

POPULATION GROWTH AND NEW WORLD POPULATION REDISTRIBUTION

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[The views expressed are those of the author and do not necessarily reflect the position of the United Nations]

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Summary

One may summarize the recent trends in demographic growth and its effects on the population distribution according to three demographic parameters. In the second half of the 20th century the demographic transition in the South brought an unprecedented population explosion. The North, where the demographic transition was achieved before it started in the South, experienced gradually decelerating population growth and depopulation is imminent in most developed countries. In terms of the rates of growth, the peak of the world population explosion passed, but annual increments remain high and the population growth will continue for several decades to come. Eventually, the completion of the demographic transition worldwide will be followed by the stabilization of the world population. Because of differential growth rates, the distribution of population between countries and continents is in constant flux. The general direction of this redistribution is the increasing demographic weight of the South, particularly of Africa. Not only the share of Europeans in the world population is decreasing, but also their absolute numbers are beginning to shrink.

Urbanization is another salient demographic phenomenon of the contemporary world. The massive redistribution of the population from the rural to the urban areas provoked a surge of the proportion of population living in cities. In a few years, world urban population will outnumber the rural population. Groups of countries share several features of urbanization, while others are country (group)-specific. The South produces and will keep producing the bulk of the growth of urban population, including that of large cities.

The changes in the age compositions of populations constitute no less important repercussions of the slow down of population growth than the dynamics of population

size. Rapid ageing, produced by fertility decline and reinforced by adult mortality decline, already affected most populations of the North and is starting to take hold of the South.

1. Population growth and geographical distribution

World population growth results from births that increase the size of the population and deaths that decrease it. At any level below global, migration is also a factor of population dynamics: immigrants increase the population of receiving geographical entities while emigrants decrease it. The rate of population growth depends on the base population and represents the difference between crude birth and death rates augmented by the net migration rate (immigrants minus emigrants). As the crude rates reflect the 'true' levels of fertility and mortality, acting through the population age structure, it is correct to characterize population growth as the function of fertility, mortality and migration intensities. Population growth resulting from births and deaths is called natural population increase.

World population was increasing throughout the history of mankind. However, several times the growth was brutally reversed by natural and man-made calamities. Thus, the Black Death – the large pandemic of plague in the mid-14th century, exterminated one quarter of the European population. As a result of the slave trade between the 16th and 19th centuries, an estimated total of 12 million Africans (12 per cent of the continent's population at any given point in time) were forcibly transported to the Americas. The demographic price of the Second World War (50 million) translated into 2 per cent of the world population, which temporarily arrested world demographic growth.

These temporary regional setbacks notwithstanding and despite the paucity of solid data for the distant past, there are reasons to believe that, considering rather long periods, the population of the world had been growing, and at an increasing rate.

Assuming that homo sapiens appeared about 50 000 B.C. and that at the dawn of agriculture, about 8000 B.C., the population of the world was approximately 5 million, the average population growth rate had been approximately 0.04 per cent per year. During the next 8000 years the demographic growth hardly accelerated to 0.05 per cent per year but the population of the world reached 300-350 million people in 1 A.D. The next six centuries saw further acceleration of population growth, which attained 0.08 per cent per year. Since the mid-17th century, when the population of the world attained 500 million, the annual growth rate increased almost ten-fold and attained 0.7 per cent in 1850-1900. The demographic transition in the populous South brought the speed of world population growth to its peak of 1.8 per cent per year in the second half of the 20th century. In the next 50 years world population growth is expected to slow down to 0.9 per cent per year. World population growth may also be illustrated by the duration of time needed to accumulate an additional billion people. It took 124 years for the world population to increase from one billion in 1801 to two billion in 1925; the third billion was added in 34 years (1959), the fourth – in 15 years (1974), the fifth – in 12 years (1986) and the sixth -- in 13 years (1999).

Long ago, Asia became the most populated continent and probably never in written history did its share dropped below 50 per cent of the world population. The demographic weights of other continents underwent considerable shifts (see Table 1). During most of human history, the components of natural population increase evolved in parallel in different regions, and the redistribution of population was produced mostly by mass migrations. The map of Europe, for example, to a large degree remains the product of several major early migrations involving the Germanic peoples, the Slavs and the Turks, among others. And in the course of 400 years—from the late 16th through the 20th century -- European migrants colonized the Americas, Australia, Oceania, the northern half of Asia, and parts of Africa. The overseas migration of Europeans during this period totaled about sixty million people. During certain periods immigration largely outweighed natural population increase in the Americas.

<i>Major area</i>	<i>1650</i>	<i>1750</i>	<i>1850</i>	<i>1900</i>	<i>1950</i>	<i>2000</i>	<i>2050</i>
Africa	21	14	9	8	9	13	21
Asia	56	64	61	56	56	61	58
Europe	21	20	24	26	22	12	6
Latin America and the Caribbean	1	1	3	4	7	9	9
Northern America	0	0	2	5	7	5	5
World	100	100	100	100	100	100	100

Table 1. Distribution of world population, 1650-2050 (per cent)

However, differences in the rates of natural population growth have been playing, during the last four or five centuries, an increasingly important role in the redistribution of the world population. In all continents except Africa the population was growing, the growth was accelerating, but unequally (see Figure 1). In the mid-17th century virtually the entire world population was distributed among Asia (55 per cent), Europe (22 per cent) and Africa (21 per cent). The virtual standstill of population size of Africa during the ensuing 250 years (1650-1900) more than halved its share to 8 per cent by 1900 (see Table 1). In contrast, Asian population was growing at a steady rate of 0.4-0.6 per cent per year (in the mid-18th century almost two thirds of the world population was concentrated in Asia), and the growth of European and American populations accelerated. As a result of the significant fall of mortality in Europe in the second half of the 19th century, the average rate of population growth attained in the continent 0.9 per cent per year despite large outflows of migrants to the Americas. Hence, the share of Europe in the world population reached in 1900 the all-time high of 26 per cent. The settlement of the overseas migrants in the Americas, tremendously accelerated from the mid-18th century, propelled their population size from 11 million in 1750 to 59 million in 1900, which resulted in the increase of their collective share in the world population from 1 to 5 per cent (see Table 1).

During the first half of the 20th century, the population growth accelerated significantly in all parts of the world except Europe. The fertility decline in Europe and Northern America slowed natural increase. Migration flows from Europe to Northern America and the two world wars further curbed the growth of the European population but in Northern America the massive influx of migrants more than compensated for fertility decrease. As a result in 50 years the population of the United States more than doubled

while that of Europe gained only one third. In the meantime the demographic growth in Africa started after a protracted dead period and quickly attained the average level of 1.2 per cent. Population growth in the other major areas of the world intensified further. While Asia retained its high share of the world population (56 per cent), the relative weight of other areas increased at the expense of Europe.

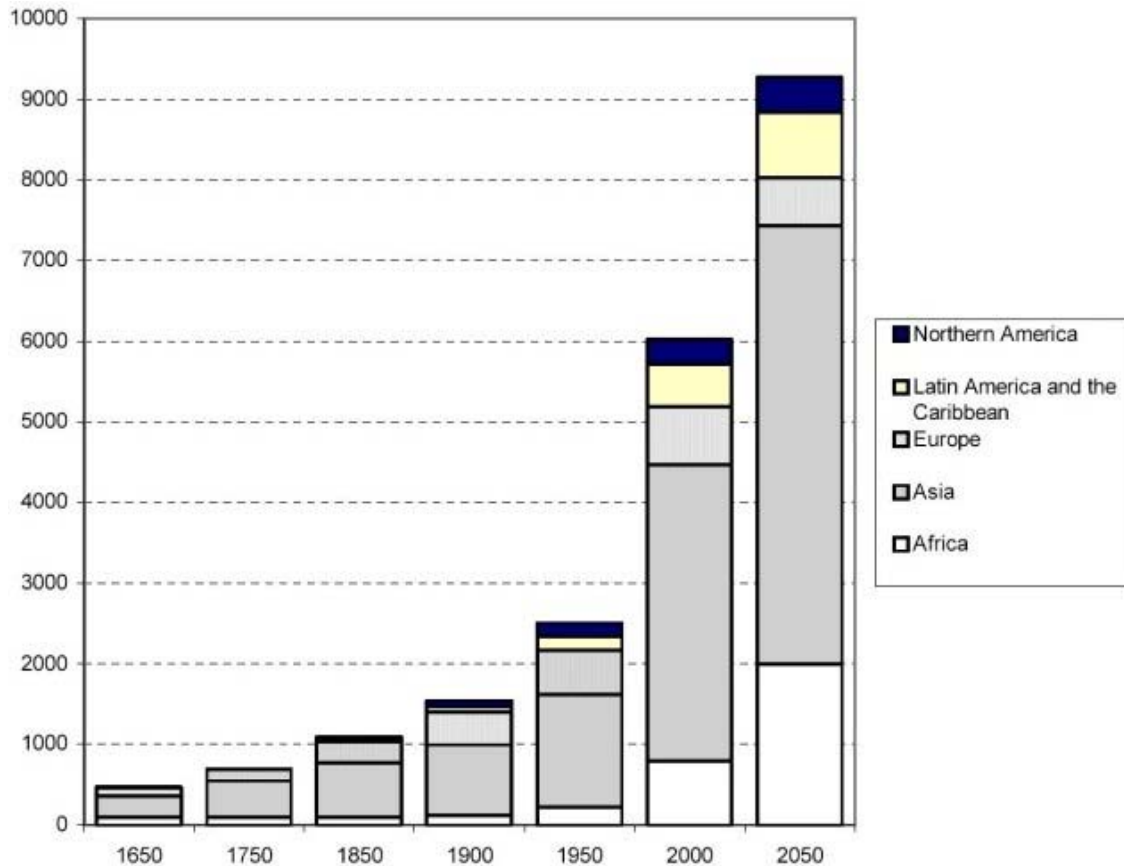


Figure 1. Population of major areas of the world, 1650-2050 (millions)

In the second half of the 20th century in the countries of the South rapid decline of mortality with lagged fertility decline boosted population growth, particularly in the 1960s. Between 1950-1975 and 1975-2000 the average annual growth rates declined everywhere. Population growth in Asia and Latin America and the Caribbean slowed down as a result of the fertility decline. Average annual population growth rates in Asia and Latin America peaked in 1965-1970 at 2.4 and in 1960-1965 at 2.8 per cent, respectively. By the end of the 20th century they declined by 1.0-1.2 percentage points. Africa, where the fertility transition started several decades later, experienced its peak population growth rate in 1980-1985 (2.9 per cent); although population growth started to slow down afterwards, in the end of the 20th century it still was higher than anytime in Asia. The largest declines in relative terms were experienced by Northern America and Europe, where the rates of population growth dropped by slightly over a quarter and by nearly two-thirds, respectively; this happened because fertility decreased to unprecedented levels that have been never anticipated. The rate of population growth in Europe in the last quarter of the 20th century (0.3 per cent per year) was the slowest since the 17th century. Continuing immigration and higher than European fertility

helped to sustain in Northern America the rate of population growth (1 per cent) thrice that of Europe.

The trends in the annual population increments do not mimic the trends in growth rates. In most countries, the population increments start to decrease well after the growth rate peaks. During the last decades, the declining level of world total fertility has been the key determinant of the slowing pace of population increase. However, because of the built-in inertia of population growth when fertility has remained high for long period, reductions of fertility do not translate themselves immediately into equivalent reductions in the number of births or of the birth rate. Owing to high fertility in the past, the size of female cohorts of reproductive age when the transition to lower fertility starts is usually large. Even though each woman has fewer children on average than women in the previous generation, the total number of births to women experiencing the transition will almost certainly surpass that to women in the pre-transitional stage. Consequently, the number of births will continue to rise long after fertility decline takes hold. For instance, the number of births in the South (representing 90 per cent of the world total) rose more or less steadily until 1985-1990 and started to decline in 1990-1995. In the North the built-in inertia of population growth was exhausted for long time while fertility kept decreasing, notwithstanding the baby boom of the 1950-early 1960s. As a result, the number of births in the more developed regions has been decreasing intermittently during the second half of the 20th century.

The number of deaths results from the level of mortality, the size of the base population and its age structure. In the less developed regions the improvements of survival and the rather young and stable population age structure for a long period outweighed increasing population size in that the annual number of deaths continued to decrease. Since 1980-1985 this trend reversed. In the North population ageing coupled with population increase (albeit slow) outweighed improvements in longevity, which led to steady increases in the number of deaths. Finally, the interplay the fertility and mortality levels and population size shaped the trends in the annual population increments and the rates population growth.

The population increments in the South, whose average population growth rate peaked at 2.5 per cent per year in 1965-1970, increased from 316 million during that period to the ever-reached maximum of 397 million in 1985-1990. In the North the peak rate of population growth was attained in the first half of the 20th century, but the population increases grew until 1955-1960; in the ensuing 40 years the 5-year increments decreased from 52 million to 17 million.

As a result of these processes the world population distribution shifted. In 1950 almost a quarter of mankind lived in Europe, while 50 years later the Europeans' part dropped by 10 percentage points. In 1950 the Europeans were 255 times more numerous than Africans but by 2000 Africa became a more populous continent. In 1900 the demographic size of Latin America and the Caribbean was 22 per cent smaller than that of Northern America, but a hundred years later it became 65 per cent larger. The relative weight of Asia increased from 56 in 1950 to 61 per cent in 2000, while the share of Northern America decreased, for the first time in 400 years (see Table 1).

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Bibliography

Calot G. and Sardon J.-P. (1999). Les facteurs du vieillissement démographique. *Population*, Vol. 54, No. 3, May-Jun 1999. 509-52 pp. Paris. [An authoritative exposé of theories of population ageing].

Fuchs R. J., Brennan E., Chamie, J., Lo, Fu-chen and Uitto J. I. (1994) *Mega-city growth and the future*. 1994. vii, 428 pp. Tokyo: United Nations University Press. [Analysis of the dynamics of largest cities of the world].

Ness I. and Ciment J. (1999). *The encyclopedia of global population and demographics*. 1999. vii, 967 pp. Armonk, New York: Sharpe Reference. [A useful reference book]

Thumerelle P.-J. *Les populations du monde* (1996). 384 pp. Paris: Editions Nathan (Série Géographie) [An instructive description of national populations].

United Nations (1973). *The Determinants and Consequences of Population Trends*. Volume I, xvi, 661 pp. New York: United Nations (Sales publication E.71.XIII.5) [Review of population and urbanization trends on the world and regional levels from the prehistoric times until the mid-20th century]

United Nations (2002). *World Urbanization Prospects. The 2001 Revision*. New York: United Nations [Estimates and projections of the distribution of the population between urban and rural areas and in cities, consistent with the United Nations total population estimates and projections].

United Nations (forthcoming 2003). *World Population Prospects. The 2002 Revision*. New York: United Nations [An ultimate source of consistent population estimates and projections for all countries and areas of the world].