World Population in 2050: Assessing the Projections. discussion

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Joel Cohen was asked by the conference organizers to focus a critical eye on demographic projections and to give special attention to the outlook for the elderly and for total dependency ratios. He was very faithful to his assignment. I have only a few points to raise about his paper before going on to discuss one issue that he did not cover (and was not asked to cover) but that I think should be addressed as part of a comprehensive treatment of population prospects for the year 2050. The issue is the current youth bulge in many of the world's poorest countries that have yet to reap the economic benefits of the demographic transition. First to Cohen's paper.

1998 versus 2000 United Nations Projections

Cohen's paper is based on the 1998 estimates and projections of the United Nation's Population Division. The highlights of the 2000 revision of these projections were released to the public several months ago and are available on their web site. Indeed, the press took some interest in the announcement, as this latest revision suggests that there may be 413 million more people living in the world in 2050 than previously projected. Upward revisions to estimates of recent fertility in Bangladesh, India, and Nigeria make up 32 percent of this increase. Higher future fertility levels projected for some sixteen developing countries whose levels have not yet shown signs of sustained decline explain much of the rest. Obviously these changes, which primarily affect estimates for developing countries, somewhat reduce the estimated rise in the median age of the world's

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population, from 37.8 to 36.2 by the year 2050. Underlying this revision are some changes in assumptions as well. The United Nations Population Division no longer specifies that all high-fertility countries reach replacement fertility by 2050, and its estimates of cross-border migration flows were based on a more systematic analysis of available data on recent experience with migration. Let us hope that all the data will be released soon so that we can all be up-to-date.

The Process of Urbanization

In introducing the topic of urbanization, Cohen talks about the "rush of people from the countryside to cities." In some of the background papers for a current National Academy of Sciences panel on urbanization in developing countries, a different picture is emerging. Using data from sixty-nine recent Demographic and Health Surveys (DHS), Montgomery and Hewett (2001) estimate that no more than 36 percent of recent urban migrants (those who have arrived in the last five years) have moved directly from rural areas. Thirty-four percent have moved from other cities and 30 percent from towns, suggesting a very different process of migration. These data do not change the conclusion that most future population growth will occur in urban areas, but they do suggest that urban growth may be more spread out than previously thought and may follow a more complex process. Furthermore, their findings suggest that residents of smaller urban areas will fare more poorly according to a variety of health indicators than residents of mega-cities. One conclusion of this study is that the current focus in the literature on the plight of residents of mega-cities is not warranted by the data.

The Youth Bulge

The title of this conference is "Seismic Shifts: The Economic Impact of Demographic Change." I would suggest that the current youth bulge in many of the poorest countries carries within it the potential for seismic shifts and future demographic surprises. I see this issue as a gap, not just in this session but in the conference at large. As this is a topic I have been working on in recent years, it seems an obvious contribution I can make to this group. Indeed, it is no accident that the National Research Council's Committee on Population has recently initiated a panel on transitions to adulthood in developing countries. This panel is following in the footsteps of the panel on demographic projections—a panel on which several of the distinguished speakers at this conference served: Joel Cohen, Massimo Livi-Bacci, Ronald Lee, and Michael Teitelbaum.

According to Macunovich (2000), it is only when the size of the youth cohort begins to rise relative to the size of the adult population, as a result of declines in child mortality in the early phase of the demographic

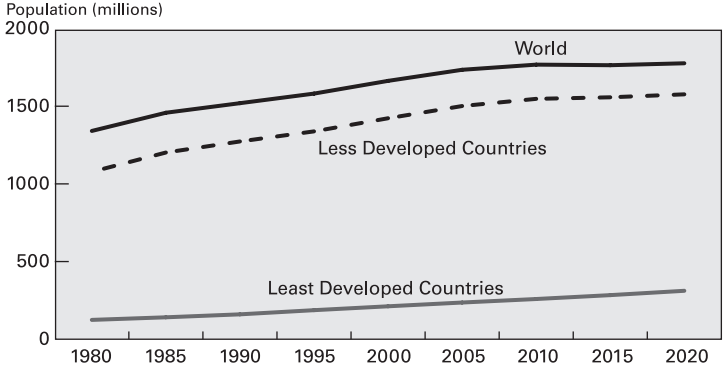
transition, that the fertility transition or the transition from large families to fewer, "better-quality" children begins. However, while she does not call attention to it in her article, it is important to note that the youth ratio as she calculates it (the ratio of 15- to 24-year-olds to 25- to 59-year-olds) appears to have been much lower historically at the time of the fertility transition in the West than it is in many of today's poorer countries, leaving young people in some of the poorer countries today with a much larger relative disadvantage in terms of cohort size. Thus, in many of the poorest countries where the fertility transition has not yet begun or is only beginning, our primary attention should be on the younger end of the age distribution, not the older end.

The situation of those currently in transition from childhood to adulthood in the poorer countries—roughly those aged 10 to 24—is a neglected topic within this broad discussion of the economic impact of demographic change. In order to become productive citizens who can not only support themselves and their families but also become productive players in the global economy, these young people will need to develop substantial human and social capital. A lot of the earlier discussion on what is expected for the year 2050 will depend on what happens to this next generation of young people as they enter their peak productive and reproductive years. The adolescent and young adult years are "demographically dense" (Rindfuss 1991). It is during this phase of life that young people leave school, experience their first job (or their first spell of unemployment), become socially and legally recognized as adults (the United Nations Convention on the Rights of the Child defines adulthood as 18 years old), serve in the military or national service, have their first sexual experiences, and, particularly for many young women, marry or have their first birth. It is during this phase of life that young men and women acquire the human capital and social capital that will shape their potential to assume economically productive roles in society.

The numbers of young people in the world will peak by the year 2010 in absolute terms (Figure 1). Some 1.5 billion of the 1.8 billion young people in the world at that time will live in developing countries (United Nations 1999).[1] While in more developed countries young people have never represented more than 26 percent of the population, in developing countries this age group will represent 29 percent of the population in 2005. (In developed countries they now represent only 19 percent of the population.) In the poorest countries, which include most of sub-Saharan Africa, the relative numbers are even more dramatic, with 33 percent of the population aged 10 to 24 in 2005 and this percentage projected to persist for at least another decade (Figure 2). This youth bulge presents

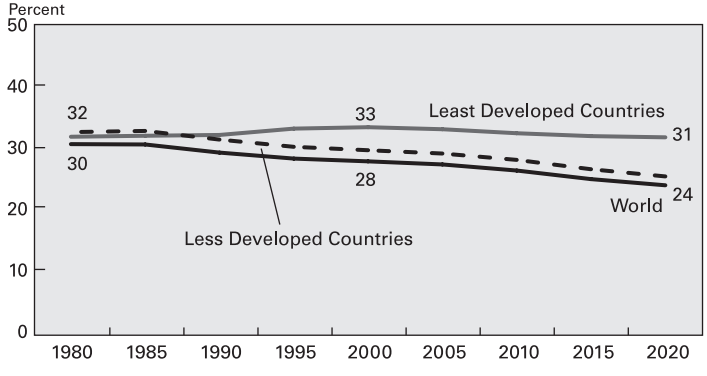
[1] I use the 1998 United Nations medium-term projection throughout this discussion.

Figure 1
Total Number of Youth Aged 10 to 24
World, Less Developed, Least Developed Countries



substantial challenges to the poorer countries in terms of human capital investment. Furthermore, this age group is so large, in relative terms, that as it enters the childbearing years it will assure a continued growth of population even if the next generation of women have only enough

Figure 2
Youth Aged 10 to 24 as a Percent of Total Population
World, Less Developed, Least Developed Countries



children to replace themselves. Bongaarts (1994) has estimated that "population momentum," the component of population growth that is attributable to a young age distribution due to past high fertility, will account for about one-half of future population growth in developing countries.

The only way that the impact of momentum on the population growth rate can be slowed is through an increase in the age at first birth. Rising education levels tend to be associated with later ages at first birth. Knowledge of this link has directed greater attention in recent years to educational investments as a tool of population policy.

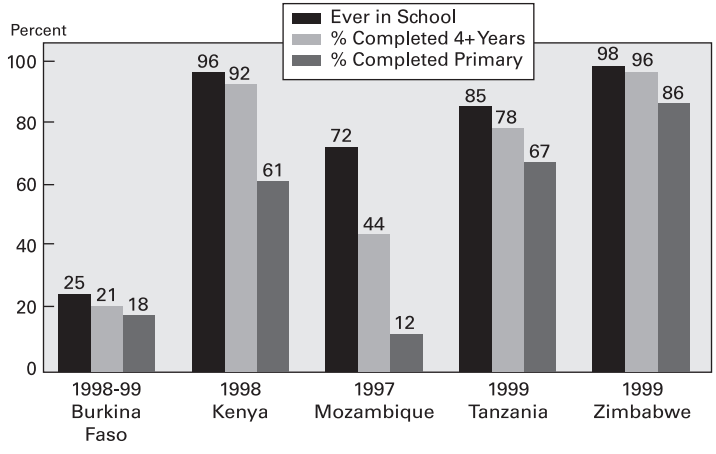
The Importance of Human Capital Investment

Some of the Asian economies where the fertility transition began in the 1970s had made substantial and early investments in formal schooling and were able to reap a demographic bonus (Asian Development Bank 1997) as the youth dependency ratio dropped. But many of today's poorer countries face a more daunting challenge in terms of human capital investments, given the recent rapid growth in school-age populations. In many sub-Saharan African countries, impressive growth in schooling in the early post-independence years has been followed by years of stagnation and in many cases recent declines in enrollment and grade attainment.

In 1995, the proportion of 15- to 19-year-olds who had ever attended school varied from 25 percent in Burkina Faso to 98 percent in Zimbabwe among the African countries with comparable and accessible household surveys (we have recent data on twenty-two sub-Saharan African countries in all). Among the countries that perform well on enrollment, however, is a tremendous range of experience in school retention through the primary grades. I illustrate this range with five examples from Africa (Figure 3). You can see that in Mozambique, where 72 percent of 15- to 19-year-olds have attended school, only 12 percent have completed the five years required for primary school completion. By contrast, in Tanzania, 85 percent have ever enrolled and 67 percent have completed the seven years required for primary completion. Both countries are estimated to have GDP per capita below $500, so differences have to be explained largely by differences in the share of public resources directed to primary schooling, not by levels of income.

Several reasons account for the substantial attrition among children who start school. First, many children start late. Second, many children are forced to repeat if their attendance record has been poor, if they move, or if they are unable to pay their school fees (a growing problem in recent years as many countries have reintroduced school fees in response to various negative economic shocks), or if the teacher has been absent and the school shut down—a none too infrequent occurrence. The result is

Figure 3
Enrollment and Attainment Rates, Youth Aged 15 to 19
Selected African Countries

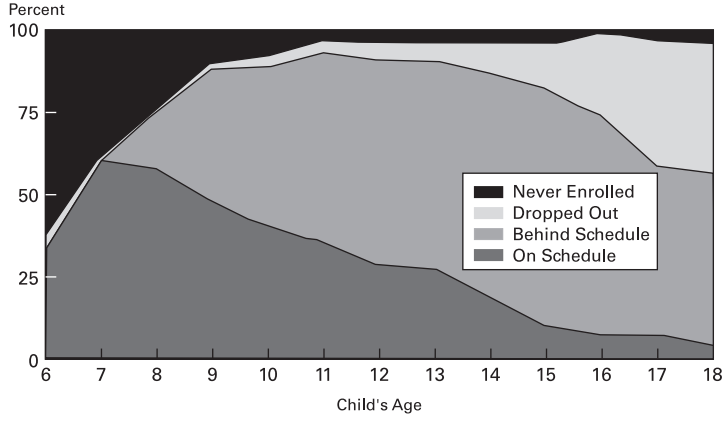


that few kids progress normally through the school system, starting on time and moving from grade to grade on an annual basis.

We can illustrate with the case of Kenya (Figure 4). You can see that while children are meant to start school at the age of 6, children continue to enter the system until age 10 to 11. These children remain behind grade for their age throughout their educational careers, while they and many others are often forced to repeat grades because of economic hardships. Evidence from a variety of studies shows that children who start late ultimately complete fewer grades of school. One can imagine how difficult it must be to teach when students range so widely in age. In grade four in Kenya, students range in age from 8 to 18 (Kenyan 1998 DHS household survey). It is for these reasons, as well as because of the shortage of places in secondary school, that the majority of the school-going population in most of these countries is enrolled in primary school.

There is some controversy in the literature about Africa's economic performance in the 1990s. While Collier and Gunning (1999) take the region's poor performance as a given and try to explain it, Sahn and Stifel (2000) use alternative data from the DHS on household assets to conclude that there was some lessening of poverty in Africa during the 1990s. Trends in educational enrollment and attainment provide another angle of vision on Africa's economic performance that might give more weight to Collier and Gunning's perspective. It appears that, maybe for the first time in history, there have been actual declines in educational enrollment and attainment in many countries of sub-Saharan Africa, particularly for

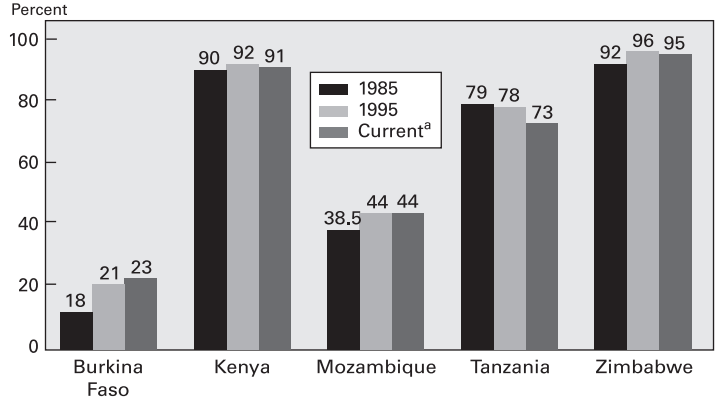
Figure 4
Children's Educational Progress by Age, Kenya



Note: Enrollment in preschool not included.

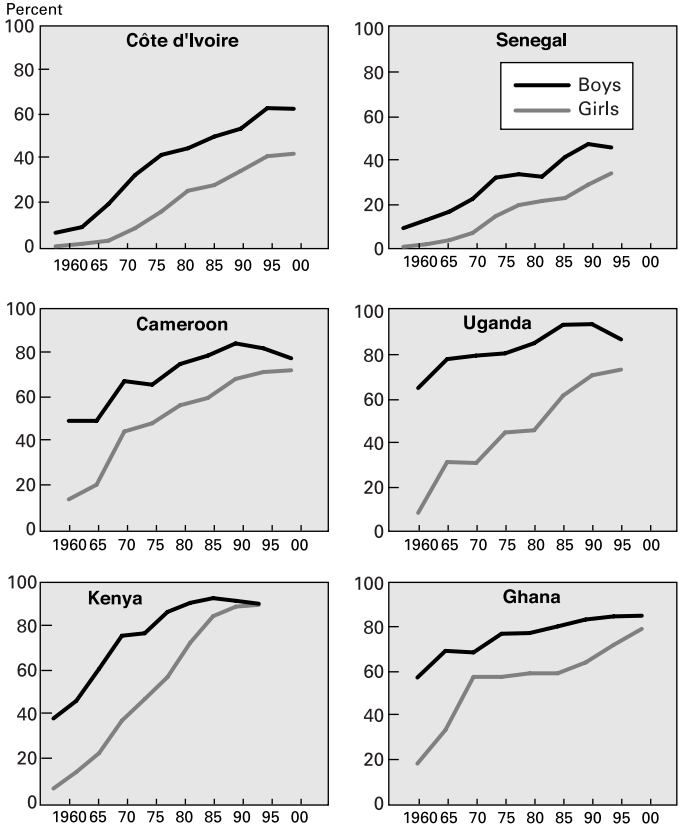
boys (Lloyd, Kaufman, and Hewett 2000) (Figures 5 and 6). Countries that made impressive investments in schooling during the early years of independence (such as Kenya, Tanzania, and Zimbabwe) have been especially hard-hit. Given growing evidence from diverse settings that

Figure 5
Trends in Grade 4 Completion, Youth Aged 15 to 19
Selected African Countries, 1985, 1995, and Current



[a]Burkina Faso, 1998-99; Kenya, 1998; Mozambique, 1997; Tanzania, 1999; Zimbabwe, 1999.

Figure 6
Percentages of Children Aged 15 to 19 Who Completed Four or More Years of Schooling, by Sex, Côte d'Ivoire, Cameroon, Kenya, Senegal, Uganda, and Ghana



enrollments can be responsive to small positive changes in income,[2] these recent trends would strongly suggest that incomes are falling, costs of schooling are rising, or both. These trends will inevitably accentuate existing inequalities between rich and poor in the achievement of universal or basic schooling (Filmer and Pritchett 1999).

The accuracy of population projections to the year 2050 fundamen-

[2] See, for example, Schultz (2001) in the case of Progresa in Mexico; Arends-Kuenning and Amin (2000) and Ravallion and Wodon (1999) in the case of a food for education program and a secondary school scholarship scheme for girls in Bangladesh; Kremer et al. (1997) in the case of subsidies for school textbooks and uniforms in Kenya.

tally depends on today's investments in the human and social capital of young people. Assumptions about improved mortality, continuing steady declines in fertility, and modest but persistent levels of migration are tied to unstated assumptions about a unidirectional process of development, that is, a steady increase in educational attainment of the next generation, obviously accompanied by some steady economic growth. To the extent that some developing countries progress smoothly toward universal schooling with the support of a growing economy and others fail to progress or fall behind, global inequalities will become accentuated, with implications for many aspects of human well-being that could be manifested in some demographic surprises, possibly unpleasant ones.

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