

Are we living longer, healthier lives in the EU?

**Disability-Free Life Expectancy (DFLE) in EU Countries from 1991 to 2003
based on the European Community Household Panel (ECHP)**



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INTRODUCTION

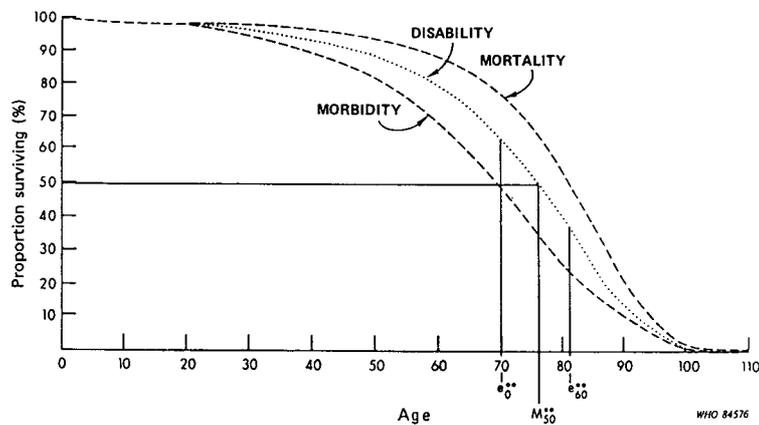
Disability-free life expectancy as a population indicator

Over a long period of time, increases in life expectancy at birth have corresponded to improvements in the health of populations. However, now that chronic diseases have replaced, or are progressively replacing, infectious diseases, and the risk of becoming ill is not solely linked to the risk of dying, monitoring the increase in life expectancy is no longer sufficient to infer population health (Riley, 1990). Indeed, with a constant recovery rate, if the risk of dying diminishes more than the risk of becoming ill, the risk of being ill increases. In other words, the prevalence of chronic disease in the population can increase as a result of a lengthening of duration of survival if the decrease in fatality is not compensated for by an equivalent decrease in incidence.

In the absence of pertinent data on change in morbidity, the relationships that can exist between the changes in these risks have been theoretically debated, gradually focusing on three theories. The first anticipates an improvement in the state of health or a '*compression of morbidity*' (Fries, 1980, 1989 and 2002; Hubert et al, 2002), the second a decline or an '*expansion of morbidity*' (Gruenberg, 1977; Kramer, 1980; Olshansky et al., 1991), and the third, a '*dynamic equilibrium*', a kind of *status quo* (Manton, 1982), where, though the prevalence increases as mortality falls, the prevalent states are on average less severe.

These three theories require supplementary concepts such as the severity of prevalent states or that of disability. Indeed, chronic diseases have many varied consequences but the international classifications, International Classification of Impairments, Disabilities, and Handicaps (ICIDH) and the International Classification of Functioning, Disability and Health (ICF) (WHO, 1980 and 2001) places disability at the centre of these consequences. Disability is, at the same time, an indicator of the severity of morbid states and an indicator of the quality of years lived. Its introduction permitted a considerable improvement in models of health (Figure 1) and, the breakdown of life expectancy into years lived with or without disability provides the necessary tools to confirm which of the three scenarios the health of any population is following.

Figure 1: General model of health transitions [WHO, 1984] The observed mortality and hypothetical morbidity and disability survival curves for women in the United States of America in 1980.



e_o^{**} and e_{60}^{**} are the number of years of autonomous life expected at birth and at age 60, respectively.
 M_{50}^{**} is the age to which 50% of females could expect to survive without loss of autonomy.

Source: World Health Organization. *The uses of epidemiology in the study of the elderly: Report of a WHO scientific group on epidemiology of aging*. Technical Report Series 706. Geneva, WHO, 1984.

Health expectancies, of which disability-free life expectancy (DFLE) is one, provide a means of dividing life expectancy into life spent in various states of good and bad health. These measures represent the increasing focus on indicators of the quality of life lived (life spent in a healthy state) rather than, as previously, on the quantity (life expectancy). Health expectancies extend the concept of life expectancy to morbidity and disability. Health expectancies address whether or not the lengthening in life expectancy is being accompanied with an increase in time lived in bad health.

The idea of health expectancy had been put forward by Sanders as early as 1964 and a first method of calculation had been proposed by Sullivan in 1971. Since then, health expectancies have been increasingly used in industrialized countries to assess the evolution of the populations' health status, in particular that of older people. Being independent of the size of populations and of their age structure, health expectancies allow direct comparison of the different groups that make up populations: e.g. sexes, socio-professional categories, regions.

Context in Europe

Recent studies have shown that life expectancy at birth has, since the 1970s, steadily increased by 3 months per year in high-income countries and there are no signs that the trend is slowing (Oeppen and Vaupel, 2002; White, 2002; Robine et al, 2003; Robine and Paccaud, 2005). This phenomenon has led to a widening of the gap in life expectancy between the European Union (EU) and the central and eastern European countries over the period 1970 to 1995. This worrying situation was emphasized by the Regional Office for Europe of the World Health Organization (WHO) in its health report of 1997 (WHO, 1997). In 1970, the difference between the average life expectancy for the EU and that for the 12 countries of the formerly centrally planned economies of Central and Eastern Europe (CCEE) and the 15 newly independent states after the dissolution of the USSR (NIS) was around 2.5 years. By 1995, NIS countries lagged behind the EU average by over 10 years whilst the difference between CCEE and the EU average was over 5 years. The gap between the countries with the lowest and the highest life expectancies in the Region was about 15 years in 1995 compared to about 7 years in 1970 (WHO, 1997).

Whilst data on mortality for the calculation of life expectancy is fairly readily available, DFLE requires in addition age and sex specific prevalence of disability from a population survey. Today, more than 50 countries worldwide have estimates of health expectancy, with a number of European countries having chronological series (Austria 1978-1998, Denmark 1987-2000, Finland 1978-1986, France 1981-1991, Germany 1986-1995, Italy 1994-1999, the Netherlands 1983-2000, Spain 1986-1991, Sweden 1975-1990, and the United Kingdom 1976-2000), attesting to the widespread use and understanding of health expectancies (Euro-REVES, 1998). However a major problem in comparing these between countries is the harmonization of methods of calculation as well as the concepts of disability or health used.

The European survey “Survey on Income and Living Conditions” (SILC) aims to provide harmonized data and therefore will give the opportunity of calculating DFLE for European countries based on the same methods and similar data. Indeed a harmonized question on activity limitation as been added in the questionnaire; therefore, in future years, estimations of DFLE will be available for the 25 European countries. Moreover there are projects underway to ensure optimal translation across the European languages.

For the time being the only harmonized data available are those issued from the European Community Household Panel (ECHP). Despite limitations in this survey and its data, the ECHP we undertook as an exercise, the calculation of DFLE for the European countries. This study presents process, limitations and preliminary results of DFLE based upon the ECHP.

This report is composed of three sections. The first section reports the data preparation and method of calculation. The second presents and interprets the results obtained whilst the third section discusses the methodological problems encountered.

SECTION 1. METHOD, PROCESS AND DATA

Health expectancy combines information on mortality and morbidity into a single summary measure. For the analysis we use the Sullivan methods (Euro-REVES, 1997). This method combines mortality data from population life table and age specific prevalence of disability obtained separately from health surveys.

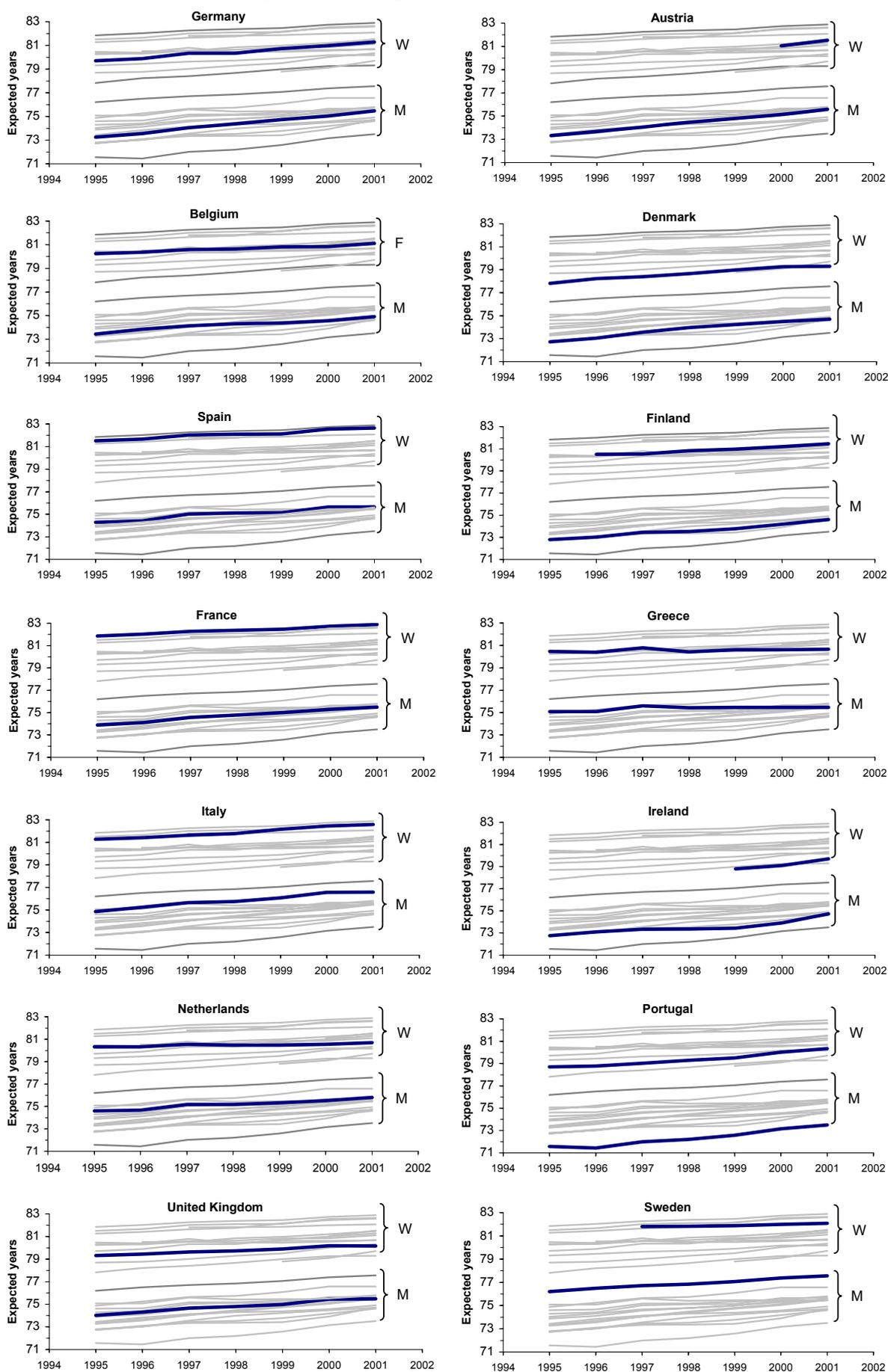
1 Life tables

Eurostat provides life tables for 14 European Union Member States MS (the EU 15, except Luxemburg) over the period 1995-2001. Data is currently missing for some years in some countries. In this case, age specific mortality rates (q_x) were interpolated through linear regression based on available data over the period. Life expectancy is then estimated based on available and interpolated rates. This adjustment has been only made when data were available for at least 4 years. For instance, for Ireland data on mortality was only available for 1999-2001. Thus, no adjustment was proposed for previous years. For female life expectancy for Denmark, data was missing for the years 1997 and 1998; interpolation based on the data available for earlier and later period helped to fill the gap. When Eurostat provides the missing data, we will replace the provisional values. Figure 2 shows the life expectancies finally obtained.

2 Data from the European Community Household Panel (ECHP)

For disability data we use the European Community Household Panel (ECHP). It is a longitudinal, multi-subject survey covering many aspects of daily life, particularly employment and income but also demographic characteristics, environment, education and health. The three essential features of the ECHP are (i) simultaneous coverage of many aspects of daily life, (ii) a standardised methodology producing comparable information for the Member States of the Union, and (iii) a longitudinal or "panel" design (Eurostat, 1996). The ECHP was designed to complement the two main social surveys coordinated at Union level - the employment survey and the household income survey. In all, the sample covers some 60 000 households comprising 130 000 adults aged 16 or over at 31 December of the previous year. The first wave took place in 1994. As for mortality data, adjustment and models were used to compensate missing data and changes in survey design.

Figure 2. Life expectancies at birth by gender, in 14 EU Member States based on Eurostat age specific mortality rates (qx) and on interpolated rates when not available, 1995-2001



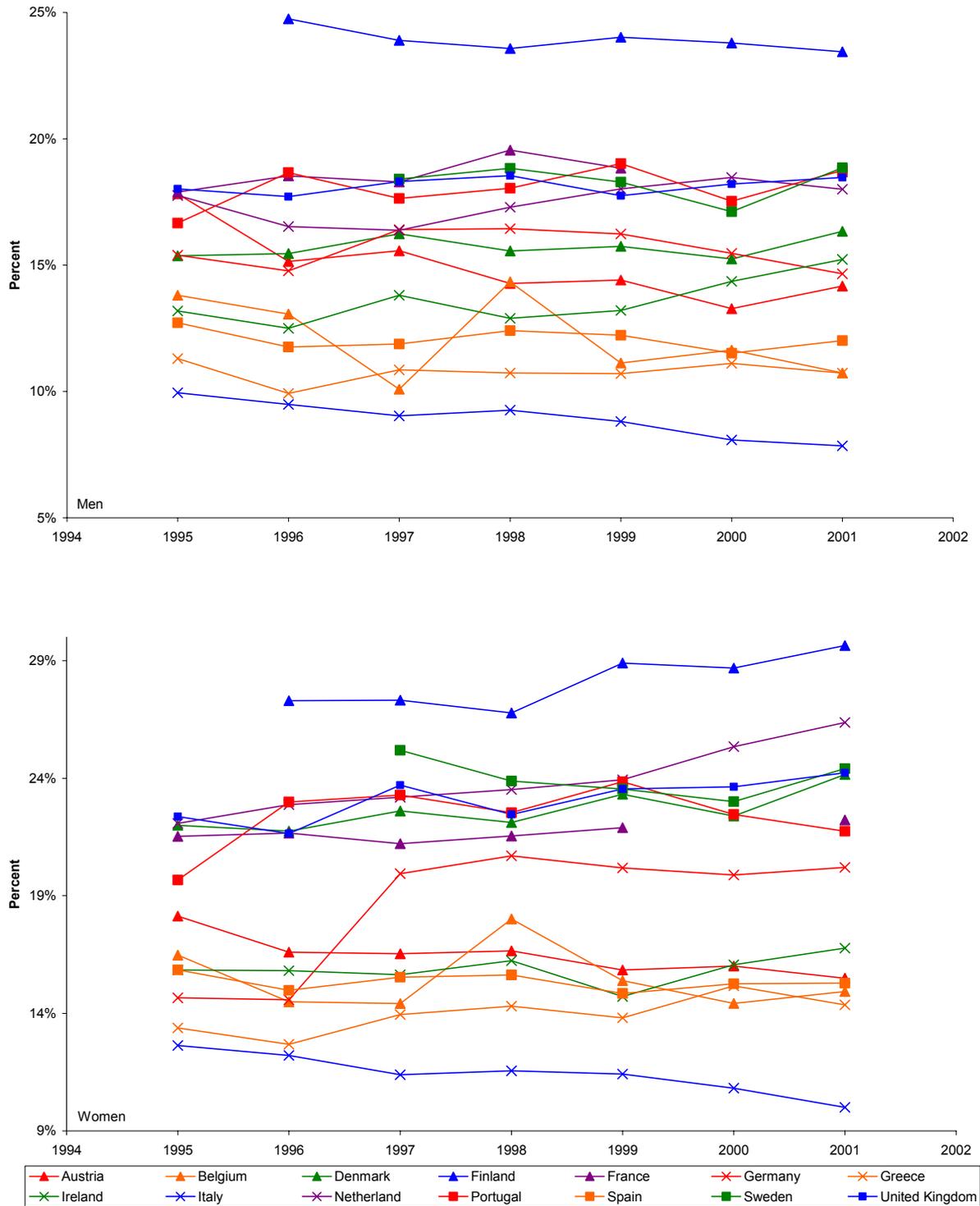
Although data from the ECHP would theoretically provide harmonized data, changes over time and differences between countries in the survey design and question wording have required some adjustments to be made before calculations.

The low DFLE values observed for all countries in 1994 (wave1) can be explained by the change in the questions between wave 1 and the following waves. In 1994 (wave 1) the ECHP used the question “*Are you hampered in your daily activities by any physical or mental health problem, illness or disability?*” (PH003A). From 1995 (wave 2) onwards ECHP replaced this question by the combination of two questions: PH002 “*Do you have any chronic physical or mental health problem, illness or disability?*” and question PH003 “*Are you hampered in your daily activities by this physical or mental health problem, illness or disability?*”. This change to an initial screen is sufficient to explain a decrease in the prevalence of being hampered in daily life in 1995 and the later years, and therefore a sudden increase in DFLE over the value in 1994. Accordingly, in subsequent figures we ignore the data from 1994.

The ECHP shows both a large dispersion of the prevalence of disability between the 14 MS but also sudden changes with time within countries (See Figure 3). Variation is analysed country by country to distinguish between methodological problems and real trends. For instance, in the UK and Germany after 1997, the ECHP was no longer carried out and data provided to Eurostat were derived from other existing national surveys; in the case of the UK data are from the British Household Panel Survey (BHPS). As a result, trends are made of several data sources which may induce bias. To adjust for this, it was decided to smooth the trends through modelling. We first distinguished data before and after 1997, to assess two separate trends; ECHP data for 1995 and 1996 were kept as reference data. We then estimated the trends in age specific prevalence of disability from the national survey (period 1997 to 2000) with linear regression and applied the trend coefficient obtained from this regression to the ECHP data of 1995 and 1996 trends.

For missing data such as France in 2000, we interpolated surrounding available values by linear regression on the age specific prevalence. As Eurostat asked us to provide estimations up to 2003 and because SILC data were still not available, we have also extrapolated the age specific prevalence of disability for 2002 and 2003 from linear regression of the previous years.

Figure 3: Age-adjusted prevalence of disability by gender, for the 14 EU Member States based on ECHP, 1995-2001



3 The institutional population

Health expectancies should preferably be compared for the whole population, that is including morbidity data for people in institutional care. Omission of such individuals may produce biases particularly for older populations and certain health conditions associated with admission to institutional care such as dementia (Ritchie et al., 1992). Although, in most surveys people living in institutions are not part of the sample, three ways have been proposed to include this population of which the first two are the most preferable: (1) the prevalence survey may be of a total population including those in institutional care; (2) a separate survey of those in institutional care may be undertaken to estimate prevalence and combined with the prevalence outside institutions by weighting; (3) with knowledge of the size of the population in institutions, assumptions may be made on the disability prevalence and these are then combined as in (2) using the appropriate weighting.

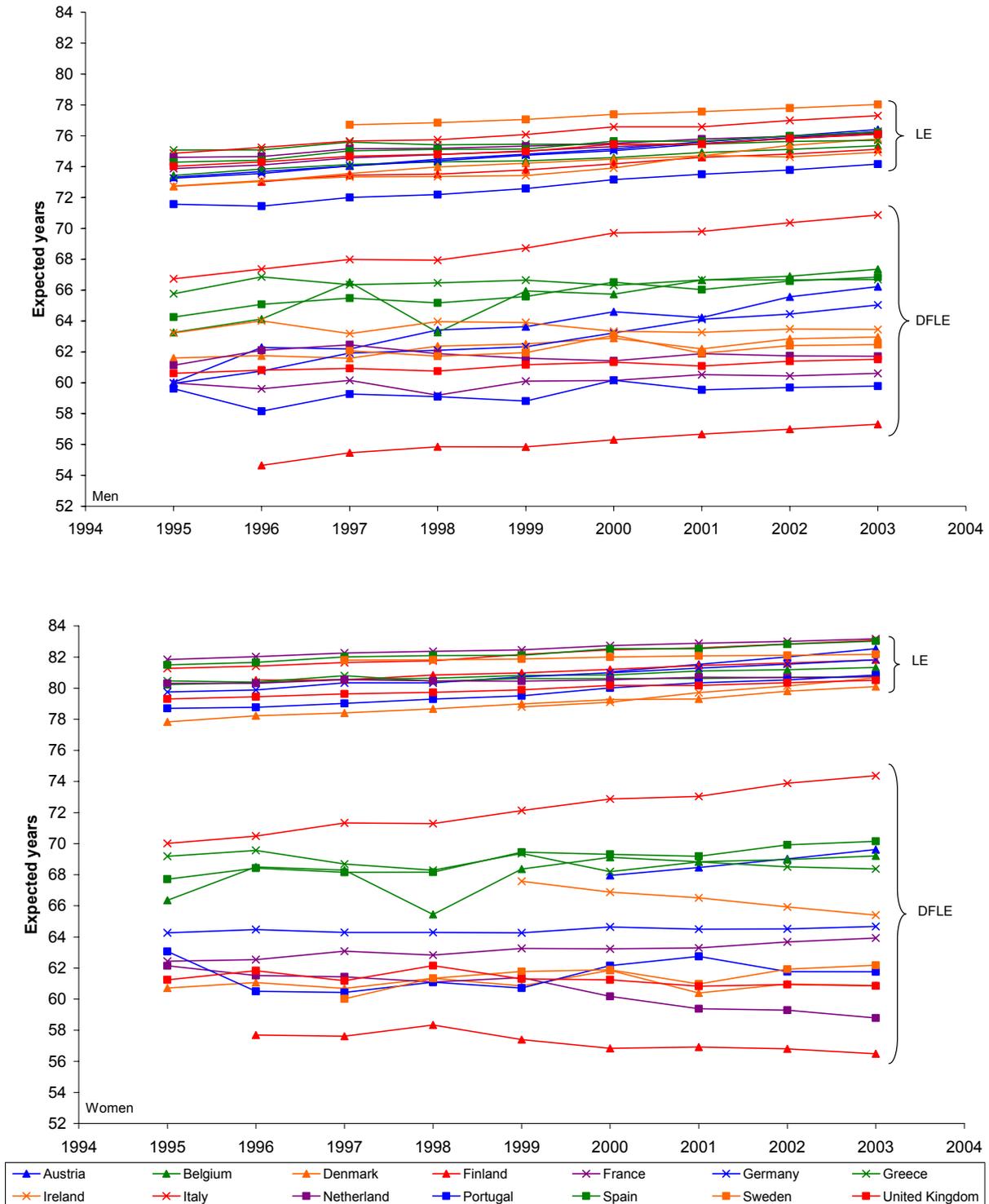
In this preliminary report, as the size of the population in institutions is not known for every European country, the assumption has been made that the prevalence of disability outside and within institutions does not differ. Some sensitivity analyses are made with French data to discuss the size of the bias introduced by this estimation.

This first attempt to produce DFLE for the European Union Member States in a harmonized way should be viewed as an exploratory exercise. The estimated values at times come from models with interpolation and should not be viewed as exact observed values. The following tables and graphs therefore should be interpreted with caution and seen as patterns and trends to be further explained when more robust data is available.

SECTION 2. RESULTS

Figure 4 shows the outcome of the estimations of life expectancy and disability-free life expectancy for the 14 EU MS over the period 1995-2003.

Figure 4: Estimated life expectancy and disability-free life expectancy at birth, by gender, in 14 EU Member States, 1995-2003



By 2003 LE at birth in the EU14 ranged from 74.2 (Portugal) to 78 (Sweden) years for men and 80.1 (Denmark) to 83.2 (France) years for women, following a steady increase from 1995. Compared to LE, trends in DFLE were more variable although gender differences were smaller. For DFLE, we note that in 1996 for both men and women, Finland has the smallest value at birth with 54.6 years for men and 57.7 years for women. On the contrary, Italy has the highest DFLE at birth being respectively 67.4 years for men and 70.5 years for women. In 2003, for Italy DFLE rises to 70.9 years at birth for the men and at 74.4 years for the women while DFLE remains at a low of 57.3 for men and 56.5 years for women in Finland. These estimations indicate the large differences between these two countries. The distribution of DFLE is larger than the one for life expectancy: for men as well as for women, even if the variability is higher for women (Figure 5). Part of this variability may be due to disability measurement in surveys with both methodological limitations and cultural differences that could impact on self-reported disability. This issue is further discussed in section 3.

Figure 5: Variation in life expectancy and disability-free life expectancy estimates by gender, across European Union, 2003

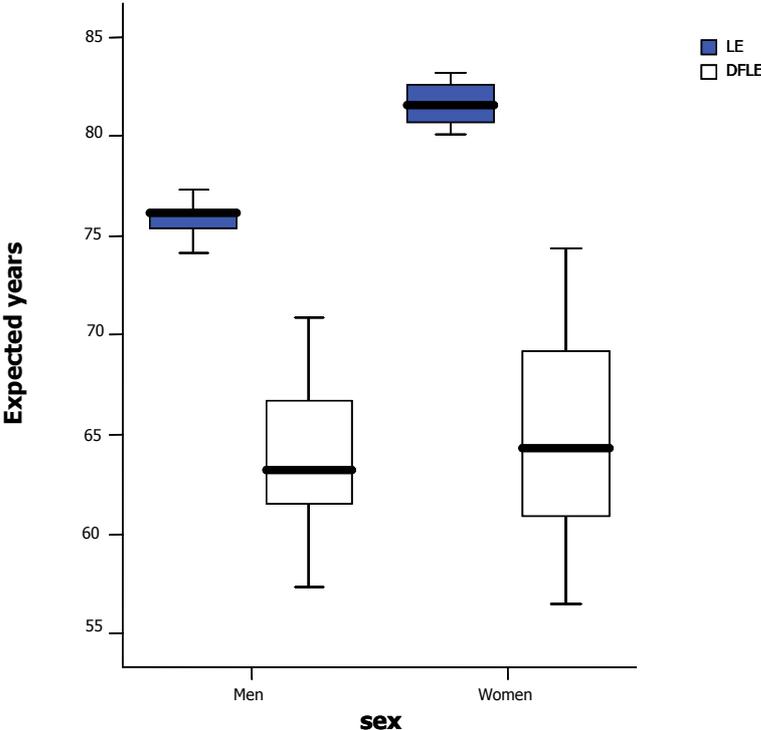


Figure 4 also shows that the ranking of countries for both men and women remains stable over the period. But variations in trends between countries and also fluctuations from time to time within countries exist. Overall, over the 1995-2001 period, DFLE for Italy increased both for men (from 66.7 years to 69.8 years) and women (from 70 years to 73.0 years). For

Finland, over the period 1996-2001, DFLE has increased for men (from 54.6 years to 56.7 years) but decreased for women (from 57.7 years to 56.9 years). Table 1 summarizes the trends in DFLE at birth by gender.

Table 1: Country-specific trends in disability-free life expectancy at birth by gender, 1995-2001

DFLE trends	Men	Women
<u>DFLE increases</u> relative variation $\geq 1\%$	Austria Belgium Finland * Germany Greece Italy Netherlands Spain	Belgium France Italy Spain Sweden **
<u>DFLE remains constant</u> -1% < relative variation < 1%	Denmark France Great Britain Ireland Portugal Sweden **	Austria **** Denmark Germany Great Britain Greece Portugal
<u>DFLE declines</u> relative variation $\leq -1\%$		Finland * Ireland *** Netherlands

* from 1996

** from 1997

*** from 1999

**** from 2000

Proportion of the life spends free of disability:

Countries appear fall into three groups with regard to the trends in the proportion of life spent free of disability over time: those where the proportion increases (relative variation $\geq 1\%$) suggesting a compression of disability (men: Austria, Belgium, Finland, Germany and Italy; women: Belgium, Italy and Sweden); those where the proportion is constant (men: Greece, the Netherlands and Spain; women: Austria, France, Greece and Spain); and the remainder where the proportion decreases (relative variation $\leq -1\%$) suggesting an expansion of

disability (men: Denmark, France, Great Britain, Ireland, Portugal and Sweden; women: Denmark, Germany, Great Britain, Finland, Ireland, the Netherlands and Portugal).

In summary, there is small variation in LE between the 14 countries with a general increase between 1995 and 2003. In contrast, there is a much larger variation in DFLE with 3 different trend patterns. There also appears to be gender differences in the trends over time in DFLE among countries, although these gender differences in DFLE are smaller than gender difference in LE.

SECTION 3. DISCUSSION OF DATA LIMITATIONS AND CONCLUSION

As explained earlier in this report, the currently available data has required many adjustments and modelling before calculating DFLE across the EU. The large dispersion in the prevalence rates shows the fragility of these measures and conclusions should therefore be drawn being aware of the reasons, other than true differences, especially changes in the survey design. However, the data to be available in the future from SILC will be hopefully more reliable: the overall survey design should help in collecting more comparable data; disability indicators introduced in this survey should be more robust with no screening question on long standing illness and better comparability in wording and translation.

Indeed, such measures in interview surveys are sensitive to different social, cultural or demographic factors changing the propensity to report disability with the same functional health status; some are more inclined to report the most severe levels of functional problems only while others report moderate ones. These differences partly explain differences in magnitude but less in trends in DFLE across Europe. In that respect, the disability indicator which will be used in SILC is based on a more reliable wording to measure functional health problems and should not be so sensitive to these factors. Furthermore, it will also allow differentiation between different levels of severity in reported disability; such detailed information will also contribute to explain differences between countries or the variations in trends across Europe.

A further step forward in the estimation of comparable DFLE in Europe will be to take into account the population living in institutions. Institutionalisation rates greatly differ from one

country to another as past and present public health policies in long term care services widely vary across Europe. Therefore both the distribution of the population between private households and institutions and the level of functional health problems in these two populations may be significantly different from one country to another. We will seek to collect, in future years, data on institutionalisation to adjust our estimates. Meanwhile, we report below some sensitivity analyses for France with the 1999 data to assess the size of the bias introduced in the estimates (Table 2).

The ECHP data (with no data on institutions) gives a life expectancy with disability of 14.9 years at birth for French men. Taking into account institutionalisation rates, and assuming that all years lived in institutions are years lived with disability, increases the estimate of life expectancy with disability (DLE) by around 3 months. If we apply the actual rates before age 70 and a hypothetical rate of 20% after age 70, DLE increased by 8 months compared to the ECHP estimate (for a 10% rate institution after age 70 years, this increase is 3 months). For women, this estimate increases by 8 months when we apply a 20% institution rate after 70 years (for a 10% institution rate, a 2 month increase is produced). Alongside these differences, the part of life free of disability (DFLE) does not vary by more than 2% regardless of the assumption on institutionalisation rates.

These analyses suggest that large changes in the rate of institutionalisation may impact on the estimates of DLE rather than DFLE. The size of the impact corresponds roughly to the annual gain in LE that has been observed in France for two decades, showing the importance of including this information in the estimates. Nevertheless, there are rarely any sudden changes from year to year in institutionalisation rates and the size of the bias is not large enough to explain the large differences between countries. Finally, it is noteworthy that these results for France cannot be generalized to all the countries since we do not know how the actual rates of institutionalisation nor the level of disability in institutions vary across Europe.

Table 2: Impact of institution rate on the life expectancy with disability (DLE) at birth by gender: calculation with the 1999 French data

Men

ECHP estimations with:	DLE	DFLE	LE	%DFLE in LE
- no data on institution	14.92	60.1	75.01	80%
- 1999 age specific institutionalisation rates	15.15	59.87	75.01	80%
- 1999 age specific institutionalisation rates from age 0 to 70, 10% after age 70	15.41	59.6	75.01	79%
- 1999 age specific institutionalisation rates from age 0 to 70, 20% after age 70	15.8	59.21	75.01	79%

Women

ECHP estimations with:	DLE	DFLE	LE	%DFLE in LE
- no data on institution	19.20	63.26	82.46	77%
- 1999 age specific institutionalisation rates	19.59	62.86	82.46	76%
- 1999 age specific institutionalisation rates from age 0 to 70, 10% after age 70	19.77	62.69	82.46	76%
- 1999 age specific institutionalisation rates from age 0 to 70, 20% after age 70	20.27	62.19	82.46	75%

Although this exercise highlighted the limitations and methodological problems in computing DFLE, it also proved that harmonized calculation can take place to provide routine and reliable indicators when the SILC data become available. We could also calculate more robust DFLE estimates by using different levels of severity available in SILC. Moreover, a further avenue to be explored is the comparison of values calculated from national surveys with those from harmonized European survey, to calibrate harmonized instruments.

In conclusion, there are important differences in reported disability in the 14 European populations, resulting in greater differences in DFLE than LE and variations in trends over time as well as the magnitude of the gender differences. Although most EU populations are living longer, not all appear to be spending the extra years free of disability.

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ANNEX 1: ECHP prevalence of disability in the age group 15-19 and in the age group 65-69, in 14 EU Member States, 1995-2003

ECHP prevalence of disability in the age group 15-19 in 14 EU Member States, 1995-2003

Men	1995	1996	1997	1998	1999	2000	2001	2002	2003
Austria	5,42%	3,18%	3,09%	0,97%	0,81%	7,48%	4,04%	3,88%	3,96%
Belgium	2,54%	0,83%	1,31%	5,82%	4,80%	5,74%	1,96%	4,94%	5,35%
Denmark	8,83%	8,48%	7,30%	6,08%	6,46%	3,12%	8,83%	5,36%	4,95%
Finland		10,42%	8,64%	12,21%	11,09%	6,92%	8,20%	7,85%	7,35%
France	6,22%	6,43%	6,66%	9,65%	8,86%	8,32%	7,38%	9,00%	9,33%
Germany	5,01%	5,07%	2,89%	2,58%	6,89%	0,71%	0,50%	0,72%	0,06%
Greece	0,84%	1,47%	0,68%	1,20%	0,24%	0,20%	1,34%	0,64%	0,58%
Ireland	4,82%	4,26%	6,76%	1,31%	1,01%	5,46%	7,28%	4,99%	5,14%
Italy	1,53%	2,13%	3,09%	2,22%	0,52%	2,02%	0,56%	0,91%	0,71%
Netherlands	7,59%	5,81%	6,53%	6,68%	11,18%	6,70%	5,16%	6,97%	6,94%
Portugal	7,39%	6,46%	5,02%	5,16%	7,82%	5,74%	6,42%	6,06%	6,01%
Spain	2,65%	3,69%	2,66%	2,98%	3,32%	1,50%	1,12%	1,37%	1,08%
Sweden			7,59%	10,61%	7,34%	7,16%	8,23%	7,53%	7,32%
United Kingdom	5,45%	10,81%	8,80%	10,87%	7,64%	10,06%	11,58%	11,22%	11,69%

Women	1995	1996	1997	1998	1999	2000	2001	2002	2003
Austria	2,54%	2,95%	3,40%	3,13%	1,98%	0,20%	3,38%	6,55%	9,72%
Belgium	7,89%	0,83%	4,96%	4,15%	4,19%	2,31%	4,62%	3,05%	2,78%
Denmark	11,79%	14,43%	6,21%	8,10%	15,14%	11,71%	19,49%	16,21%	17,16%
Finland		9,60%	11,49%	8,38%	10,98%	9,90%	12,95%	12,01%	12,43%
France	9,42%	9,40%	8,49%	8,20%	5,36%	6,40%	6,50%	5,13%	4,49%
Germany	5,94%	7,86%	7,65%	7,50%	8,19%	8,40%	9,20%	9,39%	9,79%
Greece	0,94%	1,82%	1,46%	1,59%	2,01%	2,20%	1,09%	1,84%	1,90%
Ireland	4,22%	2,08%	1,92%	3,00%	2,85%	1,85%	6,70%	7,65%	9,57%
Italy	3,37%	3,65%	3,64%	2,36%	2,46%	1,66%	1,33%	1,02%	0,62%
Netherlands	12,06%	14,58%	14,26%	12,51%	9,86%	11,90%	16,01%	13,32%	13,40%
Portugal	4,04%	5,17%	3,65%	1,41%	0,91%	3,70%	4,18%	2,55%	2,36%
Spain	2,29%	1,35%	2,26%	2,69%	1,38%	2,97%	1,48%	2,05%	2,05%
Sweden			15,05%	12,40%	11,26%	11,34%	13,58%	11,53%	11,13%
United Kingdom	14,65%	13,11%	14,43%	14,37%	14,93%	15,31%	15,42%	15,76%	16,05%

ECHP prevalence of disability in the age group 65-69 in 14 EU Member States, 1995-2003

Men	1995	1996	1997	1998	1999	2000	2001	2002	2003
Austria	36,87%	32,15%	32,60%	33,46%	34,57%	28,38%	33,67%	30,93%	30,39%
Belgium	33,22%	33,80%	21,47%	28,00%	21,93%	18,43%	14,22%	11,96%	8,85%
Denmark	31,85%	40,60%	35,45%	32,19%	30,72%	35,33%	25,48%	28,18%	26,95%
Finland		49,86%	47,11%	34,17%	53,56%	53,48%	51,04%	52,65%	53,92%
France	42,56%	44,86%	46,43%	43,18%	44,60%	41,10%	37,39%	39,32%	38,43%
Germany	32,67%	33,59%	28,06%	30,86%	33,17%	25,88%	23,69%	24,22%	22,84%
Greece	33,28%	29,79%	34,88%	29,83%	31,04%	30,13%	23,88%	25,92%	24,80%
Ireland	29,63%	22,21%	28,88%	26,88%	36,28%	26,18%	23,17%	27,02%	26,88%
Italy	23,22%	21,01%	20,98%	23,05%	17,81%	18,40%	18,99%	17,48%	16,73%
Netherlands	34,46%	32,46%	35,92%	32,62%	33,79%	35,74%	38,22%	36,99%	37,55%
Portugal	36,68%	41,20%	36,47%	42,32%	43,24%	43,79%	40,72%	44,07%	44,92%
Spain	28,27%	28,73%	32,48%	30,01%	27,72%	25,48%	26,92%	26,33%	25,78%
Sweden			46,31%	33,15%	30,49%	35,85%	40,94%	34,94%	34,13%
United Kingdom	38,09%	39,29%	37,45%	40,70%	43,72%	42,65%	39,48%	42,61%	43,21%

Women	1995	1996	1997	1998	1999	2000	2001	2002	2003
Austria	37,53%	38,09%	36,53%	38,93%	34,60%	30,89%	26,37%	21,85%	17,34%
Belgium	25,98%	33,80%	30,17%	33,66%	22,12%	28,44%	23,07%	24,25%	23,27%
Denmark	43,51%	45,06%	45,35%	43,32%	48,51%	37,83%	33,01%	36,25%	34,72%
Finland		52,25%	53,73%	52,06%	58,67%	55,49%	52,64%	55,52%	55,92%
France	46,07%	47,08%	42,96%	41,40%	43,04%	43,00%	44,24%	42,03%	41,54%
Germany	37,41%	31,53%	38,80%	34,19%	40,54%	44,06%	45,12%	47,30%	49,55%
Greece	27,24%	29,33%	35,16%	32,46%	29,39%	36,80%	34,73%	36,68%	37,81%
Ireland	28,88%	40,36%	27,11%	36,48%	21,30%	23,97%	26,51%	29,14%	31,75%
Italy	28,46%	25,00%	23,54%	22,57%	21,58%	23,75%	22,46%	20,70%	19,89%
Netherlands	36,27%	34,82%	31,31%	34,99%	33,95%	34,92%	39,09%	36,67%	37,07%
Portugal	42,10%	53,34%	53,85%	54,02%	54,30%	46,48%	48,01%	50,94%	51,10%
Spain	38,85%	40,31%	32,85%	37,33%	29,13%	34,04%	36,67%	32,34%	31,52%
Sweden			43,48%	37,43%	46,72%	37,47%	41,50%	40,14%	39,75%
United Kingdom	41,34%	40,33%	44,06%	41,25%	45,23%	44,41%	50,15%	49,57%	51,10%

ANNEX 2: Estimated values of life expectancies and disability-free life expectancies, at birth and age 65, in the 14 EU Member States, 1995-2003

MEN	1995		1996		1997		1998		1999		2000		2001		2002		2003	
	At birth	At 65 years																
Belgium																e		e
LE	73.4	14.8	73.8	15.0	74.1	15.2	74.3	15.2	74.4	15.4	74.6	15.5	74.9	15.8	75.1	15.9	75.4	16.1
DFLE	63.3	9.8	64.1	9.5	66.5	10.8	63.3	9.4	66.0	11.0	65.7	11.2	66.6	11.1	66.9	11.5	67.4	11.7
DFLE %	86.2	66.4	86.8	63.4	89.7	71.1	85.1	62.1	88.7	71.8	88.1	72.0	89.0	70.3	89.1	72.1	89.4	72.9
Denmark																e		e
LE	72.7	14.1	73.0	14.3	73.6	14.6	74.0	14.8	74.2	14.9	74.5	15.2	74.7	15.2	75.4	15.6	75.8	15.9
DFLE	61.6	9.0	61.7	8.6	61.6	8.6	62.4	9.0	62.5	9.0	62.9	7.7	62.2	9.1	62.8	8.5	63.0	8.4
DFLE %	84.7	63.7	84.5	60.1	83.7	59.1	84.3	60.7	84.2	60.1	84.4	50.9	83.3	59.9	83.4	54.3	83.1	52.7
Germany						*		*		*		*		*		a		a
LE	73.3	14.7	73.6	14.9	74.1	15.2	74.4	15.3	74.7	15.5	75.0	15.7	75.5	16.0	75.9	16.2	76.3	16.4
DFLE	60.0	8.4	60.8	8.8	61.9	9.8	62.1	9.4	62.3	9.6	63.2	10.0	64.1	10.6	64.4	10.6	65.0	10.8
DFLE %	81.8	56.9	82.6	58.9	83.6	64.5	83.5	61.5	83.4	62.1	84.3	64.0	84.9	66.0	84.9	65.3	85.3	65.9
Greece																e		e
LE	75.1	16.2	75.1	16.1	75.6	16.5	75.4	16.2	75.5	16.3	75.5	16.3	75.5	16.3	75.6	16.4	75.7	16.4
DFLE	65.8	9.8	66.9	10.2	66.4	9.8	66.5	10.1	66.7	10.0	66.3	9.6	66.7	10.2	66.7	9.9	66.7	9.9
DFLE %	87.6	60.7	89.1	63.3	87.8	59.1	88.1	62.0	88.3	61.2	87.9	58.7	88.3	62.7	88.1	60.5	88.1	60.1
Spain																e		e
LE	74.3	16.0	74.4	16.1	75.0	16.2	75.1	16.1	75.1	16.1	75.7	16.5	75.7	16.5	76.0	16.5	76.2	16.6
DFLE	64.2	10.0	65.1	10.6	65.5	10.6	65.2	10.5	65.6	11.0	66.5	11.4	66.0	10.7	66.6	11.2	66.8	11.3
DFLE %	86.5	62.6	87.5	66.2	87.3	65.2	86.8	65.2	87.3	68.2	87.9	69.0	87.3	65.0	87.6	67.7	87.7	67.9
France																e		e
LE	73.9	16.1	74.1	16.1	74.6	16.3	74.8	16.4	75.0	16.5	75.3	16.7	75.5	16.9	75.8	17.0	76.1	17.1
DFLE	60.0	7.6	59.6	7.3	60.2	7.7	59.2	7.2	60.1	7.5	60.1	7.7	60.5	8.1	60.4	8.0	60.6	8.2
DFLE %	81.2	46.9	80.4	45.1	80.7	47.0	79.2	44.1	80.1	45.7	79.9	46.2	80.2	47.6	79.7	47.3	79.6	47.9
Ireland																e		e
LE	72.7	13.5	73.1	13.8	73.3	14.0	73.4	14.1	73.4	14.1	73.9	14.6	74.7	15.1	74.6	15.1	74.9	15.3
DFLE	63.2	9.2	64.0	9.7	63.2	9.5	64.0	9.9	63.9	9.4	63.3	10.0	63.3	9.9	63.5	10.0	63.4	10.1
DFLE %	86.9	68.3	87.6	70.4	86.2	67.6	87.2	70.5	87.0	66.9	85.7	68.8	84.7	65.8	85.1	66.5	84.7	65.9
Italy																e		e
LE	74.9	15.8	75.2	15.9	75.7	16.1	75.7	16.0	76.1	16.2	76.6	16.5	76.6	16.5	77.0	16.6	77.3	16.7
DFLE	66.7	10.3	67.4	10.6	68.0	10.9	67.9	10.6	68.7	11.1	69.7	11.9	69.8	11.4	70.4	11.8	70.9	11.9
DFLE %	89.1	65.3	89.5	66.8	89.9	67.7	89.7	66.3	90.3	69.0	91.0	72.0	91.1	69.2	91.4	70.9	91.7	71.4

MEN	1995		1996		1997		1998		1999		2000		2001		2002		2003	
	At birth	At 65 years																
Netherlands																e		e
LE	74.6	14.7	74.7	14.7	75.2	15.0	75.2	15.1	75.3	15.2	75.5	15.3	75.8	15.5	76.0	15.6	76.2	15.7
DFLE	61.1	9.3	62.1	9.5	62.5	9.3	61.9	9.4	61.6	9.8	61.4	9.0	61.9	9.3	61.7	9.2	61.7	9.2
DFLE %	81.9	63.3	83.2	64.1	83.1	61.9	82.3	62.2	81.8	64.6	81.3	58.6	81.6	60.0	81.3	59.2	81.0	58.3
Austria																e		e
LE	73.3	15.0	73.7	15.1	74.1	15.2	74.5	15.4	74.8	15.6	75.1	16.0	75.6	16.3	76.0	16.4	76.4	16.6
DFLE	60.0	8.0	62.3	9.0	62.2	8.7	63.4	9.1	63.6	8.8	64.6	10.1	64.2	9.6	65.6	10.0	66.2	10.2
DFLE %	81.9	53.6	84.5	59.8	84.0	57.5	85.1	58.9	85.1	56.7	86.0	63.0	84.9	58.7	86.3	60.7	86.7	61.0
Portugal																e		e
LE	71.6	14.6	71.4	14.5	72.0	14.8	72.2	14.8	72.6	14.9	73.2	15.3	73.5	15.6	73.8	15.6	74.2	15.8
DFLE	59.6	8.3	58.2	7.4	59.3	8.1	59.1	8.2	58.8	8.3	60.2	8.4	59.5	8.2	59.7	8.3	59.8	8.4
DFLE %	83.3	57.0	81.4	51.2	82.3	55.1	81.9	55.2	81.0	55.7	82.2	54.6	81.0	52.6	80.9	53.4	80.6	52.8
Finland																e		e
LE	72.8	14.5	73.0	14.6	73.4	15.0	73.5	14.9	73.8	15.1	74.2	15.5	74.6	15.7	74.8	15.8	75.1	16.1
DFLE			54.6	5.0	55.5	5.5	55.9	6.5	55.8	5.7	56.3	5.8	56.7	6.2	57.0	6.3	57.3	6.5
DFLE %			74.8	34.2	75.5	36.5	76.0	43.3	75.7	37.8	75.9	37.6	76.0	39.7	76.2	40.0	76.3	40.2
Sweden																e		e
LE	76.2	15.9	76.5	16.1	76.7	16.2	76.8	16.3	77.1	16.4	77.4	16.7	77.6	16.9	77.8	17.0	78.0	17.2
DFLE					62.1	9.6	61.7	9.6	62.0	8.9	63.1	9.4	61.9	9.3	62.4	9.0	62.5	8.9
DFLE %					80.9	59.1	80.3	59.0	80.4	54.1	81.5	56.3	79.8	55.1	80.2	53.3	80.1	52.0
UK						*		*		*		*		*		a		a
LE	74.0	14.6	74.3	14.8	74.7	15.1	74.8	15.2	75.0	15.3	75.5	15.7	75.5	15.7	75.8	15.9	76.1	16.1
DFLE	60.6	8.4	60.8	8.4	60.9	8.7	60.8	8.3	61.2	7.4	61.3	8.6	61.1	8.3	61.4	8.2	61.5	8.2
DFLE %	81.9	57.3	81.8	56.7	81.6	57.5	81.2	54.9	81.6	48.3	81.3	55.1	80.9	53.3	81.0	51.7	80.8	51.1

e For 2002 et 2003, the mortality rates (qx) and the prevalence of disability have been extrapolated from the previous years of data (1995-2001).

a For 2002 et 2003, the mortality rates (qx) and the prevalence of disability have been extrapolated from the previous years of data (1997-2001).

* Germany and the UK derived data from national surveys from 1997 to 2001 and no longer carried out the ECHP; this explains the observed break in the series between 1996 and 1997. The values have been completed by revising the observed trend from 1997 to 2001 at the 1995/1996 levels.

** Years and countries for which mortality tables are not available. Values were estimated from linear extrapolation of the mortality rates (qx).

WOMEN	1995		1996		1997		1998		1999		2000		2001		2002		2003	
	At birth	At 65 years																
Belgium				**				**								e		e
LE	80.2	19.1	80.4	19.2	80.6	19.4	80.6	19.4	80.8	19.4	80.8	19.5	81.1	19.7	81.2	19.7	81.3	19.8
DFLE	66.4	11.8	68.5	12.1	68.3	12.1	65.4	10.8	68.4	12.4	69.1	12.5	68.8	12.8	69.0	12.5	69.2	12.6
DFLE %	82.7	61.5	85.2	63.2	84.8	62.3	81.2	55.8	84.6	64.1	85.5	63.9	84.9	64.8	85.0	63.5	85.1	63.5
Denmark						**		**								e		e
LE	77.8	17.5	78.2	17.8	78.4	17.8	78.7	18.0	79.0	18.1	79.3	18.3	79.3	18.4	79.8	18.6	80.1	18.7
DFLE	60.7	9.3	61.1	9.5	60.7	8.9	61.3	9.8	60.8	9.5	61.9	9.9	60.4	10.1	61.0	9.9	60.9	9.9
DFLE %	78.0	52.9	78.1	53.3	77.4	50.0	78.0	54.3	77.0	52.4	78.0	54.1	76.2	54.9	76.4	53.5	76.0	53.0
Germany		**				*		*		*		*		*		a		a
LE	79.8	18.5	79.9	18.6	80.3	18.9	80.3	18.5	80.7	19.2	81.0	19.4	81.3	19.6	81.5	19.7	81.8	19.9
DFLE	64.3	10.2	64.5	10.6	64.3	9.4	64.3	9.5	64.3	9.4	64.6	9.5	64.5	9.3	64.5	9.3	64.7	9.2
DFLE %	80.6	54.8	80.7	57.3	80.0	49.9	80.0	51.4	79.6	49.1	79.8	48.9	79.3	47.4	79.1	46.9	79.0	46.3
Greece		**												**		e		e
LE	80.5	18.6	80.4	18.6	80.8	18.9	80.4	18.5	80.6	18.7	80.6	18.7	80.6	18.7	80.7	18.7	80.7	18.7
DFLE	69.2	11.6	69.6	11.5	68.7	10.8	68.3	11.0	69.4	11.6	68.2	10.6	68.8	10.7	68.5	10.7	68.4	10.5
DFLE %	86.0	62.3	86.5	61.9	85.0	57.2	84.9	59.5	86.0	62.0	84.6	56.9	85.4	57.2	84.9	57.1	84.7	56.2
Spain														**		e		e
LE	81.5	19.8	81.7	19.9	82.0	20.1	82.1	20.1	82.1	20.1	82.5	20.4	82.5	20.4	82.8	20.5	83.0	20.6
DFLE	67.7	11.4	68.4	11.0	68.2	11.3	68.2	11.4	69.5	12.2	69.3	12.2	69.2	11.8	69.9	12.4	70.2	12.5
DFLE %	83.1	57.5	83.8	55.5	83.1	56.4	83.0	57.0	84.6	60.6	84.0	59.5	83.8	57.8	84.4	60.5	84.5	60.7
France																e		e
LE	81.8	20.6	82.0	20.7	82.3	20.8	82.4	20.9	82.5	20.9	82.7	21.2	82.9	21.3	83.0	21.3	83.2	21.5
DFLE	62.4	8.4	62.5	8.7	63.1	9.1	62.8	8.9	63.3	8.3			63.3	8.7	63.7	8.8	63.9	8.9
DFLE %	76.3	40.9	76.3	42.0	76.7	43.7	76.3	42.6	76.7	39.5			76.4	40.9	76.7	41.4	76.9	41.6
Ireland																e		e
LE									78.8	17.5	79.1	17.8	79.7	18.3	80.1	18.7	80.7	19.2
DFLE									67.6	11.0	66.9	10.7	66.5	10.7	65.9	10.5	65.4	10.4
DFLE %									85.8	63.2	84.6	59.7	83.5	58.7	82.3	56.1	81.1	54.0
Italy				**										**		e		e
LE	81.3	19.6	81.4	19.7	81.6	19.8	81.8	19.9	82.2	20.1	82.5	20.4	82.6	20.4	82.8	20.6	83.1	20.7
DFLE	70.0	11.8	70.5	12.2	71.3	12.7	71.3	12.7	72.1	13.1	72.9	13.6	73.0	13.4	73.9	14.2	74.4	14.4
DFLE %	86.1	59.9	86.6	61.8	87.4	63.8	87.2	63.8	87.8	65.2	88.4	66.8	88.4	65.5	89.2	68.8	89.5	69.4

WOMEN	1995		1996		1997		1998		1999		2000		2001		2002		2003	
	At birth	At 65 years																
Netherlands		**						**							e		e	
LE	80.3	19.0	80.3	19.0	80.5	19.2	80.5	19.1	80.5	19.1	80.5	19.2	80.7	19.3	80.7	19.2	80.7	19.3
DFLE	62.1	10.5	61.5	10.5	61.4	10.6	61.1	10.2	61.4	10.7	60.2	9.9	59.4	9.8	59.3	9.7	58.8	9.5
DFLE %	77.4	55.1	76.6	55.2	76.3	55.3	75.9	53.5	76.3	55.8	74.7	51.9	73.6	50.8	73.5	50.4	72.8	49.1
Austria															e		e	
LE											81.1	19.4	81.5	19.8	82.0	20.1	82.5	20.5
DFLE											68.0	11.1	68.5	11.4	69.0	11.8	69.6	12.2
DFLE %											83.8	57.1	84.0	57.7	84.2	58.5	84.4	59.4
Portugal															e		e	
LE	78.7	17.8	78.8	17.8	79.0	18.1	79.3	18.2	79.5	18.3	80.0	18.7	80.3	18.9	80.5	19.0	80.8	19.2
DFLE	63.1	9.9	60.5	8.4	60.4	8.1	61.1	8.2	60.7	7.9	62.2	8.8	62.7	8.7	61.8	8.0	61.8	7.7
DFLE %	80.1	55.7	76.8	46.9	76.5	44.7	77.0	44.8	76.4	43.1	77.7	46.9	78.1	45.9	76.7	41.9	76.4	40.3
Finland												**			e		e	
LE			80.5	18.7	80.5	18.9	80.8	19.1	81.0	19.2	81.2	19.4	81.5	19.6	81.6	19.7	81.8	19.9
DFLE			57.7	7.2	57.6	6.8	58.3	7.3	57.4	7.0	56.8	6.9	56.9	7.3	56.8	7.2	56.5	7.1
DFLE %			71.7	38.6	71.5	36.1	72.2	38.4	70.9	36.6	70.0	35.6	69.9	37.2	69.6	36.4	69.0	35.5
Sweden								**							e		e	
LE					81.8	19.9	81.8	19.9	81.9	19.9	82.0	20.0	82.1	20.1	82.1	20.1	82.2	20.1
DFLE					60.0	9.0	61.3	10.1	61.8	9.9	61.9	9.3	61.0	10.3	61.9	10.2	62.2	10.4
DFLE %					73.4	45.2	75.0	50.6	75.4	49.7	75.5	46.5	74.3	51.2	75.4	51.0	75.7	51.8
UK		**		**		*		*	**	*		*		*		a		a
LE	79.3	18.2	79.5	18.3	79.6	18.4	79.7	18.5	79.9	18.6	80.2	18.9	80.2	18.9	80.3	19.0	80.5	19.1
DFLE	61.2	9.2	61.8	9.4	61.2	9.5	62.2	9.8	61.3	9.6	61.2	9.6	60.8	9.5	60.9	9.6	60.9	9.6
DFLE %	77.2	50.5	77.8	51.3	76.8	51.7	78.0	53.2	76.7	51.4	76.4	50.8	75.9	50.3	75.9	50.5	75.6	50.4

e For 2002 et 2003, the mortality rates (qx) and the prevalence of disability have been extrapolated from the previous years of data (1995-2001).

a For 2002 et 2003, the mortality rates (qx) and the prevalence of disability have been extrapolated from the previous years of data (1997-2001).

* Germany and the UK derived data from national surveys from 1997 to 2001 and no longer carried out the ECHP; this explains the observed break in the series between 1996 and 1997. The values have been completed by revising the observed trend from 1997 to 2001 at the 1995/1996 levels.

** Years and countries for which mortality tables are not available. Values were estimated from linear extrapolation of the mortality rates (qx).

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