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Demographic ageing appeared in the modern society and designates an important increase in the elderly population segment in the total of the senior population and has implications for all sections of the society. The main cause of this phenomenon is transition from the traditional system of population's reproduction, with high birth rates, to modern regime, with both low birth rates and mortality. On long term, these new demographic tendencies will affect both the educational system, in the sense of reducing the number of pupils and students, as well as the expansion of the demand for health services and social protection.

Keywords: ageing population, natality, demographic tendencies, life expectancy.

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Demographic ageing appeared in the modern society and designates an important increase in the elderly population segment in the total of the senior population and has implications for all sections of the society. This process emerged in Western Europe in the 19th century in France to be more exact. Gradually, it spread in the majority of the developed countries from an economic and social point of view and continues even today.

The main cause of this phenomenon is the transition from the traditional system of population's reproduction, with high birth rates, to the modern regime, with both low birth rates and mortality. So fertility (the average number of born children per woman during the procreation period) is in a constant decrease, while life expectancy is increasing slowly but continuously. It is obvious the fact that under these circumstances, the main outcome of this development is the increasing weight of the elderly population. If the diminution of the fertility and natality narrows the base of the demographic pyramid, the extension of life expectancy "thickens" the top of the pyramid.[160]

Romania's population is in a constant decline, being affected by the phenomenon of ageing, a phenomenon which occurs in most EU member states. Since 1990 the population segment aged up to 14 years declined simultaneously with the expansion of the segment older than 65 years old. For the first time in the last 40 years, in the year of 2002 - 2003 the percentage of senior people (over 60 years old) reached the same value that was recorded by the 14 years old segment, approximately 18%. The number of births decreases continuously, thing which began to be reflected also in the decline of the population from category between 15 and 19 years old.

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[160] Razvan Dinica, Imbatranirea demografica in Romania contemporana prezent si perspective, Analele universitatii Dunarea de jos. "Demographic ageing in contemporary Romania, present and perspectives".

Table 1. Birth rate in Romania

Development macro regions and counties	Live – born on gender, macro regions, regions of development and counties																		
	Years																		
	Year 1990	Year 1991	Year 1992	Year 1993	Year 1994	Year 1995	Year 1996	Year 1997	Year 1998	Year 1999	Year 2000	Year 2001	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008
	UM: Number of persons																		
	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person	Number of person
Total	314746	275275	260393	249994	246736	236640	231348	236891	237297	234600	234521	220368	210529	212459	216261	221020	219483	214728	221900

Source: https://statistici.insse.ro/shop/

New social and economic realities have contributed to the decrease and then continuation of a low natality level. All civilized countries face an accelerated diminution of the birth rate and fertility, and Romania confronts itself in this area with the same problems as the developed countries from the West and the East.

The downturn of the standard of living, the unemployment, uncertainty and stress are factors specific to the transition period. Also, recent developments of the natality are not foreign from a different perception of the existence which comes to be characterized by individualism and the consumption society, representing at the same time, a component of a broader process of demographic and psycho-social change that is known as "the second demographic transition".[161]

From 2.2 children per woman in 1989, a value slightly higher than the one required for a simple replacement of generations, the total fertility index dropped to just 1.3 children per woman in 1995 and in the following years maintained itself with slight variations at this level. In other words, the fertility pattern of the last 10 years shows a decrease of approximately "one child per woman "in comparison with the last decades of the communist period.[162]

We believe that among the decline agents that influence the downturn of the birth rate are:

- the emergence of modern contraceptive;
- women's emancipation and the increasing of its participation at economic activities outside the household;
- the increase of the duration and of the level of education;
- the weakening of the cultural norms' influence;
- increasing social mobility;
- high cost in raising a child;

Table 2. Mortality rate in Romania

Development macro regions and counties	Mortality rate on environments, macro regions, regions of development and counties																		
	Years																		
	Year 1990	Year 1991	Year 1992	Year 1993	Year 1994	Year 1995	Year 1996	Year 1997	Year 1998	Year 1999	Year 2000	Year 2001	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008
	UM: Born dead per 1000 live born and dead																		
	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead	Born dead per 1000 live born and dead
Total	7	6,9	6,5	6,3	6,5	6,2	6,1	6,2	6,3	6,2	5,9	5,8	6,2	6	6	5,7	5,2	4,7	4,5

Source: https://statistici.insse.ro/shop/

As can be seen from the above chart, the mortality rate registered during 1990 - 2008 a downward trend. In the developed countries, measuring mortality rate represents an important

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[161] http://www.euractiv.ro/uniunea-europeana/articles|displayArticle/articleID_8263/Incotro.html
[162] http://www.euractiv.ro/uniunea-europeana/articles|displayArticle/articleID_8263/Incotro.html

indicator of the growth and care in hospitals and not only. Florence Nightingale[163] identified for the first time ever in 1860, the importance of measuring mortality rate. These rates are monitored in many clinics and are used especially to improve care services. In this context we can affirm that Romanian hospitals also registered evolutions of this indicator, but not as remarkable as in the developed countries.

Table 3. The natural population increase in Romania

The rate of natural population increase on environments, macro regions, regions of development and counties																			
Development macro regions and counties	Years																		
	Year 1990	Year 1991	Year 1992	Year 1993	Year 1994	Year 1995	Year 1996	Year 1997	Year 1998	Year 1999	Year 2000	Year 2001	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008
	UM: Natural increase per 1000 inhabitants																		
	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants	Natural increase per 1000 inhabitants
Total	3	1	-0,2	-0,6	-0,8	-1,6	-2,5	-1,9	-1,5	-1,4	-0,9	-1,8	-2,7	-2,5	-1,9	-1,9	-1,8	-1,7	-1,5

Source: https: //statistici.insse.ro/shop/

After analyzing the natality and mortality rate we can be observed that the natural population increase in Romania starting with 1991 registered negative results and generally keeping a diminution rhythm.

Throughout history, Romania has recorded among the greatest oscillations in respect to the birth rate and mortality. Hereby in 1869 Romania had 8.9 million inhabitants, in 1900 were 11.1 million people, in 1930 were 14.3 million living in Romania and in 1989 23.3 million citizens. In the matter of the birth rate there were 40 persons per a thousand inhabitants in 1920, while mortality registered exorbitant values of 20 per a thousand inhabitants. Children between the ages of 0 and 5 years old represented for quite some time, half from the deceases' total.[164]

Starting with the year of 1990, birth rate in Romania was overran by the mortality rate, the country's population descending the registered maximum of approximately 23,2 millions of persons to less than 21,5 at the end of 2008.

Table 4. The number of immigrants from Romania

Emigrants on gender																			
Gender	Years																		
	Year 1990	Year 1991	Year 1992	Year 1993	Year 1994	Year 1995	Year 1996	Year 1997	Year 1998	Year 1999	Year 2000	Year 2001	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008
	UM: Number of persons																		
	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons
Total	96929	44160	31152	18446	17146	25675	21526	19945	17536	12594	14753	9921	8154	10673	13082	10938	14197	8830	8739

Source: https://statistici.insse.ro/shop/

Another worrying aspect regarding labours' emigration from Romania is the departure of people with ages between 18 and 50 years old along with their families and minor children of these ones. The loss of the labour force in this manner doubles, because young resources of our country are used by the foreign countries in which the people emigrate.

If we add up the number of emigrants between the years 1990 – 2008 and relate it to number of the total population from Romania we can observe that over 18 percent of the total population

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[163] http://medicaacademica.com/2010/01
[164] www.countrystudies.us/**romania**/36.html

have emigrated and this on in a proportion of 90% were part of the active persons category from the labour market with ages between 18 and 45 years old.

Tabel 5. The active population in Romania based on age groups and environments

Age groups	Year 1996	Year 1997	Year 1998	Year 1999	Year 2000	Year 2001	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007	Year 2008	3rd Trim. Year 2009
The active population based on age groups and environments														
Periods' classification														
UM: Number of persons														
	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons	Number of persons
Total	11421092	11471511	11284094	11279935	11283126	11151080	10079450	9914263	9957144	9851034	10041639	9994268	9944668	10226053
Total 15 – 19 years	550370	502724	458572	419295	405319	376318	343156	275367	322559	261338	251368	215070	190821	223823
Total 20 – 24 years	1200926	1170244	1125458	1100544	1071859	1046620	985029	885936	917573	807404	763494	76318	762588	799675
Total 55 – 99 years	1585116	1581405	1436831	1321375	1288009	1277067	1259954	1290632	1393352	1358700	1366315	1328487	1260086	1232740
Total 30 – 34 years	1086066	1119749	1280573	1464106	1613060	1668900	1687533	1529718	1386854	1371197	1386974	1379700	1408188	1488252
Total 35 – 99 years	1375540	1313653	1201635	1157690	1122997	1030229	1013395	1172631	1347977	1459345	1553847	1602086	1475591	1422885
Total 40 – 44 years	1426297	1446401	1437623	1417847	1355618	1338145	1209377	1148084	1060943	1015102	1020071	996830	1165102	1367240
Total 55 – 49 years	1204974	1260852	1288154	1275230	1283321	1293529	1268204	1249487	1244506	1205408	1213630	1154301	1060428	1015158
Total 50 – 54 years	829599	841703	824697	897265	937745	958535	910206	970405	993219	1017455	1060532	1059270	1072184	1080325
Total 55 – 59 years	733069	708860	667245	628699	589026	568808	471860	487042	514668	586011	655168	682122	738608	778115
Total 60 – 64 years	542699	584076	570390	555839	559843	527501	367299	351493	30676	305532	316152	303558	323770	355979
Total 65 – 69 years	430976	442579	450018	467123	462572	458561	326878	312733	274998	269818	263660	292509	263899	252987
Total 70 – 74 years	282318	309844	324094	330682	332398	331197	236559	240736	194219	193723	190211	219048	223404	208874

Source: https://statistici.insse.ro/shop/

Romania must face a new challenge that is not going to be easy to manage in the future, a challenge generated by the ageing population. At the moment there are about four people with the age that can give him/her the status of a working person on the labour market for each person over 65 years. Keeping the same growth rhythm of the birth rate and life expectancy, in the year 2060 there is going to be only two working people with active age for each pensioner.

The dependence degree of the elderly population, calculated by relating the age category that exceeds the age of 65 years to the active population, will grow in Romania from 21.3% to 65.3% in 2060.

Table 6. The active population's evolution related to the total population during 2000 – 2008

	Total population (1000)		Active population (1000)		Activity rate (%)	
	2000	2008	2000	2008	2000	2008
EU-27	319.597.60	330.375.20	222.049.10	238.523.20	68.60	70.90
EA-16	207.387.20	215.171.60	141.005.70	156.078.70	67.60	71.50
BE	6.719.20	7.073.30	4.394.70	4.779.10	65.10	67.10
BG	5.491.20	5.169.40	3.355.40	560.40	60.70	67.80
CZ	7.116.10	3.590.80	5.126.10	5.232.50	71.30	69.70
DK	3.532.30	54.066.00	2.835.70	2.951.80	80.00	80.80
DE	55.062.00	907.40	39603.40	42.020.90	71.10	76.50
EE	916.00	3.040.80	656.50	695.00	70.20	74.00
IE	2.546.20	7.231.90	1.768.70	2.235.00	68.20	72.00
EL	7.078.30	31.251.80	4.605.50	4.937.40	63.80	67.10
ES	27.373.30	39.676.80	17.485.70	22.848.40	65.40	72.60
FR	37.430.10	39.181.80	25.716.40	28.234.00	68.70	70.40
IT	38.642.10	523.80	23.464.80	25.606.40	60.10	63.90
HU	6.764.40	6.794.20	4.090.10	4.208.70	60.10	61.50
RO	15.230.80	15.042.30	11.474.10	9.944.60	68.40	62.90

Table 7. The average exit age from the labour market

geo / time	2001	2002	2003	2004	2005	2006	2007	2008
European Union	60.3	60.8	61.4	60.9^e	60.9^e	61.0^e	61.2^e	61.4^e
EU (27 countries)	59.9	60.1	61.0	60.5^e	61.0^e	61.2^e	61.2^e	61.4^e
EU (25 countries)	59.9	60.4	61.0	60.5^e	60.9^e	61.0^e	61.2^e	61.3^e
EU (15 countries)	60.3	60.8	61.4	60.9^e	61.1^e	61.3^e	61.5^e	61.5^e
Belgium	56.8	58.5	58.7	59.4	60.6	:	61.6	:
Bulgaria	:	58.7	58.7	60.7	60.2	64.1	:	:
Czech Republic	58.9	60.2	60.1	60.0	60.6	60.4	60.7	60.6
Denmark	61.6	60.9	62.2	62.1	61.0	61.9	60.6	61.3
Germany	60.6	60.7	61.6	61.3	:	61.9	62.0	61.7
Hungary	57.6	59.1	61.6	60.5	59.8	:	:	:
Malta	57.6	58.2	58.8	58.0	58.8	58.5	:	59.8
Netherlands	60.9	62.2	60.5	61.1	61.5	62.1	63.9	63.2
Austria	59.2	59.3	58.8	:	59.9^b	61.0	60.9	:
Poland	56.6	56.9	57.9	57.7	59.5	:	59.3	:
Portugal	61.9	63.0	62.1	62.2	63.1	:	62.6	:
Romania	59.8	:	62.7	59.5	63.0	64.3	:	:
Slovenia	:	56.6	56.2	:	58.5	59.8	:	:
Sweden	62.1	63.3	63.1	62.8	63.6^i	63.6	63.9	63.8
United Kingdom	62.0	62.3	63.0	62.1	62.6	63.2	62.6	63.1

:=Not available; e=Estimated value; b=Break in series;

The average exit age from the labour market in Romania, registered a continuous increase reaching from 59, 8 to 64, 3. In this context, Romania recorded the highest values of the average exit age from the labour market, a value of 64, 3 while the medium at European Union level in 2008 was of 61,4. In the current economic crisis and considering the continuous ageing of the population, we believe that in Romania this will go on registering an increase until the age of 65 years old.

Conclusions:

On long term, these new demographic tendencies will affect both the educational system, in the sense of reducing the number of pupils and students, as well as the expansion of the demand for health services and social protection. The ageing process of the population will exert a negative influence on the entire economy, as the number of inactive people would unbalance even further the economic situation, in the way of burdening the social insurances system. The South and the South - West regions confront themselves with an accentuated phenomenon of population's ageing, recording the highest share of people over 65 years, in the total of the population (16.5% and 16.2%), waiting for an amplification of this trend. The highest share of the young population segment is recorded in the North – East Region (18.3% in 2005, slightly declining from the

20.5% percentage in 2002) and the lowest share is in the West Region (14.9% in 2005 versus 17% in 2002) and in the Bucharest – Ilfov Region (11.7%). On July 1, 2005, at a national level there were 94.6 seniors per 100 young people. The South, Southwest, West and Bucharest-Ilfov regions registered a higher rate than the national average one, and in the South and Bucharest-Ilfov, the number of elderly people exceeds the one of the young.[165]

Also, the data presented by the European statistics office indicate an ageing of the population, particularly generated by the reduction of the fertility and the increase of life expectancy. This process will affect all EU states, meaning that the share of the population over 65 years in Romania will increase from 14.9% from the beginning of this year to 35% in 2060.

Throughout the European Union, between the 1st of January 2008 and 2035, the population is expected to grow by 5.1%, from 495 million people to 521 million people, but by 2060 the upward trend will reverse, so the population will decline to 506 million people.

After the year 2015, mortality rate in the European Union's and implicitly in Romania too, will exceed the birth rate, the only factor that will contribute to the increase of the population being migration.

If this downfall rhythm of the natality will maintain itself in the EU, the ageing phenomenon of the population will accentuate. People over 65 years will represent 30% of the total population in 2060 compared to 17.1% today, while the share of population over 80 years old will increase from 4.4% to 12.1% during the same period of time.[166]

The study reached five major conclusions:

1.immigration in order to replace workforce cannot prevent the ageing of the population and its consequences.

2.national policies can slow the fertility decline in favourable circumstances.

3.only one type of political intervention will not necessarily slow down the decline of the fertility.

4.the thing that works in one country might not work in another. The social, economic and political contexts influence the impact of the policies. Therefore, policies are not directed toward it, but that have as a target improvements in broader terms, may have beneficial effects on fertility.

5.policies referring to population have a slower effect and therefore may be less politically attractive[167].

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