

Population ageing will be faster in the South than in the North

Gilles Pison*

The countries of the North are concerned about population ageing, as if it were a phenomenon specific to the industrialized world. But as Gilles Pison explains, the trend is global. Though only beginning in many Southern countries, population ageing will occur much faster in the South than in the North, and raises many challenges that must be addressed without delay.

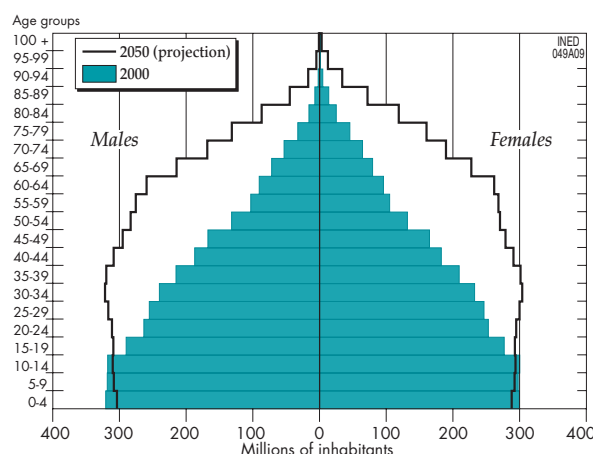
The world population is ageing. Now that families are getting smaller and people are living for longer, the proportion of adults and old people is increasing while the proportion of young people is declining (see Box). Unless large families once again become the norm – an unrealistic long-term option, resulting in unlimited population growth – this ageing trend is inevitable. Population ageing is affecting the entire planet, but has not reached the same stage everywhere. In many Southern countries it is just starting, but will become more acute over the coming decades. Will it follow the same pattern as in the Northern industrialized nations?

◆ A global trend, but varying in degree

In 2050, the world population pyramid should have practically the same base as today, but will become much more top-heavy as the number of adults and old people increases [1] (Figure 1). Persons aged 65 and over are forecast to triple in number, for an overall population increase of just one-third, and even a slight decrease (–5%) in children aged under five. The degree of population ageing varies between continents and between countries, depending on the timing of their

demographic transition (see Box). In Europe and the United States, the first regions of the world where this transition occurred, the process is well under way, as shown by the shape of their population pyramids, and is set to continue over coming decades (Figure 2). In China, ageing has already begun and its pyramid has a narrow base, since the younger cohorts are smaller than those in middle age. But old people at the top of the pyramid are few in number as yet. In India, the

Figure 1 – World population pyramid in 2000 and 2050



(G. Pison, *Population & Societies*, 457, INED, June 2009)

Source: United Nations, *World population projections (medium variant)* [1].

pyramid still has a wide base, although the size of the younger cohorts is levelling off. Nigeria, for its part, has a triangular population pyramid, with cohort sizes that increase steadily towards younger ages. In this country, population ageing has yet to begin, but it will happen eventually, as elsewhere across sub-Saharan Africa.

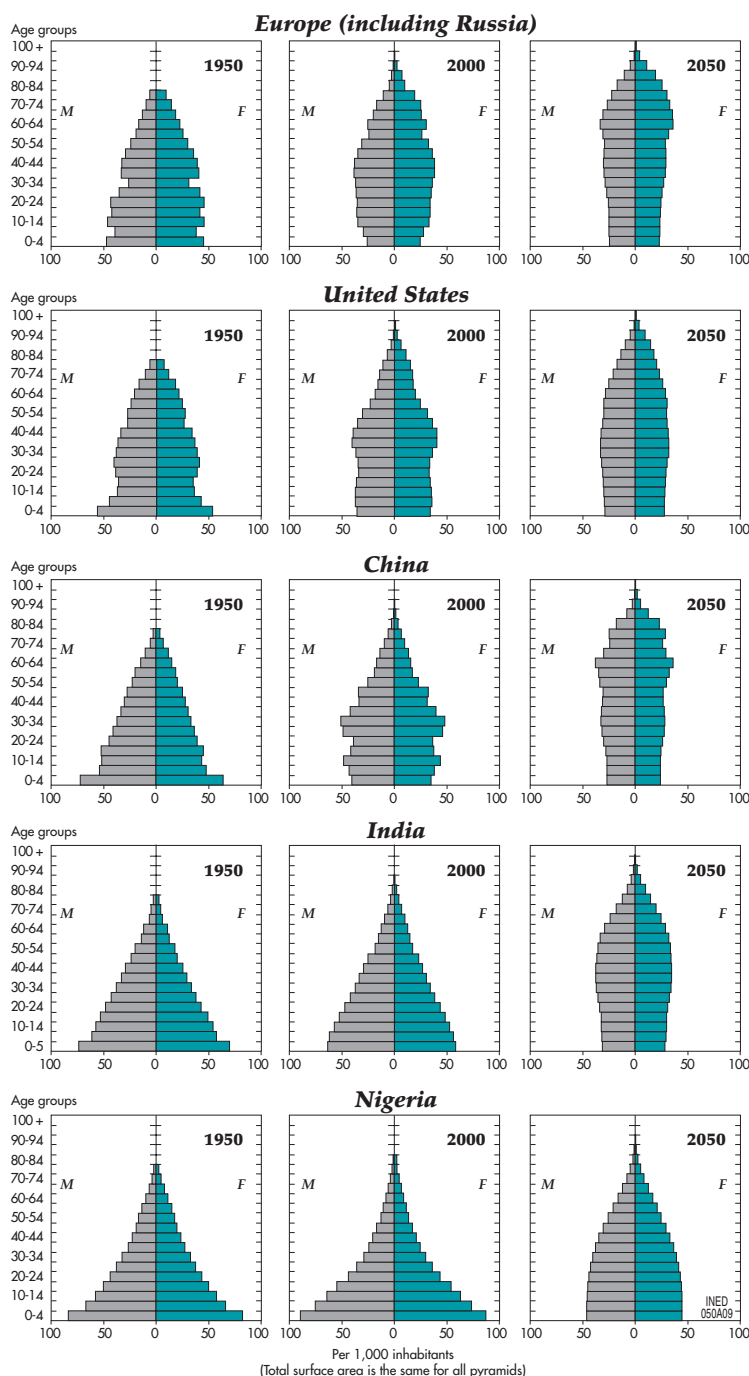
◆ **Median age that varies between countries from 15 to 43 years**

An indicator of the degree of population ageing in a country is the median age, which separates the

population into two equal halves: the younger half and the older half. According to the United Nations, the median age of the world population in 2005 was 28 years [1], i.e. half of humankind is above this age, and half below. Comparing the different continents, we see that median age is highest in Europe (close to 39 years in 2005) and lowest in Africa (19 years) (Figure 3). It ranges from 15 to 43 years between countries. The population of Japan is the world's oldest, with a median age of 43 years in 2005 (Figure 4). That of China, though younger, has a pyramid with a narrow base, like Japan, but also with a more pointed top, which explains its

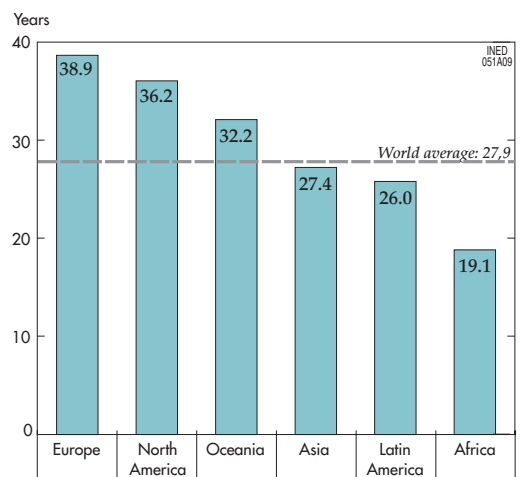
lower median age (33 years). In Iran, on the other hand, the median age is 10 years lower (23 years in 2005). In this country, although the population is very young, the base of the pyramid is very narrow. This reflects the rapid fertility decline through the 1980s and 1990s, when the number of children per woman plummeted from 7 on average in 1984 to 2.5 in 1996. By 2006, it had fallen to 1.9 [2, 3]. With a median age of just 15 years, Uganda is the opposite example of a country with a very young population which has recently become even younger. Fertility remains high and child mortality is lower than in the past, so the proportion of children in the population is still rising. But the ageing process will begin when fertility starts to fall. Under the United Nations medium variant projections, the proportion of persons aged 65 or above (2.6% in 2005) is expected to reach 4.1% by 2050. France, with a median age of 39 years in 2005, and the United States (36 years) are two examples of pyramids with bases in the shape of a tree trunk, that are neither narrowing nor broadening. Population

Figure 2 – Population pyramids of selected countries or regions, 1950 to 2050



(G. Pison, *Population & Societies*, 457, INED, June 2009)
 Source: United Nations, *World population projections (medium variant)* [1].

Figure 3 – Median age of the population on the different continents (in 2005)



(G. Pison, *Population & Societies*, 457, INED, June 2009)
 Source: United Nations [1].

Figure 4 – Population pyramid and median age in selected countries (2005)

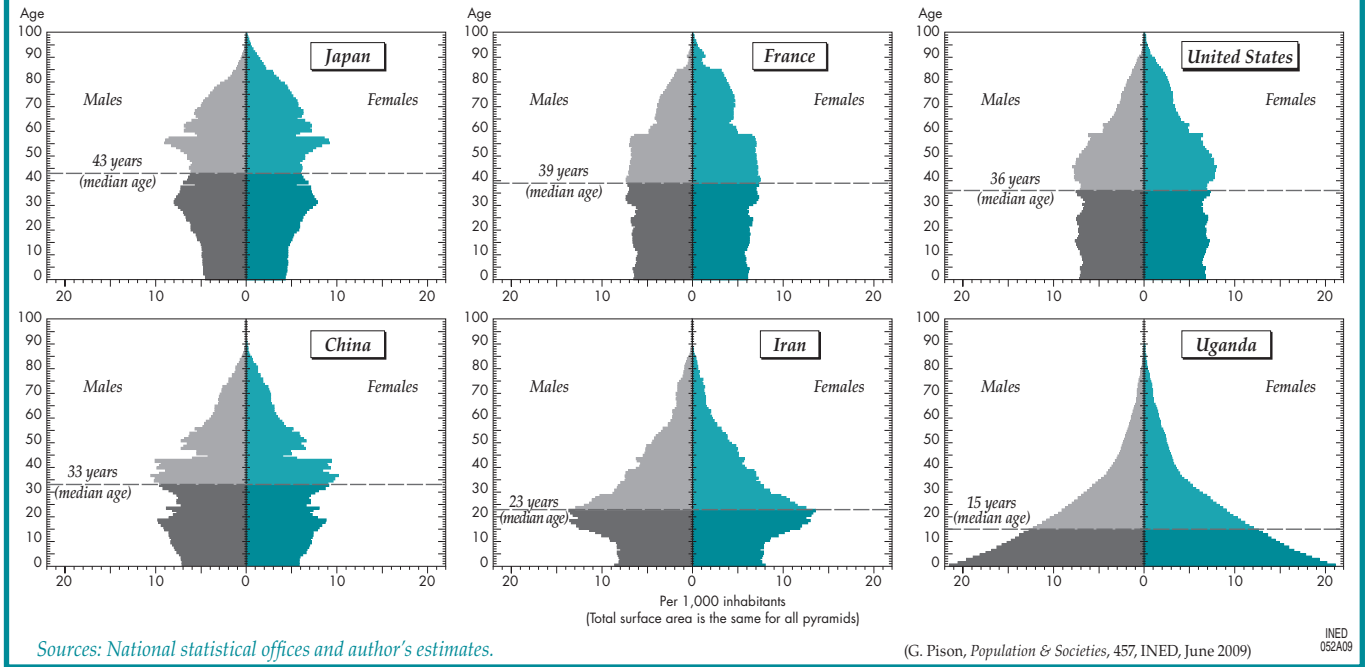
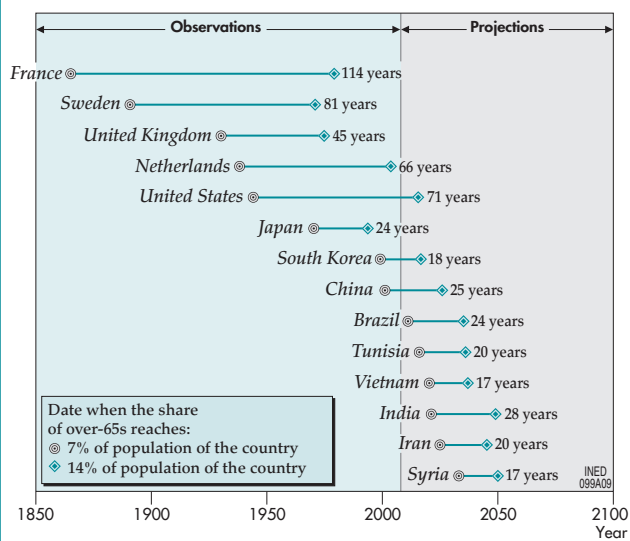


Figure 5 – Speed of population ageing in selected countries (time taken for the proportion of over-65s to increase from 7% to 14%)



ageing is already well advanced and is set to continue, due to increasing life expectancy, but the process will be slower than in many developed and developing countries.

◆ **An expected doubling of the proportion over-65s in the South over the next 20 to 30 years**

An indicator of the speed of demographic ageing is the time it takes for the proportion of persons aged 65 and above to double in a population, from 7% to 14% for

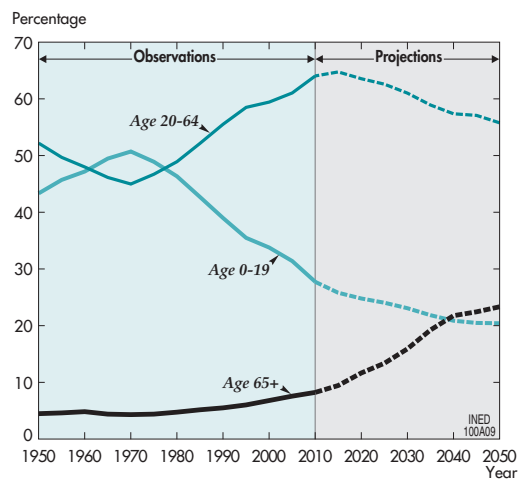
example. In France, the first country affected by population ageing, this doubling took more than a century (between 1865 and 1979) (1), while in China, where the demographic transition was much faster, it will probably take just 25 years (between 2001 and 2026) [5] (Figure 5). It took only 40 years in China for infant mortality to drop from 200 per thousand to just 30 per thousand (from 1950 to 1990), compared with 150 years in France (from 1800 to 1958). It took just 12 years in China for fertility to halve, from 5 to 2.5 children per woman (from 1972 to 1984), compared with a century and a half in France (from 1760 to 1910). This same process of rapid ageing is starting to take hold in all Southern countries, for the very same reasons, and in some it will happen even faster than in China. In Iran, the proportion of over-65s is set to double from 7% to 14% within 20 years, and in Vietnam and Syria within 17 years.

◆ **Anticipating future demographic ageing**

In most Southern countries, the proportion of children in the population has fallen sharply because of lower fertility, while the proportion of old people has so far increased only slowly. As a result, the share of working-age adults in the total population has never been so high. In China, for example, the 20-65 age group, which represented only 45% of the population in 1970, has increased rapidly since then, up to 65% today (Figure 6). This situation will last for a few decades only – until these large cohorts reach retirement age and start

(1) The proportion of over-65s continued to increase thereafter, reaching 16.7% of the population in 2008. It could rise to 26.2% in 2050 according to the INSEE medium projections [4].

Figure 6 – Age distribution in China (%)



(G. Pison, *Population & Societies*, 457, INED, June 2009)

Source : United Nations [1].

swelling the ranks of the elderly population—and provides a window of opportunity for Southern countries to develop their economies while preparing for the future growth in the proportion of old people. Some countries where fertility has fallen well below replacement level are already becoming aware of the difficulties ahead and are looking for ways to raise fertility.

Of course, the Northern countries will be forced to adapt their pension systems if they want to guarantee living conditions for old people that are as comfortable as those of today. As demographic trends are slow and reforms are progressive, society is capable of anticipating change and adjusting to the new situation. The pensions issue is being widely debated and there is an overall consensus about the types of adaptation that are needed. The true challenge lies in the countries of the South, where population ageing will progress at a much faster pace. Family solidarity is waning in these countries, and has not yet been replaced by social protection in the form of pension systems. Yet new forms of collective welfare will be essential to ensure that the adults of today do not end their days in poverty. The question of intergenerational solidarity will one day need to be addressed on an international level. ■

REFERENCES

- [1] UNITED NATIONS – *World Population Prospects: the 2008 Revision*, 2009 - (<http://esa.un.org/unpp/>).
- [2] Mohammad J. ABBASI-SHAVAZI – “The fertility revolution in Iran”, *Population & Societies*, 373, November 2001, 4 p.
- [3] Meimanat HOSSEINI-CHAVOSHI, Mohammad J. ABBASI-SHAVAZI and Taha NOUROLLAHI – “Validity of the own-children method of fertility estimation: Results from the Iran 1986, 1996 and 2006 censuses”, Paper presented at the International Population Conference, Marrakech, 2009.
- [4] Isabelle ROBERT-BOBÉE – Projections de population 2005-2050, France métropolitaine, *INSEE Résultats*, 57 soc., 2006 (<http://www.insee.fr/>).
- [5] Gilles Pison – *Atlas de la population mondiale*, Éditions Autrement, 2009, 80 p.

Population ageing: definition and causes

Population ageing, or demographic ageing, occurs when the proportion of old people in a population increases and the proportion of young people falls. This phenomenon, which concerns a population group, is different from the biological ageing process that affects individuals.

Population ageing is the consequence of the decline in fertility and the increase in length of life that has taken place, or is under way, across the world. Under the traditional demographic regime that prevailed until recently, fertility was high - around 6 children per woman - and mortality was also high. A lot of children were born, but the majority died before reaching adulthood: in mid-eighteenth century France, 6 in 10 died before age 20. Mortality has decreased since then, thanks to progress in hygiene and medicine and to economic development, and couples now limit their family size. These changes, which constitute the demographic transition, laid the foundations for a new demographic regime combining low fertility (two children per woman in France at the start of the twenty-first century) and low mortality (only one newborn in 100 dies before age twenty today). Under both regimes, births and deaths are balanced and the population remains stable or grows only very slowly. They have very different age distributions, however. Under the traditional regime, the population was very young, with almost 44% of the population aged under 20, and just 6% aged 60 or over. The new demographic regime, on the other hand, if it continues over the long-term, will eventually lead to an older age distribution, with around 25% of under-20s and 25% of over-60s. Demographic ageing may continue, however, if length of life carries on increasing. In this case, the population pyramid will have the same base, but its tip will be pushed upward. Ageing may also continue if fertility does not stabilize at the replacement level of two children per woman but drops even further. In this case, the annual number of births will decrease, and the population will both grow older and start to shrink.

Note that the term «population pyramid» which originally referred to the triangular shape of population distribution, is no longer an accurate name for this type of graph. Although the term is unlikely to change, “pipe” or “spinning top” would be a more appropriate description today.

For a more detailed explanation, see the “Population pyramid” and “Population simulator» animations on the INED website (www.ined.fr, “All about population”).

ABSTRACT

The world population is ageing. Now that families are getting smaller and people are living for longer, the proportion of adults and old people is increasing while the proportion of young people is declining. Unless large families once again become the norm – an unrealistic long-term option, resulting in unlimited population growth – this ageing trend is inevitable. Population ageing is affecting the entire planet, but has not reached the same stage everywhere. In many Southern countries it is just starting, but will become more acute over the coming decades. It will also take place more quickly than in the North. In China, for example, the proportion of over-65s is forecast to double from 7% to 14% within 25 years, and in Vietnam within just 17 years, while in France this doubling was spread over a period of more than a century.