

WDA Forum



University of St.Gallen

# The WDA – HSG Letters Series

*on Demographic Issues*

## Demographics and Development Policy

*by David E. Bloom and David Canning*

*No. 2011/1*



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# Demographics and Development Policy

By David E. Bloom and David Canning

By late 2011 there will be more than 7 billion people in the world, with 8 billion in 2025 and 9 billion before 2050. New technologies and institutions, and a lot of hard work have enabled us to avoid widespread Malthusian misery. Global income per capita has increased 150% since 1960, outpacing the growth of population. But we cannot be sure that incomes will continue to grow. One major difference is that now the world has a much larger population to support and, more notably, nearly all of the population increase that is projected in the coming decades will occur in the most politically, socially, and economically fragile countries.

Fortunately, important insights into this demographic challenge have emerged in the past 10 years. Most important is that the rate of population growth is not the only demographic variable with consequences for economic growth and development: the age structure of the population is also fundamentally important.

## The demographic transition

Population growth has taken place as part of a broader phenomenon known as the *demographic transition* – the transition that almost all countries make from high fertility and mortality to low fertility and mortality. Not counting net migration (which has been inconsequential for most countries), populations grow because death rates tend to decline before birth rates. But there is more to this story: death rates decline disproportionately among infants and children, which gives rise to a baby boom. This is not the usual kind of baby boom in which more babies are born; rather, it is one in which more babies survive and mature into children and adults. Eventually the baby boom ends when parents realize that they do not need to have as many children to reach their family-size goals, which naturally moderate as development proceeds.

## The demographic dividend

At first, the baby boom tends to lower the measured rate of economic growth because children need to be fed, clothed, housed, educated, and otherwise cared for – all of which require resources that must be diverted from other uses such as research and development (R&D), infrastructure development, and physical capital accumulation. But eventually (after 15-20 years) the large “boom” cohorts reach the prime ages for working and saving, and the per capita productive capacity of the economy expands. When this happens, the country has an opportunity to grow rapidly – resulting in what we call the “demographic dividend.”

The demographic dividend is a composite of accounting and behavioral forces. The accounting forces involve:

- the swelling of the potential labor force as the baby boomers reach working age, and
- the fact that the working ages coincide with the prime years for savings.

These factors are key to the accumulation of physical and human capital and technological innovation.

The behavioral forces consist of:

- society's reallocation of resources from investing in children to investing in physical capital, job training, technological progress, and stronger institutions,
- the rise in women's participation in the workforce that naturally comes with a decline in fertility, and
- the boost to savings that occurs because the incentive to save for longer periods of retirement increases as people live longer.

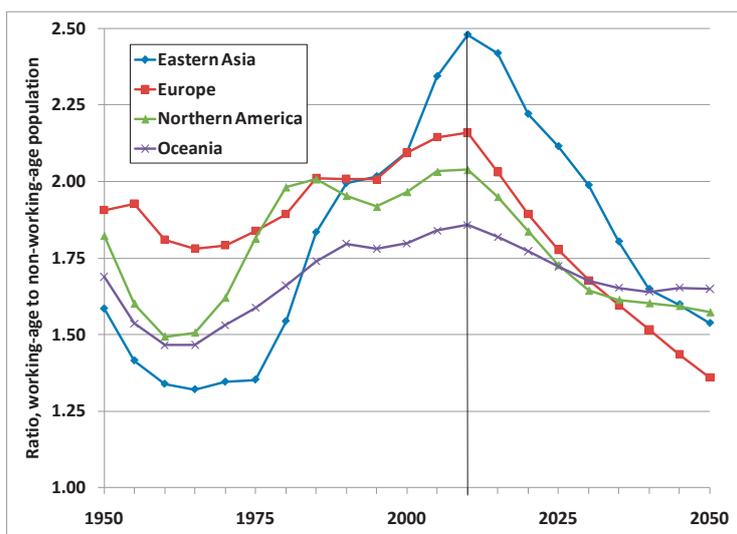
Recent analyses have shown that population growth and age structure are important drivers of economic growth (measured by income per capita). Indeed, as much as one-third of East Asia's economic "miracle" was due to demographic change. Similarly, the 1980 legalization of birth control in Ireland sparked a decrease in fertility that spurred rapid economic growth. By contrast, the sluggish pace of fertility decline in most of Sub-Saharan Africa contributed to that region's decades-long economic struggle.

### The age composition

What does this mean for development policymaking? Since different countries are at different phases in the demographic cycle, the age distribution of their populations varies. As the demographic transition proceeds and the baby boom cohort reaches working age in a given country, the ratio of working-age people to dependents (both young and old), changes dramatically. Figures 1 and 2 show how this ratio has changed and is projected to change across the world. Using the UN Population Division's medium-fertility scenario, Figure 1 shows that the ratio is about to fall in Eastern Asia and the more developed regions, which means that the opportunity to reap a demographic dividend has already reached its peak.

Figure 1

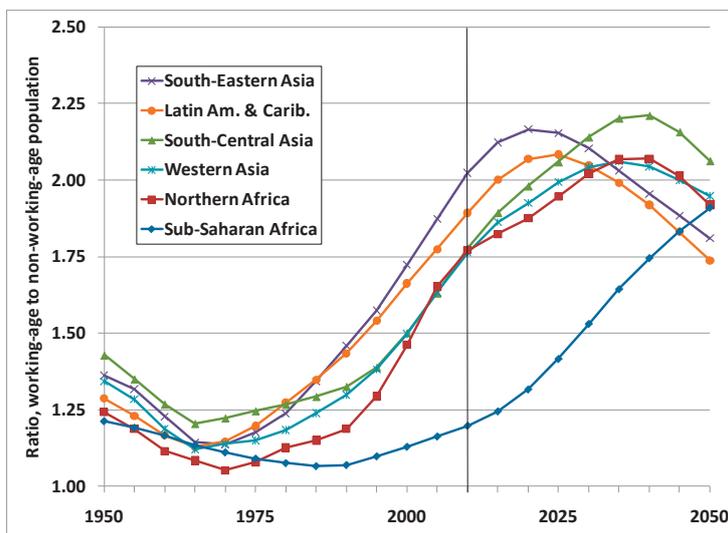
#### Regions about to enter the demographic downswing



Data source: UN, *World Population Prospects: The 2008 Revision*

Figure 2 shows where the ratio is still rising – in all developing regions other than Eastern Asia. These areas could still benefit significantly from a demographic dividend. But collecting this dividend is not automatic. Demography is not destiny.

**Figure 2**  
**Regions on the demographic upswing**



Data source: UN, *World Population Prospects: The 2008 Revision*

Where a country stands in the transition will determine the kinds of policies and initiatives it can most usefully undertake to help bring about a demographic dividend. For example, some countries could catalyze the demographic transition by taking steps to lower infant and child mortality – crucial precursors of fertility decline – through the expansion of childhood immunization and the provision of safe water and sanitation. Others might encourage a voluntary reduction of fertility, perhaps through efforts to broaden access to primary and reproductive health services, and to girls’ education.

### The policy environment

Economic growth does not automatically accelerate as fertility declines and the working-age share of a population increases. Taking advantage of a demographic opportunity depends on a conducive policy environment. Good governance matters, as do solid macroeconomic management, a carefully designed trade policy, efficient infrastructure, well-functioning financial and labor markets, and above all, effective investments in health, education, and training.

### Healthy and educated people

Better health means that students learn more quickly, workers produce more effectively, foreign investors are more likely to be attracted, and savings rise. Expanded access to better quality education – at the primary, secondary, and tertiary levels – are also key to high worker

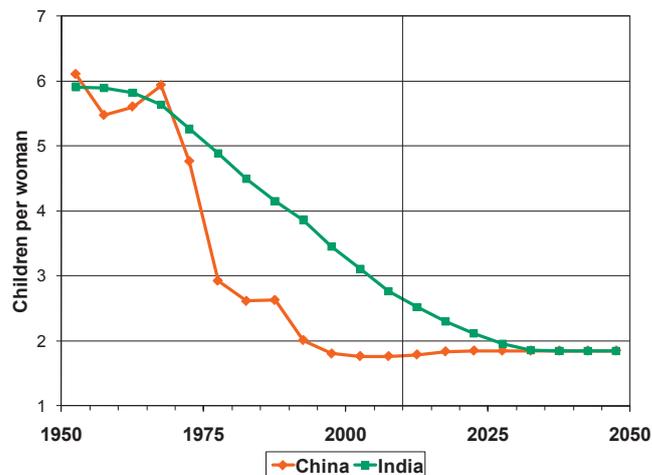
productivity, especially in the rising number of jobs that demand up-to-date skills and a high degree of flexibility. Increased education also tends to lead to lower fertility rates, which frees up women to engage in the paid labor force.

In the absence of enabling policies, a potential demographic dividend can become, instead, a demographic drag. For example, a country that has large numbers of young or middle-age workers who are unemployed or underemployed is at risk of social and political instability. And even without such instability, a large nonproductive segment of the population is an economic drag on those who are working.

### India and China—divergent policy scenarios

Comparing India with China highlights the effect of differing past policies and the need for specific policies that fit with a country’s progress through the demographic cycle. China’s emphasis beginning in the 1970s on lowering its birthrate has resulted in a total fertility rate of 1.8 children per woman – and a rapidly aging population that will need care and support. India’s efforts to slow population growth were, most of the time, less intrusive, but they also led to a less precipitous decline in fertility (2.7 today). Figure 3 illustrates the dramatic difference between the two countries in the pace of fertility decline.

**Figure 3**  
**India’s fertility rate fell steadily, China’s precipitously**

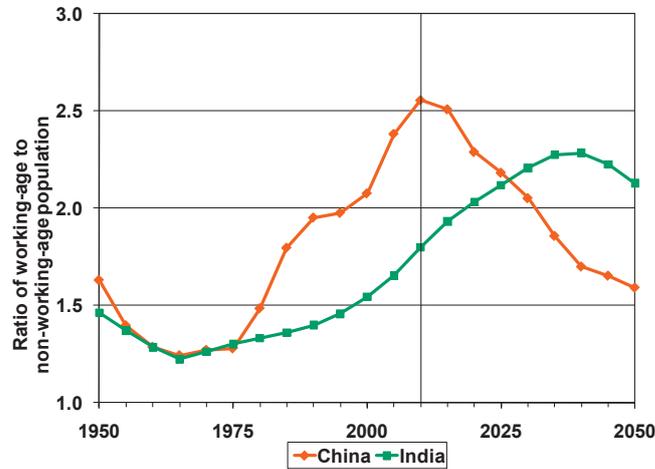


Data source: UN, *World Population Prospects: The 2008 Revision*

**Differences in fertility, infant and child mortality rates, and life expectancy** have combined to give China and India very different ratios of working-age population to dependent population (Figure 4). Beginning around 1980, China’s ratio rose very rapidly and has now reached its peak, with nearly 2.6 working-age people per dependent. India’s peak, which is likely to be lower than China’s, is projected to occur around 2035. These patterns suggest that China has already had its opportunity to capture a demographic dividend, while much of India’s opportunity lies ahead. To the extent that India can speed up fertility decline, especially in states where fertility is still high, it stands to reap a more sizable dividend in the coming years.

**Figure 4**

**Demographic transitions out of phase: China leads India by about 25 years**



Data source: UN, *World Population Prospects: The 2008 Revision*

**Education** is important in determining whether a country benefits economically from the demographic transition. India has created a very well educated but relatively small set of people who have stimulated the economy, particularly the information technology sector. But huge numbers of young Indians, particularly in poor, populous states such as Bihar and Uttar Pradesh, do not have the education needed to participate productively in the twenty-first century economy. China, by contrast, has long promoted education for a much broader segment of the population, and its workforce is therefore highly productive. India can benefit by devoting considerably more effort to increasing access to quality education, and to workforce training.

The biggest unanswered question is that of population aging, which is occurring in both developed and developing countries. Although many have warned that an older population spells economic doom, other analysts suggest that it is not an insurmountable problem provided it is well managed. Although the private sector can help by adjusting business practices to adapt to an older workforce, it is mainly up to public policymakers to take strategic and politically feasible decisions on retirement age, immigration policy, and related issues.

Creating an economic environment in which the working-age population is productively employed is a difficult though essential goal in itself. But changing demographics provides an extra spur for adopting the kinds of economic, health, education, and labor policies that can lead to more rapid economic growth.

## **Policymakers on the Demographic Dividend**

**Nigeria's Ngozi Okonjo-Iweala**, managing director of the World Bank, has said that "One of the greatest untapped growth drivers in Nigeria's economy is our youth population," adding that the "Public and private sectors should invest in human capital, labor supply, and savings to secure the demographic dividend. These help to create a knowledge-based economy. Policies should be directed toward getting the demographic dividend."

**Indian Prime Minister Manmohan Singh**: "Looking ahead, we enjoy a demographic dividend in terms of a growing working-age population in a world that is ageing rapidly."

**Former Mexican President Vicente Fox**: "I also want to tell you that today we have a very potent arm with which to overcome inequalities and marginalization. That arm is what we have called the demographic dividend." . . . "It is crucial, truly crucial, that we take full advantage of it. Otherwise, we will have lost a great opportunity. As others have said before me, education and employment are the ways to take advantage of the demographic dividend." . . . "The sustainability of our social and economic development depends, in large measure, on our response to this opportunity."

**Nandan Nilekani, former CEO of India's Infosys and now chairperson of the Unique Identification Authority of India**: "... [The] demographic dividend could well become a demographic disaster if we do not make the right investments...." "We have this beautiful opportunity; let us not mess [it up]."

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## **Bibliography**

- Birdsall, Nancy, Allen C. Kelley, and Steven W. Sinding, eds. (2001). *Population Matters: Demographic Change, Economic Growth, and Poverty in the Developing World*. Oxford: Oxford University Press.
- Bloom, David E., and David Canning (2008). "Global Demographic Change: Dimensions and Economic Significance," *Population and Development Review*, Vol. 33, New York, 17-51.
- Bloom, David E., and David Canning (2006). "Booms, Busts, and Echoes", *Finance & Development*, September, Vol. 43, No. 3, 8-13.
- Bloom, David E., David Canning, and Jaypee Sevilla (2003). *The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change*. Santa Monica, California: RAND, MR-1274.
- Lee, Ronald, and Andrew Mason (2006). "What Is the Demographic Dividend?" *Finance & Development*, September. Vol. 43, No. 3, 16-17.

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