

POPULATION, ECONOMIC AND SOCIAL DEVELOPMENT

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Keywords: Technological progress, mortality decline, population explosion, global giants, asianisation; fertility decline, below-replacement fertility, the reversal of the age pyramid, income status, human development.

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Summary

The demographic ranking of nations is rapidly changing to the detriment of old nations of the West. Among the top twelve demographic global giants, six were European in 1900, whereas only one remains in the list by the year 2000 : the Russian Federation. Thanks to a preserved fertility (about 2 children as an average per woman) and to large migration streams, the position of the USA remains unchallenged, after China (1.3 billion people) and India (1 billion).

The demographic transition process illustrates the convergence between industrial countries and developing countries : mortality and fertility are falling much faster in Asia or Latin America than it was the case one century ago in Europe. The situation of Africa is ambiguous, depending on the parts of the continent : in the South as well as in the North, the fertility decline is advanced. In Japan and Europe the countries have experienced decades of (much) below-replacement fertility ; policymakers will face totally unpredicted challenges : the fall in the number of youth and young adults, a decline on the potential labour force and a complete reversal of the age pyramid. Among the G7 economics, assessed through the GNP at purchasing power parities, only

two (China and India) do not belong to the official group, and according to recent trends, three additional countries will soon join them : Brazil, Mexico and Indonesia ; a political revision will be needed.

However, very few countries belong to the intermediate group of "higher middle" countries.

1. Introduction

The XXth century has been the century of technological progress. The fate of humanity has been deeply affected by this technical revolution : it improved considerably through permanent and accelerated waves of innovation in all domains, spreading from continent to continent. The first and, by far, the most important component of that performance is the struggle against mortality. If we put aside the few countries which are under the rule of ferocious dictators isolating their country and creating a climate of suspicion or civil war, a newborn baby has now a wide road to survival. In past societies, the probability to reach the age of 60 years, that is to cross all the stages of the life cycle was negligible : about 1/10 ; the common destiny was premature death. Now, the opposite tends to prevail worldwide : a new born baby is deemed to survive until the oldest ages, with a probability of 9/10 to be alive until at least the age of 60, and this both in advanced societies and middle income countries. Heavy youth mortality has been replaced by massive survival all over the life spectrum. This totally unexpected and nearly universal promise is widened and deepened by the possibility to enjoy life in good health with much less physical pain, hunger, malnutrition or long disease than in former generations of ancestors. The medical arsenal and socio-economic organization have improved as never before in such a short time span since the origins of human species. Such a sudden drop is the root cause of the population explosion experienced first by the European sphere (19th century) then by the rest of the world (XXth century and of beginning of the XXIst century).

This demographic revolution driven by the mortality decline was totally unanticipated in its extent and its consequences ; it contradicts the most famous name associated to demography : MALTHUS. Thomas Robert MALTHUS wrote an Essay on the Principle of Population (1798), in which he predicted a bleak destiny to human populations, threatened by permanent catastrophies themselves linked to the irrepressible propensity of people to multiply, and to the hard law of basic economics (subsistances grow slowly ; they are not elastic). In fact, contrary to CONDORCET who wrote a few years before, an optimistic book on the progress of human condition and whom MALTHUS explicitly wanted to refute, he was totally wrong ; he did not imagine any progress in average life duration. Most thinkers of his time were more imaginative and thus closer to the coming reality, namely the founder of modern economics, Adam SMITH (The Wealth of Nations, 1776) ; Adam SMITH wrote about technological progress and the division of labor caused by population growth : leaving in the same country after his predecessor, witnessing under his own eyes the industrial revolution of England, MALTHUS missed the point. The future could forget his name, associated with a total lack of confidence in the ability and adaptability of human beings, and progressively rehabilitate more inventive, less famous -but more serious- contemporary ones.

The population upsurge induced by the secular mortality decline is however unique and transitory. In the time span of only one century, from 1900 to 2000, the population of the Earth has nearly quadrupled from 1.6 to 6.1 billion people. Such a shift means a sudden change of scale : in 1900, the world population total was not larger than the present population of Chinese civilization living in China proper, in surrounding countries (Japan, Korea, Indochina, etc) or in the various diasporas inside and outside Asia.

2. The demographic hierarchy of nations

Let us select the 12 most populated countries of the world living on constant (present) territory. Since millenia, the Chinese and the Indian people are, by far, the two dominant heavyweights. This will remain true in the foreseeable future. A second important point to mention is that it is not sure at all -as it is commonly repeated in the current literature on Asia or on geopolitics- that the Indian population will surpass the Chinese one by the middle of the XXst century. There are many reasons to believe that the potential growth of the Chinese population is underestimated (the number of births is severely underregistered, due to the coercive nature of fertility control, and the mortality is probably much higher than according to official figures, hence a wider margin for population increase). In any case, the cumulated population of these two population entities will continue to represent about 2/5 of the world total.

If we put aside this permanent feature of the history of civilization (the invariable quantitative predominance of China and India), there is a tremendous re-ranking of the position of the other great demographic powers. In 1900, after a sustained secular population expansion -the population was multiplied by 5 between 1700 and 1900- Russia exhibited the unprecedented population growth rate of the time (2 % per year) and also the highest total fertility rate in the world : 7.5 children as an average per woman by 1900. Hence Russia was pushed towards the front of the ranking, much ahead of France which was for many centuries the most populated country of the West. In the texts of classical historians, France was viewed as the "full sphere" of the West and usually opposed to China, which was considered as the "full sphere" of the East. Both countries had-given the state of agricultural technologies in the XVIIIth century and before- reached heavy (and threatening) human densities.

But the burst of the USA is even much striking than that of Russia (table 1).

1900		1950		2000		2020	
1. China	475	1. China	555	1. China	1 280	1. China	1 462
2. India	237	2. India	358	2. India	1 014	2. India	1 272
3. Russia Fed.)	85	3. USA	152	3. USA	278	3. USA	317
4. USA	76	4. Russia (Fed.)	103	4. Indonesia	212	4. Indonesia	262
5. Japan	45	5. Japan	84	5. Brazil	170	5. Pakistan	244
6. Germany	43	6. Indonesia	79	6. Pakistan	156	6. Brazil	210
7. France	41	7. Germany	68	7. Russia (Fed.)	147	7. Bangladesh	170
8. United Kingdom	39	8. Brazil	53	8. Bangladesh	129	8. Nigeria	168
9. Indonesia	38	9. United Kingdom	51	9. Nigeria	112	9. Russia (Fed.)	141
10. Ukraine	37	10. Italy	47	10. Mexico	99	10. Mexico	125

11. Italy	34	11. France	42	11. Vietnam	80	11. Japan	124
12. Bangladesh	29	12. Bangladesh	41	12. Philippines	76	12. Ethiopia	103
Sources : - Mc EVEDY, C. and JONES, R. (1978) : <u>Atlas of world population history</u> , Allen Lane, London.							
- United Nations (1998) : <u>World Population Prospects. The 1998 Revision</u> , New York.							

Table 1 : Global giants : the 15 top populations 1900-2020

1) the new nation undertook its first population census in 1790 : the population was then only 4 million, among which nearly half were African slaves ; 110 years later, in 1900, it has jumped to 76 million, that is approximately twice the size of France, the former giant of the West. Then on the list, come four countries with similar numbers (around 40 million people) : Japan, Germany, France and U.K. Like Russia and the USA, these four nations are at that time engaged in a process of imperialism, with widespread international rivalries, leading to open wars, and also with massive -and somewhat brutal- colonization of the non-Westernized parts of the planet. Japan authorities had the cleverness to borrow the institutions and the technologies of Western Europe, in order to maintain independence ; in 1905, Japan was engaged in a war against Russia ; it won, and she was considered as the first "yellow" nation able to beat a "white" one. This phase of European imperialism finally resulted in a splitting of the planet between these few nations favoured by their numbers and their technological superiority, namely in the field of weapons.

At the time, all Africa, the Middle East and the largest share of Asia were under the rule of external (western or westernized) powers. The main finding of table 1 relating to the year 1900 is clear ; the European domination as shown by sheer numbers is spectacular : among the 12 top populated countries, half (6) are European. Here is the corresponding list, ranked by the order in terms of population : Russia, Germany, France, U.K., Italy, Ukraine.

Fifty years later (1950), the USA have definitely overtaken Russia, with a difference of 50 % (152 million people as compared to 103 million). Japan is also emerging with a population equivalent to that of Russia half a century before (84 million). All these quantitative transformations had a tremendous impact on the world political order in the following period, namely during the second half of the 20th century. It is a pure coincidence if the USA finally became the unique superpower, after a long struggle with the so-called Soviet Union (that is Soviet Russia), which suddenly collapsed in 1989-1991 ? The era of the bipolar order (US capitalist zone versus Russian socialist world) ended a decade ago, the Russian collapse happened without war : the imbalance between the two nations was too great. Is it also a mere hazard if, in the 1980s, the US political authorities were fearing a commercial and economic leadership of Japan, then considered as an invincible challenger and a potential number one ; Japan was becoming a strong rival for supremacy and hence generating an unprecedented wave of xenophobia in peace time. But the last decade (1990s) was marked by a recession announced by the depression of Japanese fertility which by 1960 became the lowest in the world. Demographics is part of the strategic equation. Numbers are a precondition of might, a substratum for the durability of domination ; long-term population dynamics play a crucial role in international politics.

Similarly, the relative German regression in numbers heralded the end of German predominance in Europe (in 1942, in the core of the second world war, the vast majority of the old continent was under the nazi rule). Here again, there is a striking symbol ; following the sharp fertility decline of the 1900-1933 period (in 1900, Germany was the most prolific nation of western Europe with a total fertility rate of 5 children per woman but by 1930, the German fertility was one of the lowest in the world , 1,7 child as an average per woman ; in 1950, Germany (n° 7) is listed between two nations of the third world : one of Asia (Indonesia, n° 6), one of Latin America (Brazil, n° 8). Both of these latter countries are now commonly viewed as emerging regional powers, with middle income levels.

UK, France, and Italy fall at the bottom of the ranking. The population of the U.K., which like its Russian counterpart, experienced the most rapid growth during the nineteenth century, had tended to stagnate during the following century. The British Empire, which used to cover all continents had, then, began to dismantle. The Indian independence was proclaimed as soon as 1947 ; here again, the historical symbol is strong : India was the "jewel of the British crown". Between 1900 and 1950, the population of India had increased by 120 million people while the corresponding growth for the U.K. was only 12 million, that is ... 10 times smaller. Demographic divergences contribute to reshape the worldmap. The population explosion in Europe produced a massive emigration and colonization (19th century) ; symmetrically the European population slowdown and stagnation (XXth century) combined to the population explosion in other continents, caused the opposite movement of decolonization and growing immigration.

Now, by the year 2000, the population growth has gathered momentum among the two demographic giants (China and India). The fall of mortality has liberated enormous population gains : the chinese population is presently close to 1.3 billion ; it has increased by more than 700 million since 1950. In India, the number of inhabitants has crossed the symbolic mark of 1 billion in 1999 and the population increase over the period 1950-2000 reaches 650 million. The present ratio between the population of India and the population of the UK is close to 20, whereas in 1900, it was only 6 ; since 1950, the additional population of India was 656 million opposed to only 6 in the U.K., that is a relative discrepancy of 100 to 1. Clearly, unequivocally, the British supremacy was unsustainable.

The contemporary demographic ranking is entirely new. Russia, which was number 3 at the opening of the century (1900) has moved down to the 7th position. Its absolute population growth during the XXth century was only 44 million : civil or international wars, famines, purges, massacres and the Gulag have combined to contribute to this sudden break with the past population dynamism. On the contrary, the absolute population growth of the long rival nation, the USA, was 202 millions, that is nearly 5 times larger. On the basis of the most likely population trends, the population of the USA will soon (by the year 2005) be double that of Russia ; that means a totally new deal, accelerated by the loss of the former Russian colonies on Western and Southern borders. In the year 2000, the USA have a population of 278 million, larger than that of India in 1900 (237 million). There is only one nation in the West with a fertility level close to the replacement line (2.1. children per woman) : the USA . The US fertility

during the last two decades is approximately 2.0 children per woman, that is much above Western Europe and Japan present standards (1.4-1.5) ; this discrepancy has no meaning in the short term, but it will have a decisive impact on numbers, age structure and economic competitiveness in the longer run. This difference in reproductive behaviour has probably something to do with the pioneer spirit, massive immigration and religious creed. India and China are still very poor and will not likely be able to compete with the US economy before a long time. However, one has not to underestimate -as it is so common- the potential of India, mainly through the connection with the Anglo-saxon world.

In the year 2000, if we except Russia, all countries of Europe have disappeared from the list of the top twelve most populated nations. The renewal is impressive. The present list is dominated by Asia, which has six representatives among the twelve : China, India, Indonesia, Pakistan, Bangladesh and Vietnam. One could be tempted to say that the USA have siphoned the population surpluses of Europe, but it is not true any more for the present century, since : (i) European immigration became very small after the first world war (ii) after the mid-1960s, European migration to the USA was marginal (iii) the European fertility rates among birth cohorts born since the beginning of the XXth century has fallen below the replacement level, thus progressively eliminating the population surpluses which prevailed among former centuries.

Similarly, Japan, which was still n° 5 in 1950, drops to the 9th position in 2000. One emerging nation of Latin America is much ahead (Brazil, n° 5), and another one Mexico, follows (n° 11). In spite of massive emigration streams to the USA, the population of Mexico has been multiplied by a factor of 7 during the century : 13.5 millions in 1990 ; 99 millions in 2000. The incorporation of Mexico in the Free Trade Association of Northern America will give a further impetus to the economy of Mexico.

Let us now have a look on the ranking two decades ahead, in 2020. The Asianisation process tends to strengthen and renew. Among the 5 top populated countries of the world, 4 are Asian : China, India, Indonesia and Pakistan. Their cumulated population reaches the impressive amount of 3.24 billion, that is more than the total population of the Earth in 1960 (3.0 billion). Indonesia and Pakistan should then have crossed the threshold of 200 millions which was historically limited to China and India ; their added numbers give a total of half a billion by 2020. There remains only one European country in the list of the top 12 : Russia, but its population is supposed to decline over the next two decades (minus 6 millions), according to the medium variant of the latest U.N. population projections. The opposite evolution is true for Africa ; in 2020, two African countries appear in the international hierarchy : Nigeria (number 8) and Ethiopia (number 12). Both of them have surpassed the limit of 100 million inhabitants which, until the beginning of the 20th century, was the only privilege of the two eternal giants : China and India.

More than ever, fertility is now the key element in population convergence or divergence. Fertility differential have never been so large as today ; in some countries, the total period fertility rate has fallen to 1 (Southern and Central Europe) whereas in others it is still close to 7 or 8 (Yemen or Central Africa, for example), thus a ratio of 8 to 1 ; in the past, the international differences tended to remain usually within the range

of 1,5 or 2,0 (at a maximum) for the ratio. With a persisting very low fertility, the native population tends to vanish rapidly and immigration needs become so huge that they can soon be out of control. Reciprocally, when the fertility is extremely high, the rapidity of the population threatens the internal stability and, in the long run, the regional peace. Let us therefore switch to the study of fertility trends.

3. The fertility decline : a universal - but often delayed phenomenon

Fertility is the main factor affecting future population prospects ; let us consider its levels and trends by region first, then by continent and finally, for the case of Africa, where huge disparities are appearing, by geographic area.

3.1 The convergence between "more developed" and "developing" countries

Until 1970, the fertility difference between the "more developed" world and the "developing" one is very deep, greater than 3 children as an average per woman and even 3.5 children by 1965. Therefore, there are two clearly distinct universes, each with its own demographic regime : slow population increase and moderate fertility in the industrial world ; rapid population growth and high fertility (around 6 children per family) in the "developing" world.

Since the mid-1960s, this simple dichotomy has disappeared and a growing spectrum of fertility levels has emerged, covering a regularly widening set of values. In the "developing" countries, the fertility decline is continuous, regular and rapid, so that the weighted total fertility rate has fallen from 6 to 3 between 1965-1970 and 1995-1990, that is an average speed of fall of 1 child per decade ; the drop went further than usually expected in current U.N. population prospects. We can consider that the path to replacement fertility will soon be under achievement. In the industrial world, the corresponding fertility rate dropped from 2.7 children per woman at the beginning of the 1960s to 1.6 in 1995-2000. The difference between the LDCs and the MDCs shrinks from 3.6 in 1960-65 to 1.4 in 1995-2000 (table 2).

Period	World Total	More developed Countries (MDCs)	Less developed Countries (LDCs)	Difference LDCs - MDCs
	(1)	(2)	(3)	(3) - (2)
1950-60	4.95	2.77	6.08	3.31
1960-65	4.95	2.67	6.01	3.34
1965-70	4.90	2.36	6.00	3.64
1970-75	4.48	2.11	5.43	3.32
1975-80	3.92	1.91	4.65	2.74
1980-85	3.58	1.84	4.15	2.31
1985-90	3.34	1.83	3.79	1.96
1990-95	2.93	1.68	3.27	1.59
1995-2000*	2.71	1.57	3.00	1.43
Total absolute decline from				
1950-60 to 1995-200	- 2.24	- 1.20	- 3.08	

* Provisional estimate

Source : United Nations (1998) : World Population Prospects. The 1998 Revision, New York.

Table 2 : Total fertility rate : a worldwide view, 1950-2000
(average number of children per woman)

Globally, the ongoing fertility decline in the developing world is approximately twice more rapid in the "developing" world than in the European population sphere at the same stage of the demographic transition (1870-1930). The mean situation of the "developed" countries in the 1950s is presently that of the "developing" world ; this shows the importance of the demographic change that occurred since the turn of 1970 ; the alarm claims on the urgency of fertility control were necessary in the past few decades, but they have lost their pertinence today except in a smaller and smaller number of cases. The conventional cleavage between "developed" and "developing" countries, still used in the UN classification which, after all, was only reflecting the income difference between the European sphere and the rest of the world, has lost its demographic and economic meaning as far back as the 1960s : the soviet bloc moved down (aggravation of mortality, economic stagnation), Eastern Asia experienced its economic take-off ; fertility in Thailand, Korea, Taiwan, Kazakhstan, Java, Western Turkey, and even Southern India (Kerala, Tamilnadu), etc, slipped gradually below the replacement level. The internal scale of incomes was widening, with spectacular reordering : after the collapse of communism, economic data on the Soviet empire, namely its core, Russia, underwent drastic downwards revisions (due to former falsification, present chaos and disorganization) ; the giants of Asia (China, India, Indonesia) and of Latin America awakened while many African countries which yet had more natural resources sank in anarchy, misery, following political instability and corruption of the ruling elites. The demographic fate tended to diverge consequently. By the year 2000, some countries of sub-saharan Africa and of the Middle East exhibit a fertility rate that is two to three times higher than in similar countries -also Muslim and very poor- in Asia like Bangladesh or Indonesia.

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Biographical Sketch

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