## Population in Slovakia 2006

Analytical publication, which assesses the population development in the Slovak Republic for the recent time period focusing on the years 2005-2006. The publication covers the assessment of all aspects of the reproductive process including the international comparison.

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# Translation from Slovak original 

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The latest publication of the Demographic Research Centre entitled "Population Development in the Slovak Republic 2006 " is a follow-up publication to the ones released in the previous years. The analysis deals with the population development in Slovakia during the period 1990-2006 and the focus is on situation in the recent years 2005 and 2006. Recuperation processes, which are linked to the trends of the 1990s, have started during the recent period and the new post-transformation trends have emerged.

The "Population Development in the Slovak Republic in 2006 " is a complex analytical publication setting a base for the detailed evaluation of the up-to-date demographic situation in Slovakia. The complexity of the publication is expressed by the description of all demographic processes as well as in the detailed view applied in the analyses.

Analyses of each demographic process are the main parts of the publication. Data and facts - chronological strings of the main analytical demographic indicators - are essential to the publication.

As usual, a separate chapter deals with each demographic process. As it was already stated, the focus is on the period after 1990 and references to the previous era are made only if the context is required in the analysis. The publication does not contain regional aspects of the population development in Slovakia as it deals with the demographic situation on the country level. A separate chapter is devoted to the international comparison of demographic trends within the EU 27.

Regarding the temporal aspect, all the published indicators cover the period 1990-2006. Graphs display the indicators since 1980 in order to compare the analysed period to the model of reproduction which was predominant before the year 1990. However, the era before the political turnover is not commented upon. The international comparison includes data for the EU 27 member states in 1995 and 2003, which enables for the comparison of the situation in these countries at the beginning and at the end of the observed period.

A vast majority of the data on the Slovak Republic, which are displayed in the graph and tables, come from the Statistical Office of the Slovak Republic and the source of these data is not indicated below the tables. The data source is indicated only in case the data come from a different source than the Statistical Office of the Slovak Republic.

The publication is meant primarily for the people in various domains of the public life who are interested in the population matters: starting from the public servants and ending with scholars and researchers. It is also meant for those who simply seek information about the current population developments in Slovakia, and who are not experts in demography.

The print of the publication "Population Development in the Slovak Republic in 2006" is limited. The publication was released in two language mutations: Slovak and English. It is free of charge and it is being distributed among the government institutions, state institutions, research institutes, universities and media with an intention to guarantee sufficient information among the experts and wide public. The print of the English mutation serves in presenting the population trends in Slovakia abroad so that the information can be made use of in the cross-national studies, projects and comparisons. Both language mutations are online in full-text at the webpage of the Demographic Research Centre (www.infostat.sk/vdc).

## 1. Marriage

Tab. 1.1 The main marriage indicators

|  |  | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Marriages |  | 40433 | 27489 | 25903 | 23795 | 25062 | 26002 | 27885 | 26149 |
| Total first marriage rate | Males | 0,919 | 0,588 | 0,5108 | 0,465 | 0,484 | 0,498 | 0,543 | 0,498 |
|  | Females | 0,942 | 0,590 | 0,524 | 0,478 | 0,502 | 0,522 | 0,567 | 0,525 |
| Mean age at first marriage | Males | $24,20^{*}$ | 24,71 | 26,41 | 26,63 | 27,12 | 27,53 | 27,90 | 28,57 |
|  | Females | $21,80^{*}$ | 22,31 | 23,867 | 24,13 | 24,58 | 24,99 | 25,33 | 25,91 |
| Mean age at marriage | Males | $38,78^{*}$ | 39,58 | 41,26 | 41,91 | 42,07 | 42,33 | 42,74 | 43,05 |
| of higher order | Females | $34,88^{*}$ | 36,25 | 36,96 | 37,83 | 37,76 | 38,32 | 38,78 | 38,58 |
| First marriages in \% | Males | 89,5 | 89,4 | 87,9 | 87,2 | 86,6 | 86,4 | 88,5 | 86,8 |
|  | Females | 90,9 | 91,2 | 89,7 | 89,1 | 88,7 | 88,9 | 90,0 | 88,5 |

*Year 1992
After marriage had decreased to the historically lowest level in 2001, the intensity of marriage increased. However, the increase lasted three years only (2002-2004) and the intensity of marriage decreased again in 2005 and 2006. A particularly sharp decline occurred in 2005 and the level of nuptiality
 dropped below the values recorded in 2004. In 2006, the number of marriages and marriage rates dropped even below the levels recorded in 2003 and they approached the historically lowest values. The number of marriages has decreased by 1946 ( $7.0 \%$ ) until 2006. The decrease was more pronounced among men. Total first marriage rate decreased by $10.7 \%$ among men and by $9.2 \%$ among women. It is the greatest difference in marriage between men and women since 1990.

The number of marriages nears the historical minimum while the population at risk of marriage is increasing. More than $90 \%$ of men entering into marriage are aged 20 to 44 . The age range is slightly lower for women (16 to 39). The share of population at risk of marriage is approximately $22 \%$ of the total population at age 20 to 44 and 16 to 39 respectively. Low utilization of marriage potential is manifested in the low marriage rates. The difference is apparent if the current marriage indicators are compared to those recorded in the 1980s. For example, in 1980 the population at risk of marriage was $60 \%$ less the current number; however, the number of marriages was $56 \%$ higher.

Tab. 1.2 Population at risk of marriage

|  | 1990 | 1995 |  |  | 2000 |  | 2006 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | \% |  | \% | t | \% |  | \% |
|  | Males |  |  |  |  |  |  |  |
| 20-24 | 135899 | 5,24 | 172443 | 6,60 | 211189 | 8,04 | 213408 | 8,15 |
| 25-29 | 66603 | 2,57 | 72982 | 2,79 | 116326 | 4,43 | 168488 | 6,44 |
| 30-34 | 47412 | 1,83 | 48694 | 1,86 | 57852 | 2,20 | 95784 | 3,66 |
| 35-39 | 38993 | 1,50 | 42902 | 1,64 | 47904 | 1,82 | 56155 | 2,14 |
| 40-44 | 28019 | 1,08 | 38272 | 1,46 | 44961 | 1,71 | 50752 | 1,94 |
| 20-44 | 316926 | 12,21 | 375293 | 14,36 | 478232 | 18,21 | 584587 | 22,33 |
| Total | 2595913 |  | 2613712 |  | 2626061 |  | 2618284 |  |
|  | Females |  |  |  |  |  |  |  |
| 15-19 | 201835 | 7,43 | 223358 | 8,11 | 213379 | 7,69 | 193687 | 6,98 |
| 20-24 | 79354 | 2,92 | 119743 | 4,35 | 166828 | 6,01 | 184891 | 6,66 |
| 25-29 | 39757 | 1,46 | 45757 | 1,66 | 80154 | 2,89 | 123361 | 4,44 |
| 30-34 | 35359 | 1,30 | 35505 | 1,29 | 43191 | 1,56 | 69956 | 2,52 |
| 35-39 | 37480 | 1,38 | 36984 | 1,34 | 39944 | 1,44 | 46554 | 1,68 |
| 15-39 | 393785 | 14,51 | 461347 | 16,75 | 543496 | 19,57 | 618449 | 22,28 |
| Total | 2714798 |  | 2754078 |  | 2776486 |  | 2775353 |  |

The changing behaviour of the population regarding marriage, which is a component of the transforming reproductive behaviour, is expressed in the increasing mean age at marriage. The postponement of marriage towards higher age is the main reason of the current low marriage intensity. Another, although probably not as substantial, reason of the low marriage level is a refusal of marriage as a form of a living arrangement by part of the population. It is also likely that a proportion of the population at risk of marriage would not find a suitable partner later in life and this would result in low marriage rates in the future as well. It is also possible that another part of the population will not be willing to change their life style and enter marriage
 which can result in spreading cohabitation or increasing number of singles.

The mean age at marriage has been increasing since the beginning of the 1990s. The trend is in a strong contrast to the previously well established model of early marriage. The age at marriage increases roughly equally among men and women. The difference in the mean age at marriage of men and women is about 3 years in the long-term.

During the period 1990 to 2006, the mean age at marriage increased by 5.1 years among men ( $19.7 \%$ ) and by 4,7 years among women ( $20.4 \%$ ). The increase was particularly intense in 2005 and 2006. Within 2004 to 2006 the mean age at marriage increased by 1,4 years for men $(4.6 \%)$ and by 1,2 years for women $(4.4 \%)$. In 2006 the indicator reached the highest ever recorded values of 31 years for men and almost 28 years for women.
The age of highest intensity of marriage has shifted into the higher age for both sexes and the peak in the intensity of marriage is ever less pronounced. In 2006, the highest age-specific marriage rate was at age 27 for men and at age 25 for women.

The intensity of marriage among men has been highest in the age group $25-29$ since the late 1990s. Marriage rates used to be highest for men aged $20-24$ until the mid-1990s. Since 2005 we can find higher marriage rates of men in the age group $30-34$ compared to the age group $20-24$. These shifts clearly demonstrate the postponement of marriage. The intensity of marriage at age 20-24 decreased by $83 \%$ since 1990. A remarkable decrease of $36 \%$ occurred during the period $2004-$ 2006. A similar pace of decline has not been recorded in any other age group. In contrast, marriage rates of men aged 30-34 years doubled compared to 1990 and the most significant increase has been recorded since2004 (10.9 \%).

Graph 1.3 Age specific marriage rates, males


Graph 1.4 Age specific marriage


Women used to experience the highest rates of marriage at age $20-24$. The most significant changes in marriage of women have been taking place during the recent period. In 2005 the highest intensity of marriage shifted into the age $25-29$. The intensity of marriage decrease the most within 19 years of age (decline in $86.7 \%$ comparing 1990 and 2006 and in $26.6 \%$ comparing 2006 to 2004). In contrast, the intensity of marriage doubled among women aged $30-34$ since 1990. It increased in 26.2 \% since 2004.

Tab. 1.3 Age-specific marriage rates by sex (per 1000 persons)

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Males |  |  |  |  |  |  |  |  |
| 15-19 | 12,8 | 6,8 | 3,2 | 2,7 | 2,5 | 2,3 | 3,4 | 2,5 | 2,3 |
| 20-24 | 113,4 | 65,0 | 39,5 | 33,1 | 30,5 | 28,5 | 29,2 | 22,0 | 18,6 |
| 25-29 | 49,8 | 36,2 | 42,6 | 40,7 | 43,5 | 45,2 | 47,3 | 44,1 | 43,0 |
| 30-34 | 13,1 | 11,6 | 16,4 | 16,0 | 18,7 | 20,9 | 23,6 | 24,6 | 26,2 |
| 35-39 | 6,1 | 5,1 | 6,7 | 6,6 | 8,0 | 9,0 | 9,7 | 10,8 | 11,8 |
| 40-44 | 4,1 | 2,8 | 3,4 | 3,3 | 4,0 | 4,6 | 4,6 | 5,3 | 5,9 |
| 45-49 | 3,2 | 2,4 | 2,6 | 2,3 | 2,7 | 2,6 | 2,9 | 3,4 | 3,4 |
| 50-54 | 2,0 | 1,6 | 2,1 | 2,0 | 2,0 | 2,3 | 2,2 | 2,3 | 2,5 |
| 55-59 | 1,6 | 1,3 | 1,6 | 1,4 | 1,6 | 1,9 | 1,9 | 2,0 | 1,9 |
|  | Females |  |  |  |  |  |  |  |  |
| 15-19 | 62,6 | 32,3 | 15,6 | 13,0 | 12,1 | 10,2 | 11,4 | 8,7 | 8,3 |
| 20-24 | 101,2 | 64,7 | 55,2 | 48,7 | 48,0 | 48,3 | 48,9 | 41,1 | 36,7 |
| 25-29 | 24,4 | 19,4 | 29,8 | 29,3 | 34,0 | 37,5 | 41,6 | 41,5 | 42,8 |
| 30-34 | 8,4 | 6,2 | 8,4 | 8,6 | 10,2 | 11,7 | 13,3 | 15,9 | 16,8 |
| 35-39 | 4,3 | 2,9 | 3,7 | 3,5 | 4,0 | 4,6 | 5,3 | 5,6 | 6,4 |
| 40-44 | 2,8 | 2,0 | 2,0 | 2,2 | 2,4 | 2,5 | 2,7 | 2,7 | 3,1 |
| 45-49 | 2,0 | 1,5 | 1,7 | 1,8 | 1,8 | 1,8 | 1,9 | 2,0 | 2,1 |
| 50-54 | 1,5 | 1,0 | 1,2 | 1,0 | 1,2 | 1,3 | 1,4 | 1,4 | 1,6 |
| 55-59 | 0,8 | 0,7 | 0,6 | 0,6 | 0,7 | 0,8 | 1,0 | 1,0 | 1,1 |

Trends in marriage of persons aged 35 and older support the postponement of marriage into higher age hypothesis. The share of marriage rates at age $35+$ on the total marriage rate was mere $9 \%$ among men in 1990 and $5.5 \%$ among women in the same calendar year. In 2006 the proportion increased to $23.2 \%$ among men ( $160 \%$ increase) and to $12.0 \%$ among women (120 \% increase).

Total number of marriage largely depends on the first marriage

The total marriage rate is sensitive to the changes in first marriage. Although the share of first marriage on the total number of marriages has been decreasing, it still is above $85 \%$. Trends in first marriage largely influence trends in total marriage: when the proportion of first marriage decreases, the total marriage rate usually decreases and vice-versa. This was the case also after the year 2001 when the decrease in marriage that latest for more than 20 years stopped. Similarly, the decreasing proportion of first marriage affected the declining marriage rates after 2004. The decrease in the proportion of first marriage was remarkable in 2005 and 2006 and it resulted in the historically lowest values in 2006 ( $82.5 \%$ of first marriages for men out of all marriages and $87.5 \%$ for women respectively).

Graph 1.5 First marriages


The share of mutually first marriages reached historically lowest value in 2006 as well. For the first time it decreased below $80 \%$. The second most frequent combination are repeated marriages of men and first marriages of women ( $7.9 \%$ ) and the third combination are repeated marriages of both partners ( $6.8 \%$ ).

Second marriages strongly prevail in re-marriage. In 2006, marriages of the third and higher order contributed only $1 \%$ to total number of marriages of men and by $0.8 \%$ to the total number of marriages of women.

Trend in the repeated marriage differs to the first marriage trend for both men and women. The first marriage rate has been decreasing since 1990 (with an exception of the period 20022004) and the intensity of the repeated marriage has been fluctuating. Due to low number of the repeated marriage it is difficult to tell the exact tendency. Total repeated marriage rate was historically highest in 2006. However, the overall intensity was low in comparison to first marriage. Thus, the repeated marriage cannot compensate the decrease in the first marriage and it does not influence the total marriage rate significantly.

Tab. 1.4 Marriages by marital status

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total marriages | 40435 | 27489 | 25903 | 23795 | 25062 | 26002 | 27885 | 26149 | 25939 |
|  | Mutually first marriages |  |  |  |  |  |  |  |  |
| Marriages | 34517 | 23503 | 21592 | 19631 | 20474 | 21183 | 23475 | 21314 | 20637 |
| Proportion from total | 85,4 | 85,5 | 83,4 | 82,5 | 81,7 | 81,5 | 84,2 | 81,5 | 79,6 |
|  | Marriages of single man and widowed or divorced woman |  |  |  |  |  |  |  |  |
| Marriages | 1682 | 1068 | 1176 | 1116 | 1234 | 1294 | 1208 | 1376 | 1469 |
| Proportion from total | 4,2 | 3,9 | 4,5 | 4,7 | 4,9 | 5,0 | 4,3 | 5,3 | 5,7 |
|  | Marriages of divorced or widowed man and single woman |  |  |  |  |  |  |  |  |
| Marriages | 2252 | 1575 | 1651 | 1567 | 1764 | 1419 | 1612 | 1834 | 2057 |
| Proportion from total | 5,6 | 5,7 | 6,4 | 6,6 | 7,0 | 5,5 | 5,8 | 7,0 | 7,9 |
|  | Mutually remarriages |  |  |  |  |  |  |  |  |
| Marriages | 1984 | 1343 | 1484 | 1481 | 1590 | 2106 | 1590 | 1625 | 1776 |
| Proportion from total | 4,9 | 4,9 | 5,7 | 6,2 | 6,3 | 8,1 | 5,7 | 6,2 | 6,8 |

Mean age at marriage is increasing irrespective of marriage order. The average duration since the previous marriage does not change significantly, so the increasing mean age at marriage is caused by the postponement of first marriage towards higher age. The mean age at re-marriage has been increasing during a longer period of time. The difference between sexes remains unchanged and it is more pronounced at re-marriage than at first marriage. During the period 1995 - 2006, the mean age at first marriage increased by 4.1 years among men and in 3.9 years among women. The increase of mean age at repeated marriage was a bit slower: +3.7 years among men and +2.8 years by women.

First marriage rates are highest among men aged $25-29$ and among women aged 20 -24 since 2000 . In case of re-marriage, the highest rates are recorded at age $35-39$ years for men and at age $30-34$ for women.

Graph 1.7 Mean age at first marriage and remarriage


Graph 1.6 Total first marriage rate and total remarriage


Graph 1.8 Mean age at marriage by marital status


Divorced persons most frequently enter into re-marriage and the proportion of the widowed is very low. In 2006, $94.8 \%$ of re-marrying grooms and $95.5 \%$ of the re-marrying brides were divorced.

Speaking of the mean age at entering marriage, single persons dominate at lowest age, followed by divorced at higher age and widowed persons display the highest mean age at marriage. The age pattern fully corresponds to the logic of the family cycle and the life course. The mean at age at marriage increases depending on the marital status for both men and women. However, men keep having higher age at marriage compared to women at any marital status. Divorce and widowhood are
being shifted towards the higher age due to the postponement of first marriage and the increasing duration of divorced marriage. Also a prolonging lifespan plays a role as it influences a potential of re-marrying.

Tab. 1.5 Age specific marriage rates by marital status

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Single males |  |  |  |  |  |  |  |  |
| 15-19 | 12,9 | 6,8 | 3,2 | 2,7 | 2,5 | 2,3 | 3,4 | 2,5 | 2,3 |
| 20-24 | 112,1 | 64,5 | 39,2 | 32,9 | 30,4 | 28,4 | 29,1 | 22,0 | 18,6 |
| 25-29 | 45,7 | 33,7 | 40,6 | 39,0 | 41,8 | 43,6 | 46,0 | 42,9 | 42,1 |
| 30-34 | 8,9 | 8,6 | 13,1 | 12,9 | 15,2 | 17,3 | 20,5 | 21,3 | 22,8 |
| 35-39 | 2,6 | 2,7 | 4,1 | 3,8 | 4,7 | 5,4 | 6,5 | 7,3 | 7,6 |
| 40-44 | 1,0 | 0,8 | 1,3 | 1,2 | 1,6 | 2,0 | 2,3 | 2,6 | 2,5 |
| 45-49 | 0,6 | 0,4 | 0,6 | 0,5 | 0,5 | 0,6 | 1,0 | 1,1 | 1,0 |
|  | Single females |  |  |  |  |  |  |  |  |
| 15-19 | 65,5 | 32,3 | 15,6 | 13,0 | 12,1 | 10,1 | 11,4 | 8,7 | 8,3 |
| 20-24 | 98,6 | 63,4 | 54,3 | 48,1 | 47,3 | 47,7 | 48,4 | 40,7 | 36,3 |
| 25-29 | 19,9 | 16,4 | 26,8 | 26,6 | 31,2 | 34,9 | 39,3 | 39,0 | 40,6 |
| 30-34 | 4,7 | 4,0 | 5,4 | 5,7 | 7,0 | 8,5 | 10,2 | 12,2 | 13,2 |
| 35-39 | 1,7 | 1,2 | 1,7 | 1,4 | 1,7 | 2,1 | 2,8 | 3,1 | 3,3 |
| 40-44 | 0,8 | 0,5 | 0,5 | 0,5 | 0,7 | 0,6 | 0,9 | 0,9 | 0,9 |
| 45-49 | 0,3 | 0,3 | 0,3 | 0,3 | 0,3 | 0,3 | 0,5 | 0,5 | 0,5 |
|  | Divorced and widowed males |  |  |  |  |  |  |  |  |
| 15-19 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| 20-24 | 1,3 | 0,6 | 0,2 | 0,2 | 0,2 | 0,1 | 0,1 | 0,1 | 0,1 |
| 25-29 | 4,1 | 2,6 | 2,0 | 1,7 | 1,6 | 1,6 | 1,4 | 1,1 | 1,0 |
| 30-34 | 4,1 | 3,0 | 3,4 | 3,1 | 3,4 | 3,6 | 3,1 | 3,3 | 3,3 |
| 35-39 | 3,5 | 2,4 | 2,6 | 2,9 | 3,3 | 3,5 | 3,2 | 3,5 | 4,2 |
| 40-44 | 3,1 | 2,0 | 2,1 | 2,1 | 2,4 | 2,6 | 2,3 | 2,7 | 3,4 |
| 45-49 | 2,6 | 1,9 | 2,0 | 1,8 | 2,2 | 2,0 | 1,9 | 2,2 | 2,4 |
|  | Divorced and widowed females |  |  |  |  |  |  |  |  |
| 15-19 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
| 20-24 | 2,6 | 1,3 | 0,8 | 0,6 | 0,6 | 0,5 | 0,4 | 0,4 | 0,4 |
| 25-29 | 4,5 | 3,0 | 3,1 | 2,6 | 2,8 | 2,6 | 2,4 | 2,5 | 2,2 |
| 30-34 | 3,7 | 2,3 | 2,9 | 2,9 | 3,2 | 3,2 | 3,2 | 3,7 | 3,7 |
| 35-39 | 2,6 | 1,7 | 2,0 | 2,1 | 2,3 | 2,4 | 2,5 | 2,5 | 3,1 |
| 40-44 | 2,0 | 1,5 | 1,5 | 1,6 | 1,7 | 1,9 | 1,7 | 1,8 | 2,3 |
| 45-49 | 1,8 | 1,2 | 1,4 | 1,5 | 1,5 | 1,5 | 1,3 | 1,5 | 1,7 |

## Spouses are most likely to have same level of education

Spreading higher education within the population is reflected also in marriage by educational level of spouses. While in $199010.9 \%$ of men and 13.9 \% of women entered marriage being elementary educated, the proportion has decreased to $7.2 \%$ by men and 8.7 \% by women until 2006. Changes in educational level of persons getting married are influenced also by the postponement of marriage, which is often closely connected to the achievement of higher education.

Marriages of spouses having identical educational level at marriage prevail among couples and their proportion on the total number of marriages is increasing. In 2006 more than $61 \%$ of men and women had the same attained education at marriage. If spouses have different educational level at marriage, women tend to have higher education than their partners. In 2006, women had higher education than their partners in $22.8 \%$ of marriages and in $15.6 \%$ of marriages men had higher educational level. In $4 \%$ of marriages the difference between the educational level of spouses considered 2 educational levels and also in this group women more frequently married less educated partners (in $60 \%$ of the cases woman had higher degree).

Tab. 1.6 Marriages by education at marriage in 2006

|  |  |  | Education of woman <br> Secondary with leaving exam |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Education of man |  | Total | Elementary | Secondary without leaving exam |  |
| Total | 25939 | 2254 |  | 13547 |  |
| Elementary | 1857 | 1364 | 3764 | 197 |  |
| Secondary without leaving exam | 6035 | 565 | 278 | 2838 |  |
| Secondary with leaving exam | 12231 | 298 | 2252 | 859 |  |
| University | 5816 | 27 | 1129 | 18 |  |

## 2. DIVORCE

Tab. 2.1 The main divorce indicators

|  | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Divorces | 8867 | 8978 | 9273 | 9817 | 10960 | 10716 | 10889 | 11553 |
| Divorce petitions turned into divorce (\%) | 68,8 | 76,3 | 77,1 | 78,9 | 79,7 | 78,8 | 78,6 | 80,5 |
| Total divorce rate | 0,229 | 0,241 | 0,269 | 0,287 | 0,328 | 0,326 | 0,336 | 0,361 |
| Mean age at divorce - males | 36,30 | 36,47 | 38,15 | 38,56 | 38,53 | 38,88 | 39,31 | 39,60 |
| Mean age at divorce - females | 33,70 | 33,89 | 35,66 | 36,08 | 36,00 | 36,33 | 36,74 | 36,90 |
| Average duration of marriage | 10,70 | 11,19 | 12,73 | 13,12 | 13,06 | 13,34 | 13,59 | 14,40 |
| Divorce with under aged children $(\%)$ | 74,3 | 75,5 | 70,2 | 70,1 | 70,2 | 69,7 | 67,3 | 65,9 |

The long-term increase in the number and level of divorce even accelerated in 2005 and 2006. Total number of divorces exceeded 11.5 thousand in 2005 (increase in 664 cases compared to 2004, in $6.1 \%$ respectively) and in 2006 it reached 12.7 thousand cases (increase in 1163 cases compared to 2005, in $10.1 \%$ respectively).


The historically highest number of divorces is mirrored in the highest divorce rates. For the first time in the history, the total divorce rate exceeded $40 \%$ in 2006, which means that 40 out of 100 marriages end up in divorce. The divorce rate increased in $7.4 \%$ in 2005 and in $11.4 \%$ in 2006 compared to the previous year. Taking into account a development during the latest 25 years, the increase in divorce rate similar to the one 2006 was recorded in 2002 only.

The upswing in divorce recorded in 2006 was not a response to the changing legislation, since no such changes occurred. Neither the changing behaviour of the population with respect to divorce was driving the rapid increase. Most likely, the main reason was a rapid increase in the proportion of the divorce petitions resulting in divorce. The proportion of the divorce applications turned into divorce has been increasing in the long-run, however, no major swings in the proportion have been recorded until 2005 and the increase was gradual. In 2005, the proportion of divorce petitions turned into divorce exceeded $80 \%$ and in 2006 even $90 \%$. We can speak of an unprecedented increase in 2006 and the degree of the increase fully responds to the increase in the divorce rate. The reasons for such development lay in the judicial practice: either in the increasing effectiveness of the courts or in the changing attitudes of judges regarding the decision to divorce a marriage.

## Divorce immediately after the wedding is declining, however, divorce increases among the longstanding marriages

The average duration of marriage at divorce has increased since 1991. In the 1970s and 1980s most marriages divorced in duration of 10 to 11 years while currently it is after 15 years. The duration of divorcing marriage increased in 4.5 years ( $43 \%$ ) during 1992-2006.

The increasing duration of marriage at divorce is a result of the decreasing divorce immediately after the wedding and of an increasing disruption of the long-standing marriages. In 1990, $12.7 \%$ of marriages lasting up to 2 years divorced and divorced marriages lasting at least 25 years contributed $6.7 \%$. In contrast, only $6 \%$ of the divorced marriages lasted up to 2 years in 2006 while $13.6 \%$ of divorced marriages lasted 25 or more years.

The decreasing divorce immediately after stepping into marriage is presumably linked to the increasing age at first marriage. Marriages entered in an early age, and often provoked by bride's pregnancy, set certain predispositions for less stability and consequently higher divorce rate early after the wedding (Pilinská 2005).

Number of children in families and their age largely influence marital disruption and the timing of divorce. In general, couples with young children are less likely to divorce compared to the couples with older children or childless couples. Divorce rates of marriages having under aged children is highest during the $6^{\text {th }}$ to $16^{\text {th }}$ year of marriage duration, which means that couples having small children in the first years of marriage are less likely to divorce during that time. Couples having small children later after the wedding (and in the higher age) are less likely to divorce as well. In contrast, marriages without
under aged children are more likely to divorce within 2 years or after 20 years of the marriage duration. In the first case, childless marriages are fragile; in the latter case couples having adult children are more likely to divorce.


The age at divorce was unchanged until the beginning of the 1990s and it has been increasing ever since. The increasing age at divorce is caused by the increasing age at marriage and the prolonging average duration of divorcing marriage. Among divorcing men, the mean age at divorce has increased in 4 years during 1992-2006 and it has exceeded age 40 . Among women, the mean age at divorce has increased to 37.3 years. The difference in the mean age at divorce of about 3 years is a result of the difference in the mean age at marriage.

The age at which the divorce rate is highest shifts towards more advanced age among both men and women. Men experience high divorce risk at age $30-44$, and since 2006 divorce rate is highest among 35-39 year olds. Women experience highest divorce rates during the same age interval, however, the age distribution is slightly different compared to men and the highest divorce rates are among 30-34 year old women.

Graph 2.5 Age specific divorce rate in selected years, males


Graph 2.4 Mean age at divorce


Graph 2.6 Age specific divorce rate in selected years, females


Tab. 2.2 Age specific divorce rate by sex ( 1000 persons)

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Males |  |  |  |  |  |  |  |  |
| 15-19 | 0,07 | 0,05 | 0,01 | 0,02 | 0,02 | 0,01 | 0,04 | 0,01 | 0,02 |
| 20-24 | 3,89 | 3,46 | 1,91 | 1,64 | 1,69 | 1,44 | 1,28 | 1,04 | 1,04 |
| 25-29 | 8,82 | 9,30 | 7,65 | 7,71 | 8,35 | 7,37 | 6,65 | 6,33 | 6,24 |
| 30-34 | 9,20 | 9,19 | 9,88 | 10,24 | 11,26 | 11,03 | 11,06 | 11,83 | 11,92 |
| 35-39 | 7,97 | 8,12 | 8,25 | 8,95 | 10,63 | 10,56 | 10,77 | 11,56 | 13,52 |
| 40-44 | 6,77 | 6,75 | 6,99 | 7,94 | 8,81 | 8,92 | 9,22 | 9,95 | 11,53 |
| 45-49 | 4,72 | 5,05 | 5,65 | 6,28 | 6,90 | 6,87 | 7,07 | 7,78 | 8,54 |
| 50-54 | 3,22 | 2,76 | 4,07 | 4,28 | 4,48 | 4,50 | 4,82 | 5,18 | 5,82 |
| 55-59 | 1,87 | 1,56 | 1,91 | 2,34 | 2,74 | 2,57 | 2,77 | 2,96 | 3,34 |
| 60-64 | 1,16 | 0,84 | 1,18 | 1,12 | 1,12 | 1,22 | 1,45 | 1,49 | 1,70 |
| 65+ | 1,12 | 0,97 | 1,17 | 1,20 | 1,17 | 1,13 | 1,22 | 1,09 | 1,49 |
|  | Females |  |  |  |  |  |  |  |  |
| 15-19 | 0,35 | 0,29 | 0,12 | 0,12 | 0,10 | 0,09 | 0,08 | 0,05 | 0,06 |
| 20-24 | 8,17 | 7,29 | 4,46 | 4,15 | 4,61 | 3,91 | 3,60 | 3,19 | 3,11 |
| 25-29 | 9,95 | 10,35 | 9,99 | 9,81 | 11,03 | 10,01 | 9,60 | 9,82 | 9,76 |
| 30-34 | 8,96 | 8,90 | 9,25 | 10,25 | 11,23 | 11,57 | 11,77 | 12,23 | 13,49 |
| 35-39 | 7,21 | 7,41 | 7,52 | 8,66 | 9,77 | 9,66 | 9,63 | 10,85 | 12,67 |
| 40-44 | 5,63 | 5,79 | 6,23 | 6,91 | 7,70 | 7,91 | 8,36 | 8,82 | 10,49 |
| 45-49 | 3,18 | 3,50 | 4,80 | 4,87 | 5,49 | 5,21 | 5,52 | 6,37 | 6,59 |
| 50-54 | 1,97 | 1,71 | 2,63 | 3,01 | 2,97 | 3,18 | 3,32 | 3,59 | 3,89 |
| 55-59 | 1,05 | 0,77 | 1,06 | 1,21 | 1,51 | 1,45 | 1,55 | 1,50 | 1,92 |
| 60+ | 1,01 | 0,65 | 0,80 | 0,83 | 0,74 | 0,80 | 0,95 | 0,92 | 1,15 |

The number of under aged children directly affected by divorce decreases

Until the mid-1990s, over $70 \%$ of the divorcing families had under aged children. Since the second half of the 1990s, the proportion of these families has been decreasing. The lowest proportion of $65.9 \%$ was recorded in 2005. The trend is primarily caused by the postponement of childbearing and by the decreasing fertility. Families have less children and the proportion of first children born in the third year of marriage and later has been increasing. In 1996, an average divorcing marriage had 1.17 under aged children, while in 2006 it was only 1 under aged child per 1 divorce.

Graph 2.7 Divorces by children


Differences in personality, opinion and interests ever more dominate the causes of divorce

Graph 2.8 Divorces by main cause in side of man


Graph 2.9 Divorces by main cause in side of woman


Tab. 2.3 Divorces by cause in 2006

| Cause on side of man | Divorces total | Cause ion side of woman |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |
| Divorces total | 12716 | 281 | 149 | 767 | 268 | 19 | 7796 | 38 | 57 | 1391 | 1950 |
| 1 over-hasty marriage | 281 | 281 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 alcoholism | 1255 | 0 | 71 | 76 | 13 | 4 | 0 | 3 | 0 | 344 | 744 |
| 3 infidelity | 1292 | 0 | 13 | 218 | 21 | 2 | 0 | 7 | 0 | 378 | 653 |
| 4 lack of interest in the family | 653 | 0 | 5 | 35 | 145 | 0 | 0 | 6 | 0 | 151 | 311 |
| 5 ill-treatment | 225 | 0 | 1 | 14 | 7 | 11 | 0 | 0 | 0 | 46 | 146 |
| 6 personal differences | 7796 | 0 | 0 | 0 | 0 | 0 | 7796 | 0 | 0 | 0 | 0 |
| 7 health reasons | 19 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 5 | 10 |
| 8 sexual incompatibility | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57 | 0 | 0 |
| 9 other causes | 833 | 0 | 29 | 214 | 38 | 0 | 0 | 9 | 0 | 457 | 86 |
| 0 court did not find the fault | 305 | 0 | 29 | 207 | 44 | 2 | 0 | 13 | 0 | 10 | 0 |

Causes of divorce display a stable trend since the 1980s. A majority of divorce is attributed to differences in personality, opinion and interests. The proportion of this cause of divorce is increasing and in 2006 it exceeded $60 \%$. The proportion of all other causes of divorce is declining, although the proportion of divorces caused by infidelity (both sexes) and alcoholism (of men) remains unchanged since 2000.

The proportion of divorce with the same cause on the side of women and men is increasing as a result of the rising proportion of divorce attributed to differences in personality, opinion and interests. In 1996, $61.9 \%$ of divorce had the same cause on the side of wife and the husband while it increased to $71.1 \%$ in 2006 . Ever less divorce is caused by one of the partners (a drop from $26.4 \%$ in 1996 to $17.7 \%$ in 2006). Men are more frequently responsible for marital disruption (in $85 \%$ ) in cases only one of the partners was found responsible and the trend is stable over time.

Men who claimed an over-hasty marriage to marry the cause of divorce had the lowest mean age at divorce in 2006 ( 34 years). The highest mean age at divorce was recorded among men whose marital disruption was caused by alcoholism ( 42.7 years). The situation is similar among women: women who claimed an over-hasty marriage to marry were youngest at divorce ( 30.6 years) and oldest were women whose marriage failed due to alcoholism (40.5). The above mentioned trends are not changing over time.

Tab. 2.4 Divorces by cause, age and under aged children - males

|  | Divorces total | Cause on side of man |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| Total | 12716 | 281 | 1255 | 1292 | 653 | 225 | 7796 | 19 | 57 | 833 | 305 |
| of which age: |  |  |  |  |  |  |  |  |  |  |  |
| -19 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 20-24 | 236 | 25 | 14 | 22 | 18 | 5 | 136 | 0 | 1 | 9 | 6 |
| 25-29 | 1494 | 82 | 61 | 166 | 86 | 22 | 936 | 2 | 10 | 87 | 42 |
| 30-34 | 2651 | 76 | 175 | 282 | 145 | 44 | 1687 | 2 | 9 | 166 | 65 |
| 35-39 | 2479 | 47 | 230 | 244 | 128 | 45 | 1541 | 5 | 11 | 171 | 57 |
| 40-44 | 2202 | 17 | 276 | 243 | 94 | 45 | 1325 | 5 | 5 | 136 | 56 |
| 45-49 | 1680 | 15 | 245 | 159 | 74 | 33 | 986 | 1 | 11 | 118 | 38 |
| 50-54 | 1143 | 11 | 164 | 114 | 62 | 17 | 666 | 2 | 6 | 84 | 17 |
| 55-59 | 526 | 4 | 62 | 39 | 32 | 10 | 321 | 1 | 1 | 41 | 15 |
| 60-64 | 181 | 0 | 21 | 18 | 8 | 3 | 112 | 0 | 1 | 13 | 5 |
| 65+ | 123 | 4 | 7 | 5 | 6 | 1 | 85 | 1 | 2 | 8 | 4 |
| Mean age | 40,04 | 34,02 | 42,72 | 39,44 | 39,48 | 40,14 | 39,91 | 42,13 | 40,59 | 40,69 | 39,42 |
| Under aged children: |  |  |  |  |  |  |  |  |  |  |  |
| 0 | 4242 | 122 | 423 | 406 | 197 | 45 | 2624 | 10 | 29 | 294 | 92 |
| 1 | 4968 | 120 | 408 | 460 | 259 | 82 | 3180 | 6 | 20 | 313 | 120 |
| 2 | 2945 | 34 | 337 | 357 | 167 | 80 | 1700 | 2 | 7 | 188 | 73 |
| 3 | 449 | 5 | 67 | 57 | 18 | 14 | 235 | 1 | 1 | 34 | 17 |
| 4+ | 112 | 0 | 20 | 12 | 12 | 4 | 57 | 0 | 0 | 4 | 3 |
| Average number | 1,00 | 0,72 | 1,10 | 1,08 | 1,07 | 1,34 | 0,97 | 0,68 | 0,65 | 0,97 | 1,08 |

Tab. 2.5 Divorces by cause, age and under aged children - females

|  | Divorces total | Cause on side of woman |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| Total | 12716 | 281 | 149 | 767 | 268 | 19 | 7796 | 38 | 57 | 1391 | 1950 |
| of which age: |  |  |  |  |  |  |  |  |  |  |  |
| -19 | 12 | 5 | 0 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | 0 |
| 20-24 | 678 | 57 | 1 | 50 | 13 | 2 | 409 | 0 | 3 | 45 | 98 |
| 25-29 | 2246 | 107 | 14 | 193 | 42 | 1 | 1412 | 6 | 17 | 219 | 235 |
| 30-34 | 2908 | 57 | 24 | 193 | 55 | 3 | 1863 | 10 | 10 | 276 | 417 |
| 35-39 | 2276 | 19 | 39 | 137 | 48 | 6 | 1391 | 3 | 7 | 251 | 375 |
| 40-44 | 1996 | 16 | 30 | 103 | 34 | 3 | 1189 | 6 | 8 | 262 | 345 |
| 45-49 | 1307 | 9 | 23 | 53 | 34 | 2 | 762 | 4 | 7 | 166 | 247 |
| 50-54 | 803 | 5 | 11 | 30 | 20 | 0 | 467 | 4 | 3 | 114 | 149 |
| 55-59 | 337 | 3 | 5 | 7 | 12 | 1 | 204 | 4 | 2 | 37 | 62 |
| 60-64 | 101 | 2 | 2 | 1 | 8 | 0 | 58 | 0 | 0 | 15 | 15 |
| 65+ | 52 | 1 | 0 | 0 | 2 | 1 | 35 | 0 | 0 | 6 | 7 |
| Mean age | 37,37 | 30,62 | 40,48 | 34,82 | 39,09 | 39,39 | 37,18 | 39,34 | 36,41 | 38,66 | 38,70 |
| Under aged children: |  |  |  |  |  |  |  |  |  |  |  |
| 0 | 4242 | 122 | 50 | 189 | 115 | 9 | 2624 | 24 | 29 | 469 | 611 |
| 1 | 4968 | 120 | 58 | 319 | 88 | 2 | 3180 | 9 | 20 | 509 | 663 |
| 2 | 2945 | 34 | 30 | 214 | 51 | 7 | 1700 | 4 | 7 | 339 | 559 |
| 3 | 449 | 5 | 10 | 33 | 9 | 1 | 235 | 0 | 1 | 64 | 91 |
| 4+ | 112 | 0 | 1 | 12 | 5 | 0 | 57 | 1 | 0 | 10 | 26 |
| Average number | 1,00 | 0,72 | 1,03 | 1,17 | 0,90 | 1,00 | 0,97 | 0,55 | 0,65 | 1,03 | 1,11 |

Partners whose marriage collapsed as a result of sexual or health problems had on average least children according to 2006 data. Most children were in divorcing marriages caused by ill-treatment and infidelity. In this case the trend displays variations over time.

## 3. Fertility

Tab. 3.1 The main fertility indicators

|  | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ | $\mathbf{2 0 0 6}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Births | 80390 | 61668 | 55366 | 51343 | 51035 | 51930 | 53958 | 54625 | 54122 |
| $\quad$ Live births | 79989 | 61427 | 55151 | 51136 | 50841 | 51713 | 53747 | 54430 | 53904 |
| $\quad$ Stillbirths | 401 | 241 | 215 | 207 | 194 | 217 | 211 | 195 | 218 |
| Extra-marital live births | 6085 | 7747 | 10069 | 10105 | 10984 | 12073 | 13319 | 14136 | 14820 |
| Extra-marital live births in \% | 7,6 | 12,6 | 18,3 | 19,8 | 21,6 | 23,3 | 24,8 | 26,0 | 27,5 |
| Total fertility rate | 2,085 | 1,523 | 1,292 | 1,198 | 1,185 | 1,199 | 1,241 | 1,253 | 1,239 |
| Net reproduction rate | 0,993 | 0,73 | 0,625 | 0,566 | 0,569 | 0,575 | 0,594 | 0,601 | 0,596 |
| Mean age at childbearing | 25,11 | 25,64 | 26,59 | 26,83 | 27,02 | 27,26 | 27,45 | 27,70 | 27,91 |
| Mean age at first birth | 22,66 | 23,01 | 24,16 | 24,35 | 24,72 | 25,01 | 25,35 | 25,69 | 25,95 |

The main trends in fertility - the postponement of childbearing and the increasing proportion of extra-martial births - have continued in 2005 and 2006. The number of births has increased to 54 thousand after the minimum of 51 thousand was recorded in 2001 - 2002. In 1990 the number of births was at about 80 thousand. The trend reversal in fertility in 2003 was pronounced in both the number of births and in increasing average number of children per woman (total fertility rate). However, the upswing of fertility lasted only until 2005 and it slowed down in 2006 despite the expected gradual increase in fertility rates. The reason for the drop in fertility in 2006 is probably the decrease in nuptiality, which was recorded in 2005 and 2006 (see the chapter Nuptiality). Still about $75 \%$ of children are being born into marriage in Slovakia and, hence, the trends in nuptiality significantly influence fertility. In 2004 the intensity of nuptiality increased which was mirrored in the rise of the total fertility rate in 2005 ; however, fertility rates in 2006 are clearly affected by the decreasing intensity of stepping into first marriage in 2005 and 2006.

The total fertility rate remains deep below the replacement level. The net reproduction rate, which expresses the replacement of the cohorts of potential mothers within the population, is $40 \%$ lower than 1 , which is a value at which cohorts of the current mothers are fully replaced by the daughters.

Three phases can be distinguished in fertility trends during the period 1990-2006: in 1990-1995 a rapid drop in number of births and total fertility rate from 2.09 to 1.52 children per woman in reproductive age occurred; at a lower pace decreasing fertility indicators until the historical minimum of 1.19 children per woman was reached in 2002; and finally a slight upswing in the number of births and in total fertility rate has followed (to about 1.24 children per woman). Despite the trend reversal, Slovakia remains a lowest-low fertility country (total fertility rate below 1.3 children per woman; Billari, Kohler, Ortega 2002) and a country with one of the lowest total fertility rate within Europe. Billari, Kohler and Ortega (ibid) relate the emergence of the lowest-low fertility to the changing timing of childbearing; namely to the shifts from the early towards the later childbearing. Late childbearing is typical for the western European countries.

## Postponement of childbearing into higher age continues

The postponement of childbearing is evident from the rising mean ages of mothers at birth: in 2006 the mean age of mother at childbirth increased to 27.9 years and the mean age of mother at first birth to 26 years. Similarly, the median age (age up to which $50 \%$ of births occurred in a given year) has increased from 24.2 to 27.9 years during 1990 - 2006. The growth in the mean age at first birth was more dynamic compared to the mean age at childbearing. The mean age at first birth increased in 3.3 years during $1990-2006$, while the most intense prolongation of $(+1.8$ years) occurred during the past 7
years. A rapid growth of the timing indicators signifies the transition towards the new reproductive model, the nature of which becomes clearer during the last several years.

The drop of fertility rates was pronounced in all age categories in 1990 - 1995. Afterwards, the age-specific fertility rates started to increase among women aged $30+$ and this trend has been clearly visible since 2000 . Age-specific fertility rates of women aged $30-34$ increased in $39 \%$ between 2000 and 2006 and among women aged $35+$ the rates increased slightly less in $35 \%$. The proportion of women aged 35 to 49 years on the total fertility rate was only $4.3 \%$ in 1990; however, in 2006 the value reached $10 \%$. The change is even more pronounced in case of women aged $30+$ and these women contributed $35 \%$ to the total fertility rate in 2006. It means that currently more than $1 / 3$ of children are being born to mothers older than 29 years. The increase of fertility rates among women aged $30+$ is not surprising. The trend relates to the transformation of reproductive behaviour and it is expected to continue in the future.

In 2005 the expected trend of gradually increasing fertility rates of women aged $25+$ continued and the total fertility rated reached 1.25 children per woman. The age-specific fertility rates of women aged $20-24$ were still slightly decreasing in 2006 as it was assumed, however, the unexpected drop occurred also among $25-29$ year old women. In the latter age group the agespecific fertility rates were increasing in 2003-5. Most likely the deviation in the trend will only be temporary since it is expected to be related to the drop in nuptiality rates in 2005 and 2006. Women aged 25 to 29 years currently have highest fertility rates and in case the fertility decline would persist among them the expected recuperation would stop and the total fertility rate would remain at the very low level.

Tab. 3.2 Indicators of period fertility quantum

|  | Age-specific fertility rates (\%) |  |  |  |  | Share of age groups on the TFR (\%) |  |  |  |  | TFR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 15-19 | 20-24 | 25-29 | 30-34 | 35+ | 15-19 | 20-24 | 25-29 | 30+ | 35+ |  |
| 1990 | 242,0 | 936,5 | 582,6 | 234,2 | 89,4 | 11,6 | 44,9 | 27,9 | 15,5 | 4,3 | 2,085 |
| 1995 | 161,7 | 622,9 | 453,6 | 200,0 | 83,9 | 10,6 | 40,9 | 29,8 | 18,7 | 5,5 | 1,522 |
| 2000 | 118,2 | 420,6 | 438,3 | 220,2 | 94,6 | 9,1 | 32,5 | 33,9 | 24,4 | 7,3 | 1,292 |
| 2001 | 104,7 | 365,4 | 419,0 | 216,1 | 92,3 | 8,7 | 30,5 | 35,0 | 23,9 | 7,7 | 1,198 |
| 2002 | 104,4 | 340,6 | 415,3 | 227,6 | 96,4 | 8,8 | 28,7 | 35,1 | 27,0 | 8,1 | 1,185 |
| 2003 | 100,6 | 322,5 | 425,5 | 248,0 | 102,3 | 8,4 | 26,9 | 35,5 | 29,6 | 8,5 | 1,199 |
| 2004 | 99,0 | 324,0 | 436,2 | 268,5 | 112,6 | 8,0 | 26,1 | 35,2 | 31,8 | 9,1 | 1,241 |
| 2005 | 98,7 | 304,3 | 440,1 | 288,3 | 121,0 | 7,9 | 24,3 | 35,1 | 33,0 | 9,7 | 1,253 |
| 2006 | 99,0 | 282,6 | 422,6 | 306,9 | 127,7 | 8,0 | 22,8 | 34,1 | 34,7 | 10,3 | 1,239 |
|  | Change in \% |  |  |  |  |  |  |  |  |  | Change in \% |
| Index 1995/1990 | -33 | -33 | -22 | -15 | -6 |  |  |  |  |  | -27 |
| Index 2000/1995 | -27 | -32 | -3 | 10 | 13 |  |  |  |  |  | -15 |
| Index 2006/2000 | -16 | -33 | -4 | 39 | 35 |  |  |  |  |  | -4 |
| Index 2006-1990 | -59 | -70 | -27 | 31 | 43 |  |  |  |  |  | -41 |

Tab. 3.3 Selected indicators of period fertility tempo

|  | Mean age at childbearing | Mean age at first birth | \% of completed childbearing (age in years) |  |  |  |  | Difference (in years) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 50\% | 10\% | 25\% | 75\% | 90\% | 90-10\% | 75-25\% |
| 1990 | 25,11 | 22,66 | 24,22 | 19,75 | 21,51 | 27,83 | 31,90 | 12,2 | 6,3 |
| 1995 | 25,64 | 23,01 | 24,81 | 19,89 | 21,83 | 28,61 | 32,78 | 12,9 | 6,8 |
| 2000 | 26,59 | 24,16 | 26,07 | 20,16 | 22,69 | 29,89 | 33,86 | 13,7 | 7,2 |
| 2001 | 26,83 | 24,35 | 26,39 | 20,27 | 22,97 | 30,16 | 34,05 | 13,8 | 7,2 |
| 2002 | 27,02 | 24,72 | 26,65 | 20,26 | 23,09 | 30,45 | 34,28 | 14,0 | 7,4 |
| 2003 | 27,26 | 25,01 | 26,99 | 20,37 | 23,37 | 30,74 | 34,48 | 14,1 | 7,4 |
| 2004 | 27,45 | 25,35 | 27,22 | 20,47 | 23,51 | 30,96 | 34,69 | 14,2 | 7,5 |
| 2005 | 27,70 | 25,69 | 27,60 | 20,57 | 23,78 | 31,29 | 34,90 | 14,3 | 7,5 |
| 2006 | 27,91 | 25,95 | 27,91 | 20,54 | 23,93 | 31,61 | 35,13 | 14,6 | 7,7 |
| Difference 1995-1990 | 0,53 | 0,35 | 0,59 | 0,14 | 0,32 | 0,79 | 0,88 | 0,74 | 0,47 |
| Difference 2000-1995 | 0,96 | 1,15 | 1,26 | 0,28 | 0,87 | 1,27 | 1,08 | 0,80 | 0,41 |
| Difference 2006-2000 | 1,32 | 1,79 | 1,84 | 0,38 | 1,24 | 1,73 | 1,27 | 0,89 | 0,49 |
| Difference 2006-1990 | 2,80 | 3,29 | 3,68 | 0,80 | 2,42 | 3,79 | 3,22 | 2,43 | 1,36 |

The low fertility is caused to a large degree by the postponement of childbearing. In case this explanation holds a rising fertility trends should follow and the stagnation of the total fertility rate at the current very low level is only temporary. The recuperation of fertility rates is expected to take place as the new model of reproductive behaviour gets clearly pronounced. The drop in fertility in 2006 suggests that the situation is more complex and the steady growth in fertility is not as straightfor-
ward as it has been expected. Frejka and Sardon (2004) argued that despite the postponement of childbearing is the main cause of the rapid drop and persisting low fertility in the post-socialist countries, the consequence of such development will be low completed fertility ${ }^{1}$ of the cohorts of women born in the mid-1970s. The delayed childbearing will not result in mere shifts in fertility rates, but it will have impact the fertility quantum as well.

## The variety of reproductive strategies increases

The postponement of childbearing has resulted in a considerable transformation of the age-pattern of fertility between 1990 and 2006. At the beginning of the 1990s, highest fertility was recorded among $20-24$ year olds with a clearly pronounced peak in age $21-22$. Fertility of women aged 30+ contributed to the total fertility rate only $15.5 \%$. Childbearing was concentrated into a narrow age interval. Due to the postponement of motherhood into higher age, the fertility rates decreased particularly among the younger women. Age-specific fertility rates decreased in $70 \%$ among $20-24$ year olds during 1990 2006. Among $25-29$ the drop was milder ( $-27 \%$ ), it was most intense during $1990-95(-22 \%)$ and afterwards the rates stabilised.

Age-specific fertility rates show more even distribution and since the beginning of the 1990s the upper age limit at which women commonly step into motherhood or terminate childbearing have been increasing. During the so-called Eastern European model of an early and high childbearing (Kučera and Fialová 1996, Rychtaříková 1996), which was predominant still in 1990, women gave birth to $90 \%$ of their children within age 31,9 years and the first motherhood was unusual among women older than 27,4 years. The age at which women give birth to $90 \%$ of their children has prolonged to 35.1 \% years until 2006. Also, the age interval at which women most frequently become mothers has extended in three years: in 1990 age range of 20.1 to 24.4 years was the most common for birth of the first child while it has shifted and prolonged to 22.1 to 29.4 years until 2006. The indicators of variability, presented in table 3.3, show that family formation does not follow a universal pattern and that the only uniform pattern of childbearing does not exist anymore as it used to be the case before 1990. The increasing variability of reproductive strategies emerged in a response to the differentiation of life-style orientations and newly emerged opportunities after 1990.

Graph 3.3 Age specific fertility rates


Graph 3.2 Proportion of age groups on total fertility rate


Graph 3.4 Change in age specific fertility rates


## The fertility trends will result in the increasing number of single-child families

Reproductive strategies of women differ particularly in timing of first birth and, hence, stepping into motherhood does not follow a universal model. The highest fertility rates of the first birth order have shifted from age of about 20 years to $25-28$ years since the early 1990s. However, the reproductive strategy of delayed childbearing is not universal, although predominant,

[^0]and a proportion of women bear children in a lower age still. It is likely that although the postponement of childbearing will continue, the mean age of mother at first birth will shift even closer towards 30 years and this reproductive strategy will become the most usual, the early motherhood will still remain a typical strategy for a certain subpopulation of women, who are more family-oriented, have lower education and income. For those women the opportunity costs of childbearing related to the interruption of the professional career are lower compared to other women.

Postponement of the first birth translates into postponement of higher parity children as the increasing mean ages at births of second and higher parity children show. The distribution of age and parity-specific undergoes a transformation. The risk of infertility and unplanned childlessness increases with age and the high age at first birth may result in a lower number of children than the partners intended to have.

The changes in timing of childbearing affected trends in total fertility rate according to birth order. An average number of first children per woman has been decreasing until 2001, in case of higher birth orders the decrease lasted until 2002. The total fertility rate of the first birth order has been increasing since $2001(+12 \%)$, however, the trends are more problematic in case of the second ( $+3 \%$ ) and higher birth orders ( $+1 \%$ ). Moreover, the fertility drop in 2006 appeared among second and higher birth orders while in case of the first birth the previous increase merely halted.

Tab. 3.4 Total fertility rate and mean age at childbearing by birth order

| Birth order | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total fertility rate |  |  |  |  |  |  |  |  |
| Total | 2,085 | 1,523 | 1,292 | 1,198 | 1,185 | 1,199 | 1,241 | 1,253 | 1,239 |
| First | 0,878 | 0,630 | 0,570 | 0,514 | 0,524 | 0,535 | 0,570 | 0,575 | 0,576 |
| Second | 0,738 | 0,524 | 0,416 | 0,391 | 0,381 | 0,384 | 0,386 | 0,396 | 0,391 |
| Third + | 0,469 | 0,368 | 0,307 | 0,293 | 0,280 | 0,281 | 0,285 | 0,283 | 0,273 |
|  | Mean age at childbirth |  |  |  |  |  |  |  |  |
| Total | 25,11 | 25,64 | 26,59 | 26,83 | 27,02 | 27,26 | 27,45 | 27,70 | 27,91 |
| First | 22,66 | 23,01 | 24,16 | 24,35 | 24,72 | 25,01 | 25,35 | 25,69 | 25,95 |
| Second | 25,41 | 25,92 | 27,04 | 27,25 | 27,49 | 27,78 | 28,03 | 28,27 | 28,61 |
| Third + | 29,24 | 29,72 | 30,52 | 30,64 | 30,67 | 30,85 | 30,86 | 30,99 | 31,05 |

The intensity of fertility of the first birth order will most likely keep increasing since the data suggest that the "catchingup" of the previously postponed births has already started. A partial recuperation is apparent only in case of first births so far and the intensity of fertility remains low among higher birth orders. The current trends in fertility will result, on the one hand, in more prevalent childlessness which is expected to increase to $17-20 \%$ in cohorts of women born during the late 1970s (compared to about $10 \%$ of childless among cohorts 1950 - 1960) (Sobotka 2004). On the other hand, the proportion of women having a single child will double to about $30 \%$ in cohorts 1976 - 1980 according to the trend projection based on parity progression ratios (Potančoková, Vaňo, Pilinská, Jurčová, in print). The proportion of women having three and more children, as well as fertility rates of higher birth orders, had been decreasing already before 1990 and this trend has been continuing. It is expected that the above mentioned changes will translate into transformation of the family size. Until the beginning of the 1990s a two-child family model was largely predominant in the population ( $45 \%$ of women had exactly 2 children). In the future increasing number of single-child families is expected..

Graph 3.5 Age specific fertility rates by birth order

1990


2006


Fertility of married women increases slowly while the proportion of never-married women in reproductive age keeps rising

The decreasing proportion of married women and the rising proportion of never-married women in all age groups is significantly influencing the fertility decline. The proportion of never-married women increases due to the postponement of marriage, which results in low intensity of marriage. Despite the proportion of extra-marital births has been increasing, as well as the fertility rates of never-married women, the childbearing is still strongly linked to marriage. Lowering proportion of married women in population is one of the factors behind the low fertility. The proportion of unmarried women (single, divorced or widowed) has increased the most among $20-24$ year olds ( $57 \%$ of married in 1990 compared to mere $16 \%$ in 2006) and among $25-29$ year olds (a drop from $80 \%$ to $48 \%$ between 1990 and 2006). The explanation lays in ever increasing proportion of never-married women within age 30 as well as in the increasing proportion of divorced women particularly after age 30 (see chapter Divorce for details). Until 1998 fertility rates of married women decreased in all age groups and the decrease was most pronounced among $20-24$ year old married women. Fertility rates have been increasing among married $25-39$ year old women since 2001. The trends largely support the postponement of childbearing hypothesis.

Tab. 3.5 Age specific fertility rate by marital status

| Age | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Proportion of married women in \% (1.7.) |  |  |  |  |  |  |  |  |
| 15-19 | 6,7 | 3,8 | 2,0 | 1,8 | 1,6 | 1,3 | 1,2 | 1,1 | 1,0 |
| 20-24 | 56,6 | 44,3 | 29,5 | 27,0 | 24,5 | 21,9 | 19,6 | 17,5 | 15,7 |
| 25-29 | 79,5 | 74,8 | 64,1 | 62,7 | 60,3 | 57,2 | 53,9 | 50,9 | 47,9 |
| 30-34 | 82,8 | 81,6 | 76,8 | 76,5 | 75,6 | 74,1 | 72,4 | 70,8 | 69,1 |
| 35-39 | 82,5 | 81,9 | 79,6 | 79,3 | 78,6 | 77,6 | 76,6 | 75,8 | 74,8 |
| 40-44 | 81,6 | 80,1 | 78,8 | 78,8 | 78,4 | 77,9 | 77,2 | 76,5 | 75,7 |
| Age-specific marital fertility rates (per 1000 married women) |  |  |  |  |  |  |  |  |  |
| 15-19 | 511,7 | 544,4 | 521,6 | 452,7 | 434,4 | 430,5 | 475,8 | 500,0 | 484,8 |
| 20-24 | 314,4 | 247,4 | 233,9 | 213,7 | 210,9 | 211,7 | 228,9 | 226,7 | 224,9 |
| 25-29 | 140,6 | 112,4 | 123,2 | 118,9 | 120,3 | 127,8 | 136,2 | 143,0 | 143,1 |
| 30-34 | 52,8 | 44,6 | 50,2 | 49,5 | 52,8 | 58,4 | 63,2 | 68,9 | 73,9 |
| 35-39 | 16,5 | 14,9 | 16,9 | 16,4 | 17,2 | 18,2 | 19,6 | 21,8 | 23,0 |
| 40-44 | 2,9 | 2,9 | 3,0 | 3,1 | 3,0 | 3,2 | 3,8 | 3,6 | 3,7 |
| Age-specific extra-marital fertility rates (per 1000 unmarried women) |  |  |  |  |  |  |  |  |  |
| 15-19 | 11,1 | 12,1 | 16,4 | 15,9 | 16,8 | 17,6 | 17,6 | 17,5 | 18,2 |
| 20-24 | 22,7 | 21,9 | 21,3 | 21,1 | 22,0 | 23,6 | 25,0 | 25,7 | 25,3 |
| 25-29 | 24,7 | 26,8 | 26,6 | 25,6 | 27,2 | 28,3 | 30,0 | 31,1 | 30,8 |
| 30-34 | 17,8 | 19,9 | 23,4 | 23,1 | 24,9 | 27,3 | 32,2 | 33,5 | 35,6 |
| 35-39 | 8,6 | 9,4 | 11,8 | 11,5 | 12,3 | 13,1 | 15,3 | 16,5 | 18,9 |
| 40-44 | 2,1 | 2,5 | 2,7 | 2,3 | 2,8 | 2,7 | 3,4 | 3,5 | 3,5 |
| Age-specific fertility rates of never-married women (per 1000 never-married women) |  |  |  |  |  |  |  |  |  |
| 15-19 | $\ldots$ | 12,0 | 16,4 | 15,9 | 16,8 | 17,6 | 17,6 | 17,5 | 18,2 |
| 20-24 | ... | 21,2 | 20,8 | 20,8 | 21,7 | 23,3 | 24,7 | 25,5 | 25,1 |
| 25-29 | ... | 24,0 | 24,2 | 23,8 | 25,3 | 26,7 | 28,4 | 29,1 | 29,5 |
| 30-34 | ... | 19,1 | 20,9 | 22,1 | 23,5 | 26,4 | 31,5 | 32,7 | 35,8 |
| 35-39 | ... | 8,2 | 10,4 | 11,2 | 11,7 | 12,7 | 15,4 | 17,9 | 20,0 |
| 40-44 | $\ldots$ | 2,9 | 1,8 | 2,3 | 2,3 | 2,3 | 3,5 | 3,8 | 3,6 |

Approximately $40 \%$ of the children born into marriage are of the first parity. Since 1990 the proportion of marital third and higher parity children decreased from 15 to $12 \%$. The decline has translated into decreasing fertility rates. Among married women, fertility rates of the second birth order decreased among 20-29 year olds and increased among women aged $30-34$. In case of first births, the drop was most apparent among $15-24$ year old married women, while the increase occurred among women aged 25 and older. Again, shifts in marital fertility rates of first and second birth order are influenced by the postponement of marriage and childbearing.

In contrast to marital fertility, fertility rates have slightly increased among never-married and unmarried women. Again, the increase considers mainly 25 to 39 year old women. However, despite the fertility of unmarried women is rising it cannot result in a considerable increase in the total fertility rate. Fertility rates of unmarried women are substantially lower than of the married women and they would have to at least double in order to compensate for the decline in marital fertility.

Tab. 3.6 Age-specific marital fertility rates by birth order

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | First order |  |  |  |  |  |  |  |  |
| 15-19 | 443,7 | 483,8 | 451,3 | 394,6 | 368,9 | 362,1 | 398,3 | 405,5 | 393,9 |
| 20-24 | 165,1 | 137,7 | 149,0 | 133,6 | 133,2 | 134,3 | 149,4 | 144,2 | 141,3 |
| 25-29 | 31,0 | 27,3 | 44,6 | 45,1 | 48,7 | 54,4 | 62,5 | 67,4 | 68,6 |
| 30-34 | 6,3 | 5,7 | 8,7 | 8,7 | 11,2 | 13,3 | 15,8 | 18,2 | 21,6 |
| 35-39 | 2,0 | 1,5 | 2,2 | 1,8 | 2,4 | 2,5 | 3,4 | 3,6 | 3,9 |
|  | Second order |  |  |  |  |  |  |  |  |
| 15-19 | 60,8 | 54,0 | 59,1 | 50,6 | 52,3 | 52,3 | 63,3 | 80,4 | 74,6 |
| 20-24 | 119,3 | 88,3 | 67,5 | 62,9 | 60,5 | 59,4 | 59,1 | 61,2 | 61,2 |
| 25-29 | 66,6 | 52,3 | 53,8 | 51,3 | 50,5 | 52,8 | 52,8 | 55,3 | 54,3 |
| 30-34 | 16,7 | 15,0 | 18,7 | 19,5 | 20,6 | 23,6 | 26,3 | 29,5 | 32,1 |
| 35-39 | 3,2 | 3,0 | 3,7 | 3,6 | 4,1 | 4,3 | 4,9 | 5,7 | 6,7 |
|  | Third and higher order |  |  |  |  |  |  |  |  |
| 15-19 | 7,2 | 6,7 | 11,2 | 7,5 | 13,3 | 16,1 | 14,2 | 14,2 | 16,3 |
| 20-24 | 30,0 | 21,4 | 17,5 | 17,2 | 17,2 | 18,1 | 20,4 | 21,4 | 22,3 |
| 25-29 | 43,0 | 32,8 | 24,8 | 22,5 | 21,2 | 20,6 | 20,8 | 20,3 | 20,3 |
| 30-34 | 29,8 | 24,0 | 22,7 | 21,3 | 21,1 | 21,5 | 21,1 | 21,3 | 20,2 |
| 35-39 | 11,3 | 10,4 | 11,0 | 11,0 | 10,7 | 11,4 | 11,4 | 12,4 | 12,3 |

Note: The age structure of female population by marital status since 2001 was estimated by the Demographic Research Centre
Tab. 3.7 Live births by birth order and marital status of the mother

| Live births | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total | 79989 | 61427 | 55151 | 51136 | 50841 | 51713 | 53747 | 54430 | 53904 |
|  | Number of live births within marriage |  |  |  |  |  |  |  |  |
| Total | 73904 | 53680 | 45082 | 41031 | 39857 | 39640 | 40428 | 40294 | 39084 |
| 1 | 29722 | 22311 | 19813 | 17478 | 17263 | 17029 | 18051 | 17617 | 16993 |
| 2 | 26945 | 18907 | 15410 | 14371 | 13875 | 13956 | 13833 | 14215 | 13993 |
| 3 | 11071 | 7426 | 5392 | 4990 | 4783 | 4735 | 4764 | 4698 | 4535 |
| $4+$ | 6166 | 5036 | 4467 | 4192 | 3936 | 3920 | 3780 | 3764 | 3563 |
|  | Proportion of live births within marriage in \% |  |  |  |  |  |  |  |  |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1 | 40,2 | 41,6 | 43,9 | 42,6 | 43,3 | 43,0 | 44,6 | 43,7 | 43,5 |
| 2 | 36,5 | 35,2 | 34,2 | 35,0 | 34,8 | 35,2 | 34,2 | 35,3 | 35,8 |
| 3 | 15,0 | 13,8 | 12,0 | 12,2 | 12,0 | 11,9 | 11,8 | 11,7 | 11,6 |
| $4+$ | 8,3 | 9,4 | 9,9 | 10,2 | 9,9 | 9,9 | 9,3 | 9,3 | 9,1 |
|  | Number of extra-marital live births |  |  |  |  |  |  |  |  |
| Total | 6085 | 7747 | 10069 | 10105 | 10984 | 12073 | 13319 | 14136 | 14820 |
| 1 | 3626 | 4293 | 5427 | 5273 | 5868 | 6593 | 7105 | 7633 | 8246 |
| 2 | 1201 | 1675 | 2191 | 2250 | 2456 | 2621 | 2936 | 3121 | 3167 |
| $3+$ | 1258 | 1779 | 2451 | 2582 | 2660 | 2859 | 3278 | 3382 | 3407 |
|  | Proportion of extra-marital live births in \% |  |  |  |  |  |  |  |  |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1 | 59,6 | 55,4 | 53,9 | 52,2 | 53,4 | 54,6 | 53,3 | 54,0 | 55,6 |
| 2 | 19,7 | 21,6 | 21,8 | 22,3 | 22,4 | 21,7 | 22,0 | 22,1 | 21,4 |
| $3+$ | 20,7 | 23,0 | 24,3 | 25,6 | 24,2 | 23,7 | 24,6 | 23,9 | 23,0 |

Graph 3.6 First marital births by the time elapsed from marriage


The postponement of childbearing is not a mere result of the delay in stepping into marriage. The trends show also a delay of the birth of the first child into marriage and we can speak about the postponement of childbearing within marriage. The proportion of first marital children born during the third year after the wedding increased from $12 \%$ in 1990 to $33 \%$ in 2006. In contrast, the proportion of children conceived prior to the wedding (and hence born within 8 months of the duration of marriage) has decreased from 56 to $38 \%$ during the same period. Consequently, most likely the number of the "shot-gun" marriages provoked by the bride's pregnancy has reduced as well. The majority ( $67 \%$ ) of the first marital children is born during the first two years after the wedding. However, it was a vast majority of $88 \%$ in 1990.

## A majority of the teen-age pregnancies results in extra-marital childbirth

Tables 3.5 and 3.6 reveal that married women aged $16-19$ years are a special sub-group of the female population who are typical with an early and high fertility. Fertility rates of married $16-19$ year olds have decreased only slightly and, moreover, fertility rates of the second and higher birth order have even increased. High fertility rates in case of the first birth are a result of marriages provoked by the bride's pregnancy since there is strong evidence that pregnancy is an incentive for the early marriage. However, it is important to emphasise that the proportion of married $16-19$ year old girls is very low (approximately 1 $\%$ of the age group) and most children of the teen-age mothers are born out of wedlock. The strategy of bearing children into marriage in case of the teen-age pregnancy was more widespread until 1990 among 18 - 19 year olds while among 17 year olds identically $1 / 3$ of brought-to-term pregnancies resulted in extra-marital and marital birth. In 2006, out of wedlock childbirth became dominant among all pregnant teen-agers. The change was a response to the increasing acceptance of the single motherhood and forms of partnership alternative to marriage in the society. The social stigma and negative image of the single mothers in society was reduced with the increasing emancipation of women (Vašková 2005).

Childbirth dominates over induced abortion as a solution to the teen-age pregnancy. Induced abortion is more common among 15-17 year olds compared to $18-19$ year olds. Interestingly enough, induced abortion is a dominant solution to the teen-age pregnancy among $15-17$ year olds in the Czech Republic (ibid).

Overall, high fertility of the teen-age married women has to be interpreted within the framework of the generally decreasing teen-age fertility. The major decline occurred during 1990-2003. However, teen-age fertility is double the Czech values in spite of the downward trend (according to the data of the Czech Statistical Office). The halt in the decrease of teen-age fertility after year 2003 as well as the increasing fertility of the higher parity births are surely a negative tendency. Early onset of childbearing and high fertility in an early age is typical for the segregated and separated Roma in particular. Hence, the above mentioned trends in teen-age fertility may point at the deepening poverty and social exclusion of the separated and segregated Roma. Also, the trends in fertility surely impact the education enrolment of the young mothers which results in their low qualification and problems at the labour market (Potančoková and Šprocha 2007, Kumanová and Džambazovič 2002).

Graf 3.7 Brought-to-term pregnancies at the age 15 - 19


The proportion of extra-marital births exceeded $25 \%$
For the first time in history, the proportion of extra-marital births exceeded $25 \%$ in 2005 and 2006. During the 1970s and 1980s the proportion of extra-marital births was settled at $5-7 \%$, however, the proportion of premarital conceptions (births that occurred within 8 months after the wedding) was increasing. Birth of the child within wedlock was a common and generally expected solution to the (unplanned) extra-marital pregnancy. Since 1990, the proportion of extra-marital births has increased to the current $27.5 \%$ as a result of the changing social norms in domains of reproduction and partnership. Simultaneously, the proportion of premarital conceptions declined from $55 \%$ to $38 \%$. The increasing proportion of extra-marital births is coupled with an increasing out-of-wedlock fertility rates, mainly among younger never-married women. Despite a part of the extra-marital children is born to the single mothers, the rapid increase is most likely (interpreted as) a result of the spreading cohabitation ${ }^{2}$.

[^1]First births are most frequently extra-marital: One third of first births occurred out of wedlock in 2006. However, it is unknown how many parents step into marriage in the months or years following the birth of the child. It is likely that this reproductive strategy is spreading during the past several years. The increase in proportion of extra-marital according to their birth order was proportional. The least extra-marital children still are among second births. Thirty \% of extra-marital births are among the third and higher birth orders. The fact that most extra-marital children are of the first parity is not unusual, however, high proportion of the extra-marital higher parity births points to the existence of a specific sub-population among whom extramarital childbearing and high fertility is a common behaviour. Increasing weight of the higher birth orders on the total number of extra-marital births can also be a result of the spreading cohabitation alternative to marriage.

Most extra-marital births are of mothers within age 24. After 1990 the proportion of extra-marital births increased in all age groups, however, among the $20-25$ year olds it increased fivefold.

Tab. 3.8 Proportion of extra-marital live births per 100 live births of the respective birth order

| Birth order | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| First | 10,9 | 16,1 | 21,5 | 23,2 | 25,4 | 27,9 | 28,2 | 30,2 |
| Second | 4,3 | 8,1 | 12,4 | 13,5 | 15,0 | 15,8 | 17,5 | 18,0 |
| Third + | 6,8 | 12,5 | 19,9 | 21,9 | 23,4 | 24,8 | 27,7 | 28,6 |
| Total | 7,6 | 12,6 | 18,3 | 19,8 | 21,6 | 23,3 | 24,8 | 26,0 |



In spite of the general increase in extra-marital childbearing, it still is typical for the lower-educated women. Out of all children born to university-educated women only $10 \%$ were extra-marital in 2006, despite the proportion has increased in 350 \% since 1990. Extra-marital childbearing remains marginal among the university graduates. In contrast, more than $60 \%$ of all births given by elementary-educated women were extra-marital in the same year. The growth in proportion of extramarital births was most intense among women with lower-secondary education; however, in comparison to other educational categories the overall proportion is second lowest ( $18 \%$ ).

The reasons for more widespread extra-marital childbearing among lower-educated women are most likely several. The social allowances and social benefits in motherhood are more generous for the single mothers compared to women with partner. Also extended duration of maternity leave for the single mothers ( 37 compared to 28 months) can be a motivation for women with lower income and it can be a rational decision in their situation.


Social and educational homogamy may also play a role: lower educated women are likely to have lower-educated partners who are at higher risk of unemployment, are more likely to have low or irregular income or to commute to work for extended periods of time (Hamplová and Reháková 2006). Marriage may not be for these women the most appealing alternative, moreover, they may hope for a better partner. Also, single motherhood can be a risk-averse strategy: choice of a risky alternative may result in decreasing insecurity if the consequence of such behaviour is predictable in comparison to perhaps better appealing alternative with unsure consequences (ibid, Vašková 2005).

## 4. AbORTION

Number of abortions and abortion rates have rapidly decreased since 1990 and have reached the lowest historical levels. The declining number of induced abortions, which counts $75 \%$ of all abortions, drives the favourable trend. The number of performed induced abortions was lower only in 1958 (12383) compared to 2005 and 2006. However, the number of applications for induced abortion in 1958 was higher than in 2005 and 2005 ( 14618 applications for induced abortion compared to 14427 induced abortions in 2005 and 14243 in 2006). In 1958 induced abortion on demand of the woman was accessible for the first time, however, not all applications were considered well-grounded and the number of performed abortions was lower. ${ }^{3}$ In case all applications would have resulted in induced abortion in 1958, we could speak of the lowest number of induced abortions and in all indicators since the legalisation of induced abortion.

Tab. 4.1 The main abortion indicators

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total number of abortions | 56176 | 35879 | 23593 | 22792 | 22141 | 21159 | 20075 | 19332 | 19054 |
| Spontaneous abortions | 7739 | 5725 | 5125 | 4766 | 4759 | 4937 | 4768 | 4905 | 4811 |
| Induced abortions* | 48437 | 30154 | 18468 | 18026 | 17382 | 16222 | 15307 | 14427 | 14243 |
| Induced abortions due to health reasons** and ectopic pregnancies | 4850 | 5934 | 4646 | 4802 | 4696 | 4541 | 4616 | 4324 | 4275 |
| - per 100 induced abortions | 10,0 | 19,7 | 25,2 | 26,6 | 27,0 | 28,0 | 30,2 | 30,0 | 30,0 |
| Brought-to-term pregnancies | 136566 | 97547 | 78959 | 74135 | 73176 | 73089 | 74033 | 73957 | 73176 |
| Total brought-to-term pregnancies rate | 3,52 | 2,43 | 1,87 | 1,76 | 1,72 | 1,71 | 1,73 | 1,72 | 1,71 |
| Abortions per 100 births |  |  |  |  |  |  |  |  |  |
| - total | 69,9 | 58,2 | 42,6 | 44,4 | 43,4 | 40,7 | 37,2 | 35,4 | 35,2 |
| - spontaneous | 9,6 | 9,3 | 9,3 | 9,3 | 9,3 | 9,5 | 8,8 | 9,0 | 8,9 |
| - induced | 60,3 | 48,9 | 33,4 | 35,1 | 34,1 | 31,2 | 28,4 | 26,4 | 26,3 |
| Abortions per 100 brought-to-term pregnancies |  |  |  |  |  |  |  |  |  |
| - total | 41,1 | 36,8 | 29,9 | 30,7 | 30,3 | 28,9 | 27,1 | 26,1 | 26,0 |
| - spontaneous | 5,7 | 5,9 | 6,5 | 6,4 | 6,5 | 6,8 | 6,4 | 6,6 | 6,6 |
| - induced | 35,5 | 30,1 | 23,4 | 24,3 | 23,8 | 22,2 | 20,7 | 19,5 | 19,5 |
| Total abortion rate | 1,43 | 0,90 | 0,57 | 0,55 | 0,53 | 0,51 | 0,48 | 0,46 | 0,45 |
| Total spontaneous abortion rate | 0,20 | 0,14 | 0,12 | 0,11 | 0,11 | 0,12 | 0,11 | 0,12 | 0,11 |
| Total induced abortion rate | 1,23 | 0,76 | 0,45 | 0,44 | 0,42 | 0,39 | 0,37 | 0,35 | 0,34 |
| Mean age at abortion | 28,67 | 28,89 | 29,23 | 29,33 | 29,47 | 29,64 | 29,73 | 29,90 | 29,92 |
| Mean age at spontaneous abortion | 26,75 | 27,37 | 28,26 | 28,48 | 28,76 | 29,01 | 29,36 | 29,66 | 29,92 |
| Mean age at induced abortion | 28,98 | 29,17 | 29,49 | 29,54 | 29,66 | 29,83 | 29,85 | 29,98 | 29,92 |

* including induced abortions of ectopic pregnancies
** The number is a sum of the induced abortions within 12th week of pregnancy due to health reasons, induced abortions in 13th to 24th week of pregnancy and other medical abortions
Data source: Institute of Health Statistics and Information and Statistical Office of the SR


## Indicators of induced abortion are lowest since 1958

The number of induced abortions reached the highest level in 1988 (51000). High induced abortion in the late 1980s was a consequence of the liberalised legislation: the abortion committees were abolished and the so called mini-abortions, safer and less harmful to women's health, were introduced. As a result, induced abortion became widely available on demand of the woman. Moreover, while induced abortion was free of charge contraception was not. Information on family planning and availability of the effective contraception was low, psychological factors also played a role as well as attitudes of the gynaecologists, who were reluctant to prescribe the pill or IUD (intra-uterine device) to young and childless women (Potančoková 2007). The proportion of women using the prescribed contraceptives was low already before the liberalisation of the abortion law in 1986 compared to the Western European countries (OSN 1988) and this proportion further declined. The proportion of women using the pill or IUD dropped from $14.4 \%$ in 1988 to $12.2 \%$ in 1992 and the finding confirms a de-motivating effect of the free of charge induced abortion on prevention against the unwanted pregnancy. Induced abortion was widely used as a method of birth control instead of effective contraception since the legalisation.

The situation has been changing since the 1990s and a rapid decline in both the number and indicators of induced abortion occurred. The drop in induced abortion mirrors a more responsible attitude towards parenthood and reproductive health of the

[^2]population. The decreasing abortion is an integral part of the overall transformation in reproductive behaviour of the population. Improvements in information on birth control and family planning and spreading availability of the effective contraception, particularly the pill, played an important role. The proportion of women aged $15-49$ using either the pill or IUD has doubled to $25 \%$ since 1990. Introduction of a
$\underset{\text { Graph 4.1 Total induced abortion rate and the use of }}{\text { prescribed contraceptives by women } 15-49}$
 charge for induced abortion on demand was introduced in 1993 accelerated the decline (induced abortions due to health reasons remained free of charge). In 2006, the number of induced abortions was only $28 \%$ of the 1988 level. Total abortion rate has dropped from 1.23 to 0.34 induced abortions per woman in reproductive age during the same period. While the abortion ratio was at 60 induced abortions per 100 live births in 1990, it was only at 26 induced abortions per 100 live births in 2006. Changes are apparent also in the structure of brought-to-term pregnancies. The number of brought-to-term pregnancies decreased during 1990 - 2006 from 136.5 to 73 thousand due to fertility decline and a favourable abortion trend. In 1990 only 59 out of 100 brought-to-term pregnancies ended up in childbirth compared to $74 \%$ in 2006. In 2005 and $200619.5 \%$ of brought-toterm pregnancies resulted in induced abortion while in 1990 it was $35.5 \%$.

Graph 4.2 Structure of brought-to-term


The declining number of induced abortions resulted in the changing structure. The proportion of induced abortions due to health reasons has increased from 10 to $30 \%$ during 1990 2006. It is apparent that the decline in the number of induced abortions considers reduction in abortion on demand of woman. The finding is in line with the interpretation of the lowering induced abortion due to spreading contraception. The use of birth control limits the number of unintended pregnancies, which could possibly result in induced abortion on demand of woman. It is important to emphasise, that the increase in proportion of induced abortion due to health reasons was not provoked by worsening health status of women during the mid1990s but it was most likely a pragmatic response to the changed legislation. A more frequent classification of the induced abortion as due to medical reasons could have been influenced by the attempts of women to get a free of charge abortion, since charges were introduced in 1993. However, the change in legislation could have caused only a temporary upswing. In the present situation, an increasing age at childbearing in hand with an increasing number of pregnancies of women older than 30 could be affecting the number of induced abortion due to health reasons. The experts warn of the increasing risks related to pregnancy and delivery, as well as to more likely occurrence of a miscarriage among women aged 35 and older.

Until the 1990s, the trends in induced abortion and in fertility were often contrasting: increase in induced abortion was negatively influencing number of births and fertility rates and fertility was increasing when abortion rates decreased. Over the 1986 - 1989 the decline in the total fertility rate was accelerated by the rapidly increasing induced abortion rates: the average
number of children per woman decreased from 2.2 to 2.08 children while the total abortion rate increased from 1.03 to 1.23 induced abortions per woman between 1986 and 1989. The opposite trend in induced abortion and fertility has diminished during the 1990s when both were declining. However, the drop in total induced abortion was more dynamic ( $-39 \%$ ) compared to total fertility rate ( $-27 \%$ ) during 1990 - 1995. The overall decline in total induced abortion rate has been even more rapid (down to $72 \%$ of the 1990 level).

## The age at which induced abortions prevail over childbirths has increased in 10 years

Besides the postponement of childbearing, the decline in induced abortion is one of the major changes in reproductive behaviour of women in Slovakia during the 1990s. Delayed childbearing (and hence delayed pregnancies) influenced the increase in the mean age of woman at spontaneous abortion, which has prolonged from 26.8 to 30 years since 1990. The change was far less pronounced in the mean age of woman at induced abortion, which has increased only in 1 year to 30 years.

Changes in the structure of brought-to-term pregnancies by age of women are a result of shifts in the timing of pregnancies and of the decreasing induced abortion in particular. The least induced abortions occur in age when highest fertility rates are recorded ( 25 to 30 years), hence in age most desirable for childbearing and starting a family. The proportion of induced abortions on brought-to-term pregnancies increases more significantly since age 35 . Induced abortions prevail over childbirths at age 40 onwards, when about $50 \%$ of all brought-to-term pregnancies terminate in induced abortion. Along with decreasing induced abortion indicators, the age at which induced abortion prevails over childbirths has shifted in 10 years. In 1990, proportions of induced abortion and childbirths on brought-to-term pregnancies were equal at age 31 already. The proportion of pregnancies resulting in childbirth has increased in all age groups, and most significantly among $19-31$ year old women. In 2006, 75 to $81 \%$ of brought to term pregnancies of women aged $19-31$ ended up in childbirth.

Graph 4.5 Structure of brought-to-term pregnancies by age


Age-specific induced abortion rates declined in all age groups. Consequently, the significant age differentials, apparent in the mid-1990s still, have diminished. The rates were declining the most during 1990 - 2000, afterwards the decline slowed down although it still is ongoing. In 2006, the induced abortion rates were highest among women aged $28-35$ ( $15-17 \%$ ), however, these women have high fertility rates as well. Induced abortion rates declined only slightly among girls aged $15-17$, but the proportion of brought-toterm pregnancies increased among them. In 1990, $55-60 \%$ pregnancies of $15-17$ year olds ended up in childbirth, compared to $70 \%$ in 2006.

$\begin{array}{lllllllllll}15 & 17 & 19 & 21 & 23 & 25 & 27 & 29 & 31 & 33 & 35 \\ 37 & 39 & 41 & 43\end{array}$

Graph 4.6 Age-specific induced abortion rates


## Miscarriage has settled at low level

Trends in spontaneous abortion stabilised and in the long-run 6.5 out of 100 brought-to-term pregnancies end-up in miscarriage. The total spontaneous abortion rate has settled at $0.11-0.12$ miscarriage per woman. The decrease of spontaneous
abortion quantum which was apparent during the early 1990s was a consequence of the improving health care for pregnant women, modernisation of health care and, last but not least, of the improving health status of women, including the reproductive health.

Age-specific spontaneous abortion rates depend on the distribution of pregnancies over the reproductive life-span of women. The rates are highest in age interval during which most pregnancies occur. During 1990 - 2006 spontaneous abortion rates decreased particularly among $18-27$ year old women. Besides the generally decreasing tendency, postponement of childbearing (and pregnancies) to higher age played a significant role.

The proportion of miscarriage on brought-to-term pregnancies increased to about $10 \%$ among women aged 33 and older as miscarriage becomes more frequent with an increasing age. In 2006, $15-20 \%$ of brought-to-term pregnancies of women aged $40+$ resulted in miscarriage. Ability of woman to get pregnant and a probability that pregnancy ends up in live birth decreases since age 35 . The increase in the proportion of miscar-

Graph 4.7 Age-specific spontaneous abortion rates

$\begin{array}{lllllllllllllll}15 & 17 & 19 & 21 & 23 & 25 & 27 & 29 & 31 & 33 & 35 & 37 & 39 & 41 & 43\end{array}$ riage on brought-to-term pregnancies is probably caused by shifting age at first pregnancy. In the past, it was unusual that women 30 and older would become pregnant for the first time at that age, however, currently the proportion of these women increases.

> Married women having two or more children are the most frequent induced abortion applicants; however, the proportion of single childless women demanding induced abortion has increased

Induced abortion varies significantly among women with different marital status. Since 1990 the induced abortion has been decreasing among women of all categories. The decline was most pronounced ( -60 to $-70 \%$ ) among married women aged $20-49$, among divorced women aged $20-34$ and finally among nevermarried $20-29$ year old women. Induced abortion quantum has been lowest among never-married women during the whole period 1990 - 2006, however, due to a more rapid decline among married women their share on total number of induced abortions increased from 15 to $38 \%$. Intensity of induced abortion did not increase in any group of women according to marital status and age. The differences in the tempo of decrease had resulted in changed proportions of women by marital status on the total number of abortions.

As usually, the highest induced abortion rates are among divorced and widowed women of all age groups in 2005 and 2006.
 In 1990, divorced and widowed women aged $20-34$ had the highest induced abortion rates, at age 35+ the rates were highest among married women. The high induced abortion quantum is not surprising among the divorced and widowed, since these women are likely to be in complicated life circumstances. These women also frequently already have children from the previous marriage.

A married woman having two or more children still is a typical induced abortion applicant. In 1990, $80 \%$ of all induced abortions were performed to married women; the proportion decreased to $53 \%$ in 2006. Married women often used induced abortion instead of contraception to keep their family size at desired number of children. This behaviour and a dominance of married women with children among the abortion applicants were typical for the former communist countries that liberalised induced abortion. Induced abortion was not an emergency solution in case of contraceptive failure but it was used instead of birth control. The function of induced abortion was not only to keep the family size at desired number (of mostly two) children but also to achieve a favourable spacing of births.

The structure of induced abortion applicant is becoming similar to the one of the Western European countries, where most induced abortions are performed to single childless women (Velická 2001). Only $11 \%$ of all induced abortions were of single childless women in 1990 and this proportion increased to $23 \%$ in 2006. In 2006, the proportions of married women with two children and single childless women were equal for the first time in history. $46 \%$ of all induced abortions were performed to these two groups of women. In case married women with three and more children are included the proportion increases to 57.5 \%.

Despite the overall number of induced abortion decreases, proportion and number of induced abortion increases among single women with children. The proportion of childless women among never-married has dropped from $76 \%$ to $62 \%$. Since
the decrease in the number of abortions was slower among never-married compared to married women their proportion on total number of induced abortions has increased to $23 \%$. The proportion of married women with two and more children is decreasing among the married while particularly the proportion of childless married women increases. The number of induced abortions decreased among all groups of women except for the never-married women with children and childless married women during 1990 - 2006. Rising numbers of never-married women with children and childless married women in population are likely explanations of the increasing trend. The proportion of extra-marital children increased in all birth orders and postponement of childbearing within marriage means an increasing number of childless married women. The analysis proves that transformation of reproductive behaviour of women is not expressed only in decreasing induced abortion rates, but also in changing structure of induced abortion.

Tab. 4.2 Age-specific induced abortion rates by marital status

|  | 1990 | 1996 | 2000 | 2005 | 2006 | 1990 | 1996 | 2000 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All women (per 1000 women) |  |  |  |  | Married (per 1000 married women) |  |  |  |  |
| 15-19 | 78,6 | 50,4 | 41,8 | 30,5 | 29,4 | 46,8 | 44,3 | 30,2 | 30,1 | 26,6 |
| 20-24 | 297,7 | 130,5 | 87,2 | 64,3 | 64,5 | 76,3 | 35,7 | 24,8 | 21,1 | 21,2 |
| 25-29 | 344,0 | 164,5 | 110,6 | 77,4 | 74,6 | 75,6 | 35,5 | 24,6 | 17,6 | 17,0 |
| 30-34 | 267,5 | 144,2 | 103,7 | 80,6 | 80,8 | 57,4 | 30,4 | 21,4 | 16,4 | 16,3 |
| 35-39 | 179,1 | 96,0 | 73,6 | 63,7 | 63,6 | 37,8 | 19,9 | 14,9 | 12,5 | 12,4 |
| 40-44 | 58,4 | 37,8 | 29,8 | 26,9 | 25,4 | 12,4 | 7,9 | 6,0 | 5,4 | 5,0 |
| 45-49 | 4,4 | 3,1 | 2,2 | 2,1 | 1,3 | 0,9 | 0,7 | 0,5 | 0,4 | 0,2 |
| \% of induced abortions | 100 | 100 | 100 | 100 | 100 | 79,6 | 70,2 | 62,2 | 54,9 | 52,7 |
|  | Never-married (per 1000 never-married women) |  |  |  |  | Divorced and widowed (per 1000 divorced and widowed women \%o) |  |  |  |  |
| 15-19 | 12,4 | 9,1 | 8,0 | 5,9 | 5,8 | $x$ | $x$ | $x$ | $x$ | $x$ |
| 20-24 | 36,3 | 17,7 | 14,1 | 10,9 | 11,1 | 98,7 | 51,9 | 33,9 | 32,4 | 31,2 |
| 25-29 | 33,2 | 20,3 | 14,9 | 11,8 | 11,9 | 85,7 | 47,2 | 35,2 | 28,3 | 24,5 |
| 30-34 | 24,7 | 16,6 | 12,9 | 12,1 | 13,2 | 56,3 | 32,2 | 27,4 | 22,7 | 22,5 |
| 35-39 | 17,7 | 12,2 | 10,0 | 10,5 | 10,0 | 32,7 | 19,9 | 17,0 | 16,1 | 17,1 |
| 40-44 | 5,4 | 4,5 | 4,4 | 4,4 | 4,7 | 10,8 | 7,2 | 6,0 | 5,8 | 5,7 |
| 45-49 | 1,6 | 0,4 | 0,5 | 0,3 | 0,3 | 0,7 | 0,3 | 0,3 | 0,4 | 0,3 |
| \% of induced abortions | 15,1 | 22,9 | 30,1 | 35,9 | 37,9 | 5,3 | 6,8 | 7,7 | 9,2 | 9,5 |

Tab. 4.3 Induced abortions according to live born children the woman had and by marital status

|  | 1990 | 1996 | 2000 | 2005 | 2006 | 1990 | 1996 | 2000 | 2005 | 2006 | 1990 | 1996 | 2000 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Married |  |  |  |  | Not married |  |  |  |  | Never married |  |  |  |  |
| 0 | 1,2 | 3,1 | 4,7 | 7,5 | 8,2 | 56,8 | 57,2 | 56,6 | 51,8 | 50,2 | 75,5 | 73,1 | 70,1 | 64,1 | 61,7 |
| 1 | 17,3 | 22,1 | 24,9 | 26,5 | 26,3 | 20,8 | 22,3 | 21,9 | 25,1 | 25,8 | 16,2 | 17,8 | 18,4 | 21,1 | 22,8 |
| 2 | 55,2 | 52,0 | 47,7 | 44,6 | 43,6 | 15,2 | 14,2 | 14,6 | 15,5 | 15,9 | 5,7 | 6,2 | 7,5 | 9,5 | 9,8 |
| 3+ | 26,3 | 22,8 | 22,7 | 21,5 | 21,9 | 7,2 | 6,2 | 6,9 | 7,6 | 8,1 | 2,6 | 2,8 | 4,0 | 5,3 | 5,7 |
| Total | 100 | 100 | 100 | 101 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| \% per total number of induced abortions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | 1,0 | 2,2 | 2,9 | 4,1 | 4,3 | 11,6 | 17,0 | 21,4 | 23,4 | 23,7 | 11,4 | 16,8 | 21,1 | 23,0 | 23,4 |
| 1 | 13,8 | 15,5 | 15,5 | 14,5 | 13,8 | 4,2 | 6,6 | 8,3 | 11,3 | 12,2 | 2,4 | 4,1 | 5,6 | 7,6 | 8,6 |
| 2 | 43,9 | 36,6 | 29,7 | 24,5 | 23,0 | 3,1 | 4,2 | 5,5 | 7,0 | 7,5 | 0,9 | 1,4 | 2,2 | 3,4 | 3,7 |
| 3+ | 20,9 | 16,0 | 14,1 | 11,8 | 11,5 | 1,8 | 2,6 | 4,2 | 6,3 | 7,3 | 1,9 | 2,2 | 3,2 | 4,2 | 4,6 |
| Total | 79,6 | 70,2 | 62,2 | 62,2 | 52,7 | 20,4 | 29,8 | 37,8 | 37,8 | 47,3 | 15,1 | 22,9 | 30,1 | 30,1 | 37,9 |
| Number of induced abortions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | 464 | 553 | 536 | 536 | 618 | 5606 | 4288 | 3957 | 3957 | 3382 | 5510 | 4222 | 3898 | 3898 | 3327 |
| 1 | 6676 | 3901 | 2857 | 2857 | 1972 | 2057 | 1670 | 1530 | 1530 | 1740 | 1182 | 1028 | 1026 | 1026 | 1231 |
| 2 | 21279 | 9202 | 5477 | 5477 | 3270 | 1501 | 1065 | 1017 | 1017 | 1070 | 414 | 360 | 415 | 415 | 526 |
| 3+ | 10142 | 4027 | 2612 | 2612 | 1645 | 712 | 467 | 482 | 482 | 546 | 191 | 164 | 224 | 224 | 308 |
| Total | 38561 | 17683 | 11482 | 11482 | 7505 | 9876 | 7490 | 6986 | 6986 | 6738 | 7297 | 5774 | 5563 | 5563 | 5392 |

## Number of women who experienced two and more induced abortions decreases

In 1990, $28 \%$ of induced abortions were of the second and $14 \%$ of the third and higher order. In 2005 and 2006 these proportions dropped to $20 \%$ and $11 \%$ respectively. Mostly married women were experiencing repeated abortions. The decline is not rapid which is very likely caused by slowly changing attitudes towards abortion in part of the female population. It is likely that younger women who are better informed about birth control methods, family planning and risks related to induced
abortion do prefer contraception and use it more than older women who may behave more in accordance with the previous reproductive behaviour. Especially women who experienced four and more induced abortions may belong to a specific social strata or subpopulation, since the proportion of fourth and higher order induced abortions remains unchanged.

Tab. 4.4 Induced abortions according to the order of the induced abortion and by marital status of women

|  | 1990 | 1996 | 2000 | 2005 | 2006 | 1990 | 1996 | 2000 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | All women |  |  |  |  | All women (\%) |  |  |  |  |
| 1 | 28075 | 14800 | 11725 | 9795 | 9832 | 58,0 | 58,8 | 63,5 | 67,9 | 69,0 |
| 2 | 13540 | 6459 | 4260 | 3013 | 2860 | 28,0 | 25,7 | 23,1 | 20,9 | 20,1 |
| 3 | 4854 | 2621 | 1649 | 1072 | 1006 | 10,0 | 10,4 | 8,9 | 7,4 | 7,1 |
| 4+ | 1968 | 1293 | 834 | 547 | 545 | 4,1 | 5,1 | 4,5 | 3,8 | 3,8 |
|  | Married (\%) |  |  |  |  | Not married (\%) |  |  |  |  |
| 1 | 54,9 | 54,2 | 58,2 | 64,5 | 65,3 | 69,8 | 69,5 | 72,2 | 72,0 | 73,1 |
| 2 | 29,8 | 27,9 | 25,8 | 22,4 | 22,0 | 20,7 | 20,3 | 18,6 | 19,1 | 18,0 |
| 3 | 10,8 | 12,1 | 10,5 | 8,7 | 8,3 | 7,0 | 6,4 | 6,4 | 5,9 | 5,7 |
| 4+ | 4,5 | 5,7 | 5,6 | 4,4 | 4,4 | 2,5 | 3,7 | 2,8 | 3,0 | 3,1 |

University educated women have transformed their behaviour regarding induced abortion most substantially compared to other educational groups. Abortion index, the number of induced abortions per 100 births, decreased among university graduates from 58 to $13 \%$ during 1990 - 2006 and it is outstanding low compared to other educational groups.

The abortion index changed the most among elementary educated women, who were using induced abortion instead of birth control the most until 1993. Mechanisms that have lead to change in behaviour are most likely different among the two educational groups of women. In general, information on contraception and other domains of sexual life improved due to several campaigns and widely accessible information in media. Young generations are better informed not only on various birth control methods but also on risks related to induced abortion and about various myths regarding sexuality and reproduction (for example, in 1996 survey on reproductive behaviour of women in Slovakia $50 \%$ of women aged 20 to 40 years declared they thought they cannot get pregnant at first sexual intercourse). Introduction of a fee for abortion on demand of woman certainly influenced the decrease of induced abortion practice among women of lower social strata, which more likely have low income and education. The economic incentive was surely important for women with lower income who used to prefer free-ofcharge induced abortion to contraception which was not covered by the health insurance. Since the introduction of charges the induced abortion ratio decreased to $25 \%$ among women with elementary education.

In 2006 the induced abortion ratio was highest among lower secondary educated women ( $34 \%$ ). In 1990, however, the index was lowest among these women but it decreased the least $(-32 \%)$. The index dropped the most among university graduates ( $-77 \%$ ) and elementary educated ( $-69 \%$ ).

Trends in induced abortion have been favourable during the last 16 years and both the number and level of abortion decreased substantially. During the early 1990s the decline was a result of the spreading modern contraception (of the information, accessibility and better quality). Moreover, during the early 1990s the pill was covered by the health insurance and since 1993 a charge for induced abortion was introduced. A public discussion on induced abortion emerged and both moral and health risks were emphasised. All the
 above mentioned factors lead to changing attitudes towards induced abortion. Civic initiatives (whether pro-life of pro-choice) and the Catholic Church played important role in this process. The decline slowed down during the last several years and it is likely that it will soon reach its limits. The potential for further decline of induced abortion is in substitutions of the older cohorts of women in reproductive age by the young women who may have more favourable attitudes towards induced abortion and who are more likely to prefer contraception as means of family planning. Another favourable trend of the 1990s was decrease of spontaneous abortion to a very low level which can be interpreted as a result of the improved reproductive health of women.

## 5. MORTALITY

Tab. 5.1 The main mortality indicators

|  |  | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Deaths | males | 30263 | 28128 | 28157 | 27705 | 27415 | 27702 | 27 | 304 |

The positive mortality development (Vaňo 2005), hereby also prolonging of the lifespan, has been continuing as the annually increasing values of life expectancy at birth demonstrate. The positive trend is a result of the prevailing positive mortality factors over the factors with negative effect. Whether this development is sufficient to fulfil our expectation is the focus of this part of the publication.

## Despite the increasing number of deaths the life expectancies keep increasing

53301 people died during the year 2006 of which 28091 were males and 25210 females. The number of deaths increased in 787 males and 662 females in comparison to 2004 . However, the increase in number of deaths did not cause mortality worsening. The increase in the total number of deaths was caused by the changes in population age structure ${ }^{4}$, as the standardized mortality rate shows: the standardised mortality rates de-
 creased from $8.75 \%$ to $8.56 \%$.

Life expectancy at birth development has increased as well. The only exception was a temporary decrease in the life expectancy at birth for man to the value 70.11 in 2005; in 2006 the indicator rose to 70.40 years. For the first time in history, the life expectancy of women at birth exceeded 78 years in 2006 (78.20 years). However, the decrease in sex differentials in life expectancy at birth that occurred in 2004 did not last and in 2005 and 2006 males lived on average 7.8 years shorter than women.

The situation was similar at the age 50 . Life expectancy at age 50 among men reached 23.89 years in 2006 despite a moderate decrease in 2005 ( 23.61 years). The values of the indicator for women are close to 30 years (29.91). Sex differentials at this age have not changed significantly and remain at the level of 6 years.

In 2006, the life expectancy at age 65 for males reached 13.32 years. It was higher than in 2005 (13.20), but lower than in 2004 (13.33) when the highest value was recorded for males.

The situation among women differs. The life expectancy at age 65 for the first time exceeded the level of 17 years (17.07). Sex differentials, which have been increasing in the long-run, reached 3.75 years in 2006.

[^3]The development of the life expectancy at age 80 for males is not favourable. The trend showed mostly decreasing tendency. In 2005 the life expectancy of men at age 80 dropped to the lowest value since 1992 (5.77). The increase to the value of 6.08 years did not mean a considerable progress. In contrast, among women the trend is favourable. The increase in the life expectancy at age 80 continues, although it was interrupted by a drop to value 6.75 in 2005 (the lowest value since 2001). Quite to the contrary, the value reached in 2006 (6.93) was close to the highest ever recorded value (6.97 in 2002).

## Mortality during the first year of life still is above the lowest ever recorded level

Tab. 5.2 Indicators of the mortality during the first year of life

|  |  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Up to 1 year | males females | Deaths |  |  |  |  |  |  |  |  |
|  |  | 568 | 388 |  | 185 | 189 |  | 200 | 225 | 204 |
|  |  | 391 | 287 | 193 | 134 | 199 | 176 | 165 | 167 | 151 |
| Up to 28 days | total males | 959 | 675 | 473 | 319 | 388 | 406 | 365 | 392 | 355 |
|  |  | 404 | 280 | 173 | 125 | 109 | 135 | 110 | 130 | 111 |
|  | females | 265 | 203 | 124 | 86 | 129 | 99 | 101 | 95 | 79 |
| Up to 7 days | total | 669 | 483 | 297 | 211 | 238 | 234 | 211 | 225 | 190 |
|  | males | 325 | 199 | 114 | 91 | 79 | 104 | 80 | 88 | 76 |
|  | females <br> total <br> males <br> females <br> total | 208 | $137$ | 114 84 | 72 | 91 | 75 | 70 | 65 | 55 |
| Stillbirths |  | $533$ | 336 | $198$ | 163 | 170 | 179 | 150 | $153-131$ |  |
|  |  | 211 | 134 | $116$ | 111 | 98 | 121 | 95 | 102 | 110 |
|  |  | 190 | 107 | 99 | 96 | 96 | 96 | 116 | 93 | 108 |
|  |  | 401 | 241 | 215 | 207 | 194 | 217 | 211 | 195 | 218 |
| Infant | males females | Rates |  |  |  |  |  |  |  |  |
|  |  | $\begin{aligned} & 13,81 \\ & 10,06 \\ & 11,99 \end{aligned}$ | 12,35 | 9,92 | 7,00 | $7,27$ | 8,67 | 7,23 | 8,04 | 7,37 |
|  |  |  | 9,56 | $7,17$ | $5,43$ | $8,02$ | 6,99 | 6,32 | 6,31 | 5,76 |
| Neonatal | total males |  | 10,99 | $8,58$ | $6,24$ | $7,63$ | $7,85$ | $6,79$ | $7,20$ | 6,59 |
|  |  | 9,82 | $8,91$ | 6,13 | 4,73 | 4,19 | 5,09 | 3,98 | 4,65 | 4,01 |
|  | females | $6,82$ | 6,76 | 4,61 | 3,48 | $5,20$ | 3,93 | 3,87 | 3,59 | 3,01 |
| Early neonatal | total males females | 8,36 | 7,86 | $5,39$ | 4,13 | $4,68$ | 4,52 | 3,93 | 4,13 | 3,52 |
|  |  | 7,90 | 6,33 | $4,04$ | 3,44 | 3,04 | 3,92 | 2,89 | 3,15 | 2,75 |
|  |  | 5,35 | 4,56 | $3,12$ | 2,92 | 3,67 | 2,98 | 2,68 | 2,46 | 2,10 |
| Post neonatal | total males | 6,66 | 5,47 | 3,59 | 3,19 | 3,34 | 3,46 | 2,79 | 2,81 | 2,43 |
|  |  | 3,99 | 3,44 | $3,79$ | 2,27 | 3,08 | 3,58 | 3,26 | 3,40 | 3,36 |
|  | females | 3,24 | 2,80 | 2,56 | 1,94 | 2,82 | 3,06 | 2,45 | 2,72 | 2,75 |
|  | total | 3,63 | 3,13 | 3,19 | 2,11 | 2,95 | 3,33 | 2,87 | 3,07 | 3,06 |
| Perinatal | males | 12,97 | 10,56 | 8,12 | 7,61 | 6,78 | 8,44 | 6,31 | 6,77 | 6,69 |
|  | females | 10,19 | 8,10 | 6,77 | 6,78 | 7,50 | 6,77 | 7,09 | 5,95 | 6,19 |
|  | total | 11,62 | 9,36 | 7,46 | 7,21 | 7,13 | 7,63 | 6,69 | 6,37 | 6,45 |

The infant mortality rate fell from 6.79 \% to 6.59 \% between 2004 and 2006. However, a significant increase to 7.20 \% in 2005 has to be mentioned. The level of infant mortality rate recorded in 2006 is still higher than the lowest ever recorded value in 2004 ( $6.24 \%$ ). The trend was influenced by the infant mortality rate of boys, which increased from $7.23 \%$ in 2004 to $8.04 \%$ in 2005 , but afterwards decreased to $7.37 \%$ in 2006. Nevertheless, it is still above $7.00 \%$ recorded in 2001.

The infant mortality rate of girls shows a decrease from $8.02 \%$ in 2002 to $5.76 \%$ in 2006 . Similarly, the 2006 value was above lowest value reached in 2001 ( $5.43 \%$ ).

The above described trends in infant mortality rate are a result of the progress in its components - neonatal and postneonatal mortality rate. If these components had reached the lowest ever recorded values, the infant mortality rate would have been lower by approximately $1 \%$.

Perinatal mortality rate, which reflects the mortality up to 7 days after delivery including stillbirths, has a decreasing tendency since 2003. Although the lowest value was recorded in $2005(6.37 \%), 6.45 \%$ in 2006 was still below $6.69 \%$ in 2004. The increasing number of stillbirths in 2006 caused an increase of the perinatal mortality in that year.

## Age and sex mortality differentials according to the causes of death

If we take only the selected main causes of death into consideration, we can see that the intensity of mortality by the causes of death is different among men and women as well as among the age groups. In 2006 deaths due to circulatory system diseases, which cover $48.2 \%$ of all deaths of males and $62.5 \%$ of all deaths of females, are more pronounced since age 45 among males, and by 5 year lag, since age 50 among females.

Up to about age 65 number of deaths due to circulatory diseases shows double intensity for males compared to females. In more advance ages this excess gradually gets equal and later changes to female excess in mortality. Since age 80 the female excess reaches double and more the male mortality.

Mortality due to neoplasm covers $24.3 \%$ of all deaths of males and $19.5 \%$ of all deaths of females. The number of deaths due to neoplasm increases from age 40 for both sexes. The highest number was recorded at age 65-79 for males and at age 70-84 for females.

Graph 5.2 Deaths by age, sex and cause of death, 2006


Tab. 5.3 Most frequent causes of death, males, 2006

|  | All deaths, males | 28091 |  | 100\% |
| :---: | :---: | :---: | :---: | :---: |
|  | Neoplasms | 6815 | 100\% | 24\% |
| C34 | Malignant neoplasm of bronchus and lung | 1622 | 24\% | 6\% |
| C18 | Malignant neoplasm of colon | 518 | 8\% | 2\% |
| C61 | Malignant neoplasm of prostate | 501 | 7\% | 2\% |
| C16 | Malignant neoplasm of stomach | 447 | 7\% | 2\% |
| C25 | Malignant Neoplasm of pancreas | 346 | 5\% | 1\% |
| C20 | Malignant neoplasm of rectum | 325 | 5\% | 1\% |
| C22 | Malignant neoplasm of liver and intrahepatic bile ducts | 214 | 3\% | 1\% |
| C15 | Malignant neoplasm of oesophagus | 213 | 3\% | 1\% |
| C64 | Malignant neoplasm of kidney, except renal pelvis | 199 | 3\% | 1\% |
|  | Diseases of the circulatory system | 13538 | 100\% | 48\% |
| I25 | Chronic ischeamic heart disease | 5589 | 41\% | 20\% |
| I70 | Atherosclerosis | 2312 | 17\% | 8\% |
| I21 | Acute myocardial infarction | 985 | 7\% | 4\% |
| I10 | Essential (primary) hypertension | 869 | 6\% | 3\% |
| I63 | Cerebral infarction | 783 | 6\% | 3\% |
| I64 | Stroke, not specified as haemorrhage or infarction | 391 | 3\% | 1\% |
| I11 | Hypertensive heart disease | 333 | 2\% | 1\% |
| I26 | Pulmonary embolism | 278 | 2\% | 1\% |
| I61 | Intracerebral haemorrhage | 277 | 2\% | 1\% |
| I69 | Sequelae of cerebrovascular disease | 178 | 1\% | 1\% |
|  | Diseases of the respiratory system | 1678 | 100\% | 6\% |
| J18 | Pneumonia, organism unspecified | 709 | 42\% | 3\% |
| J44 | Other chronic obstructive pulmonary disease | 329 | 20\% | 1\% |
| J15 | Bacterial pneumonia, not elsewhere classified | 207 | 12\% | 1\% |
|  | Diseases of the digestive system | 1802 | 100\% | 6\% |
| K74 | Fibrosis and cirrhosis of liver | 507 | 28\% | 2\% |
| K70 | Alcoholic liver disease | 489 | 27\% | 2\% |
|  | External causes of morbidity and mortality | 2454 | 100\% | 9\% |
| X70 | Intentional self-harm by hanging, strangulation and suffocation | 315 | 13\% | 1\% |
| W19 | Unspecified fall | 208 | 8\% | 1\% |
| X31 | Exposure to excessive natural cold | 146 | 6\% | 1\% |
| V03 | Pedestrian injured in collision with car, pick-up truck or van | 123 | 5\% | 0\% |
| Y34 | Unspecified event, undetermined intent | 119 | 5\% | 0\% |
| X45 | Accidental poisoning by and exposure to alcohol | 104 | 4\% | 0\% |
| V43 | Car occupant injured in collision with car, pick-up truck or van | 74 | 3\% | 0\% |
| W69 | Drowning and submersion while in natural water | 68 | 3\% | 0\% |

Deaths due to diseases of the respiratory and digestive system represented $12.4 \%$ of all deaths of males and $9.3 \%$ of all deaths of females in 2006. These deaths appear more intensively from age 40 for both sexes. At higher ages males' excess was recorded.

External causes of death, which cover $8.7 \%$ of all deaths of males and $2.4 \%$ of all deaths of females in 2006, appear in younger ages in contrast to other causes. They created the bulk of deaths at age $15-40$, mainly for males.

A more detailed division of deaths by causes showed that $20 \%$ of all deaths of males were due to the chronic ischemic heart disease in 2006. The second most frequent were deaths due to atherosclerosis ( $8 \%$ ) and deaths due to malignant neoplasm of bronchus and lung ( $6 \%$ ). Within the causes of death chapters, the acute myocardial infarction is responsible for $7 \%$ of deaths due to diseases of the circulatory system and it is the most frequent cause of death besides the chronic ischemic disease. Malignant neoplasm of colon covers $8 \%$ of deaths due to neoplasms. Deaths due to intentional self-harm dominate the external causes of death ( $13 \%$ ), in the chapter of respiratory diseases deaths due to pneumonia prevail, and in the chapter of digestive system deaths due to fibrosis and cirrhosis of liver are the most frequent.

Tab. 5.4 Most frequent causes of death, females, 2006

|  | All deaths, females | 25210 |  | 100\% |
| :---: | :---: | :---: | :---: | :---: |
|  | Neoplasms | 4917 | 100\% | 20\% |
| C50 | Malignant neoplasm of breast | 708 | 14\% | 3\% |
| C18 | Malignant neoplasm of colon | 428 | 9\% | 2\% |
| C34 | Malignant neoplasm of bronchus and lung | 397 | 8\% | 2\% |
| C25 | Malignant neoplasm of pancreas | 329 | 7\% | 1\% |
| C16 | Malignant neoplasm of stomach | 298 | 6\% | 1\% |
| C56 | Malignant neoplasm of ovary | 277 | 6\% | 1\% |
| C20 | Malignant neoplasm of rectum | 197 | 4\% | 1\% |
| C53 | Malignant neoplasm of cervix uteri | 192 | 4\% | 1\% |
| C54 | Malignant neoplasm of corpus uteri | 181 | 4\% | 1\% |
|  | Diseases of the circulatory system | 15759 | 100\% | 63\% |
| I25 | Chronic ischeamic heart disease | 6834 | 43\% | 27\% |
| I70 | Atherosclerosis | 2745 | 17\% | 11\% |
| I10 | Essential (primary) hypertension | 1187 | 8\% | 5\% |
| I63 | Cerebral infarction | 890 | 6\% | 4\% |
| I21 | Acute myocardial infarction | 600 | 4\% | 2\% |
| I64 | Stroke, not specified as haemorrhage or infarction | 586 | 4\% | 2\% |
| I11 | Hypertensive heart disease | 428 | 3\% | 2\% |
| I26 | Pulmonary embolism | 361 | 2\% | 1\% |
| I61 | Intracerebral haemorrhage | 273 | 2\% | 1\% |
| I69 | Sequelae of cerebrovascular disease | 225 | 1\% | 1\% |
|  | Diseases of the respiratory system | 1283 | 100\% | 5\% |
| J18 | Pneumonia, organism unspecified | 584 | 46\% | 2\% |
| J15 | Bacterial pneumonia, not elsewhere classified | 167 | 13\% | 1\% |
| J44 | Other chronic obstructive pulmonary disease | 129 | 10\% | 1\% |
|  | Diseases of the digestive system | 1067 | 100\% | 4\% |
| K74 | Fibrosis and cirrhosis of liver | 232 | 22\% | 1\% |
| K70 | Alcoholic liver disease | 159 | 15\% | 1\% |
|  | External causes of morbidity and mortality | 608 | 100\% | 2\% |
| W19 | Unspecified fall | 79 | 13\% | 0\% |
| V03 | Pedestrian injured in collision with car, pick-up truck or van | 48 | 8\% | 0\% |
| Y34 | Unspecified event, undetermined intent | 47 | 8\% | 0\% |
| X31 | Exposure to excessive natural cold | 37 | 6\% | 0\% |
| X70 | Intentional self-harm by hanging, strangulation and suffocation | 36 | 6\% | 0\% |
| V43 | Car occupant injured in collision with car, pick-up truck or van | 31 | 5\% | 0\% |
| X45 | Accidental poisoning by and exposure to alcohol | 23 | 4\% | 0\% |
| V05 | Pedestrian injured in collision with railway train or railway vehicle | 19 | 3\% | 0\% |

Similar to men, deaths due to chronic ischemic heart disease dominate with the proportion of $27 \%$ among women in 2006 if we take the detailed classification of deaths into account. Deaths due to atherosclerosis and essential hypertension follow in the list. Within the causes of death' chapters, malignant neoplasm of breast is the most frequent cause of death among the neoplasm with $14 \%$ share. Deaths caused by pneumonia dominate in the chapter of respiratory diseases. Similar to men, deaths due to fibrosis and cirrhosis of liver are most frequent in the chapter of digestive system. Unspecified falls prevail among the external causes of death

Tab. 5.5 Causes of deaths

|  | $1990{ }^{5}$ | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Males |  |  |  |  |  |  |  |  |
| Infectious and parasitic diseases | 77 | 105 | 96 | 99 | 117 | 151 | 138 | 117 | 143 |
| Neoplasms | 6297 | 6657 | 7015 | 7025 | 6768 | 6822 | 6812 | 6944 | 6815 |
| Malignant neoplasms | ... | 6599 | 6985 | 6997 | 6729 | 6788 | 6763 | 6906 | 6766 |
| Endocrine, nutritional and metabolic dis. | 338 | 320 | 338 | 347 | 334 | 352 | 322 | 331 | 310 |
| Diabetes mellitus | $\ldots$ | 288 | 320 | 331 | 318 | 339 | 305 | 304 | 287 |
| Diseases of the nervous system | 187 | 141 | 302 | 340 | 334 | 356 | 353 | 367 | 378 |
| Diseases of the circulatory system | 14735 | 13926 | 13605 | 13425 | 13181 | 13145 | 13072 | 13468 | 13538 |
| Hypertensive diseases | ... | 604 | 1549 | 1540 | 1457 | 1444 | 1382 | 1434 | 1277 |
| Ischeamic heart diseases | $\ldots$ | 7469 | 7476 | 7275 | 7090 | 7298 | 7218 | 7064 | 6788 |
| Cerebrovascular diseases | ... | 2339 | 2140 | 2132 | 2203 | 2182 | 2096 | 1946 | 1850 |
| Atherosclerosis | $\ldots$ | 2014 | 1041 | 1099 | 1045 | 849 | 946 | 1641 | 2312 |
| Diseases of the respiratory system | 2195 | 1890 | 1641 | 1548 | 1622 | 1757 | 1703 | 1786 | 1678 |
| Diseases of the digestive system | 1960 | 1484 | 1751 | 1666 | 1751 | 1690 | 1591 | 1668 | 1802 |
| Diseases of the genitourinary system | 498 | 416 | 363 | 364 | 380 | 370 | 366 | 339 | 326 |
| Abnormal findings | ... | 170 | 315 | 240 | 279 | 362 | 333 | 429 | 415 |
| External causes of deaths | 2904 | 2617 | 2452 | 2431 | 2427 | 2459 | 2388 | 2456 | 2454 |
| Transport accidents | ... | 709 | 679 | 654 | 598 | 663 | 610 | 594 | 648 |
| Intentional self harm | $\ldots$ | 609 | 594 | 580 | 617 | 648 | 564 | 584 | 464 |
| Other causes of deaths | 1072 | 402 | 279 | 220 | 222 | 238 | 226 | 246 | 232 |
| Total | 30263 | 28128 | 28157 | 27705 | 27415 | 27702 | 27304 | 28151 | 28091 |
|  | Females |  |  |  |  |  |  |  |  |
| Infectious and parasitic diseases | 55 | 80 | 72 | 87 | 84 | 111 | 96 | 114 | 140 |
| Neoplasms | 4057 | 4418 | 4915 | 4845 | 4736 | 4794 | 4864 | 4930 | 4917 |
| Malignant neoplasms | $\cdots$ | 4348 | 4886 | 4818 | 4716 | 4770 | 4819 | 4888 | 4883 |
| Endocrine, nutritional and metabolic dis. | 452 | 413 | 462 | 452 | 430 | 450 | 468 | 437 | 447 |
| Diabetes mellitus | $\ldots$ | 380 | 438 | 431 | 412 | 433 | 443 | 412 | 427 |
| Diseases of the nervous system | 198 | 96 | 197 | 225 | 240 | 271 | 255 | 316 | 285 |
| Diseases of the circulatory system | 14393 | 15097 | 15380 | 15269 | 14887 | 15065 | 15056 | 15663 | 15759 |
| Hypertensive diseases | $\ldots$ | 875 | 1932 | 1989 | 1932 | 1886 | 1871 | 1886 | 1732 |
| Ischeamic heart diseases | $\ldots$ | 6996 | 8212 | 7947 | 7812 | 8081 | 8040 | 8201 | 7595 |
| Cerebrovascular diseases | $\ldots$ | 3029 | 2537 | 2560 | 2560 | 2651 | 2650 | 2375 | 2274 |
| Atherosclerosis | $\ldots$ | 2671 | 1361 | 1391 | 1194 | 1012 | 1023 | 1852 | 2745 |
| Diseases of the respiratory system | 1784 | 1753 | 1271 | 1178 | 1291 | 1367 | 1255 | 1328 | 1283 |
| Diseases of the digestive system | 915 | 775 | 879 | 936 | 1040 | 1002 | 1069 | 1117 | 1067 |
| Diseases of the genitourinary system | 480 | 406 | 308 | 339 | 351 | 381 | 378 | 357 | 323 |
| Abnormal findings | ... | 178 | 158 | 135 | 181 | 218 | 217 | 188 | 168 |
| External causes of deaths | 1037 | 1025 | 663 | 608 | 595 | 624 | 674 | 676 | 608 |
| Transport accidents | $\ldots$ | 214 | 171 | 176 | 180 | 194 | 159 | 170 | 173 |
| Intentional self harm | $\ldots$ | 126 | 135 | 112 | 100 | 105 | 112 | 95 | 68 |
| Other causes of deaths | 985 | 317 | 262 | 201 | 282 | 245 | 216 | 198 | 213 |
| Total | 24356 | 24558 | 24567 | 24275 | 24117 | 24528 | 24548 | 25324 | 25210 |

No significant changes occurred in trends of mortality according to causes of death. Mortality, in most chapters which cover 99.2 \% of all deaths, decreases during the period 1995 to 2006. Exceptions for both sexes are the causes connected with infectious and parasitic diseases and with diseases of the nervous system that display a mild mortality increase, measured by standardized deaths rates. Deaths due to abnormal findings in men and causes of death due to digestive system in women count among these causes. However, these causes of death contribute a mere $3.3 \%$ to all deaths of males and $5.9 \%$ to all deaths of females.

During the period 2004 - 2006, a decreasing tendency continues in majority of the causes of death. Naturally, there are some exceptions too: in case of men deaths due to digestive system and deaths due to traffic accidents increased, and among women deaths due to transport accidents as well.

[^4]Tab. 5.6 Standardised mortality rates by causes of death ${ }^{6}$

|  | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Males |  |  |  |  |  |  |  |
| Infectious and parasitic diseases | 0,05 | 0,04 | 0,04 | 0,05 | 0,06 | 0,06 | 0,05 | 0,06 |
| Neoplasms | 2,99 | 3,01 | 3,02 | 2,86 | 2,83 | 2,80 | 2,80 | 2,70 |
| Malignant neoplasms | 2,97 | 2,99 | 3,01 | 2,84 | 2,82 | 2,78 | 2,79 | 2,68 |
| Endocrine, nutritional and metabolic dis. | 0,15 | 0,15 | 0,15 | 0,14 | 0,15 | 0,13 | 0,14 | 0,13 |
| Diabetes mellitus | 0,13 | 0,14 | 0,15 | 0,13 | 0,15 | 0,13 | 0,13 | 0,12 |
| Diseases of the nervous system | 0,06 | 0,12 | 0,14 | 0,13 | 0,14 | 0,14 | 0,14 | 0,15 |
| Diseases of the circulatory system | 6,73 | 6,19 | 6,26 | 6,06 | 6,03 | 5,93 | 5,94 | 5,86 |
| Hypertensive diseases | 0,28 | 0,69 | 0,69 | 0,65 | 0,64 | 0,61 | 0,62 | 0,54 |
| Ischeamic heart diseases | 3,58 | 3,42 | 3,42 | 3,30 | 3,38 | 3,32 | 3,16 | 2,96 |
| Cerebrovascular diseases | 1,13 | 0,98 | 1,01 | 1,01 | 1,00 | 0,96 | 0,86 | 0,80 |
| Atherosclerosis | 1,04 | 0,49 | 0,52 | 0,50 | 0,41 | 0,43 | 0,73 | 1,03 |
| Diseases of the respiratory system | 0,92 | 0,75 | 0,73 | 0,74 | 0,81 | 0,77 | 0,78 | 0,72 |
| Diseases of the digestive system | 0,64 | 0,71 | 0,68 | 0,70 | 0,66 | 0,63 | 0,64 | 0,67 |
| Diseases of the genitourinary system | 0,19 | 0,16 | 0,16 | 0,17 | 0,16 | 0,16 | 0,14 | 0,14 |
| Abnormal findings | 0,08 | 0,12 | 0,09 | 0,11 | 0,14 | 0,13 | 0,16 | 0,15 |
| External causes of deaths | 1,06 | 0,93 | 0,93 | 0,91 | 0,91 | 0,89 | 0,89 | 0,88 |
| Transport accidents | 0,28 | 0,26 | 0,24 | 0,22 | 0,24 | 0,22 | 0,22 | 0,23 |
| Intentional self harm | 0,24 | 0,22 | 0,22 | 0,23 | 0,24 | 0,20 | 0,20 | 0,16 |
| Other causes of deaths | 0,13 | 0,12 | 0,09 | 0,10 | 0,10 | 0,10 | 0,10 | 0,10 |
| Total | 13,01 | 12,29 | 12,30 | 11,96 | 12,00 | 11,72 | 11,78 | 11,56 |
|  | Females |  |  |  |  |  |  |  |
| Infectious and parasitic diseases | 0,02 | 0,02 | 0,03 | 0,02 | 0,03 | 0,03 | 0,03 | 0,04 |
| Neoplasms | 1,41 | 1,46 | 1,43 | 1,37 | 1,36 | 1,36 | 1,36 | 1,33 |
| Malignant neoplasms | 1,39 | 1,45 | 1,42 | 1,36 | 1,36 | 1,35 | 1,35 | 1,32 |
| Endocrine, nutritional and metabolic dis. | 0,13 | 0,13 | 0,13 | 0,12 | 0,12 | 0,13 | 0,11 | 0,11 |
| Diabetes mellitus | 0,12 | 0,12 | 0,12 | 0,12 | 0,12 | 0,12 | 0,11 | 0,11 |
| Diseases of the nervous system | 0,04 | 0,06 | 0,07 | 0,08 | 0,08 | 0,08 | 0,09 | 0,08 |
| Diseases of the circulatory system | 4,45 | 4,12 | 4,16 | 4,00 | 4,02 | 3,94 | 3,94 | 3,84 |
| Hypertensive diseases | 0,26 | 0,53 | 0,55 | 0,52 | 0,50 | 0,49 | 0,48 | 0,42 |
| Ischeamic heart diseases | 2,06 | 2,20 | 2,16 | 2,10 | 2,16 | 2,10 | 2,06 | 1,85 |
| Cerebrovascular diseases | 0,90 | 0,67 | 0,69 | 0,69 | 0,70 | 0,69 | 0,59 | 0,55 |
| Atherosclerosis | 0,76 | 0,35 | 0,37 | 0,32 | 0,27 | 0,27 | 0,47 | 0,66 |
| Diseases of the respiratory system | 0,52 | 0,35 | 0,33 | 0,35 | 0,38 | 0,34 | 0,35 | 0,33 |
| Diseases of the digestive system | 0,25 | 0,26 | 0,28 | 0,30 | 0,29 | 0,30 | 0,31 | 0,29 |
| Diseases of the genitourinary system | 0,13 | 0,09 | 0,10 | 0,10 | 0,10 | 0,10 | 0,09 | 0,08 |
| Abnormal findings | 0,05 | 0,05 | 0,04 | 0,05 | 0,07 | 0,06 | 0,05 | 0,05 |
| External causes of deaths | 0,33 | 0,22 | 0,20 | 0,19 | 0,20 | 0,21 | 0,21 | 0,18 |
| Transport accidents | 0,08 | 0,06 | 0,06 | 0,06 | 0,06 | 0,05 | 0,06 | 0,06 |
| Intentional self harm | 0,04 | 0,04 | 0,04 | 0,03 | 0,03 | 0,04 | 0,03 | 0,02 |
| Other causes of deaths | 0,10 | 0,10 | 0,08 | 0,12 | 0,10 | 0,09 | 0,08 | 0,08 |
| Total | 7,45 | 6,86 | 6,82 | 6,71 | 6,75 | 6,63 | 6,62 | 6,41 |

Special attention has to be given to the evident rise of the standardised mortality rate due to atherosclerosis during the years 2005 and 2006. Although mortality due to diseases of the circulatory system decreased for both sexes, atherosclerosis is an exception in this chapter of the causes of death. This development, most likely, has to be assigned to the changed classification: some deaths due to ischemic heart diseases and cerebrovascular diseases were reclassified as deaths due to atherosclerosis (Baráková, Hlava, Brašeňová, Spáčová 2005).

[^5]Tab. 5.7 Decomposition of the difference in life expectancy at birth between 2004 and 2006 by causes of death, age and sex

|  | 0 | 1-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80-89 | 90+ | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Males |  |  |  |  |  |  |  |  |  |  |  |
| Neoplasms | 0,00 | 0,01 | 0,00 | 0,01 | 0,02 | 0,02 | 0,06 | 0,03 | 0,00 | 0,01 | 0,00 | 0,15 |
| Circulatory system diseases | 0,00 | 0,00 | 0,00 | -0,01 | 0,02 | 0,02 | 0,01 | 0,00 | 0,01 | 0,00 | 0,00 | 0,04 |
| Respiratory system diseases | 0,00 | 0,02 | 0,00 | 0,00 | -0,01 | 0,01 | 0,00 | 0,02 | -0,01 | 0,01 | 0,00 | 0,05 |
| Digestive system diseases | 0,00 | 0,01 | 0,00 | -0,01 | 0,00 | -0,03 | -0,03 | 0,00 | -0,01 | 0,00 | 0,00 | -0,08 |
| External causes of death | 0,01 | 0,01 | 0,02 | 0,02 | -0,02 | 0,00 | -0,03 | -0,01 | 0,00 | 0,00 | 0,00 | 0,01 |
| Other causes of death | 0,00 | -0,01 | -0,01 | 0,00 | -0,03 | -0,02 | 0,00 | 0,00 | 0,01 | 0,01 | 0,00 | -0,05 |
| Total | 0,00 | 0,03 | 0,00 | 0,02 | -0,01 | 0,00 | 0,01 | 0,05 | 0,00 | 0,02 | 0,01 | 0,12 |
|  | Females |  |  |  |  |  |  |  |  |  |  |  |
| Neoplasms | -0,01 | 0,01 | 0,00 | 0,01 | -0,01 | 0,03 | -0,01 | 0,03 | 0,03 | 0,00 | 0,00 | 0,08 |
| Circulatory system diseases | -0,01 | 0,01 | 0,01 | 0,00 | 0,01 | 0,00 | 0,02 | 0,05 | 0,03 | -0,02 | -0,01 | 0,09 |
| Respiratory system diseases | 0,01 | 0,02 | 0,01 | 0,00 | 0,01 | -0,01 | -0,01 | 0,00 | -0,01 | 0,01 | 0,00 | 0,04 |
| Digestive system diseases | 0,00 | -0,01 | 0,00 | 0,00 | -0,01 | 0,00 | 0,00 | 0,00 | 0,01 | 0,01 | 0,00 | 0,00 |
| External causes of death | 0,02 | 0,01 | 0,02 | 0,02 | -0,01 | 0,01 | 0,01 | -0,01 | 0,00 | 0,00 | 0,00 | 0,08 |
| Other causes of death | 0,04 | 0,01 | 0,00 | 0,01 | -0,01 | 0,01 | -0,01 | 0,01 | 0,02 | 0,00 | 0,00 | 0,09 |
| Total | 0,06 | 0,06 | 0,04 | 0,03 | -0,01 | 0,05 | 0,01 | 0,08 | 0,08 | 0,00 | -0,02 | 0,37 |

Period changes in life expectancy at birth are affected by varying mortality in particular ages and causes of death. The life expectancy at birth for males increased between 2004 and 2006 in 0.12 year. Mortality decrease in ages $30-69$ due to neoplasms contributed most significantly the increasing life expectancy. Positive trends in circulatory system diseases, respiratory system diseases, and in external causes of deaths also contributed to the favourable trend. Mortality due to digestive diseases increased and caused a decrease in the life expectancy in 0,08 years. The unfavourable trend in mortality due to external causes of death caused a decrease in the life expectancy in another 0.05 year. If the worsening mortality due to digestive and external causes of death had not occurred, the life expectancy at birth would have increased in 0.25 year during 2004 - 2006. Mortality development by age is favourable too, with an exception of ages $30-39$. In age $30-39$ mortality mainly due to external and other causes of death evoked life expectancy at birth decrease by 0.01 year.

Life expectancy at birth for females increased in 0.37 year during 2004 to 2006. The increase was considerably higher compared to males, and all causes of death contributed positively to the prolonging life span. Negative contribution was recorded only by age, namely at age $30-39$ and at 90 and more.

## $15 \%$ of all deaths can be assigned to smoking

It is well-known that smoking has ill effects. Besides the physical and psychical restrictions it can cause chronic and fatal illnesses. Naturally, the range of damage depends on the tobacco quantity, quality and on the frequency of smoking. The tobacco smoke contains plenty of toxic substances, tar, nicotine and carbon monoxide being the most dangerous. ${ }^{7}$ Tar is a carcinogen, nicotine is addictive and increases cholesterol levels in blood and carbon monoxide reduces oxygen in the body.

Tobacco smoking increases a risk to fall ill for cardiovascular system diseases, respiratory system diseases and neoplasms. The highest effect is on emergence of many types of cancer, including cancer of lung, bronchi, pharynx, oral cavity, oesophagus and stomach. Tobacco smoking also negatively affects creation of ischemic heart diseases, cerebrovascular disease and atherosclerosis as well as pneumonia, bronchitis, and other lung diseases. It can cause also other biological defects, e.g. problems in gravidity and problems in cell metabolism. The passive smoking has to be mentioned as well. It is involuntary inhaling of the tobacco smoke by non-smokers. The smoke contains all mentioned harmful pollutants, but also small solid or liquid particulates, which can causes also other infectious diseases.

Direct measuring of the mortality caused by smoking is impossible in Slovakia meanwhile. Statistical reports about deaths haven't included information, which would help select smokers. For the time being we can rely only on estimations (European Commission 2007a), that are saying about $15 \%$ of all deaths and even $25 \%$ of all deaths due to neoplasm have caused smoking.

WHO's (Mackay, Eriksen 2002) estimation says, that $90 \%$ of all deaths due to lung cancer, $75 \%$ of all deaths due to pneumonia, and $25 \%$ of all deaths due to ischemic heart disease caused by smoking tobacco. If we took in account this percentage, in 2006 in Slovakia would die approximately 6800 persons due to three mentioned causes of death as a consequence of smoking.

By the survey (European Commission 2007a) $59 \%$ of Slovak population is non-smoker (have never smoked) and $15 \%$ used to smoked but have stopped ( $1 \%$ unspotted). $93 \%$ of all smokers are smoking in average 12.2 cigarettes per day. $20 \%$ of

[^6]daily smokers smoke less than 5 cigarettes, $24 \% 5$ to $9,22 \% 10$ to $14,13 \% 15$ to $19,9 \% 20$ to $24,5 \% 25$ and more; $7 \%$ didn't mentioned the number of cigarettes.

The survey was targeted on the willingness to stop smoking too; it says that $59 \%$ of smokers haven't tried to give up smoking in the last 12 months, $36 \%$ have tried to give up smoking 1 to 5 times, $2 \% 6$ to 10 times, and other $2 \%$ more than 10 times. Only $1 \%$ of smokers, who have tried to give up smoking, had sought help from doctor or health professional.

## Slovakia ranks within the top 15 countries with the highest adult alcohol consumption per capita in the world

Alcohol consumption is an important health factor associated with life-style and depending on society's customs. The effect of the alcohol consumption on health is not exclusively negative; however, the positive effect depends on the consumed alcohol quality and quantity. In comparison to persons who have never drunk, persons with moderate alcohol consumption (especially good quality vine) experience health benefits, concretely in case the alcohol was combined with meal (Caselli, G., Vallin, J., Wunsch, G. 2006). Moderate alcohol consumption can reduce the risk of cerebral infarction, myocardial infarction and some types of diabetes (European Commission 2007b), (Greenfacts 2004). In contrast, high alcohol consumption can affect immediate and long-term damage to heath and social life. It can lead to drunkenness, to dependency on alcohol, to depression and suicide. It can induce traffic accidents, falls, and moreover, it can induce cerebrovascular diseases, neoplasm and different liver diseases.

High alcohol consumption is specific for mainly developed countries, especially the European countries. Slovakia with pure alcohol consumption of 12.4 liters per capita ${ }^{8}$ ranks within the top $10-15$ states with the highest alcohol consumption worldwide (Country profile Slovakia). This number was estimated from the recorded alcohol per capita figures. If the unrecorded per capita alcohol consumption was added ( 7 litres per capita), Slovakia would rank on the top of the list.

The same source shows that Slovakia is $13^{\text {th }}$ worldwide in pure alcohol consumption per capita if beer is considered (5.3 litres of pure alcohol per capita) ${ }^{9}$ and $15^{\text {th }}$ in pure alcohol consumption per capita in the form of spirit ( 5.4 litres of pure alcohol per capita). In case vine is taken into consideration Slovakia does not rank within the top 20 countries ( 1.6 litres of pure alcohol per capita). It follows that beer and spirit, which are considered more harmful compared to vine, are dominant types of the consumed alcohol in Slovakia.

Looking at the alcohol consumption frequencies by the European Commission (2007b) in the end of $2006,75 \%$ of the Slovak population have drunk an alcoholic drink in the past 12 months; $65 \%$ of population have drunk an alcoholic drink in the past 30 days. Out of those who have drunk during the past 30 days, $5 \%$ have drunk every day, $6 \% 4$ to 5 times per week, $14 \% 2$ to 3 times per week, $29 \%$ once a week, $26 \% 2$ to 3 times per month and $20 \%$ once a month. At one occasion $62 \%$ have drunk one or two drinks, $17 \% 3$ to 4 drinks and $5 \% 5$ and more drinks.

Out of persons who have drunk at least one drink during the last 12 months, $28 \%$ have never drunk 5 and more drinks at one occasion, $26 \%$ have drunk 5 and more drinks on one occasion less than once a month, $19 \%$ once a month, $16 \%$ once a week and $10 \%$ several times a week.

Only $5.2 \%$ of male and $8.5 \%$ of female population of Slovakia aged 18 and more is lifetime abstainer (Country profile Slovakia 2004). The rate of heavy and hazardous drinkers ${ }^{10}$ is $5.2 \%$ of males and $7.9 \%$ of females. The rate of heavy episodic drinkers ${ }^{11}$ is $13.9 \%$ of males and $2.8 \%$ females

## Mortality due to alcoholic liver disease increases

Development in mortality due to alcohol consumption can be partly addressed by examining deaths due to alcoholic liver diseases (K70, ICD - 10 code) ${ }^{12}$. In 2006, 489 males died due to this disease, which was $1.7 \%$ of all deaths of men. 159 females died of the same disease, which was $0.6 \%$ of all deaths of women.

Period trends in mortality due to liver diseases show an increasing tendency for both men and women. Mortality rate due to liver diseases increased from $0.12 \%$ in 2000 to $0.17 \%$ in 2006. For females this increase was rather moderate (from 0.03 $\%$ in 2000 to $0.05 \%$ in 2006). The excess male mortality decreases as the index of excess mortality shows: the indicator declined from $433 \%$ in 2000 to $340 \%$ in 2006. However, more then triple mortality of men compared to women is significant.

[^7]Tab. 5.8 Mortality due to alcoholic liver disease

|  |  | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Deaths | Males | 304 | 347 | 367 | 378 | 383 | 338 | 423 |
|  | Females | 77 | 94 | 108 | 110 | 118 | 133 | 144 |
| Standardised mortality rate | Males | 0,12 | 0,13 | 0,14 | 0,14 | 0,14 | 0,12 | 0,15 |
|  | Females | 0,02 | 0,03 | 0,03 | 0,03 | 0,04 | 0,04 | 0,04 |
| Index of excess mortality (\%) |  | 600 | 433 | 467 | 467 | 350 | 300 | 375 |

## Expansion in the life-span does not necessarily mean longer life in heath

Life-span in Slovakia is prolonging and deaths are shifting towards higher ages. With prolonging life-span a special attention has to be paid since it makes difference whether persons spend the extra length of life in health or in illness. Measure ment is not easy and we have to deal with several problems. First, we cannot determine the exact turning point between the health and illness. It can only be estimated and it depends mainly on the knowledge, perception, and also on the subjectivity of the person evaluating the health status. From this point of view, monitoring the heath status is broadly subjective and can be run by various surveys (Kasalová, Daňková 2006).

At this moment we have at disposal the survey SILC ${ }^{13}$ (Ivančíková 2005). Although the survey addresses mainly the income disparities, level and structure of poverty and social exclusion, it also contains questions on the health status of respondents aged 15 and more. The survey methodology is in accordance to the methodical requirement for measuring health status of the European population created within the EHEMU project (EHEMU 2007) (Mészáros 2007). These questions are targeted at measurement of the subjective health status and healthcare services.

## Mainly by social and economic conditions influence the unmet need for medical examination or treatment

The following questions are at disposal for the evaluation of the accessibility of health care services:

* „Was there any time during the last 12 month, when you personally needed a medical examination or treatment, which you did not receive? " Possible answers: „Yes, at least once", „No"
* „Was there any time during the last 12 month, when you personally needed a dental examination or treatment, which you did not receive? " Possible answers: „Yes, at least once", „No"
In the case of answer "Yes, at least once" a next questions was set:
* „What was the main reason for not receiving the medical examination or treatment? "
* „What was the main reason for not receiving the dental examination or treatment?"

Tab. 5.9 Unmet need of medical treatment

|  | No |
| :--- | ---: |
| Males | Yes |
| Females | 6,0 |
| Reasons if ,,yes": | 7,7 |
| Could not afford to (too expensive) | Males |
| Was on a waiting list | 24,0 |
| Could not take time because of work, care for children or for others | 62,3 |
| Too far to travel, no means of transport | 3,3 |
| Fear of doctor (hospitals, examination, treatment) | 39,1 |
| Wanted to wait and see if problem got better on its own | 2,6 |
| Did not know any good doctor or specialist | 10,8 |
| Other reasons | 11,9 |

In 2006, $6 \%$ of Slovak males needed a medical examination and could not attend it during the last 12 month before the survey. The main reason was a lack of time ( $39.1 \%$ ) and financial problems ( $24 \%$ ). On the one hand, the situation corresponds to the current style of life; on the other hand, it mirrors the current social and economic situations.

The situation is among females: $7.7 \%$ needed medical examination and could not attend it. The main reason was a lack of finance ( $35.6 \%$ ) and a lack of time ( $28 \%$ ). If the statement the problem will solve itself is added to the reason a lack of time, we can conclude that a rather high percentage of persons do not consider the healthcare important. $20.9 \%$ of males and $18.4 \%$

[^8]of females blame the health care institutions in the case of the unmet medical examination and treatment (the proportion is a sum of reasons: waiting list, complicated transport and disbelief in doctor).

Tab. 5.10 Unmet need for dental treatment

|  | Yes |
| :--- | ---: |
| Males | $\mathbf{N o}$ |
| Females | 6,7 |
| Reasons if ,yes": | 93,3 |
| Could not afford to (too expensive) | Males |
| Was on a waiting list | 39,5 |
| Could not take time because of work, care for children or for others | 2,8 |
| Too far to travel, no means of transport | 24,9 |
| Fear of doctor (hospitals, examination, treatment) | 55,5 |
| Wanted to wait and see if problem got better on its own | 1,5 |
| Did not know any good doctor or specialist | 19,0 |
| Other reasons | 5,9 |

In 2006, $6.7 \%$ of Slovak males and $6.5 \%$ of females needed a dental examination and could not attend it during the last 12 month before the survey. The most frequent reason was a lack of finance, $39.8 \%$ of males and even $55.5 \%$ of females. A lack of time and fear of doctor were other frequent reasons.

Males are more optimistic in their subjective health status perception
The next three questions of the SILC survey were used for the subjective health status rating:
4 „How is you health in general? " Possible answers: ,,very good", ,,good", „fair", „bad"، ,,very bad".

* „Do you have any chronic illness? " Possible answers: „yes", „no".
* "During the last 6 months, have you been limited because of a health problem in activities people usually do? "

Possible answers: „Limited a lot", „Limited a little", „Not limited at all"

The results for the first question show, that males are rating their health status more positively than females. $85.7 \%$ of males and $78.8 \%$ of females does not perceive their health as bad or very bad. The largest difference is in the category "very good health", 26.7 \% males have chosen this answer compared to 19.9 $\%$ females only. Also, more males than females have declared the option "good health" ( $30.1 \%$ of males and $28.3 \%$ of females). Women have prevail in categories "fair", "bad" and "very bad". We have to mention, that males are more optimistic in the evaluation of their health status and this is apparently common in other populations as well (Rychtaříková 2006).

Age is an important factor for in the subjective health rating. Young people feel most healthy in general and the proportion of persons declaring the best option declines with an increasing age: $92.1 \%$ of males and $90.4 \%$ of females aged $16-19$ rate their health as "good" or "very good". Up to age 44 less than $10 \%$ of both women and men rate their health as "bad" or "very bad".

Among women, ratings "fair", "good" and "very good", which stand for positive feeling of health, evenly decline with an increasing age. For males, this tendency is interrupted at age 80 and more: even men aged $85+$ give better evaluations of their health status compared to those aged $75-79$.

Graph 5.3 Perceived health rating



Graph 5.6 Age structure by perceived health


Another two questions from the SILC survey address chronic diseases and activity restrictions. The population of Slovakia is divided into parts similarly to the perceived health: into persons who have reported the occurrence of chronic diseases respectively activity restrictions, and into persons who have not reported any restrictions or chronic illness. On the one hand, the occurrence of chronic diseases and activity restrictions predestine bad heath ranking, and on the other hand, persons with no restrictions in physical activities or without a chronic illness report good health. The relation between the two can be proved by correlation coefficients.

A significant correlation is between the negative answers to the existence of chronic diseases and to "very good" and "good" perceived health status rating. For males the correlation coefficient is 0.87 and for females 0.83 . Similar, a significant correlation is between the negative answers to existence of activity restrictions and to "very good" and "good" perceived health status rating: the coefficient is 0.88 for males and 0.93 for females. Other significant correlations exist between the answers ,,activity limited a lot", „activity limited a little" and having a chronic illness, where the correlation coefficient is 0.87 for males and 0.85 for females.
Graph 5.7 Age structure by chronic illness


Graph 5.8 Age structure by activity


Tab. 5.11 Life expectancy by perceived health

| Age | Males |  |  |  | Females |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Life expectancy | In good health | In fair health | In bad health | Life expectancy | In good health | In fair health | In bad health |
| 16 | 55,2 | 29,2 | 16,6 | 9,4 | 62,8 | 28,3 | 19,2 | 15,3 |
| 20 | 51,3 | 25,6 | 16,4 | 9,4 | 58,9 | 24,7 | 18,9 | 15,3 |
| 25 | 46,5 | 21,2 | 16,1 | 9,3 | 53,9 | 20,3 | 18,4 | 15,2 |
| 30 | 41,8 | 17,0 | 15,6 | 9,2 | 49,0 | 16,0 | 17,8 | 15,1 |
| 35 | 37,0 | 13,2 | 14,7 | 9,1 | 44,1 | 12,3 | 16,8 | 15,0 |
| 40 | 32,4 | 9,9 | 13,6 | 9,0 | 39,3 | 8,8 | 15,7 | 14,8 |
| 45 | 28,0 | 7,0 | 12,2 | 8,8 | 34,5 | 6,0 | 14,2 | 14,4 |
| 50 | 23,9 | 4,8 | 10,6 | 8,6 | 29,9 | 4,0 | 12,0 | 13,9 |
| 55 | 20,1 | 3,0 | 8,8 | 8,3 | 25,5 | 2,3 | 10,0 | 13,2 |
| 60 | 16,5 | 2,0 | 7,0 | 7,5 | 21,2 | 1,4 | 7,5 | 12,3 |
| 65 | 13,3 | 1,3 | 5,2 | 6,9 | 17,1 | 0,8 | 5,3 | 10,9 |
| 70 | 10,5 | 0,9 | 3,6 | 6,0 | 13,2 | 0,5 | 3,5 | 9,2 |
| 75 | 8,1 | 0,7 | 2,2 | 5,2 | 9,8 | 0,4 | 2,1 | 7,4 |
| 80 | 6,1 | 0,7 | 1,6 | 3,8 | 6,9 | 0,2 | 1,3 | 5,4 |
| 85 | 4,5 | 0,5 | 0,9 | 3,0 | 4,6 | 0,1 | 0,6 | 3,8 |

Proportional distribution of the population by perceived health is used in construction of the life expectancies according to the heath status by Sullivan method. The life expectancy in health returns a remaining life span at exact age $x$ the person will live in a particular health status. The first health status category distinguished in this study indicates "Good health" which corresponds to the perceived health ranking "very good" and "good". The second category indicates "Fair health" which corresponds to the perceived health ranking "fair", and the last category is "Bad health" related to the ranking "bad" and "very bad".

In 2006, the life expectancy at age 16 for males was 55.2 years and out of these men will spend 29.2 years in good health, which was $52.9 \%$ of the remaining life span. Another 16.6 years ( $30.1 \%$ ) they will live in fair health and the shortest part corresponds to the bad health 9.4 years ( $17.0 \%$ ).

The situation is different with females. Their life expectancy at age 16 is 62,8 years, hence longer than for men. However, females will spend only 28.3 years in good health ( $45.0 \%$ ). In fair health they will live 19.2 years ( $30.6 \%$ ) and in bad health 15.3 years $(24.4 \%)$. Males live in good health longer than females in all age 16 to 85 . Females live in bad health longer in all ages compared to men. Females live longer in fair health up to age 60 and after this age it is vice-versa.

The life expectancy for females was longer compared to males in all examined age categories. At age 16 the difference was 7.7 years. Since women live in 6.2 years longer in bad health than men, it is likely that although women live on average longer than men they live the extra years in bad health.

## 6. Migration

Two important events influenced the development of external and internal migration in the Slovak Republic: the change of the political system in Central and Eastern Europe at the turn of the 1980s and 1990s and the split of Czechoslovakia in 1993. The opening of the "iron curtain" affected the external migration to such extent that Slovakia became a country with migration gains already in 1994 (in case we disregard the incomplete evidence of emigrants in the official statistics). The changing social and economic context has also influenced migration flows within the country, i.e. the internal migration. The relationship between a city and its hinterland has transformed substantially due to the spreading suburbanisation processes.

The accession of the Slovak Republic into the EU significantly affected migration processes, the external migration in particular. Free movement of people within the EU, in spite of the restrictive measures taken in several countries, intensified the migration within Europe. Migration issues have become one of the priorities of the European integration and they are reflected in domains of the EU policies such as Justice, Liberty, Security and the Enlargement of the EU. Migration challenges have a clear cross-border dimension (IOM 2006). Moreover, regional cooperation is seen as a basis of the EU integration policy and harmonized regional approaches are supported. The trends are reflected in the support of the harmonised collection of the migration data and their further processing. A great emphasis is on the comparability and mutual exchange of the migration data and a quality enhancement of these data. The latest achievements are a unification of the asylum proceedings (Dublin agreement), free movement and some principles concerning citizens of the third countries.

## After the accession of the Slovak Republic into the EU the number of immigrants increases

Since the establishment of the independent Slovak Republic the maximum increase (in 4.8 thousand persons) was observed in 1994. About two third of the migrants were from the Czech Republic. The gains from external migration were decreasing afterwards to the minimum of $1000-900$ people in 2001 - 2002. According to the records of the Statistical Office of the SR (SO SR) the share of the migrants from the Czech Republic on migration gain of the SR was $65 \%$ in 2001; in 2005 and 2006 it reached historically lowest values of $11 \%$ and $12 \%$ respectively.

The number of immigrants to Slovakia (permanent residence) increased immediately after the accession into the EU. The number of immigrants increased in more than 1500 persons in 2004, irrespective of the migration from the Czech Republic. Migration gains from the other EU countries doubled compared to the era prior to 2004. This situation is closely linked to the changes in legislation after the accession
 into the EU. Since 2004 nationals of the other EU member states can easily obtain the permanent residence in Slovakia. Citizens of the third countries (non-EU countries) need the permission for their stay in Slovakia. However, the problems in emigration records still persist. The data on emigrants are underestimated and apparently the gains from migration are lower than they appear in the official statistics.

Tab. 6.1 Cross-border migration of the Slovak Republic

| Migration | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Without the Czech Republic |  |  |  |  |  |  |  |  |  |
| immigrants | 944 | 1558 | 1006 | 1033 | 1563 | 1953 | 3473 | 4132 | 4425 |
| emigrants* | 867 | 105 | 501 | 613 | 962 | 746 | 924 | 1139 | 1029 |
| net migration | 77 | 1453 | 505 | 420 | 601 | 1207 | 2549 | 2993 | 3396 |
| With the Czech Republic |  |  |  |  |  |  |  |  |  |
| immigrants | 7674 | 1497 | 1268 | 990 | 749 | 650 | 987 | 1144 | 1164 |
| emigrants* | 10073 | 108 | 310 | 398 | 449 | 448 | 662 | 734 | 706 |
| net migration | -2399 | 1389 | 958 | 592 | 300 | 202 | 325 | 410 | 458 |
| Total |  |  |  |  |  |  |  |  |  |
| immigrants | 8618 | 3055 | 2274 | 2023 | 2312 | 2603 | 4460 | 5276 | 5589 |
| emigrants* | 10940 | 213 | 811 | 1011 | 1411 | 1194 | 1586 | 1873 | 1735 |
| net migration | -2 322 | 2842 | 1463 | 1012 | 901 | 1409 | 2874 | 3403 | 3854 |

*incomplete recording

Until 2000, the differences in migration records were apparent when comparing the data on migration with the Czech Republic. Both countries keep migration records on the basis of permanent residence.

Tab. 6.2 Migration between the Czech and the Slovak Republic according to the Czech Statistical Office data

|  | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Immigrants to the CR from the SR | 10073 | 3845 | 2826 | 3078 | 13326 | 24385 | 15788 | 10133 |
| Emigrants from the CR to the SR | 7674 | 140 | 413 | 8711 | 14455 | 18262 | 21152 | 1935 |
| Net migration | 2399 | 3705 | 2413 | -5633 | -1129 | 6123 | -5364 | 8198 |

Note: In 1990, 1995 a 2000, in 2001-2005 permanent residence and temporary stay of foreigners (long term visa for 1 year and over)
Tables 6.1 (sector: migration with the CR ) and 6.2 plot the data on mutual migration between Slovakia and the Czech Republic. It is clear that migration records differ in 1995 and 2000 despite the permanent residence was taken into account in both countries. Since 2001 the Czech Republic (unlike the Slovak Republic) included also foreigners with a temporary residence having long term visa over 90 days into the number of immigrants. The data on immigrants and emigrants according to the country of destination and country of origin have become problematic for comparison due to the changes in the Czech migration methodology. The data are not observed at disposal since 2006.

Whereas the harmonisation of migration statistics is till in progress, the comparability and interchange of the data among the EU member states are limited and in some cases even impossible.

In 2005 and 2006, the number of immigrants to Slovakia exceeded 5 thousand. The migration gains were highest since 1994 and reached 3.4 thousand in 2005 and 3.9 thousand in 2006. Year 1994 was exceptional because of the splitting Czechoslovakia followed by the exchange of citizens. It is increasingly evident that Slovakia becomes the country of destination for foreign migrants. The increasing migration gains are probably related to the foreign investments coming into the country.

Tab. 6.3 Regional structure of immigrants from abroad

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Africa | 32 | 28 | 33 | 21 | 35 | 53 | 55 | 50 | 51 |
| America | 117 | 203 | 192 | 202 | 235 | 220 | 252 | 300 | 268 |
| Australia and Oceania | 17 | 35 | 16 | 22 | 30 | 29 | 43 | 53 | 44 |
| Asia | 72 | 82 | 70 | 118 | 301 | 459 | 574 | 473 | 433 |
| Europe* | 8248 | 2707 | 1963 | 1659 | 1711 | 1842 | 3536 | 4400 | 4793 |
| Total* | 8618 | 3055 | 2274 | 2023 | 2312 | 2603 | 4460 | 5276 | 5589 |
| EÚ15** | 155 | 304 | 170 | 243 | 237 | 237 | 924 | 1733 | 1781 |
| EÚ27 | - | 1686 | 1569 | 1361 | 1144 | 1189 | 2606 | 3657 | 4086 |
| EFTA countries | 19 | 67 | 41 | 38 | 35 | 51 | 58 | 109 | 96 |
| Ukraine and Russia | - | 499 | 217 | 156 | 211 | 234 | 391 | 320 | 397 |

* Immigrants with no information on the country of origin are added to the total number of immigrants. Data in 1990 contain migration with the CR.
** 1990 data include migration with the former GDR.
The regional structure of immigrants' according to the country of origin confirms that after the accession of Slovakia into the EU relations with other EU countries strengthened. In 2006, the proportion of immigrants from the EU countries reached $73 \%$. Especially the number of immigrants from the old EU member states has increased significantly from 273 in 2003 to 1781 in 2006. The growing proportion of immigrants from the EFTA countries is also evident.

The main countries of origin of immigrants are the Czech Republic that contributed 1164 immigrants ( $21 \%$ of all immigrants in the SR) in 2006, followed by Germany with 674 immigrants ( $12 \%$ ) and Poland with 644 immigrants ( $11.5 \%$ ). Poland did not belong to the significant countries of origin at the beginning of the new millennium. Comparing 2005 to 2006, China, Romania and Serbia and Monte Negro left the top ten origin countries; Hungary, the United Kingdom and Italy entered the top ten list.

According to the data of the SO SR, the number of emigrants did not exceed 2 thousand people in 2006 (permanent residence is concerned). The emigrants headed mostly to the EU member states, the USA and Canada. The most frequent destination is the Czech Republic ( 706 emigrants in 2006, i.e. $41 \%$ of the SR's emigrants), 235 person ( $13.5 \%$ ) headed to Germany, 168 to Austria, 95 to the USA, 76 to Canada, 63 to Switzerland, 60 to the U.K. and 59 to Italy. Poland follows with 32 emigrants and Ireland with 20 emigrants. The courses of emigration are closely associated with the courses of labour migration, a part of which can also end in changes of permanent residence. It is interesting that Slovakia does not have the greatest migration gains with the Czech Republic during the recent past years. In 2005, for example, Slovakia recorded greatest migration gains with Germany ( 439 persons) and in 2006 with Poland.

Slovakia does not register any significant losses from foreign migration with any country. However, migration losses are evident in population of women. Slovakia displays migration losses in women with Austria, Switzerland, and Canada and in several years also with Germany and the U.K. It is likely that those are women who married the nationals of these countries.

Tab. 6.4 The main countries of origin of immigrants to Slovakia

|  | 1990 |  | 1995 |  | 2000 |  | 2001 |  | 2002 |  | 2003 |  | 2004 |  | 2005 |  | 2006 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | num.. | rank | num.. | rank | num.. | rank | num.. | rank | num.. | rank | num.. | rank | num.. | rank | num.. | rank | num.. | rank |
| Czech Republic | 7674 | 1. | 1497 | 1. | 1268 | 1. | 990 | 1. | 749 | 1. | 650 | 1. | 987 | 1. | 1144 | 1. | 1164 | 1. |
| Germany ${ }^{1}$ | 62 | 5. | 145 | 3. | 74 | 4. | 97 | 4. | 86 | 5. | 106 | 8. | 333 | 3. | 742 | 2. | 674 | 2. |
| Poland | 61 | 6.-7. | 37 | 12. | 30 | 11. | 26 | 12. | 29 | 15.-16. | 36 | 13. | 216 | 7. | 311 | 4. | 644 | 3. |
| Hungary | 33 | 11. | 36 | 13. | 22 | 16. | 32 | 11. | 30 | 14. | 25 | 19. | 100 | 12. | 248 | 6. | 342 | 4. |
| Austria | 48 | 9. | 75 | 7. | 37 | 10. | 49 | 7. | 64 | 7. | 48 | 12. | 193 | 8. | 325 | 3. | 317 | 5. |
| Ukraine ${ }^{2}$ | - | - | 393 | 2. | 161 | 2. | 124 | 2.-3. | 148 | 3. | 205 | 3. | 335 | 2. | 251 | 5. | 306 | 6. |
| UK | 5 | 25.-28. | 16 | 17. | 23 | 15. | 23 | 14.-15. | 16 | 24. | 33 | 15. | 86 | 13. | 126 | 12. | 203 | 7. |
| Italy | 7 | 22.-23. | 33 | 15. | 10 | 21. | 19 | 17. | 20 | 19. | 14 | 24. | 82 | 15. | 123 | 13. | 173 | 8. |
| USA | 61 | 6.-7. | 72 | 8. | 108 | 3. | 124 | 2.-3. | 123 | 4. | 138 | 6. | 149 | 9. | 187 | 9. | 162 | 9. |
| Vietnam | 24 | 12. | 8 | 25.-26. | 13 | 18. | 13 | 21. | 122 | 5. | 199 | 4. | 260 | 6. | 92 | 15. | 155 | 10. |

${ }^{1}$ In 1990 including the former GDR
${ }^{2}$ In 1990 including the former Soviet Union
Tab. 6.5 Foreign migration by citizenship

|  | 2005 |  |  |  | 2006 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Immigrants | Emigrants | Net migration |  | Immigrants | Emigrants | Net migration |
| CR | 709 | 30 | 679 | CR | 779 | 25 | 754 |
| Germany | 607 | 83 | 524 | Poland | 635 | 23 | 612 |
| Poland | 300 | 4 | 296 | Germany | 587 | 58 | 529 |
| Austria | 258 | 12 | 246 | Hungary | 323 | 5 | 318 |
| Hungary | 234 | 12 | 222 | Austria | 250 | 6 | 244 |
| South Korea | 201 | 0 | 201 | Ukraine | 192 | 4 | 188 |
| France | 172 | 0 | 172 | UK | 171 | 2 | 169 |
| Italy | 108 | 2 | 106 | Italy | 154 | 4 | 150 |
| UK | 106 | 2 | 104 | Vietnam | 146 | 2 | 144 |
| Ukraine | 92 | 5 | 87 | France | 131 | 2 | 129 |
| Other | 744 | 19 | 725 | Other | 919 | 44 | 875 |
| Foreigners | 3531 | 169 | 3362 | Foreigners | 4287 | 175 | 4112 |
| SR | 1745 | 1704 | 41 | SR | 1302 | 1560 | -258 |
| Total | 5276 | 1873 | 3403 | Total | 5589 | 1735 | 3854 |

The Statistical Office of the SR also records migration by citizenship. It has to be pointed out again that emigration is under - reported in the SO SR statistics. Due to incomplete data on emigrants, the migration gains are only a little bit lower than the number of immigrants (when permanent residence is concerned). Nationals of the neighbouring countries and Germany prevail among the immigrants. Increasing number of nationals from the Republic of Korea in 2006 and the nationals of France in 2005 and 2006 were connected with the investments of the enterprises from these countries in Slovakia. Speaking of nonEU countries, the most numerous groups of immigrants come from Ukraine and Vietnam (192 and 146 persons).

Almost $70 \%$ of immigrants from abroad were aged $20-49$. Regarding the reasons for migration, a substantial part of immigrants declared the following up a family member, marriage or housing reasons. However, about $70 \%$ of immigrants declared they have come to Slovakia „from other reasons", since it is much easier to filling in. Economic incentive was declared only marginally (4-5 \% of immigrants).

The residence permit is needed for the third - country nationals only
It has already been mentioned that the accession of Slovakia into the EU required a lot of legislative changes that affected the field of migration. These legislative changes are mirrored in the data on foreigners with residence permits. The data are available from the Ministry of Interior of the Slovak Republic.

The accession of Slovakia into the EU was reflected in the higher number of the issued permanent residences. The increase occurred already in 2004. However, the registered residence of the EU nationals was needed in the period prior to the EU enlargement. The data in 2005 and 2006 include only the third - country nationals, who do need residence permits (whether temporary or permanent).

Out of 4321 new residence permits of the third - country nationals more than a half fell on the temporary residences. Most frequent purposes of the temporary residence permit were as follows: permits for the purpose of business ( 812 new stays), for
the purpose of employment (839 new stays), for studying, for activity according to special programmes and for the family reunification as well.

At the end of 2006, 4337 persons lived in Slovakia on the temporary residence permit. Most were the citizens of Ukraine (1019, i.e. $43 \%$ ), Serbia and Monte Negro (564 persons), China (536 persons), South Korea (433 persons) and USA (432 persons).

Tab. 6.6 New residences of foreigners in the SR

|  | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}^{*}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2006* |  |  |  |  |  |  |  |
| Permanent (Act of Law No. 73/1995 Coll.) | 3688 | 3620 | 3843 | 226 | 0 | 0 | 0 |
| Permanent (Act of Law No. 48/2002 Coll.) | 0 | 0 | 0 | 865 | 1304 | 6248 | 1137 |
| Long - term | 3027 | 1002 | 880 | 573 | 0 | 0 | 0 |
| Temporary | 0 | 0 | 0 | 2469 | 2379 | 1460 | 1816 |
| Registered | 0 | 0 | 0 | 651 | 852 | 154 | 0 |
| Tolerated | 0 | 0 | 0 | 15 | 39 | 219 | 228 |
| New residences in total | 6715 | 4622 | 4723 | 4799 | 4574 | 8081 | 3081 |

- $\quad$ The residences of third - country nationals only. Source: Ministry of Interior of the SR.

The first permits of permanent residence are granted mainly for the purpose of family reunification. In 2006 there were 8102 permanent residence permits for the third - country foreigners in Slovakia. Permanent residence permits can also be issued to so the called 'privileged foreigners', i. e. to the family members of the EU/EHP nationals, if their family member (which they depend on) has a permanent residence in Slovakia and they themselves are not a burden for the health care and social insurance. It is possible to prolong the permanent residence permit.

In 2006, the citizens of Ukraine ( 2863 persons, i.e. $35 \%$ ), then the citizens of Russia ( 961 persons), Vietnam ( 636 persons), Bulgaria ( 456 persons) and South Korea ( 404 persons) are largest groups among the foreigners with permanent residence permit in Slovakia.

A tolerated stay can be granted to foreigners in case of the following reasons: 1. there is an obstacle of their administrative expulsion, 2. they were granted a temporary shelter, 3 . in case it is not possible for them to leave the country and there is no reason for their detention, 4. to the unaccompanied minors found in the territory of the Slovak Republic. In 2006192 foreigners stayed in Slovakia on the tolerated stay; most of them were from Ukraine ( 45 people). The amendment of the act on the stay of foreigners in the territory of the Slovak Republic that came into the force 1.1.2007 enables the tolerated stay to be granted for the foreigners who are the victims of trafficking in human beings. The issue of the tolerated stay is in their case conditioned on their collaboration with the police that would help in revealing of criminal activities.

The EU nationals are not be granted the permanent residence permit. Their stay is considered to be permanent, if they fulfil the condition done by the Act No. 48/2002 Coll. as last amended ${ }^{14}$ (), "because the citizenship in the European Union grants every citizen of the Union fundamental and individual right for free movement and stay within the member states" (Ročenka P PZ MV SR, 2006). Thus, the EU national can be voluntarily registered at the police according to the place of permanent residence, but the registration is not obligatory. Therefore the obtained data consider only a part of the EEA citizens living in Slovakia.

At the end of 2006 there were 32153 foreigners registered in Slovakia. Out of them, 12631 persons were citizens of the third countries with residence permits ( $39 \%$ of all foreigners). In 1999 2003, the number of foreigners was relatively stable and reached about 29 thousand people. The number of foreigners declined in 2004 to 22 thousand persons. However, in 2006 the number of foreigners exceeded 30 thousand persons for the first time in the history.


Source: Ministry of Interior of the SR

[^9]The Slovak republic is not the country of destination for asylum seekers yet. This situation is mirrored in the number of the asylum applications. The highest number of applicants was recorded at the beginning of the new millennium, with maximum in 2004. The number of applications exceeded 11 thousand in this period. In subsequent years, however, the numbers of applications declined significantly. In $200525 \%$ less persons applied for the asylum and in 2006 it was only about $33 \%$ the applications in 2004. The decline relates to the accession of Slovakia into the EU. Since the EU accession the regulation Dublin II came into force in Slovakia. The regulation makes it possible to return the asylum seekers into the country of their first registration, i.e. to the country where he/she applied for the asylum for the first time. The regulation aims to prevent abuse in the form of multiple asylum applications in several countries of the EU. It also restricts uncontrolled movement of the foreigners within the EU member states.

The EU sets common asylum, subsidiary and temporary protection policies in all member states. The aim of these policies is to supply the third - country nationals who need international protection with a legal status and to bring the principle of nonreturns into practice.

Tab. 6.7 Asylum applicants and refugees with asylum granted

|  | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Asylum applicants | 359 | 1556 | 8151 | 9743 | 10358 | 11395 | 3549 | 2871 |
| Refugees with asylum granted | 80 | 11 | 18 | 20 | 11 | 15 | 25 | 8 |
| Refugees with the SR citizenship granted | 0 | 0 | 11 | 59 | 42 | 21 | 2 | 4 |

Source: Ministry of Interior of the SR
Slovakia grants the least asylums out of all European countries. Only 8 asylums were granted in 2006 and 25 in 2005. Generally speaking, the asylum proceeding is considered to be very rigid in Slovakia. On the one hand, mostly nongovernmental organisations criticise this practice. On the other hand, the asylum applicants often have no serious concern to stay in the SR since they try to move to other countries of destination (particularly into countries with more favourable economic and social conditions). For example, 1944 asylum proceeding were terminated in 2006. The highest number of applicants were from India - 727 people, 463 applicants were from Russia (from which $82 \%$ came Chechnya), followed by Moldova with 385 applicants, Georgia with 209 applicants and Iraq with 206 applicants. Asylum was not granted to any nationals of these countries. The proceeding was terminated for 480 citizens of India and for 367 citizens of Russia. A vast majority of the asylum applicants are men (about $90 \%$ in $2005-2006$ ) and about a half of them are aged 18 to 25.

The recommendation of the EU Dublin II was in force in 2005 and 2006. Slovakia received 1676 applications for the so called "Dublin transfer" into the country. 954 applications were accepted and 437 transfers were effected. The number of application was lower by one thousand in 2006 compared to 2006; however, the number of the realised transports stayed the same. The highest number of applications was from Austria (1064 applications, i.e. almost 2/3), 182 applications were from Germany, 96 from France. Only 62 applications came from the Czech Republic. 263 transports headed from Austria to Slovakia. Most often the citizens of India, Russia, Georgia, China and Bangladesh were transferred to Slovakia. In the reverse direction, i.e. from Slovakia, 249 applications were submitted (604 applications in 2005). Most applications were directed to Poland and 40 to Austria. 33 transports were effected.

## Illegal migration is mostly transient

Illegal migration covers the illegal crossing of the state border by foreigners (incl. the EU nationals) and the unauthorized stay of foreigners in the SR. Until 2004 these two components were recorded jointly.

Illegal migration is prevailingly transient. In 20064129 illegal immigrants crossed the Slovak borders in both directions, out of the country and into the country. The number was about one thousand less the previous year. In direction from Slovakia, most illegal migrants headed to Austria, in direction to Slovakia most illegal migrations come from Ukraine. Most illegal migrants are citizens of Moldova, India, Russia, China and Ukraine and they contribute about $2 / 3$ to the total number of illegal migrants in 2006.

The number of people with illegal stay in the territory of the SR increased by 620 persons in 2005 compared to 2005. About one third of foreigners with unauthorized stay were the citizens of Ukraine. They usually exceed the permitted dura-


Note: In 1995-2003 unpermitted overcrossing of the state borders and illegal stay were recorded jointly.
Source: Ministry of Interior of the SR
tion of stay and work illegally in the country. The situation is similar in case of citizens of India, Moldova, Russia and Pakistan.

Illegal migration covered 7620 persons. Illegal migration has declined since 2001. It is due to the better control of state borders, as well as due to changes in legislation of the entry and stay of foreigners in Slovakia.

The Ministry of Interior in collaboration with IOM also organise voluntary returns of the failed asylum applicants (i.e. those applicants whose application was rejected or who terminated their stay in Slovakia) and illegal migrants. In 2002 - 2006 there were 539 migrants voluntarily returned into their country of origin. Most of them were from China, Moldova and Turkey.

The return policy involves readmission agreements concluded on the bilateral level (there are 19 such agreements in the SR) as well as between the EU and the third countries (4 agreements). In 2006, 1711 persons were returned from Slovakia. 1670 were nationals of the third countries ( 1666 from Ukraine). Slovakia accepted 542 nationals from the third countries (387 from the Austrian part) (Ročenka ÚHC P PZ, 2006).

## Labour migration has not been the key component of the economic development of the SR

Recently the field of migration involves also the labour migration. This migration is usually not connected with changes in permanent residence. Information on foreigners working in Slovakia is available from the recording of the Centre of Labour, Social Affairs and Family through the data on valid working permissions. These data are available in the period between the censuses.

Labour migration has not been the key component of the economic development Slovakia yet. According to the preliminary data of the Centre of Labour, Social Affairs and Family in 2005, there were only about 9 thousand foreigners working in the country ( 5.5 thousand employees and 3.2 thousand entrepreneurs). It is a very low number compared to the neighbouring countries ${ }^{15}$. However, due to the economic development Slovakia has become a country of destination for the labour migrants from abroad. Foreign investments are connected with the supply of the skilled labour force especially. A lack of the labour force (mainly blue-collar workers) in some industries starts being replaced by foreign workers to a certain extent. Workers are need in engineering for example. However, a lack of the work force is controversial since Slovakia still displays a high unemployment rate. A higher mobility of the Slovak labour force is required to supply the demand for workers. In the current situation citizens of the new EU member states -Romanians and Bul-

Graph 6.4 Foreigners working in the SR


* Preliminary data.

Source: Centre of Labour, Social Affairs and Family garians - are filling the free job vacancies.

The changes in legislation connected with the accession into the EU were reflected also in the method of recording the foreigners working in Slovakia. Foreigners could be employed on the basis of working permission (in cases of individual employment) and on the basis on bilateral agreements on mutual employment of citizens prior to the EU enlargement. Citizens of the Czech Republic did not need the working permission. Also the conditions for the EU citizens were mitigated step by step. After the EU accession Slovakia opened the labour market for citizens of the EU/EEA and Switzerland. The employer is obliged to report employees coming from these countries. The recording is done on the basis of the so called information cards (IC). The information cards are filled in also for those foreigners whose occupations do not require the permission. Others foreigners need the working permission besides the temporary residence permit for the purpose of employment. The exceptions are made for the asylum applicants who enter the labour market according to the special rules.

It is obvious that the EU/EEA citizens have the greatest share on the labour market. According to the preliminary data, the number of the EU/EEA citizens employed in Slovakia reached 4.8 thousand in 2006, i.e. almost $3 / 4$ of the employed foreigners. More than 1.1 thousand employees were from the Czech Republic, 1.0 thousand from Poland and more than 0.7 thousand from France. The largest proportion of the foreigners not obliged to have the working permit were citizens from the Republic of Korea ( 137 persons and $22 \%$ share), Ukraine ( 119 persons) and Romania ( 89 persons). Most foreigners obliged to have the working permit were from Ukraine ( 290 persons), from the Republic of Korea ( 237 persons) and from Romania ( 99 persons). In total 6.5 thousand foreigners were working in Slovakia in 2006 (not including the entrepreneurs; according to preliminary data). It was by 0.8 thousand people more compared to the previous year.

The low number of working foreigners in 2004 ( 2.8 thousand) probably relates to the changes in the recording. Foreigners working in the SR were mostly at aged 25 to 39 and $80 \%$ were men. About a half of foreigners worked in Bratislava region.

It is assumed that the sources of work force will shrink in connection with the population ageing. The lack of workforce will have to be supplied from abroad. It is likely that the foreigners who will not be able to find a working position in the more developed EU countries will come to Slovakia.

[^10]The Labour Force Survey (LFS), conducted by the Statistical Office of the SR, is the most complex data source on working emigration to abroad during the intercensal period. According to LFS, the number of Slovak nationals working abroad has been increasing. At the turn of millennium about 50 thousand Slovak nationals were working abroad; however, the number has doubled until 2004 and tripled until 2006. Moreover, the estimates were at about 200 thousand persons working abroad annually. Thus, the number of Slovak citizens working abroad is multiply higher compared to the number of foreigners working in Slovakia. It also is complicated to obtain a reliable data on work emigration abroad ${ }^{16}$.

The highest number of Slovak citizens working abroad is from Prešov region (28 \%), the lowest number from Bratislava region ( $3.3 \%$ ). The most frequent country of destination is the Czech Republic. Slovak workers form the most numerous group of foreign workers in the Czech Republic. The number of Slovak citizens working in the Czech Republic has been increasing continuously. According to the data of the Ministry of Labour and Social Affairs and the Ministry of Industry of the Czech Republic, 68.6 thousand Slovak nationals were working in the CR in 2004. The number increased to 84 thousand in 2005 and it reached almost 100 thousand persons in 2006 ( 99.6 thousand). The preliminary data show about 99.7 thousand Slovak citizens working in the Czech Republic (as of $30^{\text {th }}$ September 2007). Many Slovak workers are medical doctors and nurses.

Other favourite destination countries are Ireland and Great Britain. More than half the Slovak citizens are working in the industry and construction, followed by hotel and restaurant services. The problems of the great labour emigration used to be the "brain drain". It is apparent in Slovakia as well. Specialist are lacking in some branches of the industry. According to the Institute for Research of Labour and Family, 6 out of 10 university graduates wanted to work abroad after finishing their studies; even 8 out of 10 graduates in medical and pharmaceutical faculties intended to work abroad after their graduation. The research confirmed that unfavourable situation in the labour market in the less developed Slovak regions. Mostly respondents from Prešov and Nitra region intended to work abroad.

## Suburbanisation processes are intensifying

Since the beginning of the new millennium the intensifying suburbanisation became a significant feature of the internal migration. Suburbanisation is typical for the big cities and their hinterlands. It is apparent in the spreading suburban areas. The suburban areas grow by the migration flows from the city itself and from the other parts of the hinterlands as well. As a result, the number of inhabitants of the suburban areas is increasing. The consequence of such development is the increasing number of people commuting daily into the city.

Tab. 6.8 Internal migration

|  | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Migrants | 109956 | 78466 | 76898 | 79881 | 89606 | 84215 | 85020 | 87170 |
| Migrants per 1000 population | 18,2 | 14,6 | 14,2 | 14,8 | 16,7 | 15,6 | 15,8 | 16,2 |

The increasing migration in 2000 - 2002 was followed by the decrease in 2003. Since 2004 the numbers are growing again and the maximum of 91.5 thousand movements was reached in 2006. In 200617 out of 1000 inhabitants changed their permanent residence. It is slightly more than in 2000 . The demand at the labour market has no significant influence on changes in the permanent residence of inhabitants. The movements have also been affected by the prices of housing. The high prices of housing in the cities leads to suburbanisation since people prefer commuting (also for longer distances) or a temporary stay to paying a high price for the housing in the city.

Tab. 6.9 Structure of internal migration

| Type of migration | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Volume of migration in the SR (in thousand) | 110,0 | 78,4 | 76,9 | 79,9 | 89,6 | 84,2 | 85,0 |
| Of which: |  |  |  |  | 87,2 | 91,5 |  |
| Between regions in the SR (in thousand) | 18,2 | 14,1 | 17,3 | 18,1 | 20,3 | 20,2 | 20,4 |
| in \% | 16,6 | 18,0 | 22,5 | 22,7 | 22,6 | 24,0 | 24,0 |
| Between districts within a region (in thousand) | 31,8 | 22,2 | 24,3 | 25,0 | 27,5 | 25,0 | 24,7 |
| in \% | 28,9 | 28,3 | 31,6 | 31,3 | 30,7 | 29,6 | 29,1 |
| Between municipalities within a district (in thousand) | 59,9 | 42,1 | 35,2 | 36,8 | 41,8 | 39,1 | 39,9 |
| in\% | 54,5 | 53,7 | 45,8 | 46,1 | 46,7 | 46,4 | 46,9 |

[^11]The structure of the internal migration was relatively stable in the past years. The changes were below $2 \%$ annually. A short distance migration from one municipality to another within the district prevailed. However, the proportion of the short distance migration did not exceed $47 \%$. The proportion of migration from district to district was $30 \%$ and less than $24 \%$ fell on the interregional migration.

## Migrants headed mostly into Bratislava region, Eastern Slovakia shows losses by internal migration

The most attractive region for migrants seems to be Bratislava region. The greatest migration flows from all regions, with an exception of Prešov and Košice region, directed to the region of Bratislava in 2006. The mutual migration flows of Prešov and Košice region have almost the same extent; $37 \%$ of emigrants headed from Košice region to Prešov region and vice versa. In addition, about $25 \%$ of emigrants from both regions directed to Bratislava region. Even stronger migratory relations are between Bratislava and Trnava region: 51 \% of emigrants from Bratislava region headed to Trnava region and 43 \% emigrants from Trnava region headed to Bratislava region. The greatest gains from internal migration were recorded in Bratislava region ( 2.2 thousand persons). Trnava region also gains by migration (about 1.2 thousand) and Nitra region as well ( 0.9 thousand). The heaviest loses were recorded in Prešov and Košice region.

Tab. 6.10 Net internal migration in the districts


As it was already mentioned, the main trend in the internal migration has been the intensifying suburbanisation. It can be to a certain extent documented using the district data and on the data of the biggest cities - Bratislava and Košice. Bratislava and Košice display migration losses during the whole observed period. In Košice the migration losses were larger compared to Bratislava. However, the development in Bratislava suggests a reduction of migration losses since 2003. Moreover, a slight migration gain of Bratislava was recorded in 2006. It perhaps implies certain weakening of the suburbanisation processes in the future. The hinterlands of Bratislava and Košice recorded migration gains. This trend is in a sharp contrast to the migration trends before 1989. The districts surrounding Bratislava belong to the most rapidly growing districts by internal migration within Slovakia. The most outstanding representative of this type is the Senec district (in 2000 - 2006 increase of 16 persons
per 1000 population), followed by the districts of Pezinok, Malacky and Dunajská Streda, and also the Galanta district. Similar situation is in the hinterland of Košice. The district of Košice - okolie with migration increase about 4 persons per 1000 inhabitants seems to be the most rapidly growing district of the Eastern Slovakia. Similar situation is also in the hinterlands of the other bigger cities, for example of the city of Prešov, Banská Bystrica, Žilina, Nitra, etc.

Even 8 districts of the Eastern Slovakia belong to the top 10 districts with the highest migration losses by internal migration. The Poprad district recorded the greatest losses. The losses of Poprad were greater compared to the districts with a lack of investment stimuli in the northeast, such as districts Medzilaborce, Stará Lubovňa, Svidník, etc.

There were 31 immigratory and 41 emigratory areas in Slovakia in 2000-2006.
Tab. 6.11 Net internal migration by size categories of municipalities

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| do 199 | X | X | -106 | -140 | 46 | 57 | 106 | 20 | 193 |
| 200-499 | X | X | 1121 | 741 | 966 | 634 | 1249 | 744 | 1368 |
| 500-999 | X | X | 1530 | 2123 | 2159 | 2238 | 2494 | 2304 | 2753 |
| $1000-1$ 999* | -13476 | -326 | 2371 | 2647 | 3310 | 3984 | 4672 | 3482 | 3329 |
| 2 000-4 999 | -2 864 | 239 | 1973 | 1683 | 2382 | 2722 | 2710 | 2180 | 2938 |
| 5 000-9 999 | 287 | 77 | -694 | -521 | -338 | 222 | -392 | -91 | -558 |
| 10000-19 999 | 1612 | -143 | -849 | -1532 | -1 188 | -957 | -1 147 | -1336 | -1453 |
| 20 000-49 999 | 6098 | -726 | -2520 | -2 450 | -2731 | -3268 | -4 201 | -3173 | -4412 |
| 50 000-99 999 | 2164 | -24 | -1982 | -1875 | -3 089 | -3687 | -4 046 | -3227 | -3397 |
| 100000 a viac | 3780 | 903 | -844 | -676 | -1517 | -1945 | -1445 | -903 | -761 |

In 1990 including the migration with the Czech Republic.

* In 1990 and 1995 for municipalities with population less than 2000.

Another interesting aspect of migration is to look at migration trends in different categories of municipalities according to the number of inhabitants. Trends in migration with respect to the size of municipalities have not changed since 1995. In the mid-1990s, some categories municipalities were changing from emigratory to immigratory zones and vice versa. During the period 2000 - 2006, the smaller municipalities - up to 5 thousand inhabitants - recorded migration gains and municipalities having more than 5 thousand inhabitants recorded migration losses. It has to be emphasised that the migration losses in cities having at least 100 thousand inhabitants (Bratislava and Košice) have been declining..

## Bratislava region is the most attractive in the terms of labour migration

Pattern of the labour migration within Slovakia are apparent from the data on commuting. The most complex source of the data on this spatial movement of population is census. In the intercensal period the data are available form the Labour Force Survey (LFS). According to the LFS in 2006, 127 thousand persons were not working at the place of their permanent residence within Slovakia. The trends of commuting are similar to the trends in migration by permanent residence.

Bratislava region is the most attractive within Slovakia also in the terms of job opportunities. In 2006, about 74 thousand people headed into this region. Bratislava region displays the greatest flows of commuters from the all other regions of Slovakia, except for Prešov region in 2006. Until 2005 also Košice region was an exception. Košice region is the most attractive for the economically active persons from Prešov region (11.3 thousand were working in Košice region in 2006). Conversely, most of the economically active inhabitants of Košice region commuted to Prešov region in 2005. However, in 2006 the greatest stream of commuters from Košice region directed to Bratislava region. A large number of inhabitants from Prešov region is working in Bratislava as well (about 10 thousand people in 2005 and 2006). The greatest mutual interchange of commuters is typical for Bratislava and Trnava region. On average about 30 thousand person yearly headed into Bratislava region from Trnava region. The greatest flow of workers from Bratislava region headed also into Trnava region, though the stream was lower order compared to the other direction (about 3 thousand people).

Obviously, the largest balance of commuting - the highest gain - has been in Bratislava region. Interregional commuting covers about 70 thousand jobs in Bratislava region. Košice region shows gain as well. The migration balance is at less than 5 thousand people. The others regions experienced migration losses. The largest losses in balance of commuting were in Trnava region. The losses were at 20.5 thousand people during the past years; however, the losses were higher at the beginning of millennium (about 25 thousand people). Prešov region also shows a passive balance of commuting. It reached 19.5 thousand people in 2006. Migration losses by commuting in other regions are 50 to $66 \%$ less compared to Trnava and Prešov region.

## 7. TOTAL POPULATION AND POPULATION GROWTH

Until 2000, converging trends in natural change and migration were typical for the development of the total population increase in Slovakia. However, the situation has changed since 2000.

In 2001 the natural increase turned into natural decrease. The slight decline by natural change lasted until 2003. The decline was apparent in male population only. Among women the decrease was not observed yet. The decrease has turned to natural increase again in 2004. However, the increase among men was only temporary and the natural increase in 2005 and 2006 was on behalf of the female population.

Migration strongly determines the total increase of the population in Slovakia since the beginning of the $21^{\text {st }}$ century. Immigration drove the population growth during the years of the natural decrease (2001 - 2003). Furthermore, immigration contributed 60 to $86 \%$ of the total population increase during the years 2004 - 2006, when the natural increase was in positive values as well. The total annual increase of the population has been stable over the last recent years. The recorded annual total population increase ranged within $4.4-4.8$ thousand persons. In relative terms, however, the recorded increase remains less than 1 person per thousand inhabitants.

Tab. 7.1 Population increase (decrease)

|  |  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Natural increase | Total | 25370 | 8741 | 2427 | -844 | -691 | -517 | 1895 | 955 | 603 |
|  | Males | 10867 | 3287 | 67 | -1266 | -1400 | -1 159 | 342 | -172 | -409 |
|  | Females | 14503 | 5454 | 2360 | 422 | 709 | 642 | 1553 | 1127 | 1012 |
| Net migration | Total | -2 322 | 2842 | 1463 | 1012 | 901 | 1409 | 2874 | 3403 | 3854 |
|  | Males | -1 449 | 1524 | 868 | 675 | 785 | 977 | 2024 | 2554 | 2821 |
|  | Females | -873 | 1318 | 595 | 337 | 116 | 432 | 850 | 849 | 1033 |
| Total increase | Total | 23048 | 11583 | 3890 | 168 | 210 | 892 | 4769 | 4358 | 4457 |
|  | Males | 9418 | 4811 | 935 | -591 | -615 | -182 | 2366 | 2382 | 2412 |
|  | Females | 13630 | 6772 | 2955 | 759 | 825 | 1074 | 2403 | 1976 | 2045 |
| Natural increase per 1000 population | Total | 4,79 | 1,63 | 0,45 | -0,16 | -0,13 | -0,10 | 0,35 | 0,18 | 0,11 |
|  | Males | 4,19 | 1,26 | 0,03 | -0,48 | -0,54 | -0,44 | 0,13 | -0,07 | -0,16 |
|  | Females | 5,36 | 1,98 | 0,85 | 0,15 | 0,26 | 0,23 | 0,56 | 0,41 | 0,36 |
| Net migration per 1000 population | Total | -0,44 | 0,53 | 0,27 | 0,19 | 0,17 | 0,26 | 0,53 | 0,63 | 0,71 |
|  | Males | -0,56 | 0,58 | 0,33 | 0,26 | 0,30 | 0,37 | 0,77 | 0,98 | 1,08 |
|  | Females | -0,32 | 0,48 | 0,21 | 0,12 | 0,04 | 0,16 | 0,31 | 0,31 | 0,37 |
| Total increase per 1000 population | Total | 4,35 | 2,16 | 0,72 | 0,03 | 0,04 | 0,17 | 0,89 | 0,81 | 0,83 |
|  | Males | 3,64 | 1,84 | 0,36 | -0,23 | -0,24 | -0,07 | 0,91 | 0,91 | 0,92 |
|  | Females | 5,03 | 2,46 | 1,06 | 0,27 | 0,30 | 0,39 | 0,87 | 0,71 | 0,74 |

## The number of inhabitants increases only slightly in Slovakia

The population in Slovakia increased in mere 18.7 thousand persons during the period 2000 - 2006, which is less than the annual increase in 1990 when the total population increase reached 23 thousand. During $2000-2006$, the natural increase contributed by $1 / 3$ to the total population increase. Among men, on the one hand, a natural decrease of 4.0 persons was recorded during the past 7 years while, on the other hand, men prevailed among immigrants ( $72 \%$ of all immigrants were men).

The number of inhabitants remained unchanged: 5393.4 thousand inhabitants lived in Slovakia on 1st January 2000 compared to 5393.6 thousand on 31st December 2006 (the 2000 value is based on the census 1991 while the value for 2006 is based on the census 2001). Also in case the population change is related to the census 2001, the population increase remains low and the total population remains almost unchanged. The population was increasing more rapidly during $1990-1996$, which was caused mainly by high fertility (mortality was not changing considerably at the beginning of the 1990s). Also immigration contributed to the population increase at the beginning of the 1990s. Only in 1992 emigration prevailed over immigration according to the official statistics. The number of inhabitants increased in 83.1 thousand during 1991 - 1996 (i.e. in 12
thousand persons annually on average), but in mere 14.7 thousand during the period 2001 - 2006 (i.e. in 2.1 thousand persons annually on average). Transformation of the society, and the changed reproductive behaviour in particular, influenced the low population increase in the new millennium.

Tab. 7.2 Number of population

|  | Population on 31.12. |  |  | Population on 1.7. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Males | Females | Total | Males | Females |
| 1990 | 5310711 | 2595913 | 2714798 | 5297774 | 2590571 | 2707203 |
| 1995 | 5367790 | 2613712 | 2754078 | 5363676 | 2612229 | 2751447 |
| 2000 | 5402547 | 2626061 | 2776486 | 5400679 | 2625691 | 2774988 |
| 2001 | 5378951 | 2611921 | 2767030 | 5379780 | 2612684 | 2767096 |
| 2002 | 5379161 | 2611306 | 2767855 | 5378809 | 2611452 | 2767357 |
| 2003 | 5380053 | 2611124 | 2768929 | 5378950 | 2610872 | 2768078 |
| 2004 | 5384822 | 2613490 | 2771332 | 5382574 | 2612313 | 2770261 |
| 2005 | 5389180 | 2615872 | 2773308 | 5387285 | 2614912 | 2772373 |
| 2006 | 5393637 | 2618284 | 2775353 | 5391184 | 2616924 | 2774260 |

The trends in population change differ with respect to the size of the municipalities. The natural change plays an important role in small municipalities while the effect of negative migration was pronounced in larger municipalities.

Tab. 7.3 Natural increase (decrease) of population by the size groups of municipalities

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Up to 199 | x | x | -307 | -324 | -257 | -323 | -315 | -379 | -356 |
| 200-499 | X | x | -745 | -1023 | -1043 | -977 | -1050 | -985 | -1004 |
| 500-999 | X | X | -347 | -750 | -697 | -937 | -794 | -754 | -779 |
| $1000-1$ 999* | 2759 | -2 231 | -43 | -590 | -448 | -401 | -177 | -398 | -216 |
| 2 000-4 999 | 2736 | 11522 | 823 | 442 | 236 | 600 | 870 | 708 | 685 |
| $5000-9999$ | 2012 | -4 597 | 381 | 78 | 124 | 124 | 271 | 292 | 237 |
| 10000-19 999 | 3066 | 807 | 508 | 293 | 302 | 349 | 656 | 640 | 297 |
| 20 000-49 999 | 6654 | 450 | 1460 | 561 | 815 | 661 | 1319 | 868 | 776 |
| 50 000-99 999 | 4966 | 2184 | 909 | 873 | 664 | 445 | 934 | 638 | 645 |
| 100000 and more | 3177 | 606 | -212 | -404 | -387 | -58 | 181 | 325 | 318 |

* In years 1990 and 1995 up to 2000 population

Municipalities with the number of inhabitants up to 1000 persons display a natural decrease in the long-run. Since 2000 the natural decrease prevailed also in the municipalities having 1000 to 1999 inhabitants. Cities with more than 100 thousand inhabitants recorded a natural decrease during 1998-2003.

Tab. 7.4 Net migration by the size groups of municipalities

|  | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Up to 199 | x | x | -81 | -133 | 45 | 54 | 114 | 44 |
| $\mathbf{2 0 0 - 4 9 9}$ | x | x | 1196 | 810 | 1018 | 728 | 1367 | 863 |
| $\mathbf{5 0 0 - 9 9 9}$ | x | x | 1673 | 2254 | 2239 | 2380 | 2668 | 2534 |
| $\mathbf{1 0 0 0 - 1 9 9 9}$ | -13388 | 272 | 2518 | 2825 | 3452 | 4161 | 5014 | 3859 |
| $\mathbf{2 0 0 0 - 4 ~ 9 9 9}$ | -2847 | 487 | 2117 | 1860 | 2490 | 2905 | 2996 | 2743 |
| $\mathbf{5 0 0 0 - 9 ~ 9 9 9}$ | 295 | 285 | -616 | -499 | -290 | 309 | -269 | 114 |
| $\mathbf{1 0 0 0 0 - 1 9 ~ 9 9 9}$ | 1623 | 9 | -774 | -1511 | -1180 | -879 | -876 | -1124 |
| $\mathbf{2 0 ~ 0 0 0 - 4 9 ~ 9 9 9}$ | 6223 | -252 | -2266 | -2340 | -2628 | -3046 | -3707 | -2820 |
| $\mathbf{5 0 ~ 0 0 0 - 9 9 ~ 9 9 9}$ | 2193 | 382 | -1775 | -1767 | -3060 | -3517 | -3599 | -2654 |
| $\mathbf{1 0 0 ~ 0 0 0 ~ a n d ~ m o r e ~}$ | 3579 | 1659 | -529 | -487 | -1185 | -1686 | -834 | -156 |

* In years 1990 and 1995 up to 2000 population

Population decrease in municipalities with 10 thousand and more inhabitants is caused by both emigration and natural decrease. It is interesting that the growth occurred in cities having 100 thousand and more inhabitants. The number of inhabitants increased in Bratislava after 9 years of decline by emigration. The growth was caused by migration gains from abroad (+ 39 inhabitants). Migration gains and losses fluctuate in municipalities with up to 200 inhabitants. These municipalities, however, display permanent gains by migration since 2001.

Tab. 7.5 Total increase (decrease) by the size groups of municipalities

|  | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Up to 199 | x | -830 | -388 | -457 | -212 | -269 | -201 | -335 |
| $\mathbf{2 0 0 - 4 9 9}$ | x | -70 | 451 | -213 | -25 | -249 | 317 | -122 |
| $\mathbf{5 0 0 - 9 9 9}$ | x | 1752 | 1326 | 1504 | 1542 | 1443 | 1874 | 1780 |
| $\mathbf{1 0 0 0 - 1 9 9 *}$ | -10629 | -1959 | 2475 | 2235 | 3004 | 3760 | 4837 | 3461 |
| $\mathbf{2 0 0 0 - 4 9 9 9}$ | -111 | 12009 | 2940 | 2302 | 2726 | 3505 | 3866 | 3451 |
| $\mathbf{5 0 0 0 - 9 ~ 9 9 9}$ | 2307 | -4312 | -235 | -421 | -166 | 433 | 402 |  |
| $\mathbf{1 0 0 0 0 - 1 9 ~ 9 9 9}$ | 4689 | 816 | -266 | -1218 | -878 | -530 | -220 | -406 |
| $\mathbf{2 0 0 0 0 - 4 9 ~ 9 9 9}$ | 12877 | 198 | -806 | -1779 | -1813 | -2385 | -2388 | -1952 |
| $\mathbf{5 0 0 0 0 - 9 9 ~ 9 9 9}$ | 7159 | 2566 | -866 | -894 | -2396 | -3072 | -2665 | -2016 |
| $\mathbf{1 0 0 ~ 0 0 0 ~ a n d ~ m o r e ~}$ | 6756 | 2265 | -741 | -891 | -1572 | -1744 | -653 | -115 |

* In years 1990 and 1995 up to 2000 population


## The greatest population gains display municipalities with up to 5 thousand inhabitants

Municipalities having 500 to 5000 inhabitants are typical with permanent population growth during the period 2000 - 2006, while population decrease is clearly pronounced in municipalities having 10 thousand and more inhabitants during the same period. Cities with 100 thousand and more inhabitants seem to be an exception due to recent changes in migration trends. In municipalities with least inhabitants the population decline prevails. Population gains and losses take turns in municipalities having 200 to 499 or 5000 to 9999 inhabitants. The trends in population change in municipalities by number of inhabitants are reverse compared to 1990 and 1995.

Cities having 20000 to 100000 inhabitants experienced the greatest population losses since 2000. The number of inhabitants in these cities decreased in 28 thousand in total. In contrast, the greatest population gains were typical for the small municipalities having up to 5000 inhabitants. These municipalities gained 46 thousand inhabitants in total.

Graph 7.2 Natural increase and net migration in cities and other rural municipalities

- Natural increase - cities

Natural increase - other municipalities
$\square$ Net migration - cities
$\square$ Net migration - other municipalities


It is also interesting to compare the structure of population gains in the cities and in other municipalities. The current trends emerged since 1997. The population in cities increases by natural change and decreases by emigration and the trends are reverse in other municipalities. The trends that apparent during the recent almost a decade are in strong contrast compared to the trends in the 1980s. The number of inhabitants living in cities decreased in 39 thousand since 2000 and, in contrast, the number of inhabitants in other municipalities increased in 57 thousand. During the same period, the cities lost 55 thousand inhabitants by migration (both by emigration within Slovakia and abroad). In other municipalities migration gains reached 69.5 thousand inhabitants in total. The natural increase reached less than 16 thousand in the cities and natural decrease of 12 thousand inhabitants was recorded in other municipalities.

## 8. Population age structure

Tab. 8.1 The main indicators of the population age structure ${ }^{17}$

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total |  |  |  |  |  |  |  |  |
| Number of population | 5310711 | 5367790 | 5402547 | 5378951 | 5379161 | 5380053 | 5384822 | 5389180 | 5393637 |
| Age group 0-14 | 1330509 | 1195288 | 1036426 | 1006970 | 974991 | 944456 | 918915 | 894308 | 870622 |
| Age group 15-44 | 2418027 | 2507086 | 2519047 | 2504417 | 2500934 | 2500224 | 2501308 | 2501850 | 2501856 |
| Age group 45-64 | 1010780 | 1077971 | 1227504 | 1254879 | 1287011 | 1315062 | 1338650 | 1360384 | 1381520 |
| Age group 65+ | 551395 | 587445 | 619570 | 612685 | 616225 | 620311 | 625949 | 632638 | 639639 |
| Age group 0-14 (\%) | 25,1 | 22,3 | 19,2 | 18,7 | 18,1 | 17,6 | 17,1 | 16,6 | 16,1 |
| Age group 15-44 (\%) | 45,5 | 46,7 | 46,6 | 46,6 | 46,5 | 46,5 | 46,5 | 46,4 | 46,4 |
| Age group 45-64 (\%) | 19,0 | 20,1 | 22,7 | 23,3 | 23,9 | 24,4 | 24,9 | 25,2 | 25,6 |
| Age group 65+ (\%) | 10,4 | 10,9 | 11,5 | 11,4 | 11,5 | 11,5 | 11,6 | 11,7 | 11,9 |
| Mean age | 33,6 | 34,5 | 36,0 | 36,2 | 36,5 | 36,8 | 37,1 | 37,4 | 37,7 |
| Ageing index | 41,4 | 49,1 | 59,8 | 60,8 | 63,2 | 65,7 | 68,1 | 70,7 | 73,5 |
|  | Males |  |  |  |  |  |  |  |  |
| Number of population | 2595913 | 2613712 | 2626061 | 2611921 | 2611306 | 2611124 | 2613490 | 2615872 | 2618284 |
| Age group 0-14 | 679503 | 610853 | 530207 | 515164 | 499103 | 483608 | 470705 | 458022 | 446075 |
| Age group 15-44 | 1225979 | 1269534 | 1277209 | 1269088 | 1267441 | 1267442 | 1268391 | 1269579 | 1270411 |
| Age group 45-64 | 470817 | 505395 | 582897 | 596237 | 612907 | 627568 | 640407 | 651965 | 663237 |
| Age group 65+ | 219614 | 227930 | 235748 | 231432 | 231855 | 232506 | 233987 | 236306 | 238561 |
| Age group 0-14 (\%) | 26,2 | 23,4 | 20,2 | 19,7 | 19,1 | 18,5 | 18,0 | 17,5 | 17,0 |
| Age group 15-44 (\%) | 47,2 | 48,6 | 48,6 | 48,6 | 48,5 | 48,5 | 48,5 | 48,5 | 48,5 |
| Age group 45-64 (\%) | 18,1 | 19,3 | 22,2 | 22,8 | 23,5 | 24,0 | 24,5 | 24,9 | 25,3 |
| Age group 65+ (\%) | 8,5 | 8,7 | 9,0 | 8,9 | 8,9 | 8,9 | 9,0 | 9,0 | 9,1 |
| Mean age | 32,1 | 33,0 | 34,4 | 34,6 | 34,9 | 35,2 | 35,5 | 35,8 | 36,1 |
| Ageing index | 32,3 | 37,3 | 44,5 | 44,9 | 46,5 | 48,1 | 49,7 | 51,6 | 53,5 |
|  | Females |  |  |  |  |  |  |  |  |
| Number of population | 2714798 | 2754078 | 2776486 | 2767030 | 2767855 | 2768929 | 2771332 | 2773308 | 2775353 |
| Age group 0-14 | 651006 | 584435 | 506219 | 491806 | 475888 | 460848 | 448210 | 436286 | 424547 |
| Age group 15-44 | 1192048 | 1237552 | 1241838 | 1235329 | 1233493 | 1232782 | 1232917 | 1232271 | 1231445 |
| Age group 45-64 | 539963 | 572576 | 644607 | 658642 | 674104 | 687494 | 698243 | 708419 | 718283 |
| Age group 65+ | 331781 | 359515 | 383822 | 381253 | 384370 | 387805 | 391962 | 396332 | 401078 |
| Age group 0-14 (\%) | 24,0 | 21,2 | 18,2 | 17,8 | 17,2 | 16,6 | 16,2 | 15,7 | 15,3 |
| Age group 15-44 (\%) | 43,9 | 44,9 | 44,7 | 44,6 | 44,6 | 44,5 | 44,5 | 44,4 | 44,4 |
| Age group 45-64 (\%) | 19,9 | 20,8 | 23,2 | 23,8 | 24,4 | 24,8 | 25,2 | 25,5 | 25,9 |
| Age group 65+ (\%) | 12,2 | 13,1 | 13,8 | 13,8 | 13,9 | 14,0 | 14,1 | 14,3 | 14,5 |
| Mean age | 34,9 | 36,0 | 37,5 | 37,7 | 38,0 | 38,3 | 38,7 | 38,9 | 39,2 |
| Ageing index | 51,0 | 61,5 | 75,8 | 77,5 | 80,8 | 84,2 | 87,5 | 90,8 | 94,5 |

## Population structure strongly determines the future societal development

Population age and sex structure are the two main demographic structures. First, demographic data are organised according to age. Second, the population age structure is a result of the main demographic and geodemographic processes. The interconnection between the demographic processes and the population structure enable for inspection of the demographic trends in the past. The current population structure is influenced by the past and present demographic developments and the future population age-structure will largely depend on the current one.

European countries experienced significant changes in the population structure as a consequence of the demographic transition. The transition has resulted in low mortality and fertility levels. Changes in population structure by sex, age, marital

[^12]status and educational attainment are becoming ever more important pre-conditions for the future societal development and consequences of these changes are more important than change in the population size.

## Irregularities in population age-structure are caused by the past population development

Population age-structure of the Slovak Republic is typical with considerable irregularities caused by the population development during the past approximately 100 years. The deformations are a result of the changing mortality and fertility primarily.

Several factors influenced the uneven trends in fertility. First, temporary critical periods such as both world wars (impact of the World War I has almost diminished until 2006) and the recession of the 1930s resulted in low fertility. These periods of crisis were followed by fertility upswings observed as baby-boom periods. Propopulation policies were among other influential factors and their effect was particularly strong during the 1970s, when the most populous cohorts were born. Abortion legislation and regulations in access to induced abortion resulting in increasing induced abortion rate were also influencing the number of births.

A rapid decline in the number of births occurred during the early 1990s. The trend has resulted in a narrowing bottom of the population pyramid. Young adults were sensitive to the socio-economic changes after the political

Graph 7.1 Age structure
 turnover. Large cohorts of women born during the 1970s were expected to cause a baby-boom echo during the 1990s, however, due to the changed context of reproduction this did not happen. The changed social and economic conditions prevailed over the increasing number of potential mothers in the population. The population pyramid displayed the narrowest base in 2002 when the least children were born. The expected increase in the number of births will be postponed and it will surely not reach the intensity of the previous baby-booms. As a result, the population in Slovakia will retain the typical irregular age-structure in the future.

Besides the fertility, mortality influences population age-structure importantly. Changes in mortality, namely the prolonging life expectancy and the mortality differentials, affect the shape of the population pyramid particularly in the elderly population. The elderly population increases due to improvements in mortality and the share of the elderly on the total population increases due to shrinking number of births.

## Changes in the population age-structure are getting more pronounced

The proportion of the main age groups selected with respect to reproductive age and economic activity $(0-14,15-44,45$ -64 and $65+$ years) change only slightly. One of the reasons for little changes is the broad definition of the main age groups.

The proportion of $0-14$ year olds has been decreasing in the long-run at a varying pace. In between 1950 and 1990 it decreased in $4 \%$ (from 29 to $25 \%$ ). However, the decrease was rapid since 1990 and the proportion of children $0-14$ dropped to $16.1 \%$ in $2006(-9 \%)$, which is the lowest value ever recorded in Slovakia.

Population aged $15-44$ years remains the same amount since 1990. In 2006, $46.4 \%$ of the population of Slovakia belonged to this age group and no major changes occurred during the past 15 years.

The greatest increase in the number of persons ( +370 thousand) and in the proportion on total population ( $+6.5 \%$ ) was recorded among $45-64$ year olds. Large baby-boom cohorts born during the 1950s moved into this age group and smaller cohorts born over the 1960s did not reach the age to influence the proportion yet.

Tab. 8.2 Young population within age 15 by age

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of population |  |  |  |  |  |  |  |  |
| Total | 1330509 | 1195288 | 1036426 | 1006970 | 974991 | 944456 | 918915 | 894308 | 870622 |
| 0 | 79103 | 60843 | 54741 | 50861 | 50519 | 51384 | 53451 | 54110 | 53637 |
| 1-4 | 328214 | 289226 | 230835 | 223787 | 216754 | 210819 | 206530 | 206033 | 209308 |
| 5-9 | 446486 | 401231 | 349770 | 332869 | 316888 | 301123 | 290945 | 283853 | 274714 |
| 10-14 | 476706 | 443988 | 401080 | 399453 | 390830 | 381130 | 367989 | 350312 | 332963 |
|  | Proportion on the total population (\%) |  |  |  |  |  |  |  |  |
| Total | 25,1 | 22,3 | 19,2 | 18,7 | 18,1 | 17,6 | 17,1 | 16,6 | 16,1 |
| 0 | 1,5 | 1,1 | 1,0 | 0,9 | 0,9 | 1,0 | 1,0 | 1,0 | 1,0 |
| 1-4 | 6,2 | 5,4 | 4,3 | 4,2 | 4,0 | 3,9 | 3,8 | 3,8 | 3,9 |
| 5-9 | 8,4 | 7,5 | 6,5 | 6,2 | 5,9 | 5,6 | 5,4 | 5,3 | 5,1 |
| 10-14 | 9,0 | 8,3 | 7,4 | 7,4 | 7,3 | 7,1 | 6,8 | 6,5 | 6,2 |

The impact of the population trends after 1989 is pronounced in a rapid decline of live-births, which is apparent in all age groups below age 15. The impact is most visible in the low number of young children and children in pre-school age. During $1990-2006$ the number of children aged $0-2$ years decreased in $33 \%$, children aged $3-5$ years in $40 \%$ and finally the number of children aged 6 to 9 dropped in $38 \%$. The decline occurred also among $10-14$ year-olds ( $-30 \%$ ). Altogether, the number of children $0-14$ decreased in approximately $35 \%$ to the new minimum of $16.1 \%$ ( 870 thousand) between 1990 and 2006.

## Increase in the proportion and number of the elderly is not rapid so far

Tab. 8.3 The structure of elderly population

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of population |  |  |  |  |  |  |  |  |
| Total | 551395 | 587445 | 619570 | 612685 | 616225 | 620311 | 625949 | 632638 | 639639 |
| 65-69 | 219774 | 209918 | 201881 | 195771 | 191411 | 190646 | 192131 | 195787 | 200597 |
| 70-74 | 110652 | 181378 | 176285 | 174766 | 176191 | 174922 | 172765 | 170419 | 167211 |
| 75-79 | 111316 | 83384 | 137300 | 135360 | 134082 | 133094 | 133604 | 135238 | 136136 |
| 80-84 | 70710 | 68923 | 54563 | 64638 | 75556 | 85596 | 88226 | 89256 | 89149 |
| 85+ | 38943 | 43842 | 49541 | 42150 | 38985 | 36053 | 39223 | 41938 | 46546 |
|  | Proportion on the total population (\%) |  |  |  |  |  |  |  |  |
| Total | 10,4 | 10,9 | 11,5 | 11,4 | 11,5 | 11,5 | 11,6 | 11,7 | 11,9 |
| 65-69 | 4,1 | 3,9 | 3,7 | 3,6 | 3,6 | 3,5 | 3,6 | 3,6 | 3,7 |
| 70-74 | 2,1 | 3,4 | 3,3 | 3,2 | 3,3 | 3,3 | 3,2 | 3,2 | 3,1 |
| 75-79 | 2,1 | 1,6 | 2,5 | 2,5 | 2,5 | 2,5 | 2,5 | 2,5 | 2,5 |
| 80-84 | 1,3 | 1,3 | 1,0 | 1,2 | 1,4 | 1,6 | 1,6 | 1,7 | 1,7 |
| 85+ | 0,7 | 0,8 | 0,9 | 0,8 | 0,7 | 0,7 | 0,7 | 0,8 | 0,9 |

The trends in the elderly population (65+) are in contrast to the change in young population. The increase of the number and proportion of the elderly population is not rapid so far. Compared to 1990 , the proportion increased in mere $1.5 \%$, i.e. 88 thousand respectively, and it reflects shifting small cohorts born in the 1920s and 1930s over the age spectrum 65+ during the years 1990 - 2006. On the one hand, the impact of the least populous cohorts born over the World War One is diminishing. On the other hand, large cohorts born during the 1919-1921 are influencing the number and proportion of the oldest-old (85+) in population.

The development among $65-69$ and $70-74$ year-olds has an opposing tendency: the proportion of the young elderly remains stable despite the slight increase in 2006 compared to 2005 , while the latter group shows a decline. The development is conditioned by the cohorts born over the 1930s crisis shifting throughout the age spectrum of the younger towards older elderly

## Feminisation of ageing is caused mainly by mortality differentials between men and women

In general, boys prevail over girls among the live-born children in every population. However, the excess of men is reduced with an increasing age. Women outnumber men starting at about age 45 in Slovakia (at age 48 in 2006). Differences in mortality between men and women underlay the process. Life expectancy is higher for women compared to men in all age groups in Slovakia. Men suffer excess mortality. Number of women is double the men among $80-84$ year olds and in more advanced age this difference increases further. As a result, women dominate in the age groups of the elderly.

Tab. 8.4. Proportion of men and women at age 65 and over

|  | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Males (\%) |  |  |  |  |  |  |  |  |
| Total | 39,8 | 38,8 | 38,1 | 37,8 | 37,6 | 37,5 | 37,4 | 37,4 | 37,3 |
| 65-69 | 42,6 | 42,0 | 41,9 | 41,7 | 41,6 | 41,5 | 41,5 | 41,7 | 41,8 |
| 70-74 | 41,2 | 39,3 | 38,8 | 38,8 | 38,8 | 38,9 | 38,9 | 38,9 | 38,8 |
| 75-79 | 39,1 | 37,6 | 35,6 | 35,4 | 35,3 | 35,3 | 35,3 | 35,4 | 35,4 |
| 80-84 | 35,4 | 35,0 | 34,1 | 33,3 | 32,9 | 32,4 | 32,0 | 31,6 | 31,5 |
| 85+ | 30,8 | 29,8 | 30,8 | 29,8 | 29,5 | 29,3 | 29,4 | 29,4 | 29,1 |
|  | Females (\%) |  |  |  |  |  |  |  |  |
| Total | 60,2 | 61,2 | 61,9 | 62,2 | 62,4 | 62,5 | 62,6 | 62,6 | 62,7 |
| 65-69 | 57,4 | 58,0 | 58,1 | 58,3 | 58,4 | 58,5 | 58,5 | 58,3 | 58,2 |
| 70-74 | 58,8 | 60,7 | 61,2 | 61,2 | 61,2 | 61,1 | 61,1 | 61,1 | 61,2 |
| 75-79 | 60,9 | 62,4 | 64,4 | 64,6 | 64,7 | 64,7 | 64,7 | 64,6 | 64,6 |
| 80-84 | 64,6 | 65,0 | 65,9 | 66,7 | 67,1 | 67,6 | 68,0 | 68,4 | 68,5 |
| 85+ | 69,2 | 70,2 | 69,2 | 70,2 | 70,5 | 70,7 | 70,6 | 70,6 | 70,9 |

The dependency ratios are decreasing

Tab. 8.5 Burden of productive population

|  | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Young age dependency ratio | 38,8 | 33,3 | 27,7 | 26,8 | 25,7 | 24,8 | 23,9 | 23,2 |
| Old age dependency ratio | 16,1 | 16,4 | 16,5 | 16,3 | 16,3 | 16,3 | 16,3 | 16,4 |
| Total age dependency ratio | 54,9 | 49,7 | 44,2 | 43,1 | 42,0 | 41,0 | 40,2 | 39,5 |

The economic dependency ratios display a decreasing trend during the whole period 1990 - 2006. The number of dependent persons within age 15 and aged $65+$ per 100 persons in productive age decreased in 16 to 39 persons comparing 1990 and 2006. The main factor is a rapidly decreasing number of births combined with only slightly increasing number of the elderly. Moreover, populous cohorts born in the 1970s entered the productive age ( 15 to 64 years) while other large cohorts born over the 1950s still are in productive age. The above mentioned trends influenced the values of other indicators as well: child dependency ratio and aged dependency ratio. While the child dependency ratio has been decreasing, the aged dependency ratio increased slightly. In 2006, the young dependency ratio reached 22 children per 100 persons in productive age and the aged dependency ratio value 16.5 persons. The differences between the two ratios have narrowed down since 1990 . While children contributed by $70 \%$ to the economic dependency ratio in 1990, it was only $58 \%$ in 2006 . The aged dependency ratio was at 42 \% in 2006..

## The process of population ageing intensifies

Population ageing is one of the main demographic problems. It is an inevitable consequence of the demographic transition and transformation of the society.

The population of Slovakia has been ageing since the late 1950s, however, the process intensified in the 1990s. Two main types of the population ageing are defined in demographic research and both of them are displayed in the shape of the population pyramid. The first process is ageing from the bottom and the second one is the ageing from the top of the population pyramid. During the last years the ageing from the bottom prevails as a result of the fertility decline. Population ageing from the top of the population pyramid is proceeding at a slower pace. However, the ageing from the top of population pyramid will become more pronounced in the near future as populous cohorts born over the 1950s start entering post-productive age.

Accelerating population ageing since 1990 is evident from the permanently increasing mean age of the population and the ageing index. Between 1980 and 1990 the ageing index increased in mere $2 \%$, during the 1990s in $18 \%$ and between 2000 and 2006 in another $14 \%$. In 2006 the ageing index reached the historical maximum of $73.5 \%$. Even higher values are expected in the coming years since the ageing process has not finished yet and it will be continuing in the future.

The mean age of population has increased similarly to the ageing index. In 1990 it was at 33.6 years while in 200637.7 years. In between 1950 and 1990, hence during 40 years, the mean age of population increased in mere 3.3 years, compared to the increase in 4 years during the recent 16 years.

Graph 8.2 Ageing index and total dependency of the population


Tab. 8.6 Mean age development in the main age groups

|  | $\mathbf{1 9 9 0}$ | $\mathbf{1 9 9 5}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $\mathbf{0 - 1 4}$ | 7,8 | 7,9 | 8,1 | 8,2 | 8,2 | 8,2 | 8,1 | 8,1 |
| $\mathbf{1 5 - 6 4}$ | 37,1 | 37,0 | 37,4 | 37,5 | 37,7 | 37,8 | 38,0 | 38,2 |
| $\mathbf{6 5 +}$ | 73,8 | 73,7 | 74,1 | 74,1 | 74,2 | 74,3 | 74,4 | 74,4 |

The ageing process is evident in all age groups and it is the most pronounced in productive age. Numerous birth cohorts born after the World War II are shifting towards the post-productive age. Moreover, also large cohorts born in the 1970s are ageing and they are being replaced with less populous cohorts born since the mid-1980s.

## 9. INTERNATIONAL COMPARISON

The current demographic situation in Europe is a result of the long-term historical development. Demographic trends mirror the societal changes and, hence, the demographic development has to be interpreted in close relation to the societal development.

Europe was divided into two different zones of political influence in the past and this long-term partition was influencing differences in demographic behaviour as well. The political situation changed at the beginning of the 1990s. The reproductive behaviour has changed substantially in all the transforming post-socialist countries. The current demographic trends are to some extent converging in the European countries. However, despite some converging trends several differences and specificities persist in reproduction when we look at the European countries. In this context, it is interesting to explore the position of the Slovak Republic within the EU 27 countries. For this purpose, we gathered the most up to date data for the EU 27 countries. In the analysis of the cross-country differences we focus on the position of Slovakia with EU countries in the main demographic processes.

## Changes in the timing of entering marriage significantly influences first marriage intensities

Marriage and divorce are important processes largely influencing reproduction. Both the union formation and dissolution are closely associated with social norms, customs and tradition on the one hand, and with social and family policies, the labour market, taxation and legislation on the other hand. All the above mentioned factors affect the family formation and disruption with varying intensity across the countries and, consequently, complicate the international comparison. However, European countries show enough similarities to make reliable comparisons.

During the years after the World War II, marriage was widespread and almost universal. Almost $90 \%$ of men and women entered marriage at least once in a lifetime during the 1950s and early 1960s. However, the "golden age of the family" came to its end in the Western European countries during the late 1960s and 1970. Traditional marriage has lost importance and started being replaced by cohabitation to ever greater extent. The Scandinavian countries (Sweden, Denmark, and Finland) were the forerunners of the change and the trends were later pronounced in the most Western European countries as well (Ireland being an exception).

Graph 9.1 Marriage in the EU countries


Southern Europe differs in this respect. Although similar trends - spreading cohabitation and lower marriage intensity - emerged in the 1980s, the change was caused by different factors. Southern Europeans tend to leave the parental home at high age and hence the family formation is postponed due to this reason. Late age at leaving the parental home impacts also the low fertility levels in these countries.

Trends in the total first marriage rates and in the mean age at first marriage describe well the family formation: while the total first marriage rate of both women and men has been decreasing, the mean age at first marriage has been on the rise in European countries.

The former socialist countries experienced different trends in the family formation in the past. Low age at first marriage and high intensity of first marriage were typical for these countries until the late 1980s. On average shorter duration of schooling, high economic activity of both partners and orientation towards the family life due to limited possibilities of self-realisation in other life domains for the majority of population were important underlying factors of the trends in family formation prior to the political turnover at around year 1990. Also the extensive pro-population policies, which in general facilitated entering marriage, affected the behaviour of the population.

After the political turnover in the former socialist countries, the first marriage intensities dropped rapidly. Previously nearly universal marriage (more than $90 \%$ of women and men ever entered marriage) decreased to the total first marriage
levels similar to Western Europe. The postponement of marriage towards later age accompanied the decline in the total first marriage rates. The mean age at first marriage has been increasing ever since the early 1990s.

Trends in family formation are stable in the old EU countries (EU 15). The lowest intensity of marriage is in some postsocialist countries (Slovenia, Estonia, Hungary, Latvia and the Czech Republic). According to the latest available data, Malta and Cyprus show the highest first marriage intensities. Besides the extraordinary high total first marriage rate in Cyprus and Malta, Denmark, Finland, Greece, Italy and Spain display high first marriage intensities. Within the post-socialist countries, Poland and Slovakia show highest total first marriage rate according to the latest available data. Total first marriage rate is at about $55 \%$ in all the above mentioned countries.

The most remarkable differences between the old and the new EU countries consider the timing of entering first marriage. On average youngest brides are in Romania, Lithuania and Poland (mean age at first marriage at about 25 years), as well as in Slovakia, Latvia, Bulgaria and Estonia (about 26 years). On the other side of the spectrum we find Sweden ( 30.7 years), Denmark (30.4 years) and Finland (29 years).

The greatest cross-country differences within Europe are in divorce
Divorce as a demographic process has negative consequences on reproduction in general. The intensity of divorce largely depends on numerous social, economic and legal factors. Laws on divorce vary a great deal among the EU 27 countries and the variations complicate the cross-country comparison. Also, past trends in nuptiality influence the later divorce trends.

Divorce was at a low level within Europe until the 1960s and it has been increasing since the 1970s. In the former Czechoslovakia, liberalisation of legislation on divorce and trends in family formation played an important role. High and early marriage, a considerable proportion of "shot-gun" marriages due to the premarital pregnancy and frequent living at parents' household surely affected the increasing divorce rates. However, Slovakia, unlike the Czech Republic, ranked among the countries with low divorce for a long time. The divorce increased significantly in the late 1970s. Since the 1980, periods of slight increase and stable intensity of divorce take turns.

Divorce displays the greatest cross-country differentials in the EU at the beginning of the $21^{\text {st }}$ century compared to other demographic processes. According to the latest available data, Belgium, Sweden and Finland display the highest divorce rates: more than half of marriages terminate in
 divorce (total divorce rate). The Czech Republic, Great Britain, Estonia and Denmark also show high levels of divorce.

Countries of the Southern Europe, Spain, Italy and Greece, are on the other extreme of the spectrum. In these countries less than $20 \%$ of marriages end up in divorce. Other countries with low divorce intensity are Poland, Romania and Cyprus.

Malta and Ireland are specific cases within the EU. While Ireland legalised divorce only in 1997, it still is abolished at Malta.

## Fertility quantum and tempo have been diverging since the post-war period

Fertility counts among the main demographic process and directly influences the population development. Currently a lot of attention is given to fertility due to the low and sub-replacement levels it displays in the most EU countries. The rapid fertility decline translates into changes in the population age-structure and drives the population ageing.

Differences in fertility observed prior to the World War II disappeared during the 1950s. Fertility increased during the "golden age of the nuclear family" in the Nordic and Western European countries. In contrast, fertility decreased in Southern and Eastern European countries, which had high fertility prior to the World War II.

Fertility declined in the late 1960s first in the Nordic and later in the Western European countries. The fertility decline is usually explained by the increasing personal freedom, individualisation and spreading effective modern contraception which enhanced the postponement of childbearing. Simultaneously, the value of marriage and family has changed. Similar changes occurred in Southern Europe since the 1980s.

Fertility trends were different in the 1970s and 1980s in the socialist countries compared to the rest of Europe due to several factors. Pro-natalist population policies played an important role. These policies included measures promoting childbear-
ing and support for the (marital) families. At the end of the 1970s Slovakia ranked among the Europeans countries having highest fertility.

Graph 9.3 Fertility in the selected EU countries


Political and economic changes in the 1990s set new conditions for reproduction, and the transformation process brought a rapid fertility decline in all post-socialist countries. The decline was more rapid than it was previously observed in the Western European countries and, furthermore, the total fertility rate declined to the lowest levels. The rapid decline in fertility quantum was accompanied by the extensive changes in fertility tempo. The trends in fertility in the former socialist countries during the 1990s changed the demographic European landscape. The traditional division of Europe into the Western countries with low and late fertility model and early and high fertility prevalent in the Eastern Europe lost its empirical base.

According to the latest available data, Nordic countries (Finland, Sweden and Denmark) as well as several Western European countries (France, Ireland and the Netherlands) display highest fertility levels. On the other extreme are the transforming post-socialist countries. The Czech Republic, Poland, Lithuania, Slovakia, Slovenia, Hungary, Bulgaria and Romania count among the lowest-low fertility EU countries (total fertility rate below 1,3 children per woman). Greece also shows low fertility level. Besides the fertility quantum, substantial cross-country differences are found in fertility tempo. In the EU 27 countries, total fertility rate varies in 0.7 child per woman and the mean age at first childbearing differs in 5.3 years comparing the lowest and the highest values.

Women in Spain, Great Britain and Germany are oldest when they become mothers (mean age at first birth above 29 years). In Bulgaria, Romania, Latvia, Estonia and Lithuania women bear their first child in the lowest age on average (mean age at first birth below 25 years). Slovakia and Poland count among the countries with low mean age of mother at first birth (at abut 26 years).

The proportion of children born out of wedlock is another indicator that varies a deal within the EU 27 countries. In the past, the cross-country variations were not so large. During the 1960s up to $85 \%$ of children in all European countries were born into marriage. During the 1970s the proportion of extra-marital births increased in some countries of Northern and Western Europe. The increase got pronounced first in the Nordic and later in the Western European countries. Extra-marital childbearing was low in the socialist countries, despite a great financial and other benefit the state granted to the single mothers, and the proportion of extra-marital children has been increasing since the 1990s. The existing cross-country variations are influenced by religiosity, cultural and societal values as well as legislation.

Graph 9.4 Proportion of extra marital births in the selected EU countries


Religiosity plays an important role and the lowest proportion of extra-marital births is in the countries where the Church influences societal values the most. Less than $5 \%$ of children are born out of wedlock in Cyprus and Greece. The proportion is within $20 \%$ in Italy, Poland and Malta.

20 to $35 \%$ of children are being born out of wedlock in most EU 27 countries. Slovakia ranks among the EU countries with rather low proportion of extra-marital births. More than $50 \%$ of births are extra-marital in the Nordic and the Baltic countries (Lithuania being the exception). France, Bulgaria and Slovenia display high proportion as well (above $45 \%$ ).

Fertility and mortality are the main demographic processes. Despite the EU countries count among the developed regions, mortality varies a great deal as a result of the previous trends. Mortality indicators show slow improvements over time.

Infant mortality is an indicator expressing well the mortality level and stage in the social development of the population. Infant mortality within the EU 27 is highest in Bulgaria and Romania (above $10 \%$ ). The Baltic states, Slovakia, Poland and Hungary show levels slightly above the EU average ( $6 \%$ ). The lowest levels of the infant mortality are in Sweden, Finland, Germany and also at Cyprus and Malta. In total 10 EU countries display infant mortality below 4 \%.

Life expectancy at birth is another important mortality indicator. It is a synthetic indicator taking into account mortality quantum by age usually during one calendar year.

Post-socialist countries show higher mortality intensities and hence lower life expectancy at birth. The situation is worst in the Baltic states, Romania, Bulgaria, Slovakia and Hungary. Poland and the Czech Republic show a bit better mortality indicators. Slovenia converges most towards the situation in the old EU countries, however, only in the indicators for the female population.

The highest values of the life expectancy at birth are in Northern and Southern Europe. The longest average life-span for males is in Sweden, Italy and Great Britain followed by Spain, Malta, Greece and

Graph 9.5 Infant mortality rate in the selected EU countries
 Cyprus. For females, the life expectancy at birth is longest in Italy, Spain, France, Sweden, Cyprus and Malta. The life expec-

Graph 9.6 Life expectancy at birth in the selected EU countries
 tancy at birth for females exceeds 80 years in 18 EU 27 countries.

The differences between the postcommunist countries and the old EU member states are significant. The difference in the life expectancy at birth for men is 12 years comparing Sweden and Latvia (a newborn male has a chance to live 78.4 years in Sweden and 66 years in Latvia). In case of females, comparing Italy, France or Spain to Latvia, Romania and Bulgaria we find the difference of 8 years. It is remarkable that men in the former socialist countries suffer higher mortality compared to the rest of EU and the situation is better for women.

Besides the values, differentials between the life expectancy at birth for men and women are important. Life expectancy at birth is higher for women in all EU countries; however, the difference varies across the countries. In the old member states (EU 15), the difference is smaller, usually within $4-6$ years. The situation is different in the new member states and men live on average $8-12$ years shorter compared to women. The difference is greatest the Baltic states.

Graph 9.7 Sex differential in the life expectancy at birth in the selected EU countries


Graph 9.8 Standardised mortality rate of cardiovascular diseases in the EU countries


Causes of death are another important factor distinguished in the mortality studies. At the aggregate level, the most prevalent causes of death give information on the health status of the population. Analysis of the causes of death is important to address and explain the cross-country mortality differentials. For this purpose we apply standardised mortality rates, which enable for comparison of the cause-specific mortality rates regardless of the changes in population age-structure. Three most frequent causes of death were chosen: neoplasm, circulatory diseases and external causes of death.

Graph 9.9 Standardised mortality rate of neoplasms in the EU countries


Graph 9.10 Standardised mortality rate of external causes in the EU countries


Post-socialist countries, Bulgaria, Latvia, Romania and Estonia in particular, show highest mortality on circulatory diseases. Mortality due to circulatory diseases is also high in Slovakia and Lithuania. The standardised mortality rates are near the level of the Western European countries in the Czech Republic and Slovenia. France, Spain, Belgium, the Netherlands, Sweden, Denmark and the Great Britain show low mortality due to circulatory diseases. For example, the standardised mortality rate is 5 times smaller in France compared to Bulgaria.

The differences are less pronounced in deaths due to neoplasm. Mortality on neoplasm is high in Hungary, Poland, Slovakia and the Czech Republic, followed by Lithuania, Slovenia and Denmark. On the other extreme we find Cyprus, Finland, Sweden and Malta. The standardised mortality rate in Hungary is double the Cyprus.

Interesting cross-country differences are found in the external causes of death. Mortality due to accidents, poisoning and suicide is highest in the Baltic states. The standardised mortality rate is two to five times the level of the countries with lowest mortality in the Netherlands, Malta, Great Britain, Italy and Germany.

495 million inhabitants lived in the EU 27 countries on $1^{\text {st }}$ January 2007. Germany is the most populous country having more than 82 million inhabitants. Germany is followed by France ( 63.3 mil.), the United Kingdom ( 60.7 mil.) and Italy ( 58.9 mil.). The new EU countries belong to the countries having average number of inhabitants (Romania 21.6 mil.) and smaller EU countries (Bulgaria 7.7 mil.). Slovakia ( 5.4 mil .) belongs to the smaller EU countries as well. Finland and Denmark have similar population size to Slovakia. Eight EU countries have less than 5 million inhabitants and three countries have less than 1 million: Cy prus (776 thousand), Luxembourg (464 thousand) and Malta (407 thousand).

In 2006, 16 out of 27 EU countries recorded population growth by natural increase and the values were highest in Ireland, France, Luxembourg and Cyprus. The natural increase was at about zero (slightly positive) in Slovakia and the Czech Republic. The rate of natural growth was below zero in 9 EU countries in 2006. Deaths outnumbered births the most in Bulgaria, the Baltic states, Hungary and Germany.

Migration compensated for the unfavourable natural change in most EU 27 countries. Majority of the EU countries recorded gains by migration in 2006. The greatest migration gains were in Ireland, Spain, Cyprus, Sweden, Malta and Luxembourg.

Most EU countries experienced total population growth in 2006. Migration played important role and the countries with high migration gains display the greatest total population increase: Ireland, Spain, Cyprus, Luxembourg and Malta. The Baltic states and Bulgaria had the largest population losses. Population losses were milder in Romania, Poland and Germany. Slovakia gain population by both natural increase and migration gains in 2006.

Graph 9.12 Natural increase in the EU
countries


Graph 9.13 Total increase in the EU countries


Population ageing is the main trend in the population development in all European countries. Fertility decline is the main cause of this development. It affects the population agestructure in combination with the improving mortality expressed in the prolonging life-expectancy.

Despite all European populations are influenced by the population ageing, the intensity of the process varies within the countries as well as the stage in the process. The cross-country differences are not negligible.

The youngest populations persist in the countries with highest fertility rates. Malta, Cyprus, Ireland, and several Western European countries such as the Netherlands, Denmark and Luxembourg count within the relatively younger populations. Also several post-socialist countries, which used to have the highest fertility for longer period in the past, still have relatively younger population structure since the ageing process does not affect these populations as in other post-socialist countries (Slovakia and Poland still count among the younger populations). The ageing index is below value 80 in all the above mentioned countries (Less than 80 aged persons per 100 children within age 15). Ireland and Cyprus display even more favourable ageing index of about 60.

In contrast, the most pronounced ageing process is found in the Southern European countries (Italy, Greece and Spain) and in Germany. Several post-socialist countries joint this group recently (Bulgaria, Latvia and Slovenia). In all the above mentioned countries the aged population prevails over children within age 15.

## CONCLUSION

Three stages were identified in population development in Slovakia taking into account the latest two decades. First, rapid changes in reproductive behaviour and in family formation took place during the first half of the 1990s. These changes were an immediate response to the abrupt transformation of the political and social context that influenced the demographic trends to a large extent. During the second half of the 1990s is typical of the ongoing transformation processes, however, with a smaller intensity compared to the previous period. Ten years were a sufficient time for the new model of reproductive behaviour and family formation to emerge. This new model is entirely different from the one which was prevalent during state socialism. After the era of abrupt changes, the new trends and stabilisation have started since 2000 in the more stable social conditions. The population has already adjusted the reproductive behaviour to the changed conditions. Furthermore, the process of reproduction is being influenced to a larger degree by those who have grown up in the new social conditions and hence their reproductive strategies are presumably more stable.

The trend reversal and upswing in nuptiality lasted only for 3 years after the historically lowest level of nuptiality was recorded in 2001. In 2005 and 2006 nuptiality levels have dropped again. The postponement of marriage into higher age has been continuing as well. Although no reliable data on consensual unions alternative to marriage are at hand, it is evident that these are a strong alternative to marriage.

Trends in divorce have been stable since several years already: both divorce intensity and mean age at divorce have been increasing, while the average number of dependent children at divorce has been decreasing and causes of divorce are not changing. However, an increase of divorce rate to $40 \%$ was not expected and. Quite to the contrary, a gradual stabilisation of divorce trends at the lower level than $40 \%$ was expected taking into account the Slovak specificities (high religiousness, tradition, degree of urbanisation).

The already pronounced trends of postponement of childbearing into higher age and increasing proportion of extramarital births continued in 2005 and 2006. The proportion of extra-marital births exceeded $25 \%$ for the first time in history in 2005. A surprising drop in fertility occurred in 2006 after the total fertility rate had been increasing in 2003 - 2005. The drop in fertility is most likely related to the deceasing intensity of nuptiality in 2005 and 2006. The unexpected development in fertility is not in accordance with the assumed gradual and long-term increase in fertility since the trend reversal in 2003.

A decreasing number as well as the intensity of spontaneous and induced abortion can be evaluated positively. In 2005 and 2006 the number of induced abortion fell below 15 thousand per year and average number of induced abortions per women in reproductive age ( 0.33 ) represents the lowest recorded level since the legalisation of induced abortion in 1957. Moreover, only $19.5 \%$ of brought-to-term pregnancies end up in induced abortion recently, which is again a historically lowest recorded level. Furthermore, induced abortion due to medical indications stabilised at $30 \%$ of all induced abortions. A typical applicant for the induced abortion on demand is still a married woman with two or more children. The second most numerous group of applicants are single childless women.

No radical changes have taken place in mortality trends during the latest period. Mortality keeps decreasing, which is mirrored in prolonging life expectancy at birth for both sexes. However, it is important to point at a considerable gender differences in mortality trends. A high excess mortality is still prevalent among men according to age as well as according to causes of mortality.

The current migration trends are influenced by higher intensity of movements between the Slovak republic and the rest of Europe. The number of immigrants particularly of those coming from the old EU member states has increased considerably after Slovakia joined the EU. The Czech Republic remains the main country of origin of the immigrants ( $21 \%$ of all immigrants coming to Slovakia). Simultaneously, the gains from the recorded migration are increasing: in 2006 Slovakia gained 3.9 thousand inhabitants, which is more than double compared to 2003. Economic-driven immigration is not the principal factor behind the economic expansion of the Slovak Republic so far. According to the preliminary data, less than 9 thousand foreigners worked in Slovakia in 2005. Quite the contrary, number of Slovak inhabitants working abroad is estimated at about 160 thousand persons.

Population increase, both natural and by migration, is currently low. Total population increase is at 4.5 thousand inhabitants, i.e. less than 1 person per 1000 inhabitants annually. Migration has the major impact on the total population increase (more than $80 \%$ contribution).

Population age structure is ever more important determinant of the social development. A significant decrease in the number of live-births has had the major impact on the population age structure. In contrast, the proportion of the elderly inhabitants has an increasing tendency. So far, the increase in number and proportion of the elderly is not largely pronounced in the Slovak population, however, the ageing of the population is becoming more apparent.

Regarding the position of Slovakia within the European demographic landscape, the Slovak population currently counts among the countries with the lowest fertility due to significant shifts in timing of childbearing. The changes after 1989 affected also family formation and nuptiality decreased considerably, however, Slovakia ranks among the EU 27 countries with an average intensity of nuptiality. The situation in mortality is unfavourable. Slovakia counts among the EU 27 countries having the worst mortality characteristics and the situation is worse among men compared to women.

To sum up, surely it is unwise to make hasty conclusions regarding the decrease in nuptiality lasting for the recent 2 years only. However, the latest trends in nuptiality indicate that the expected recuperation will not be straightforward and the family formation will remain the most difficult element in forecasting population trends. Several possible scenarios are open
for the future and it seems that an attitude of the young generation towards marriage and cohabitation will be crucial for the further developments.

Divorce rates have presumably reached the highest levels and the future trends largely depend on the legal praxis. In 2006 a vast majority of the divorce applications was actually turned into divorce and only future will reveal whether this will become a trend or it will be a short-term upswing only.

Despite the decrease in total fertility rate in 2006, an increase is expected in the future. The expectations are based on the assumed stabilisation of the reproductive behaviour and due to the "catching-up" of the previously postponed marriages and childbirths in the coming years. In spite of the slight increase in total fertility rate, compared to the historically lowest level recorded in 2002, Slovakia remains still among the lowest-low fertility countries. In the long run the low intensity of childbearing will be pronounced in the expected tripling proportion of women having a single child in the future (and hence in increasing proportion of families with single children). Current trends also support increasing total childlessness from the previous level of $10 \%$ of childless women at age 50 to $17-20 \%$. These changes will influence the nature of the whole society since the previously most widespread two-child family model will loose its dominance. The proportion of families with two and more children will decrease while the proportion of smaller families will considerably increase.

In the future, both the number and intensity of induced abortion are expected to keep on decreasing slightly; however, the drop will not be as dynamic as it was during the last 15 years. The share of induced abortions on the total number of abortions remains unchanged and it suggests that the downward trend in has reached certain limits. Nevertheless, several factors can contribute to the further decrease in induced abortion. Namely, the young cohorts of women entering the reproductive age are more likely to use effective means of family planning and they are better informed not only regarding the methods of birth control, but also about the risks related to the induced abortion.

A further decrease in mortality can be expected as well. The dynamics of the decrease will largely depend on the ability of the society to fight the most prevalent fatal diseases as well as on the improvements in health care, economic and environmental conditions and, last but not least, on the measures taken to limit alcohol consumption and smoking.

Speaking of the migration trends, it is expected that the number of foreigners living in Slovakia will increase. The immigrants will presumably come mostly from the economically less developed countries. On the one hand Slovakia will be more attractive for these immigrants also due to the EU membership, and on the other hand the population development will result in the need for the labour-force in the future.

Lowering population increase will be one of the consequences of the previous and current population trends. It will result in lowering number of inhabitants and more dynamic population ageing. Immigration will partially compensate the losses caused by low fertility. In other words, population of Slovakia will become smaller, older and ethnically more diverse in the coming decades, which will have important impacts on the whole society. Particularly the population ageing brings radical challenges and surely it is becoming significant in the thinking about the future of the whole society. The most important aspects of the population ageing are an increasing burden of the economically active population to support the dependent members, increasing public expenditures on health care and social insurance, decreasing effectiveness of the pay-as-you-go retirement systems and overall changing nature of the society. Although the changes in the age composition of the Slovak population and their consequences do not seem critical at the moment, in the following decades the changes will become irreversible and more rapid. Moreover, it is not possible to eliminate or moderate the consequences of the population ageing by the isolated short-term measures and complex solutions applied sufficiently in advance should be introduced.

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[^0]:    ${ }^{1}$ Completed fertility rate is an average number of children born to women of the same birth cohort at the end of their reproductive age, i.e. at age 50 . Similarly to the total fertility rate, values under 2.1 result in population decrease since the number of children born to women is not sufficient to substitute the original cohort. Women born in Slovakia within the cohort 1965 show completed fertility rate higher than 2.0 children per woman (Potančoková 2004).

[^1]:    ${ }^{2}$ Due to lack of data it is not possible to quantify the proportion of extramarital children born to the single mothers and to the cohabiting couples.

[^2]:    ${ }^{3}$ Since 1987 all applications result in induced abortion, unless the woman cancels the application, due to changed legislation.

[^3]:    ${ }^{4}$ The number of persons in the age of the highest mortality has increased.

[^4]:    ${ }^{5}$ ICD - 9 classification was used up to year 1993, ICD - 10 from 1994 to 2006.

[^5]:    ${ }^{6}$ Standard: SR population at 1.7.1995

[^6]:    ${ }^{7}$ Other dangerous components of tobacco smoke by WHO: acetone, ammonia, arsenic, butane, cadmium, DDT, hydrogen cyanide, methanol, naphthalene, toluene, vinyl chloride ...

[^7]:    ${ }^{8}$ Population at age 15 and more
    ${ }^{9}$ Czech Republic is the first in consumption (9.4 litres per capita).
    ${ }^{10}$ Heavy and hazardous drinking was defined as daily consumption of 40 g or more of pure alcohol for men and 20 g or more of pure alcohol for women. For comparison 0.751 vine contains 70 g of pure alcohol.
    ${ }^{11}$ Heavy episodic drinking was defined as consumption of five or more standard drinks in one sitting at least once a week.
    ${ }^{12}$ This cause of death is induced by high alcohol consumption in $100 \%$.

[^8]:    ${ }^{13}$ We used SILC 2006

[^9]:    ${ }^{14}$ If the citizen intends to stay in the territory of Slovakia longer than for 3 months, is engaged in employment, runs a business, studies or has the finance for the stay in the SR and he/she is not burden for the health insurance.

[^10]:    ${ }^{15}$ In total 219 thousand foreigners were working in the Czech Republic in 2005 (251 thousand in 2006).

[^11]:    ${ }^{16}$ Incomplete data on migration (not connected with the changes in the permanent residence) can be obtained also from various mediatory agencies. However, many citizens of the SR find their job individually and they are not recorded Slovakia.

[^12]:    ${ }^{17}$ Population on 31.12.

