

THE NATURAL MOVEMENT AND THE RISK OF POVERTY - A REFLECTION OF THE RURAL POPULATION'S LIVING STANDARD IN ROMANIA AND THE SOUTH MUNTENIA REGION

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Abstract

The paper aimed to analyze the situation of the natural change of the population in close connection with the risk of poverty or social exclusion in the period 2007-2017 both in Romania, rural Romania and in the South Muntenia region and the rural South Muntenia. The data were collected from Tempo Online data base of the National Institute of Statistics and the main methods utilized in the research have been: index method, comparison, analysis and synthesis, correlation and regression. In Romania and in its territory the population is facing with a continuous decline regarding the number of births and natality and an increased number of deaths and a high mortality rate. As a result the population change has a negative value which is higher a higher from a year to another. A similar situation was found in the South Muntenia, considered a very poor region, where 44 % of the population lives in the rural areas and the incomes are small coming mainly from agriculture. In the rural South Muntenia, the population declines, and the births are lower, and mortality is higher. In 2017, the natural population change in Romania accounted for -55,910 and in the rural Romania for -44,653. In case of the South Muntenia region, the natural change of the population was also negative and increased to -16,161, and in the rural areas it reached -13,264 in 2017. Romania registered 35.7 % risk of poverty and the South Muntenia a much higher one 40.9 % in 2017. Despite that there was noticed a decreasing trend in the analyzed period, the poverty is still high in Romania and mainly in the rural areas. The negative natural change of the population was caused 52 % by the high risk of poverty and social exclusion, as proved by the correlation coefficient ($r=0.718$) and regression function, $Y=2,263.065 X -140,307$. The Romanian Government has to establish an efficient strategy to reduce the poverty risk or social exclusion in order to improve the natural population change and the living standard both in the urban and rural areas.

Key words: natural population change, rural population, risk of poverty, South Muntenia region, Romania

INTRODUCTION

From "the economy of nature and causes of the nations' health" as approached Adam Smith, from "the laws which regulate what is produced on the Earth" as sustained David Ricardo, and from the laws of capitalist economy" as formulated Marx, economy has become a science whose purpose was to study "human behaviour in relationship with its finalities and the various means used" as sustained Robins, and at last economy has become "a study of the principles which governate the efficient allocation of resources, when both resources and needs are known. More than this, Marshall affirmed that the capacity to grow children and the limited space are among the factors which determine

natality rate in any society", as affirmed Mark Blaug in his "Economic Theory in Retrospect" [1].

Across the time, various theories on demographic transition such as the ones developed by Warren Thompson (1929) and Frank Notestein (1954), and later by Jean-Claude Chesnais (1986), reflected the importance of natality and mortality in various societies from the pre-industrial economy to the modern one.

The reality showed that in the developed countries, natality and mortality have low values, while in the developing countries natality and mortality are high.

Since the '60s, new demographic behaviours have started to develop. The marriage comes later or becomes rare, and the divorce is more

frequently observed. The traditional families are changing under the social pressure, and people are more focused on the individual needs and purposes. The family model changes from an altruist one to an individualist one, where the professional career is more important, and children play a more modest role in the family life.

Therefore, nowadays, in the developed countries, natality goes down, the living standard is high and in consequence mortality declines. In the less developed countries natality and fertility could be either high or low, despite that the living standard is low, but mortality is always high [9].

The statistics proved that the population registers variations regarding the number of persons, demographic structure by age, gender, environment, education level and also regarding its dispersion in the territory. Therefore, the population system is facing with "input" and "output" flows, which reflect the natural population change, in terms of natality and mortality, and the migratory movement.

The fundamentals of the natural change of the population are "natality" and "mortality".

Natality is "the ratio between the number of births and the population in a given period of time and community". Mortality is "the ratio between the number of deaths and the population in a territory and interval".

Natality is usually reflected by "the number of live births per 1,000 inhabitants", while mortality represents "the number of deaths per 1,000 inhabitants".

The difference between natality and mortality has three forms: (a) *natural population increase*, when the number of live births is higher than the number of deaths in the considered period, and (b) *natural population decrease*, when the number of deaths is higher than the number of births, and the results is a negative one. Sometimes, births could be equal to deaths and in this case the result is zero.

The rate of the natural gain (NGR) is the difference between the natality rate (NR) and the mortality rate (MR), according to the formula: $NGR = NR - MR$ [5, 10].

In 2015, Romania had 19.8 million inhabitants, which means 3.88 % of the EU population. Romania has a better age structure to the EU., because 17 % of the population is older than 65 years while in the EU it is 18.9 %. However, the truth is that most of the EU countries are facing with population aging.

Besides other factors, fertility rate which influences natality, is 1.5 in Romania compared to 1.6 in the EU.

The living standard in Romania is one of the lowest in the EU, reflected by Euro 16,500 GDP/inhabitant compared to the EU average accounting for Euro 28,900/capita.

The poverty rate in Romania is very high, 19.8 %, compared 10.8 %, the EU average [23].

While in 50% of EU countries, the population continues to grow, in 14 member states there are recorded negative rates of natural change. The natural deficit per 1,000 inhabitants accounts for -6.5 in Bulgaria (-6.5), -4.1 in Croatia and Latvia, -4 in Lithuania, -3.8 in Hungary and -3.6 in Romania.

However, besides the natural population growth, the population change is also determined by migration for various reasons, especially the desire to look for a job or a better paid job and a higher living standard.

The decline of the population in Bulgaria, Latvia and Romania is caused mainly by the negative population change to which we must add the low negative rate of net migration. The causes are the poverty in many areas, the lack of jobs, the low income per family, and the low living standard both the urban and mainly in the rural areas [6].

In this context, the goal of this investigation was to analyze the population change in Romania and also in the South Muntenia region of development, pointing out the situation in the rural areas in the period 2007-2017. In this purpose, the statistical data put at the disposal by the National Institute of Statistics in terms of births, deaths, natality, mortality, natural change have been processed in relationship with the risk of poverty and social exclusion.

The hypothesis of this analysis is: "Is any positive relationship between the population

change and the risk of poverty or social exclusion?"

MATERIALS AND METHODS

The South Muntenia region is one of the development regions of Romania, where GDP represents

less than 75 % of the EU average [22].

In this part of Romania, agriculture is practiced on about 71 % of its surface. Therefore, agriculture is the main activity providing income to the agriculturists' families, and assuring them a decent living standard [2].

In this region like in many other areas of Romania, agriculture is mainly oriented to vegetal production, cereals and oilseeds crops being successfully cultivated both for the domestic market and for export [12, 14, 16, 17, 18].

The main features of the labour force in agriculture are the high contribution of the family members to the agricultural works, the self-employment, the low training level and low productivity with a deep impact on production performance and product quality [15].

The low performance in agriculture is due to the small farm size, the applied technologies, the old infrastructure, business management which have a negative impact on the sustainable development of the area, but this is also a general characteristics in the whole country [8].

Also, besides South Vest Oltenia, South Muntenia is one of "the poles of poverty" in Romania in close relationship with fertility, natality, mortality, migration, income per household, and living standard [11, 24].

The study is based on various range of information sources, empirical data picked up from the official data base of the National Institute of Statistics, published articles in well known journals and internet sites on the topic.

The analysis was running between 2007 and 2017 reflecting the changes carried out during the last decade in Romania and the South Muntenia region.

The main indicators studied in this research article are: the number of births, the number of deaths, natality rate, mortality rate, the population natural change, and the rate of the risk of poverty and social exclusion.

According to National Institute of Statistics, the natural movement of the population includes: natality, mortality, nuptiality, divorcing, and natural change.

Natality rate (NR) is the number of live births (LB) registered in one year divided by the population (P) existing at the date of July 1st in the current statistics and reflects the number of live births per 1,000 inhabitants, according to the formula:

$$NR = (LB/P) * 1,000 \quad (1)$$

Mortality rate (MR) is the number of dead persons (D) in a year divided by the population (P) existing at the date of July 1st in the current statistics and reflects the number of deaths per 1,000 inhabitants, according to the mathematical formula:

$$MR = (D/P) * 1,000 \quad (2)$$

The natural change of the population (NCP) is the difference between the number of live births (LB) and the number of dead persons (D) in the reference year, according to the formula:

$$NCP = LB - D \quad (3)$$

These indicators were studied at the level of Romania, in the South Muntenia region, and also in the rural areas.

The methodology included the comparison method, the index method, the structural index, and regression function, the results being interpreted leading to pertinent conclusions.

RESULTS AND DISCUSSIONS

The dynamics of South Muntenia Region's population and rural population

If we look at the data reflecting Romania's population, we may notice a declining trend. In 2017, Romania had 22,202 thousand inhabitants compared to 22,563 thousand persons in 2007, representing a loss of -1.6 %.

The decline of the population in Romania is similar to the one in Bulgaria and Latvia, and

this phenomenon is caused especially by the negative population change and also by the high migration rate [6].

Romania is characterized by a high number of inhabitants living in the rural areas and more than this, the share of the rural population in Romania's population continue to increase from 43.2 % in 2007 to 43.7 % in 2017, despite that the number of inhabitants in the rural space declined by 0.6 % from 9,744 thousand people to 9,690 thousand people in the same interval [21].

The statistics proved that rural population in Romania is an important resource of workforce, but the main features of its structure are: aging, low training level, low productivity, and low income per family [13, 15, 19].

In Romania, it is also a big difference regarding the rural population and urban population, regarding demographic change, education level, income level and living standard [20].

In the analyzed period, the population of South Muntenia region recorded a similar descending trend like at the national level. From 3,395 thousand people in 2007 it accounted for 3,252 thousand people in 2016, meaning a decline by 4.3 %. But, in 2017, the population of the region has started to increase, being 3,395 thousand persons like in 2007.

Therefore, the number of inhabitants South Muntenia region declined much more than at the level of the country (Table 1) [11].

Table 1. The dynamics of Romania and South Muntenia Region's rural population in the period 2007-2017 (Thousand Persons)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Romania, of which:	22,563	22,542.	22,520	22,492	22,442	22,402	22,360	22,300	22,260	22,236	22,202
Rural	9,744	9,758	9,749	9,737	9,733	9,739	9,724	9,715	9,698	9,709	9,690
Share of the rural (%)	43.2	43.3	43.3	43.39	43.4	43.5	43.5	43.6	43.6	43.7	43.7
South Muntenia, of which:	3,395	3,385	3,373	3,360	3,344	3,328	3,309	3,289	3,270	3,252	3,395
Rural	1,929	1,927	1,920	1,913	1,906	1,900	1,889	1,878	1,866	1,859	1,846
Share of the rural (%)	56.8	56.9	56.9	56.9	57.0	57.1	57.1	57.1	57.1	57.2	57.2

Source: Own determination based on Tempo Online, NIS, 2019 [25].

In the South Muntenia region, the rural population registered a decline of 4.4 % from 1,929 thousand persons in 2007 to 1,846 thousand persons in 2017.

Therefore, the decrease of the population living in the rural South Muntenia was higher than the decline of the rural population at the country level (Table 1) [11].

In the South Muntenia region lives only 14.5-15 % of the population of Romania, and the

general trend is to decrease to 14.5 % in 2017. With a share of 19 % in Romania's rural population, South Muntenia is on the top position. However, it has a general descending trend from 19.8 % in 2007 to 19 % in 2017 (Table 2).

This situation is due to the high number of communes, 519, and villages, 1,871 existing in this region [22].

Table 2. The share of South Muntenia Region's population and rural population in Romania's population and rural population, 2007-2017 (%)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Share of the South Muntenia's population in Romania's population (%)	15.0	15.0	15.0	15.0	15.0	14.8	14.8	14.7	14.7	14.6	14.5
Share of the South Muntenia's rural population in Romania's rural population (%)	19.8	19.7	19.7	19.6	19.6	19.5	19.4	19.3	19.2	19.1	19.0

Source: Own determination.

The number of births in South Muntenia region and their share in the births registered at the national level

The number of births in Romania decreased from 214,728 in 2007 to 205,835 in 2017, which means 4.2 % less than in the first year of the analysis. In the South Muntenia region it was noticed a similar decreasing trend from

30,735 in 2007 to 27,490 in 2017, reflecting - 10.1 % less, that is much more than at the country level.

The share of births in the South Muntenia region in total births recorded in the country also declined from 14.3 % in 2007 to 13.3 % in 2017 (Table 3).

Table 3. The number of births in South Muntenia region and their share in Romania's number of Births, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
No. of births in the South Muntenia	30,735	31,595	32,428	30,627	28,053	28,215	28,899	27,535	28,071	27,567	27,490
Share of the births of South Muntenia region in Romania's number of births (%)	14.3	14.2	14.6	14.4	14.3	14.0	13.4	13.5	13.6	13.5	13.3

Source: Own determination based on Tempo Online, NIS, 2019 [25].

The number of births in the rural space of Romania registered a decrease from 98,361 in 2007 to 92,793 in 2017, meaning by 6.7 % less than in the 1st year of the studied period.

If we analyze the situation of births in the rural area of the South Muntenia region, the situation looks to be more critical. In this part of the rural area of the country, the number of

births declined by 8.6 %, from 17,592 in 2007 to 16,084 in 2017. Therefore, compared to the evolution at the country level, the decline of births in the rural space is much higher.

As a consequence, the share of the births of the rural South Muntenia in the number of births of rural Romania went down from 17.8 % in 2007 to 17.3 % in 2017 (Table 4) [3].

Table 4. The number of births in the rural South Muntenia region and their share in Romania's number of Births in the rural area, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
No. of births in the rural South Muntenia	17,592	18,139	18,813	17,575	16,411	16,583	15,404	16,032	16,225	16,088	16,084
Share of the births of the rural South Muntenia region in Romania's number of births in the rural area (%)	17.8	18.0	18.7	18.7	18.3	17.9	16.9	17.4	17.5	17.4	17.3
Share of the births of the rural South Muntenia in total births in Romania (%)	8.1	8.1	8.4	8.3	8.4	8.3	7.8	7.9	7.8	7.9	7.8
Share of the births of the rural South Muntenia in total births in South Muntenia (%)	57.2	57.4	58.9	57.3	58.4	58.7	56.7	58.2	57.7	58.3	58.5

Source: Own determination based on Tempo Online, NIS, 2019 [11].

The number of births in the rural South Muntenia in the total number of births in Romania declined from 8.1 % in 2007 to 7.8 % in 2017.

But, if we analyze the situation within the South Muntenia region, we noticed that the share of the births in the rural space is over 50 %, more exactly registered a slight increase from 57.2 % in 2007 to 58.5 % in 2017. Therefore, in the rural area the births are more

numerous than in the ruban area of this region. Similar results were found in the year 2011 by [22].

The dynamics of the natality rate in the South Muntenia and in Romania

As a consequence of the decreasing trend in the number of births, the natality rate in Romania has also decline from 9.5 per 1,000 inhabitants in 2007 to 9.3 in 2017. But, in 2011, it recorded the lowest level, just 8.7 per

1,000 persons while in the year 2009, it was registered the highest natality rate, 9.9%.

In the rural Romania, the natality rate is higher than the average natality at the national level. But, both at the national and regional level, natality recorded a general decreasing trend.

Natality rate in the South Muntenia region is smaller than at the national level. It also

declined from 9.1 per 1,000 inhabitants in 2007 to 8.5 in 2017.

In the South Muntenia zone, it was noticed that the natality rate in the rural space is a little higher than the average natality in the region. But, the general trend is a descending one from 9.1 per 1,000 persons in 2007 to 8.7 % in 2017 (Table 5).

Table 5. The dynamics of the natality rate in Romania and in the South Muntenia region, 2007-2017 (Number of births/1,000 inhabitants)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Natality rate, Romania (%)	9.5	9.8	9.9	9.4	8.7	9.0	9.6	9.1	9.3	9.1	9.3
Natality rate in the rural Romania (%)	10.1	10.3	10.3	9.7	9.2	9.5	10.0	9.5	9.5	9.5	9.6
Natality rate in the South Muntenia (%)	9.1	9.3	9.6	9.1	8.4	8.5	8.7	8.4	8.6	8.5	8.5
Natality rate in the rural South Muntenia (%)	9.1	9.4	9.8	9.2	8.6	8.7	8.7	8.5	8.7	8.7	8.7

Source: Tempo Online, NIS, 2019 [11].

The low natality in the South Munetnia Region is explained by the population aging and low fertility rate, which have determined a higher share of the older population and a reduction of the young population. The population younger than 25 years represents about 27 %, while the people between 25-64 represents about 56 % and the people older than 65 accounts for about 17 % [22].

The dynamics of the deaths in the South Muntenia and in Romania

The number of deaths in Romania followed a general increasing trend, from 251,965 in 2007 to 261,3745 in 2017, meaning + 3.88 %. In the South Muntenia region, the number of deaths has also increased but by 3.23 % from 42,288 in 2007 to 43,656 in 2017.

The share of the deaths registered in the South Muntenia region in the total deaths in the country looked to remain at the same level 16.7 % in the analyzed interval.(Table 6).

Table 6. The number of deaths in South Muntenia region and their share in Romania's number of Deaths, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
No. of deaths in the South Muntenia	42,288	42,917	43,620	43,588	42,711	43,246	43,028	42,669	43,409	43,374	43,656
Share of the deaths of South Muntenia region in Romania's number of deaths (%)	16.7	16.9	16.9	16.8	16.9	16.9	16.8	16.7	16.5	16.8	16.7

Source: Own determination based on Tempo Online, NIS, 2019 [25].

In 2017, the number of deaths in the rural Romania was 137,446 compared to 137,403 in 2007 (+0.03%).

This led to a lower weight of deaths in the rural Romania in the total deaths in the country, more exactly 52.5% in comparison with 54.1 % in 2007.

The number of deaths in the rural South Muntenia declined a little from 29,398 in 2007 to 29,348 in 2017 (-0.2 %), which is of course a positive situation.

The share of the deaths in the rural South Muntenia in Romania's number of deaths in the rural areas remained relatively constant in 2017 compared to 2007 at the level 9f 21.3 %. However, in 2012, it was recorded the highest share, 21.6 %, and in 2015, the lowest level, 21.1 %.

The weight of the deaths in the rural area of the South Muntenia in the total deaths in the South Muntenia region (%) is unbelievable high, over 67 %.

But, the only positive aspect is that in 2017, it level was 67.6 % instead of 69.5 % in 2007.

Also, the year 2014, it was registered the lowest share, 68 % (Table 7).

Table 7. The number of deaths in the rural South Muntenia and its share in Romania's number of deaths, 2007-2017

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
No. of deaths in the rural South Muntenia	29,398	29,790	31,122	30,264	29,541	29,891	28,721	29,044	29,397	29,017	29,348
Share of the deaths in the rural South Muntenia in Romania's number of deaths in the rural areas (%)	21.3	21.4	21.3	21.2	21.5	21.6	21.4	21.3	21.1	21.5	21.3
Share of the deaths in the rural area of the South Muntenia in the total deaths in the South Muntenia region (%)	69.5	69.4	69.0	69.4	69.1	69.1	68.3	68.0	67.7	66.8	67.6

Source: Own determination based on Tempo Online, NIS, 2019 [25].

The dynamics of the mortality rate in the South Muntenia region and in Romania

The mortality rate registered a slight decline from 9.5 % per 1,000 inhabitants in 2007 to 9.3 in 2017 at the level of Romania. In the rural areas of the country, the mortality rate is much higher than the death rate at the national level. But, it was noticed a slight decline of the mortality rate in the rural space from 10.1 per 1,000 inhabitants in 2007 to 9.6 in the year 2017.

In the South Muntenia, the death rate is a little lower compared to the death rate at the country level, and recorded a general decreasing trend from 9.1 deaths per 1,000 inhabitants in 2007 to 8.5 in the year 2017.

The death rate in the rural South Muntenia si a little bit higher than the death rate in this region. However, since 2007, it started to decline a little from 9.1 per 1,000 inhabitants to 8.7 in 2017 (Table 8).

Table 8. The dynamics of the mortality rate in Romania and in the South Muntenia region, 2007-2017 (Number of deaths/1,000 inhabitants)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Mortality rate, Romania (%)	9.5	9.8	9.9	9.4	8.7	9.0	9.6	9.1	9.3	9.1	9.3
Mortality rate in the rural Romania (%)	10.1	10.3	10.3	9.7	9.2	9.5	10.0	9.5	9.5	9.5	9.6
Mortality rate in the South Muntenia (%)	9.1	9.3	9.6	9.1	8.4	8.5	8.7	8.4	8.6	8.5	8.5
Mortality rate in the rural South Muntenia (%)	9.1	9.4	9.8	9.2	8.6	8.7	8.7	8.5	8.7	8.7	8.7

Source: Tempo Online, NIS, 2019 [25].

The dynamics of the natural change of the population in the South Muntenia and in Romania.

Table 9. The dynamics of the natural population gain in Romania and in the South Muntenia region, 2007-2017 (Number of persons)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Natural gain, Romania	-37,237	-31,302	-34,825	-47,524	-55,197	-54,435	-35,534	-53,103	-56,791	-54,316	-55,910
Natural gain in the rural Romania	-39,042	-38,368	-40,521	-47,743	-47,216	-45,199	-37,239	-44,140	-46,656	-43,135	-44,653
Natural gain in the South Muntenia	-11,553	-11,322	-11,192	-12,961	-14,658	-15,031	-13,129	-15,134	-15,338	-15,807	-16,161
Natural gain in the rural South Muntenia	-11,806	-11,651	-11,309	-12,689	-13,130	-13,309	-12,317	-13,012	-13,172	-12,929	-13,264

Source: Tempo Online, NIS, 2019 [25].

The dynamics of the births and deaths influenced the natural gain, which had a negative value both at the level of Romania, in the rural Romania, in the South Muntenia and in the rural South Muntenia.

In the analyzed period, at the country level, the natural deficit of the population increased from -37,237 in the year 2007 to -55,910 in the year 2017. In the rural Romania, the negative level of the natural change is much higher than at the national level and also registered an increasing trend from -39,042 in 2007 to -44,653 in 2017.

In the South Muntenia, the natural change of the population is also negative and it also registered an increasing trend from -11,553 in 2007 to -16,161 in 2017.

In the rural South Muntenia, the negative natural change of the population has also

raised from -11,806 in 2007 to -13,264 in 2017 (Table 9).

Dynamics of the poverty and social exclusion risk in Romania and the South Muntenia region (AROPE)

The poverty and social exclusion risk at the level of Romania ranged between 47 % in 2007 and 35.7 % in 2017, reflecting a decreasing trend which is a social positive aspect.

However, if we look at the data registered in the South Muntenia region, we may easily notice that in this part of Romania, the risk of poverty and social exclusion has higher levels compared to the average situation at the national level in the analyzed period. But, the positive aspect is that the level of the risk registered a descending trend from 52 % in 2007 to 40.9 % in 2017 (Table 10).

Table 10. The evolution of the poverty and social exclusion risk in Romania and the South Muntenia region in the period 2007-2017 (%)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Romania	47	44.2	43	41.5	40.9	43.2	41.9	40.3	37.4	38.8	35.7
South Muntenia	52	46	47.6	42.8	43.5	45.5	42	41.7	43.5	41.2	40.9

Source: Tempo Online, NIS, 2019 [25].

In 2016, 23 % of the EU population was at risk of poverty or social exclusion, 17.3 % was at risk of poverty, 10.5 % of the population aged between 0-59 years lived in households with very low work intensity and 7.5 % of the population was seriously deprived from a material point of view.

According to Eurostat, On the top position in the EU regarding the highest poverty and social exclusion risk is Bulgaria (38.9 % of the total population) and then Romania comes on the 2nd position with 35.7 % in the years 2016-2017. On the 3rd position was Greece

(34.8 %). Therefore, in 2017, about 33 % of the population was at risk of poverty or social exclusion in this three EU Member States [7]. People at risk of poverty includes both children and adults as shown in Table 11. Looking at the data we may easily notice that it is a large difference between the children risk of poverty and the adults risk of poverty. In the EU, Romania, Hungary and Slovakia have the largest difference between the rates of poverty risk for children and the total population.

Table 11. People at risk of poverty or social exclusion, by age group, Romania compared to the EU average, Bulgaria and Greece, 2017 (% of the population)

	Total	Children 0-17 years	Adults 18-64 years	Adults 65 and over
EU average	22.4	24.9	23.0	18.2
Bulgaria	38.9	41.6	34.8	49.8
Romania	35.7	41.7	34.6	33.2
Greece	34.8	36.2	38.6	22.8

Source: [7].

The children living in a household at risk of poverty and social exclusion have the highest

percentage in Bulgaria (41.6 %) and Romania (41.7 %). This situation is determined by the

lack of jobs for their parents taking into account their low education level or accepting jobs which are paid at the minimum salary in the economy, also by the structure of the family these children belong to, by the efficiency of the measures taken by Government to support this category of people and by the migration of the parents of these children.

The old people is affected by the risk of poverty or the social exclusion due to the low level of the pensions, the gap of pension related to age and gender, in general women being much more affected than men [7].

In Romania there are also persons whose disposable income is below the national threshold of poverty risk. But in this situation, after the social transfer, there are important percentages of the population in many EU countries not only in Romania as mentioned by Eurostat: "Romania (23.6 %), Bulgaria (23.4 %), Lithuania (22.9 %), Latvia (22.1 %), Spain (21.6 %), Estonia (21.0 %), Italy (20.3 %), Greece (20.2 %) and Croatia (20.0 %)" [7].

A high material deprivation rate characterizes the old people over 65 living in the conditions which are highly affected by the lack of resources. From this point of view, Greece and Bulgaria have the highest rate: 21.1 % and respectively 30.0 %. Romania comes on the lower position taking into account that its rate fell by -4.1 pp in 2017 compared to 2016.

But, despite that the risk of poverty or social exclusion decreases in Romania, it is still high mainly among young people. The EU Commission considers that Romania has still a high level of poverty or social exclusion and also the highest income inequality. In the rural area the situation is the most critical, because here there many social problems regarding living and unemployment. The rural areas of Romania have the highest number of persons who live in low quality houses and consume more than 40% of their income [4].

Taking into account the situation of the negative population change (Y) and the high risk of poverty or social exclusion (X) and using regression between the two variable in order to identify it there is any dependence

and correlation, we found that there is a positive correlation, $r = 0.718$ between these two indicators and that 51.59 % of the variation of the population negative change is determined by the variation of the risk of poverty or social exclusion ($R^2 = 0.515$).

The regression formula is:

$$Y = 2,263.065 X - 140,307$$

showing that if the risk of poverty or social exclusion (X) will grow by one unit, the decrease of the population change will increase by 2,263.065.

Therefore, the poverty and social exclusion is one of the factors with a high influence on the level of natural demographic indicators such as: births, deaths, natality, mortality and natural change.

CONCLUSIONS

Romania's population has a general decreasing trend due the negative population change, caused by low number of births, high number of deaths, lower natality rate and higher mortality rate and also by the high migration rate.

In the rural areas of Romania live about 44% of the population, characterized by aging, low training level, and dealing mainly with agriculture which assure a low income per family.

South Muntenia region registered a similar decreasing trend of the population like at the national level. In 2017, in this region were 3,252 thousand people by 4.3 less than in 2007.

The percentage of decline of the South Muntenia's population is higher than at the national level.

A number of 1,846 thousand persons represented the rural population of the South Muntenia region in 2017, being by 4.4 % less than in 2007. In the rural space of the region the percentage of decrease of the population is higher than in the rural Romania.

The rural population of the South Muntenia represents 14.5 of Romania's population and 19 % of Romania's rural population.

The number of births in Romania declined by 4.2, accounting for 205 thousands in 2017. In the South Muntenia, the number of births also decline but much more, - 10 %, reaching 27,490 in 2017. As a result 13.3 % of the number of births in Romania are achieved in South Muntenia region.

In the rural Romania the number of births registered a higher decrease (-6.7 %), while in the rural South Muntenia the decline was higher (-8.6 %).

In rural Romania, the natality rate is higher than the national average. In the rural areas was noticed the same decreasing trend like at the national level.

In the South Muntenia, the natality rate is smaller than at the national level and accounted for 8.5 per 1,000 inhabitants in 2017. In the rural South Muntenia, the natality rate is higher than the one at the region level, and in 2017 it was 8.7 per 1,000 inhabitants.

Due to the increased deaths in Romania, the mortality rate accounted for 9.3 % in 2017. In the South Muntenia, the mortality rate was 8.5 per 1,000 inhabitants.

In the rural Romania the mortality rate is higher than the national average, and in the south Muntenia the rural mortality rate is 67 %, one of the highest of the total number of the population living in the rural space of this region.

Due to the evolution of natality and mortality, in the analyzed period, Romania registered a higher and higher decrease of the population, which was also caused by migration. In 2017, the natural population change in Romania accounted for -55,910 and in the rural Romania for -44,653.

In case of the South Muntenia region, the natural change of the population was also negative and increased to -16,161, and in the rural areas it reached -13,264 in 2017.

The decline of the natural demographic indicators was caused among other factors by the poverty and social exclusion. Romania comes on the 2nd position in the EU, after Bulgaria for the highest risk of poverty or social exclusion. But, a positive aspect is that there is a general decreasing trend so that in 2017, this indicator was 35.7 %.

In the South Muntenia region, the risk of poverty and social exclusion is much higher than the average at the national level. However, it declined from 52 % in 2007 to 40.9 % in 2017, which is a positive aspect. The most affected categories by poverty and social exclusion are children below 17 years and the people older than 64 years. The last ones have low pension and the difference among various age categories and gender are substantial.

This research proved that between the negative natural change of the population and the risk of poverty and social exclusion is a moderate and positive correlation, and that 51.59 % of the variation of the population negative change is determined by the variation of the risk of poverty or social exclusion.

In conclusion, the improvement of the natural demographic indicators of the population in the sense to increase the number of births, natality rate and the natural change and to decrease the number of deaths and mortality rate requires to reduce the risk of poverty and social exclusion of the population and mainly in the rural areas.

The Romanian Government has to establish an efficient strategy to eliminate this social discrepancies and assure a better living standard both for the people living in the urban and the rural areas.

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