

5.

SOCIAL DISPARITIES IN MORTALITY

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MAJOR FINDINGS

- Mortality in Hungary had been traditionally unfavourable as compared to Western or Northern Europe but this disadvantage decreased considerably by the 1960s. Later the handicap became greater once again. In the 1990s mortality deteriorated further due to the economic and social transformation of the country starting in 1989.
- The nadir fell between the years 1992 and 1994 when the economic and social impact of the transformation was the most severe (unemployment, inflation). From the late 1990s some improvement could be observed that was faster at first but later slackened.
- At present both male and female mortality can be considered very high in international comparison. This is true not only in comparison with the countries of Northern, Western or Southern Europe but also within the East Central European region. Disregarding the successor states of the former Soviet Union,

male mortality is the highest in Hungary, while female mortality is between the Czech–Polish and Bulgarian–Romanian figures. With respect to age groups and gender, the mortality of middle-aged men is the worst of all.

- Within the territory of Hungary mortality is particularly high in the northern and north-eastern counties, as well as in those of southern Transdanubia.
- Differences are great among persons on different levels of education and they have become still greater since 1989.
- The disadvantage of the lowest layers of society increases as regards their state of health and mortality. Mortality is especially high among those groups of society that have fallen behind and become marginalized. Their handicap is steadily growing as compared to the majority of the Hungarian society.
- The mortality crisis following the change of regimes affected primarily men and persons of low social status. Since then the relative position of the latter has deteriorated further. The increasing social differences of mortality are still more conspicuous also among women, even though they have a higher life expectancy than men.
- Social differences of mortality are especially great in the former socialist countries, and Hungary's example is striking even among them.
- The reduction of mortality in general is impossible without diminishing the mortality differences among the various layers of the society resulting from social inequalities.

FACTS IN RETROSPECT AND IN INTERNATIONAL COMPARISON

As compared to the developed parts of Europe, Hungarian mortality shows unfavourable trends also in historical perspective. Our relative conditions have not improved as regards life expectancy at birth and healthy life expectancy. It is, however, important to note that our disadvantage considerably decreased until the early 1960s. While in the early 20th century we were about 7 and 9 years behind the European average (females and males examined separately), by 1960 the difference dropped to six months and one year, respectively. Afterwards the mortality of men started to increase again in all socialist countries, Hungary included, and that of women decreased only very slowly, even stagnating for certain periods. The phenomenon went back to the unparalleled deterioration in the mortality rate of middle-aged men. The improvement of mortality in Western Europe beginning with the 1970s did not take place in Hungary for a long time to come. As a consequence, life expectancy at birth in the years around the turn of regimes lagged behind the European average by 6.4 and 4.8 years, and behind that of the neighbouring Austria by 7.3 and 5.3 years (Figs 1 and 2).

The life expectancy of Hungarian males at birth (66.4 years) was not conspicuously disadvantageous in 1970¹ yet. Although in the United Kingdom, Italy and Bulgaria it was 68–69 years already at that time, several other European countries stood on the same level with Hungary and only few of them (e.g. present-day Latvia and Russia) had 1 to 3 years lower male life expectancy.

In the decade and a half after 1970 the life expectancy of the male Hungarian population decreased by a year and a half. The second half of the 1980s was characterized by an improvement of one year, but this achievement was destroyed by the mortality crisis in the early 1990s when the life expectancy at birth for males in Hungary sank below 65 years. Improvement began in 1994 and has been slow but steady ever since then. Today Hungarian men can expect to live more than 68 years in average.

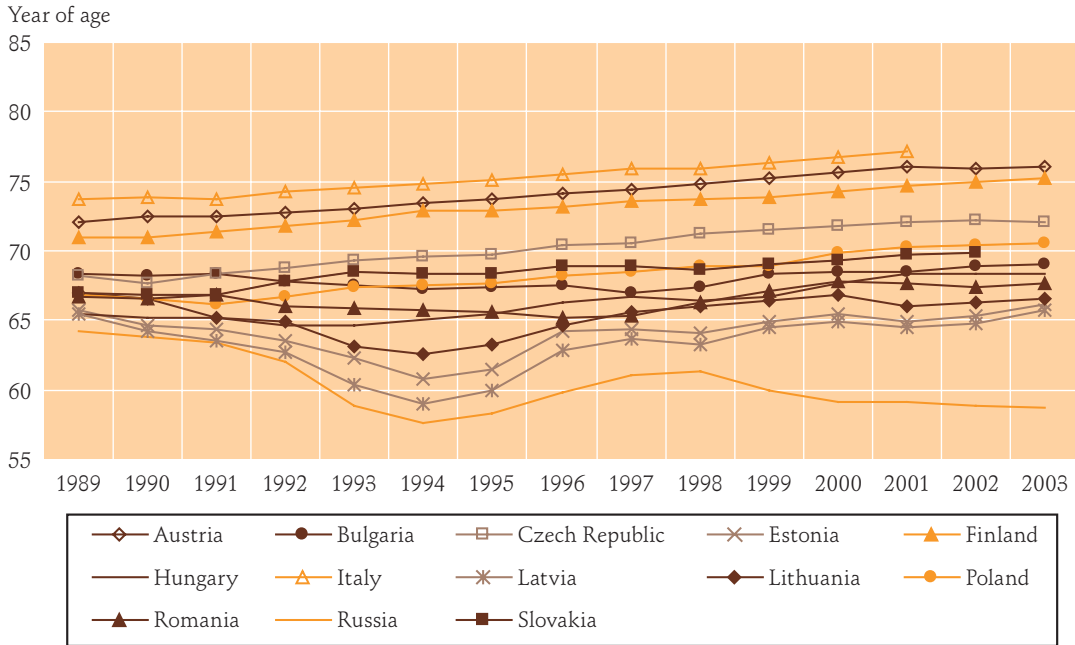
A transitional decrease in the length of life took place in several countries, though not to the same degree and not at the same time. Life expectancy in Latvia and Lithuania shows similar tendencies as in Hungary, though the starting point was much higher. In 1993–94 the Baltic states experienced a particularly severe crisis in mortality during which the male life expectancy at birth fell to 60–63 years. The nadir was, however, followed by a dynamic rise of life expectancy there and today it is over 65. The mortality crisis was especially severe in Russia. In Romania male life expectancy decreased between 1970 and 1990, mainly in the 1980s. The nadir was in 1996–97, followed by a slow improvement.

In the Czech Republic and in Poland male life expectancy at birth did not drop in the 1970s and 1980s. It stagnated around 67 years. There was no considerable decrease in the early 1990s, either. Male life expectancy increased in both countries after 1991. The increase was more dynamic in the Czech Republic, nearly reaching 74 years, while the result was about 71 years in Poland. The development in Slovakia was similar to that in Poland, though there was a minor mortality crisis around 1990, pushing down life expectancy by one year.

In the western, southern, and northern

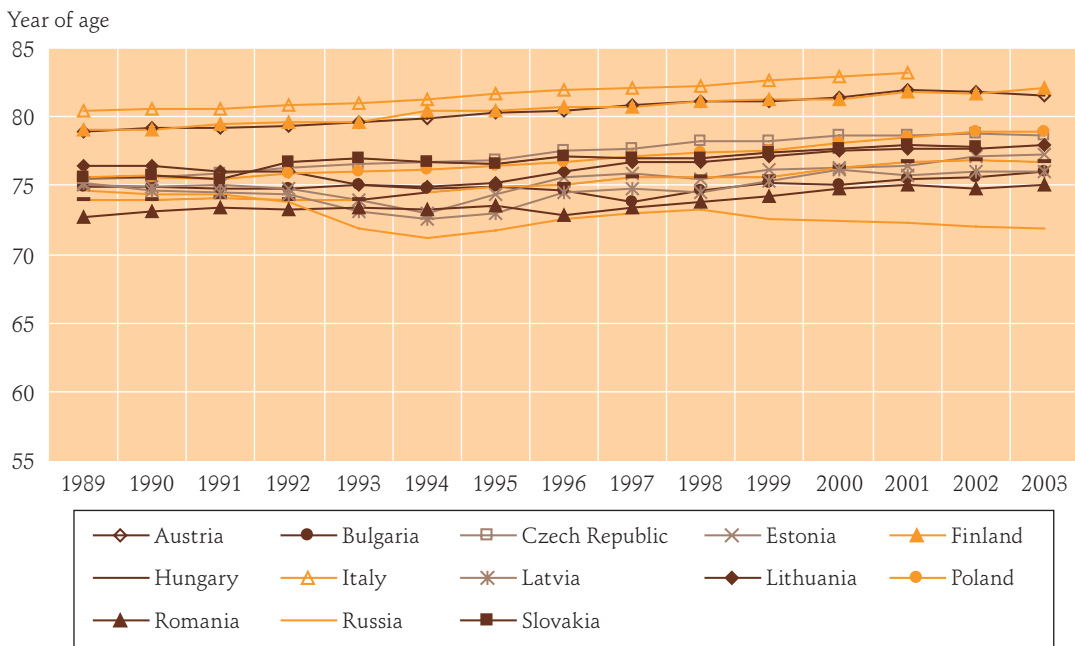
¹ 1970 was the first year for which we have data suitable for a detailed international comparison.

Fig. 1. Male life expectancy at birth in selected European countries, 1989–2003



Source: <http://data.euro.who.int/hfad/>

Fig. 2. Female life expectancy at birth in selected European countries, 1989–2003



Source: <http://data.euro.who.int/hfad/>

countries of Europe male life expectancy has been growing dynamically since 1970, though at a different pace. In the mid-2000s it was somewhere between 76 and 78 years.

The generally known fact of high male mortality in Hungary being in the lime-light, unreasonably little attention is paid to female mortality. In 1970 female life expectancy at birth was 73 to 75 years in the countries of Europe. There were only two exceptions among the countries shown in Figure 2, namely the 72 years of the Hungarian and the 70 years of the Ro-

manian female population. In the course of the 1980s Russia joined the group of countries with rather low female life expectancy.

In the early 1990s the mortality crisis greatly influenced the female mortality of the Baltic states and Russia, too. Later there was a decrease in female life expectancy in Bulgaria as well. Then came an improvement in all former socialist countries except for Russia, reaching a life expectancy of 76–78 years in Romania, Bulgaria, Latvia, Lithuania, Estonia, Hungary, and Slovakia, and even 79 years in Poland and

Table 1. Major indicators of mortality in Hungary, 1990–2008

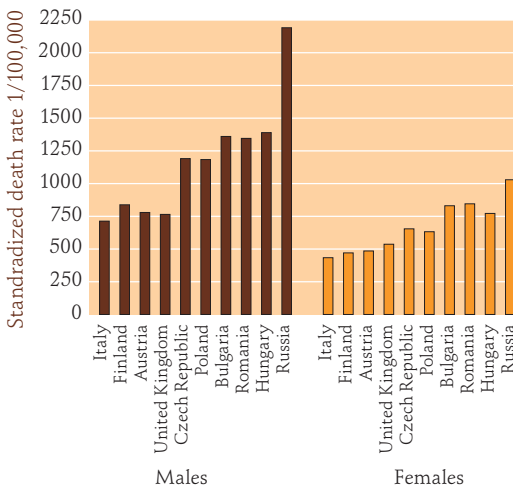
	Men			Women			Total		
	Number of death	Crude death rate (per 1000 persons)	Life expectancy	Number of death	Crude death rate (per 1000 persons)	Life expectancy	Crude death rate	Standardized death rate (a)	Standardized death rate (b)
	(per 1000 persons)								
1990	76,936	15.5	65.13	68,724	12.8	73.71	14.1	14.0	12.6
1991	76,762	15.5	65.02	68,051	12.6	73.83	14.0	13.9	..
1992	79,633	16.1	64.55	69,148	12.9	73.73	14.4	14.2	..
1993	80,498	16.3	64.53	69,746	13.0	73.81	14.6	14.3	..
1994	78,654	16.0	64.84	68,235	12.8	73.23	14.3	13.8	..
1995	77,344	15.8	65.25	68,087	12.8	74.50	14.2	13.6	..
1996	74,827	15.4	66.06	68,303	12.8	74.70	14.0	13.3	..
1997	73,278	15.1	66.35	66,156	12.5	75.08	13.7	13.0	..
1998	74,300	15.4	66.14	66,570	12.6	75.18	13.9	13.1	..
1999	74,641	15.5	66.32	68,569	13.0	75.13	14.2	13.2	..
2000	70,475	14.5	67.11	65,126	12.2	75.59	13.5	12.4	10.7
2001	68,389	14.1	68.15	63,794	11.9	76.46	13.0	11.4	10.4
2002	68,837	14.3	68.26	63,996	12.0	76.56	13.1	11.4	10.3
2003	70,016	14.6	68.29	65,807	12.4	76.53	13.4	11.6	10.5
2004	68,381	14.3	68.59	64,111	12.1	76.91	13.1	11.2	10.1
2005	69,781	14.6	68.56	65,951	12.4	76.93	13.5	11.2	10.2
2006	67,851	14.2	69.03	63,752	12.1	77.35	13.1	10.7	9.7
2007	68,241	14.3	69.19	64,697	12.2	77.34	13.2	10.7	9.6
2008	66,269	13.9	69.79	63,758	12.1	77.76	13.0	10.3	9.3

(a) Death rate standardized to the age distribution of the Hungarian population in 1990.

(b) Death rate standardized to the age distribution of the European population.

the Czech Republic. As a contrast, in the western countries where there were no regressions from 1970 in this respect, female life expectancy at birth had grown to be 82–84 years by the mid-2000s (Fig.2).

Fig. 3. Standardized death rate in selected European countries, 2005–2007



Examining the tendencies in Hungary in more detail, we can establish that following 1989 life expectancy dropped below 65 years between 1992 and 1995 and returned to the level of 1989 only by 1997. Since then there has been a slow improvement in this field. The standardized death rate, another indicator of mortality, shows similar tendencies. Owing to the fast ageing of the population crude death rates do not reflect the changes in mortality properly (Table 1).

However, standardized death rates for the years 2000–2008 show considerable improvement with respect to mortality, in harmony with the changes in life expectancy. The results produced by the various methods of standardization may differ slightly but the fact that an improvement of about 10–15 per cent took place in the given period is indisputable.

Despite the significant improvement, Hungarian mortality remained high in the past few years compared to the whole of Europe and within the region, as well. (Fig. 3).

As regards recent developments in Hungary, male mortality was the highest in the region in 2005–2007, though that of Bulgaria and Romania was only slightly better. Mortality in the Czech Republic and Poland is lower by about 10 per cent. The mortality of Hungarian, Bulgarian, and Romanian men is nearly twice as high as that of men living in Western and Southern Europe but is much lower than that of Russian males.

As regards female mortality in Hungary, conditions seem to be slightly more favourable in the past few years, though the Hungarian value is still higher than female mortality in some other countries of the region like the Czech Republic and Poland. The Hungarian figures fall between the Polish–Czech and Romanian–Bulgarian ones and are nearly 80 per cent higher than the mortality of Italian and nearly 60 per cent higher than that of Austrian women.

AGE-SPECIFIC MORTALITY

The level of mortality in the various age groups can be illustrated by age-specific death rates (Table 2).

Table 2 indicates that our unfavourable position among the EU member states is valid for all examined age groups and for both sexes. As regards infant mortality the situation in Hungary is worse than in Western and Southern Europe and even as compared to the Czech Republic. In this respect we are on the same level as Poland, but much ahead of the Southeast European former socialist states or Russia. At

Table 2. Age-specific mortality rates in selected European countries, 2005–2007 averages

Age group	–1		1–44		45–64		65+	
	Males	Females	Males	Females	Males	Females	Males	Females
(Death per 100,000 persons by sex and age group)								
Italy	410	324	65	44	526	273	4,459	2,820
Finland	309	229	99	42	795	341	4,894	3,009
Austria	403	323	70	30	664	330	4,618	3,099
United Kingdom	545	442	76	40	595	381	4,604	4,690
Czech Republic	387	265	90	40	1,012	437	6,145	4,168
Poland	679	539	137	46	1,383	519	6,478	4,007
Bulgaria (2002)	1,458	1,233	146	68	1,499	605	8,093	6,004
Romania	1,351	1,060	141	61	1,460	599	6,975	5,089
Hungary	724	548	142	63	1,803	685	7,470	4,876
Russia	1,847	1,369	1,530	940	1,667	940	1,814	1,325

Source: <http://data.euro.who.int/hfadmdb/>

the same time it cannot be forgotten that the improvement of infant mortality was a real success story in the course of the 20th century. This is the only age group where mortality is constantly decreasing. For example, in the 1980s and 1990s it reached half of the earlier level.

In the case of children and young adults (age group 1–44) the relative situation in Hungary is more unfavourable, but not worse than in Bulgaria or Romania (or Poland in the case of males). In the age group 45–64 both male and female mortality is already below the level not only of Poland but also of Bulgaria and Romania. It is, therefore, obvious that our low life expectancy on regional level is due primarily to the very high mortality of the middle-aged population, both male and female. The relative situation of women above 65 is a bit more favourable as their mortality rate is lower than that of Romanian and Bulgarian women of the same age group. Male mortality is, however, very high in this age group, too, falling short only of the Russian and the Bulgarian figures.

REGIONAL DIFFERENCES IN MORTALITY WITHIN HUNGARY

While Hungary dropped increasingly behind Western Europe and the countries of the East Central European region with better results as regards average mortality, the disparities among the regions within the country were gradually increasing. Taken men and women together, in 1990 the difference in life expectancy at birth between the counties with the lowest and the highest values was 2.8 years, while in 2005 it was already 3.8 years. Despite the considerable differences within Budapest itself, the population of the capital has enjoyed much higher life expectancy than people in other cities for a long time, to say nothing of villages. As compared to life expectancies in other cities and towns the capital's advantage grew from 0.2 year in 1990 to 1.1 in 2005. As compared to villages it grew from 1.5 to 2.5 years (*Table 3*).

Table 3. Life expectancy at birth by counties and settlement types

	Life expectancy at birth		
	1990	2000	2005
<i>Counties</i>			
Borsod-Abaúj-Zemplén	68.1	70.2	70.2
Szabolcs-Szatmár	68.3	70.0	71.3
Nógrád	69.4	70.7	72.2
Somogy	69.2	70.7	72.0
Komárom-Esztergom	68.4	70.7	72.0
Heves	70.2	71.4	72.2
Jász-Nagykun-Szolnok	69.4	71.2	72.0
Hajdú-Bihar	69.7	71.3	72.6
Bács-Kiskun	68.7	70.8	72.3
Baranya	69.2	71.2	72.8
Békés	70.1	71.4	72.4
Pest*	68.6	71.0	73.1
Vas	70.0	71.9	73.1
Csongrád	70.1	71.5	73.0
Tolna	69.6	71.0	73.1
Fejér	69.5	72.2	73.0
Veszprém	70.6	71.9	73.3
Zala	70.2	71.9	73.4
Győr-Sopron	70.9	72.6	74.0
<i>Settlement types</i>			
Budapest	70.1	72.3	74.1
Town	69.9	71.7	73.0
Villages	68.6	70.5	71.6

* Budapest included.

Source: Klinger A. (2007)

Every region has experienced an increase in life expectancy since the change of regimes but the relative position of the individual counties underwent several changes. There are distinct groups of 'losers' and 'winners'. In the counties Borsod-Abaúj-Zemplén, Szabolcs-Szatmár, Nógrád, Somogy, Komárom-Esztergom, Heves, and Jász-Nagykun-Szolnok the level of mortality is far above the national average today. This fact goes back mostly to the deterioration of the relative situa-

tion, in some cases to stagnation (Somogy County), and occasionally, like in the case of Komárom-Esztergom County to the improvement of the relative situation. As mentioned before, Budapest is in a far better situation as regards mortality than the national average. Improvement is considerable in the counties Pest, Csongrád, and Bács-Kiskun. Most counties of Transdanubia have similarly preserved their relatively favourable level. The regional differences in mortality reflect the differences in the social composition of the population of the individual counties, in the employment opportunities, in the standard of living, in infrastructure, and in the availability and quality of health care.

SOCIAL DIFFERENCES OF MORTALITY AND THE POPULATION'S STATE OF HEALTH

One of the most important factors of social status is a person's level of education. This was emphatically so in Hungary in the past decades just like in other countries. The differences in mortality and the people's state of health are directly linked with the level of education as learning may include knowledge about health, the early diagnosis and management of disease, as well as a better orientation in the system of health-care. Even more importantly, the higher level of education has an indirect impact on health, also, through higher incomes and jobs less detrimental to the state of health.

In the years around 1989, male life expectancy at 30 was 5.5 years higher in the

group with at least secondary education than in that of those with less. At the time of the mortality crisis following the change of regimes the mortality of better educated men stagnated, while that of those with lower education deteriorated further, so the difference between them increased, reaching 8.5 years in the 1990s. In the second half of the 1990s life expectancy improved on each level of education but the differences remained. During the 2000s mortality for those with a higher education seemed to stagnate, while for the less educated persons it seemed to be decreasing. Thus the difference between the life expectancy of the two groups in the mid-2000s was 8 years (Fig. 4).

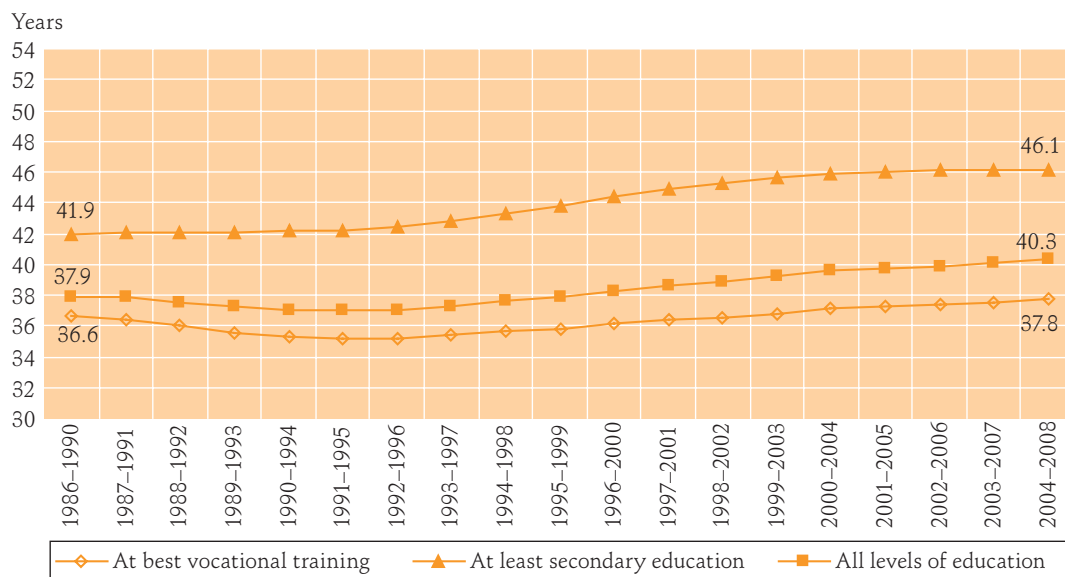
The difference in life expectancy between the better educated and less educated groups of the female population around 1989 was 2 years. During the mortality crisis the mortality of women with a lower level of education did not improve, while

that of better educated women decreased. In the second half of the 1990s the situation of the former group started to improve as well, but much more slowly than that of better educated women. As regards life expectancy at 30 the difference had risen to 5 years. In the 2000s the improvement stopped in the group with higher education and continued in the other, so the difference dropped to 4.2 years (Fig. 5).

In the course of the 2000s, among persons above 30 – including both men and women – the group with a higher level of education increased in number and in proportion as well, becoming by this socially less selected. This is the primary cause of the stagnation of its life expectancy. The differences of mortality by the level of education are still great and can be considered high also in international comparison.

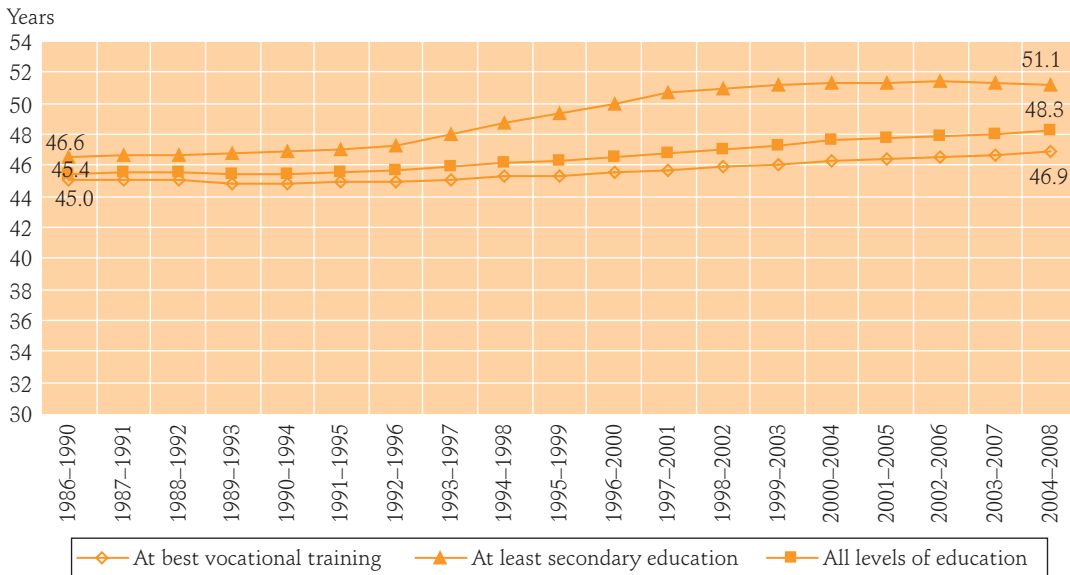
Occupation is another important aspect of social status. Social inequalities due to occupation are demonstrated here by

Fig. 4. Male life expectancy at 30 by educational level, 1986–2008 (four-year moving averages)



Source: Habcicsek and Kovács (2007)

Fig. 5. Female life expectancy at 30 by educational level, 1986–2008 (four-year moving averages)



Source: Habcicsek and Kovács (2007)

Table 4. Standardized mortality ratios by socio-occupational groups, %

	Occupational group				Manual workers compared to non-manual workers (%)
	Agricultural labourers	Other manual workers	Non-manual workers	Total population	
	Standardized mortality ratio				
	Males				
1989/90	103	104	83	100	125
2000/01	110	106	69	100	157
2004/05	164	107	59	100	196
	Females				
1989/90	98	102	94	100	107
2000/01	105	103	79	100	132
2004/05	158	104	68	100	159

Source: Klinger (2007)

standardized mortality ratios, more exactly, standardized mortality rates compared to the national average. The examination of the groups of agricultural labourers, other manual workers, and intellectuals reveals that around 1990 mortality in the two former groups was only 25 per cent

higher than in the latter, while in 2005 the difference was nearly 100 per cent. Besides the growing inequality in mortality, the changes in the situation of the agricultural labourers calls attention also to the fact that certain, mainly smaller groups and ones decreasing in numbers became

increasingly marginalized with respect to their state of health and life expectancy. In 2004–2005 mortality among agricultural labourers was 50 per cent higher than among other manual workers (both for men and women), whose mortality level was high anyway.

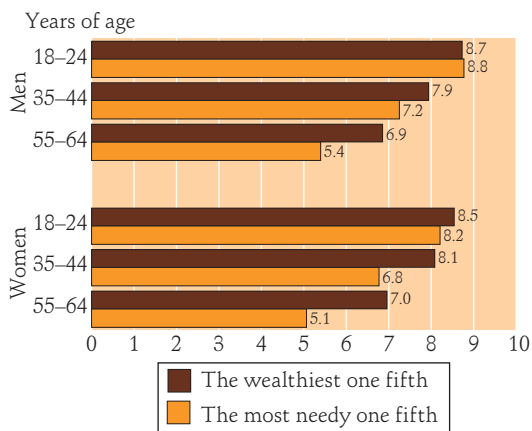
No data of mortality are available by other important aspects of a person’s social position but the differences in the subjective evaluation of health status are well known owing to various surveys. Self-rated health shows similar social differences when viewed by education and income as mortality. Examining self-rated health by the differences of income we can find that the less well-to-do consider their state of health much worse than those living in plenty. At the same time it has to be noted that these differences come about gradually during the life course. Among young adults the difference in the assessment of health by the level of income is insignificant. Assessing health on a scale ranging

from 0 to 10, the difference between the most needy one fifth and the richest one fifth of the population is merely 0.7 in the case of women aged 35–44, while it is 1.3 among men in the same age group. Among those aged 55–64 the difference is 1.5 and nearly 2 as regards women and men, resp. (Fig. 6).

In higher age groups the difference is slightly smaller, but does not cease to exist. The changes are obviously linked with the fact that the damages to health going back to poverty add up during the life course since people needy at the time of the survey were presumably, though not necessarily, poor in earlier phases of their lives as well. To sum up, the poorest one fifth of the middle-aged population is about twenty years ‘older’ as regards their health status than the one fifth living under the best financial circumstances.

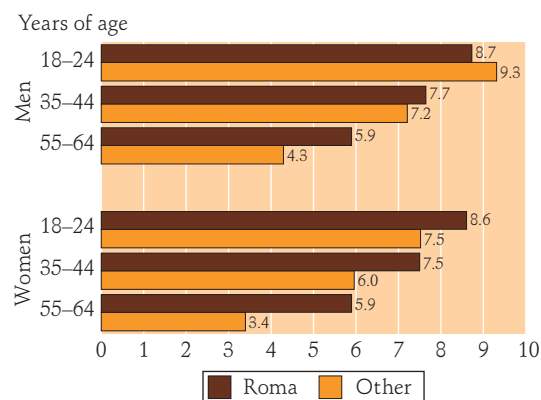
The disadvantages of the Roma population as regards their level of education, their position on the labour market and their income are reflected in their health as well. Roma men aged 18 to 24 still assess

Fig. 6. Self-rated health by income quintiles, 2001 (scale 0–10)



Source: NKI Életünk fordulópontjai demográfiai adatfelvétel, 2001 (Demographic Research Institute, *Turning Points of the Life Course*, demographic datasurvey, 2001). (Authors’ calculations)

Fig. 7. Self-rated health by ethnicity, 2001 (scale 0–10)



Source: NKI Életünk fordulópontjai demográfiai adatfelvétel, 2001 (Demographic Research Institute, *Turning Points of the Life Course*, demographic datasurvey, 2001). (Authors’ calculations)

their physical condition to be better than non-Roma males of the same age group (Fig. 7).

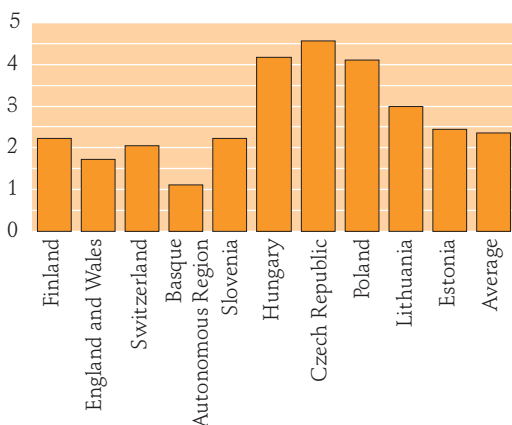
Among men between 35 and 44 years of age the disadvantage of the Roma is already present but is still relatively small. Inequality becomes, however, really high in the case of the age group 55–64.

Roma women have a worse opinion about their own health already in younger age groups. Health assessment of those aged 18 to 24 is more than one point lower than that of non-Roma women in the same age group. In the case of the age group 55–64 the difference is already 2.5 points.

SOCIAL DIFFERENCES IN LIFE EXPECTANCY IN INTERNATIONAL COMPARISON

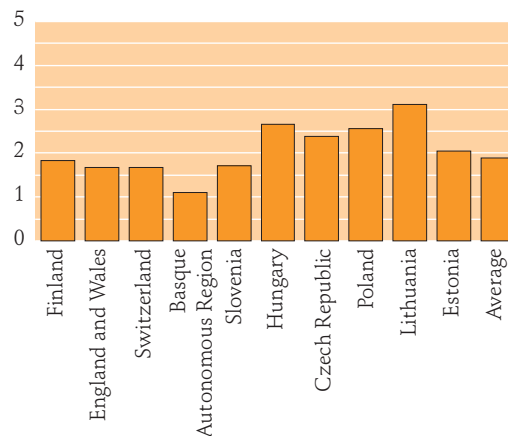
The international analysis of inequalities in mortality comes up to various difficulties. The conditions of the individual social groups can be best compared by the level of

Fig. 8. Mortality inequalities by the relative index of inequality for men in European populations around 2000



Source: http://survey.erasmusmc.nl/eurothine_final_report_complete.zip

Fig. 9. Mortality inequalities by the relative index of inequality for women in European populations around 2000



Source: http://survey.erasmusmc.nl/eurothine_final_report_complete.zip

education. Analysing international mortality inequalities we have to use an indicator which is able to take into account both the different levels of mortality of the educational groups in the countries compared and the differing size of these groups. The latest comprehensive survey of Europe compared mortality in the group having at least secondary education and in the one of those on a lower educational level on the basis of the so-called relative index of inequality (Figs 8 and 9).

Just like the high level of mortality, the great differences in the mortality both of men and women proved system specific as they are characteristic of the former socialist countries of Europe. Hungary is above the average even among the members of this group as regards social differences of mortality. Consequently, the extremely unfavourable mortality level of Hungary can be improved only by diminishing the social differences in mortality, in other words, the social differences themselves.

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