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THE DEMOGRAPHIC DIVIDEND:

AN OPPORTUNITY FOR ETHIOPIA'S TRANSFORMATION

ETHIOPIAN ECONOMICS ASSOCIATION

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List of Frequently Used Acronyms

CPR	Contraceptive Prevalence Rate
CSA	Central Statistical Agency
EDHS	Ethiopian Demographic and Health Survey
FP	Family Planning
GDP	Gross Domestic Product
GTP-I	Growth and Transformation Plan I
HEP	Health Extension Program
HEW	Health Extension Worker
MoFED	Ministry of Finance and Economic Development
MOH	Ethiopia Federal Ministry of Health
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PSNP	Productive Safety Net Program
RH	Reproductive Health
TFR	Total Fertility Rate

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Executive Summary

This report explores the potential for a demographic dividend in Ethiopia. In the past two decades, Ethiopia has experienced an impressive decline in fertility, enjoyed strong economic growth, and made great strides in poverty reduction. Ethiopia has established proactive public policies to address its demographic patterns, such as programs to reduce infant and child mortality, improve education, and increase access to family planning (FP). As mortality and fertility levels decline, Ethiopia's working-age population may grow in relation to the number of young dependents, opening a window of opportunity for the accelerated economic growth known as a demographic dividend. Human capital investments and vigorous job growth are both crucial to achieving the economic growth associated with a demographic dividend. The need to make timely investments in human capital and the economy in order to realize a demographic dividend warrants an exploration of Ethiopia's development policies and frameworks.

By revisiting and reflecting upon the main arguments and recommendations of the 2007 World Bank report, "Capturing the Demographic Bonus in Ethiopia: Gender, Development, and Demographic Actions," this report examines what Ethiopia has achieved in recent years and identifies areas that need further action and investment. This report takes stock of socioeconomic progress, demographic change (with a special focus on fertility transition), economic growth, and economic policies. The report uses the DemDiv simulation to illustrate the potential size of a demographic dividend in Ethiopia. The results of this exercise show that the greatest potential gain stems from the synergy among policies across health, education, and economic sectors. Finally, the report explores some new pathways needed to consolidate and expand ongoing development efforts.

Ethiopia has made remarkable progress in social sectors and seen rapid demographic changes during the past decades. School enrollment at all levels has increased considerably, particularly for Ethiopian girls. In health, progress has been impressive as well. Life expectancy at birth has increased and fertility has decreased from 7.2 children per woman in 1990 to 4.1 children in 2014. This fertility decline has been triggered by a rapid expansion of contraceptive coverage (modern methods) during the same period. Last but not least, the country has also achieved significant improvements in its economic performance.

Ethiopia may be on the path to reach its demographic window of opportunity and capture the potential benefits of a demographic dividend. For this to happen, however, the country will need to continue to improve social policies, accelerate its demographic transition, and implement policies to foster economic growth. Improvements in female education will be crucial, as well as the expansion of modern contraceptive use to further decrease fertility. In addition, economic policies should encourage labor market flexibility, savings programs, expansion of labor-intensive sectors (such as agriculture and manufacturing), and stronger public-private partnerships.

Introduction

The impact of population on economic development has been a subject of major political and academic debates.[1] Some researchers have argued that high fertility and rapid population growth inhibit development. Others have argued that rapid population growth can actually promote economic prosperity.[2] More recent studies have found that population growth has an ambiguous effect on economic development.[3] To a large extent, the debates have focused on the effect of population size on economic growth, with little attention paid to the age structure of the population.

The impact of population growth on economic development is at the heart of contemporary interest in Africa's demographic dividend, or demographic bonus—the potential for accelerated economic growth associated with an increase in the economically active share of the population (see Box 1, page 3). This report revisits and reflects upon the main arguments and recommendations of the 2007 World Bank report, "Capturing the Demographic Bonus in Ethiopia: Gender, Development, and Demographic Actions." It examines what Ethiopia has achieved in the last 10 years and reflects on areas warranting further actions and investments.

In the mid-to-late 20th century, four countries in East Asia (Hong Kong, Singapore, South Korea, and Taiwan) experienced rapid rates of economic growth—taking part in what is commonly known as the Asian Miracle. In addition to the obvious contributors to economic growth, such as sound economic policies, a closer examination of the Asian Miracle highlighted the crucial role played by demographic factors, in particular changes in age composition and dependency ratios that were brought about by fast declines in fertility rates.[4] The concept of the demographic dividend emerged as a result of this examination of the Asian Miracle. The Asian Miracle demonstrated that a population's distribution across different age groups can have a significant impact on the

economic progress of a country. At different stages of the life cycle, the needs of individuals vary, affecting consumption and savings levels. The age structure of a country can be made up of economically inactive age groups, consisting of children and elderly people. Alternatively, it can be skewed toward working-age people. If a larger proportion of a country's population consists of people in the nonproductive age group, the country usually has to allocate more resources to the welfare of these dependent groups than otherwise. The need to allocate more resources to these groups limits the resources that could be invested in activities such as building infrastructure and fostering economic growth. On the other hand, if the majority of the people are in the working-age group, then the country could benefit from increased productivity and production.

The window of opportunity to capture a demographic dividend opens when, due to the sharp decline in fertility, two major changes occur. First, the active population becomes relatively larger than the younger cohorts below the age of 20. Secondly, as the young, dependent population shrinks in relation to the working-age population, this shift translates into fewer dependents per working-age adult. The concept of the demographic dividend refers to an effective surplus in the gross domestic product (GDP), which increases when relatively more active persons contribute to production, assuming that these people are employed and can be fully absorbed into the labor market. Because the population has proportionately fewer dependents, a larger fraction of GDP may be allocated to other purposes. Human capital investments, such as investments in education and health, increase the productivity of the next generation of working-age adults.

Demographic changes provide a window of opportunity, but countries can only experience sustainable economic growth if favorable policies are put in place to benefit from these changes.[5] Timely economic policies that enhance labor-market flexibility, openness to trade, and savings can promote employment growth that helps realize the benefits of a demographic dividend. In addition, social policies and programs contribute to the population's health and education. Gender equality, manifested through gender parity in educational enrollment and achievement; female labor force participation; and comprehensive, voluntary access to sexual and reproductive health care also contribute to an enabling environment for a demographic dividend. In addition, a country's response to external factors such as global economic changes, wars, climate change, and technological advances affects the realization of a demographic dividend.

In recent years, a healthy debate has taken place on how to produce a demographic dividend in sub-Saharan Africa similar to the dividend that occurred previously in East Asia.[6] The topic of a demographic dividend has grabbed the attention of policymakers and academics around the region; yet the demographic transition, a necessary, if not sufficient, precursor to a demographic dividend, has lagged in much of sub-Saharan Africa.

Ethiopia, however, appears to stand out as a major exception to this general pattern. In the past two decades, Ethiopia has experienced an impressive decline in fertility, enjoyed strong economic growth, and made great strides in poverty reduction. Ethiopia has established proactive public policies to address its demographic patterns and trends, such as programs to reduce infant and child mortality, improve education, and increase access to FP. Despite the challenges it faces, Ethiopia may well be on track to capture a demographic dividend.

This report takes stock of the progress that has been accomplished in social sector outcomes and policies, demography (with a special focus on fertility transition), economic growth, and economic policies. The report presents the results of the DemDiv model, a model that projects the potential size of the demographic dividend, applied specifically to Ethiopia. Finally, the report explores new pathways needed to consolidate and expand ongoing development efforts, with a focus on policies and funding of the social sectors, demography, and economic development.

BOX 1

What Is a Demographic Dividend?

The demographic dividend refers to the accelerated economic growth that can begin with changes in the age structure of a country's population as it shifts from high to low birth and death rates during a demographic transition. This accelerated economic growth results from a fast decline in a country's mortality and fertility and the subsequent changes in the age structure of the population. As a country's working-age population grows in relation to the number of young dependents, the country has a window of opportunity for stronger economic growth. This window of opportunity is limited in time.

Source: James N. Gribble and Jason Bremner, "Achieving a Demographic Dividend," *Population Bulletin* 67, no. 2 (Washington, DC: Population Reference Bureau, 2012).

What Ethiopia Has Accomplished

Ethiopia's development goals over the last 10 years have included a focus on improving its citizens' health and well-being. Although plans have varied in their emphases, each has had some element of sector-specific policies, including education, job training, and economic growth. For example, the Ministry of Health (MOH) launched the Health Extension Program (HEP) in 2003, which has deployed more than 35,000 health workers to rural areas.

This section will review Ethiopia's achievements in three major areas: social sectors, demographic changes, and economic growth. Although these changes will be discussed separately, they are interconnected. Outlining Ethiopia's accomplishments also points to areas where further action and investments are needed.

PROGRESS IN SOCIAL SECTORS

In recent decades, Ethiopia has made steady progress in expanding access to education and health services. Educational access and opportunity are crucial to attaining a demographic dividend. The knowledge, skills, and capabilities of Ethiopia's future working-age population will determine the extent to which Ethiopia can capitalize on demographic changes. Secondary and tertiary education for men and women will increase the proportion of skilled workers in the labor force—preparing young people to take advantage of new opportunities and broadening sources of economic growth. At the same time, the Government of Ethiopia has designed policies and programs to foster gender equality, contributing to reduced fertility and increased participation of women in the labor force—thus improving the conditions for fostering a demographic dividend.

Education

Ethiopia has made great strides in increasing school enrollment and gender parity in enrollment, literacy, and educational attainment level. In 2000, 67 percent of Ethiopian children had never been to school, a proportion that was cut to 28 percent in 2011.[7] Increased access to education has improved youth literacy rates, from 55 percent among ages 15 to 24 in 2007 to nearly 70 percent in 2015.[8] In addition, literacy of women ages 15 to 49 more than doubled between the 2000 and 2014 Ethiopian Demographic and Health Surveys (EDHS).[9] Although improvements have been made in educational attainment, many young people in Ethiopia continue to face obstacles to completing their education. In 2011, only 21 percent of men and women ages 15 to 19 completed primary school level or higher.[10]

Girls' education—especially at the secondary level—often contributes to fertility decline and to economic growth because it prepares women for nontraditional roles outside the home. More-educated women also have better chances of obtaining loans and financial support to grow small businesses.

In Ethiopia, the gender gap in enrollment is narrowing at all education levels. The government has established primary and secondary schools in all districts, allowing more girls to attend school. Ethiopia has achieved near perfect gender parity in school enrollment at the primary level.[11] In some regional states, the proportion of educated women ages 15 to 49 has increased dramatically over the last 15 years. For example, in 2000 only 22 percent of women in Tigray had at least some primary school education and by 2014, this proportion more than doubled to 53 percent.[12] However, in some areas women remain largely uneducated. For example, in Afar the percentage of women ages 15 to 49 who have at least a primary school education or above has actually decreased over the last 15 years.[13] In addition, fewer women access higher education, compared to men. According to UNESCO, in 2012 just under 1 in 3 graduates at the tertiary level is female.[14]

Health

During the past two decades, Ethiopia has delivered on ambitious health programs, improving the health and well-being of the population and contributing to the beginning of a fertility decline. Over this period, the country has taken great strides in reducing mortality, particularly for infants and children. As a result, the country has been able to trigger a demographic shift whereby more children survive to adulthood, initiating the first step of its demographic transition.

The three EDHSs conducted between 2000 and 2011 provide a wealth of information on mortality of infants and children. Infant and child mortality rates are the main factors determining overall levels of life expectancy at birth. Table 1 shows the rates of infant and child mortality (number of deaths per 1,000 live births) by survey year. The data illustrate the downward trend in infant and child mortality.

TABLE 1

Infant and Child Mortality Rates in Ethiopia

Infant and Child Deaths per 1,000 Live Births

YEAR OF SURVEY	INFANT MORTALITY (<1 YEAR OLD)	CHILD MORTALITY (1-4 YEARS OLD)	UNDER-5 MORTALITY (<5 YEARS OLD)
2000	97	77	166
2005	77	50	123
2011	59	31	88

Note: These data are for the five years prior to the survey.

Sources: Central Statistical Agency (CSA), Ethiopia and ICF International, Ethiopia Demographic and Health Survey (EDHS) 2000 (Addis Ababa, Ethiopia: CSA, Ethiopia and ICF International, 2001); CSA, Ethiopia and ORC Macro, EDHS 2005 (Addis Ababa, Ethiopia and Calverton, MD: CSA, Ethiopia and ORC Macro, 2006); and CSA, Ethiopia and ICF International, EDHS 2011 (Addis Ababa, Ethiopia and Calverton, MD: CSA, Ethiopia and ICF International, 2012).

The 2011 EDHS estimates 59 infant deaths per 1,000 live births and 88 deaths per 1,000 live births among children under age 5. This implies that during the five years preceding the 2011 EDHS one in 17 Ethiopian children died before their first birthday and one in 11 Ethiopian children died before their fifth birthday.[15] In the period between the first and third EDHS, infant mortality decreased by almost 40 percent and child mortality decreased by 60 percent. Overall, the under-5 mortality rate decreased by nearly one-half.[16]

Adult survival rates have also improved significantly since 2000. In 2011, adult mortality rates were estimated at five deaths per 1,000 men and four deaths per 1,000 women (these are direct estimates for the seven years preceding the 2011 EDHS). Survival rates improved during the period 2000 to 2011, but more rapidly between 2005 and 2011. However, the maternal mortality ratio has not improved as remarkably over the same period: Maternal mortality was estimated at 676 maternal deaths per 100,000 live births for the seven-year period preceding the 2011 EDHS, nearly identical to the 673 maternal deaths per 100,000 live births reported in the 2005 EDHS.[17]

The combined effect of improving under-5 and adult mortality rates has produced considerable improvements in life expectancy at birth. The UN estimated Ethiopian life expectancy at 50.8 years for both sexes combined for the 1995-to-2000 period and 63.3 years for both sexes combined for the 2010-to-2015 period.[18] Ethiopians gained more than 12 years of life expectancy for both sexes combined in a period of 15 years, with much of this progress attributable to the sharp decrease of under-5 mortality.

Positive health outcomes like reduced mortality and increased life expectancy are indirectly connected to a demographic dividend. Reduced infant and child mortality rates often lead families to decrease the number of children they have, because more children survive until adolescence and adulthood. Bold and aggressive health policies and programs can produce these desired health outcomes. One of these programs has been Ethiopia's Health Extension Program (see Box 2).

Gender and Women's Empowerment

Improvements in girls' access to education, female labor force participation, and political participation promote an enabling

BOX 2

The Health Extension Program

The Health Extension Program (HEP) was launched in 2003 in an effort to strengthen Ethiopia's health systems, particularly in rural areas. This community-based health program became operational in 2004/05.[1] HEP is integrated within the broader health system. The purpose of the program was to achieve universal coverage of primary health care and to reduce maternal and child morbidity and mortality. The program was first aimed at agrarian communities but was subsequently tailored and scaled up for pastoral and urban communities.[2] Today, more than 35,000 paid Health Extension Workers (HEWs) are involved in HEP throughout Ethiopia. HEP hires only female HEWs who have completed at least 10th grade, providing an employment opportunity for young women who have received some secondary school education. The program also relies on continued community participation and community-based volunteers to sustain the program.

HEWs deliver 16 clearly defined health packages in four main areas: hygiene and environmental sanitation, disease prevention and control, family health services, and health education and communication. The family health component includes household visits that provide FP information and services. HEWs also use existing health posts in rural villages.[3] HEP is well respected for its contributions to Ethiopia's progress in advancing child health and access to FP.

Despite considerable achievements, HEP also needs to address several major challenges. HEWs have sometimes been overburdened with requests from external donors to conduct additional activities.[4] One challenge is ensuring HEP offers high-quality health services in all of the 16 health packages. HEP should enhance the skills and performance of HEWs, in particular with respect to maternal health. HEP also needs to find a sustainable administrative and management structure to adequately support the work of HEWs. Finally, the program faces logistical and financial hurdles. The extended use of community-based volunteers is hard to sustain without some material compensation and/or career advancement.[5]

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TABLE 2

Total Fertility Rates (TFR) in Ethiopia

Average Births per Woman Over Lifetime

YEAR OF SURVEY	TOTAL (TFR)	URBAN (TFR)	RURAL (TFR)
2000	5.9	3.3	6.4
2005	5.4	2.4	6.0
2011	4.8	2.6	5.5
2014	4.1	2.3	4.6

Note: Fertility rates estimated based on data from the three years preceding the surveys.

TABLE 3

Contraceptive Prevalence Rates in Ethiopia Among Currently Married Women

Percent Using Modern Methods of Contraception

YEAR OF SURVEY	TOTAL POPULATION	URBAN POPULATION	RURAL POPULATION
2000	6	28	3
2005	14	42	11
2011	27	50	23
2014	40	56	37

Note: Estimates reported are based on modern methods, rounded to the nearest whole number.

Sources: Central Statistical Agency (CSA), Ethiopia and ICF International, Ethiopia Demographic and Health Survey (EDHS) 2000 (Addis Ababa, Ethiopia: CSA, Ethiopia and ICF International, 2001); CSA, Ethiopia and ORC Macro, EDHS 2005 (Addis Ababa, Ethiopia and Calverton, MD: CSA, Ethiopia and ORC Macro, 2006); CSA, Ethiopia and ICF International, EDHS 2011 (Addis Ababa, Ethiopia and Calverton, MD: CSA, Ethiopia and ICF International, 2012); and CSA, Ethiopia, Ethiopia Mini DHS 2014 (Addis Ababa, Ethiopia: CSA, Ethiopia, 2014).

environment for a demographic dividend. Research shows that education increases girls' autonomy and decisionmaking ability, both inside and outside of the home.[19] Educated girls also have higher earning potential because education makes women more employable outside of traditional roles.[20] They also are more likely to participate in politics.[21]

Gender equality in education has improved substantially in Ethiopia over the past 15 years under the Education Sector Development Program. As has been mentioned, although great improvements in gender parity in education have been made, large regional disparities continue to exist in girls' access to education and educational attainment. In Addis Ababa, 53 percent of women surveyed in the 2014 Mini EDHS had completed primary school or above. However, in Somali only 8 percent of women had completed primary school or above.

Ethiopia has made efforts to increase female labor force participation through public works programs and other initiatives. In addition, the government has led other interventions to foster women's engagement in formal economic activity, by providing businesses incentives to hire women, business management training and follow-up support, and the extension of credit to female entrepreneurs.[22] These policy interventions have helped economically empower Ethiopian women.

Finally, female political participation has improved significantly. The proportion of the Ethiopian Parliament's seats held by women has increased from almost 8 percent in 2000 to almost 28 percent in 2014, a more than three-fold increase.[23] However, there is still a leadership gender gap at the ministerial and executive level in Ethiopia.[24]

DEMOGRAPHIC CHANGES

Ethiopia has experienced a rapid decrease in fertility levels in recent years. Change in fertility levels will have far-reaching implications for the age structure of Ethiopia.

Fertility Decline

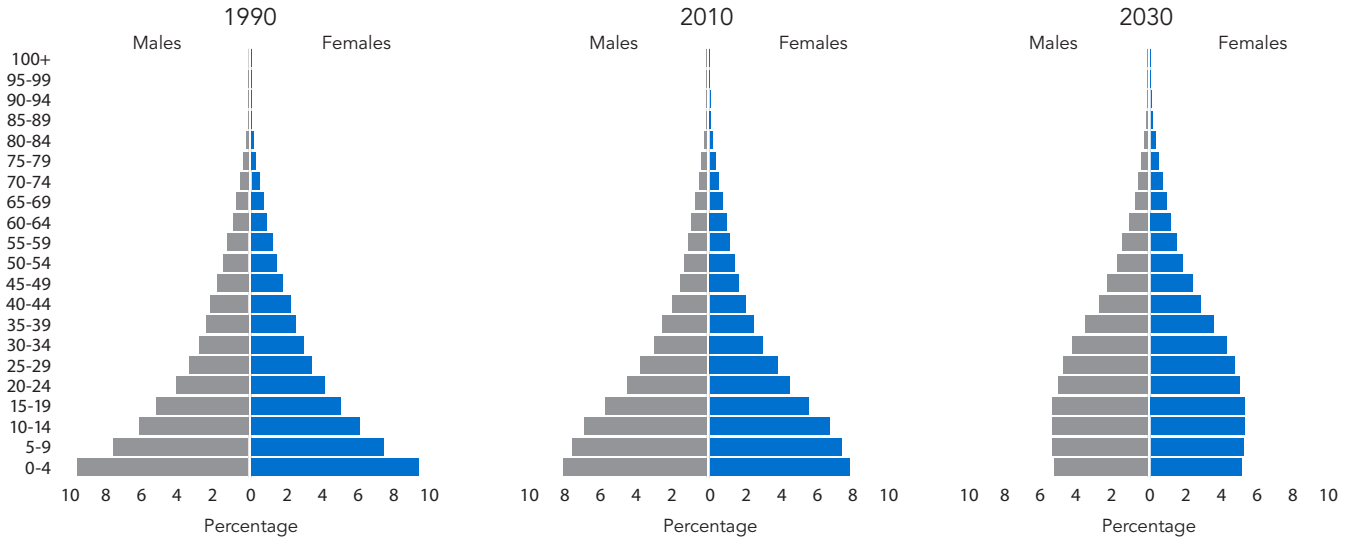
In 1990, Ethiopia's total fertility rate (TFR, or average lifetime births per woman) was 7.2.[25] As illustrated by the results of the 2000, 2005, and 2011 EDHSs, as well as data from the 2014 Mini EDHS, the TFRs for Ethiopia have decreased dramatically since 1990 (see Table 2). In 2014, the TFR was estimated at 4.1 children per woman. This means that Ethiopia has accomplished one of the main objectives of the 1993 National Population Policy: reducing the TFR to approximately 4.0 children per woman by the year 2015. In just 14 years, the TFR decreased by 30 percent for Ethiopia as a whole. Broadly speaking, the rate of decrease has been equally rapid in urban and rural areas, each area experiencing a decline of fertility of about one-third. However, the TFR remains much higher in rural areas compared to urban. In 2014, the TFR in urban areas was half the TFR in rural areas.

There are also noticeable variations in Ethiopian fertility levels by region and income. According to the 2014 Mini EDHS, the regional states of Afar, Benishangul-Gumuz, and Somali still have TFRs higher than 5 children per women. In contrast, Addis Ababa, had a TFR of 1.7 in 2014, a rate that is below replacement level fertility. Finally, in 2014, the lowest wealth quintile had a TFR of 5.4, more than double the TFR of the highest quintile, at 2.5 children per woman.[26]

A major explanation for the decrease in fertility in Ethiopia has been the rapid increase in the use of modern contraception, as shown in Table 3. In 14 years, the modern contraceptive

FIGURE 1

Population Pyramids for Ethiopia in 1990, 2010, and 2030 (projection)



Source: United Nations Population Division *World Population Prospects: The 2015 Revision* (New York: United Nations, 2015).

prevalence rate (CPR) has increased more than six-fold nationally, which translates into an increase of nearly 2.5 percentage points per year. This achievement is remarkable, comparable to results in successful FP programs in Asia. FP uptake has been even more dramatic in rural areas, with a nearly 12-fold increase. It is likely that both behavioral changes in response to population pressures in those areas and the HEP played a role in increasing FP uptake.

Besides the rapid increase in the CPR, biological and behavioral variables do not appear to have played a major role in the decrease in fertility, with the possible exception of induced abortion.[27] Induced abortion incidence impacts fertility and could have contributed to the sharp fertility decline observed in Ethiopia between 2000 and 2014. The number of induced abortions in Ethiopia was estimated at 382,000 in 2008, and the abortion ratio was 13 per 100 live births.[28] In Addis Ababa, the induced abortion ratio in 2008 was estimated to be more than 8 times higher than the national level.[29] Given limited research on this topic, changes in induced abortion rates remain unexplored.

Marriage also affects fertility since, in Ethiopia, few births take place outside of marriage; in fact, almost 60 percent of Ethiopian women ages 20 to 24 were married or in union in 2014.[30] Less than 1 percent of Ethiopian women ages 45 to 49 had never been married, making marriage nearly universal at that time. The proportion of women who have never married has not changed much in Ethiopia during the past 15 years.[31] Early marriage, however, is on the decline in Ethiopia. In addition to advancing the rights of women and girls, postponing marriage until adulthood often delays the onset of childbearing and can contribute to decreases in fertility rates.

Major socioeconomic and cultural forces are likely driving decreasing fertility levels in Ethiopia. Many theories attempt to account for changes in fertility outcomes in various settings and stages of development. They are summarized in Box 3, page 8. In the case of Ethiopia, this review of the different explanations of fertility decline points to multiple, concomitant causes.

Fertility decline is an important precursor of a demographic dividend because it frees resources to invest in the education and health of surviving children. Child survival into adulthood is key to changes in the age structure that contribute to a demographic dividend. Although child survival may contribute to population growth simply because more people will live to adulthood, better survival prospects for children should also slow population growth, because with more children surviving, parents will, in principle, want to have fewer children.

Changes in the Age Structure

As a result of the changes in the levels of mortality and fertility, the age structure of the Ethiopian population has begun to shift from a traditional, wide-based population pyramid to a transitional pyramid that is narrower at the bottom (see Figure 1). Given the rapid pace of the fertility transition in Ethiopia, we have used here the low variant of the 2015 United Nations (UN) population projections.[32]

BOX 3

What Triggered the Fertility Decline in Ethiopia?

The rapid decline of fertility observed in many developing countries after World War II generated a large body of literature attempting to identify the causes of this dramatic change. In the case of Ethiopia, demographic pressure on the highlands has led to a worsening of living conditions and fewer economic opportunities.[1] As a result, Ethiopian couples decided to adjust their fertility downward and adopt contraception to limit their family size.

In his classic wealth flows theory of fertility decline, the Australian demographer John C. Caldwell provided a broad analytical framework for the socioeconomic explanation of fertility decline. He argued that economic changes at the household level, as well as externally-driven new obligations, such as mass schooling and/or paid employment, contributed to destabilizing traditional production regimes that usually favored high fertility. Parents started to realize that their offspring either would not have the same opportunities as they did or would cost more money than they would generate themselves, therefore reversing the wealth flows and transfer between generations.[2] This trend may indeed be occurring in parts of Ethiopia. Traditional production models, especially in the highlands, are destabilized. More Ethiopian children (especially girls) are going to school, more Ethiopians are gaining paid employment, and more are migrating to cities.

In addition to the adaptive responses to changing economic conditions, it seems that demographic changes in Ethiopia, exemplified by the rapid uptake of modern contraception, have also been triggered by changes in cultural forces and attitudes. In this respect, theories of ideational changes, related to the diffusion of new ideas and attitudes leading to behavior change, have been proposed to explain the decline in fertility in societies opening up to new ideas and attitudes, even though their socioeconomic advancements remain rather modest.[3] According to this interpretation, new ideas and attitudes and minimal changes in daily life, such as token signs of modernization, would be sufficient to bring about the onset of fertility decline (a reduction in fertility of at least 10 percent). In addition, one should not discount the influence of the media and communication technologies, as well as the new cultural norms brought by returning migrants and the role of the Ethiopian diaspora.

New gender roles also play a part in the demographic changes in Ethiopia. Ethiopian women not only attend school in larger numbers, but they also work and seek work outside the home more, and thus participate more in the labor market and the economy. Female schooling has an impact on fertility levels; even uneducated women benefit from educated women (positive externality of education).[4] Ethiopian women have become more assertive and individualistic; in short, the gender balance may be tilting in their favor.

Last but not least, one should stress the impact of the health and FP programs put into place by the Government of Ethiopia, with support from external donors.[5] The HEP has deployed more than 35,000 health agents throughout the country and helped popularize new attitudes as well as new norms. In 2005, the Government of Ethiopia modified the penal code, broadening the indications under which abortion is permitted and possibly affecting fertility levels. This policy change was followed in 2006 by the publication by the Ethiopian MOH of technical and procedural guidelines for the provision of safe abortion services.[6]

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In the 1990s, the population pyramid of Ethiopia was still large at the base, reflecting the high levels of fertility in the country at the time and a large number of children relative to the working-age population.[33] In 2010, the population pyramid became narrower at the base. Step by step, the working-age population is growing faster than the number of children. By 2030, the base of the population pyramid will narrow further and become more rectangular, if the levels of fertility continue to decline as predicted in the low variant UN population projections.[34]

These changes in the age structure are important. The number of dependents (defined as those below age 15 and above age 65) declines while the number of working-age people (ages 15 to 64) increases, leading to a greater working-age share of the population.[35] This shift in the age structure permits reallocation of government and household resources to build education and health programs for the younger cohorts. Indeed, the transformation of the Ethiopian age structure may soon enable the country to capture the benefits of a demographic dividend, provided that policies

and investments in education, health, and job creation continue. It will be crucial to address the needs of youth so that they have the knowledge, skill, and opportunities to become productive workers and citizens in the future.[36]

ECONOMIC PERFORMANCE

To realize a demographic dividend, the Ethiopian economy must absorb the large number of people who will reach working age over the next several decades. This requires creating a large number of jobs, particularly jobs that allow workers to earn enough to maintain their health, invest in the health and education of their children, and even save in order to buffer against economic shocks.

Targeting specific economic sectors for development has different implications.[37] Lower-productivity sectors (with lower levels of output per unit of labor), such as agriculture, tend to support many workers but at lower levels of earnings. Higher-productivity sectors, such as manufacturing and knowledge-based service sectors, may employ fewer workers but offer jobs with higher pay. Encouraging employment in higher-productivity sectors also means confronting issues of rural underemployment and urban unemployment that may arise and can slow economic growth. The goals of Ethiopia's most recent development frameworks (both the recently concluded first Growth and Transformation Plan (GTP-I) and the new GTP-II) have emphasized fast-paced economic growth, industrialization, and extensive infrastructure development—all major contributors to employment growth and productivity.

Economic growth, essential to the realization of a demographic dividend, requires both investment in human capital (a healthy and educated population) and diversity in production (employment opportunities across multiple sectors and geographic regions). In addition, in an integrated global economy, economic growth requires connections to the global marketplace. Appropriately timed policies and sound institutions provide the environment in which decisions about long-term economic investments may be made.

In order to better understand how Ethiopia could create the jobs needed to catalyze a demographic dividend, this section of the report will explore sector-specific growth and the contribution of different sectors to the Ethiopian economy. The strengths and weaknesses of different economic policy frameworks and the economic performance accompanying each policy framework will be outlined. In addition to discussing sector-specific growth, this section will present data on employment, savings rates, and poverty and inequality.

Productive Employment for Ethiopia's Working-Age Population

As Ethiopia's age structure changes and the working-age population grows relative to the population of young dependents, productive employment opportunities need to be made available for those in the workforce. Ethiopia is currently experiencing an economic boom and ongoing expansion of regional urban centers and capital cities. The expansion of rural education has, among other factors, had an impact on the rural-urban demographic balance. Once rural youth are educated, they often seek livelihood alternatives to farming and migrate to urban centers where broader employment options may be available. According to the Ethiopian labor force survey of 2013, the urban population is growing and today accounts for more than 18 percent of the total population.[38]

Among the total employed population, the urban economy employed 11 percent of the labor force in 2005, but increased to 15 percent of the labor force in 2013.[39] In 2013, approximately 48 percent of employed persons worked in skilled agriculture, forestry, and fishery activities.[40] Almost 34 percent of employed persons worked in less-skilled occupations.[41]

Over the past decade, unemployment has been largely an urban phenomenon in Ethiopia. The national unemployment rate was 4.5 percent in 2013.[42] The unemployment rates for the male and female labor forces were 2.7 percent and 6.5 percent, respectively.[43] The unemployment rate in urban areas was 16.5 percent—10.5 percent for the male labor force and 23 percent for the female labor force. The urban unemployment rate contrasts to a 2 percent unemployment rate in rural areas.[44] However, unemployment is not really a possibility in rural Ethiopia where family members may be unpaid agricultural workers. There is, however, increasing rural underemployment as family members work on smaller and increasingly fragmented plots of land with lower productivity.[45]

A Transitioning Economy

As of 2013/14, Ethiopia's GDP stood at 1.047 trillion Birr (US$55 billion at current market prices), translating to a per capita income of 12,046 Birr or US$631.50.[46] The official figures from MoFED show that the economy has been expanding at an average rate of 10.5 percent annually for the last decade.[47] With average annual population growth of 2.7 percent, this translates into an average growth rate of 7.8 percent in per capita GDP. A large share of Ethiopia's growth is driven by public sector investments. Ethiopia ranked third highest in public investment rate and sixth lowest in private investment rate in the world in 2011.[48]

Ethiopia's growth rate has been impressive compared to those of its sub-Saharan African peers. Ethiopia has been one of the fastest growing economies in Africa for the past 10 years according to the African Development Bank.[49] Similarly, Ethiopia is ranked as one of the top five fastest growing economies in the world.[50] However, the Ethiopian economy still faces a number of challenges, namely, a lack of absorptive capacity (resulting in unemployment), a lack of diverse job options, particularly for well-educated Ethiopians, and slow growth in the private sector.

Ethiopia's Agricultural Base

Until recently, the Ethiopian economy has been mainly a subsistence agrarian economy. Prior to 2005, agriculture and related activities accounted for nearly half of GDP and more than 80 percent of employment.[51] Dependence on agriculture is slowly waning, particularly as more Ethiopians move to urban centers where other employment options may be available. In 2013/14, agriculture and related activities contributed to 20 percent of overall GDP.[52] However agriculture continues to be the major source of employment for Ethiopians, particularly for those living in rural areas. In 2013, agriculture accounted for 73 percent of total employment, ranging from 83 percent in rural areas to 14 percent in urban areas.[53]

The agricultural sector continues to be dominated by smallholder subsistence farmers who produce more than 95 percent of the total agricultural production and cultivate a similar percentage of the land.[54] Over 90 percent of export earnings come from agriculture, including coffee, pulses, and oil seeds, and from agriculture-related activities.[55] Prior to 2005, the majority of economic policy frameworks and development efforts focused largely on agricultural and rural development. Growth performances during this period were modest: Real per capita GDP expanded at a modest average rate of 5.9 percent from 2001 to 2005.[56]

The Boom of the Service Sector

Ethiopia's development plans in recent years have provided a framework for economic policy and have influenced economic performance (see Table 4). Under the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), which covered the 2005/06 to 2009/10 period, the Ethiopian government shifted focus away from rural development and began heavily investing in urban centers. Expansion of educational opportunity to rural areas continued during this period, partly in an effort to increase labor productivity, reduce fertility, and smooth rural-urban migration. PASDEP focused on building a viable urban economy to curb unemployment in urban centers and to accommodate the high influx of youth labor from the rural areas.[57]

With the advent of PASDEP and the urban infrastructure development that accompanied it, the Ethiopian economy experienced a significant leap forward. At the beginning of the PASDEP in 2005/06, agriculture had the largest share of GDP.[58] However, by the end of PASDEP in 2009/10, agriculture's share of the economy had been overtaken by the service sector. The boom in the service sector was mainly driven by public investments in infrastructure and urban development. According to figures from the national income accounts of Ethiopia, the service sector had a leading role in spurring the economy over the last decade, accounting for approximately half of total growth. The most vibrant subsectors within the service sector during the period were wholesale and retail trade; real estate; and renting and business activities.[59]

TABLE 4

Highlighting Ethiopian Policy Frameworks

NAME	DESCRIPTION
National Population Policy	Introduced population-specific interventions and sought to address demographic issues. The National Population Policy was established in 1993.
Health Extension Program (HEP)	Expanded health services to rural people by training and deploying over 35,000 Health Extension Workers (HEWs) to cover remote areas. The HEP was created in 2003.
Plan for Accelerated and Sustained Development to End Poverty (PASDEP)	Included investments in urban centers, efforts to curb youth unemployment, and efforts to ensure smooth rural-urban migration (effective from 2005/06 to 2009/10).
Education Sector Development Program IV	Included specific goals and measures related to educational opportunity for all young people, including girls and pastoral youth. Prioritized gender parity in schools with focus on strategies for increases in girls' enrollment and retention (effective from 2010/11 to 2014/15).
Health Sector Development Program IV	Included specific goals and measures on reproductive health and child health. The goal was to strengthen the quality of care and governance within the health sector as well as the overall health infrastructure (effective from 2010/11 to 2014/15).
Growth and Transformation Plan (GTP-I)	Included a focus on the industrial sector, particularly manufacturing, heavy public sector investments in infrastructure, and public savings schemes (effective from 2010/11 to 2014/15).

Note: In 2015, the Government of Ethiopia is working on the development of the next generation of development programs for the health and education sectors, as well as the second Growth and Transformation Plan (GTP-II).

Sources: Federal Democratic Republic of Ethiopia, Ethiopian Government Portal, accessed at www.ethiopia.gov.et/government, on Oct. 20, 2015.

During PASDEP, this structural shift from agriculture to the services sector coincided with a decline in the industrial sector.

An Emerging Industrial and Manufacturing Sector

The high demand and high hopes created during the five years of PASDEP influenced the GTP-I that was launched in 2010/11. The lack of growth in the industrial sector under PASDEP, particularly in manufacturing, led to greater emphasis on industrialization under the GTP-I. Efforts following the policy shift resulted in a modest increase in the industrial sector's share of GDP, spearheaded by the construction subsector. The industrial sector's share of GDP stood at 14 percent in 2013/14.

The economic growth experienced during the GTP-I was largely driven by demand for goods and services, which in turn was stimulated by heavy public sector investments in infrastructure.[60] Measured in terms of 2010/11 constant prices, Ethiopia's per capita income increased from 3,910 Birr (US$206) in 2005/06 to 7,201 Birr (US$379) in 2013/14 (see Figure 2). Under the GTP-I, net output in the industrial sector expanded relatively faster than previous years. It grew at a rate of 15 percent annually.[61] Expansion in the construction subsector was particularly robust as its share in GDP growth quadrupled from 4 percent during PASDEP to 16 percent during the first four years of GTP-I. The manufacturing subsector's contribution to GDP growth nearly doubled between the PASDEP and the GTP-I periods, growing from 4 percent to nearly 8 percent.

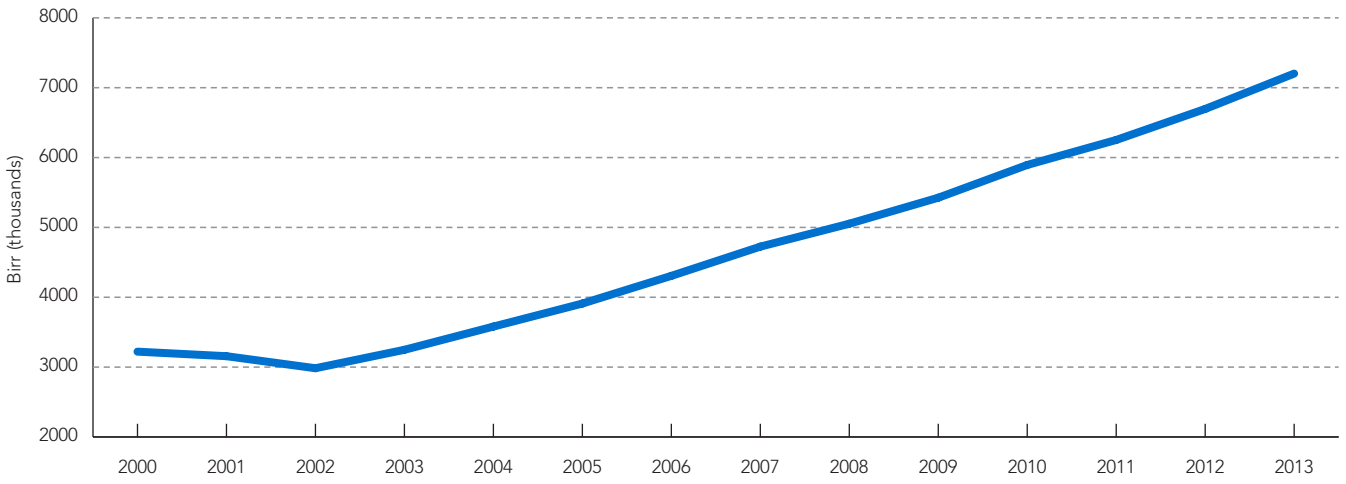
Authors' calculations using data from MoFED show that prior to 2005 the agricultural sector was the leading sector in terms of its contribution to the GDP growth rates. However, growth in GDP during PASDEP was mostly led by the services sector. The first four years of the GTP-I period (2010/11 to 2013/14) saw the share of agriculture in GDP growth decline, the service sector remained stable and robust, and the industrial sector increased. In particular, the share of the industrial sector in total growth posted a significant increase from 9 percent during the period of PASDEP (2005/06 to 2009/10) to 25 percent over the first four years of the GTP-I (see Figure 3, page 12).

Savings Rates

Another difference in the economy between the PASDEP period and the GTP-I period is the gross domestic savings rates. Before 2010/11, gross domestic savings was low, resulting in dependency on foreign financial resources.[62] An important development since 2010 under the GTP-I has been the significant increase in the savings rate. The gross domestic savings rate increased from 5.5 percent of GDP in 2009/10 to 22.5 percent of GDP in 2013/14.[63] This figure is far greater than the GTP-I savings rate target of 17 percent. The increase in the savings rate is largely due to the government's savings mobilization efforts in the form of the Great Renaissance Bond (to fund the Renaissance Dam), the urban residential housing scheme, an increasing number of microfinance institutions in rural areas, and the increase in average household income.

FIGURE 2

Per Capita GDP in Ethiopia

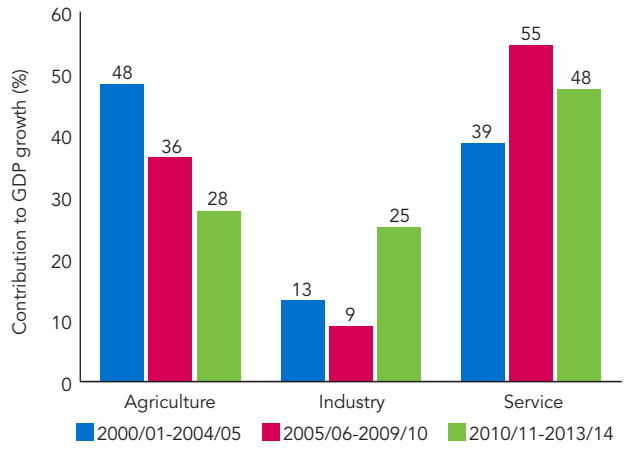


Note: These per capita GDP figures are calculated based on 2010/11 constant prices, making it easier to compare per capita GDP at different times; Data is collected based on the Ethiopian calendar but represented here as a single year based on the Gregorian calendar.

Source: Ministry of Finance and Economic Development (MoFED), Ethiopia, National Income Accounts, various issues.

FIGURE 3

Share of Different Sectors in Ethiopian GDP Growth



Source: Authors' calculations using data from MoFED.

Poverty and Inequality

The Ethiopian government designed several policies and strategies to reduce poverty, eliminate hunger, and meet the Millennium Development Goals (MDGs) by 2015. In the GTP-I, the government set a goal to reduce the proportion of people living in poverty to below 22 percent for total poverty and to about 21 percent in the case of food poverty, both by 2015.[64] The proportion of people living below the poverty line in Ethiopia declined to almost 28 percent by 2011/12, down from 46 percent in 1995.[65] On average, over the last decade Ethiopia has been reducing poverty by 2.3 percent annually, which is quite high compared to a rate of 0.5 percent per year for sub-Saharan Africa overall.[66] Food poverty declined by 34 percent between 1990 and 2010/11.[67] With this performance, the country is well positioned to meet its poverty reduction targets.

The proportion of people living below the poverty line in Ethiopia has declined significantly but remains high.[68] The poverty rate is slightly higher for rural areas (30 percent) than urban areas (26 percent). Despite a growing population, Ethiopia has managed to reduce the number of people living in poverty from 27.5 million in 2004/05 to 23 million in 2011/12.[69]

The introduction of the Ethiopian Productive Safety Net Program (PSNP) in food-insecure rural districts of Ethiopia has been instrumental to poverty reduction efforts. Established in 2005, the PSNP targets the most food-insecure families and individuals, and provides cash transfers. Most PSNP beneficiaries are required to contribute to public works in exchange for the cash transfers. However, funds are given directly to food-insecure elders, disabled persons, and orphans without any work or other activity required in exchange. A World Bank study has shown that this program has reduced the national poverty level by about two percentage points.[70]

The more recent decline in poverty may also be attributed to other factors beyond the achievements of the PSNP. Efforts have been made to improve emergency preparedness and response, strengthening Ethiopia's ability to respond to droughts and other emergencies. In addition, efforts are being made to build household and community resilience to better cope with climate-induced shocks. Production and market interventions in the agriculture sector have also helped improve production and yields. These efforts have enhanced household and national food security and reduced hunger and poverty. In addition, the overall positive and impressive growth rate of the economy has provided a solid foundation for increasing household income and employment opportunities.

In addition to poverty reduction, income inequality is a major development challenge facing Ethiopia. Ensuring that the benefits from economic growth are fairly distributed is an important dimension of sustainable development. It is important to design programs and strategies that promote equitable distribution of income. Income inequality in Ethiopia has not changed dramatically over the last 15 years. Inequality in rural areas has remained constant and urban inequality rose until 2005 and then fell again, and remains higher than in rural areas. The change in the urban development policy under PASDEP explains in part the reduction in income inequality in urban areas after spiking in 2005. Urban-focused development activities were carried out in the country. They included urban infrastructure development (roads, private housing, and condominium housing construction), promotion of labor-intensive construction activities, promotion of micro- and small-scale enterprises via the provision of training, credit and business development support, and the distribution of subsidized basic food items to urban poor in times of crisis.

Next Steps to Capture a Demographic Dividend

Ethiopia is in pursuit of middle-income status and has set ambitious socioeconomic development targets for the coming years.[71] Attaining a demographic dividend could help Ethiopia achieve its development goals and improve the well-being of the general population. Taking stock of past successes in Ethiopia and areas warranting further work helps illuminate the path forward. To attain a demographic dividend, Ethiopia will need to continue investing heavily in health, education, and job growth. New approaches will also be needed in order to accelerate progress and tackle remaining areas of need.

A simulation model was used to better understand the conditions under which Ethiopia might benefit from a demographic dividend, the enabling environment needed to support human capital investments as well as investments in physical capital (such as infrastructure and new technology), and the potential size of the demographic dividend. The results of these projections are presented in this section, including the potential additional GDP that provides an estimate of the demographic dividend. This section also explores strategies to build on past successful policy interventions and to consolidate and expand ongoing development efforts.

HOW BIG A PAYOFF IS THE DEMOGRAPHIC DIVIDEND?

Since the demographic dividend was conceptualized in the late 1990s and early 2000s, some efforts have been made to analyze not only what would be required to obtain a demographic dividend, but also to measure specific results anticipated from a demographic dividend.

The DemDiv model (see Box 4) was applied to the Ethiopian context to consider Ethiopia's fertility, education, and economic trends, and to project future GDP per capita based on three different scenarios. Results from the DemDiv model can be used to better understand some of the necessary investments to achieve a demographic dividend and the potential added GDP that such a dividend could provide.

The DemDiv model is composed of a demographic submodel and an economic submodel. The model structure reflects the nature of the demographic dividend as an economic opportunity created by demographic changes. Three different scenarios show the potential impact of interacting policy changes. Inputs based on these scenarios were used to model possible outcomes. Scenarios offer different pathways that Ethiopia could pursue and are designed to help policymakers determine the potential payoff of different investments.

1. **Baseline Scenario:** In this scenario, Ethiopia makes slow progress in attaining education, economic, and FP goals. In this scenario, Ethiopia attains just 30 percent of the high educational attainment and economic competitiveness levels of benchmark countries. In particular, increases in the use of FP are slower than current growth rates, with CPR increasing only gradually at approximately 0.5 percentage points per year. TFR reduces to 3.0 children per woman, on average, and then levels off.
2. **Economy Only Scenario:** This scenario emphasizes investments made to achieve a flexible labor market, improvements in technology, government institutions that facilitate movement of goods and labor, and access to credit. These inputs are set at a level roughly equivalent to the current average for countries that are identified by the World Economic Forum to be economically competitive.[72] In this scenario, FP use increases slowly and TFR stalls at 3.0 children per woman—identical to assumptions in the baseline scenario—and educational attainment remains constant.
3. **Economy Plus Education and FP Scenario:** In addition to the economic investments assumed in the Economy Only Scenario, this scenario includes intense investment in FP and education, raising CPR substantially and making strong gains in female educational attainment.

To develop these scenarios, benchmark indicators were used and certain assumptions were made. Benchmark indicators are inputs set at a particular level of economic competitiveness, FP use, and educational attainment, based on the assumption that this is a level Ethiopia could reach by 2050 if strong investments are made in each of these sectors. Education indicators are from a benchmark country for education (Botswana), with the assumption that female educational attainment will increase to 11.7 years by 2050. FP indicators are based on Ethiopia's established Family Planning 2020 goal, to reach a CPR of 69 percent. Aspirational targets for economic policy variables are set based on those of more economically developed and competitive countries. The economic inputs model the economic factors that would create an enabling environment

BOX 4

Modeling Future Development Outcomes and the DemDiv Model

The USAID-sponsored Health Policy Project developed the DemDiv model, a cross-national, customizable, dynamic model of the demographic dividend. The DemDiv model is a user-friendly, evidence-based tool that can inform policymakers of the potential benefits of a demographic dividend and increase their support for investments in the multisectoral policies required to achieve those benefits. The model allows users to design multiple scenarios to show how the combined power of policy investments in FP, education, and the economy can generate a demographic dividend not possible by single-sector interventions. It is a model that projects demographic and economic changes with equations to estimate employment and investments, along with an estimation of future GDP and GDP per capita. The model has been applied to date in Ethiopia, Kenya, Tanzania, and Uganda, and applications are currently underway in Nigeria, Mozambique, Zambia, and Nepal.

for a demographic dividend. These inputs include selected variables from the Global Competitiveness report that are directly connected to job creation and economic growth. The Global Competitiveness indicators used include indices for public institutions, imports as a percent of GDP, labor market flexibility, and information communication technology use.[73] Economic inputs in the Economic Only Scenario and the Economy Plus Education and FP Scenario are set higher than what Ethiopia is currently accomplishing, at levels agreed upon by an Ethiopian DemDiv model expert working group and in harmony with the Government of Ethiopia's articulated development goals.

For the FP inputs, three proximate determinants of fertility are used. Under the Economy Plus Education and FP Scenario, modern CPR was assumed to rise to 69 percent by 2050. For the other scenarios we assumed an annual increase in the CPR of 0.5 percent. Traditional CPR is held constant throughout at 1.3 percent. The rate of CPR increase in the Baseline Scenario and the Economic Only Scenario is less than the current pace of CPR increase in Ethiopia. Under the Baseline Scenario and Economic Only Scenario, the TFR falls from 4.8 children per woman in 2010 to 3.0 children per woman in 2050.[74] A decline in the TFR of this nature would not significantly impact Ethiopia's age structure nor would it open the window of opportunity for a demographic dividend. The Economy Plus Education and FP Scenario, however, with strong investments in economic growth, education, and FP, predicts a TFR of just over 2.0 children by 2050 (around replacement level fertility).[75]

Results

Based on the inputs described above, the DemDiv model calculates certain outputs for each scenario. The DemDiv model is one approach to generating results from a simulation model that can then be used to better understand how a demographic dividend might be achieved in Ethiopia.

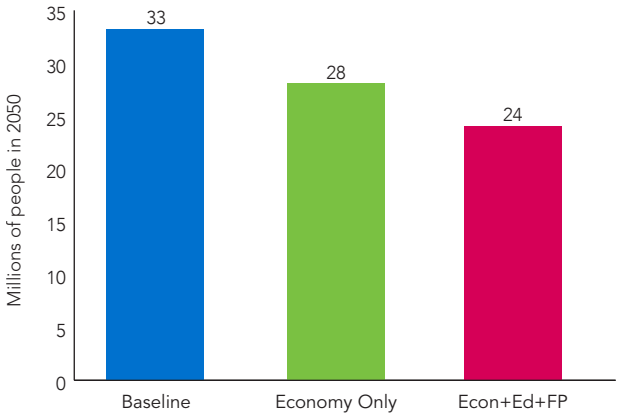
Meeting employment needs is a critical function of economic development. The employment gap represents the number of people of working age who are not active in the labor force. Under the Baseline Scenario, by 2050, Ethiopia may have an employment gap of 33 million people. With improvements in economic competitiveness, more jobs could become available and the employment gap could fall to 28 million people (see Figure 4). The Economy Plus Education and FP Scenario results in the smallest employment gap, although still high at 24 million people. These results support the conclusion that combined investments in economy, education, and FP may reduce the employment gap. Minimizing the employment gap is a key factor in whether the demographic dividend will be successfully achieved.

An important mechanism for achieving the demographic dividend is the change in investment per capita. Increased investments are an important driver of economic growth.

FIGURE 4

Ethiopia 2050: Combined Investments Can Reduce Employment Gap

Projected Number of People Without Jobs in Each Scenario of the Model



Note: Econ + Ed + FP is the abbreviation for the Economy Plus Education and Family Planning Scenario.

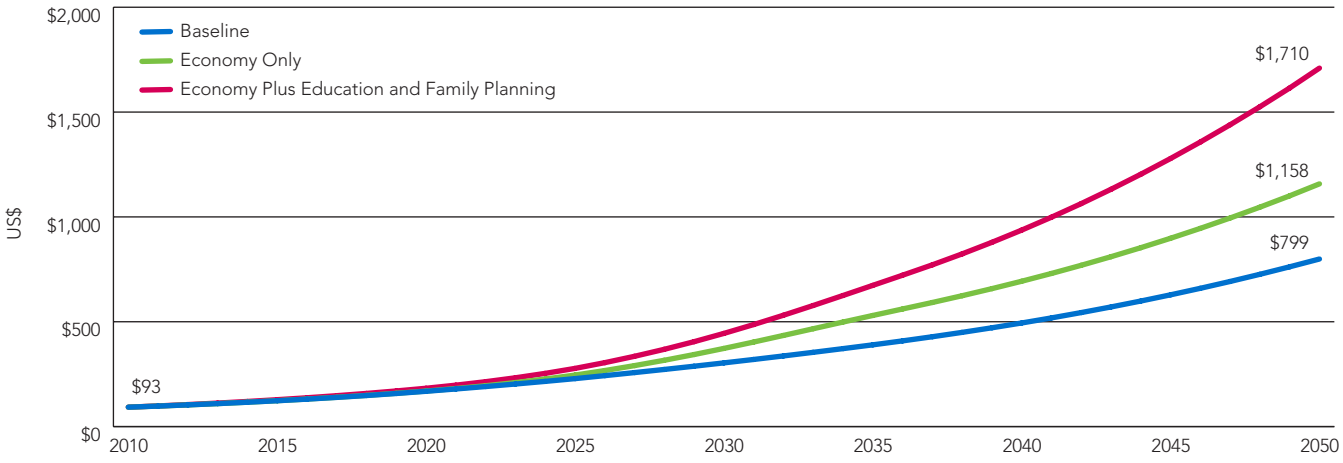
Source: R. Scott Moreland, "Realizing a Demographic Dividend in Ethiopia," (Washington, DC: Palladium (Formerly Futures Group), 2015); DemDiv model results used with permission from Scott Moreland.

In the DemDiv model, strategies to improve financial markets, as well as changes in the age structure of the population, influence savings and hence, investments. Lower dependency ratios free up resources that might otherwise go to consumption and can go instead to savings that finance investments. We can see the predicted impact of demographic changes in Ethiopia on per capita investment in Figure 5, page 15. Under the Economy Only scenario, per capita investment increases by the end of the projection period to US$1,158, more than US$300 higher than the Baseline Scenario. Adding education and FP to the scenario increases per capita investment by nearly another US$550 to US$1,710.

In addition, Ethiopia's possible GDP per capita by 2050 (see Figure 6, page 15) shows the potential demographic dividend. Minimal investments in FP, education, and economic reforms as per the Baseline Scenario elevate GDP per person from US$498 to US$4,777. Investing solely in economic reforms produces an increase in GDP per person to US$7,013 by 2050, a 14-fold increase over 2010 levels. The Economy Plus Education and FP Scenario results in the largest increase in GDP per capita, projecting it could reach US$10,189 by 2050, a more than 20-fold increase over 2010 levels. Hence, it is important to harness the synergies between various interventions.

FIGURE 5

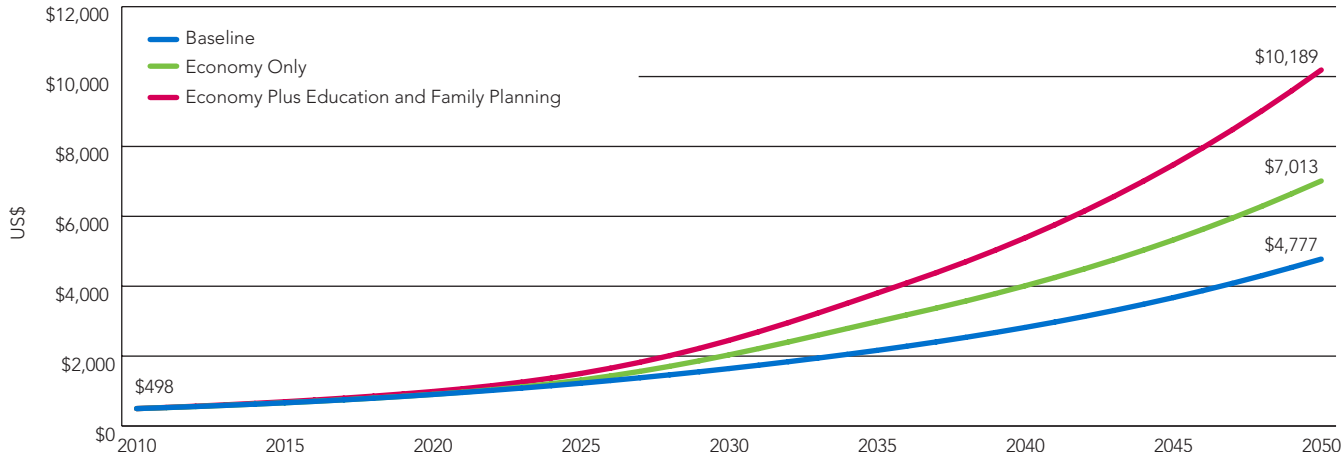
Ethiopia 2050: Investment Per Capita



Source: R. Scott Moreland, "Realizing a Demographic Dividend in Ethiopia," (Washington, DC: Palladium (Formerly Futures Group), 2015); DemDiv model results used with permission from Scott Moreland.

FIGURE 6

Ethiopia 2050: Projected GDP Per Capita Under Three Scenarios



Source: R. Scott Moreland, "Realizing a Demographic Dividend in Ethiopia," (Washington, DC: Palladium (Formerly Futures Group), 2015); DemDiv model results used with permission from Scott Moreland.

DemDiv modeling results suggest a plan of action to achieve the promise of the demographic dividend in Ethiopia. The DemDiv model shows that combined emphasis on economic, demographic, and education investments would provide the strongest benefits to Ethiopia.

Continued progress in increasing FP use is critical to sustain Ethiopia's demographic transition, and is a necessary, but not sufficient, condition for achieving the demographic dividend. Also, increased investments in education, especially for girls, can encourage healthy behaviors, increase uptake of FP, and generate a skilled workforce—which raises incomes and improves economic development. Increasing secondary school completion rates, especially for girls, and providing high-quality education and training to meet the needs of the changing labor market will:

- Increase educational attainment for all children to more than 11 years by 2050.
- Eliminate the gender gap in education.
- Increase women's participation in the formal labor force.
- Raise incomes at the household level.

Finally, the model results underline the necessity of economic strategies and reform. An economic policy environment that fosters job growth and attracts investment is vital to achieving the demographic dividend. Key among these are continued improvements in labor market flexibility, financial market efficiency, and investments in information and communication technologies. Good governance practices are also important, since improved transparency and accountability of public institutions are pillars that encourage investment and foster growth. These strategies, combined with FP and education strategies, can help Ethiopia reap a demographic dividend with:

- GDP per capita that can increase more than 20 times by 2050.
- A significantly reduced gap between the number of working-age people and of those employed.

STRENGTHENING THE ENABLING POLICIES

This section examines Ethiopia's future opportunities as well as the efforts needed to consolidate and expand ongoing development efforts. It looks specifically at three major challenges—continued improvements of social policies, acceleration of the demographic transition, and economic policies needed to foster growth.

Improving Social Indicators

Despite impressive progress in the past 15 years to improve education, health, and gender equality, much remains to be done. These areas need attention to improve the skills and health of future workers, those who will make it possible to capture the benefits of a demographic dividend. Progress in gender policies will also help to tap women's productivity.

In education, the country will need to continue its efforts, especially those geared toward Ethiopian girls. Although education rates have been improving overall and literacy has been on the rise, there is still room for significant improvements in both educational attainment levels and the quality of education. Too many young people receive either no education, not enough education, or low-quality education. Moreover, not all regions have experienced similar improvements in education levels. For example, only 2.7 percent of men in Amhara had completed secondary school or above in 2000. By 2011, only marginal improvements had been made in that regional state with only 4.5 percent of men completing secondary school or above.[76] Secondary education levels need more attention.

In health, the Government of Ethiopia will need to continue to pursue its effective policies and programs. The HEP has helped decrease levels of infant and child mortality, increase life expectancy at birth, and decrease fertility. Still, challenges remain. Based on the 2011 EDHS, infant and child mortality rates remain above the government's goal to reduce the under-5 mortality rate to 68 deaths per 1,000 births by 2015.[77] In addition to consolidating ongoing health programs, more attention should be devoted to quality of health services, effectiveness of health interventions, and financing of the overall health sector.

These needed improvements in education and health outcomes cannot be achieved without enhanced gender policies and women's empowerment. Gender policies should be seen as truly cross-cutting, because they foster better education and health outcomes, and also have profound impacts on the participation of women in the labor force. Indeed, greater female participation in the economy is a key lever necessary to capture the potential benefits of a demographic dividend.

Accelerating Demographic Changes

One of the key policy questions for the future of Ethiopia is whether it will be possible to accelerate the demographic transition. The main challenges for Ethiopia will be to avoid a slowdown of the fertility decline and to advance voluntary FP until fertility reaches replacement level.

Two factors need to be addressed. First, desired fertility appears to remain high in Ethiopia, as documented by the series of EDHSs. In the module on fertility preferences of the 2011 EDHS, Ethiopian women reported they desired a family size of 4.3 children (slightly higher than the TFR of 4.1 reported in the 2014 Mini EDHS), while men preferred having 4.8 children. In the last 10 years, women's ideal family size has declined by one child, from 5.3 children on average in 2000 to 4.3 children on average in 2011.[78]

Second, FP use for limiting number of births appears to be increasing less rapidly than for spacing. A close look at Table 5 indicates that the total demand for FP increased, but the demand for spacing increased by 8 percentage points between 2000 and 2011, whereas the demand for limiting increased by only 2 percentage points over the same period. A similar trend is observed for FP use: an increase of 8 percentage points for limiting and of 12 points for spacing. Between 2000 and 2011, the additional demand for FP was essentially for birth spacing.

Unless addressed adequately, this phenomenon could lead to an eventual slowing down of the rapid uptake of FP in Ethiopia, implying a levelling off of the CPR and consequently of the TFR. Another indication of a possible slowing down of the fertility decline is that the desire to stop childbearing altogether increased from 32 percent of married women ages 15 to 49 in 2000 to 42 percent in 2005, but then declined to 37 percent in 2011. In 2011, 37 percent of currently married women ages 15 to 49 and 34 percent of men wanted no more children or were sterilized.[79]

At this juncture, increasing the desire to limit births is important, as is creating a process by which Ethiopian couples would reach a total demand for FP of about 70 to 80 percent, with at least 60 to 70 percent opting for birth limiting.

A series of key recommendations for expanding FP programs have been formulated in previous reports.[80] Many of those spelled out in the 2007 World Bank study, "Capturing the Demographic Bonus in Ethiopia: Gender, Development, and Demographic Actions," regarding issues of supply, access, and quality of FP are still valid.[81] To amplify the impact of FP programs:

- On the supply side, offer long-term, reversible contraceptive methods within the current contraceptive method mix and expand FP services to remote rural areas.
- On the demand side, increase information, education, communication, and behavior change communication programs to foster contraceptive use.
- Improve health infrastructure and enlist private sector and nongovernmental organizations in improving access to FP.
- Strengthen the FP commodities supply chain.
- Initiate long-term planning for financing of contraceptives.
- Improve the quality of FP services, in particular with respect to human resources constraints and staff attitudes.
- Strengthen the monitoring and evaluation system.

FP programs in Ethiopia have matured since the 2007 World Bank study was published eight years ago and several of the recommendations made in that report have begun to be addressed. In particular, the supply of FP services to remote rural areas has been considerably expanded. What needs more attention on the supply side are the financial and logistical aspects of FP service delivery, the diversity of methods available, and the quality of care received by women seeking FP services. On the demand side, many Ethiopians continue to prefer large families, implying that more effort is needed to advance educational attainment (which is typically negatively correlated to family size) and to provide information, education, and behavior change communication on the potential benefits of smaller families.

TABLE 5

Unmet Need for FP, FP Use, and Demand for Spacing and Limiting in Ethiopia

Percent of Married Women Ages 15 to 24

DATE OF EDHS	2000	2005	2011
Unmet Need			
Spacing	20.9	19.5	16.5
Limiting	15.7	16.6	9.8
Total	**36.6**	**36.1**	**26.3**
FP Use, All Methods			
Spacing	3.7	6.7	16.4
Limiting	4.3	8.0	12.2
Total	**8.1**	**14.7**	**28.6**
FP Demand			
Spacing	24.6	26.2	32.9
Limiting	20.0	24.6	22.1
Total	**44.6**	**50.8**	**54.9**

Sources: Central Statistical Agency (CSA), Ethiopia and ICF International, Ethiopia Demographic and Health Survey (EDHS) 2000 (Addis Ababa, Ethiopia: CSA, Ethiopia and ICF International, 2001); CSA, Ethiopia and ORC Macro, EDHS 2005 (Addis Ababa, Ethiopia and Calverton, MD: CSA, Ethiopia and ORC Macro, 2006); and CSA, Ethiopia and ICF International, EDHS 2011 (Addis Ababa, Ethiopia and Calverton, MD: CSA, Ethiopia and ICF International, 2012).

Fostering Economic Growth

Over the last decade, the Ethiopian economy has grown rapidly. The high growth episode was dominated by public investments and essentially led by the service sector. The growth trend that has been observed since the period of PASDEP continued into the early years of the GTP-I. For instance, two-thirds of the growth in GDP in the year 2011/12

derived from public investments, as compared to one-third from private consumption.[82] The shift in policy from the PASDEP phase (2005/06 to 2009/10) to the current GTP-I phase was motivated by the need for sustained growth. Progress has been made under the GTP-I, but in order for Ethiopia to fully achieve its development goals the private sector will need to participate more actively. In the years to come, capital accumulation will need to be accompanied by sustainable models for growth. Strong institutions will be needed to handle the changing economy.

High growth rates in Ethiopia are, at least partially, due to the fact that Ethiopia is working from a low starting point, and poorer countries tend to grow quickly when growth takes hold. Also, as with other commodity producers, Ethiopia has benefited greatly from demand growth elsewhere, especially in the Middle East and China.

The recent policy shift towards developing more vibrant productive sectors under the GTP-I—in particular to the manufacturing sector—is rational, as it will increase diversity within the economy and provide additional options for job-seekers. Consolidating previous efforts in infrastructure development is also positive. Moreover, implementing strategies to encourage public-private partnerships would contribute to Ethiopia's future job growth and development.

The private sector in Ethiopia has long been dominated by smallholder agriculture. If one defines the private sector in a broad sense, it accounts for 96 percent of employment. However, excluding informal agriculture, the private sector accounts for about 25 percent of employment.[83] Given the high variation of agro-ecological zones in Ethiopia, the potential exists to grow a wide variety of food crops. If further developed as a sector, agriculture could be the source of surplus capital for industrial development in Ethiopia. Development of the agriculture sector may also increase the variety of jobs available in rural Ethiopia and provide alternative sources of livelihood outside of smallholder agriculture.

Another policy challenge that MoFED needs to consider is the quality of growth. Sustainable growth is based on knowledge and skills; Ethiopia should not rely on primary resource extraction for growth, but should develop industries that can add value to these resources, which should also be sustainably managed for the benefit of future generations. A stronger education sector with high-quality education for Ethiopia's youth would further develop the human capital needed to capitalize growth. Further, a changing modern economy requires a competent civil service and efficient public and private institutions.

Creating employment opportunities for young people, particularly for young rural-urban migrants, is of vital importance. Ethiopia's social policy in making education more available in both urban and rural areas has triggered an out-migration from the rural areas, as young people seek livelihood alternatives to agriculture. In the absence of enough jobs in a variety of sectors to absorb rural migrants, unemployment will become a more threatening challenge.

An even more serious long-term consequence of failing to create jobs for youth is a deteriorating level of human capital. This problem is already manifesting itself as the country experiences a rampant exodus of youth seeking better wages abroad. Thus, Ethiopia needs to focus on increasing private sector participation in productive parts of the economy, such as services, manufacturing, and commercial agriculture, which have the potential for employing youth. A focus on the labor market, and in particular on the quality dimension, is important. Talent and educational excellence need to be rewarded through higher wages for targeted sectors. Availing capital for the private sector, public-private joint ventures in high-tech industries, fairer competition policies, and reforms to improve delivery of public services are some of the mechanisms the Government of Ethiopia can use to foster a vibrant private sector. All these changes will enable the nation to cultivate a demographic dividend.

Conclusion

Ethiopia has made remarkable progress in social sectors and undergone rapid demographic change. The country has also achieved significant improvement in its economic performance. School enrollment at all levels has increased considerably, particularly for Ethiopian girls. In health, progress has been impressive as well. Life expectancy at birth has increased. TFRs have decreased from 7.2 children per woman in 1990 to about 4 children in 2014. This fertility decline has been triggered by a rapid extension of contraceptive coverage (modern methods) during the same period.

Today, Ethiopia is on the verge of reaching its demographic window of opportunity, offering the possibility of a demographic dividend. Modeling the potential demographic dividend shows that substantial economic gains can be obtained with the right set of policies and, especially, by creating synergies between these interventions. Policies that provide incentives to invest, save, and encourage trade, as well as a flexible strategy for producing a well-trained work force will yield a stronger economy with greater employment and earning opportunities. In addition, investments in basic infrastructure such as roads, transportation, and communications systems will also contribute to creating a supportive environment for economic growth.

Appropriate economic policies that promote growth will increase GDP per capita. However, future gains will be more significant if these economic and other supportive policies are combined with additional and improved investments in education, health, and FP. In order to benefit from a demographic dividend, Ethiopia must continue to implement

broad policy frameworks that prioritize economic growth as well as education and health, including FP.

Underlying all these major development efforts is the Ethiopian population itself. The future success of Ethiopia's growth and transformation will depend on the type and quality of human capital that the nation will be able to build, retain, and accumulate. While long-term growth depends on the size and quality of capital, labor, and technology, both physical capital accumulation and technological change heavily depend on what Ethiopian people themselves can do.

Ethiopia is well positioned to benefit from a demographic dividend if fertility continues to decline and the current large young population is able to find productive employment. Better income distribution and employment opportunities will help the nation maximize the promises of its proportionately large working-age population. Policies that aim at harnessing the youth population by investing in quality education, skills development, and improved health outcomes will help Ethiopia capture the potential benefits of demographic changes. With the support of the donor community and of its development partners, the Government of Ethiopia should take charge to manage this transition in order to seize the once-in-a-lifetime opportunity of the demographic dividend for the benefit of Ethiopia's transformation.

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