

## DEMOGRAPHIC AND ECONOMIC CHANGES CHARACTERIZING THE RURAL POPULATION IN ROMANIA

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### Abstract

*The analysis of the dynamics of the rural population and its structure in Romania in the period 2007-2016 was based on various demographic and economic criteria, the empirical data provided by the National Institute of Statistics, and corresponding processing methods. In 2016, Romania had 9,120,865 inhabitants in the rural areas, representing 46.2 % of the total population. The decline of 3.26 % of the rural population is explained by the low birth rate, high mortality rate, and migration mainly from rural to urban and urban to rural, and also to other countries (46 % of the rural population). The rural population is aging, proved by the unbalanced ratio between the people of 60 years and older (23.03 %) and the people of 0-14 years, (16.04%). About 4 million persons, i.e. 44.73 % of the country active population is in the rural space. Also, the elder age groups have a higher share in the economically active rural population. The rural employment accounts for 3.74 million people, i.e. 44.55% of the employment in Romania. The extreme age categories have the highest share in total employment, attesting the aging of the rural employment. Also, the low training level is reflected by the low share of rural people with high education: 6.52 % tertiary, 1.51 % post high school, 33.89 % high school, and 21.90 % vocational. About 40.54 % of the rural employment is represented by farmers and skilled workers, of whom 76 % are of 35 years and over and also most of them have a low training level. About 86 % of the rural population is part-time employed, and only 41 % is full time. Also, other disparities compared to the urban area, regard the average monthly income per household which accounted for Lei 2,447.02 in 2016, the higher income belonging to the employees. The agriculturists' income was Lei 2.163.31/household, by 12 % less than the average income in the rural area. Therefore, the rural population is an important human resource in the economy, but its living standard is very low. This situation will be changed by the implementation of the National Programme of Rural Development 2014-2020, whose measures will improve education level, farm technologies and efficiency, resource utilization, infrastructure in the rural space, social inclusion, and living standard of the rural population.*

**Key words:** rural population, demographic approach, economic approach, Romania

### INTRODUCTION

Romania has 238,297 square km surface, representing 5.34 % of the EU-28 area and comes on the 9th place after France, Spain, Sweden, Germany, Finland, Poland, Italy and United Kingdom. Of the total area of Romania, 207,522 square km, that is 87.08 % is represented by the rural area.

From an administrative point of view, in the year 2016, Romania had 2,861 communes and 12,957 villages in the rural space, by 0.17 % and respectively by 0.01 % more than in the year 2007 [2].

In 2016, Romania had 19.87 million inhabitants, representing 3.91 % of the EU-28 population and comes on the 7th position after Germany, France, United Kingdom, Italy,

Spain and Poland. The population of Romania has registered a continuous decreasing trend in the last decades due to the negative natural gain and the emigration rate. For this reason, it is expected as in 2060, Romania will have 16.3 million inhabitants. Of the total population of Romania, 9.12 million people live in the rural areas. [10].

The density of the rural population in Romania is very low, 47.9 persons per square km, representing 1/10 of the urban density and more than 50 % of the average density at the country level [13].

In 2016, Romania had 7,470 thousand households, representing 3.39 % din EU-28. Of the total number of households of Romania, 45 % are in the rural area [3].

In the rural areas, the main activities are related to agriculture, forestry and fishing, and just a few opportunities of diversification such as: the small industry and rural or agrotourism have contributed to the rural communities.

The low training level of the rural population compared to the urban population has led to a low productivity and household earnings. Only a higher level of education could assure and enable the qualified and skilled people to produce more and get more income and have a better living standard. [4].

The rural population in Romania is economically dependent on agriculture, which is the main occupation in the rural space. More than 50 % of agricultural production achieved in the rural households is used for self-consumption [16].

Between the dynamics of the population and the changes of its demographic variables it is close relationship which has a deep impact on the economic growth and social development [5, 15].

This is attested by the living standard in Romania in terms of GDP/inhabitant in PPS (Purchasing Power Standard), which has one of the lowest levels in the EU: 55 PPS/capita, the country being situated at the end of the list of countries, being followed only by Bulgaria [8, 17].

Population aging, the low education level, the difficult economic conditions in terms of technical endowment, infrastructure, the lack of jobs, the low earnings, the low social conditions, the dominant agricultural activities and the scarcity of other opportunities for obtaining additional income sources in the rural areas are the main features of the rural population in Romania [1, 6].

Due to this aspects, migration of rural population has become a critical problem in Romania and not only, and this seriously affects labor resources and GDP growth [18].

The low income and weak development of non-agricultural activities have determined the new generation to leave the communes and villages looking for jobs in the cities or to decide to find jobs abroad mainly in the EU countries where they could get a higher salary than in Romania [7, 12].

In this context, the present paper had the following objectives:(i) to analyze the dynamics of the rural population and of its structure in the period 2007-2016, based on various demographic and economic criteria and (ii) to point out the trends, characteristics, differences between the rural population and urban population and also compared to the average population indicators at the national level.

## MATERIALS AND METHODS

The analysis of the trends and characteristics of the rural population was based on two approaches:

(i)The demographic approach, using the following indicators: the number of inhabitants representing the rural population versus Romania's population, the number of births and the birth rate, the number of deaths and the mortality rate, the life expectancy, the age structure of the rural population, and the internal and external migration of the rural population.

(ii)The economic approach, using the following indicators: the economically active rural population, the age structure of the economically active population, the activity rate, the employed rural population, the age structure of the employed rural population, the structure of the employed rural population by status of employment, the structure of the employed rural population by education level, the structure of the employed rural population by group of occupation, the employed rural population by working programmes (full-time and part-time), the number of farmers and skilled workers and their share in the rural population, the structure of the farmers by age group and education level, the average income per household in the rural area and the average nominal net earnings of the rural population working in agriculture, forestry and fishing.

The analysis is founded on the empirical data supplied by the National Institute of Statistics Tempo Online database for the period 2007-2016.

As methodological aspects, there were used the following:

-The dynamic analysis of each indicator in the time interval 2007-2016, comparing the value at the end of the period ( $X_n$ ) with the value in the first year of the study ( $X_0$ ), using the Fixed Basis Index ( $I_{FB}$ ), whose formula is:  $I_{FB} = (X_n/X_0)100$ .

-The structural analysis of the indicators in order to emphasize the share of various components on the total value of the indicator, using the formula;  $S\% = (X_i/X_n)100$ .

-The comparison method for pointing out the differences between the level of the indicators characterizing rural population and the level at the national level and in the urban area.

The obtained results were included in tables and interpreted, and finally the corresponding conclusions results were drawn.

## RESULTS AND DISCUSSIONS

The rural population in Romania represents an important part of the population and plays a substantial role in the economy.

In this paper the topic on the rural population in Romania was demographically and economically approached.

### (a)The demographic approach of the rural population

**The evolution of the rural population versus Romania's population.** In 2016, Romania had 19,706,529 inhabitants, of which 9,120,865 represented the rural population (46.2 %). The evolution in the analyzed period 2007-2016 has pointed out that the rural population followed the same decreasing trend like Romania's population. While the population at the country level declined by 5.64 %, the rural population decreased by 3.26 %.

The share of the rural population in the country's population increased from 45.1 % in 2007 to 46.2 % in 2016.

The sex ratio at the country level was 1.04 female per male, and in the rural area it was almost 1:1. Therefore, the share of men is higher in the rural area compared to the average in the country.(Table 1).

Table 1. Romania's rural population on July 1st, in the period 2007-2016

	Total population	Rural population	The share of the rural population (%)	The share of males	
				In the total population (%)	In the rural population (%)
2007	20,882,980	9,427,486	45.1	48.6	49.6
2008	20,537,848	9,435,046	45.9	48.6	49.6
2009	20,367,437	9,390,879	46.1	48.6	49.6
2010	20,246,798	9,324,629	46.05	48.6	49.6
2011	20,147,657	9,269,558	46.0	48.7	49.6
2012	20,060,182	9,236,964	46.0	48.7	49.6
2013	19,888,694	9,216,016	46.3	49.0	49.9
2014	19,916,451	9,187,522	46.1	48.8	50.0
2015	19,819,687	9,150,118	46.1	48.8	50.0
2016	19,706,529	9,120,865	46.2	48.8	50.1
2016/2007 %	94.36	96.74			

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**The evolution of the number of births and the birth rate.** The decline of the population both at the national level and in the rural areas was determined by the movements in the demographic status caused by births and births rate, deaths and mortality rate, which registered a decreasing trend in the period 2007-2016.

In 2016, Romania recorded 203,231 births, of which 92,194 births were achieved in the rural area, meaning 45.36 %. The share of the births in the rural area declined from 45.8 % in 2007 to 45.36 % in 2016, but the birth rate in case of the rural population was higher, 9.5 births/1,000 inhabitants, than in case of the

urban population, 8.9 births/1,000 inhabitants (Table 2).

**The evolution of the number of deaths and the mortality rate.** In 2016, the number of deaths accounted for 257,547 at the country level, while in the rural areas it was registered 135,329 deaths, representing 52.52 %.

While at the country level, the mortality rate increased by 2.2 %, in the rural areas, the mortality rate declined by 1.51 % in the analyzed period. The mortality rate in the rural areas declined from 14.1 deaths/1,000 inhabitants in 2007 to 13.9 deaths/1,000 inhabitants in 2016, but it is still much higher compared to the mortality rate in the urban

area, which increased from 8.9 in 2007 to 9.8 deaths/1,000 inhabitants in 2016.

Table 2. The dynamics of births at the country level and in rural areas Romania, 2007-2016

	Births at the country level	Births in the rural area	The share of the births in the rural area (%)	The birth rate (Number of births/1,000 inhabitants)	
				Urban	Rural
2007	214,728	98,361	45.80	9.1	10.1
2008	221,900	100,382	45.23	9.5	10.3
2009	222,388	100,524	45.20	9.5	10.3
2010	212,199	94,348	44.46	9.2	9.7
2011	196,242	89,575	45.64	8.4	9.2
2012	201,104	92,679	46.08	8.6	9.5
2013	214,932	96,820	45.04	9.3	10.0
2014	202,501	92,059	45.46	8.8	9.5
2015	201,023	90,586	45.06	8.8	9.3
2016	203,231	92,194	45.36	8.9	9.5
2016/2007 %	94.64				

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

The high mortality rate in the rural areas is determined by the low living conditions and the hard work in the country side (Table 3).

Table 3. The dynamics of deaths at the country level and in rural areas Romania, 2007-2016

	Deaths at the country level	Deaths in the rural area	The share of the deaths in the rural area (%)	The mortality rate (Number of deaths/1,000 inhabitants)	
				Urban	Rural
2007	251,965	137,403	54.53	8.9	14.1
2008	253,202	138,850	54.83	8.9	14.2
2009	257,213	141,045	54.83	9.1	14.5
2010	259,723	142,091	54.70	9.2	14.6
2011	251,439	136,791	54.40	9.0	14.1
2012	255,539	137,878	53.95	9.3	14.2
2013	250,466	134,059	53.52	9.2	13.8
2014	255,604	136,199	53.28	9.5	14.0
2015	261,697	138,745	53.01	9.8	14.3
2016	257,547	135,329	52.54	9.8	13.9
2016/2007 %	102.02	98.49%			

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**The evolution of life expectancy.** Life expectancy increased both at the country level, in the urban and rural areas. In 2016, it accounted for 75.36 years at the country level,

76.79 % years in the urban space and 74.03 years in the rural areas. However, the rural population has the lowest life expectancy in Romania. (Table 4).

Table 4. The dynamics of life expectancy in Romania, in the urban and rural areas, 2007-2016 (years)

	At the country level	Urban	Rural
2007	72.61	73.34	71.64
2008	73.47	74.62	72.02
2009	73.76	75.04	72.18
2010	73.90	75.26	72.20
2011	74.20	75.50	72.55
2012	74.69	75.94	73.13
2013	75.15	76.26	73.65
2014	75.41	76.60	73.91
2015	75.39	76.63	73.85
2016	75.36	76.79	74.03

Source: The National Institute of Statistics Tempo Online Data base, 2018 [14]

**The evolution of the rural population versus urban population by age group.** The rural population by age group had a different net dynamics compared to the urban population. The age structure reflects that in case of the rural population, it is a higher share for the age groups between 0-19 years, and also for

the age groups 60 years and over, where the differences between urban and rural are the highest ones.

If in 2007, the rural population between 35-39 years had the highest share (8.52 %), in 2016, the highest shares belonged to the age groups

40-44 years (8.05 %) and 45-49 years (8.32 %). This reflected a higher aging percentage in the rural area versus the urban one.(Table 5).

Table 5. The evolution of the structure of the rural population versus the urban population, Romania, 2007-2016 (%)

	Urban population		Rural population	
	2007	2016	2007	2016
Total	12,819,220	12,521,300	9,743,693	9,708,759
0-4	5.05	4.60	5.52	4.84
5-9	5.12	5.11	6.09	5.43
10-14	5.24	5.06	6.14	5.77
15-19	7.10	5.17	7.26	6.23
20-24	7.46	5.48	6.81	6.26
25-29	8.24	7.69	7.30	7.44
30-34	8.27	7.41	7.88	6.58
35-39	9.19	8.51	8.52	7.74
40-44	5.60	8.12	4.97	8.05
45-49	6.48	8.77	5.24	8.32
50-54	7.13	5.41	5.55	4.90
55-59	6.19	6.41	5.60	5.41
60-64	4.43	6.39	4.81	5.39
65-69	4.50	5.14	5.35	5.01
70-74	4.11	3.52	5.24	3.93
75-79	3.11	3.27	4.07	3.90
80-84	1.85	2.27	2.45	2.84
85 years and over	0.87	1.58	1.10	1.91

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**The internal and external migration of the rural population.**

The changes in the age structure and labor force structure is not caused only by the birth rate and mortality rate, but also by the internal migration determined by various reasons: from rural to urban looking for a job or for a better paid job, from rural to rural for a new residence and also looking for a job, from urban to rural, in case of the people who wants to escape of the urbanization and to live in a healthier and quite environment and to reduce the living cost, from urban to urban looking for a new residence and a better paid job.

Also, we must take into account the external migration to various countries where to find a job much better paid than in Romania. But the share of the external migration from the rural areas is lower compared to the internal migration by category [1, 2].

The internal migration increased by 4.06 % from 374,156 persons in 2007 to 389,373 in 2016. The migration rural to urban is much higher than rural to rural And the migration urban to rural is much higher than the migration rural to urban (Table 6).

Table 6. The evolution of the internal migration and its structure in Romania, 2007-2016 (%)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2016/2007 %
Internal migration (persons)	374,156	389,254	330,672	450,995	324,626	372,197	350,556	371,677	361,083	389,373	104.06
Rural to Urban	21.4	20.2	21.2	21.3	20.5	20.0	21.1	21.0	21.5	21.2	-
Rural to Rural	21.4	20.1	20.3	19.8	19.5	19.5	18.6	19.1	19.7	19.7	-
Urban to Rural	31.6	32.0	29.1	29.5	31.8	31.8	29.2	29.7	29.5	31.0	-
Urban to Urban	25.5	27.5	29.2	31.1	28.6	28.6	30.9	30.0	29.1	27.9	-

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

The territorial flow of the population in Romania, especially from rural areas to urban areas, have been determined by the changes in the profile and socio-economic structure [9]. The migration rate per 1,000 inhabitants is the highest one for urban to rural, varying between 12.1 in the year 2007 to 12.5 in the year 2016. The migration rate in case of rural

to rural registered a slight decline from 8.2 in the year 2007 to 7.9 in the year 2016. The migration rate rural to urban had a continuous increase from 6.3 in the year 2007 to 6.6 in the year 2016. The migration rate urban to urban also increased from 7.4 in 2007 to 8.7 in 2016 (Table 7).

The external temporary migration accounted for 207,578 persons at the country level, of which 46.91 % represented emigrants from the rural areas in the year 2016. The number

of emigrants from the rural areas to other countries increased by 21.43 % in the period 2012-2016. (Table 8).

Table 7. The evolution of the migration rate per 1,000 inhabitants, 2007-2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total	16.6	17.3	20.4	14.7	14.5	16.6	15.7	16.7	16.2	17.5
Rural to Urban	6.3	6.2	5.5	7.5	5.3	5.9	5.9	6.2	6.2	6.6
Urban to Urban	7.4	8.4	7.6	11.0	7.7	8.4	8.6	8.9	8.4	8.7
Rural to Rural	8.2	8.0	6.9	9.2	6.5	7.5	6.7	7.3	7.3	7.9
Urban to Rural	12.1	12.8	9.9	13.7	10.0	12.2	10.6	11.4	11	12.5

Source: The National Institute of Statistics Tempo Online Data base, 2018 [14]

It we take into consideration the emigrants for establishing their residence in other countries where they found good jobs, the figures are higher. Spain, Italy, United Kingdom, and

Germany are the main countries were Romanians are attracted to find a better paid jobs.

Table 8. The evolution of the external temporary migration, 2012-2016 (persons)

	2012	2013	2014	2015	2016	2016/2012 %
Temporary emigrants	170,186	161,755	172,871	194,718	207,578	121.97
Temporary emigrants from the rural area	80,200	71,860	80,977	91,211	97,394	121.43
The share of the rural emigrants (%)	47.12	44.40	46.84	46.84	46.91	-

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**(b)The economic approach of the rural population**

*The economically active rural population* accounted for 4,017 thousand persons, representing 44.73 % of the population economically active in Romania in the year 2016. In the analyzed period, the active rural population declined by 12 %, recording a similar decreasing trend like the active population at the country level (Table 9).

Table 9. The evolution of the economically active population at the country level and in the rural areas, 2007-2016 (Thousand persons)

	At the country level	In the rural areas	The share of the rural economically active population (%)
2007	9,987	4,564	45.6
2008	9,908	4,588	46.3
2009	9,576	4,474	46.7
2010	9,365	4,371	46.0
2011	9,188	4,131	44.9
2012	9,232	4,195	45.4
2013	9,202	4,180	45.4
2014	9,243	4,165	45.0
2015	9,159	4,146	45.2
2016	8,979	4,017	44.7
2016/2007 %	89.90	88.01	-

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

*The economically active population in the rural area by age group.* The rural active population has a higher share in the total

active population for the 15-24 years age group: 54.49 % in 2007 and 65.24 % in 2016 compared to the urban active population. Also, the rural active population has a higher share for the age groups: 50-64 and 65 years and over in the year 2007: 52.73 % and respectively, 93.33%, while in 2016, it was found 44.79 %, and respectively 91.55 %, much higher than in case of the active urban population.

Regarding the age group 25-34 years and 25-49 years, the rural population registered a lower share in the total active population and compared to the urban population both in 2007 and 2016 ( Table 10).

*The activity rate* by age group reflected the same situation like in case of the share of the rural population in the total economically active population. The highest activity rate belonged to the 15-24 years, 55-64 years and 15-64 years age groups of the rural population both in 2007 and 2016. (Table 11).

*The employed rural population* followed a similar decreasing trend like the urban population and also like the employment in the country. In 2016, the employed rural population accounted for 3,764,537 persons, being by 13.29 % less numerous than in the year 2007, while the employment at the

national level registered 8,448,777 persons, by 9.67 % less than in 2007. The share of the employment in the rural areas in Romania's

employment declined from 46.42 % in 2007 to 44.55 % in 2016 (Table 12).

Table 10. The share of the economically active rural population versus the urban population by age group, 2007 and 2016 (%)

Age group	Economically active population					
	2007 = Total 9,986,795 persons			2016 = Total 8,978,646 persons		
	Urban	Rural	The share of rural population (%)	Urban	Rural	The share of rural population (%)
15-65 years and over	5,422,591	4,564,204	45.70	4,962,391	4,016,255	44.73
15-24	8.55	12.17	54.49	4.25	9.86	65.24
25-34	30.73	23.89	39.54	26.93	20.21	37.83
35-49	42.72	30.59	37.50	46.29	42.33	41.94
50-64	17.35	23.01	52.73	22.03	22.09	44.79
65 years and over	0.62	10.32	93.33	0.48	6.44	91.55

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

Table 11. The activity rate of the rural population versus urban population by age group in 2007 and 2016 (%)

Age group	Total	Urban	Rural	Total	Urban	Rural
15-64	88.1	63.7	69.5	65.6	66.4	64.6
15-24	34.2	26.5	45.3	28.0	20.2	35.4
25-34	84.1	86.1	81.3	80.6	84.0	75.5
35-54	82.6	83.1	81.9	82.6	85.4	78.9
55-64	41.7	27.9	57.5	44.2	39.7	50.6

Source: The National Institute of Statistics Tempo Online Data base, 2018 [14]

Table 12. The dynamics of the employed rural population in Romania, 2007-2016

	Employment at the national level	Employment in the rural area	The share of the employment in the rural area (%)
2007	9,352,472	4,341,475	46.42
2008	9,259,002	4,376,446	47.26
2009	8,952,355	4,235,719	47.31
2010	8,712,829	4,108,187	47.15
2011	8,528,149	3,904,970	45.78
2012	8,605,052	3,987,347	46.33
2013	8,549,132	3,962,003	46.34
2014	8,613,739	3,944,999	45.79
2015	8,535,386	3,872,894	45.37
2016	8,448,777	3,764,537	44.55
2016/2007 %	90.33	86.71	-

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**The employed rural population by age group.**

The highest number of persons employed in the rural area belongs to the following age groups: 15-24 years: 56.89 % in 2007 and 67.11 % in 2016, 50-64 years: 53.49 % in 2007 and 65 years and over: 93.40 % in 2007 and 91.58 % in 2016.

All these figures reflect that the rural population has a high employment at the youngest and the oldest categories of people, with a negative impact on the productivity because young people is lacked of experience and the old people is also lacked of corresponding training but also of physical energy to work the land, to raise animals or to do other activities (Table 13).

Table 13. The structure of the employed rural population versus urban population by age group, in 2007 and 2016 (%)

Age group	Employment					
	2007 = Total 9,352,472			2016 = Total 8,448,777		
	Urban	Rural	The share of rural population by age group (%)	Urban	Rural	The share of rural population by age group (%)
15-65 years and over	5,010,997	4,341,475	46.42	4,684,240	3,764,537	44.55
15-24	7.08	10.78	56.89	3.38	8.59	67.11
25-34	30.96	23.72	39.90	26.64	19.77	37.36
35-49	43.41	30.90	38.14	47.03	41.96	41.76
50-64	17.87	23.73	53.49	22.42	22.78	44.94
65 years and over	0.66	10.84	93.40	0.50	6.87	91.58

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**The number of employed persons in the rural areas by status of employment.** On the

1st position comes the number of employers, accounting for 1,545,315 persons in 2007 and

1,886,525 persons in 2016, representing 35.59 % and respectively 50.11 % in 2007 and 2016.

On the 2nd position comes the self-employed persons: 1,610,567 persons in 2007 and 1,174,716 persons in 2016, representing 37.09 % and, respectively 31.20 % of the employment in the rural area.

On the 3rd position is the contributing family worker whose share in the employed rural population was 26.52 % in 2007 and 17.96 % in 2016.

In the rural area, the number of employers declined from 30,611 persons in 2007 to 26,826 persons in 2016, and has the lowest share 0.7 % in the employed rural population (Table 14).

Table 14. The structure of the employed rural population versus urban population by status of employment, in 2007 and 2016 (%)

Age group	Employment					
	2007 = Total 9,352,472			2016 = Total 8,448,777		
	Urban	Rural	The share of rural population (%)	Urban	Rural	The share of rural population (%)
Total employment	5,010,997	4,341,475	46.42	4,684,240	3,764,537	44.55
Employee	91.79	35.59	25.14	92.09	50.11	30.42
Employer	2.11	0.70	23.37	1.29	0.71	30.68
Self-employed	5.12	37.09	86.25	5.75	31.20	81.34
Contributing family worker	0.96	26.52	95.98	0.85	17.96	94.40
Member of an agricultural holding or of a cooperative	0.007	0.08	0	-		

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**The employed rural population by education level.**

In 2007, the majority of the employed rural population had various levels of education up to high school, accounting for 79.05 %. This category included the high school leavers 16.49 %, the people with vocational, complementary or apprenticeship 27.42 %, the people who graduated the gymnasium 32.49 %, the people with the primary school 11.89 % and the people without any education 1.32 %.

The employed rural population with high education level represented only 20.95 % of the total employment of the rural population

in 2007. In 2016, the employed rural population with post high school education represented 1.52 % and the people with higher education 6.52 %.

Therefore, the remaining of 91.95 % represented the employed rural population with a training level of high school and lower. However, in 2016, the percentage of high school leavers was by 33.89 % higher than in 2007. By education level, the rural population has the highest percentage of low education level and the lowest share of the high school education and tertiary education (Table 15).

Table 15. The structure of the employed rural population versus urban population by education level, in 2007 and 2016 (%)

Age group	Employment					
	2007 = Total 9,352,472			2016 = Total 8,448,777		
	Urban	Rural	The share of rural population (%)	Urban	Rural	The share of rural population (%)
Total employment	5,010,997	4,341,475	46.42	4,684,240	3,764,537	44.55
Tertiary education	22.80	3.12	10.62	31.81	6.52	14.14
Post high school specialty or technical foremen	6.71	17.83	18.72	4.38	1.52	21.89
High school	37.28	16.49	27.70	41.88	33.89	39.41
Vocational, complementary, apprenticeship	22.47	27.42	51.39	14.05	21.90	55.60
High school 1st cycle	2.97	5.45	61.42	-	-	-
Gymnasium	6.51	32.49	81.20	6.72	30.87	78.68
Primary	0.98	11.89	91.26	0.99	4.79	79.41
No education	0.25	1.32	81.77	0.13	0.47	73.09

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**The employed rural population by group of occupation.** In the rural areas, the highest employment belongs to farmers, 2,280,469 persons in 2007 (52.52 %) and 1,526,462 (40.54 %) in 2016.

The workers represented 5.51 % in 2007 and 9.80 % in 2016, while the unskilled workers 15.08 % in 2007 and 12.71 % in 2016 in the total employment in the rural areas.

The number of artisans increased from 472,827 persons (10.89%) in 2007 to 590,007 persons (15.67%) in 2016.

The share of technicians, administrative clerks, experts and members of legislative, executive, senior officials of public administration etc represented 10.94 % in 2016 compared to 7,71 % in 2007 (Table 16).

Table 16. The structure of the employed rural population by group of occupation in 2007 and 2016 (%)

Group of occupations	2007	2016	2016/2007%
Total rural employment	4,341,475	3,764,537	86.71
Members of legislative, executive, senior officials of public administration, managers and clerks of economic, social and political units	0.87	1.17	117.08
Experts with intellectual and scientific occupations	1.80	5.07	250.47
Technicians, foremen and assimilated	3.55	2.70	66.00
Administrative clerks	1.49	2.00	116.44
Workers in services and trade and assimilated	5.51	9.80	154.22
Farmers and skilled workers in agriculture, forestry and fishing	52.52	40.54	66.93
Artisans and skilled workers in handicraft, machinery and equipment regulation and maintenance	10.89	15.67	124.78
Other categories	23.34	22.87	84.95
Unskilled workers	15.08	12.71	73.08

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**The employed rural population by working programmes (full-time and part-time).** About 41.70 % in 2007 and 40.64 % in 2016 of the rural population was employed full-time, the percentage being lower compared to the urban population. Also, the share of the rural population employed part-time was much

higher 89.12 % in 2007 and 86.33 % in 2016 compared to the urban population.

Of the total employed rural population, the highest share belongs to the persons employed full-time 80.90 % in 2007 and 83.41 % in 2016, but the percentages are lower than in case of the urban population (Table 17).

Table 17. The structure of the employed rural population versus urban population by working programme, in 2007 and 2016 (%)

Working programme	Employment					
	2007 = Total 9,352,472			2016 = Total 8,448,777		
	Urban	Rural	The share of rural population by age group (%)	Urban	Rural	The share of rural population by age group (%)
Total employment	5,010,997	4,341,475	46.42	4,684,240	3,764,537	44.55
Employed full-time						
Full-time	97.98	80.90	41.70	97.89	83.41	40.64
Part-time	2.02	9.10	89.12	2.11	16.59	86.33

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**Farmers and skilled workers-the dominant category of the rural population.** Farmers and skilled workers are the main category of people in the rural population. Their number accounted for 2,382,132 persons in the year 2007 and 2,614,330 persons in the year 2016, according to the data provided by the National Institute of Statistics, 2018.

The farmers and skilled workers dealing with agriculture, forestry and fishing develop their activity both in the rural and urban areas.

The number of the farmers working in the rural areas represented 95.74 % in 2007 and 95.17 % in 2016 of the total number of farmers and skilled workers in Romania.

The farmers and skilled workers represented 52.52 % in 2007 and 40.54 % of the employed rural population, 23.85 % in the year 2007 and 26.17 % in the year 2016 of the total economically active population in Romania and 50 % in 2007 and 57.27 % in the year 2016 of the economically active rural population (Table 18).

Table 18. The number of farmers and skilled workers dealing with agriculture, forestry and fishing and their share in the economically active population, in 2007 and 2016

	2007	2016	2016/2007 %
Number of farmers and skilled workers	2,382,132	2,614,330	109.74
Of which in rural areas (%)	95.74	95.17	-
The share of the farmers and skilled workers (%) in:			
- employed rural population	52.52	40.54	
-economically active population at the country level	23.85	26.17	
-economically active rural population	50.00	57.27	

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

The age structure of the farmers and skilled workers reflects that the highest shares belong to the age groups 35 years and over, totalizing 75.98 %, while the young persons represented only 24.02 % in 2016. Compared to the year 2007, the percentage of the 15-24 years, 25-34 years and 65 years and over declined, while the percentage of 35-49 years and 50-64 years increased. Therefore, the age structure of the farmers and skilled workers is still unbalanced, the older farmers dominating in the Romanian agriculture. This confirms that farmers and skilled workers in Romania are aging, a general phenomenon in the economy (Table 19).

Table 19. The age structure of the farmers and skilled workers in 2007 versus 2016 (%)

Age group	2007	2016
15-24	9.53	8.59
25-34	18.33	15.43
35-49	24.37	28.99
50-64	29.76	30.93
65 years and over	19.00	16.06

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

The structure of the Romanian farmers and skilled workers by education level is the following one in 2016: gymnasium 48.19 %, vocational training 19.79 %, primary education 14.65 %, high school 10.56 %, high school 1st cycle 4.23 %, 0.7 % tertiary education, 0.7 % post high school, and without education 1.12 %. This reflects in general a low education level which has a deep impact on their performance in production and farm management, product quality and competitiveness in the market.

A positive aspect is that in the analyzed period it was noticed an improvement of the education level of this category of rural population. The number of farmers and workers with gymnasium, vocational training, high school and tertiary education increased, while the number of farmers and workers with high school 1st cycle, primary education and no education declined (Table 20).

Table 20. The structure of the farmers and skilled workers by education level in 2007 versus 2016 (%)

	2007	2016
Tertiary education	0.3	0.7
Post high school specialty or technical foremen	0.8	0.7
High school	9.36	10.56
Vocational, complementary, apprenticeship	21.14	19.79
High school 1st cycle	4.94	4.23
Gymnasium	43.38	48.19
Primary	17.90	14.65
No education	1.84	1.12

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

**The average income per household in the rural area.** The average monthly income per household increased in the analyzed period by 74.57 % at the country level from Lei 1,686.74 in the year 2007 to Lei 2,944.6 in the year 2016.

The average monthly income per household in the rural area followed an ascending trend from Lei 1,401.93 in 2007 to Lei 2,447.02 in 2016 (+74.54 %). Therefore, the average income/household represents 83.10% of the average income/household at the country level.

The employees in the rural areas registered the highest average monthly income/household, which exceeded by 45.38 % the average income/household in the rural area in 2016 compared to 47.53 % in 2007. In 2016, they had an average income accounting for Lei 3,557.65 compared to Lei 2,068.40 in the year 2007.

The average monthly income/household belonging to the employers in the rural area represented 83.67 % of the average income in the rural area. Their average income declined from Lei 2,466.08/household in 2007 to Lei 1,790.22 in 2016.

The workers dealing on their own recorded an average monthly income/household of Lei

1,358.51 in 2007 and Lei 1,989.8 in 2016, therefore their income increased by 46.46 %. But their income represented only 81.31 % of the average income/household in the rural area.

The agriculturists had an average monthly income/household of Lei 1,280.92 in 2007 and Lei 2,163.31 in 2016, meaning by 68.88 % more than in the first year of the analysis. Their income represented 88.36 % in the average income/household in the rural area in 2016.

The unemployed persons registered an average monthly income/household accounting for Lei 1,584.39 in 2016, by 56.15 % more than in 2007 (Lei 1,014.77). Their

average income represented 64.74 % of the average income in the rural area in 2016 compared to 72.38 % in 2007.

The pensioners from the rural area recorded Lei 2,015.92 average monthly income/household in 2016 by 65.74 % more than in 2007 (Lei 1,216.25). Their average income was 82.38 % of the average income in the rural area in 2016 compared to 86.73 % in 2007.

All these figures reflect that the average income/household in the rural areas is much smaller than the average income at the country level. This has a negative impact on the living standard of the households in the rural space of Romania (Table 21).

Table 21. The evolution of the average monthly income/household in the rural area by category of household, 2007-2016

	Average income/household at the country level	Average income/household in the rural area	The share of the average income/Household in the rural area (%)	The share of the average income/household in the rural area by category of household					
				Employee	Employer	Worker on its own	Agriculturists	Unemployed	Pensioner
2007	1,686.74	1,401.93	83.11	147.53	175.90	96.90	91.36	72.38	86.73
2008	2,131.67	1,751.76	82.17	136.75	77.55	86.78	90.63	68.38	91.16
2009	2,315.99	1,920.87	82.93	137.70	79.15	93.20	90.12	75.63	91.69
2010	2,304.28	1,940.14	84.19	138.80	92.27	97.70	91.82	86.31	91.82
2011	2,417.26	2,133.92	88.27	133.86	87.01	89.37	90.05	75.63	90.05
2012	2,475.04	2,182.09	88.16	136.78	87.40	85.17	90.02	90.21	90.02
2013	2,559.05	2,164.63	84.58	134.33	85.86	82.69	89.55	74.05	88.33
2014	2,500.72	2,139.51	85.55	143.43	83.67	86.14	86.23	74.32	86.23
2015	2,686.77	2,278.71	84.81	143.14	-	79.10	83.63	64.58	83.63
2016	2,944.6	2,447.02	83.10	145.38	-	81.31	88.36	64.74	82.38
2016/2007 %	174.57	174.54	-	-	-	-	-	-	-

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

***The average nominal net earnings of the rural population working in agriculture, forestry and fishing*** is another indicator which reflect the living standard and purchasing power of a special category living in the rural areas and with the highest share in the rural population.

In the analyzed period, the average monthly nominal net earnings increased by 118.16 % from Lei 743 in the year 2007 to Lei 1,621 in 2016.

Despite that, the average monthly nominal net earnings in agriculture is lower, representing 79.22 % of the average monthly nominal net earnings in the economy, Lei 2,046 in 2016.

There are also differences regarding the average nominal net earnings between men

and women, both at the national economy and also in the rural area and in the field of agriculture, forestry and fishing.

Women are discriminated getting by 7 % lower net earnings per month compared to the average net earnings received by men.

In 2016, women received in average Lei 1,968/ month net earnings compared to Lei 2,116 received by men.

Also, women's monthly net earnings are by 1.42 % lower in the field of agriculture, forestry and fishing: Lei 1,603 per month received by women compared to Lei 1,626 per month received by men.

This differences are determined by gender, education level, age, experience and other factors (Table 22).

Table 22. The evolution of the average monthly nominal net earnings in agriculture, forestry and fishing by gender, 2007-2016 (Lei)

	Average monthly nominal net earnings in the economy (Lei/month)	Average monthly nominal net earnings in agriculture, forestry and fishing (Lei/month)	The share of the average monthly nominal net earnings in agriculture, forestry and fishing (%)	Average monthly nominal net earnings for men (Lei/month)		Average monthly nominal net earnings for woman (Lei/month)	
				(Lei/month)	% of Average monthly nominal net earnings in agriculture (%)	(Lei/month)	% of Average monthly nominal net earnings in agriculture (%)
2007	1,042	742	71.3	746	68.1	733	74.7
2008	1,309	914	69.8	919	68.1	897	70.9
2009	1,361	1,007	73.9	1,014	72.1	986	75.2
2010	1,391	1,024	73.6	1,029	70.1	1,010	77.2
2011	1,444	1,044	72.2	1,053	68.8	1,012	75.01
2012	1,507	1,093	72.5	1,105	69.8	1,055	74.08
2013	1,579	1,179	74.6	1,190	72.5	1,141	75.6
2014	1,697	1,270	74.8	1,279	72.6	1,240	76.2
2015	1,859	1,371	73.7	1,377	71.4	1,353	75.8
2016	2,046	1,621	79.2	1,626	76.8	1,603	81.4
2016/2007 %	196.35	218.16					

Source: Own calculations based on the data provided by the National Institute of Statistics Tempo Online Data base, 2018 [14]

## CONCLUSIONS

The rural population accounted for 9,120,865 inhabitants, representing 46.2 % of the total Romania's population in 2016. In the last decade it declined by 3.26 % due to the movements regarding the demographic indicators: the lower birth rate and the higher mortality rate compared to the urban area, and the internal and mainly the external migration caused by the low living conditions. As a result, life expectancy is 74 %, lower than in the urban area and the average at the country level. Population aging is another important feature of the rural space, reflected by the higher share of the people of 60 years and older, 23.03 %, compared to the youngest category 0-14 years, 16.04%. The internal migration accounted for 389,373 persons in 2016, being by 4.06 % higher than in 2007. In the internal migration, the share of the rural to urban migration was 21.12 % and of the urban to rural 31 %. About 46.91 % of Romania's emigrants are from the rural areas and their number increased by 21.43 % in the period 2012-2016.

The economically active rural population declined by 12 % in the last decade, accounting for about 4 million persons in 2016, representing 44.73 % of the active population in Romania. The aging of the economically active rural population is confirmed by its share in the total active population: 91.5 % for the age group 65 years and over, 44.79 % for the age group 50-64

years compared to 65.24 % for the 15-24 years age group.

About 3.74 million persons are employed in the rural areas, by 13.29 % less than in 2007, and represent 44.55% of the employment in Romania. The highest employment rate belongs to the extreme age categories: 15-24 years, 67.11 %, and 65 years and over, 91, 58 %, reflecting the aging of the employment in the rural area.

Of the rural employment, in the year 2016, 50.11 % were employers, 31.20 % self-employed, 17.96 % contributing family workers.

The rural population has a low education level as in the rural employment, the people with tertiary education accounts for 6.52 %, the ones with post high school education 1.52 %, the high school leavers 33.89 %, and 21.90 % have attended a vocational training. The remaining of 36.17 % has gymnasium and lower forms of education.

Farmers and skilled workers are the dominant category in the rural area, accounting for 2,614,330 persons in 2016, representing 40.54 % of the rural employment, 57.27 % of the economically active rural population, and 26.17 % of the economically active population in Romania. About 76 % of the number of farmers and skilled workers are of 35 years and over reflecting the aging of these categories of people with high importance in the economic development of the rural areas.

The Romanian farmers have a low training level, most of them attended gymnasium

48.19 %, vocational training 19.79 %, primary education 14.65 %, and high school 10.56 %, explaining, besides other factors, the low productivity and lack of competitiveness of the agricultural holdings.

The share of other categories of people are: artisans 15.67%, skilled workers 9.8 % and unskilled workers 12.71 %.

Most of the rural population 86.33 % is part-time employed, much more than in the urban area and only 41 % is full time employed, much less than in the cities.

Despite that the average monthly income per household in the rural area increased by 74.54 %, accounting for Lei 2,447.02 in 2016, it is far away from the level in the urban area or the average level in the country. Also, there are differences of income between males and females, the last category being disadvantaged. The employees have the highest income, Lei 3,557.65/household, compared to other categories of people in the rural areas. The agriculturists earned in average Lei 2.163.31/household, by 40 % less than the employees and by 12 % less than the average income in the rural area. All these reflect the low living standard in the rural areas.

This analysis has led to the conclusion that even though the rural population has such a high share in Romania's population and importance as labor resource in the economy, its life is hard and it has the lowest living conditions.

For this reason, it was approved the National Programme of Rural Development 2014-2020 [11], which will be managed by the Ministry of Agriculture and Rural development and provides a new strategy for the development of the rural areas based on the equality and the elimination of discrimination. For its implementation, there were established important measures aiming the knowledge transfer and innovation in agriculture and rural areas, the promotion and implementation of the modern technologies destined to increase farm viability and competitiveness, the setting up of producers' organization and co-operation in agriculture and forestry, the reorganization of the food chain and the establishment of new quality systems for the agricultural and food products, the effective

use of resources under the climate change conditions, the promotion of social inclusion, the reduction of poverty and the economic development of the rural areas by investing in fixed assets, creating basic services in the local communities and renewing the communes and villages, and increasing the living standard of the rural population.

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