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SOME ASPECTS OF THE POPULATION DEVELOPMENT IN THE CZECH REPUBLIC

1. Introduction

There were relevant changes in reproduction behaviour of the population in the Czech Republic in the 1990s. These changes effected the fertility rate as well. The fertility rate dropped well under the reproduction rate. In 1991 there were 1.86 children per a woman (129 354 newly born). Total fertility rate was gradually decreasing till 1999 when the trend reached its summit: 1.13 children per a woman (89 471 newly born). Since 1999 the figures of total fertility rate are steadily increasing to 1.17 in 2002. At the same time the age of mothers at childbirth increased from 24.7 in 1991 to 27.8 in 2002, the average age of mothers of their first child for the same interval increased from 22.4 to 25.6 years. Czech Republic has one of the lowest total fertility rate in the world. But the average age of mothers at childbirth is below developed Western European countries: Ireland and Spain have the highest age of mothers at childbirth (30.7). Which makes almost a three-year difference.

High mortality rate (unlike the developed countries) was a crucial problem of the population in the Czech Republic at the beginning of 1990s. We can illustrate the difference of mortality rate in the Czech Republic and the developed countries referring to 'Regional graphs of mortality rate' by Coale and Demeny (Rabusic, 1995). In 1990 the male life expectancy at their birth was 67.54 years and of female 76.01 years. Comparing the real and hypothetical figures of the mortality rate of that year indicates that the male mortality rates were higher for the then life expectancy than the model ones by the age of 35. It is apparent how the life expectancy rate decreased (unlike the hypothetical mortality rate) for the other age groups.

Female real mortality ratios were higher than their hypothetical ones to the their age of 50 years. Further on the female mortality rate deteriorates unlike their hypothetical mortality rate, though not so significantly as of male mortality rate. Let's take the male mortality rate of the age 55-59 as an example of adverse rate. Mortality rate of this age group would correspond with the hypothetical life expectancy at birth (58.69) – when the real life expectancy rate being 67.54. In comparison to the hypothetical rate it means 83 % of higher excess-mortality.

We can distinguish several stages in the development of the foreign migration in the Czech Republic since the beginning of 1990s. These stages are determined by political changes after 1989, by the country's split, by changes in immigration legislative, changes in the system of registration of foreign migration, inaccuracy in that registration (mostly emmigrants).

First stage: the fall of the communist regime after 1989 when there were both many immigrants and emmigrants. Next stage: after 1992 there was a high turnover of migration between the Czech Republic and Slovakia due to the break-up of Czechoslovakia in January 1993. In following years 1993-97 there was a change in turnover of the migration with Slovakia and other foreign countries. The migration turnover with Slovakia was steadily decreasing and by 1997 stabilized at 3000-3500 people per year. However, the migration turnover and number of immigrants from abroad was increasing since 1993 (in 1993 5432 foreigners came to live on the CR, in 1997 it was 9772 foreigners). Further stage 1998-2000: migration with Slovakia stagnates and the other foreign countries migration turnover drops. In 2000 only a half of foreigners of 1997 figures came to live in the CR. That was due to the tightening-up of immigration legislative for many countries of Eastern Europe. Foreigners with long-term stay permission were added to the register of migration (with permission for more than 90 days to stay) and people who were given an asylum. Thus the figures since 2001 became uncomaparable with the figures from the previous years. However, enlargement of the register enabled better monitoring of the movement of the foreigners across the CR borders. In 2001 there was a high turnover of the emmigrants which resulted in a negative migration balance of the country (-8551). This negative balance but should not be overrated. Official register of the migration is incomplete and in some aspects inaccurate. For instance immigrants are listed in the register only after a year delay which leads to a time inaccuracy between immigration and emmigration. As there was a positive migration balance in 2002 (12,290) CR turned out to be an immigration country, despite all the regulation adjustments.

2. Position of the Ústí region in the CR

Current population structure of the region was framed predominantly after WWII. Firstly, there was expulsion of the Germans from the country followed by immigration to the borders from the inland. Further relevant point for the forming

of population structures was migration because of the heavy industry work (chiefly fuel energy, chemistry) encouraged by the state. People with low education migrated to the region and vice versa people with high education were leaving the region. This process of decreasing of the education profile caused by this migration did not stop after 1989 and carries on up to today (Šašek, 2003). This resulted in the lowest education profile of the Usti region in the CR. This fact was confirmed in the latest 2001 census. The Usti region has the lowest university graduates share (5.3%), people with further college education (2.9%) and A-levels school-leavers (22.3%).

These aspects determine the reproduction behaviour: lowest education profile, highest unemployment rate (long-term unemployment included), higher percentage of social-pathologic effects and ethnic structure.

The Usti region has the highest fertility rate in the CR. The region is characterized by high mortality, lowest life expectancy at birth of both male and female (male:70, female:76.5 in 2001-2002), high infant and newly-born mortality, high abortion rate, high divorce rate. There is also rather high percentage of cohabitation and lowest average age of mothers at birth and at first child delivery. Despite all these negative aspects we can see a positive development in the 1990s: higher average age of mothers at birth and their first delivery, higher life expectancy, infant and newly-born mortality and divorce rate dropped. However, the differences between the region and the country remain.

3. Projection for the population of the Ústí region

Czech Statistical Office compiled the latest population projection in the Czech Republic in 2003. It was compiled by the component method considering migration, according to the age and in a year-stage projection. The component method is sometimes called 'the method of age group shifts'. It is based on the age group shifts, their decrease according to the expected mortality levels and their completing by the newly born. In migration we increase or decrease the age groups according to expected migration balance. This projection was compiled in three versions: low, middle, high. It is based on the census data from 2001. The projection time-span is from 31 December 2002, with the projection horizon year 2050.

Population projection in the regions of the CR was compiled by the Czech Statistical Office (CSO) in just one version: middle-version. The CSO used a component method ignoring both internal and external migration. There is a difference in applying middle-version for the CR projection which used component method considering the migration. For further comparison with the country data was used the middle-version projection of the Czech population. This method was worked out without considering the migration (like the regional calculation). Therefore the results illustrate only the hypothetical development of a closed population influenced by the nascency and dying-out.

Projection premises:

Projection of the future development in the region is based on:
its total level
its structure according to the women's age
medium-version projection of the country

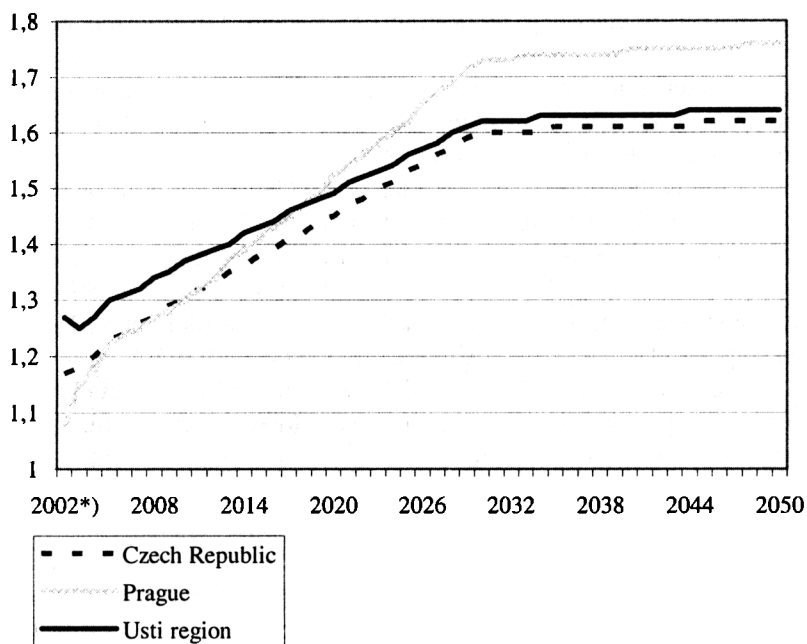


Diagram No. 1. Development of the total fertility in the Czech Republic, Prague and the Usti region according the medium-version projection ignoring the migration

*) 2002 data

Source: Population projection until 2050, Czech Statistical Office

Due to the very low fertility rate in the region (even though it is the highest there in the country) we anticipate its growth. Further projection is the growth of the average age of mothers at birth and the age of highest fertility. In comparison with the other regions the development of the region should be alike in all regions and the territorial discrepancies should be unchanged. The only exemption is Prague where the projection of fertility rate is higher. Prague is to have the highest fertility rate in the country. It is due to the stabilizing of the fertility module approx. After 2030 and due to the esteemed wealth of Prague's population. In Prague there is highest average age of mothers at birth (29.5 in 2002 whereas for the country it is 27.8) and is significantly the highest in the country. This trend of post-

ponning a child to late age should remain unchanged (unlike the other regions): 30.9 for Prague in 2050 and 29.5 in the CR. There is utterly different situation in the Usti region where the current average ages of mothers at birth is the lowest in the country (27 in 2002) and despite its anticipated growth remain lowest in tghe future. This trend can be backed by the Usti district fertility data. Data indicate that women in the Usti district reflect a retentive fertility earlier than women in the CR.

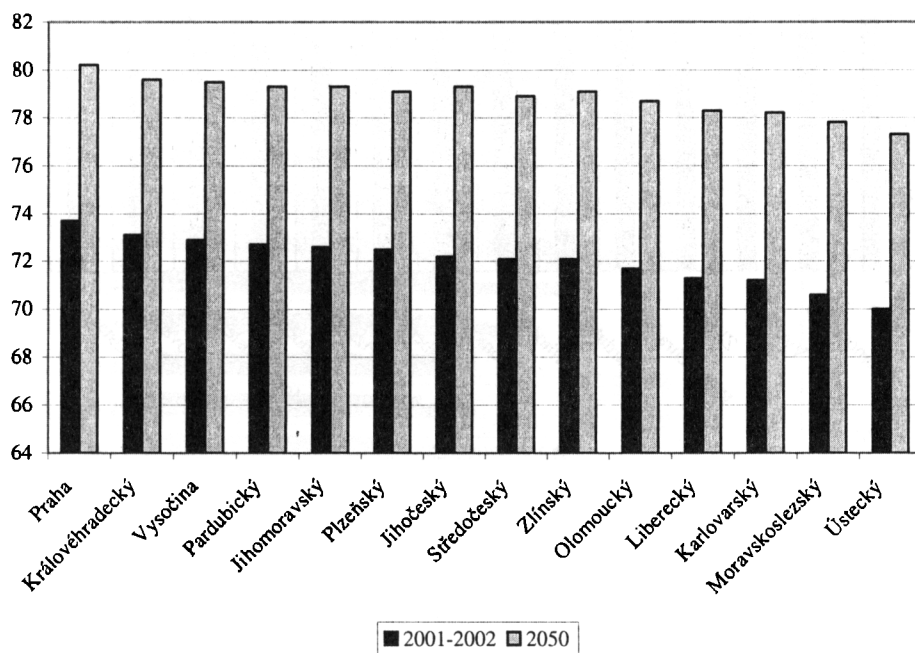


Diagram No. 2. Real (2001-2002) and projected (2050) life expectancy rate of the regions in the CR – males

Source: Population projection until 2050, Czech Statistical Office

Usti region, Karlovarsky and Moravskoslezsky region have the highest mortality rate in the country. Prague together with Vysočina and Kralovehradecký region has the lowest mortality rate. This fact is ascribed to a high education profile, social-economic position, ethnic structure etc. We can expect lower mortality trend (together with the Western European countries), increase of life expectancy rate.

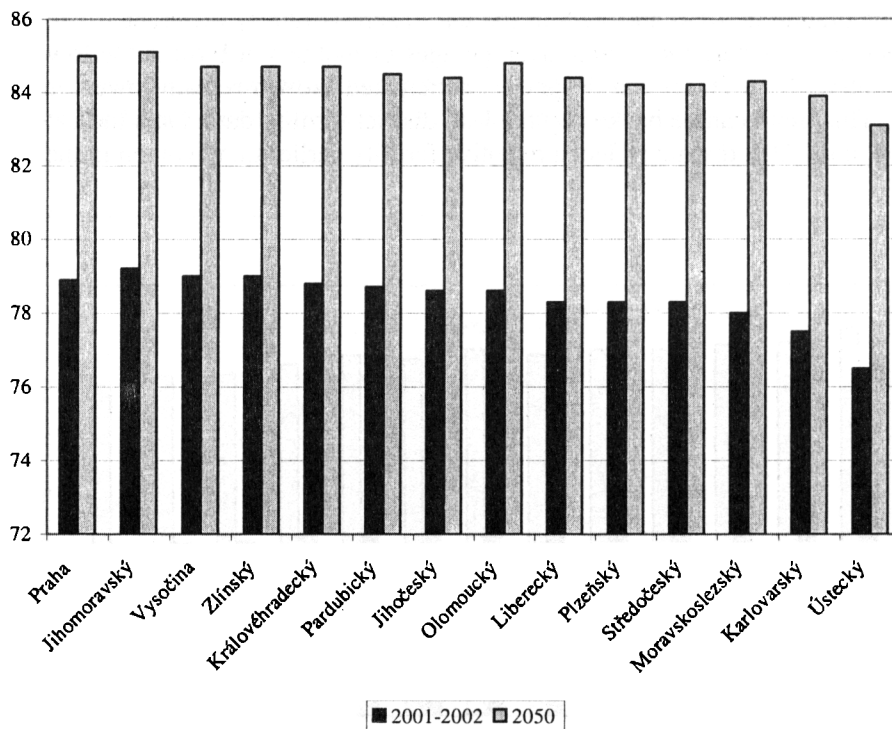


Diagram No. 3. Real (2001-2002) and projected (2050) life expectancy rate of the regions in the CR – females

Source: Population projection until 2050, Czech Statistical Office

4. Social-economic situation of the people in the Ústí region

At the beginning (31-12-2002) of the research there were 819.7 thousand people in the Ústí region. Due to projected trends of the fertility and mortality rate in the region there will be a steady population loss. If the projection is right the Usti region should have only 663.9 thousand inhabitants in 2050 which would mean loss of 155.8 thousand inhabitants. It is but true to say that the projection has been calculated without considering the migration aspects and the stated loss is thus just a result of a natural rate. The Usti region belongs to the youngest age structure in the country. There is a highest percentage of 0-14 year-old population (16.4%) and together with the Karlovarský region has the lowest percentage of 65+ age group (12.2%).

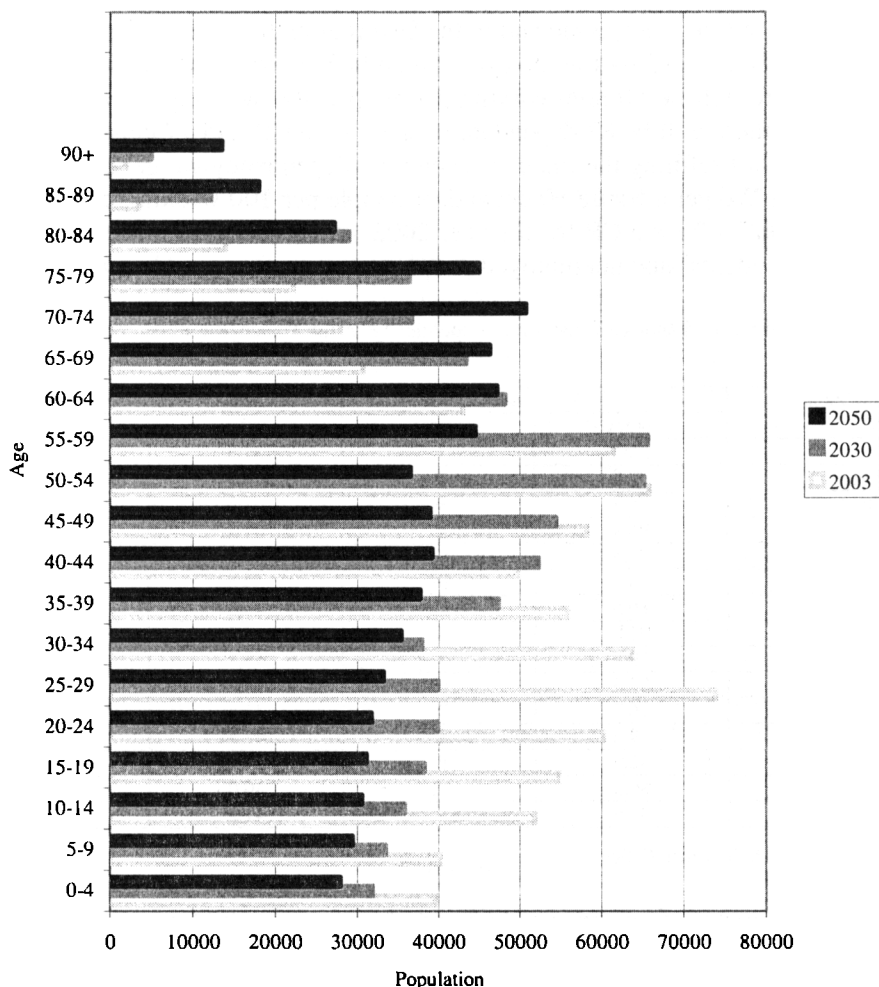


Diagram No. 4. Age profile of the Usti region

Source: Population projection until 2050, Czech Statistical Office

Until 2050 the region should retain this trend. As the region demographically ages the percentage of 65+ in all regions including the Usti will increase to 30.2% provided there will be zero migration. Current age structure in the CR and the Usti region is positive from the point of economic aspect. Strong birth-years of 1970s entered the labour market and even stronger birth years of the late 1970s and early 1980s are entering the labour market. On the other hand the weak birth-years of the 1930s reached the retirement age.

Due to this situation the index of economic population load was decreasing in the 1990s. In the Czech Republic and in the Usti region there were 40 people out of 100 at the age group 15-64 (at the age 0-14 and 65+). Provided all the projections come true there will be 50 non-working people per 100 working in twenty years time. In 2050 there will be 83 dependent people in the CR and 77 dependent in the Usti region. Until refining the index of economic dependency we generate data for the year 2002. We get a figure 80 dependent people per 100 working people in the Usti region and 70 for the CR for the year 2002 when we transfer the 15-19 year-olds (mostly students) and unemployed people to economic dependent people.

Table 1. Aging index and Index of economic dependency in the Czech Republic regions in 31. 12. 2003

Region	Aging index		Index of economic dependency	
	Index	Order	Index	Order
Praha	125,0	1.	39,9	12.
Středočeský	92,8	5.	41,7	6.
Jihočeský	88,8	9.	41,6	7.
Plzeňský	96,9	2.	41,4	8.
Karlovarský	77,5	13.	39,4	14.
Ústecký	75,7	14.	39,6	13.
Liberecký	80,5	11.	40,3	10.
Královéhradecký	95,0	4.	43,0	3.
Pardubický	89,7	7.	43,1	2.
Vysočina	87,5	10.	43,3	1.
Jihomoravský	96,7	3.	41,8	4.
Olomoucký	89,6	8.	41,4	9.
Zlínský	92,0	6.	41,8	5.
Moravskoslezský	80,0	12.	40,0	11.
ČR	91,6	-	41,2	-

Source: Data of Czech Statistical Office

Aging index: number of persons aged 65 and older for 100 children aged 0-14.

Index of economic dependency: number of children aged 0-14 let and number of persons aged 65 and older for 100 persons aged 15-64.

5. Conclusions

The ageing of the population is to be a relevant trend. In five years time the 65+ age group is to enter the post-reproduction generation and later on very strong generation born after the war. If the economic load of people was decreasing in the 1990s due to the positive shifts within the age groups then we can expect an increase of economic load of people. Provided the fertility rate gets stabilized below the level of mere reproduction then the economic load will be very high after 2030 (when the years born in the mid-1970s begin to work). Mortality rate improvement shall help to cope the economic load. Life expectancy will allow more people to live up to a higher age.

The Ústí region has the youngest population in the CR now. This trend is likely to sustain, however, generation ageing will be relevant trend as well. Considering the unemployment rate there are 80 dependent people per 100 working people in the region. Retaining this unemployment trend there might be 120 dependent people per 100 working people until 2050. One of the possible solution could be an encouragement of young people immigration. Immigration to the region in the past is the major reason of today's younger population in the region. Immigration but had a rather negative impact on the population size. After 1964 the migration balance was negative and the size of population was increasing merely by its natural rate. In the second half of 1990s there is a natural rate loss in the region and the reason of population growth is a positive migration balance. In 2003 the absolute natural loss was -916 people and was compensated by a positive migration balance of 2072 people. The reason of the positive migration balance is mainly a foreign migration; internal migration balance is almost negligible. Foreigners from Slovakia, Ukraine and Vietnam mostly migrate to the Usti region.

Without a migration gain the population of the Usti region would be gradually dropping. According to the projection the development without significant migration gains would tend to worsen the age structures. Foreign migration to the Usti region prevents further population drop and the adverse age structures. However, since 2001 foreigners with long-term (longer than 90 days) stay permission are counted as migrants as well. Though it is dubious whether they are young foreigners willing to settle in the region or whether they are foreigners willing to get some financial benefits and then migrate to other Czech regions or other EU countries.

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WYBRANE ASPEKTY ROZWOJU DEMOGRAFICZNEGO W REPUBLICE CZESKIEJ

Streszczenie

Zmieniająca się struktura demograficzna społeczeństwa czeskiego, związana ze zmniejszeniem dzietności i wydłużeniem długości życia, stwarza nowe problemy i wyzwania. W przyszłości proces starzenia się społeczeństwa zostanie znacznie przyspieszony. W artykule przedstawiono obecną strukturę demograficzną (2003) oraz prognozy w perspektywie lat 2030 i 2050. Jak wynika z przedstawionych badań, przedłużenie wieku emerytalnego dokonane w Czechach będzie miało jedynie skutek krótkookresowy. Działanie to nie zmieni jednak trendu długookresowego. Analiza obejmuje w szczególności region Usti.