

## **FOUR SURPRISES IN GLOBAL DEMOGRAPHY**

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Contemporary world population patterns are shaped by the "demographic transition" concept introduced to the field by the great demographer Frank Notestein several generations ago. That schema offers a stylized description of the great shifts in modern population patterns. Death and birth rates start out high, but more or less in equilibrium. Then, advances in knowledge and improvements in income result in broad declines in mortality, precipitating rapid population increase. Finally, socioeconomic development brings about sustained fertility reductions via voluntary, deliberate changes in childbearing patterns, at which point births and deaths once more come into balance.

While Notestein's schematic may still describe the human condition in broad stroke, today we can observe some important and surprising exceptions to these generalizations. Four of these unanticipated trends are (1) the rapid spread of sub-replacement fertility, (2) the emergence of unnatural gender imbalances among the very young, (3) sustained increases in death rates, and (4) American "demographic exceptionalism."

### **The rapid spread of "sub-replacement fertility"**

Sustained reductions in family size in the context of peace and social progress--were first witnessed in late eighteenth-century Europe. In the first half of the twentieth century, European countries unveiled another demographic first: non-catastrophic sub replacement fertility. During the interwar period, a number of European states reported fertility patterns that, if continued, would lead to an eventual stabilization and indefinite population decline thereafter, absent offsetting immigration. These low fertility regimens were entirely voluntary: heretofore, such low birth Rates had virtually always been attended by war, pestilence, famine, or disaster. Europe experienced a baby boom after World War II, but sub-replacement fertility has now returned with a vengeance.

To maintain long-term population stability, a society's women must bear an average of about 2.1 children per lifetime. According to projections of the U.S. Census Bureau, Europe's total fertility rate (or TFR--births per woman per lifetime) is about 1.4. Indeed, nearly all the world's developed regions--Australia and New Zealand, North America, Japan, and the highly industrialized East Asian outposts of Singapore, Hong Kong, Taiwan, and South Korea-- are reporting sub-replacement fertility. (Israel remains an exception.) But sub-replacement fertility is clearly no longer mainly a developed-nation phenomenon. If the Census Bureau's projections are roughly accurate,

just about half the world's population lives in sub-replacement countries or territories.

Apart from Mongolia, according to the Census Bureau, all of East Asia is sub-replacement, as are Thailand and Burma in Southeast Asia, Kazakstan and Sri Lanka in South-Central Asia, many Caribbean societies, and most South American countries.

Perhaps the biggest surprise, given received notions about the Arab/Muslim expanse, is the recent spread of sub-replacement fertility to parts of the Arab and the Muslim world. Algeria, Tunisia, and Lebanon are now sub-replacement countries, as is Turkey. And there is the remarkable case of Iran, with a current TFR of under 1.9, which is lower than the United States'. Between 1986 and 2000, the country's TFR plummeted from well over 6 to just over 2. If modernization and Westernization are the handmaidens of sustained fertility decline, as is often supposed by students of demography, both terms are apparently being given a rather new meaning.

There are no reliable methods for anticipating just how low fertility levels may sink, or how long sub-replacement fertility may persist in various locales. One consequence, however, is already clear: it will force a great aging of the populations affected.

All of the developed countries are already "graying." This is most pronounced in Japan, where, by the year 2025, it is expected that one out of nine people will be 80 or older. Japan's prospective aging is unprecedented, and the scale of the transformation suggests the enormity of the challenges that will accompany it. Japan, Europe, and North America are places where people traditionally got rich before they got old. In the decades ahead, many national populations are going to get old before they get rich.

China promises to be the most important case in point. Thanks to low levels of mortality, its population control program, and its now-low fertility, China is aging at a breathtaking velocity. Between 1975 and 2000, China's median age jumped from just over 20 to about 30; by 2025, it is projected to rise by nearly another decade. By then, it is quite possible that China's median age will be higher than America's. But China is much poorer than Japan or the U.S. were at every comparable stage of their aging processes.

China's rapidly aging population faces a looming triple bind. Apart from the family, China lacks any functional nationwide arrangements for pensioning its elders. Thus, a great many Chinese will have to continue to work into old age. But working life in China typically entails more physical labor, which does not favor the frail, than work in Japan or the United States. China's aging problem has the makings of a slow-motion humanitarian tragedy.

### **Unnatural gender imbalances**

China is also witnessing a strange, unnatural, and growing disproportion between its numbers of baby boys and baby girls, and it is not the only

country in which this is happening. In ordinary human populations, around 104-105 boys are typically born for every 100 girls. However, since the advent of its coercive one-child policy, China has broken this natural biological rhythm. Its 1982 census counted almost 109 baby boys for every 100 baby girls; by 1995, the reported ratio was up to almost 116 boys for every 100 girls, and by 2000, it was approaching 120:100.

This astonishing ratio could be a consequence of massive statistical falsification as parents bend the rules of the population program by concealing baby girls. If so, one would expect to see more normal sex ratios at slightly older ages: say, the years 1-4. But even here, China's registered ratio of boys to girls was about 121:100, and the ratio exceeded 130:100 in several provinces.

And China's mounting gender imbalance cannot be explained by poverty or lack of education. It has emerged in a period of extremely rapid development and pronounced economic progress. Moreover, higher female illiteracy rates correspond with lower imbalances: Better education for women is a predictor for greater gender imbalances.

China's population control program stands as an obvious suspect, since the imbalances did not emerge until after the plan was promulgated in the late 1970s, and the imbalances have grown progressively worse during the years of its implementation.

Yet this policy cannot be the sole culprit. In other parts of East Asia, including South Korea, Taiwan, Hong Kong, and Singapore -- none of which forcibly control population growth -- unnatural gender imbalances at birth have also been recorded in recent years. It may be that throughout East Asia we are witnessing a collision between an immensely strong cultural preference for sons, new regimens of sub-replacement fertility, and a diffusion of ultrasound and other technologies that permit prenatal gender determination. Skewed sex ratios at birth would be the inexorable consequence of this collision.

And the collision is not only happening in East Asia. Gender determination technology is now nearly universally available; sub-replacement fertility is fast becoming the planetary norm; and a strong son-preference has been expressed in a number of cultures worldwide. One of these is Punjab, India. In a major survey undertaken there a decade ago, when fertility levels were still well above replacement, women expressed a preference for a boy over a girl 10:1. And according to India's latest census, in that state's youngest age groups, there were 126 young boys for every 100 young girls.

That figure cannot be taken as an exact indication of gender imbalance at birth: differential mortality and/or migration, for instance, may have affected this reported outcome. Yet the true sex ratio at birth in Punjab may not be far different from the extraordinary disparities reported for the very young. Contrary to expectation, with increased affluence, education, and contact with the outside world in China, the gender imbalance has increased, and it is starting to do the same in the Caucasus; parts of Latin America and Eastern Europe; even subpopulations within the U.S.

The consequences of this growing gender imbalance will be felt when these children grow to be prospective husbands and wives. The "marriage market" will be unable to clear in locales where matrimony is the expectation, sub-replacement fertility the reality, and extreme gender imbalances the norm.

### **Sustained increases in mortality**

It has generally been assumed that with improved income, increased globalization, and the attendant spread of ideas, knowledge, and technology, mortality would gradually decline worldwide, and countries' mortality levels would gradually converge. Most of the twentieth century seemed to confirm such expectations. Between 1900 and 2000, global life expectancy at birth probably doubled, soaring from about 30 to well over 60 years. And from 1950 to 1980, there was a marked convergence of life expectancy between the more and less developed nations.

In the twenty-first century, it appears that major and pervasive health setbacks will be a characteristic feature of the global population profile. These steep increases in mortality do not seem to be transitory, but will probably continue for decades. By U.S. Census Bureau projections, over 40 countries are anticipated to have a lower life expectancy in 2010 than they did in 1990. The Bureau envisions a 20-year-long decline in life expectancy for those countries. Clearly these are no trivial interruptions.

Most of the health setbacks relate to HIV/AIDS, which is the proximate factor in virtually all of these reversals in sub-Saharan Africa. But it is not the only, or even the major, factor elsewhere. Most of the former Soviet countries, for example, are projected to suffer long-term declines in life expectancy.

The Russian Federation is perhaps the most striking and anomalous of the states suffering from long-term health retrogression. Russia's life expectancy at birth today is about four years lower than it was forty years ago. Its health reversal is concentrated in the working age groups. This peacetime death explosion has been triggered not by tuberculosis or HIV/AIDS, but by cardiovascular disease and injuries. Alcohol, of course, has played its part: indeed, one Russian study determined that almost half of the young and middle aged men who died of injury or cardiovascular disease were drunk at the time of death. Russians now in their 30s, 40s, or 50s have already accumulated a lifetime of insults to their health.

In Japan, each new generation enjoys better survival chances at any given age. The situation is totally different in Russia, where the worst death rates at any given age are found among the youngest men. To judge by mortality, Russians are now less healthy than their parents were at the same age. Under such circumstances, it will be extraordinarily difficult to improve the health of the society as a whole.

## American "demographic exceptionalism"

A final surprise involves what we might call America's "demographic exceptionalism." The U.S. is the singular and major exception to the demographic rhythms characterizing virtually all other affluent Western states.

In Western Europe, total populations are anticipated to decline between 2000 and 2025, with a substantial shrinkage in the under-55 population and pronounced population aging. In the U.S., overall population aging is much more moderate; the overall population is projected to increase, and a higher number of young people are expected in 2025 than today.

Part of this difference is attributable to a significant divergence in fertility patterns. As already noted, Europe's overall TFR stands in the 1.4 to 1.5 range, with Italy and Spain on the low end, at about 1.2, and France and Ireland on the high end, at about 1.8. The U.S. fertility rate has been over 2.0 since 1990 and is just under replacement today--somewhere between 2.0 and the 2.1 replacement level, making it about 40 percent higher than Europe's.

America's fertility levels have diverged not just from Europe's but from those of the rest of the developed world. The U.S. TFR is much higher than Japan's 1.3-1.4, and the gap is even greater with some of the other high-income East Asian countries. Even much of North America doesn't look so "American" these days: whereas the U.S. and Canada had nearly identical fertility levels back in the mid-1970s, Canada looks pretty European today, and the U.S. looks -- well, pretty American. While the States is reporting a TFR of over 2, Canada's is around 1.5.

Much of the developed world is caught up in what Ron Lesthaeghe and Dirk van de Kaa have dubbed "the second demographic transition" -- a shift to smaller desired family sizes and less stable family unions. If this is the new demographic revolution, Americans look to be the developed world's most prominent counterrevolutionaries.

America's relatively high TFR does not seem to be explained by any particular region or ethnicity. There are big fertility differences between some states, but 42 states reported TFRs above 1.9 that year and 33 reported TFRs of 2.0 or higher. In all of Europe, by contrast, the only country with an estimated TFR above 2.0 is Albania.

America's ethnic fertility differentials do not account for its demographic divergence from Europe. Hispanic Americans maintain relatively large family sizes in the U.S., with a TFR of around 2.7, but excluding them by no means eliminates the gap between the U.S. and the rest of the developed world. Nor can the differential be explained by factoring out African-American fertility (which is higher than the "Anglo" rate, but much closer to the Anglo rate than to the Latinos'). In 2000, America's Anglo TFR was

1.84 -- about 10 percent less than the U.S. national average, but still more than 30 percent above Europe's.

No obvious materialist explanation for America's demographic exceptionalism seems to exist. U.S.-Western Europe income differences are not tremendous. One might think that fertility would be higher in societies that devote more public resources to child support, but social welfare programs are far more generous in most of Western Europe than in the U.S.

So how can we explain this fertility discrepancy? Possibly it is a matter of attitudes and outlook. There are big revealed differences between Americans and Europeans regarding a number of important life values. Survey results highlighted in the *Economist* (Nov. 2003) point to some of these. Americans tend to identify the role of government as "providing freedom," while Europeans are inclined to think of government in terms of "guaranteeing one's needs." Attitudes about individualism, patriotism, and religiosity seem to separate Americans from much of the rest of the developed world. Is it entirely coincidental that these divergences seem to track with the big cleavages between fertility levels in the U.S. and so much of the rest of the developed world?

The difference between a TFR of 2.0 and one of 1.5 or 1.4, other things being equal, is the difference between virtual long-term population stability and a population that shrinks by almost a third with each passing generation. A UN Population Division study of what levels of net immigration flows would be necessary for developed countries to maintain both their overall population and their working-age population (15-64 years of age) over a 55-year time horizon. For the pre-enlargement EU, a net inflow of about 2.5 million people a year would be needed to stabilize the population, and about 4.3 million to stabilize the workforce. But net immigration into the EU in the late 1990s averaged just 700,000 a year. For Japan, 300,000 net newcomers a year would be needed for population stability, and 600,000 for workforce stability. But Japan's net immigration rate today is approximately zero. The U.S. could maintain its population with just 116,000 net immigrants a year, but net annual immigration has averaged nearly 1 million. If these exceptionalist trends continue, America will age much more slowly than Europe or Japan. And the U.S. share of world population will not diminish steadily and dramatically in the decades ahead, as Europe's and Japan's seem set to do.

Western European countries accounted for about 12 percent of global population in 1950; this was down to about 6 percent by 2000, and in the admittedly tentative Census Bureau projections for 2050, it is placed at barely 4 percent. Over this same span, Russia's projected share of world population falls from over 4 percent to barely 1 percent; Japan's from 3 percent to 1 percent. The U.S., on the other hand, only drops from about 6 percent in 1950 to about 4.5 percent in 2000 and then is projected at an almost constant 4.5 percent for the following half century.

While the rest of the developed areas gradually drop off the roster of the world's major population centers, the U.S. actually rises, from fourth largest in

1950 to third largest in 2000, which it is projected to remain in 2050 as well. Drawing international implications from such crude comparisons is hazardous. But from a purely demographic standpoint, the U.S., virtually among alone developed nations, does not look set to be going off gently into the night.

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