

STATISTICS OF THE RURAL POPULATION FROM THE REGIONAL PERSPECTIVE

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Abstract

The paper aims to analyze the regional level trends of the rural population, in the period 2010-2018. We used the following demographic indicators: rural population, rural internal migration, natural population growth in rural areas, rural female population, rural female fertile contingent, rural elderly population, rural young female population and labor force indicators: female labor renewal in rural areas, rural employed population, rural employment rate, unemployment in rural areas, rural unemployment rate, rural employed population by activity sectors. If in the period 2005-2010 there are trends of deruralization, starting with 2010 a reversal of trend is identified: in all development regions we identify a sharp increase in the percentage of rural population. The accentuated increase of rurality is mainly due to the internal migration of the population, with a positive balance in the rural environment. On the other hand, the analysis of the data regarding the fertile female quota shows that the share of the fertile female population decreased in all development regions, hence the negative values of the natural population growth, all in the context of the constant accentuated increase of the elderly population. From the perspective of the structure by sectors of activity of the employed population, the following are highlighted: predominantly agrarian areas: North-East Region, South-West Oltenia Region and South-East Region - areas dominated by industry and constructions, Central Region and West Region, areas dominated by services Bucharest-Ilfov Region.

Key words: rural population, regional profile, Romania

INTRODUCTION

In 2019, the rural population counts 8,959,096 people, which represents a percentage of 46.15% of the total population [2].

Lack of technical endowment and financial resources, aging population, lack of jobs, low level of training and low productivity are the main characteristics of rural areas [2, 3, 9]. Also, low level of education has a profound impact on work performance in terms of concerns the production and management of farms, product quality and market competitiveness [8].

The rural area has a multitude of resources (natural, economic, social, cultural) [1, 4] but the main resource of rural development is the rural population.

Knowing its characteristics is extremely important from the perspective of planning and implementing regional and national

development policies. It is necessary to develop national programs, focused on regional needs, in order to increase the birth rate, promote social inclusion, and reduce poverty and economic development in rural areas [5, 6].

In this context, the paper aims to analyze the demographic and economic characteristics of the rural population, in the period 2010-2018, in regional profile.

MATERIALS AND METHODS

In this research we used statistical data provided by the National Institute of Statistics, for the period 2010-2018 through the following publications: Regional economic and social landmarks: Territorial Statistics, 2020, Tempo online and were processed using index, sharing and comparison methods.

We used the following demographic indicators: rural population, rural internal migration, natural population growth in rural areas, rural female population, rural female fertile contingent, rural elderly population, rural young female population and labor force indicators: female labor renewal in rural areas, the population employed in rural areas, the employment rate in rural areas, unemployment in rural areas, the unemployment rate in rural areas, the rural population employed by activity sectors.

RESULTS AND DISCUSSIONS

Demographic Indicators

Percentage of the rural population evolution

The deruralization tendencies, present in the period 2005-2010, can be identified in the form of continuity in the Bucharest-Ilfov and West Development Regions or of the specificity in the North-East and South

Muntenia Development Regions due to the high percentage of the rural population which has a significant share in total population.

Starting with 2010, a trend reversal is identified: in all development regions we identify a sharp increase in the percentage of rural population, more significant in the Bucharest-Ilfov Region (3.32 percentage points), the West Region (2.33 percentage points), the Center Region (2.13 percentage points), South-East Region (2.12 percentage points) (Table 1).

The evolution of internal migration

The accentuated increase of rurality is mainly due to the internal migration of the population, with a positive balance in the rural environment. In 2016 there is a significant increase in the number of people who settled in rural areas with high values in Macro-region 3 of 11,519 people and Macro-region 1 of 10,951 people. (Table 2).

Table 1. Percentage of the rural population evolution (%)

	2005	2010	2015	2016	2017	2018
MacroRegion1	43.6	43.7	45.24	45.20	45.30	45.28
Region North-West	46.8	46.6	47.44	47.60	47.67	47.59
Region Center	40.1	40.6	42.39	42.56	42.69	42.73
Macro-region 2	51.3	51.6	53.33	53.38	53.40	53.32
Region North-East	56.6	56.7	58.34	58.31	58.26	58.13
Region South-East	44.5	44.8	46.74	46.87	46.95	46.92
MacroRegion 3	38.8	37.8	39.14	39.20	39.17	38.95
Region South Muntenia	58.3	58.4	60.48	60.59	60.62	60.51
Region Bucharest-Ilfov	9.5	8.1	10.7	11	11.26	11.42
MacroRegion 4	45.1	45.0	46.63	46.88	46.96	46.81
Region South-West Oltenia	52.4	51.8	53.91	54.12	54.08	53.77
Region West	36.4	36.9	38.57	38.91	39.14	39.23

Source: Own calculations based on data from "Regional Economic and Social Landmarks: Territorial Statistics", NIS, 2020 [6].

Table 2. Evolution of internal migration (persons)

	2015	2016	2017	2018
MacroRegion 1	8,458	10,951	8,778	8,249
Region North-West	5,152	6,778	5,604	4,883
Region Center	3,306	4,173	3,174	3,366
MacroRegion 2	5,206	5,754	1,007	-203
Region North-Est	2,722	2,438	263	-450
Region South-Est	2,484	3,316	744	247
MacroRegion 3	8,271	11,519	6,303	5,234
Region South Muntenia	2,106	3,849	-636	-1,159
Region Bucharest-Ilfov	6,165	7,670	6,939	6,393
MacroRegion 4	6,834	10,114	6,218	5,885
Region South-West Oltenia	1,562	3,512	-207	-728
Region West	5,272	6,602	6,425	6,613

Source: own calculations based on data from "Regional Economic and Social Landmarks: Territorial Statistics", NIS, 2020 [6].

The evolution of natural population growth

In the period 2015-2018, negative values of the “natural population growth” were registered in all the analyzed regions, except

for the Bucharest-Ilfov Region. In 2018 in Bucharest-Ilfov region, the level of the indicator was 452 people (Table 3).

Table 3. Evolution of "natural population growth" in rural areas (persons)

	2015	2016	2017	2018
MacroRegion 1	-9,089	-6,146	-7,033	-8,779
Region North-West	-5,303	-3,531	-4,262	-4,729
Region Center	-3,786	-2,615	-2,771	-4,050
MacroRegion 2	-15,104	-14,160	-24573	-19,896
Region North-East	-5,067	-4,410	-6,281	-7,523
Region South-East	-10,037	-9,750	-11,259	-12,373
MacroRegion 3	-17,698	-16,488	-17,008	-16,537
Region South Muntenia	-16,110	-15,984	-16,829	-16,989
Region Bucharest-Ilfov	-1,588	-504	-179	452
MacroRegion 4	-18,556	-15,837	-17,670	-15,955
Region South-West Oltenia	-11,618	-10,274	-10,903	-10,222
Region West	-6,938	-5,563	-6,767	-5,733

Source: own calculations based on data from "Regional Economic and Social Landmarks: Territorial Statistics", NIS, 2020 [6].

The evolution of the rural female population

From the perspective of the structure of the rural female population, the data shows a slight continuous decrease in the number of

women, in all the development regions of Romania (Table 4). The largest decrease in the female population is registered by Macro-region 3 with -0.65 percentage points.

Table 4. Weight evolution of the rural female population (%)

	2010	2015	2016	2017	2018
MacroRegion 1	50.10	49.98	49.94	49.86	49.79
Region North-West	50.30	50.22	50.17	50.08	50.01
Region Center	49.80	49.69	49.65	49.58	49.53
MacroRegion 2	49.60	49.49	49.42	49.33	49.23
Region North-East	49.50	49.31	49.23	49.14	49.02
Region South-East	49.90	49.78	49.72	49.65	49.58
MacroRegion 3	50.60	50.29	50.20	50.08	49.95
Region South Muntenia	50.60	50.23	50.12	50.00	49.86
Region Bucharest-Ilfov	51.30	50.77	50.72	50.66	50.62
MacroRegion 4	50.40	50.16	50.06	49.94	49.82
Region South-West Oltenia	50.30	50.04	49.92	49.79	49.65
Region West	50.20	50.36	50.27	50.18	50.08

Source: own calculations based on data from "Regional Economic and Social Landmarks: Territorial Statistics", NIS, 2020 [6].

The evolution of the fertile female contingent

The analysis of data on the female fertile contingent shows that the share of the fertile female population has decreased in all development regions.

The highest value of the decrease is registered by Macro-region 3 (-0.89 percentage points) and Macro-region 4 (-0.62 percentage points) (Table 5).

The evolution of the fertile female contingent, aged 25-29 years

The decrease of the rural female population in the age category 25-29 years is continuous in the period 2015-2018, with the largest decreases in Macro-region 3 (-12,705 persons) and Macro-region 2 (- 12,396 persons) (Table 6).

The structure of the rural population aged 65 and over

The analysis of the evolution of the rural population aged 65 and over shows a constant accentuated increase of the percentage of the

elderly population. The oldest rural areas of Romania are the South-West Oltenia Region (25%) and the South Muntenia Region (22.17%) (Table 7).

Table 5. Evolution of the fertile female contingent, in the period 2015-2018

	Feminine fertile contingent (15-49 years old)							
	2015		2016		2017		2018	
	Number	%	Number	%	Number	%	Number	%
MacroRegion 1	492,830	44.42	494,417	44.60	491,878	44.49	485,358	44.12
Region North-West	270,959	44.05	271,707	44.22	270,238	44.12	266,502	43.79
Region Center	221,871	44.88	222,710	45.07	221,640	44.94	218,856	44.52
MacroRegion 2	650,687	42.90	652,272	43.32	646,720	43.33	633,844	42.96
Region North-East	405,852	43.21	407,098	43.65	404,355	43.72	397,467	43.44
Region South-East	244,835	42.40	245,174	42.78	242,365	42.69	236,377	42.17
MacroRegion 3	458,842	43.70	458,790	43.94	451,756	43.63	437,856	42.81
Region South Muntenia	395,836	42.76	393,584	42.94	385,141	42.57	371,039	41.72
Region Bucharest-Ilfov	63,006	50.72	65,206	51.10	66,615	50.90	66,817	50.06
MacroRegion 4	371,903	41.70	372,042	41.92	366,941	41.72	356,373	41.07
Region South-West Oltenia	218,132	40.33	217,102	40.51	212,581	40.24	204,485	39.50
Region West	153,771	43.80	154,940	44.06	154,360	43.94	151,888	43.39

Source: Own calculations based on Tempo online data, NIS, 2020 [7].

Table 6. Evolution of the fertile female contingent, aged 25-29, during 2015-2018

	2015	2016	2017	2018	Evolution 2018/2015
MacroRegion 1	68,198	65,599	61,912	58,254	-9,944
Region North-West	36,930	35,512	33,622	31,787	-5,143
Region Center	31,268	30,087	28,290	26,467	-4,801
MacroRegion 2	76,819	72,679	67,521	64,423	-12,396
Region North-East	46,623	44,427	41,760	40,555	-6,068
Region South-East	30,196	28,252	25,761	23,868	-6,328
MacroRegion 3	60,929	57,584	52,734	48,224	-12,705
Region South Muntenia	51,327	48,128	43,667	39,770	-11,557
Region Bucharest-Ilfov	9,602	9,456	9,067	8,454	-1,148
MacroRegion 4	47,105	44,932	41,880	39,329	-7,776
Region South-West Oltenia	26,286	24,712	22,611	20,938	-5,348
Region West	20,819	20,220	19,269	18,391	-2,428

Source: Own calculations based on Tempo online data, NIS, 2020 [7].

Table 7. Weight evolution of the elderly population (%)*

	2015	2016	2017	2018	2019
MacroRegion 1	17.90	18.08	18.28	18.43	18.55
Region North-West	18.46	18.65	18.86	18.98	19.08
Region Center	17.20	17.37	17.57	17.74	17.89
MacroRegion 2	19.22	19.37	19.56	19.65	19.70
Region North-East	18.73	18.86	18.99	19.05	19.05
Region South-East	20.01	20.21	20.48	20.64	20.79
MacroRegion 3	20.46	20.66	20.85	21.03	21.18
Region South Muntenia	21.26	21.51	21.75	21.98	22.17
Region Bucharest-Ilfov	14.32	14.42	14.41	14.49	14.61
MacroRegion 4	21.85	22.13	22.34	22.60	22.82
Region South-West Oltenia	23.82	24.15	24.37	24.70	25.00
Region West	18.78	19.02	19.23	19.44	19.58

*65 years and over population/total population. Source: own calculations based on data from NIS, 2020 [7].

The structure of the rural female population aged between 0 and 19 years

The structure of the rural female population shows a continuous decrease of the age segment 0-19 years. The exception is the

Bucharest-Ilfov Region with a growing percentage of the young female population (21.17%). The youngest areas of Romania,

from the perspective of women are the North East Region (25.68%) and the Central Region (24.05%) (Table 8).

Table 8. Percentage evolution of the young female population (%)*

	2015	2016	2017	2018	2019
MacroRegion 1	23.29	23.29	23.24	23.24	23.16
Region North-West	22.66	22.62	22.51	22.53	22.44
Region Center	24.09	24.12	24.13	24.11	24.05
MacroRegion 2	25.13	25.00	24.86	24.71	24.45
Region North-East	26.45	26.29	26.15	25.97	25.68
Region South-East	23.00	22.88	22.75	22.66	22.45
MacroRegion 3	20.50	20.42	20.33	20.29	20.15
Region South Muntenia	20.48	20.35	20.23	20.15	20.00
Region Bucharest-Ilfov	20.72	20.92	21.08	21.23	21.17
MacroRegion 4	19.82	19.66	19.42	19.31	19.12
Region South-West Oltenia	19.28	19.06	18.70	18.52	18.28
Region West	20.64	20.58	20.51	20.49	20.35

*0-19 years female population / total female population

Source: Own calculations based on data from NIS, 2020 [7].

Labor force

The evolution of the female labor force renewal index

The female labor force renewal index has been steadily declining, showing the inability of rural areas to secure their female labor force (Table 9).

Table 9. "Renewal of the female labor force" index value evolution *

	2010	2015	2016	2017	2018	2019
MacroRegion 1	95.5	86.47	86.73	86.25	84.98	84.12
Region North-West	95.7	85.74	85.88	85.33	84.27	83.58
Region Center	95.0	87.38	87.78	87.38	85.86	84.77
MacroRegion 2	95.8	90.54	93.14	95.11	96.12	97.98
Region North-East	98.2	93.18	96.22	98.99	100.87	103.67
Region South-East	92.0	86.30	88.16	88.89	88.54	88.97
MacroRegion 3	85.2	81.81	82.38	81.65	79.92	78.35
Region South Muntenia	85.5	83.62	84.69	84.50	83.19	82.18
Region Bucharest-Ilfov	82.8	71.16	69.48	66.81	63.83	60.64
MacroRegion 4	89.8	85.52	86.45	86.23	85.19	84.30
Region South-West Oltenia	88.1	85.71	87.21	87.21	86.61	85.95
Region West	82.1	85.25	85.40	84.90	83.32	82.17

Source: Own calculations based on data from NIS 2020 [7].

Thus, in the Bucharest-Ilfov Region we notice a decrease from 82.8 percent in 2010 to a value of 60.64 percent in 2019. The exception is found in the North-East Region where the value of the index increased from 98.2 in 2010 to the value of 103, 67% in 2019.

The evolution of the structure of the employed population

The evolution of the structure of the employed population at regional level shows two specific trends:

- Increases in the number of employed population appear in 2018 in the South-West Oltenia Region with an increase of 27,000 people, the North-West Region with an increase of 26,000 people and the Bucharest-Ilfov Region with 21,000 people.
- In Macroregion 2 there are decreases of the employed population with 20,000 people (Table 10).

Table 10. The evolution of the employed population in the rural area, at regional level, in the period 2015-2018 (thousands of persons)

	2015	2016	2017	2018
MacroRegion 1	837	842	891	865
Region North-West	513	507	543	539
Region Center	324	335	348	326
MacroRegion 2	1,451	1,396	1,394	1,431
Region North-East	1,001	967	961	989
Region South-East	450	429	433	442
MacroRegion 3	875	851	880	894
Region South Muntenia	773	743	763	771
Region Bucharest-Ilfov	102	108	117	123
MacroRegion 4	710	676	737	730
Region South-West Oltenia	444	412	468	471
Region West	266	264	269	259

Source: Own calculations based on data from NIS, 2020 [7].

Evolution of the employment rate

The employment rate of the Bucharest-Ilfov Region shows a significant increase of 8.3 percentage points, from 59.7% in 2015 to

68% in 2018. Increases also occur in the South-West Oltenia Region of 6.3 percentage points to a value of 64.6% in 2018 (Table 11).

Table 11. The evolution of the employment rate in the rural area, at regional level, in the period 2015-2018 (%)

	2015	2016	2017	2018
MacroRegion 1	56.3	56.7	59.6	58.6
Region North-West	61.5	60.9	64.6	65.1
Region Center	50	51.6	53.5	50.6
MacroRegion 2	68.7	66	66.5	68.6
Region North-East	75.3	72.9	72.7	75
Region South-East	58.1	54.8	56.4	58.1
MacroRegion 3	60.6	59.9	62.2	63.7
Region South Muntenia	60.7	59.6	61.7	63
Region Bucharest-Ilfov	59.7	61.5	65.7	68
MacroRegion 4	57.8	55.3	60.7	61.1
Region South-West Oltenia	58.3	54.5	62.6	64.6
Region West	57.1	56.5	57.9	56.1

Source: Own calculations based on data from NIS, 2020 [7].

The evolution of unemployment

The evolution of the number of unemployed registers a decreasing trend in all development regions. The largest decreases are observed in

the South Muntenia Region with a decrease of 34,000 people, followed by the South-West Oltenia Region with 15,000 people and the Center Region with 10,000 people (Table 12).

Table 12. The evolution of the unemployed in the rural area, at regional level, in the period 2015-2018- (thousands of persons)

Unemployed	2015	2016	2017	2018
MacroRegion 1	56	51	46	40
Region North-West	24	27	25	18
Region Center	32	24	21	22
MacroRegion 2	67	57	59	54
Region North-East	27	26	26	19
Region South-East	40	31	33	35
MacroRegion 3	86	76	68	56
Region South Muntenia	82	68	60	48
Region Bucharest-Ilfov	-	8	8	8
MacroRegion 4	64	68	51	44
Region South-West Oltenia	46	49	38	31
Region West	18	19	13	13

Source: own calculations based on data from NIS, 2020 [7].

Evolution of the unemployment rate

The unemployment rate has been downward in most regions. Thus, in the South Muntenia Region the decrease is of 3.7 percentage points, in the South-West Oltenia Region of

2.2 percentage points, and in the Central Region of 2.9 percentage points.

On the other hand, the Bucharest-Ilfov Region registered an increase in the unemployment rate by 1.8 percentage points (Table 13).

Table 13. The evolution of the unemployment rate in the rural area, at regional level, in the period 2015-2018 (%)

	2015	2016	2017	2018
MacroRegion 1	6.4	5.7	5.0	4.3
Region North-West	4.6	5.1	4.4	3.2
Region Center	9.1	6.7	5.7	6.2
MacroRegion 2	4.4	3.9	4.1	3.7
Region North-East	2.6	2.5	2.7	1.9
Region South-East	8.1	6.7	7.0	7.4
MacroRegion 3	8.9	8.2	7.2	5.8
Region South Muntenia	9.6	8.4	7.3	5.9
Region Bucharest-Ilfov	4.0	7.2	6.6	5.8
MacroRegion 4	8.3	9.1	6.5	5.7
Region South-West Oltenia	9.4	10.6	7.6	6.2
Region West	6.4	6.8	4.4	4.7

Source: Own calculations based on data from NIS, 2020 [7].

Structure by sectors of the employed population activity

From the perspective of the structure by sectors of the employed population activity, we observe the following:

-predominantly agricultural areas: North-East Region with a decrease of the agricultural field from 72.8% in 2015 to 67.3% in 2018, South-West Oltenia Region with a decrease of 71.7% in 2015 to 63, 6% in 2018 and the

South-East Region with a decrease from 52.3% in 2015 to 44.7% in 2018;

-areas dominated by industry and construction, the Central Region with an increase from 36.6% in 2015 to 43.1% in 2018, the West region with an increase from 41.8% in 2015 to 51.2% in 2018;

-areas dominated by services appear in the Bucharest-Ilfov Region with an increase from 68.2% in 2015 to 70.6% in 2018 (Table 14).

Table 14. Structure by sectors of the employed population activity in the rural area, at regional level

		Thousands of people	Agriculture (%)	Industry and constructions (%)	Services (%)
MacroRegion 1	2015	837	36.8	32.6	30.6
	2018	865	31.2	37.8	31.0
Region Nord - West	2015	513	42.9	30.0	27.1
	2018	539	36.5	34.6	28.9
Region Center	2015	324	27.2	36.6	36.2
	2018	326	22.4	43.1	34.5
MacroRegion 2	2015	1,451	66.5	16.2	17.3
	2018	1,431	60.3	18.7	21.0
Region North-East	2015	1,001	72.8	13.2	14.0
	2018	989	67.3	15.3	17.4
Region South-East	2015	450	52.3	23.0	24.7
	2018	442	44.7	26.4	28.9
MacroRegion 3	2015	875	39.8	25.7	34.5
	2018	894	32.5	29.2	38.3
Region South Muntenia	2015	773	43.7	26.2	30.1
	2018	771	37.1	29.8	33.1
Region Bucharest-Ilfov	2015	102	9.7	22.1	68.2
	2018	123	3.9	25.5	70.6
MacroRegion 4	2015	710	53.9	24.1	22.0
	2018	730	46.6	29.3	24.2
Region South-West Oltenia	2015	444	71.7	13.5	14.8
	2018	471	63.6	17.2	19.2
Region West	2015	266	24.2	41.8	34.0
	2018	259	15.7	51.2	33.1

Source: own calculations based on data from "Regional Economic and Social Landmarks: Territorial Statistics", NIS, 2020 [6].

CONCLUSIONS

Even if in the period 2005-2010 there are trends of deruralization, starting with 2010 a reversal of trend is identified: in all development regions we identify a sharp increase in the percentage of rural population. The accentuated increase of rurality is mainly due to the internal migration of the population, with a positive balance in the rural environment, especially in 2016.

Unfortunately, the natural population growth that shows negative values does not contribute to the increase of the number of the rural population, except for the Bucharest-Ilfov Region where the natural population growth is 452 people in 2018.

We have identified decreases of the rural female population, of the fertile female contingent, of the rural female population aged of 0-19 years, of the female labor force renewal index in all the development regions of Romania. All of this is noted in the context of the constant accentuated growth of the elderly population. The oldest rural areas of Romania are the South-West Oltenia Region (25%) and the South Muntenia Region (22.17%).

The evolution of the employed population structure at regional level shows two specific trends: - Increases in the number of employed population appear in 2018 in the South-West Oltenia Region, the North-West Region and the Bucharest-Ilfov Region. In Macroregion 2 there are decreases of the employed population.

The evolution of the number of unemployed registers a decreasing trend in all development regions.

From the perspective of sectors of activity of the employed population structure, we observe the following: Predominantly agricultural areas: North-East Region, South-West Oltenia Region and South-East Region; areas dominated by industry and construction, Central Region and West Region; service-dominated areas appear in the Region Bucharest-Ilfov .

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