

The future of the expectation of life at birth

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At around mid-2003, the United Nations published the “Long-range population projections” ⁽¹⁾ report in which the projections of some biometric functions regarding each of the 228 countries of the world were formulated.

A work group of 15 experts in the demographic sector collaborated in the formulation of the hypotheses and the methodologies. The report discussed the classic themes of demographics: fertility, mortality and international migration.

The projections were extended up to the period of 2045-2050 attempting, furthermore, an evaluation of trends up until the year 2300.

Without entering into the merits of the work, which offers many points for some observations regarding the validity of both the hypotheses and the methodologies used, we will limit our information to mortality only and, chiefly to the measurement of the expectation of life at birth, referring to the original study for details.

Tab. 1 Classification of some countries according to the values of the expectation of life at birth (e_0).

Countries with $e_0 \geq 75$ years, in the period 1995-2000.				Countries with $e_0 \leq 50$ years in the period 1995-2000.			
Countries	1995-2000	2045-2050	2295-2300	Countries	1995-2000	1945-2050	2295-2300
Japan	80.5	88.1	99.1	Congo A	49.2	64.1	90.2
Sweden	79.3	84.6	97.2	Equatorial Guinea A	48.5	67.0	90.8
Iceland	79.3	83.4	96.7	Mali A	47.9	65.5	90.5
Australia	78.7	83.7	96.8	Swaziland A	47.2	43.4	88.5
Canada	78.7	83.3	96.6	Guinea A	47.0	67.2	90.9
Switzerland	78.6	82.9	96.4	Lesotho A	46.9	44.1	88.5
Spain	78.4	84.1	97.0	Ethiopia A	46.1	63.2	90.1
Israel	78.3	83.5	96.7	Burkina Faso A	45.9	65.0	90.4
Italy	78.2	82.5	96.2	Tanzania A	45.5	63.3	90.1
France	78.1	84.0	96.9	Chad A	44.4	63.6	90.2
Norway	78.1	83.7	96.8	Ivory Coast A	43.2	62.7	90.0
Belgium	77.9	83.8	96.9	Central African Rep. A	42.6	57.1	89.2
Holland	77.9	82.2	96.1	Liberia A	41.8	59.2	89.5
Greece	77.8	82.3	96.1	Mozambique A	41.5	54.2	89.0
Austria	77.7	83.6	96.8	Uganda A	41.1	69.3	91.4
New Zealand	77.6	82.3	96.1	Zimbabwe A	40.8	45.7	88.6
Germany	77.4	83.5	96.7	Malawi A	40.7	56.5	89.2
Costa Rica	77.3	82.0	96.0	Angola A	40.2	58.2	89.4
United Kingdom	77.2	83.0	96.5	Burundi A	39.3	61.0	89.7
Finland	77.2	83.0	96.4	Dem. Rep. of the Congo A	38.0	60.8	89.7
United States A	76.2	81.6	95.8	Zambia A	35.7	52.3	88.8
Ireland	76.1	81.4	95.7	Rwanda A	35.5	62.8	90.0
Cuba	76.0	80.9	95.5	Sierra Leone A	34.9	52.3	88.8
Denmark	75.9	81.4	95.7				
Kuwait	75.7	80.9	95.5				
Brunei Darussalam	75.5	81.2	95.6				
Chile	75.3	80.7	95.4				
Portugal	75.2	81.0	95.5				
Slovenia	75.2	81.9	95.9				

Note: The countries marked with A are those which are classified as strongly stricken with HIV/AIDS, and for this reason specific hypotheses are assumed for the mortality trends.

Table 1 reports some countries that were the object of the projection, choosing from the Report only those that, during the 1995-2000 period, had an expectation of life at birth equal or superior to 75 years (low mortality), and those which, during the same period, had an expectation of life at birth of equal or inferior to 50 years (high mortality), in order to demonstrate the evolution of mortality starting from the most favorable for life to the worst.

The projections to 2300 mostly appear to be for pure curiosity, with uncertain and very variable data. For taking into account the impact of the HIV/AIDS epidemic on mortality, 53 countries are considered separately (among them the United States, China, India and 35 countries on the continent of Africa) with morbidity and mortality levels to be inserted in this group which, in the year 2000, included a total population of around 3.65 billion people, representing 55 percent of the world population. For the selection and projection criteria of the populations of these countries, they refer to the relative UN Revisions of 1998 and 2000 ⁽²⁾.

Observing the data in Tab. 1, we see that between 1995 and 2000 and 2045-2050, the increases in expectation of life at birth will be from 4 to 8 years in “low mortality” countries, while in high mortality countries, larger increases are predicted: from 15 to 29 years and for some very modest (4.9 in Zimbabwe) or negative (in Lesotho with -2.8 and in Swaziland with -3.8 years).

The “long-range” predictions, up to 2300, show a certain leveling off in the two groups in Tab. 1, which should reach values of around 96 years (with the exception of 99 for Japan) in the first group, and around 90 years in the second.

(1) UN (2003), “*Long-range population projections*”, Proceedings of the United Nations Technical Working Group on Long-Range Population Projections. United Nations Headquarters, New York, 30 June 2003. ESA/P/WP. 186, 21 August 2003.

(2) UN: “World Population Prospects”, Revisions for the years 1998 and 2002.