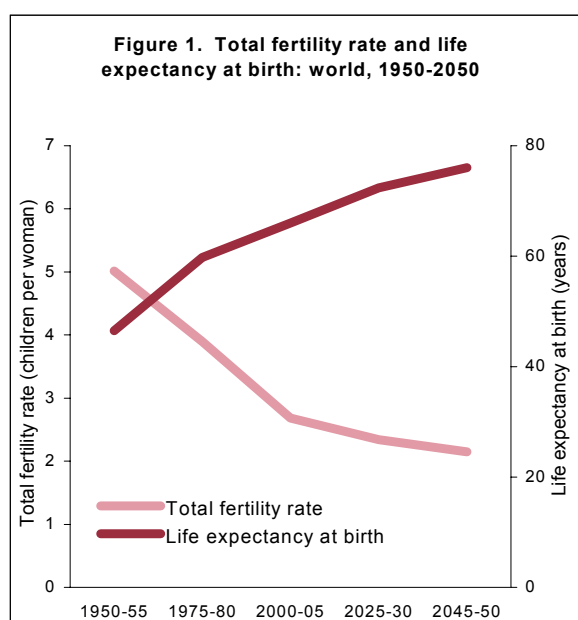


I. DEMOGRAPHIC DETERMINANTS OF POPULATION AGEING

Underlying global population ageing is a process known as the “demographic transition” in which mortality and then fertility decline from higher to lower levels. Decreasing fertility along with lengthening life expectancy (figure 1) has reshaped the age structure of the population in most regions of the planet by shifting relative weight from younger to older groups. The role of international migration in changing age distributions has been far less important than that of fertility and mortality (Lesthaeghe, 2000).



A. FERTILITY DECLINE

Fertility decline has been the primary determinant of population ageing. Over the last half century, the total fertility rate decreased globally by almost half, from 5.0 to 2.7 children per woman. Over the next half century, it is expected to drop to the replacement level of 2.1 children per women.

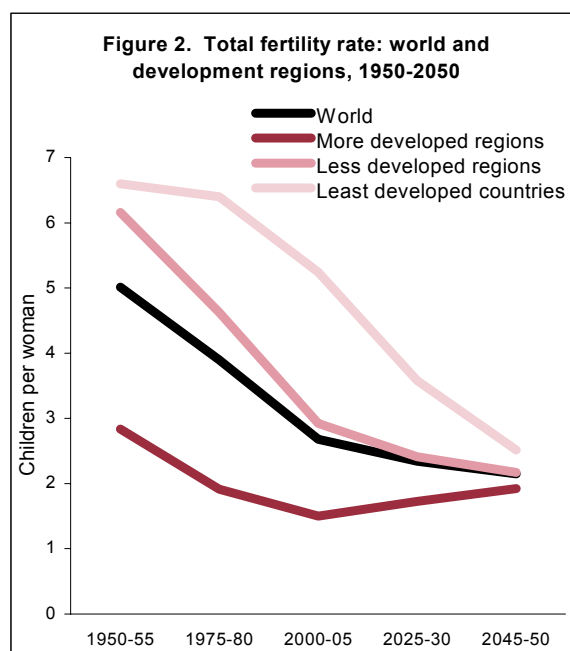
Fertility is well below the replacement level in the more developed regions

As a result of the sustained decline that occurred during the twentieth century, the average total fertility rate in the more developed regions has dropped from an already low level of 2.8

children per woman in 1950-1955 to an extremely low level of 1.5 children per woman in 2000-2005. Presently, the total fertility rate is below the replacement level in practically all industrialized countries. In 19 of those countries the rate is under 1.3 children per woman.

Fertility decline in the less developed regions started later and has proceeded faster

Major fertility reductions in the less developed regions occurred, in general, during the last three decades of the twentieth century. Over the last 50 years, the average total fertility rate in those regions dropped by more than 60 per cent, from 6.2 children per woman in 1950-1955 to 2.9 in 2000-2005 (figure 2).



However, great disparities persist. In the least developed countries, the average total fertility rate is now 5.2 children per woman. In particular, in Eastern, Western and Middle Africa, it remains in excess of 5.5 children per woman. Meanwhile, current rates are 2.5 children per woman or less in South-central Asia, South America and the Caribbean. In 18 developing countries, the total fertility rate is estimated to be under replacement level already.

Regional differences in fertility are expected to decrease

As the transition towards lower fertility levels continues in the less developed regions, and as levels in the more developed regions are projected to increase slightly, differences in fertility among regions will tend to decrease in the future. The average total fertility rate in the less developed regions is expected to drop from the current 2.9 children per woman to 2.4 by 2025-2030, and to 2.2 by 2045-2050. The average total fertility rate in the more developed regions is projected to rise from the current 1.5 children per woman to 1.7 and 1.9 children per woman by those same periods. A particularly sharp reduction is expected for the least developed countries, where the average total fertility rate may reach 2.5 children per woman in 2045-2050, down from 5.2 in 2000-2005 and 3.6 in 2025-2030 (figure 2).

B. MORTALITY DECLINE

As fertility rates move towards lower levels, mortality decline, especially at older ages, assumes an increasingly important role in population ageing. Particularly in developed countries, where low fertility has prevailed for a significant period of time, relative increases in the older population are now primarily determined by improved chances of surviving to old ages (Grundy, 1996; National Research Council, 2001).

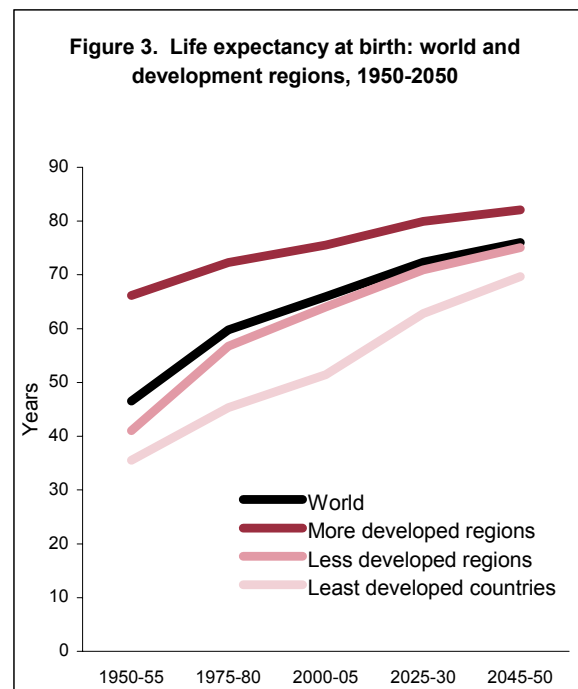
People are living longer, but large variations remain

Over the last five decades, life expectancy at birth increased globally by almost 20 years, from 46.5 years in 1950-1955 to 66.0 years in 2000-2005 (figure 3). On average, the gain in life expectancy at birth was 23.1 years in the less developed regions and 9.4 years in the more developed regions (figure 3). Nevertheless, a considerable advantage still persists in favour of the latter. On average, at current mortality rates an individual born in the more developed regions is now expected to outlive by almost 12 years an individual born in the less developed regions. If the individual is born in the group of least

developed countries, the disadvantage doubles to more than 24 years.

Great variations in life expectancy exist within the less developed regions

While in some countries and areas of the less developed regions, such as Israel, Martinique and Macao Special Administrative Region (SAR) of China, life expectancy at birth is around 79 years, in others, such as Botswana, Mozambique and Swaziland, it does not surpass 39 years. In many countries, mostly in the group of the least developed countries, low levels of life expectancy at birth are in part due to the spread of HIV. On average, life expectancy in the least developed countries lengthened by 16 years over the last half century, which is substantially less than the average for the less developed regions (figure 3).



Within the more developed regions, variation in life expectancy is significantly lower than in the less developed regions. Apart from the Eastern European countries, where life expectancy at birth is currently, on average, lower than 69 years, the range in life expectancy within the more developed regions is only 11 years, from 71 years in Latvia to 82 years in Japan.

Regional differences in life expectancy at birth are expected to decrease

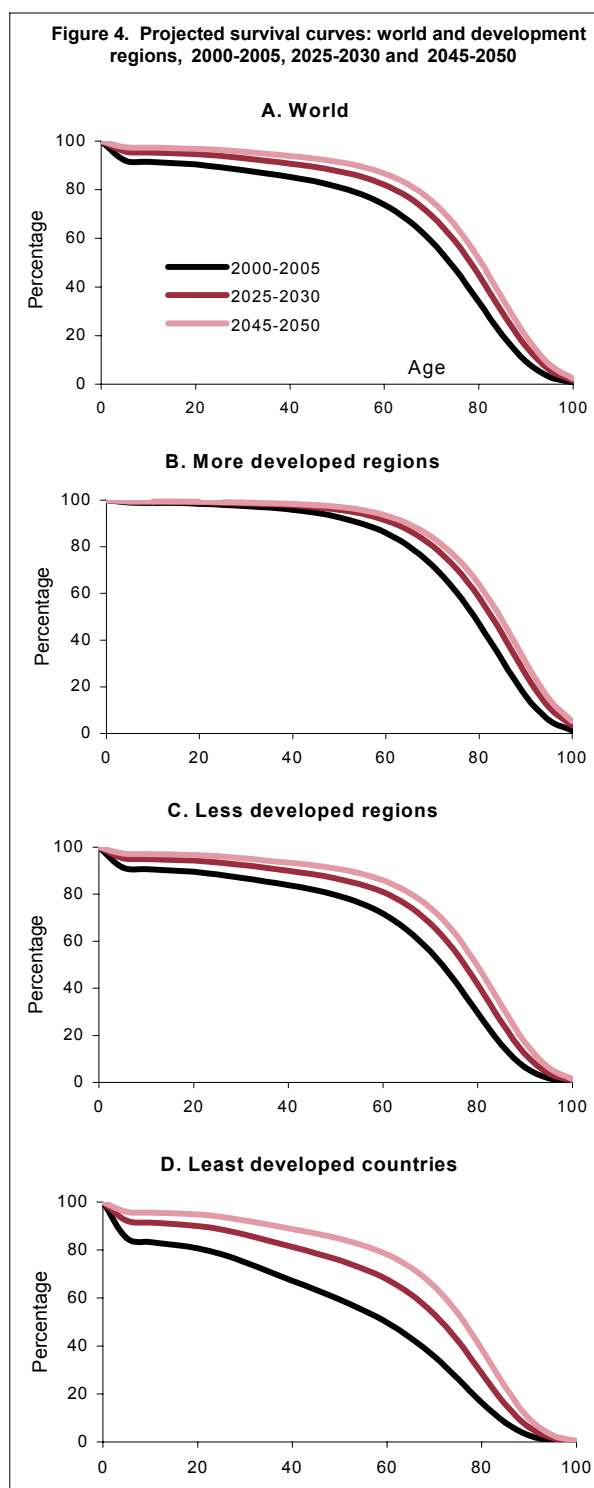
Over the next 50 years, life expectancy at birth is projected to increase globally by 10 years, to reach 76 years in 2045-2050 (figure 3). As mortality becomes more concentrated at older ages of the population, the gap in life expectancy among regions will tend to decrease. By the end of the next quarter century, life expectancy at birth is expected to reach, on average, 80 years in the more developed regions and 71 years in the less developed regions. By 2045-2050 it is expected to have risen to 82 years in the more developed regions and to 75 years in the less developed regions. Thus, an interregional gap of about 7 years is expected by 2045-2050, down from approximately 9 years in the period 2025-2030 and from almost 12 years at present.

More people will survive to older ages

As a result of the generalized shift in the age distribution of mortality towards older groups, the survival curve is expected gradually to approach a more rectangular shape in all regions of the world (figure 4). Under current mortality conditions, almost 3 of every 4 newborns in the world will survive to age 60, and about 1 of every 3 to age 80. Under the mortality conditions projected for the period 2045-2050, approximately 7 of every 8 newborns would survive to age 60, and more than half to age 80.

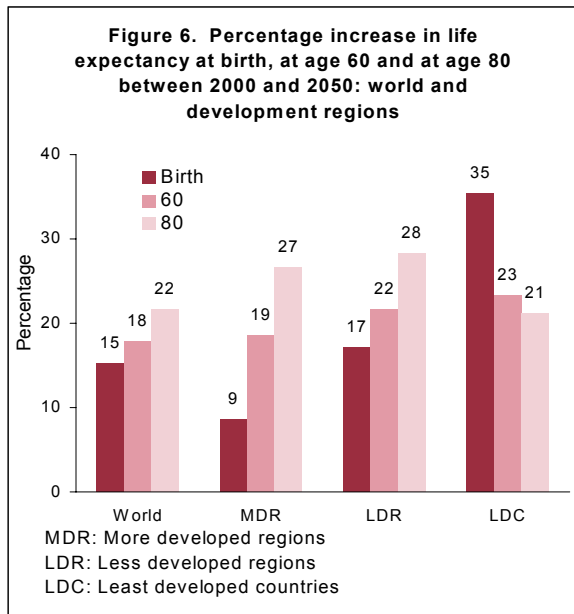
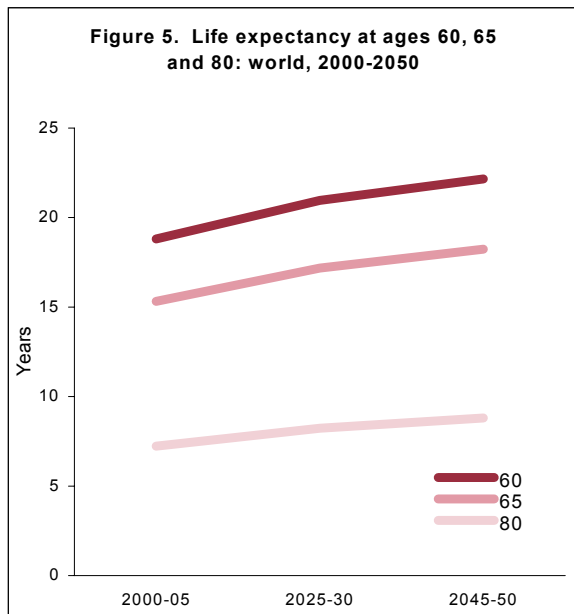
In proportional terms, gains in life expectancy are expected to be higher at older ages

Not only are more people surviving to old age, but once there, they tend to live longer. Over the next 50 years global life expectancy at age 60 is expected to increase from 18.8 years in 2000-2005 to 22.2 years in 2045-2050 (an 18 per cent gain), from 15.3 to 18.2 years (19 per cent) at age 65 and from 7.2 to 8.8 years (22 per cent) at age 80 (figure 5). Those figures show that, in fact, the older the age group, the more remarkable are the expected relative gains in life expectancy. In the more developed regions, average life expectancy at age 80 is projected to increase by 27 per cent over the next half century as compared with 19 per cent at age 60 and 9 per cent at birth.



Average life expectancy at age 80 in the less developed regions is expected to increase by 28 per cent as compared with 22 per cent at age 60 and 17 per cent at birth (figure 6). In the case of the least developed countries, where mortality levels at young ages remain high, proportional

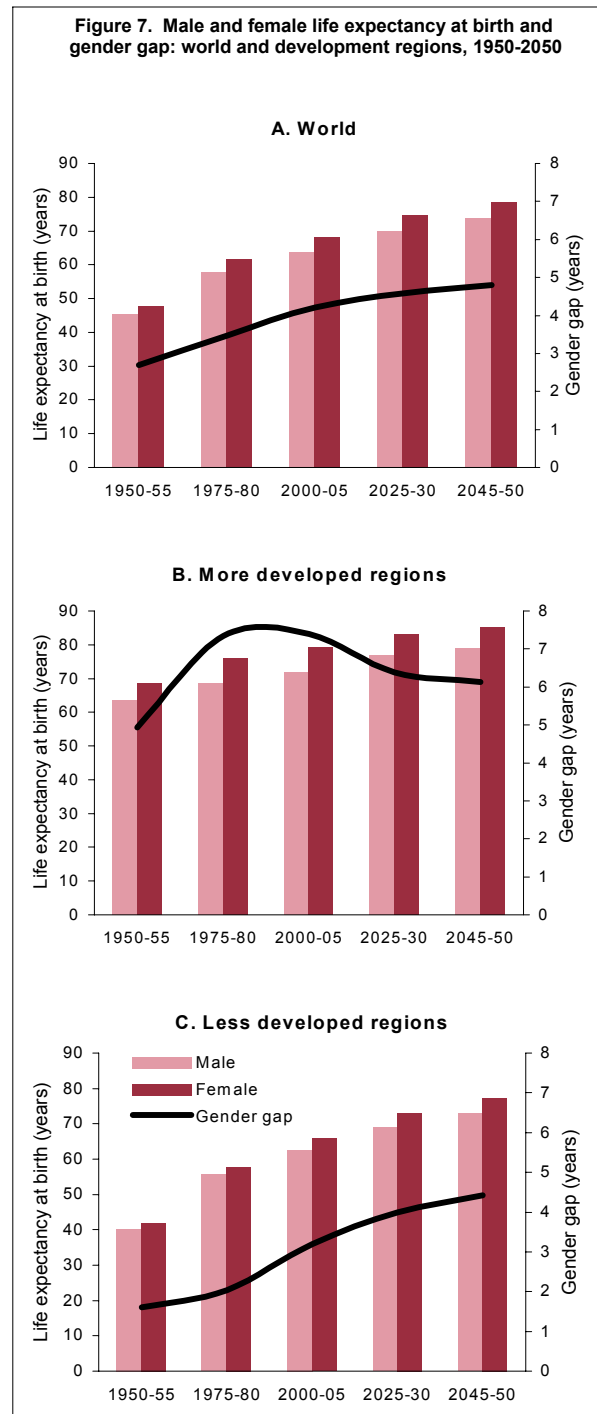
improvements in life expectancy during the next 50 years are still expected to be higher at birth than at older ages.



The female advantage in life expectancy at birth has widened; future trends are expected to follow different paths

Except for a small number of countries, where cultural factors have contributed to lower female life expectancy, reductions in mortality

have been substantially higher among females than males, in practically all age groups. As a result, the female advantage in life expectancy at birth increased from 2.7 to 4.2 years globally over the past 50 years. By the end of the next 50 years, the global gap is expected to increase slightly to 4.8 years (figure 7a).



In the more developed regions, where women currently outlive men by 7.4 years, the gender gap is expected gradually to decline to 6.1 years over the next half century (figure 7b). In the less developed regions, where the gender gap has been significantly smaller, the gap is expected to continue to increase, from the current 3.2 years to 4.4 years by the middle of the century (figure 7c).

In Japan, the near 85 years' life expectancy at birth for women is currently the highest in the world. In 30 other countries female life expectancy at birth now exceeds 80 years, including eight countries and areas from the less developed regions: Hong Kong Special Administrative Region (SAR) of China, Israel, Macao

SAR of China and Singapore in Asia, Guadeloupe, Martinique and Puerto Rico in the Caribbean, and French Guiana in Latin America. Over the next 50 years, female life expectancy at birth is expected to surpass 92 years in Japan and 85 years in 26 other countries. Under the mortality conditions projected for the middle of this century for the world as a whole, 59 per cent of the world's female newborns would survive to the age of 80, up from 41 per cent under current mortality conditions. In 40 countries, including 14 from the less developed regions, this proportion is projected to exceed 70 per cent. However, in 20 countries, mostly in Eastern and Western Africa, this proportion is expected to remain lower than 40 per cent by the year 2050.