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Rethinking Population Policies

Why Education Makes a Decisive Difference

According to the results of new population research, strengthening human capital by focusing on education and health should become the main goal of national population policies throughout the world.

Summary

On 22 September 2014, at a special session of the United Nations General Assembly, Member States will recommit themselves to the Programme of Action of the International Conference on Population and Development (ICPD), agreed in 1994 in Cairo, and its key actions. Twenty years ago an important shift took place away from simply achieving demographic targets toward ensuring human wellbeing and environmental sustainability based on the principals of human rights, dignity, and equality. Revolutionary in 1994, it is still highly relevant today. Over the same period of time, in an increasing number of countries, population-related concerns have been also shifting toward the question of population aging and even population shrinkage.

The new population policy rationale for the 21st century, which is equally valid in countries with high and low fertility levels, is human capital formation. This focuses not only on counting the number of people, but on empowering them through better education and health. Recent demographic research has demonstrated that adding education to the conventional age and gender dimensions in population analysis has significant implications for the following population policy rationales:

- Replacement-level fertility A well-educated and more productive labor force will increase economic growth and thus compensate for decreasing population size. Although many established pension systems need adjustments to support population aging, for most countries the socially desirable level of fertility—in terms of maximizing per capita wellbeing—is, in fact, somewhat below replacement level.

- Demographic dividend The apparent association between declining fertility rates and economic growth in many developing countries has frequently been interpreted as resulting from falling youth dependency ratios. New research shows that it is mainly due to improved female education, which results in both lower fertility and increased productivity.

- Unmet need for contraception Education will empower women to actually have their desired number of children by helping them overcome many of the main obstacles to modern contraceptive use such as misinformation on possible side effects and cultural/familial objections.

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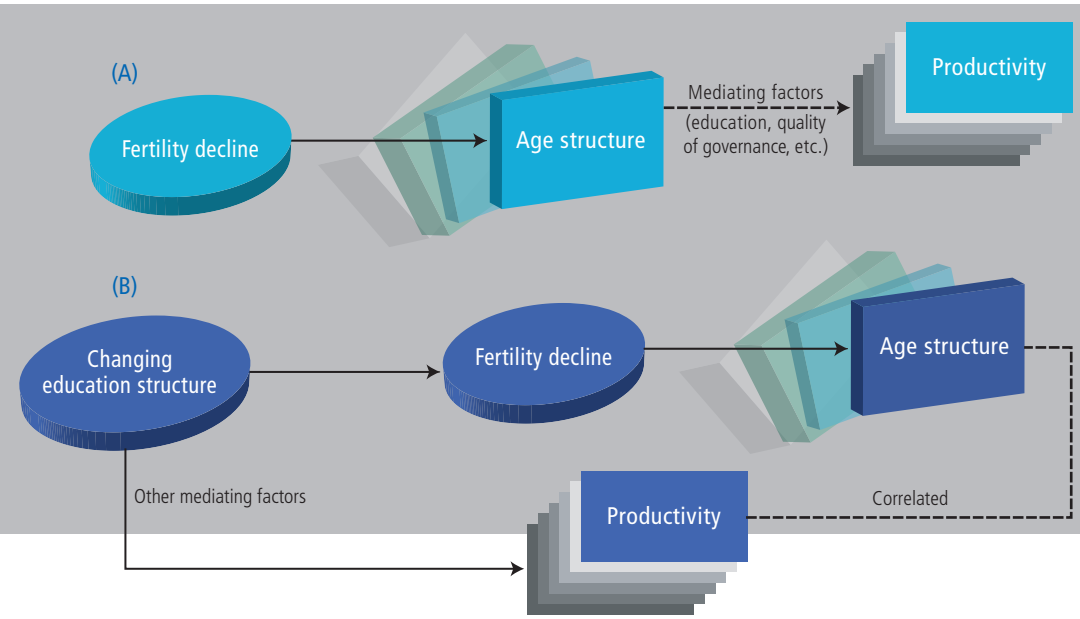


Chart 1
View of Conventional Demographic Dividend Model (A) versus Education-triggered Dividend Model (B).

Introduction

In many developing countries, particularly in sub-Saharan Africa and South Asia, population dynamics continue to be characterized by high fertility and growing populations, combined with high mortality and poor health. In the developed world fertility is very low, population growth has slowed or ended, and in many more countries populations will stabilize or decline over the coming decades. Many governments, particularly in Eastern Europe and Eastern Asia, see these trends and the rapid population aging associated with them as major policy challenges for which the existing battery of 20th century population policies has little to offer.

What, then, should be the role and the goal of population policy in the 21st century? We argue that the primary goal of population policies should be to strengthen the human resource base for national and global sustainable development. This goal is fully consistent with the ICPD goals and also has strong synergies with other internationally agreed development objectives.

This 21st century population policy rationale does not seek to identify any particular population size, growth rate, fertility rate, or age structure as its primary goal. Instead, policies would aim to efficiently and flexibly manage human resources so as to achieve the highest long-term wellbeing of current and future generations, while fully respecting human rights.

Demographers arrive at this conclusion when the conventional focus on population size and human numbers is broadened to include human capital or, in other words, the "quality" dimension of populations. Conventionally, demographers have structured populations primarily by age and sex. When quantitative information on the distributions of the highest level of educational attainment by age and sex is added as a third dimension, the picture looks quite different. As women and men with different levels of education tend to have different fertility, mortality, and migration rates, education policies have direct impacts on population dynamics. Moreover, only quantitative information on skills and associated productivity by age allows the consequences of changes in population patterns for economic growth to be seriously assessed.

This new perspective has direct bearing on the following three major population policy rationales.

Below-replacement-level fertility is desirable

New research shows that 2.1 children per women is not the most desirable fertility level from an economic perspective.

When asked what a desirable fertility level would be, most politicians, journalists, and even demographers say slightly above two children per woman; many specifically mention the total fertility rate (TFR) of 2.1. This number represents replacement-level fertility under low mortality. Yet the notion of replacement level only makes sense in the highly stylized theoretical model of a stationary population. It has little to do with actually maintaining the size of a population in contemporary societies that have irregular age structures and migration and are also undergoing mortality changes. Given these realities, the fertility levels that would result in constant population size would have to vary over time and could be significantly different from 2.1.

Two recent research projects have independently concluded that for economic reasons long-term fertility somewhat below replacement levels would be preferable for most countries to replacement level fertility itself. When the criterion is long-term economic wellbeing, research has shown the following:

- Using the newly available National Transfer Accounts data for 40 countries, it is shown that fertility below replacement level would maximize per capita consumption when the cost of providing capital for a growing labor force is taken into account (Lee & Manson, 2012)
- Simulations taking into account the fact that education is associated with costs at the beginning of life but leads to higher productivity later in life show that long-term TFRs that maximize the education-weighted support ratio tend to lie in the range of 1.5–1.8 (Striessnig & Lutz, 2013, 2014).

In both these models, the economically desirable fertility level turns out to be below replacement level. If the effects of population size on greenhouse gas emissions and thus climate change are also factored into the model, the desirable levels of fertility are even lower.

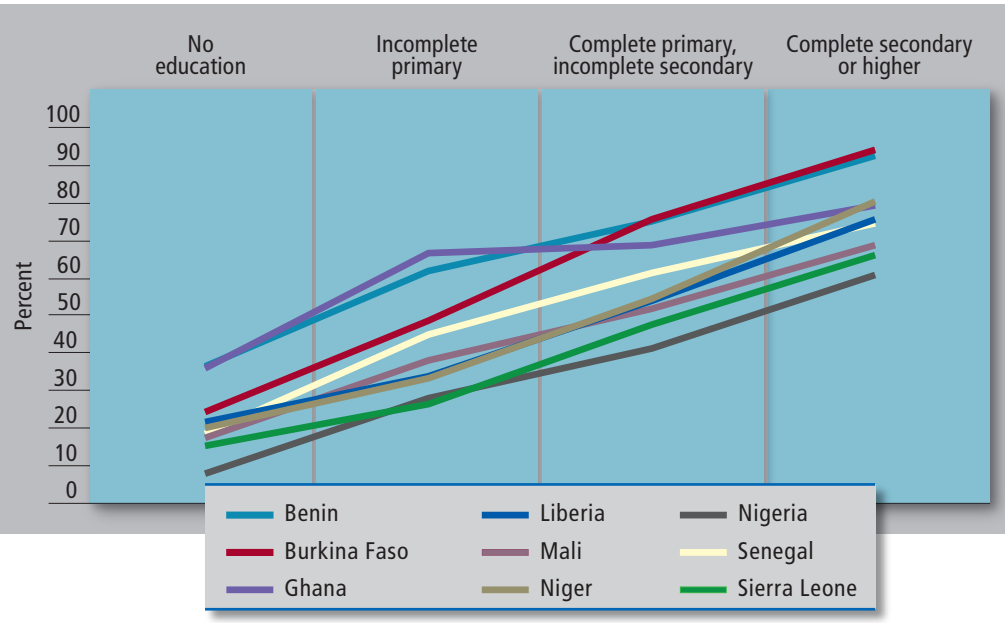


Chart 2
Ever-use of contraception by women's educational attainment, DHS data for nine countries in West Africa.

The demographic dividend is primarily an education dividend

New research shows that improvements in education levels have been key drivers of economic growth in developing countries that was previously attributed to declines in fertility rates.

Countries where a large part of the population is of working age tend to become richer more quickly than those with a sizable proportion of children. Population economists have argued that declining birth rates lead to a decline in the proportion of children in the population and that this results in a "demographic window of opportunity," where a larger proportion of the population is of working age. This observation—the demographic dividend—which assumed a direct linkage between declining birth rates and increased national prosperity, had led to policy prescriptions aimed at decreasing fertility.

A new study has found that the association previously identified between lower birth rates and economic development is largely explained by education. The empirical data show that fertility rates decline as educational levels of young adults—and hence productivity—increase. This pattern could be explained by the two alternative models shown in Chart 1. To grasp what is cause and what is effect, the researchers used a new set of time series educational attainment data by age and sex for 105 countries around the world estimated by demographers at the Wittgenstein Centre for Demography and Global Human Capital using advanced statistical models. The results clearly confirm Model B of an education-triggered demographic dividend.

The new findings demonstrate the decisive role of investments in universal primary and secondary education in bringing countries out of poverty and fertility rates down.

Female education is key to overcoming the obstacles to contraceptive use and lower desired family size

Focusing not just on the availability of family planning commodities and services but also on education could have a greater impact on fertility in developing countries.

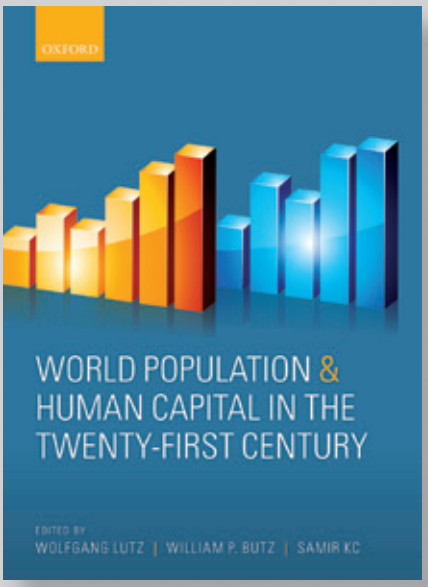
"Meeting the unmet need" for reproductive health and family planning has over the past 20 years become one of the main goals of the international population community. This approach is based on the strong assumption that policies that improve the supply of contraceptives and lower their cost would lead to a near elimination of unmet need and thus to a sizable decline in fertility rates.

The World Health Organization (WHO) defines women with an unmet need for contraception as those who are sexually active and want to stop or delay childbearing, but are not currently using contraception. According to the results of recent African surveys about the obstacles to meeting the unmet need, the most important reasons cited by women are health concerns about the possible negative side effects of using contraception and opposition to family planning by the woman herself or by her husband or extended family. Surprisingly, the access to and cost of contraceptive supplies and services seem to be of only minor importance compared to social and cultural obstacles.

At the same time the association of girls' education with greater contraceptive use and lower fertility is very clear, and there is little doubt that empowering women through education causes higher contraceptive use. Chart 2 illustrates the relationship between female education and contraceptive use for Demographic and Health Surveys (DHS) in West Africa.

These findings clearly illustrate that female education can be a key factor in moderating rapid population growth in today's high-fertility countries. The more highly educated a woman is, the fewer children she wishes to have, the better she is able to maintain her own family-size ideals despite opposition from her husband and other relatives, and the more empowered she is to gain access to contraception. Thus, in Ghana women without formal education have on average 5.7 children, women with lower secondary 3.2, and women with post-secondary education only 1.5. In Senegal the corresponding numbers are 5.5, 3.4, and 1.7 children per woman. The differentials between groups according to education are massive.

Investments in female education and in reproductive health services should not be seen as in competition. Both are needed and, indeed, can be strongly synergistic.



World Population and Human Capital in the 21st Century

Edited by Wolfgang Lutz, William P. Butz, and Samir KC
Published by Oxford University Press

The book addresses systematically and quantitatively the role of educational attainment in global population trends and models. It presents assumptions on fertility, mortality, migration and education that are subsequently translated into alternative scenario projections to 2100. These assumptions derive from a global survey of hundreds of experts and five expert meetings on as many continents. The book analyzes the results, emphasizing alternative trends in human capital, new ways of studying aging and the quantification of alternative population and education pathways in the context of global sustainable development.

The book is available for purchase from Oxford University Press: ukcatalogue.oup.com/product/9780198703167.do

Detailed population projections for all countries are available online at www.wittgensteincentre.org/dataexplorer

Policy recommendation

Human capital (including education and health) should be seen as a key component of population policies which is relevant for both high and low fertility countries.

In particular, a specific focus on female education will:

- empower women to exercise their reproductive rights and gain access to contraception;
- moderate rapid population growth in today's high-fertility countries through decreasing fertility and child mortality;
- contribute to poverty reduction and economic growth;
- increase female labor force participation and productivity both in developing and industrialized countries.

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This brief is based on work by demographers at IIASA, the Vienna Institute of Demography, and the Vienna University of Economics and Business, which together make up the Wittgenstein Centre for Demography and Global Human Capital. Professor Wolfgang Lutz, Director of IIASA's World Population (POP) Program and the Wittgenstein Centre, and Tatyana Haplichnik, research scholar in IIASA's POP Program, wrote this brief.

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Conclusion

The ICPD Programme of Action rejected quantitative demographic targets and, in a widely applauded move, redirected the population policy focus to human rights, gender equity, and reproductive health. However, it did not set any other meaningful aggregate-level objectives that might replace the dismantled demographic targets. The current deliberations associated with Cairo+20 may be a good time to start a discussion about the deeper and longer-term goals of population policy in the context of sustainable development. A priority focus on education and health as a way to develop human capital would be an excellent candidate for a new global population policy priority.

References and useful resources

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