

## “YESTERDAY’S” NATALITY – “TOMORROW’S” WORKFORCE

Roxana Mihaela Pivodă<sup>1</sup>  
Camelia Boarcăș<sup>2</sup>

*ABSTRACT: It is not surprising that the present world crisis has strongly affected Romania - in many different sectors of the economic, political, social, financial life, etc. As an answer to the economic crisis, which we are all affected by, different strategies, reforms and models of economic growth are worked out, yet no one talks about what is maybe the most important aspect - that of the human stock.*

*The possible explanations behind the economic crisis are multiple and very much discussed, but what is not much taken into consideration is the drastic decrease of the population and its significant tendency to grow old. The natality decrease, in time, leads to the reduction of the consumptive society, to the supply diminution, and as a consequence, we can state that the degradation of the demographic processes, as a matter of fact, represents the basis of the economic crisis.*

*Key words: human stock, the pyramid of ages, the demographic transition*

*JEL codes: J00*

### **Introduction**

The evolution of the demographic processes simultaneously represents both a cause and an effect of the modification in time and space of the number and structure of the population. If the rapid growth of the number of population represented a characteristic of the 20th century, the ageing process of the population became a defining element of the 21st century, this being mainly due to a brutal fertility decline, with various implications for both the medium and long term.

From 1990 until 2008 our country's population decreased with 1.7 million people and continues to decrease constantly. If by the end of 2008, out of 21.5 million inhabitants, 10.5 are adults, 5 million – youngsters and children and 6 million are elderly people. In 50 years' time, the demographic picture will look entirely different: pensioners will represent over half of the country's population; the number of adults and children will decrease; the pyramid of ages will have a significant narrower base.

The contemporary tendencies regarding the multiple evolutions of the demographic phenomena and processes illustrate the importance of the population problem analysis in particular, and of the demography in general.

Demography gets superior significance, delineating under theoretical aspect the general or partial fluctuations, in time and space, of the demographic phenomena, and under practical aspect a statistic visualisation of a population in order to construct a sound basis for demographic policy decisions.

The demographic factor represents the general background of the dimension of the workforce. The workforce has as a general background the *population* that is the number of persons apt to work and their capacity to do necessary jobs in the society. Starting from the total population of a country, one can get to the workforce.

---

<sup>1</sup> “Spiru Haret” University Constanța, e-mail: roxana\_pivoda@yahoo.com

<sup>2</sup> “Spiru Haret” University Constanța, e-mail: cameliaboarcas@yahoo.com

In fact, the global workforce is identical to that of the active population ready to be employed under the existing working conditions and with the salary offered by the market. Thus, the workforce is a variable that depends on the demographic phenomena and processes, the economic status, the amplitude and the structures of the social-economic activities.

*Birth – demographic phenomenon*, is the event of the expelling of a conception product after a period of pregnancy longer than 28 weeks. The number of births does not necessarily coincide with the number of liveborn babies, because, on the one hand, there is the possibility of multiple births, and on the other hand, there is the risk of babies being stillborn.

*Nativity – demographic phenomenon*, refers to the totality of live born babies in a human population, determined by characteristics in time and space. The result of birth is the born individual or the born individuals. The numbers of babies who are born are registered and not the number of births, in other words, the result of the act of birth is important.

### **Literature review**

#### **Short analysis of the natality during the period 1930-2006**

Referring to birth in particular, and to natality in general, the great demographer Vladimir Trebici said that, although “apparently an elementary biologic event, the birth, is placed under the sign of a great number of social, economic, cultural factors, the frequency of the births in a national population reflecting, ultimately, complex cultural models in which social institutions, attitudes, values, the society in its entirety, are implicated.”(Trebici V., 1979)

The measures of pro-nativity policy in our country regarded, on the one hand, the forbiddance of terminations, and on the other hand, financial support offered to mothers and to families with children. Abortion was considered a criminal offence and it was registered in the Penal Code in the year 1948, being then authorised by the Decree 456/1955, but only under special circumstances, i.e. if it was performed by a doctor and for certain categories classified as being of high risk. In 1956 the first form of help for families with children was introduced and it was called *state allowance for children*.

The Decree 463/1957 legalised what was called at the time as abortion on request. According to the decree provisions, a pregnant woman could do the termination of a normal pregnancy upon request. The procedure by which this was done had to be carried out by state medical institutions. The experience of the years 1957 – 1966 highlighted the fact that, by legalising abortion, the numbers of such increased and consequently negative demographic effects were ensued. Due to such a fact Decree 770/1966 was issued thereby altering the provisions of the Penal Code regarding abortion. Thus, in the article 482, a criminal offence of abortion was defined as being the termination, by any means, of the course of pregnancy carried out for or on behalf of the pregnant woman.

In the year 1985, the termination was allowed, albeit only on certain conditions. The 26<sup>th</sup> of December 1989 saw a new decree being introduced which abrogated both Decree 770/1966 and 441/1985, and also the articles concerning abortion.

Some of the effects of these legislative measures have strongly influenced the evolution of natality for that period.

During the period of the years 1930 – 1935 the levels exceeded 30 live born babies for 1,000 inhabitants, for later, around World War II, the pace of reproduction to decrease due to the dispersion of families which was caused by the changing of one’s lodgings, military concentration, mobilisation, because of the decrease of nuptials and of the psychological climate of fear and uncertainty. As a matter of fact, the exact natality values of that period are not known. After the war, the reproduction of the population begins again with increased intensity, natality increasing up to the value of 26.2 % in the year 1950. Then a period of decrease of the value follows, interrupted later by improvements of the index.

Table no. 1

**The natality rate in Romania between 1930-2006**

Year	The natality rate	Year	The natality rate	Year	The natality rate	Year	The natality rate
1930	34,1	1968	26,7	1981	17,0	1994	10,9
1938	29,5	1969	23,3	1982	15,3	1995	10,4
1940	26,0	1970	21,1	1983	14,3	1996	10,2
1950	26,2	1971	19,5	1984	15,5	1997	10,5
1955	25,6	1972	18,8	1985	15,8	1998	10,5
1960	19,1	1973	18,2	1986	16,5	1999	10,4
1961	17,5	1974	20,3	1987	16,7	2000	10,5
1962	16,2	1975	19,7	1988	16,5	2001	9,8
1963	15,7	1976	19,5	1989	16,0	2002	9,7
1964	15,2	1977	19,6	1990	13,6	2003	9,8
1965	14,6	1978	19,1	1991	11,9	2004	10,0
1966	14,3	1979	18,6	1992	11,4	2005	10,2
1967	27,4	1980	18,0	1993	11,0	2006	10,2

Source: <http://www.insse.ro>, Anuarul Statistic 2007

But beginning with 1957, under the conditions of free practice of surgical terminations, the decrease of natality is faster, so that in 1966 a value of 14.3 is recorded. That year, by Decree 770/1996, surgical abortion is forbidden. As a consequence of this coercive measure, in 1967 a sudden increase of the natality level registered, which came to the value of 27.4 %. During the next period, under the conditions of a pro-natal demographic policy and of maintaining the legislative measures mentioned earlier, an evolution of the phenomenon was noted, similar to that registered during the period 1957 – 1966, respectively a continuous decreasing tendency, but in a rather slower rhythm. These values remained fairly constant from 1966 to 1983. As a consequence of some new restrictive measures, after 1983 the level of the phenomenon witnesses a slight increasing tendency getting to values which easily exceed 16 births per 1,000 inhabitants in the year 1986, and in the period of 1986 – 1989 is maintained at relatively constant values. In 1990, following the abortion liberalisation and the family planning programme which was initiated by the Ministry of Health, the level of the natality rate was reduced to 13.6 %, getting to the value of 9.8 % in 2003.

**Research methodology**

**The analysis of the natality rate**

Under statistic aspect, the natality is measured with the help of the natality rate. This represents the report between the number of live born babies per 1,000 inhabitants.

$$NR = \frac{N}{P} \times 1000, \tag{1}$$

where,

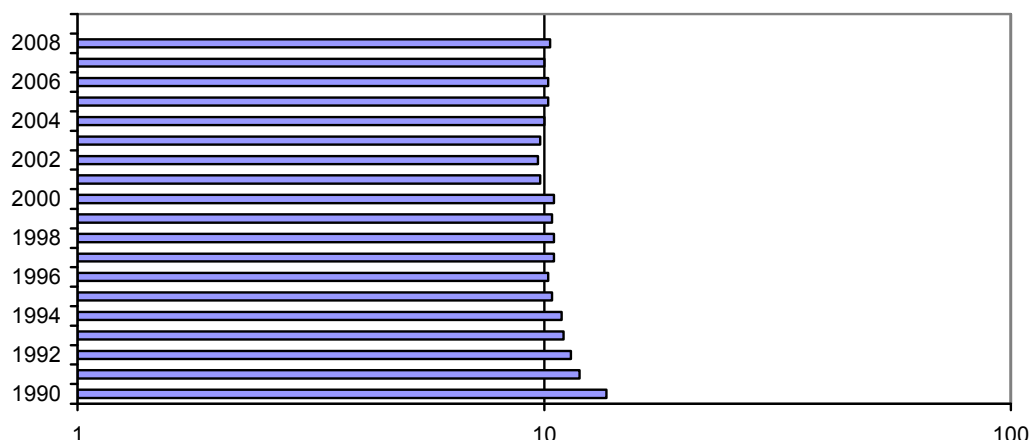
NR – represents the natality rate

N – represents the number of live born babies

P - represents the stable population of that period

Fig no. 1. represents the evolution of the natality rate in Romania for the period 1990 – 2008.

During the period 1990 – 2008, the natality rate in our country follows a descendent trend, from 13.7 % in 1990 to 10.3 % in 2008. During the intervals 1997 – 2000 and 2003 – 2006 the natality rate increased in comparison with the precedent intervals, and in the year 2008 this registered a slight readjustment again.



Source: <http://www.insse.ro>, POP202A

**Fig. no. 1 - The evolution of the natality rate in Romania between 1990 – 2008**

**The analysis of natality according to gender and the provenience environment**

After the fall of the communist regime, a spectacular reduction of the natality follows at the beginning of the 90's, and the latest years tendency seems to be that of steadiness at this very low level, an aspect confirmed by the statistical data presented in the table no. 2.

The figures of this table clearly emphasise a reduction of the number of births in the year 2008 compared with the year 1990, both in urban and rural environment. The data show that more significant differences were registered in the rural environment, the number of births decreased with 57,414, compared with 35,432 registered in the urban environment.

Table no. 2

**The natality number in Romania, according to gender and the provenience environment between 1990-2008**

Year	Total	Urban	Rural	Masculine sex	Urban	Rural	Feminine sex	Urban	Rural
1990	314746	156950	157796	161023	80398	80625	153723	76552	77171
1991	275275	135417	139858	141617	69696	71921	133658	65721	67937
1992	260393	124016	136377	133786	63689	70097	126607	60327	66280
1993	249994	117298	132696	128370	60458	67912	121624	56840	64784
1994	246736	114422	132314	127137	59040	68097	119599	55382	64217
1995	236640	109722	126918	121786	56543	65243	114854	53179	61675
1996	231348	108226	123122	118856	55690	63166	112492	52536	59956
1997	236891	110009	126882	122444	56963	65481	114447	53046	61401
1998	237297	110186	127111	121672	56654	65018	115625	53532	62093
1999	234600	108542	126058	120913	55932	64981	113687	52610	61077
2000	234521	108254	126267	120834	55937	64907	113687	52327	61360
2001	220368	102432	117936	113599	52753	60846	106769	49679	57090
2002	210529	98190	112339	108295	50533	57762	102234	47657	54577
2003	212459	100915	111544	109497	52074	57423	102962	48841	54121
2004	216261	111348	104913	111559	57428	54131	104702	53920	50782
2005	221020	117780	103240	113884	60654	53230	107136	57126	50010
2006	219483	119477	100006	112779	61499	51280	106704	57978	48726
2007	214728	116367	98361	110459	59929	50530	104269	56438	47831
2008	221900	121518	100382	114337	62780	51557	107563	58738	48825

Source: <http://www.insse.ro>, POP201A

It is also interesting to notice the fact that until 2003 the registered number of births was greater in the rural environment than in the urban one, but the situation has changed in favour of the urban environment, from 2004 to the present times.



**Fig. no. 2 - Evolution of birth by gender in Romania between 1990 – 2008**

As for the number of births according to gender, as it can be noticed in the fig. no. 2, it can be stated that, during the entire analysed period, the number of male births sex exceeds the number of female births - with smaller or greater differences; if in 1990 the proportion of male births was 51.1 % in 2008, the percentage rises to 51.5 %.

### The analysis of the fertility rate

The natality rate does not represent a sufficiently precise measurement of the intensity of the reproduction of the event called birth because the number of live born babies is reported, as we could see, not to the population exposed to the birth risk, but to the entire population. But, in the process of reproduction the entire population is not involved, only a part of it is, i.e. the females of fertile age.

Fertility is that demographic phenomenon which highlights the frequency of the production of the demographic event called birth concerning the population exposed to the risk of this demographic event, i.e. the females of fertile age. The limitation of the population, which takes into account only the female population of fertile age between 15- 49, brings about a greater precision to fertility measurement.

The difference between the natality and the fertility is very important, even though both refer to the same demographic phenomenon, constituted with the help of the same mass of events, meaning births.

While natality is more directly connected with the evolution of the population – the births at the level of the whole population is related to the deceased at the same level and give us the element of demographic dynamics; the fertility is connected with the increase of the population in a less direct way – it constitutes the phenomenon in itself related to the births, as specific events in the life of the population.

Under statistic report, fertility is measured with the help of the fertility rate. This indicator measures the frequency of the live born babies in comparison with the number of women of fertile age (15-49) during a predetermined period of time, usually a year.

It is calculated both for the entire female population of fertile age, and for every five years groups of age.

$$FR = \frac{N}{FP_{(15-49)}} \times 1000, \quad (2)$$

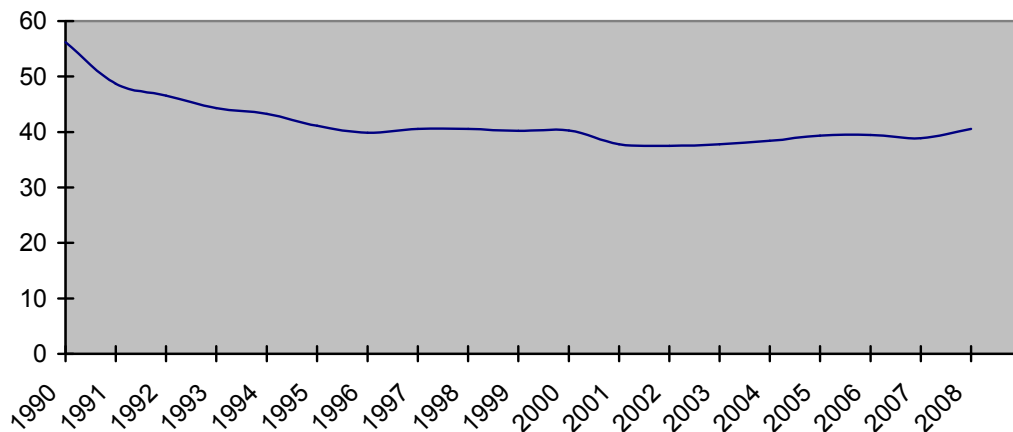
where,

FR – represents the fertility rate

N – represents the number of live born babies

FP<sub>(15-49)</sub> – represents the feminine population in the limits of age

During the period 1990-2008, the fertility rate in Romania had a decreasing general tendency getting to 40.6 % in 2008, compared with 56.2 % in 1990, as can be noted in fig. no. 3.



Source: <http://www.insse.ro>, POP203A

**Fig. no. 3 - The evolution of the fertility rate in Romania between 1990 – 2008**

During this interval of time, there have been some fluctuations; the fertility rate followed a descending path until 1996, when a number of 39.9 births per 1,000 fertile women is registered, and later a slight increase up to 40.3 % in 2000 is shown. For two years the fertility rate decreases to the value of 37.5 %, and after this period it increases to the year 2008, when 40.6 births per 1,000 fertile women is registered, except the year 2007 when it gets lower down again reaching the value of 38.9%.

Table no.3

**The evolution of the fertility rate by age group of mothers in Romania between 1990-2008**

Year	Maternal age						
	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
1990	51,5	145,2	97,8	46,6	19,4	5,5	0,4
1991	49,8	131,1	78,6	34,2	13,9	4	0,3
1992	47,4	127,1	77,1	31,1	12,9	3,7	0,2
1993	47	124,6	74,2	28,3	11,4	3,2	0,3
1994	45	119,3	75,8	28,7	11,3	3,2	0,2
1995	42	109,5	73,4	29,4	11	3,1	0,2
1996	40	102,2	72,4	30,1	10,9	2,9	0,2
1997	40,8	100,7	72,6	33,9	11,2	2,9	0,2
1998	40,3	96,3	77,6	36,3	11,7	2,8	0,2
1999	40	93,3	77,6	37,3	12,4	2,8	0,2
2000	39	90,2	78,5	38,7	13,4	3,1	0,2
2001	35,8	82,2	73,8	37,4	13,7	3	0,2
2002	32,7	81,5	77,6	38,3	15	3	0,2
2003	33,4	79,7	79	41,7	16,1	3,1	0,2
2004	33,8	77,2	80,7	46,2	17,6	3,4	0,2
2005	33,5	73,3	83,9	51,8	18,7	3,6	0,2
2006	35	69,8	82,7	54	19	3,5	0,2
2007	35,2	66,5	81	54,4	18,3	3,9	0,2
2008	38,5	67,9	83,1	57,4	20,5	4,4	0,2

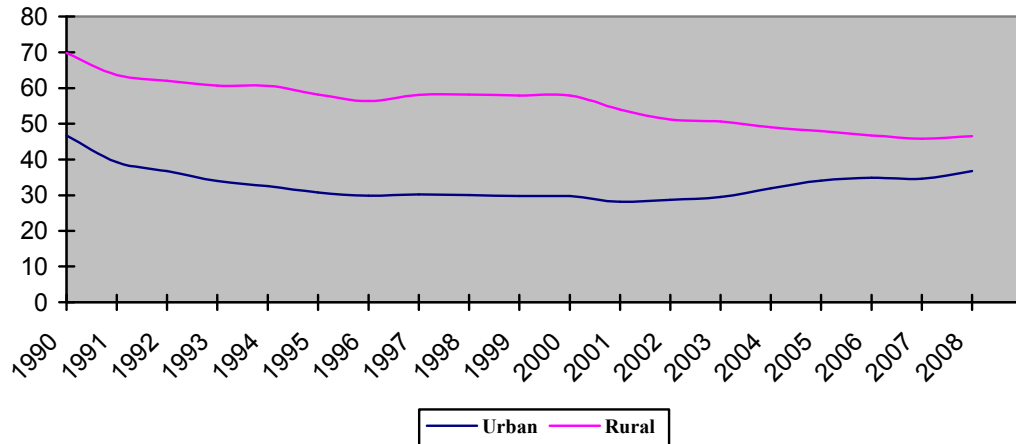
Source: <http://www.insse.ro>, POP203A

In order to produce a more complex image of the evolution of fertility in Romania, we have reproduced the values of the fertility rate to include the mothers' age groups for the years 1990-2008, in the table no. 3.

In the year 1990, in Romania the births for the age group 20-24 are predominant, while in 2008 maximum values are registered for the age group 25-29.

As it can be noticed, if in the first three age groups the general tendency is of decrease, the fourth age group registers an increase of the number of births to women between 30-34 years old.

As for the fertility rate according to the environment, in fig. no. 4 we can notice the general tendency of reduction of fertility, both in the urban and the rural environment.



Source: <http://www.insse.ro>, POP203A

**Fig. no. 4 - Evolution of the environment fertility rate of Romania between 1990 – 2008**

The fertility rate in the urban environment decreases in 2008 to 36.7 %, compared with 46.7%, as it was in 1990. The fertility rate in the rural environment is also smaller with 23.3 %.

We can remark the fact that in 1990 the difference between the rural and the urban environment is of 23.6 %, and in 2008 this difference gets to 9.8%. This aspect is due to the increase, starting with the year 2005, of the number of live born babies for 1,000 fertile women on the one hand, and on the other hand, to the decrease of the fertility rate in the rural environment. The lowest difference between the fertility rate in the rural environment in comparison to the urban one is registered in 2008 and it has the value of 9.8 live born babies for 1,000 fertile women.

### Conclusions

Romania has witnessed significant modifications of the population structure during the past two or three decades. A part of these changes was due to both the demographic transition period, and also to the political decisions of the communist period that strongly influenced the evolution of the demographic phenomena, especially natality.

During the 20th century, except for the periods of the two World Wars and the 1990's, the population of the country was in continuous growth; a growth naturally determined before 1967 and artificially maintained by an aggressive pro-natal policy between 1967 - 1989.

A short forecast of the demographic indicators underlines a clear tendency towards a decreasing of the population, determined by the deterioration of the structures of the three components of the dynamics of the population: natality, mortality and emigration.

The transformations that took place after 1989 in the political system, in economy, and in social life have produced changes in the demographic behaviour of the population. Starting with the

year 1990, the population of the country has been reduced year after year, in an average annual cycle of 0.15 % (table no.2).

The age structure of Romania's population is seriously unbalanced, having very numerous generations in the period 1967-1989, and generations with a little over 200,000 live born babies in the last 10 years (table no. 2). The social and economic costs of these imbalances of the population structure have already been paid and will be paid for by Romania for many decades from now on. This structure reflects a slow, but continuous process of demographic ageing, especially determined by the decrease of natality, which contributed to the reduction of the young population, of 0-14 (both in number and as percentage in the total population – fig. no. 1 and table no. 2) and the increase of the elderly population - those of 65 years of age and over.

A direct consequence of the slow emphasis of the process of demographic ageing, causes the appearance of a new pressure factor in society: the report between the number of individuals who enter the working market and contributes to the budget and to the social and health insurances funds, and the number of elderly people who are the beneficiaries of the pension and health funds, a report that continues to show a decrease, thereby producing a state of disequilibrium.

The negative effects of the ageing process over the course of the economic and social life, and of the future demographic evolutions as well, are visible but will be emphasized in time, determining perturbations at the level of the school population, of the fertile one, of the mature population apt to work and that of the elderly population (made up of pensioners, beneficiaries of the health and social assistance services).

The potential for improvement of the economic and social growth will continue to be affected by the narrowing of the population segment of working age and the continuous increase of the elderly population. The next years represent the last part of the window of demographic opportunities before a re-birth of a rapid process of demographic ageing. Being aware of these perspectives, the various legal bodies concerned with such matters will have to intensify their efforts to increase the working population.

The changes that took place in the dynamics of the population are the direct result of the tendencies registered at the level of the demographic phenomena that determine the number and the structure of the population: the emigration rate, the mortality rate and the natality rate.

The natality registered in the period 1990-2008 a descendent trend, from 13.7 % in 1990 to 10.3 % in 2008 (fig. no. 1). A significant reduction of natality after 1990 was expected, due to the access to the means of familial planning and to the possibility to legally terminate the pregnancy. The new economic and social realities have also contributed to the descendent evolution of natality. Low standard of living, unemployment, uncertainty, in addition to stress are specific factors of the transition period.

The decrease of natality or holding it at a low level for a short period of time contributes to the deterioration of the age structure of the population. In other words, it is not that the decrease as such of the number of population is the most worrying evolution, but the fact that this change is associated with a continuous degradation of the structure on ages.

The population of the third age, in continuous numeric growth, is a vulnerable social category, with specific problems in comparison with the other social segments. The assurance of the necessities of the elderly population for a decent living, covers a large scale of concerns, not only in economic plan, but also social and psycho-social. In other words, there is a serious danger of a bad demographic disequilibrium of the country, which determines serious economic and social disequilibrium in the working force market, in the pension system, of health services, of education, in the general system of social assistance, in the system of budgetary revenues and expenses, etc.

Determining factor for the definition and structure of a viable strategy for a durable development of the country, the population has to remain the central element over which to be concentrated the whole attention both of the decision-makers, but also of the entire Romanian society. In this respect, an energetic intervention is necessary, the only alternative of which can be



taken into consideration, not in order to stop the decrease of the population, in itself a difficult objective, perhaps even impossible to accomplish either on short and on medium term, but to diminish the degradation level of its future structures.

### **References**

1. Asandului, L., 2007. Elemente de demografie, Editura Universității “Alexandru Ioan Cuza”, Iași
2. Ghețău, V., 2007. Declinul demografic și viitorul populației României, Editura Alpha MDN, Buzău
3. Rotariu, T., 2003. Demografie și sociologia populației – Fenomene demografice, Editura Polirom, București
4. Rotariu, T., 2009. Demografie și sociologia populației – Structuri și procese demografice, Editura Polirom, București
5. Trebici, V., 1979. Demografie, Editura Științifică și Enciclopedică, București
6. Voineagu, V., Îmbătrânirea demografică, între realitate și îngrijorare, [www.unfpa.ro](http://www.unfpa.ro), accessed on Sep.2009
7. \*\*\* [www.insse.ro](http://www.insse.ro), Anuarul Statistic 2007, accessed on aug. 2009
8. \*\*\* [www.insse.ro](http://www.insse.ro), POP201A, accessed on 28 aug.2009
9. \*\*\* [www.insse.ro](http://www.insse.ro), POP202A, accessed on 28 aug.2009
10. \*\*\* [www.insse.ro](http://www.insse.ro), POP203A, accessed on 28 aug.2009