



REALIZING THE DEMOGRAPHIC DIVIDEND: The Science in Service to the Sahel

As scientists and members of national and international research communities, we appreciate the opportunity to convey to participants at the high-level conversation on “**Realizing the demographic dividend in the Sahel**,” a side event of the 69th United Nations General Assembly, findings of importance to the improvement of the human condition, especially in regions of the world most affected by poverty, poor health, food insecurity, and environmental risks.



The Demographic Dividend is an evidence-based economic development phenomenon and the focus of nearly 20 years of research by economists, demographers, and health scientists.

The Demographic Dividend is the potential growth in a country’s economy resulting from a change in the age structure of its population. Economic growth increases as the proportion of working-age population grows during the demographic transition, the period when mortality and fertility rates decline.^{1,2} Demographic dividends are realized with distinguishable changes in population age structures, labor productivity, and economic growth over time. Initially, with declining birth rates and increased labor force supply, per capita incomes rise, other things being equal. The smaller share of children in the population enables greater investments per child, particularly for health care, nutrition, and schooling. If appropriate policies are in place to support productive employment, the larger working-age cohorts can produce more on a per-worker basis and on a per-person basis than in the past, thus boosting per capita income. Since workers are typically active savers, national savings can increase and the extra savings can be directed into new investments that yield additional returns.³

Moreover, with declining mortality, longer life spans, coupled with rising per capita income, motivate older workers to invest in their financial security for retirement. Although the rise in the proportion of elderly in populations tends to increase support costs for the working age population, it also brings an increase in assets that helps meet these costs and can raise the productivity of workers.^{4,5} These wealth transfers prolong the benefits of the Demographic Dividend over a longer period of time. For the Sahel

region, the benefits can potentially be sizable but depend on the necessary conditions for accelerated demographic transitions to be in place.

Researchers have shown that demographic dividends can add on average about 1.0 percentage point to the annual growth in per capita income and can continue to raise economic growth even as populations age.

The Asian Miracle emerged from a favorable confluence of demographic, economic, and social changes, including faster labor force growth relative to population growth that allowed for higher rates of savings and investment and improved human resource investments.^{6,7,8,9} One estimate finds **favorable population age structures** resulted in approximately 30 percent of average growth in per capita gross domestic product in Asia between 1965 and 1990.⁶ Another estimate finds the demographic dividend in East and Southeast Asia contributed 1.9 percentage points of the 4.32 percent actual growth in the gross domestic product per effective consumer, or nearly 44 percent, between 1970 and 2000.¹⁰

Lee and Mason¹¹ estimate that an accelerated fertility decline in selected sub-Saharan African countries can increase per capita income from 2010 to 2040 by a cumulative total of 30 to 32 percent in Ghana and Ethiopia and that constant fertility will reduce income growth by 1.1 percent in Nigeria and Mozambique. Dramani and Ndiaye¹² estimate the demographic dividend for Senegal to be a 0.75 percentage point increase around 2025.

A recent study through the World Economic Forum finds that under optimistic assumptions regarding future population age structure and life expectancy changes, Nigeria's per capita GDP could be nearly 29 percent higher in 2030 than in 2010.¹³

The Demographic Dividend depends on declines in fertility levels, which will lead to a time-limited fall in the dependency ratio and open up opportunities to allocate a larger share of resources for productive investment, including the formation of human capital.

The demographic dividend occurs because of **fertility declines** that follow child mortality declines.^{1,14} For example, in the absence of its fertility decline, Asia's child dependency ratio would have been more than twice as large.¹⁵ Human capital expenditures are highest per child where fertility rates are lowest. As the figure of the trade-off between human capital spending and fertility shows, low fertility enhances a country's ability to invest in human capital. Where fertility rates are five or more

births per woman, as is the case in Sahelian countries, the percent of average annual income invested per child to improve human capital is the lowest.



Source: Lee and Mason^{11, 14}

Research also shows that building up the quality of human capital with early schooling, health, and employment investments can provide robust payoffs for a sustained period of time.^{5,14}

Fertility declines are heavily influenced by ages at marriage and the practice of contraception during childbearing years.²⁵ Expanding secondary schooling, employment opportunities, and universal access to reproductive health care, as well as large-scale maternal and child health and nutrition programs, are essential to accelerating fertility transitions that are underway in sub-Saharan Africa.

One study estimates the return on investment from meeting two-thirds of the need for contraception in Kenya to be a 51 percent increase in per capita income between 2005 and 2050.³

Government investment in women's human capital will increase per capita income, and shifting from high to low fertility will add work years to female labor supply, raise household incomes, and increase tax revenues.

Gender discrimination in schooling and employment opportunities hurts economic growth. Concern has been raised that countries which ignore the female half of their population will not realize their demographic dividends.¹⁶ Dollar and Gatti¹⁷ find that a one percent increase in the percent of females with secondary schooling can increase per capita income growth by 0.3 percentage points. Educated mothers not only raise more highly educated children but they contribute to the labor supply and household income by participating in the labor force.^{18,19} Experiencing the fertility transition completely from 6.5

to 2.5 births per woman can increase a female's lifetime work years by 18 percent, or 8 out of 45 total years.²⁰

The Demographic Dividend is not guaranteed. Countries of the Sahel have significant challenges, and the absence of appropriate policy actions may prevent them from realizing a demographic dividend in this century.

The demographic dividend's **window of opportunity is limited**, and for many low-income countries where fertility transitions are underway, the window will close over the next 10 to 20 years.²¹ Countries in the Sahel region, however, have **yet to initiate fertility declines**, and a slow pace may prevent them from experiencing their demographic dividends in this century. The demographic

dividend is also **not automatic**, and not realizing it can have profound economic consequences.²² In order to compete in the global economy, foresighted and prudent decisions about health, education, and employment need to be taken today.

With 45 percent of its population under the age of 15, the Sahel region faces particular challenges in meeting the development needs of its youth population, which will continue to rapidly grow in size.^{23,24} Policies and investments are needed in the short term to enable their smooth transition into productive adulthood and for the long-term in the human capital quality of those born after them who will deliver the Demographic Dividend for the region.

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The signatories' views expressed do not necessarily reflect the views of their employing institutions or governments

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