

CHOSEN DEMOGRAPHIC TRENDS AND PHENOMENA REFERRING TO YOUTH

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ABSTRACT

The paper presents some chosen demographic phenomena in a dynamic dimension so as to show the prospects for young people living now and in the future. The main issue concerns the youth shortage which is expected to occur in approximately one generation forward. The author presents the trends of such situation and projection until the year 2030 in the Małopolska province in comparison to Poland. The determinants of such tendencies have also been pointed out in order to show the complexity of that issue. The demographic slump is not only the Polish problem but is also of European character and, in consequence, accounts for the future threats and dangers of demographic imbalance, resulting also in an economic crisis, due to the lack of equilibrium between people in working and non-working ages. Additionally, the phenomena of demographic time bomb and demographic transition, as well as dependency ratio have been described in the article.

KEY WORDS

Trend, phenomenon, demography, youth, working age, dependency ratio, demographic time bomb, demographic transition, the Małopolska province (voivodship), Poland.

INTRODUCTION

“The Future of Europe is in the Hands of Youth” – this motto sounds very optimistic and looks promising, presuming that the rate of birth and other demographic factors depict a certain continuity from the past, i.e. the 2nd half of the 20th century. Unfortunately, the dynamic demographic development after World War II has completely died down. Certain progressive demographic factors, like high female fertility rate (calculated as the ratio of the live births compared to the number of women in the reproductive age, i.e. 15-49), have nowadays disappeared. The 21st century in Europe strikes with demographic threats concerning the future. The danger of youth shortage is imminent, which may disorganize the economic structure of many countries in Europe, taking into consideration the constantly increasing life expectancy. Thus, the demographic changes are of intrinsic importance, regarding the future of Europe and its demographic structure and order.

DEMOGRAPHIC CHANGES AND TENDENCIES IN THE MAŁOPOLSKA PROVINCE

Demographic changes are an important element of the economic life of each province. These changes indicate, among others, the amount of working population. Considering this problem in a dynamic dimension we may extrapolate certain trends into the future. This paper is supposed to show these tendencies, among others, on an example of the Małopolska province.

In order to understand properly certain notions one should present them as follows:

- the working age population refers to males, aged 18-64 and females aged 18-59;
- category of working age may be divided into two groups: of mobility (i.e. 18-44) and non-mobility (i.e. 45-64 for males and 45-59 for females) ages;
- the non-working age population includes the pre-working age population, i.e. up to the age of 17 and the post-working age population, i.e. 65 and more for males and 60 and more for females.

The problem of proper proportions, i.e. demographic balance, has been presented in table 1 where 3 types of ages within 2 groups of working or non-working population have been thoroughly presented. Additionally, all these types and groups have been expressed in a prospective dynamic dimension of 25 years. Table 1 concerns general data for both urban and rural areas of the Małopolska province.

Table 1

Population prognosis for working and non-working age (projection until 2030) – general dimension in the Małopolska province

Year	2005	2010	2015	2020	2025	2030
Total population (%)	100	100	100	100	100	100
Pre-working age (%)	22	19	18	18	17	16
Working age (%)	63	64	63	61	60	59
Post-working age (%)	15	17	19	21	23	25
Proportions A (dependency ratio) *	1.70	1.78	1.70	1.56	1.50	1.44
Proportions B**	1.47	1.12	0.95	0.86	0.74	0.64

Source: own elaboration on the basis of the data taken from the Statistical yearbook of the Małopolskie voivodship 2004, Statistical Office in Krakow.

Remarks:

* Proportions between working (W) and non-working (N) ages: $W/N=?$

** Proportions between pre- (p) and post-working (P) ages: $p/P=?$

Analyzing table 1 we obtain the following results, i.e. during 25 years:

1. Population in pre-working age has decreased by 6%;
2. Working age population has come down by 4%;
3. Post-working age population has increased by 10%;
4. Proportions between working and non-working age decreased by 15%;
5. Proportions between pre- and post-working age also decreased but by 56%.

The situation only in urban areas in the Małopolska province is presented in table 2.

Table 2

Population prognosis for working and non-working age (projection until 2030) – urban areas dimension in the Małopolska province

Year	2005	2010	2015	2020	2025	2030
Total population (%)	100	100	100	100	100	100
Pre-working age (%)	19	16	15	15	14	13
Working age (%)	65	65	63	60	58	58
Post-working age (%)	16	19	22	25	28	29
Proportions A (dependency ratio) *	1.86	1.86	1.70	1.50	1.38	1.38
Proportions B**	1.19	0.84	0.68	0.60	0.50	0.45

Source: own elaboration on the basis of the data taken from the Statistical yearbook of the Małopolskie voivodship 2004, Statistical Office in Krakow.

Remarks:

* Proportions between working (W) and non-working (N) ages: $W/N=?$

** Proportions between pre- (p) and post-working (P) ages: $p/P=?$

Analyzing table 2 we find the following results, i.e. during 25 years:

1. Population in pre-working age has decreased by 6%;
2. Working age population has come down by 7%;

3. Post-working age population has increased by 13%;
4. Proportions between working and non-working age decreased by 26%;
5. Proportions between pre- and post-working age also decreased but by 62%.

The situation only in rural areas in the Małopolska province is presented in table 3.

Table 3

Population prognosis for working and non-working age (projection until 2030) – rural areas dimension in the Małopolska province

Year	2005	2010	2015	2020	2025	2030
Total population (%)	100	100	100	100	100	100
Pre-working age (%)	25	22	20	20	19	18
Working age (%)	60	63	64	62	61	60
Post-working age (%)	15	15	16	18	20	22
Proportions A (dependency ratio) *	1.50	1.70	1.78	1.63	1.56	1.50
Proportions B**	1.67	1.47	1.25	1.11	0.95	0.82

Source: own elaboration on the basis of the data taken from the Statistical yearbook of the Małopolskie voivodship 2004, Statistical Office in Krakow.

Remarks:

* Proportions between working (W) and non-working (N) ages: $W/N=?$

** Proportions between pre- (p) and post-working (P) ages: $p/P=?$

Analyzing table 3 we find the following results, i.e. during 25 years:

1. Population in pre-working age has decreased by 7%;
2. Working age population finally has not changed;
3. Post-working age population has increased by 7%;
4. Proportions between working and non-working age have not changed at all;
5. Proportions between pre- and post-working age also decreased but by 51%.

As we may notice, in the Małopolska province we have a distinctive phenomenon of an ageing society. This situation is especially difficult in the cities in comparison to the rural areas, where the birth rate is evidently much higher. The main problematic trend refers to the decreasing dependency ratio which lessened in urban areas by 26%, not changing, at the same time in rural areas. The second trend influencing the ageing society concerns the structure of non-working age population, in which post-working age people distinctly begin to prevail, especially in urban areas.

DEMOGRAPHIC SITUATION IN POLAND

The demographic statistics referring to the region may be treated as an example of micro scale, while the analysis of the whole country seems to be more representative, presenting a macro scale dimension. Table 4 concerns general data for both urban and rural areas of Poland in the same substantial order as for the Małopolska province.

Table 4

Population prognosis for working and non-working age (projection until 2030) – general dimension in Poland

Year	2005	2010	2015	2020	2025	2030
Total population (%)	100	100	100	100	100	100
Pre-working age (%)	21	18	17	16	16	15
Working age (%)	64	65	63	61	59	58
Post-working age (%)	15	17	20	23	25	27
Proportions A (dependency ratio) *	1.78	1.86	1.70	1.56	1.44	1.38
Proportions B**	1.40	1.06	0.85	0.70	0.64	0.56

Source: own elaboration on the basis of the data taken from the Statistical yearbook of the Republic of Poland 2004, Central Statistical Office in Warsaw.

Remarks:

* Proportions between working (W) and non-working (N) ages: $W/N=?$

** Proportions between pre- (p) and post-working (P) ages: $p/P=?$

Analyzing table 4 we achieve the following results, i.e. during 25 years:

1. Population in pre-working age has decreased by 6%;
2. Working age population has come down by 6%;
3. Post-working age population has increased by 12%;
4. Proportions between working and non-working age decreased by 22%;
5. Proportions between pre- and post-working age also decreased but by 60%.

The situation only in urban areas in the Małopolska province is presented in table 5.

Table 5

Population prognosis for working and non-working age (projection until 2030) – urban areas dimension in Poland

Year	2005	2010	2015	2020	2025	2030
Total population (%)	100	100	100	100	100	100
Pre-working age (%)	19	16	15	15	14	13
Working age (%)	66	66	63	60	58	57
Post-working age (%)	15	18	22	25	28	30
Proportions A (dependency ratio) *	1.94	1.94	1.70	1.50	1.38	1.33
Proportions B**	1.27	0.89	0.68	0.60	0.50	0.43

Source: own elaboration on the basis of the data taken from the Statistical yearbook of the Republic of Poland 2004, Central Statistical Office in Warsaw.

Remarks:

* Proportions between working (W) and non-working (N) ages: $W/N=?$

** Proportions between pre- (p) and post-working (P) ages: $p/P=?$

Analyzing table 5 we find the following results, i.e. during 25 years:

1. Population in pre-working age has decreased by 6%;
2. Working age population has come down by 9%;
3. Post-working age population has increased by 15%;
4. Proportions between working and non-working age decreased by 31%;
5. Proportions between pre- and post-working age also decreased but by 66%.

The situation only in rural areas in the Małopolska province is presented in table 6.

Table 6

Population prognosis for working and non-working age (projection until 2030) – rural areas dimension in Poland

Year	2005	2010	2015	2020	2025	2030
Total population (%)	100	100	100	100	100	100
Pre-working age (%)	24	21	19	19	18	17
Working age (%)	61	63	64	62	60	60
Post-working age (%)	15	16	17	19	22	23
Proportions A (dependency ratio) *	1.56	1.70	1.78	1.63	1.50	1.50
Proportions B**	1.60	1.31	1.12	1.00	0.90	0.74

Source: own elaboration on the basis of the data taken from the Statistical yearbook of the Republic of Poland 2004, Central Statistical Office in Warsaw.

Remarks:

* Proportions between working (W) and non-working (N) ages: $W/N=?$

** Proportions between pre- (p) and post-working (P) ages: $p/P=?$

Analyzing table 6 we find the following results, i.e. during 25 years:

1. Population in pre-working age has decreased by 7%;
2. Working age population has come down by 1%;
3. Post-working age population has increased by 8%;
4. Proportions between working and non-working age decreased by 4%;
5. Proportions between pre- and post-working age also decreased but by 54%.

As we may notice, similarly as in the Małopolska province, in Poland we also deal with a distinctive phenomenon of an ageing society. Of course, the situation is much more difficult in cities than in the countryside, where negative demographic phenomena arise with certain delay and not to such a high extent. The negative trend concerns the constant decrease of dependency ratio which in the cities came down by 31% while in rural areas diminishes rather slightly only by 4%. The second trend influencing the ageing society concerns the structure of non-working age population, in which post-working age people distinctly start to prevail, especially in urban areas.

MAIN DETERMINANTS OF DEMOGRAPHIC TRENDS

The demographic slump in recent years in Europe, as well as threatening prospects for the future have their reasons. As we know, the natural increase of the population accounts for the difference between the number of live births and deaths in a given period. The birth rate in many countries in Europe is negative, while life expectancy is constantly increasing, in Poland by 1 year per 3-4 years. The average life expectancy in the Małopolska province in 2003 for males = 72; for females = 80, whereas in Poland was a bit lower – for males = 70; for females = 79 [Rocznik 2004].

Total fertility of a woman (total period fertility rate) refers to the number of children which would be born to an average woman during the course of her entire reproductive period (15-49 years of age). In Poland recent data present total fertility at the level of 1.23.

Demographic dynamics rate (DR) is the ratio of the number of live births to the number of deaths in a given period. In a dynamic dimension this rate looks as follows:

DR: in 2000 = 1.234; in 2002 = 1.162; in 2003 = 1.110 (rural areas = 1.249; urban areas = 0.971) [Rocznik 2004].

As we can see, the demographic dynamics rate is still decreasing. Additionally, there is also a problem of migration abroad which, is specially popular nowadays, due to high unemployment rate in the country.

Summing up, we may state that main determinants of demographic trends refer to:

1. Birth rate;
2. Life expectancy;
3. Total period fertility rate;
4. Migration.

FINAL REMARKS AND CONCLUSIONS

Comparing the Małopolska province to Poland we may arrive at the following conclusions:

1. In a general dimension the situation in Poland is a bit harder than in the Małopolska province, i.e. the ageing of population in Poland occurs a bit more quickly (lower A, i.e. dependency ratio, and B proportions, i.e. prevailing of post-working age population in a structure of non-working age population);
2. In the urban areas dimension the comparison between Poland and the Małopolska province is similar to the mentioned above;
3. In the rural areas dimension the situation in Poland is adequate to the Małopolska province, with a bit more convenient situation in case of the Małopolska province where the number of people at working age will not be changed even in 25 years ahead. Hence, the situation in the countryside seems to be the most stable in the country, which means the strong influence of tradition on people's life.

The examples of Poland and the Małopolska province are only a harbinger of coming demographic time bomb that denotes the threat of demographic crisis which may be faced in the next few decades by many countries, caused by the ageing of their population. Increasing life expectancy and simultaneously a declining birth rate, both sometimes allied with a trend towards earlier retirement, mean that the proportion of the population of retirement age is rising. This trend is evident in many advanced countries e.g. the European Union and Japan [Bannock 2003].

There is another economic problem combined with demography and concerning the ratio of the total number of children (0-14 years of age) and pensioners to the working population, i.e. the number of people of non-working age in an economy relative to those who are of working age – called dependency ratio [Bannock 2003]. This dependency ratio which is still lessening has been presented in this paper on the examples of Poland and the Małopolska province.

Proportions between pre- and post-working ages, analyzed in a dynamic dimension, also indicate the pace of society ageing. Thus, on the basis of the studied prognosis for Poland and the Małopolska province, we find two demographic trends:

1. Decrease of dependency ratio;
2. Increase of the amount of post-working age population within the structure of non-working age people.

One of the important problems of demography is the issue of demographic transition. Many countries have gone through demographic transition and are today characterized by both low birth and death rates and slowly growing population. With economic development, income per head begins to rise and there is a fall in the death rate. After a certain time, if income per head still continues to expand, it finally serves to reduce the birth rate. The model of small families becomes the norm in society, as people seek to preserve their growing affluence. At this point the growth of “wealthy” population slows down and may eventually level-off [Pass 1993]. Such phenomenon or rather trend may also be observed in Europe.

REFERENCES

1. **Bannock G., Baxter R.E., Davis E.:** The Penguin Dictionary of Economics; Penguin Books, London 2003.

2. **Pass Ch., Lowes B., Davies L.:** Collins Dictionary of Economics; Harper Collins Publishers, Glasgow 1993.
3. Rocznik statystyczny województwa małopolskiego 2004, Urząd Statystyczny w Krakowie.
4. Rocznik statystyczny Rzeczypospolitej Polskiej 2004, GUS, Warszawa.

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