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RURAL HUMAN CAPITAL IN ROMANIA – EVOLUTIONS IN TRANSITION

ABSTRACT

At present, the focus of attention in the specialty literature as well as in the public policies is primarily on the human capital, whose decisive role in economic growth and labour employment is fully recognized. It is unanimously recognized that the knowledge, skills and abilities of the human capital, acquired through education, professional training and experience decisively conditions the economic development and welfare. The objective of the present analytical approach is the rural human capital diagnosis in Romania from the perspective of reaching the objectives of Strategy 2020 of the European Union, whose main desideratum is to transform the European economic area into *the most competitive and dynamic knowledge-based economy in the world*.

The analysis made on the basis of long statistical data series on the demo-educational phenomena and processes signals out certain fundamental problems of the human capital: demographic ageing, deficient labour force renewal, decrease of young people's interest in education, etc., which adversely impact the implementation opportunities of a knowledge-based development strategy. Furthermore, the inter-regional disparities with regard to the human capital characteristics impose modelling certain differentiated strategies, adapted to the present context.

Key words: human capital, demo-educational trends, rural area, development regions.

JEL Classification: J24, J11, O15, O18.

1. INTRODUCTION

The human capital, defined as the set of skills, knowledge and aptitudes characteristic to individuals and acquired through education, professional training and experience, became the core element of research and public policies from the moment when the empirical evidence proved the positive effects of the human capital upon economic growth and labour employment. In 2009, Paul Hofheinz (President of the Lisbon Council)¹ made the statement that “The world has entered a new era where the newly-created economic value will no longer depend on combining land, labour and capital, but rather on the knowledge, skills and ingenuity with which the traditional production factors can be recombined into

¹ Paul Hofheinz, *Europe 2020: Why Skills are Key for Europe's Future* (Brussels: The Lisbon Council, 2009).

new products and services with increasingly higher value. It is a world in which the development stage of the human capital in a certain region or nation will make the difference between the economic development opportunities, in which the labour force quality becomes decisive for the prosperity level”.

These are only a few arguments on the basis of which the Lisbon European Council broadly aimed to make the EU **the most competitive and dynamic knowledge-based economy in the world**, thus placing the human capital at the center of community development strategies. This general objective was transposed into the EU 2020 Strategy, which aims at:

- *an intelligent growth* (education, knowledge and innovation)
- *a sustainable growth* (a more efficient use of resources, a more ecological and more competitive economy) and
- *an inclusive growth* (high employment rate and economic, social and territorial cohesion).

Starting from these considerations, the analytical approach proposed in the present study targets the evaluation of context in which the Romanian rural area evolves from the perspective of opportunities to respond to the EU 2020 Strategy desiderata. For a mostly accurate analysis and an exhaustive explanatory approach of the current development stage and perspectives of Romania’s rural area in the direction proposed by EU 2020 Strategy, we consider it necessary to contextualize the evolution of Romania’s rural human capital in transition, which decisively conditions the implementation opportunities of such a strategy.

In other words, the objective of this analytical approach targets two aspects:

– On one hand, to capture the main evolutions of the quantitative and qualitative characteristics of the rural human capital, which are crucial for a successful implementation of such a strategy:

- a) Quantitative – availability of human resources (as volume and demographic structure);
- b) Qualitative – the available rural human capital capacities (educational, professional);

– On the other hand, the extent to which the rural economy evolves on the sustainability and inclusive path, as these two desiderata are defined in the EU 2020 Strategy:

- c) Rural economy with sustainable growth – which efficiently uses the available human resources;
- d) Rural economy with inclusive growth – which ensures a high employment rate and economic, social and territorial cohesion.

2. CURRENT STATE OF KNOWLEDGE

According to the data of the National Institute for Statistics, the stable population in the Romanian rural area amounts to 9.63 million people, out of which

the economically active population accounts for only 45.8%; this index experienced a permanent descending trend in the last decade due to the rural demographic processes in the last twenty years: birth rate decrease and rural population ageing.

The labour force recruitment pool in the rural area permanently narrows (the active population volume in the Romanian rural area decreased from 4.89 million people in 2002, to 4.43 million people in 2010), while its qualitative structure deteriorated. The age structure of the available labour force in the rural area also deteriorated (in absolute figures, the age group 15–24 years of the active population diminished by almost one-third – 29% – in 2010 compared to 2002, while the volume of active population aged 25–34 years diminished by 22.5% in the same period).

3. MATERIAL AND METHOD

The approach to the issue on the opportunities of the rural human capital to get transformed into a foundation structure for surmounting the financial crisis and rural economic growth has the following as a starting point:

- the study of the dynamics of the human factor characteristics in the rural area as catalyst to economic growth;
- the changes produced in the rural economy development patterns as support to the economic fructification of the human potential.

The goals to which this analytical approach is subsumed are to provide arguments for:

1. *Whether and to what extent the current characteristics of the rural human capital and their evolution trends represent a supporting point for a sustainable and inclusive growth of the rural economy;*
2. *Whether and to what extent the rural economy structures, dominated by agriculture in the rural area, can generate a sustainable and inclusive growth in the sense of EU 2020 Strategy.*

Subsumed to reaching the first above-mentioned goal, the present analytical approach intends to investigate the evolution of the main demographic phenomena that impacted the rural area and have important consequences upon the structure and basic characteristics of the human capital living in this area and which also conditioned and will influence the intrinsic opportunities of knowledge-based economy model implementation in Romania's rural area in the future as well. The analytical approach is a regional one, given the zonal particularities of the democio-economic phenomena and processes, which are historically conditioned sometimes and influenced by different adaptive responses to the challenges and transformations of the economic and ideological context that Romania experienced in the last two decades. In this context, the analysis focuses on the main quantitative and qualitative aspects that define the human capital:

- a) The quantitative aspect reveals the human capital *availability* across regions and it is operationalized by the natural and migratory movement that characterized the rural population;
- b) The qualitative aspect reveals the evolution of *the defining human capital characteristics* by which one can estimate the capacity of the population from a given territory to get actively involved in a knowledge-based development model: age, education.

According to the specialized literature, a sustainable and inclusive economic growth has the human capital at its center, considered in its quantitative and qualitative structure. The second goal of this analytical approach has in view to capture the development stage of such an economy and its evolution trend, which creates the premises of drawing certain conclusions with regard to the capacity of the rural human capital from Romania to get integrated into this development model, offering the premises to surmount the economic crisis. This second analytical approach will be developed in a future article that will be subject to the readers' attention in one of the future issues of our journal.

The first part of the study that is the object of this article is based on the analysis of secondary statistical information regarding the evolution of quantitative and qualitative characteristics of the rural human capital in the territory, on long time periods, in order to capture the general trends that condition the opportunities of implementing a knowledge-based economic development strategy in rural Romania.

4. RESULTS AND DISCUSSIONS

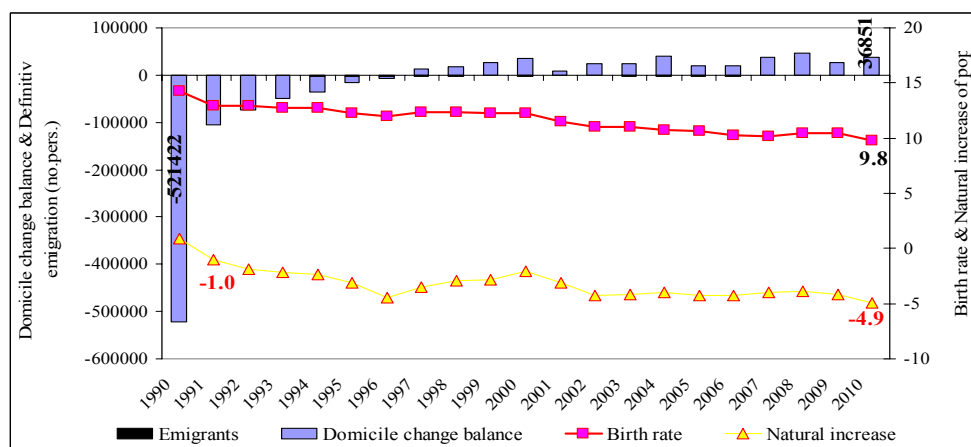
4.1. Evolutions and trends of the rural human capital in the territory

The Romanian rural area became the main absorbent of the shocks generated by the communist economy restructuring, the private ownership on land representing one of the main modalities by which the household members can meet their subsistence needs. We can thus state that the rural social structures were firstly and most deeply affected by the transformations of the post-communist socio-economic environment.

4.1.1. *Regional disparities in the demographic availability of rural human capital*

There are multiple and deep demographic determinations on the overall development processes, as the performance of an economic system – measurable through productivity, efficiency – is also the product of more or less noticeable demographic structures, processes, flows and phenomena.

The deruralization process, characteristic to the industrial societies, which had an accelerated rate in the communist period, was reversed² under the background of economic restructuring generated by the transition to market economy. Thus, while in the first year of transition, the domicile change balance for the Romanian rural area was negative, the rural population losses by the migration to urban areas being higher than the establishments of domicile in the rural area, after 1997, with the initiation of large-scale restructuring and privatization of the former state enterprises (which resulted in massive labour rationalization and early retirement), a large part of the population was “pushed” to the rural area and the farming sector (the domicile change balance in the rural area becoming positive) (Figure 1.)



Source: NIS, TEMPO on-line database.

Figure 1. Two decades of rural demographic phenomena evolution.

While in the early transition period, the specific weight of the rural population was around 45.7% of the total population of the country, until 1997, under the background of a “de-ruralization” process, this decreased to 45.0% and following the “re-ruralization” under the impact of socialist economy restructuring, it reached 46.7% in 2002; after 2004, it got stabilized around 45%.

The *re-urbanization* that was statistically proved after 2004 is at least debatable, as many communes have been declared towns since 2004³, which introduced distortions in the statistical data on which the comparisons between the residence areas from the demographic structure perspective are based.

The regions with the highest shares of rural population in total population are South, North-East and South-West, where more than 50% of total population lived in the countryside in 2010; this situation remained practically unchanged after

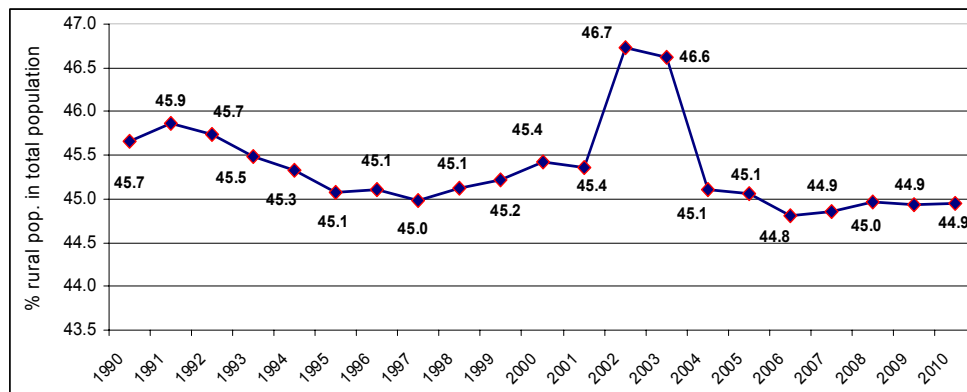
² Urban – rural migration is characteristic to poorly developed economies.

³ Law 83/2004, by which certain communes became towns, changed the status from rural to urban for 27 communes from Romania; this law was followed by other laws with similar effect, yet of lower amplitude.

1990. At the other extreme, the most deruralized region (except for the region Bucharest, where the rural population accounted for 8.1% in total population) is the development region West, where the rural population share in total population is 37.1%⁴. The causes of the regional demographic evolutions (Annex 1) are found in the different values of:

– *birth rate* – the region North-East with high birth rate values (much above the national average for the most part of the transition period), the regions West and Bucharest, with low birth rate values in the first decade of transition; after this moment, this became a characteristic only for the region West, while the rural area from the region Bucharest experienced an explosive rise of birth rate;

– *the internal migration rate balance*, which was negative in the period 1990–1997 in all the development regions, and it was reversed afterwards, the most attractive rural areas being found in the regions West and Center (for which about 4% and 2% respectively of the population with the domicile in the countryside, in 2010, comes from the internal migration flows in the period 1997–2010). The least attractive rural area belongs to the region South-West (which lost 0.8% of its population after 1997, by the change of its domicile from the rural to the urban area);



Source: NIS (2011), Tempo on-line database.

Figure 2. Evolution of the rural population share in Romania after 1989.

– *the natural population increase*, which had negative values and a general decreasing trend for the rural areas in all the development regions in the first twelve years after the collapse of the communist regime, was relatively improved after 2002 as a result of a higher life expectancy for the rural population. The region North-East is a notable exception from this rule, whose rural area is historically characterized by the highest birth rate from Romania, being the only region with a positive natural population increase (before 2002), the greatest region of the country from the demographic point of view, considered the “demographic reservoir” of the country. After 2002, while in the other development regions, the

⁴ NIS (2011) Tempo on-line database.

natural population increase had slightly increasing or stabilization trends, in the region North-East, this became negative and continued to decline at a fast rate. The most affected from the perspective of deaths/births ratio was the region South-West, whose natural population increase reached -9.5% in 2010; the regions with favourable demographic perspectives for the future are Bucharest and Center, for which the natural population increase, although still negative, was obviously improved after 2002. The region Bucharest has a special situation, given its componency (it includes Bucharest, the capital city, and only one county around this municipality whose population accounts for slightly over 8% of the population in the region). As a result, the share of the rural population is very low, but this indicator had an increasing trend in the period between the two population censuses (11.4% in 1992 and 11.1% in 2002), to diminish afterwards under the incidence on changing the status from village to town of certain communes in the vicinity of Bucharest⁵ and of increasing the number of the population in Bucharest. However, after 2007, an accelerated growth of the rural population from the region Bucharest could be also noticed. This evolution is explained by the attractiveness of the metropolitan area of the capital that provides a very important position capital as regards two markets, i.e. the urban labour market and the agri-food market.

Under the background of a generalized demographic decline, in absolute terms, the rural population size diminished by over 9% in the 20 years of transition (1990 – 2010), the rural areas from the regions in the eastern part of the country (North-East and South-East) experiencing a demographic contraction that was much lower than in the remaining regions. The descending demographic trends were considerably accelerated in the last decade, in all the western and southern regions, including Bucharest (Table 1).

Table 1

Modifications of the population in Romania's rural area in the period 1990 – 2010

Region	Rural population - number -			Relative modification of rural population volume %		Share of rural population in total population %	
	1990	2000	2010	2000/1990	2010/1990	1990	2010
National level	10597876	10190607	9632563	-3.8	-9.1	45.7	44.9
North-West	1442887	1349443	1269551	-6.5	-12.0	48.4	46.7
Center	1108139	1048672	1026841	-5.4	-7.3	39.0	40.7
North-East	2151749	2159807	2108470	0.4	-2.0	57.2	56.9
South-East	1299842	1267980	1260252	-2.5	-3.0	43.4	44.9
South	2141066	2024380	1908376	-5.4	-10.9	59.8	58.6
Bucharest	247805	256082	183329	3.3	-26.0	10.3	8.1
South-West	1385720	1311720	1165497	-5.3	-15.9	56.5	52.1
West	820668	772523	710247	-5.9	-13.5	37.3	37.1

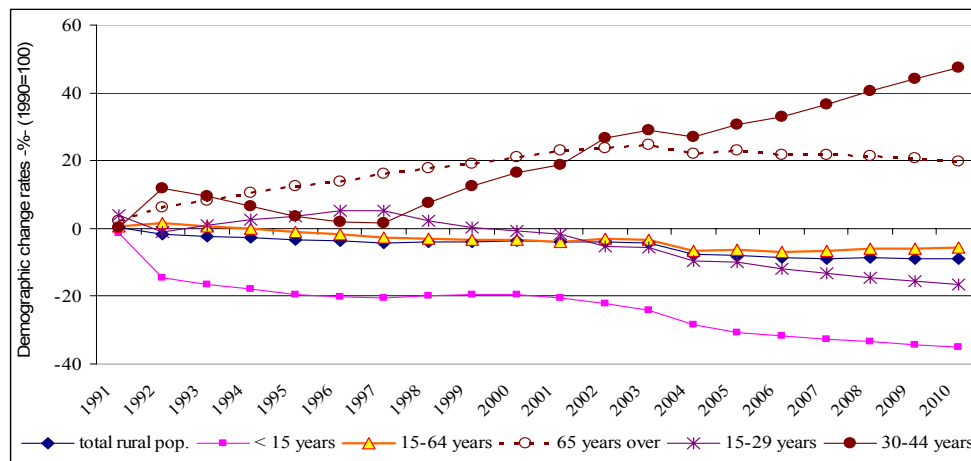
Source: Calculations based on NIS data, Tempo on-line database.

⁵ Voluntari, Popești Leordeni, Pantelimon, Bragadiru, Chitila are former communes of the county Ilfov, which acquired urban status after 2004.

According to the conclusions of the World Bank studies⁶, there is a high significance correlation between the urbanization level and the income per capita. Extrapolating this conclusion to Romania's case, we can state that in the regions with higher urbanization level (inside the Carpathians ring and Bucharest) we can expect social structures in which the social categories from the basis of the social hierarchy are narrower in size as the urbanization is accompanied by a diminution of the share of population employed in agriculture with lower productivities and incomes.

4.1.2. Regional disparities in the rural population's age structure

The population's age structure, in the entire Romanian rural area, after twenty years of transition, bears the imprint of the previously-described demographic phenomena and had the following characteristics in the year 2010: children up to 15 years of age accounted for 16.9%, the people with active age of 15–64 years accounted for 64.7%, while those over 65 years old 18.4%. This population structure reveals the advanced level of the rural population's *demographic ageing*.



Source: According to NIS, Tempo on-line database.

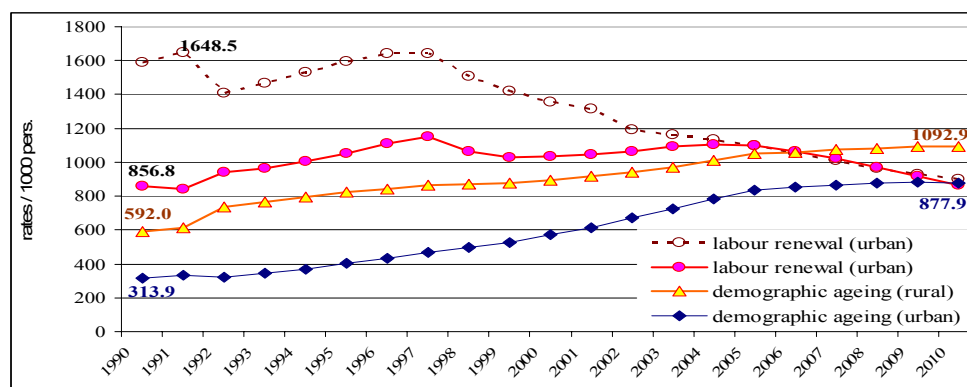
Figure 3. Demographic change rate by rural population's age groups (1990 = 100).

The rural population's structure evolution by age categories, in the post-socialist period, reveals a significant diminution (by 35.2%) in the number of the population aged 0–14 years, a 5.7% diminution of the population aged 15 – 64 years, while the elderly population (65 years and over) increased by 19.7% in 2010 compared to 1990 (Figure 3). This modification of the distribution by age categories is a consequence of the birth rate decrease in the rural areas that will have significant implications upon the human capital in the future, in which the degenerative processes (ageing, for instance) are under the risk of irremediable aggravation.

⁶ Bourguignon, F. (2004) – *The Effect of Economic Growth on Social Structures*, The World Bank, <http://elsa.berkeley.edu/~chad/bourguignon.pdf>, p. 29.

Across regions, the trends are similar to those at national level in transition, with certain inter-regional differentiations of the age groups at the extreme distribution segments (Annex 2). Thus, the importance of young persons (aged under 15 years) in the rural population's age structure continuously diminished in all regions. While in 1990 the variation range of the regional indices was 20–27% in total population, in the year 2010, the variation range of regional values was down by 5 percent, the share of young people in total rural population ranging from 15 to 19%; the highest values were found in the region North-East, and the lowest values were found in the regions West, South-West, South and Bucharest. In this case, the region Bucharest has also a particular evolution, as before 2007 the children's importance in the rural population's age structure in the region significantly diminished, to reach a minimum of 14.7%, while the trend was reversed afterwards, Bucharest being the only region where the demographic revigoration premises appear in the rural area.

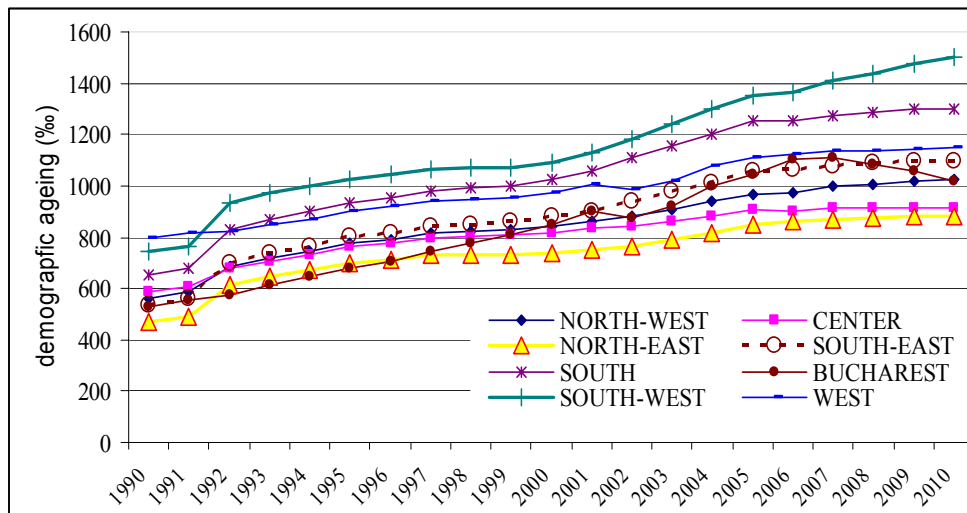
The share of elderly people (aged 65 years and over) in the rural population's structure by regions increased by 2 – 6 percent after 1990, the rural areas where this phenomenon was mostly significant being found in the regions from the southern half of the country (except for Bucharest) for which the specific weight of the elderly population in total population increased by over 5% in 2010 compared to 1990 (Annex 2). It is in these regions that the share of elderly people is actually higher than in the other rural areas (South-West – 22.2%; South – 20.1%; South-East – 18.5%). In the year 2010, the regions with the lower incidence of elderly people in total rural population were Bucharest (15.2%) and Center (16.3%). The elderly population's growth rate, at the level of all regions, has been attenuated since 2004–2005 and in the case of the regions Bucharest and West, even a reversal of the evolution direction of this indicator was noticed, with positive implications upon the rural demographic ageing ratios.



Source: NIS, Tempo on-line database.

Figure 4. Evolution of demographic ageing and labour renewal indices – comparison by residence areas.

While in the urban area *the demographic ageing index*⁷ was 877.9‰ in 2010, this index was much higher in the rural area (1092.9‰). The transition period in the rural area, but not only, was characterized by the increase of the elderly population's pressure upon the young population, the ageing index almost doubling in the period 1990–2010 from 592‰ to 1092.9‰ (Figure 4) and reflecting the size of risk given by the compression of potential inflows in the population of working age doubled by the intensification of outflows from the population of working age.



Source: NIS, Tempo on-line database.

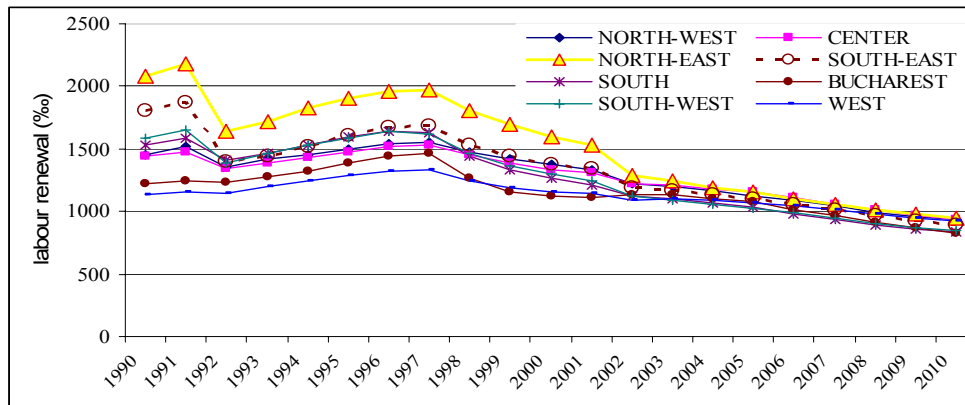
Figure 5. Regional trends in the demographic ageing index evolution.

Across regions, there are significant demographic ageing disparities, the regions South-West and South being subject to the highest risks with regard to the future demographic structure. While in the first years of transition, the regional demographic dependency ratios were less than unit for all the development regions, the demographic processes that marked their evolution in transition (birth rate decrease, increasing share of elderly population) deteriorated the simple social reproduction perspectives at regional level; in 2010, only in two of the eight regions (i.e. North-East and Center), the number of persons aged 0 – 14 years exceeded the number of people aged 65 years and over (Figure 5).

While the *labour renewal* did not pose a risk to the rural area for a large period of the transition, the labour renewal index (15–29/30–44 years) reaching values higher than one until 2008, after this moment the effects of the negative demographic processes could be felt, and under the background of the already

⁷ *Demographic ageing index* – number of persons aged 65 years and over in 1000 persons aged 0–14 years.

decreased birth rate and of the increasing population ageing trend, this ratio became less than one with consequences upon the available labour force diminution (Figure 6). By investigating this phenomenon evolution in time after 1989, one can notice the immanent risk of reversing the ratio between the active population groups at the beginning of their active life (15–29 years) and those at the maturity of their active life (30–44 years). The effect of this phenomenon is the increase of the active population's average age, followed in time by a diminution of its total volume, as far as the present mature active population shifts to the category of active population at the end of its career and then withdraws from activity, their place being no longer replaced by similarly numerous labour contingents at the beginning of their active life.



Source: NIS, Tempo on-line database.

Figure 6. Regional labour renewal index evolutions.

In early transition, the rural areas of all development regions had labour renewal indices larger than one, with the young labour force having a considerable importance in the active population's age structure in the rural areas from the eastern half of the country. However, there was a general descendent trend of the labour renewal index in all regions, so that the active population's age structures throughout the entire rural area got homogenized in time, the inter-regional disparities in the young active population to mature active population ratio being resorbed in the transition period under the impact of the labour force territorial mobility.

4.1.3. Territorial disparities in the population's educational structure

The education and qualification level has an extremely important role in the size of risk that determines the failure in people's professional career. The lower the household members' educational level, the higher the poverty risk under the background of low incomes generated by the lack of education, independently of other characteristics of the household. Education represents the only opportunity of the children from these families to surmount the poor people status in the future.

School attendance is largely conditioned by the family support: the children coming from poor families have a low education level, due to the significantly higher school non-attendance risk, and hence their successful education opportunities are significantly lower. Most children who abandon school or who do not get enrolled to school come from poor families with social problems.

The erosion of social support systems made the family support rise very much in importance for school attendance by children in the largest part of the transition period. This situation has main implications in two directions:

– The alarming increase of school non-attendance/abandonment at the compulsory elementary schooling level due to the absence of basic material conditions (food, clothes, school stationery, transport possibilities); this phenomenon had an unprecedented development in the rural area, where the share of children aged 7–14 years who were not enrolled in the educational system increased by almost four times in the period 2000–2007.

– The reverse dependency effect manifested by the severe impact upon the family budget, resulting in the dramatic constraint of other expenditure items.

The low school attendance in the poor rural areas is also caused, among other things, by the use of children as labour force on households or as daily workers in order to cover the family income deficit.

Table 2
Educational indices of the urban and rural population

Indicator School year	Rural			Urban		
	1999/ 2000	2001/ 2002	2005/ 2006	1999/ 2000	2001/ 2002	2005/ 2006
Literacy rate of the adult population (%)	94.7	95.5	95.7	99.0	98.9	99.0
Gross school enrollment rate in all education levels (%)	44.6	45.7	44.5	80.3	86.2	96.37
Gross school enrollment rate in the primary and secondary education (%)	96.4	94.7	96.6	97.1	101.0	106.6
Gross school enrollment rate in the second high-school cycle (%)	14.4	16.4	17.6	106.9	115.5	119.2
Gross school enrollment rate in higher education (%)	0.2	8.7	9.1	48.5	87.5	89.8
Share of adult population without secondary and higher education	38.4*	30.5	–	12.5*	9.6	–
Children aged 7–14 years not enrolled in the education system (%)	3.6	4.8	13.5	2.9	1.4	3.9

* 1992

Source: The United Nations Development Program – *National Human Development Report – Romania, 2001 – 2002, 2003–2005, 2007*, http://hdr.undp.org/xmlsearch/reportSearch?y=* &c=n%3ARomania&t=* &lang=en&k= &orderby=year.

Poverty also impacts the quality of the educational act; in the rural area, the use of substitute teachers and the lack of adequate teaching facilities adversely impact the quality of the educational process. Consequently, these children have lower opportunities to have access to higher education. The lack of education and/or of a profession makes it difficult for these children to find a job and this will represent a true poverty source in the future. The opportunities on the labour market of those who give up the post-secondary education are extremely low. Their mobility is minimum, and they are very likely to occupy a marginal position on the labour market in the future, which places them in a highly vulnerable economic situation.⁸ The rural population's current educational structure, as revealed by the statistical data below, reveals an excessive polarization of the rural population in the poorly educated segments (with a schooling period shorter than twelve grades and with a vocational training that is inferior to the apprenticeship, vocational schools in most cases).

Box 1

At what age do children begin to get involved in the household activities?

In % of valid answers

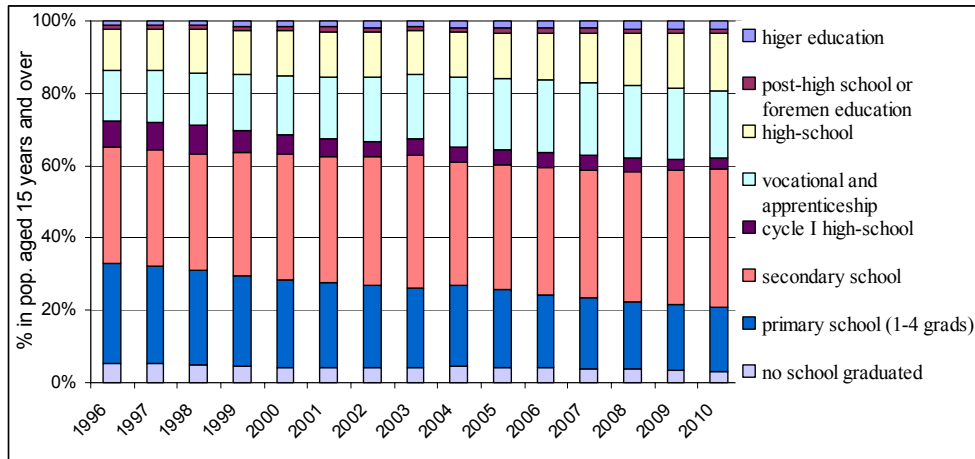
Under 5 years	2.41
5-7 years	25.49
8-10 years	39.61
11-15 years	29.32
15-18 years	2.90
over 18 years	0.27

Source: Processing of data from the Rural EuroBarometer 2002, Open Society Foundation, <http://www.soros.org/>

The share of rural population who graduated education forms inferior to high-school was 80.8% in 2010, only by six percent lower than in 1996 (Figure 7). It seems that the rural population finds it difficult to establish ascendent educational trajectories that could enable it to adjust to the new realities on the labour market, where the employers require technical and technological abilities with increased specialization level.

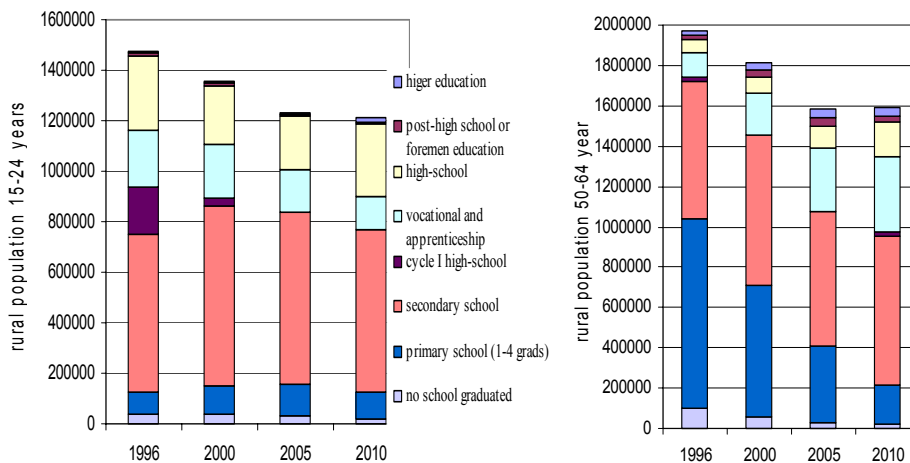
A mostly critical situation is the fact that it is the young people who are affected by educational immobilism, who are the basis of the future rural economic development, who not only diminish in number, but also have an increasingly lower interest in education.

⁸ Tudor, M. (2004) *Dinamica și implicațiile sărăciei rurale*, în revista *Economie Agrară și Dezvoltare Rurală*, anul 1, nr. 1-2, 2004, Editura Terra Nostra, Iași, p. 56.



Source: NIS, Tempo on-line database.

Figure 7. Changes in the educational structure of the rural population aged 15 years and over, 1996–2010.



Source: NIS, Tempo on-line database.

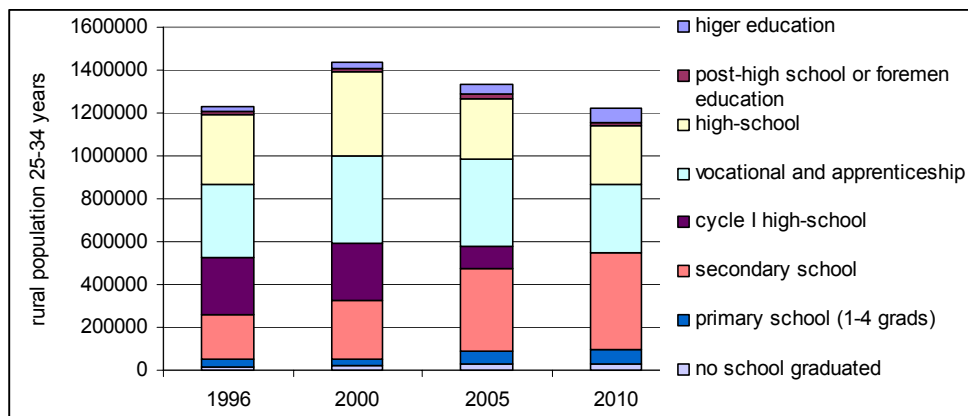
Figure 8. Educational structure of young and old rural population.

In the year 2005, the share of young people aged 15 – 25 years who had graduated medium and higher education forms represented only 32% compared to 1996, when, in the same age group, the share of graduates from vocational education and over this level accounted for 49% of the population from this age group. The relative improvement of young people's education in the period 2005–2010 does not contradict the meaning of previous statements, as the increase of the medium and higher graduation rate sums up only 4.5 %, yet in absolute terms, the

number of young people who graduated at least a medium education level decreased in the rural area, from 721 thousand in 1996, to 446 thousand in 2010.

From the educational structure point of view, the generation aged 15–24 years is more similar to that group of rural population who is at the end of its active life (50–64 years) out of which 37.4% graduated medium education and other 2.6% graduated higher education units.

The early withdrawal of the rural population from the educational system is not characteristic only for the last part of transition and does not affect only the youngest members of the rural communities, as it was also specific for the population segments that in 1989 were at the beginning of their education-training period.



Source: NIS, Tempo on-line database.

Figure 9. Educational evolution of rural population aged 25–34 years.

Probably under the background of successive economic decline waves, their families no longer had sufficient financial resources to support the access to education of the 1975–1985 generation. However, the educational structure of the rural population aged 25–34 years is by far superior to that of the younger generation, which is expected to replace it on the labour market at a given moment. Thus, the share of graduates from certain medium level education forms at least in the case of the age group 25–34 years reached 55.3% in 2010, by 22 percent lower than in 1996.

In the territory, the comparative analysis of the rural population's structure by the training of individuals reveals noticeable disparities across the development regions; these disparities are mainly generated by the nature of economic and social opportunities the populations from these regions have benefited from. Thus, for most regions outside the Carpathians ring (North-East, South-East, South-West)

more than 20% of the population⁹ included in the Rural EuroBarometer 2005 sample either did not graduate any form of education, or graduated only primary school.

The data from the Rural EuroBarometer 2005 signal out, for three of the eight development regions (North-East, South-East and North-West), the existence of significant deficits in the education of those included in the sample, as more than 50% of respondents and their partners declared that the last educational form they had graduated corresponded to a low education level. The inter-regional comparisons based on the 2005 data reveal the existence of certain regional rural areas whose human capitals have a better educational endowment. In these regions, the share of higher education graduates exceeds 5%, while the incidence of a low education level in the population included in sample is lower than 40% (regions Center, West, South).

Table 3

The rural population's structure according to the last educational form school graduated in the year 2005

Region	No school	Grades 1-4	Grades 5-8	Vocational / apprentice school	High-school first cycle Grades 9-10	High-school Grades 9-12	Post-high-school foremen education	Short-time univ.	Long-term univ.	Post-univ
North-East	2.8	20.4	33.4	18.4	10.6	9.7	1.9	0.6	1.6	0.3
South-East	1.1	20.2	31.5	18.0	10.6	14.1	3.3	0.2	1.1	0.0
South	2.7	13.6	16.9	21.6	9.6	23.7	4.1	2.7	4.1	0.9
South-West	4.4	18.2	22.5	14.4	8.3	23.4	3.1	2.2	3.1	0.4
West	0.6	13.5	25.4	21.6	7.2	21.6	4.4	0.9	4.7	0.0
North-West	3.0	13.9	34.1	18.5	9.5	14.5	3.0	1.0	2.2	0.4
Center	1.0	7.1	19.5	22.8	9.0	22.3	10.9	3.1	3.8	0.5
Bucharest	1.3	16.9	22.1	24.7	10.4	18.2	2.6	0.0	3.9	0.0

Source: Processing of data from the Rural EuroBarometer 2005 database – Open Society Foundation (2005), <http://www.soros.org/>.

According to the empirical data of the World Bank, there is a strong connection between the development level, on one hand, and the educational and training level, on the other hand. However, there is a time gap between the moment when the economic growth is initiated through investments in non-agricultural sectors that demand qualified labour and the moment when the population acquires the professional skills demanded by the new economy, caused by the time needed to accumulate the necessary technical skills. Hence, we can expect an improvement of the social structures in the zones where investment processes are in place.

⁹ The information on the educational level refers to the respondents and their partners

5. CONCLUSIONS

The starting point for the construction and implementation of a development strategy for the knowledge-based economy in the Romanian rural area, so that to reach the EU 2010 Strategy objective (an intelligent, sustainable and inclusive growth) should be represented by an evaluation of the current situation and trends in the evolution of the main demo-socio-economic processes that characterize this residence area and which represent the fundamental pillars of the new development model construction. In this approach, the human capital is considered one of the determinants with the highest relevance in the implementation of EU 2020 Strategy, as the characteristics of the human capital condition the concrete measures that can be implemented in the knowledge-based economy and the successful strategy implementation also depends on these characteristics.

The current characteristics of the rural human capital are the direct consequence of the action of demo-social phenomena and processes that took place in the post-1989 period. Furthermore, the territorial disparities in the evolution of these processes highlight the need to adapt the strategic visions to the regional contexts. The analysis of the current stage and evolutions of demography (population number, rurality level, age structure) and of rural human capital education, by regions, represents, together with the analysis of labour force characteristics, the main elements of the ex-ante analysis for the construction and implementation of a knowledge-based strategy. The main conclusions of the evolution analysis of the main characteristics defining the present rural human capital are the following:

1. From the *rurality level* perspective, two demographic patterns can be noticed in which the Romanian regions can be classified; these models result from the different territorial development stages of Romania:

- lower rurality level, specific to the regions West, Center and Bucharest
- higher rurality level in the regions outside the Carpathians ring (North East, South, South-West, South-East, North-West).

The differences in the rurality level are transposed into regional disparities in the occupational structures, the urbanization level being in direct correlation with the non-agricultural employment.

2. The analysis of the populations' *age structure* reveals two aspects:

- the future social structures have the tendency to get worse due to the *population's strong demographic ageing* and to the forecasted population's regeneration incapacity. In the year 2010, the number of the population aged 0–14 years exceeded the number of the population aged 65 and over only in two of the eight regions (North-East and Center). The demographic ageing significantly impacts the populations' innovating capacity in a given territory, as it is well-known that old age is associated with a relative conservatism, a reluctant behaviour to novelty, to innovation, a lower learning and adoption capacity of the new techniques and technologies;

• in the twenty years that passed from the 1989 revolution, under the background of birth rate decline, we experienced the reversal of ratio between the groups of active population at the beginning of their active age (15–29 years) and those at the maturity of their active life (30–44 years). Consequently, the “capacity” of the labour force from the rural areas to reproduce over generations is under continuous deterioration, with significant implications upon the rural area capacity to supply new labour force that is innovating, flexible and easily adaptive to the knowledge-based economy requirements, and upon the pension budget possibilities to be financially sustainable. The previously described situation is characteristic to the rural areas in all the Romanian development regions.

3. *The educational level* of the rural human capital is quite low and it affects the economically active population’s capacity to get successfully integrated on a highly dynamic labour market that requires an increasingly high training and a high occupational mobility that can be provided only by a longer schooling period that makes it possible for individuals to accumulate a wide range of knowledge and to enlarge their knowledge through specialization. In general, in the regions where great economic (industrial or services) units operated in the past and absorbed a significant amount of labour, the share of rural population with medium or higher education level is higher, and the educational pattern of parents is also followed by their children, at least in part¹⁰. An aggravating circumstance in this analytical context is the decrease of the interest in education of the young population contingents (15–24 years) in which the share of medium or higher education graduates decreased from 49% in 1996 to 36.5% in 2010.

In conclusion, the demo-educational characteristics of the rural human capital decisively condition the type of strategic measures that can be implemented for the development of knowledge-based economy.

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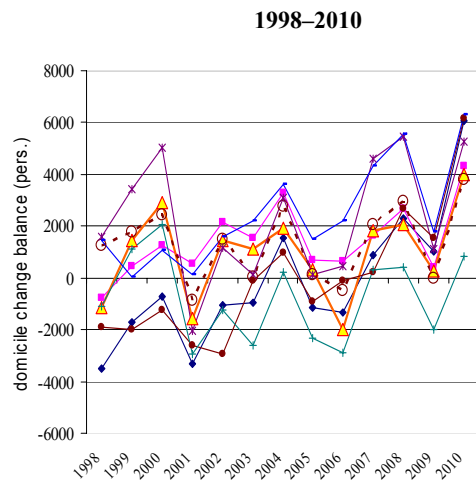
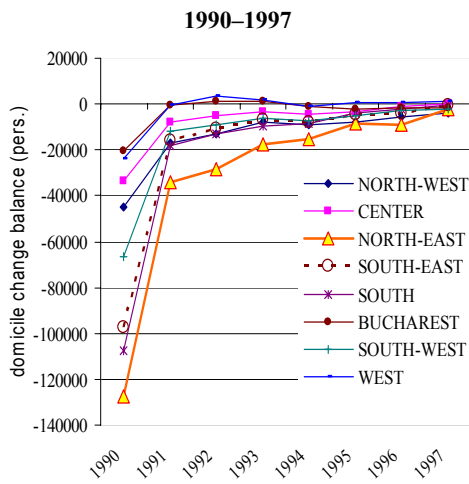
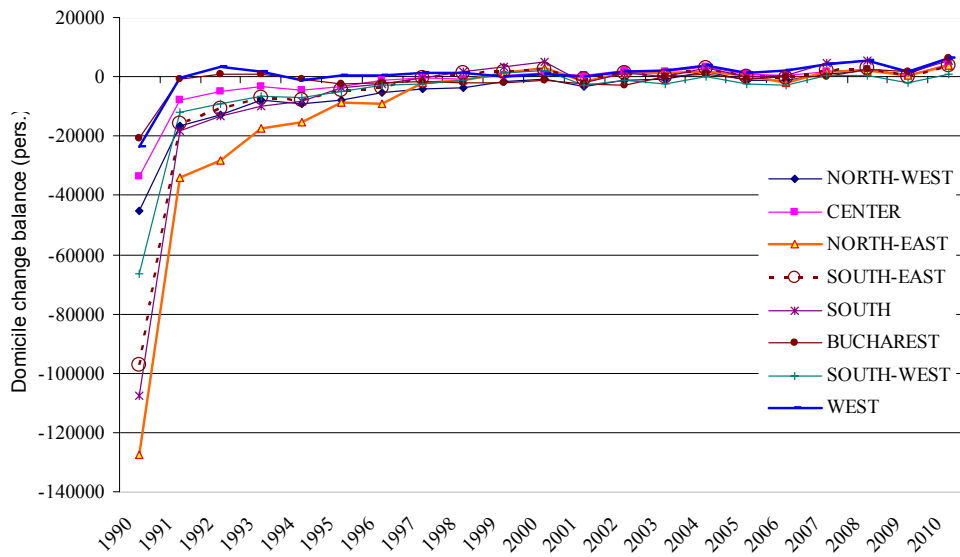
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¹⁰ The educational level of respondents from the Rural EuroBarometer 2005 sample is positively correlated with the parents’ educational level (the correlation coefficient value between the respondent’s educational level and his/her mother’s education is 0.457, while in father’s case, this is 0.498).

Annex 1

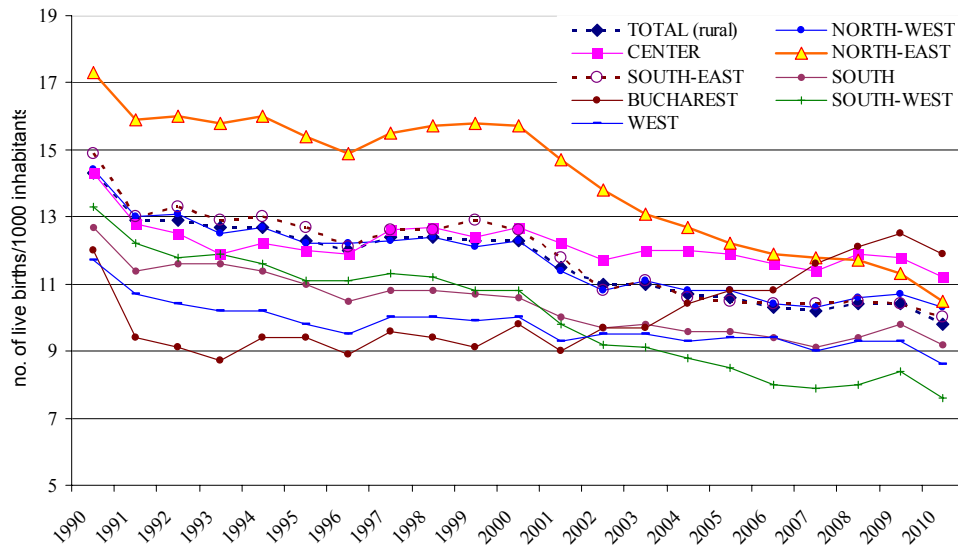
Two decades in the evolution of rural demographic phenomena, by regions

1.1. Domicile change balance, through rural population's emigration included, by development regions and main stages (1990–1997, post 1998)



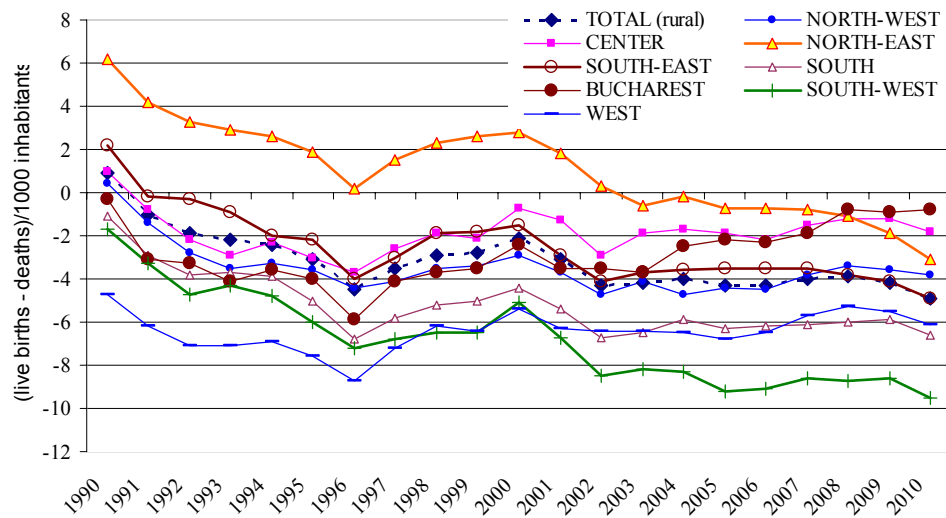
Source: NIS, Tempo on-line database.

1.2. Rural birth rate, regional evolutions 1990–2010



Source: NIS, Tempo on-line database.

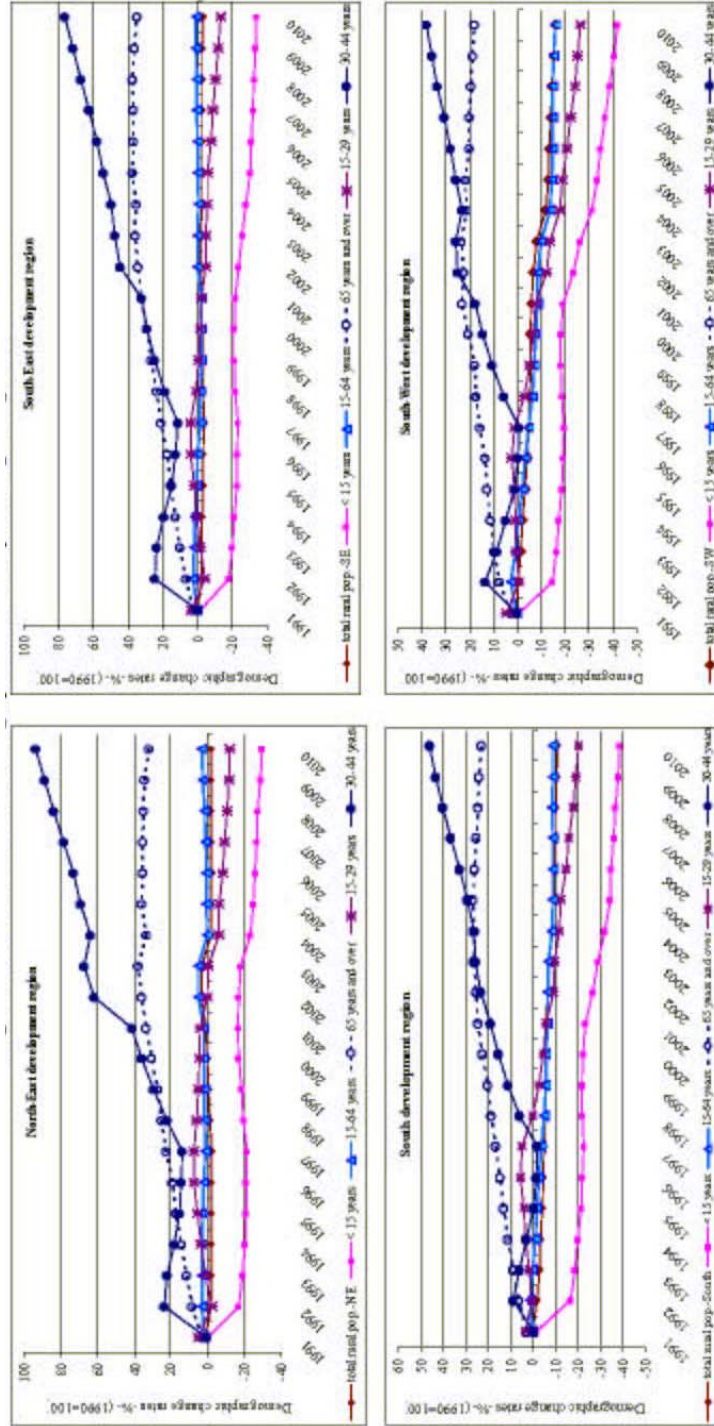
1.3. Regional natural population's increase, regional disparities in the last two decades



Source: NIS, Tempo on-line database.

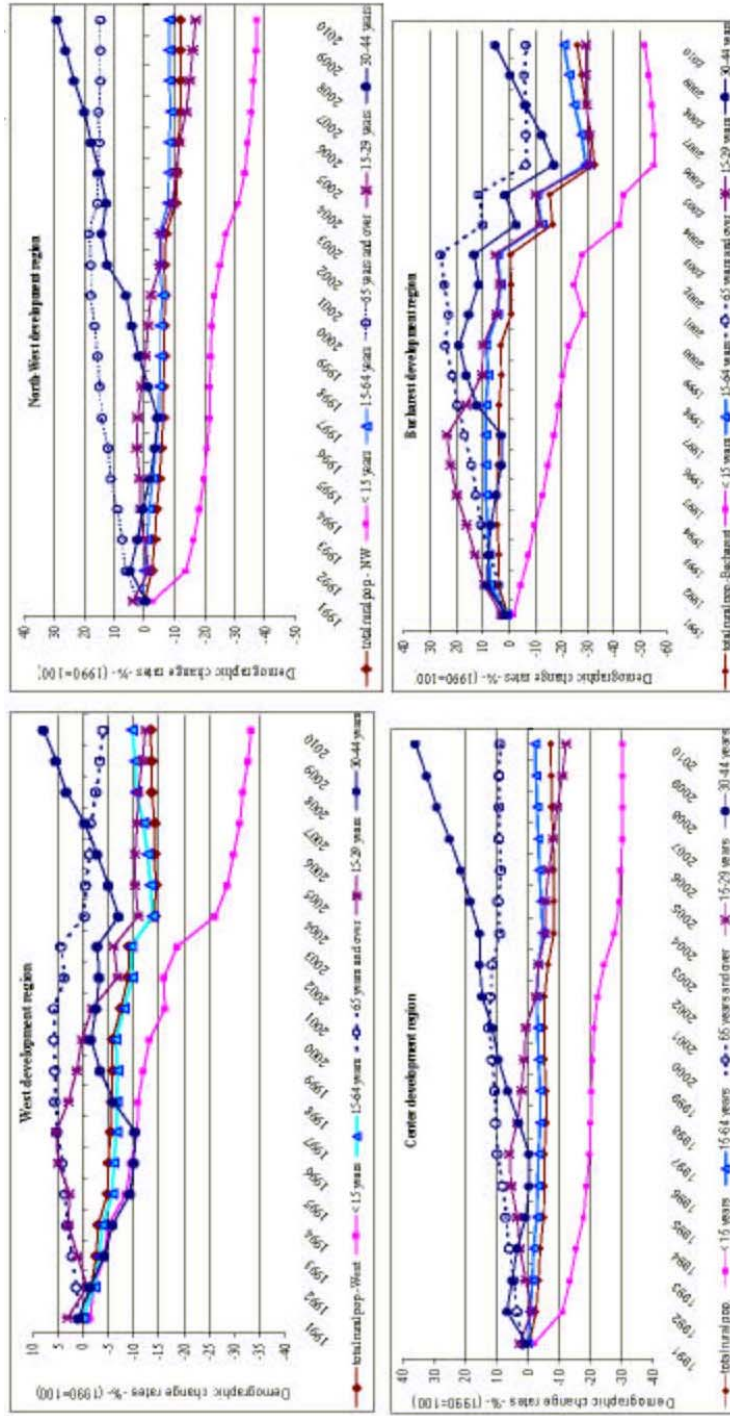
Annex 2

Regional modifications of the demographic structure by main age categories



Source: NIS, Tempo on-line database.

Annex 2 (continued)



Source: NIS, Tempo on-line database.