1,404.96	BI	571.63	SV
2017	2,201.1	BI	1,417.1	V	1,206.85	C	587.34	BI
2018	2,964.1	BI	1,824.8	NE	1,417.86	C	697.97	SV
2019	3,233.5	BI	2,085.9	NE	1,424.90	BI	633.05	SV
2020	3,578.6	BI	2,139.8	NE	1,456.56	C	735.50	SV
2021	4,027.3	BI	2,457.1	NE	1,532.92	C	711.22	BI
2022	4,467.2	BI	2,735.2	NE	1,930.35	S	667.31	BI
2023	5,188.6	BI	2,889.5	NE	1,945.04	C	1,218.52	V

Source: compiled by author based on NSI data

Note: BI - Bucharest-Ilfov; SE - South-East; NE - North-East; V - North-East; C - Center; S - South Muntenia; SV - South West Oltenia; V - West

According to Table 3, in the case of the unemployed, with the exception of 2013, the Bucharest-Ilfov region was the region with the highest levels of average monthly income per person, with values ranging from 601.36 lei in 2011 to 2,276.9 lei in 2023. The ratio between the maximum levels at the end and the beginning of the period under study was 3.79 times, and 1.83 times for the minimum levels. The lowest incomes of households headed by the unemployed were recorded in the regions: Center (years 2011, 2012, 2015, 2018, 2020, 2021); South-East (years

2013, 2014, 2016, 2023); West (2019) and North-West (2017). Incomes in these regions ranged between 370.9 lei and 758.19 lei.

For pensioner-headed households, average monthly incomes per member were just over 1,000 lei in the early years, rising to over 2,900 lei in 2023. The highest levels of these incomes were recorded in the Bucharest-Ilfov region, considered one of the poles of this social category. At the opposite pole were three regions: South-West, South-East and North-East. Minimum incomes varied between 701.02 lei in 2011 and 2,114.24 lei in 2023. In 2023, the maximum income level increased by 2.86 times compared to 2011, while the minimum increased by 3.02 times.

Table 3 Regional poles - average monthly income/person (RON), unemployed and retired

Year	Unemployed				Pensioners			
	Max.	Region	Min.	Region	Max.	Region	Min.	Region
2011	601.36	BI	413.46	C	1,024.73	BI	701.02	SV
2012	682.71	BI	377.99	C	1,017.05	BI	730.05	SV
2013	595.36	V	428.91	SE	1,024.50	BI	782.69	SE
2014	761.65	BI	443.03	SE	1,089.63	BI	798.10	SV
2015	689.61	BI	370.90	C	1,202.43	BI	838.22	NE
2016	831.55	BI	455.90	SE	1,275.13	BI	883.53	NE
2017	900.51	BI	410.39	NV	1,443.18	BI	988.72	NE
2018	1,262.32	BI	486.62	C	1,850.08	BI	1,135.34	SV
2019	1,434.18	BI	636.73	V	2,023.46	BI	1,265.93	NE
2020	1,251.93	BI	612.10	C	2,237.06	BI	1,408.17	NE
2021	1,766.05	BI	653.36	C	2,310.32	BI	1,534.30	NE
2022	1,776.22	BI	742.34	NV	2,670.83	BI	1,860.08	NE
2023	2,276.90	BI	758.19	SE	2,932.79	BI	2,114.24	NE

Source: by author based on NSI data

Note: BI - Bucharest-Ilfov; SE - South-East; SE - South-East; NE - North-East; NV - North-West; C - Center; SV - South-West Oltenia; V - West

3. Regional gaps in average monthly income per person by social category

The regional differences are, however, better highlighted by the indicators of variability: mean, standard deviation, coefficient of variation, maximum, minimum, absolute and relative amplitude. Therefore, in order to track the dynamics of these differences, variability indicators were calculated for the four social categories: employees, farmers, unemployed and pensioners.

As can be seen in Fig. 1 (a, b, c, d), with small exceptions, the regional average per capita income per person showed an upward trend in all social categories, thus reflecting the general upward trend of the social categories over the period analyzed. This suggests continued economic growth and/or wage adjustments.

At the same time, as was to be expected, the average income level for wage-earner households was higher than for other social categories. The regional average calculated for these households ranged from 1,011.1 lei (in 2011) to 3,558.2 lei (in 2023). At the opposite pole was the category of the unemployed, with a regional average starting at 500.8 lei in 2011 and reaching 1,454.6 lei in 2023.

For households headed by farmers, the regional average ranged from 615 lei (in 2011) to 1,632 lei (in 2023) and for pensioner households from 835 lei (in 2011) to 2,331.2 lei (in 2023).

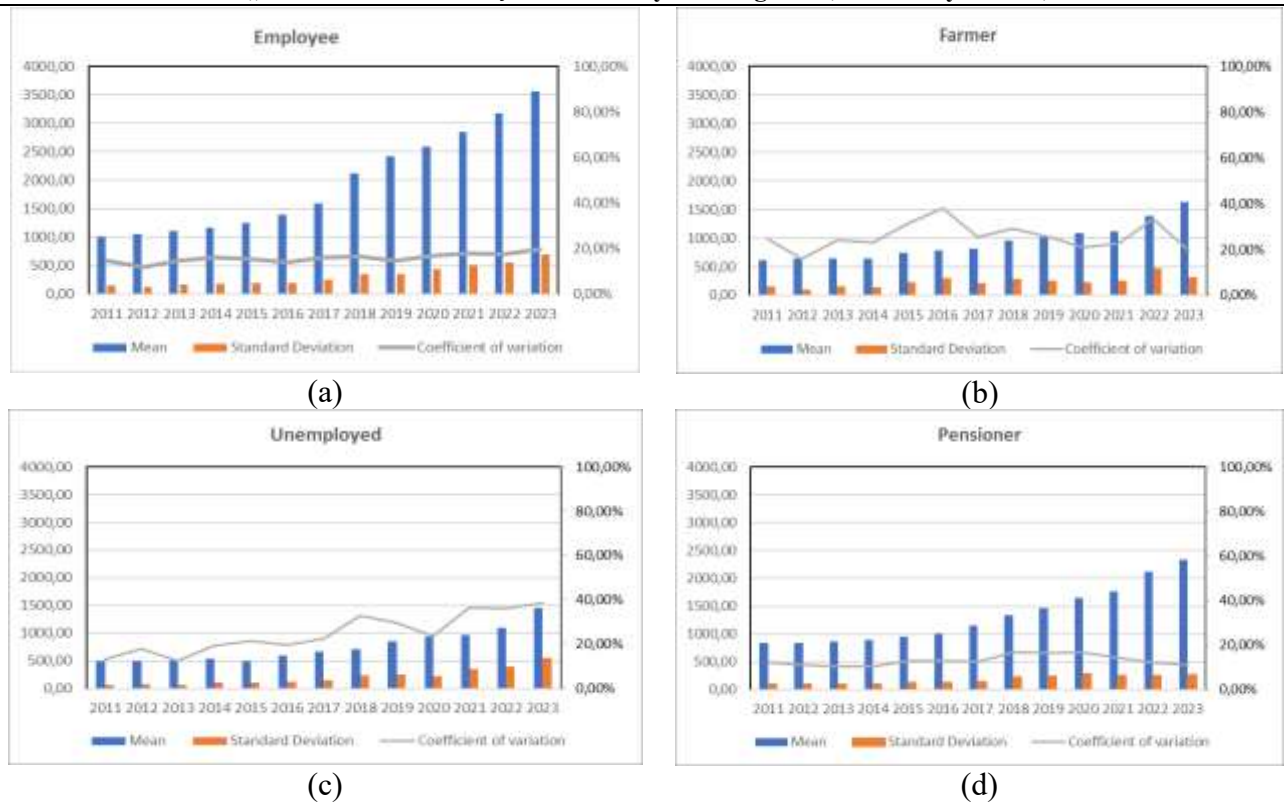


Figure 1 Average total income per person, by social category (2011-2023) - indicators of variability (mean, standard dispersion, coefficient of variation)

Source: own calculations based on NSI data

If we look at the evolution of the ratio of regional averages for average monthly income per person in households headed by employed and unemployed persons, it has been fluctuating, with lower points recorded in 2014, 2017, 2020 and 2023, and higher points in 2013, 2015, 2018, 2022 (see Fig. 2). Even with such an evolution, however, an increase in this ratio for the year 2023 compared to 2011 (2.4 times compared to 2 times) is still noticeable. The peak of this ratio was reached in 2018, when the average monthly income per person in employed households was 3 times higher than that of the unemployed.

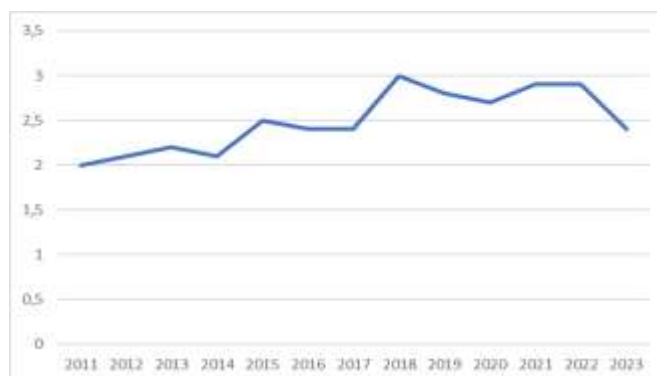


Figure 2 Ratio between the regional average of average monthly income/person in employed and unemployed households

Source: own calculations based on NSI data

In terms of dynamics, from a standard deviation point of view, we observe in Fig. 1, with small exceptions, an upward trend in the case of employed and unemployed, indicating an increase in interregional differences in average monthly income per person. In contrast, for farmers and

pensioners, a fluctuating trend is evident, reflecting both increasing and decreasing periods of these interregional gaps.

The calculated coefficients of variation (Fig. 1) generally show a fluctuating trend for all four social categories. This variation is, however, more pronounced for the unemployed and farmers, indicating a more visible fluctuation in the gaps compared to the regional average for these two categories. The low and constant values (below 20%) of the coefficients of variation for employees and pensioners signal a greater homogeneity of income, suggesting relatively balanced incomes between the members of these categories.

In the case of farmers, the coefficients of variation ranged between 20% and 40%, showing significant fluctuations, reflecting income instability and high dispersion. For the unemployed, the coefficient of variation remained constant between 30% and 40%, indicating significant income inequality and high-income dispersion within this category.

Regional disparities in average monthly income per person are also evidenced by their absolute and relative magnitudes. They have been on an upward trend, reflecting a widening of the income value range, which is correlated with an increasing standard dispersion. Looking at Fig. 3 (a, b, c, d), the highest absolute amplitude over the period was for wage earners, followed generally by farmers. In terms of relative amplitude, the highest values are found for households headed by unemployed and farmers.

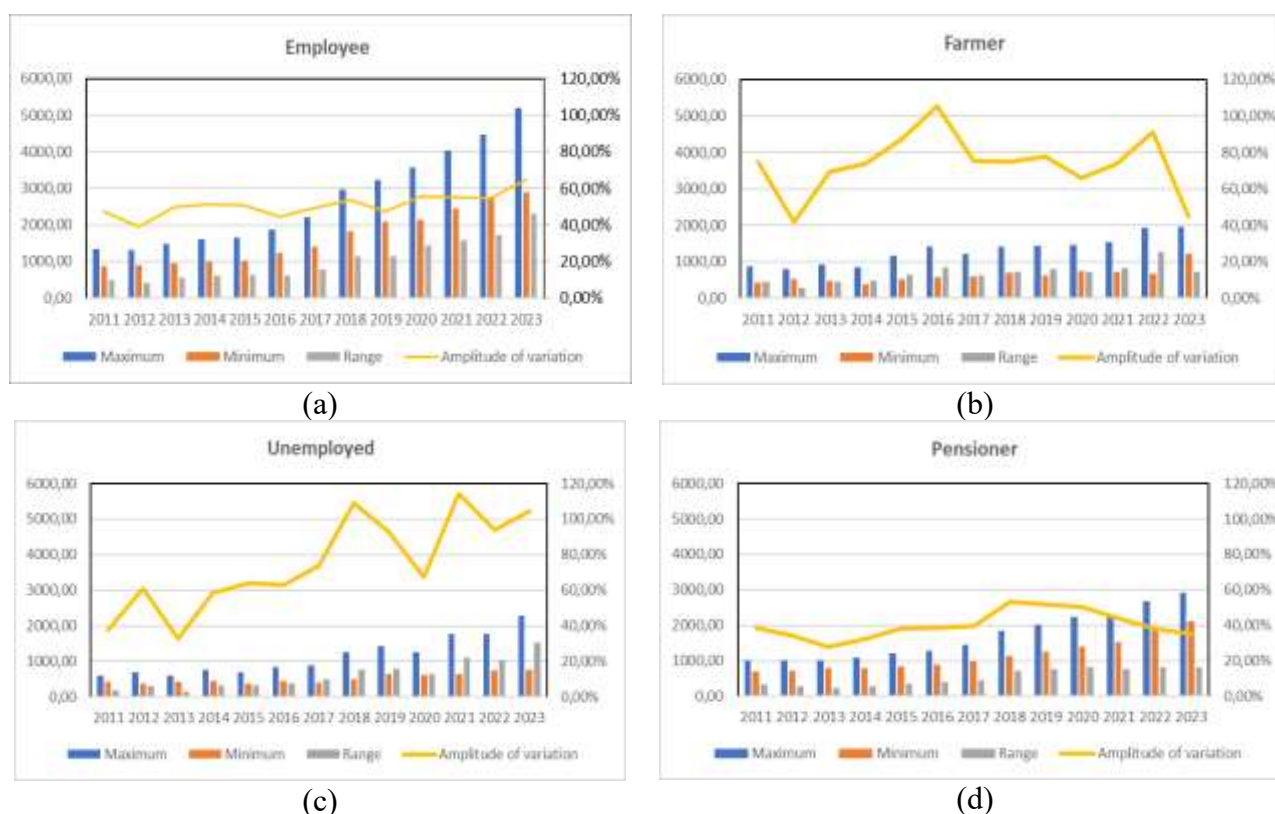


Figure 3 Average total income per person, by social category (2011-2023) - indicators of variability (maximum, minimum, absolute and relative magnitudes)

Source: own calculations based on NSI data

For a better understanding of these regional disparities, see Fig. 4 (a, b). According to Fig. 4(a), the absolute magnitude of earnings has been steadily increasing for wage earners over the period under analysis, indicating a continued widening of the gap between high and low performing regions.

Comparing the absolute magnitudes of the four social categories, the highest level is found for employees. With some exceptions, the range of variation in average monthly income per person

was smaller in households headed by the unemployed. There is also an upward trend in incomes for pensioner households and a fluctuating pattern for unemployed and agricultural households. These developments signal periods of income polarization (increasing regional differences), followed by periods of leveling off (decreasing regional differences) for the latter two categories.

Figure 4(b) illustrates the evolution of the relative magnitude of average monthly income per person by socio-occupational categories. The high values of this indicator for farmers and the unemployed reflect marked regional disparities caused by inequalities in access to resources and social support. In contrast, there is less regional variation for employees and pensioners, suggesting a more even distribution of income, influenced by uniform wage and pension regulations (from the public system).

However, regional disparities also exist for these two categories, although they are less pronounced.

It can therefore be said that regional income inequalities are highest among vulnerable social groups - farmers and the unemployed, whose incomes are strongly influenced by local conditions - and lowest among pensioners and employees, where incomes come from more stable and standardized sources

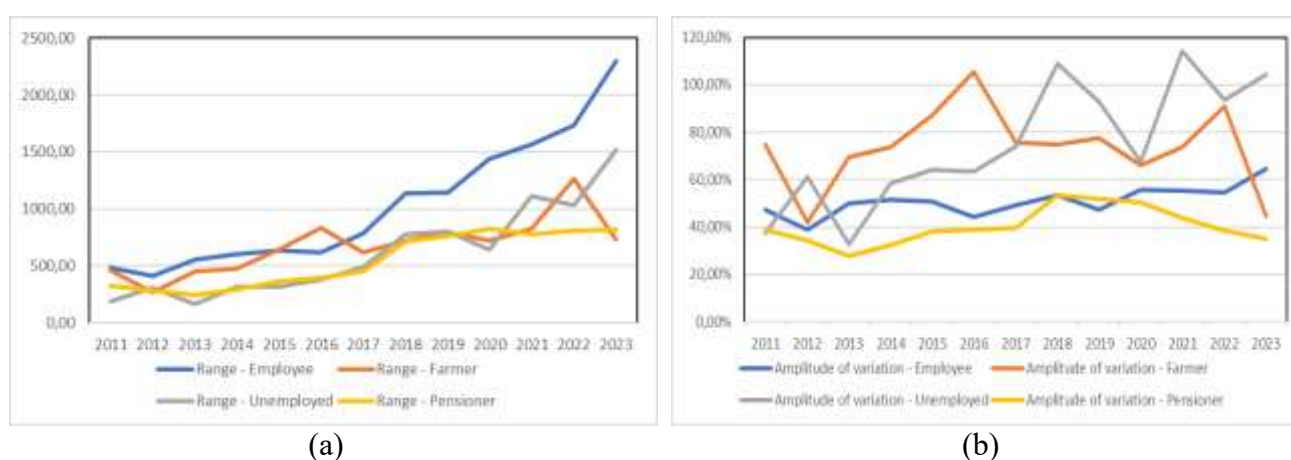


Figure 4 Average total income per person, by social category (2011-2023) - absolute (a) and relative (b) ranges

Source: own calculations based on NSI data

4. Conclusions

The regional differences in household incomes in Romania highlight the need to formulate and implement public policies geared towards balanced territorial development and expanding economic opportunities in less developed regions.

Based on the analysis carried out, the following conclusions can be drawn:

- viewed in dynamics, the average monthly income per person showed a general upward trend for all social categories analyzed;
- the highest levels of income were recorded in households headed by employed persons, while the lowest levels were recorded in households headed by unemployed persons;
- in absolute values, the largest interregional differences were found for employees and the smallest for either the unemployed or pensioners, by year;
- In a static perspective, there were significant variations in average monthly income per person between regions for all social categories. However, the most pronounced inter-regional gaps were observed for households headed by unemployed and agricultural workers.

Thus:

- households headed by employees recorded the second smallest relative change in income, suggesting a relatively more equitable distribution and stable economic development in this category;

- Households headed by farmers had modest income levels accompanied by high variation, indicating a lack of internal homogeneity and increased vulnerability to external factors such as climatic conditions or fluctuations in agricultural markets;
- in the case of households headed by unemployed persons, although incomes increased, their distribution was marked by significant inequalities, probably influenced by heterogeneous sources of income (social benefits, casual activities, etc.). The high coefficient of variation reflects high economic instability;
- pensioner-headed households showed a relatively stable income evolution, both at national and regional level, and the coefficient of variation showed the smallest interregional discrepancies of all the categories analyzed.

In conclusion, the analysis of the average monthly income per person, from a regional and socio-professional perspective, shows significant inequalities, with clear differences between social categories. Employees and pensioners benefit from more stable and homogeneous incomes, thanks to standardized and regulated sources at national level, while farmers and the unemployed, more vulnerable social groups, show more unstable incomes and a marked regional dispersion, reflecting an increased dependence on the local context and unequal access to resources.

5. Bibliography

□1□ **Anghelache, C., Anghel, M.G.**, (2016), Analiza corelației dintre veniturile și cheltuielile gospodăriilor, Revista Economica, nr.4(98), pp. 88-103

□2□ **Babucea, A.G., Bălăcescu, A.**, (2011), Analiza statistică a dinamicii veniturilor și cheltuielilor de consum ale gospodăriilor în perioada 1990 – 2010, Analele Universității “Constantin Brâncuși” din Târgu Jiu, Seria Economie, nr. 1, pp. 9-16

□3□ **Barti, C.**, (2015), Veniturile gospodăriilor sărace și posibilitatea acestora de a face față cheltuielilor cu energia electrică, Revista Română de Statistică, Supliment nr. 12, pp.77-83

□4□ www.innse.ro