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Will Nigeria Benefit from a Demographic Dividend?

Over the past decade, the Nigerian economy has achieved an impressive growth rate of more than 6 percent a year (NBS 2012). The population has also grown rapidly, from 124 million in 2000 to 158 million in 2010 (United Nations 2012). A total fertility rate of 5.4 children per woman, combined with improvements in child survival, have fueled population growth and led to an age structure dominated by large numbers of children.

If fertility levels come down, the proportion of the population at working ages will rise relative to the population of children who earn little or no labor income. And a growing working-age population, relative to the dependent population that requires support, is one important contributor to economic development.

A second key contributor is job growth. If Nigeria's large population of young adults

can find productive employment, then the country will enjoy a first demographic dividend, raising the current standard of living and spurring the economy. If resources generated by this first demographic dividend are invested in physical capital and in children's health and education, then Nigeria can achieve a second demographic dividend that will boost economic growth over a longer period.

The magnitude of this second dividend depends largely on how resources generated during the first dividend are used. Nigeria faces a difficult balancing act, weighing the priority to raise current living standards against the need to increase investment in human and physical capital that will lead to permanently higher economic growth.

The economic lifecycle

The changes in population age structure that accompany fertility decline are important because people earn income and consume at very different levels over the course of their lives. Working-age adults, as a group, produce more through their labor than they consume, while children and the elderly consume more than they produce. Within this broad pattern, the economic lifecycle varies according to the structure of the economy, the level of development, public policy, and many other factors. Understanding the economic lifecycle is essential because its basic features determine the effects of population age structure on economic growth.

The National Transfer Accounts (NTA) project describes the economic lifecycle by

measuring consumption and labor income at every stage of life. In Nigeria, as in other countries, per-capita consumption exceeds labor income for two long periods at young and old ages (Figure 1 left). These bracket a surprisingly short period—from age 32 to 61—in which labor income exceeds consumption.

When the age structure of Nigeria's population is combined with these per capita profiles, aggregate estimates of consumption expand dramatically for the young age group (Figure 1 right). This is not because Nigerian children consume so much, but rather because there are so many children.

The balance between workers and consumers

The NTA project has developed methods and is compiling data to measure shifts in the balance between workers and consumers in more than 40 countries around the world (Lee and Mason 2011). Workers are defined in terms of labor income, including earnings of individual employees, return to labor in family businesses, and income from self-employment. NTA defines an effective worker as a person earning the average labor income of someone in the prime working-age group of 30–49. Those in each one-year age group are counted as more or less than one effective worker based on their average labor income relative to the average for prime-age workers.

In most NTA member countries, the effective number of workers is about half of the population. In Nigeria, the effective

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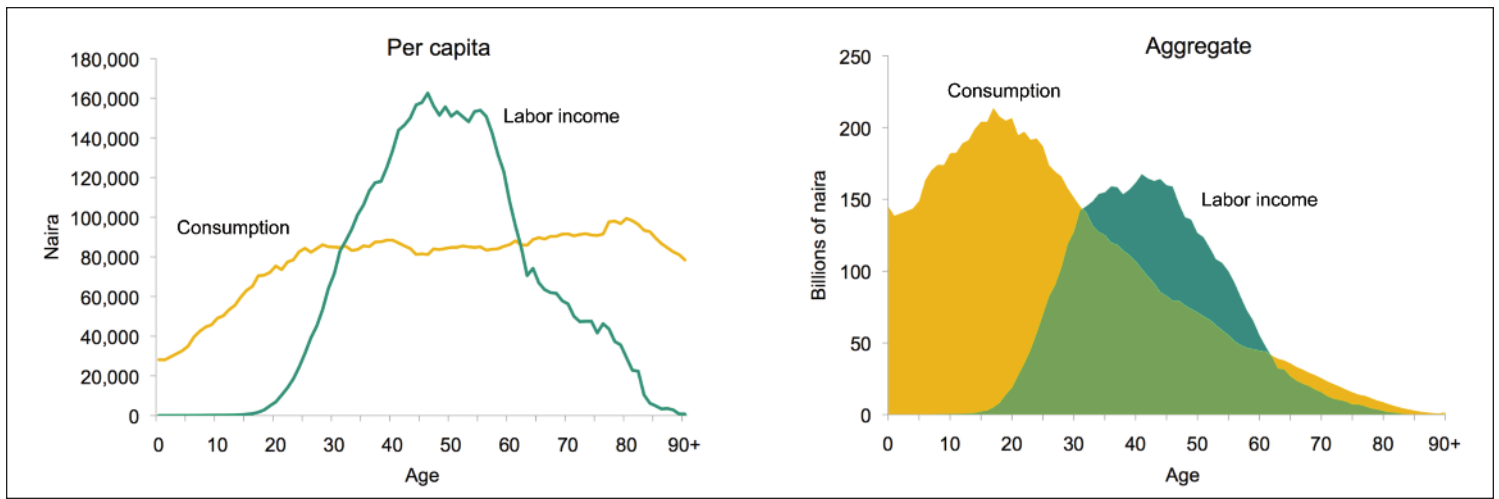


Figure 1. Per-capita and aggregate labor income and consumption by age in Nigeria, 2004.

Source: NTA data.

number of workers in 2010 was less than one-third. This is partly because the Nigerian population is so dominated by children and partly because labor income for young Nigerians tends to be very low.

The effective number of consumers is calculated similarly by comparing the average per capita consumption at each age with average consumption at ages 30–49. Consumption is defined to include both private and public consumption. In most NTA member countries, the effective number of consumers is about equal to the population. Nigerian consumers are concentrated at young ages, however, and children tend to consume less than prime-age adults. In 2010, the effective number of consumers in Nigeria was 75 percent of the population.

The effective number of workers per consumer is the support ratio. For example, a support ratio of 0.5 means that each worker is, on average, supporting himself or herself plus one other consumer. If the support ratio increases, each effective worker is supporting fewer effective consumers. This frees up resources that can be used to raise per capita consumption, increase saving, or both.

Given the large proportion of dependent children in the population and the low labor income for young adults, Nigeria has one of the lowest support ratios in the world—at 0.41. Nigeria’s support ratio has improved in recent years, but very slowly.

How can Nigeria generate a first and second demographic dividend?

Accelerating fertility decline

Nigeria’s potential for a demographic dividend is directly linked to a decline in birth rates that allows the population’s age structure to shift away from a pattern dominated by large numbers of dependent children. In 2010, each worker in Nigeria was supporting an average of 2.4 consumers, down very slightly from a peak in 2003 (Figure 2). Under the United Nation’s medium-fertility scenario, fertility in

Nigeria will decline over the next 40 years, but very slowly. The proportion of children in the population will remain large, and the proportion of elderly will remain small. In 2050, each worker is projected to be supporting 2.1 consumers.

Slow fertility decline, as projected for Nigeria, produces an increase in the relative size of the working-age population, but very gradually. If the Nigerian economy is to enjoy a significant boost from a demographic dividend, fertility will have to decline much more rapidly than currently anticipated. Projections based on United

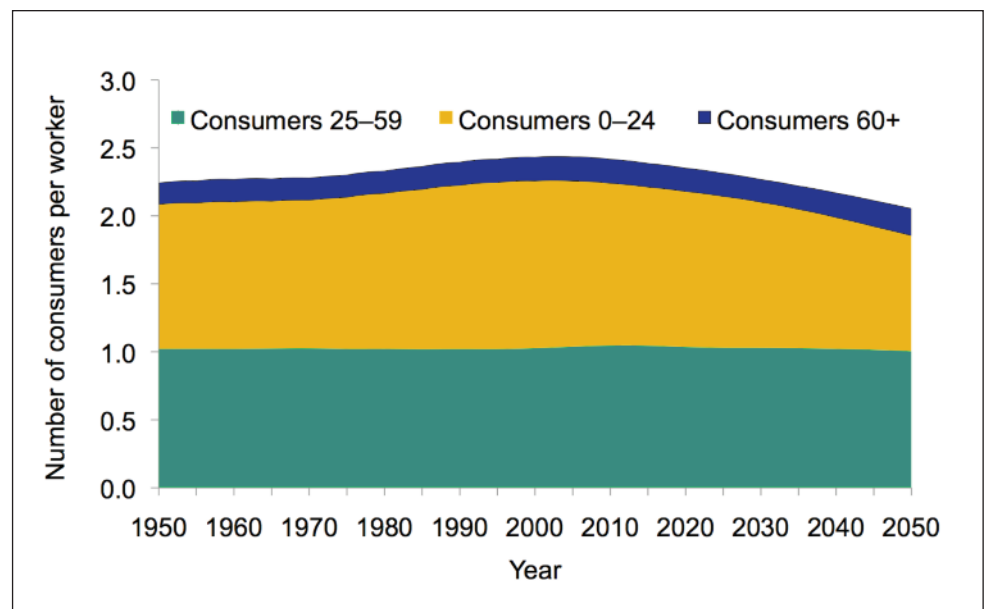


Figure 2. Changes in the number of consumers (children, working-age adults, and the elderly) per worker, in Nigeria, 1950–2050.

Source: Calculated from NTA data; population estimates and projections from United Nations 2012, medium-fertility variant. Note: The values for effective number of workers and effective number of consumers are based on population estimates for 2010 and estimates of consumption and labor income by age for 2004.

Nations low-, medium-, and high-fertility variants illustrate how much more quickly Nigeria's support ratio would improve if fertility could be brought down more quickly (Figure 3).

Expanding earning opportunities for young adults

The greatest demographic dividend will be achieved in countries that can improve employment opportunities for young adults. Apart from population age structure, the single most important factor that determines the support ratio in lower-income countries—and the potential for a demographic dividend—is the age profile of labor income. In particular, the lowest support ratios are found in countries where young adults have high unemployment and low labor income even when they are employed (Mason and Lee 2012). A central component is to increase employment opportunities for young women (Bloom et al. 2009).

In Nigeria, analysis of the economic lifecycle underlines the critical importance of the age pattern of labor income. Data on labor income by one-year age groups show that young people in Nigeria earn considerably less, compared with the labor income of prime-age adults, than their counterparts in South and Southeast Asia or Latin America and the Caribbean (Figure 4).

In 2010, young people age 15–34 accounted for more than one-third (34 percent) of Nigeria's population (United Nations 2012). And NTA data show that young Nigerians do not begin earning more than they consume until age 32 (Figure 1 left) (Soyibo, Olaniyan, and Lawanson 2011). Because Nigeria has such a young population, low labor income for this age group undermines efforts to achieve a robust demographic dividend.

If Nigeria combines fertility decline with better economic opportunities for young adults, a much larger demographic dividend can be realized. Clearly, programs that help young Nigerians make a smooth transition into productive employment merit strong priority.

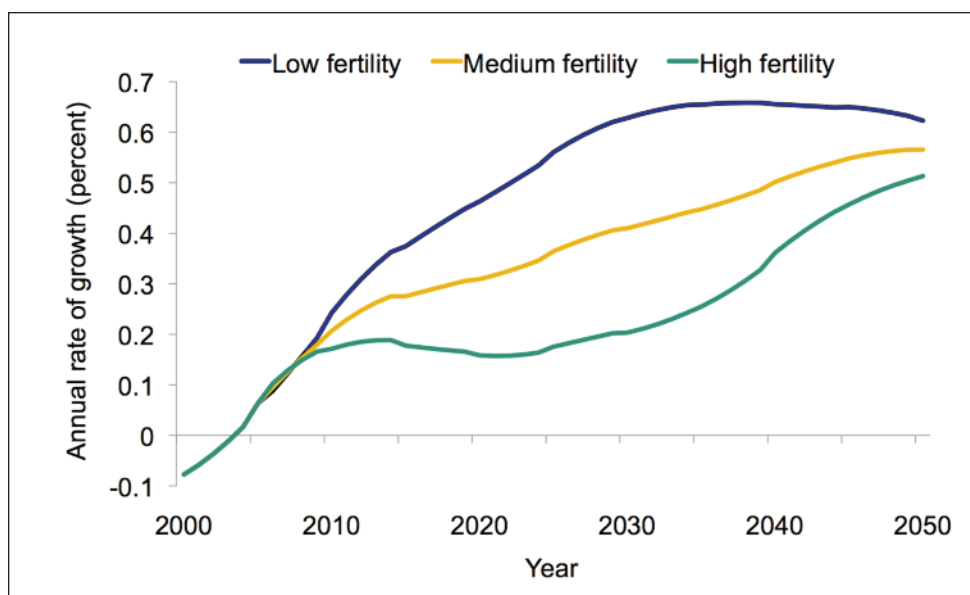


Figure 3. Estimates of the annual rate of growth of the support ratio in Nigeria based on United Nations low-, medium-, and high-fertility variants, 2010–2050.

Source: Calculated from NTA data; population estimates and projections from United Nations 2012.

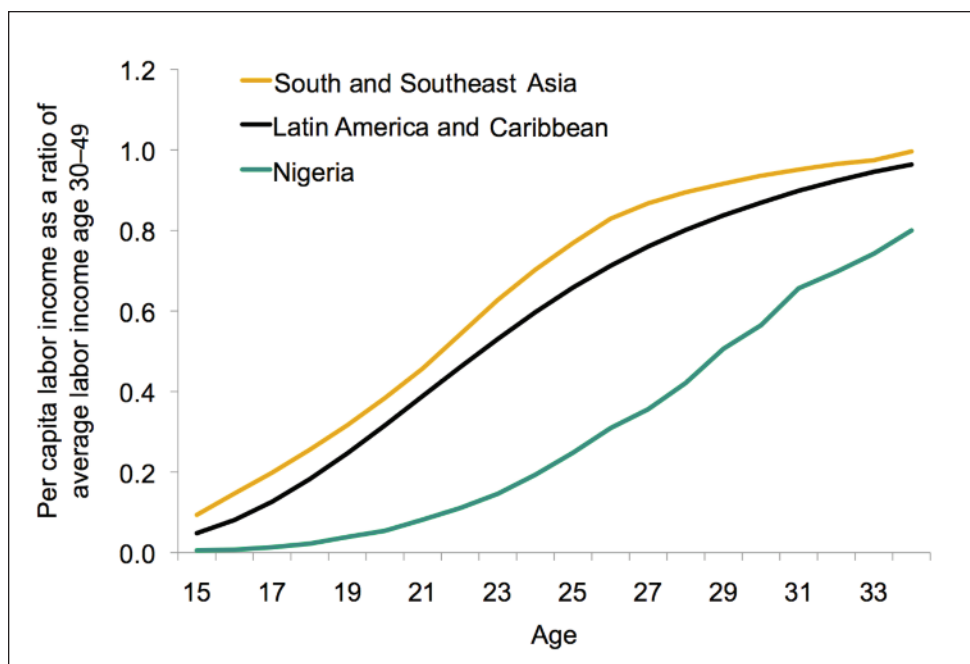


Figure 4. Per capita labor income at age 15–34 in Nigeria compared with values for NTA member countries in Africa, Latin America and the Caribbean, and South and Southeast Asia.

Source: Calculated from NTA data.

Note: Values are expressed as ratios to average per capita labor income at age 30–49. For a list of NTA member countries, see www.ntaccounts.org.

Boosting worker productivity by improving child health and education

The demographic dividend frees up resources that can be invested in the health and education of children. As the children grow older and enter the labor force, these earlier investments will have a favorable impact on

the economy by boosting worker productivity, contributing to a second demographic dividend.

NTA data show that, in fact, most countries are taking advantage of fertility decline to increase spending on child health and education (Lee and Mason

2010). Estimates from 32 NTA member countries confirm the strong link between low fertility and high investment in children's health and education (Figure 5).

Nigerians spend more on children's health and education, measured in terms of their own labor income, than would be expected for a country with such high fertility. An important feature, however, is that a large percentage of this spending comes from private families rather than the government. Public spending on health and education is very low in Nigeria, indicating that human capital investment primarily benefits children of relatively wealthy families, rather than being shared broadly.

Investing for a second demographic dividend

Demographic change in Nigeria can potentially increase the resources available for saving and investment. Longer life expectancy is also providing a greater incentive to save for old age. Between 1950 and 2050, life expectancy at birth is projected to increase by nearly 30 years (United Nations 2012).

Today, the elderly in Nigeria are likely to work well into old age, but their labor income tends to be low. NTA estimates show that Nigerians, on average, begin consuming more than they earn at age 62 (Figure 1 left), and the gap widens rapidly as they grow older (Soyibo, Olaniyan, and Lawanson 2011). To fill the gap between what they need and what they earn, elderly Nigerians rely on their families and on the assets they accumulated earlier in life. Government programs play a small role.

Analysis of current consumption levels among the elderly suggests that Nigeria's workers would need to set aside 5.8 percent of labor income every year if they are to meet all of their old-age consumption needs out of their own savings (Mason and Lee 2012). Over the next 40 years, this required level of saving is expected to rise to 9.8 percent of annual labor income.

Public pension and healthcare coverage for the elderly is very likely to expand in Nigeria, but the emphasis should be on encouraging individuals to accumulate assets that reduce reliance on families and taxpay-

ers and that promote economic growth. The goal should be to establish public programs that provide some basic level of security but that can be sustained in the years ahead.

Other priorities for policymakers include enacting labor laws that discourage discrimination against older workers and extend or eliminate mandatory retirement ages. In addition, governments can play an important role by creating an economic environment that helps working-age populations accumulate wealth and establish some degree of financial independence. Well-functioning financial markets, a strong banking system, secure property rights, a competitive economy, and financial literacy all play a role in assuring the economic security of all age groups.

References

- Bloom, David E., David Canning, Günther Fink, and Jocelyn E. Finlay. 2009. Fertility, female labor force participation, and the demographic dividend. *Journal of Economic Growth* 14(2): 79–101.
- Lee, Ronald, and Andrew Mason. 2010. Fertility, human capital, and economic growth over the demographic transition. *European Journal of Population* 26(2): 159–82.
- Lee, Ronald, and Andrew Mason, principal authors and editors. 2011. *Population aging and the generational economy: A global perspective*. Cheltenham, UK: Edward Elgar.
- Mason, Andrew, and Ronald Lee. 2012. *Demographic dividends and aging in lower-income countries*. National Transfer Accounts Working Paper. Honolulu: East-West Center.
- National Bureau of Statistics (Nigeria). 2012. *Nigerian economy in the first half of 2012 and revised economic outlook for 2012–2015*. Abuja: National Bureau of Statistics.
- Soyibo, Adedoyin, Olanrewaju Olaniyan, and Akanni O. Lawanson. 2011. The structure of generational public transfer flows in Nigeria. In Ronald Lee and Andrew Mason, principal authors and editors. *Population aging and the generational economy: A global perspective*. Cheltenham, UK: Edward Elgar.
- United Nations, Department of Economic and Social Affairs, Population Division. 2012. *World population prospects: The 2010 revision*. http://esa.un.org/unpd/wpp/unpp/panel_population.htm. Accessed 21 February 2013.

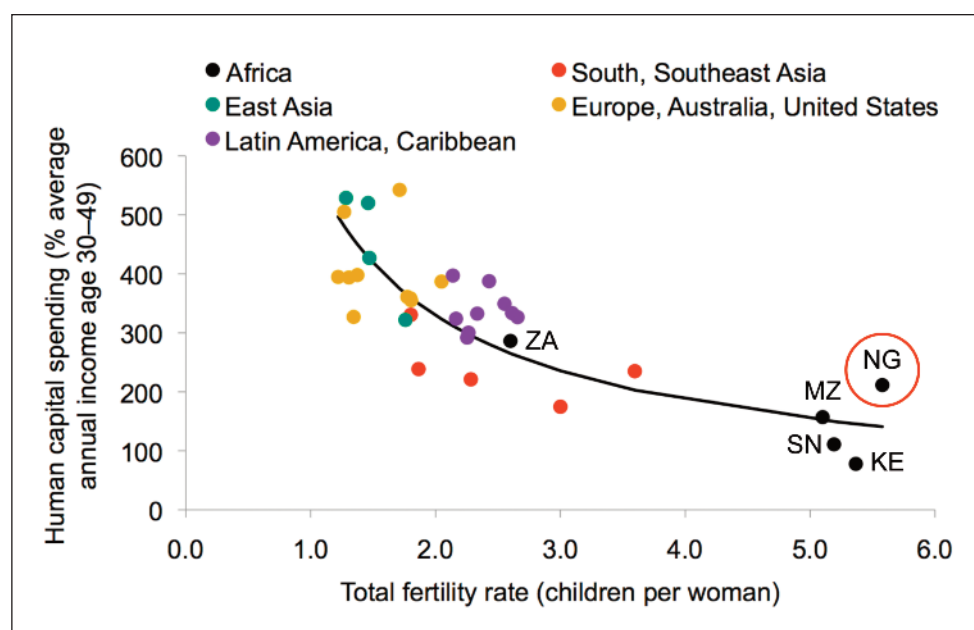


Figure 5. Tradeoff between human-capital spending and fertility.

Source: Update of estimates presented in Lee and Mason (2010).

Note: Lifetime human-capital spending per child is a synthetic cohort measure constructed by cumulating per capita health spending from ages 0–17 and per capita education spending from ages 3–26. To enable international comparison, the values are expressed as a percentage of the average annual labor income of adults age 30–49 in each country. African countries are Kenya (KE), Mozambique (MZ), Nigeria (NG), Senegal (SN), and South Africa (ZA).