The Demographic Dividend:

An Opportunity for Ethiopia's Transformation

"Ethiopia's long-term vision is to become a country where democratic rule, good-governance and social justice reigns, upon the involvement and free will of its people; and once extricating itself from poverty and becomes a middle-income economy."

Growth and Transformation Plan (GTP)
2010/11-2014/15

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List of Frequently Used Acronyms

CPR	Contraceptive Prevalence Rate
CSA	Central Statistical Agency
DemDiv	Demographic Dividend Model
DHS	Demographic and Health Survey
EDHS	Ethiopian Demographic and Health Survey
EEA	Ethiopian Economics Association
FP	Family Planning
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GOE	Government of Ethiopia
GTP	Growth and Transformation Plan
HEP	Health Extension Program
HEW	Health Extension Worker
HPP	Health Policy Project
MCH	Maternal and Child Health
MOFED	Ministry of Finance and Economic Development
MOH	Ethiopia Federal Ministry of Health
NPP	National Population Policy
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PRB	Population Reference Bureau
RH	Reproductive Health
TFR	Total Fertility Rate

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Introduction

The impact of population on economic development has been a subject of major debates in the economic and social science literature (May, 2012: 44-52). On the one hand, some researchers have argued that high fertility and rapid population growth inhibit development. Other researchers have argued that rapid population growth can actually promote economic prosperity by furnishing abundant human and intellectual capital and also by triggering technological and institutional changes (e.g., Boserup, 1965).Still other studies have established that population growth *per se* was having an ambiguous effect on economic development (Bloom, Canning, and Sevilla, 2003). To a large extent, the debates have largely focused on the size of the population on economic growth while little attention has been paid to the composition or the age structure of the population.

In the 1980s and the early 1990s, four countries in East Asia (Hong Kong, Singapore, South Korea, and Taiwan) experienced very rapid rates of economic growth—this has been called the "Asian Miracle". In addition to the obvious contributors to economic growth such as investments and sound economic policies, a closer examination of the Asian Miracle has highlighted the crucial role played by demographic factors, in particular changes in age composition and the dependency ratios, which were brought about by fast declines in fertility rates (Birdsall et al., 2001). The theory of the "demographic dividend", also called sometimes the" demographic bonus" (see Box XX: "What is a Demographic Dividend?"),was born as a result of this examination of the Asian Miracle.

The Asian Miracle illustrated that *how* population distributes across different age groups can have significant impact on the economic progress of a country. Individuals' needs change at different stages of the life cycle, impacting consumption and savings levels. The population structure of a country can be dominated by a relatively less productive age group consisting of children, young people and elderly people or the age structure can be dominated by working age people. If there are more children and young people or if a large proportion of the population consists of the elderly, a country usually allocates more resources to the welfare of these dependent groups than would otherwise be the case. 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 age 20.As the young dependent population shrinks in relation to the working population, this translates into fewer dependents per working-age adult. The theory of the demographic dividend is about a surplus in the Gross Domestic Product (GDP), which increases when relatively more numerous active persons contribute to the production, assuming that these people are employed and can be fully absorbed into the labor market. Due to the fact that these active people themselves have fewer dependents, a larger fraction of GDP may be allocated to other purposes, such as investments in education and health. If made, human capital investments, such as education and health, increase the productivity of the next generation of working-age adults, a virtuous cycle that further contributes to higher GDP.

Demographic changes provide a window of opportunity, but countries can only experience sustainable economic growth provided that favorable policies are put in place to capture and benefit from these changes (Gribble and Bremner, 2012).Economic policies that promote labor-market flexibility, openness to trade, and savings are critical to foster the benefits from a

demographic dividend. In addition, social policies and programs must promote an educated and healthy population. Gender equality manifested through gender parity in educational enrollment and achievement, female labor force participation, and comprehensive, voluntary access to sexual and reproductive health and rights are also key to an enabling environment for a demographic dividend. A demographic dividend also depends on how a country responds to external factors such as global economic changes, wars, climate change, and technological advances.

In recent years, there has been healthy debate on how to produce a demographic dividend in the sub-Saharan Africa region, similar to the dividend that occurred previously in East Asia (May, 2012: 51). The topic of a demographic dividend has grabbed the attention of policy makers and academics around the region, yet the demographic transition, the precursor to capturing a demographic dividend, has lagged in much of sub-Saharan Africa. Ethiopia, however, appears to stand as a major exception to this general pattern. In the past two decades, Ethiopia has experienced an impressive decline in fertility, has enjoyed strong economic growth, and has made great strides in poverty reduction. Ethiopia has set strong public policies to address its demographic patterns and trends, such as programs to reduce infant and child mortality, improve education, and increase access to family planning. Despite the challenges it faces, Ethiopia might well be on track to capturing a demographic dividend.

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. This report will first take stock of the progress that has been accomplished in social sector outcomes and policies, demography, with a special focus on fertility transition, and economic growth and economic policies. There after, the report will present the results of the *DemDiv* Model, a model of the demographic dividend, which has been applied specifically to Ethiopia. Finally, the report will explore new pathways needed to consolidate and expand ongoing development efforts, with a focus on policies and funding pertaining to the social sectors, demography, and economic development.

Box 1: "What is a Demographic Dividend?"

The demographic dividend refers to the accelerated economic growth that begins with changes in the age structure of a country's population as it shifts from high to low birth and death rates during the 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, a country has a window of opportunity for stronger economic growth. This window of opportunity is limited in time(Gribble and Bremner, 2012: 2-5).

What Ethiopia has accomplished so Far

Ethiopia's development goals over the last 10 years have included a focus on improving the health and well-being of its citizens. Although plans have varied in their emphases, each has had some element of sector specific policies, inclusive of education, job training, and economic growth. The Ministry of Health launched the Health Extension Program (HEP) in 2003, which has deployed thousands of health workers to rural areas, to name just one example of an important sector specific policy. We will start this report by highlighting the successes achieved in Ethiopia over the last decade that are contributing to the start of a demographic transition and will lay the groundwork for the conditions to capture a demographic dividend. In particular, this section will review the achievements of Ethiopia 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 point 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. Education access and opportunity is crucial to 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 job market – providing young people more opportunity and broadening sources of economic growth. At the same time, the Government of Ethiopia has designed policies and programs to foster gender equity as well as women's empowerment. In addition, advances in gender equity contribute to reduced fertility and increased female labor force participation for women – both part of an enabling environment for a demographic dividend.

Education

Between 2000 and 2011, Ethiopia has made great strides in increasing school enrolment, gender parity in education, literacy, and education attainment level. In 2000, 67% of Ethiopian children had never been to school, a proportion that was cut by more than half to 28% in 2011 (UNESCO, Education for All report, 2015).Thanks to increased access to education youth literacy is higher, from 34% in 2000 to 55 percent among ages 15-24 (UNESCO EFA 2014 report and World Bank, World Development Indicators, 2014). In addition, literacy of women between the ages of 15-49 doubled between the 2000 and the 2014 Ethiopian Demographic and Health Surveys(EDHS, 2014). Although improvements have been made to educational attainment, many young people in Ethiopia continue to face barriers to completing their education. In 2011, approximately 21% of men and women ages 15 to 19 completed primary school level or higher.

Girls' education – especially at the secondary level – often contributes to fertility decline and to economic growth because it opens opportunities for women other than traditional roles in the home. More educated women also have better chance of obtaining loans and financial support to grow small businesses. In Ethiopia, the gender gap in enrolment is narrowing at all education levels. The Government has established primary and secondary schools in every districts, which has enabled more girls to attend school. In some regions, the proportion of women ages 15-49 with no education has reduced significantly over the last 15 years. For example, in 2000, 77.8 percent of

women in Tigray had no education and by 2014 this proportion was reduced to 49.6 percent (EDHS, 2014).However, in other regions, such as Afar and Somali regions, women remain largely uneducated and the percentage of women ages 15-49 who have completed primary school or above has actually decreased over the last 15 years (EDHS, 2014). In addition, the gender gap remains important at the tertiary level. According to UNESCO, in 2012, just under 1 in 3 graduates at the tertiary level are female (UIS, retrieved June 23 from http://data.uis.unesco.org/)

Health

During the past decades, Ethiopia has also 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 accomplished great strides to reduce mortality, in particular infant and child mortality. Therefore, the country has been able to trigger a true survival revolution, thereby initiating the first step of its demographic transition. The demographic transition is defined as a "modernization progress from a pre-modern regime of high fertility and high mortality to a post-modern one in which both are low" (Kirk, 1996: 361).

The three Ethiopian demographic and health surveys (EDHS)conducted between 2000 and 2011 provide a wealth of information on infant (below age 1) and child mortality (ages 1 to 5). Levels and trends of infant and child mortality carry a huge weight in determining the overall levels of the life expectancy at birth. Table XX, which is constructed from data taken from the three major EDHS, shows the rates of infant mortality and child mortality (figures refer to the number of deaths per 1,000 live births and are rounded to the nearest whole number). The data illustrate the decreasing trends in infant and child mortality.

Table 1: Infant and Child Mortality Rates in Ethiopia, from 2000, 2005, and 2011 EDHS

Year of survey	Infant mortality	Child mortality	Under-five mortality
2000	97.0	77	166
2005	77	50	123
2011	59	31	88

Sources: Ethiopia Central Statistical Agency, 2001: 99; Ethiopia Central Statistical Agency and ORC Macro, 2006: 103; and Ethiopia Central Statistical Agency and ICF Macro, 2012: 111.

In 2011, the infant mortality rate for the five years preceding the 2011 EDHS, was estimated to be 59 deaths per 1,000 live births, and the under-five mortality rate was 88 per 1,000 live births. This implies that during the five years preceding the 2011 EDHS one in 17 Ethiopian children died before the first birthday and one in 11 Ethiopian children died before the fifth birthday (Ethiopia Central Statistical Agency and ICF International, 2012: 111). Over the period of 11 years between the three EDHS, infant mortality decreased by almost 40 percent and child mortality decreased by 60 percent. In total, the under-five mortality decreased by almost 50 percent (Zachary et al., 2013: 40).

Adult mortality has also improved significantly since 2000. In 2011, adult mortality rates were estimated at 5.0 deaths per 1,000 population among men and 4.1 deaths among women (these are

direct estimates for the seven years preceding the 2011 EDHS). These rates have improved during the period 2000 to 2011, but more rapidly so between 2005 and 2011.However, the maternal mortality ratio has not significantly improved over the same period: it was estimated at 676 maternal deaths per 100,000 live births for the seven year period preceding the 2011 EDHS, a value not very different from those reported in the 2005 EDHS and the 2000 EDHS(Ethiopia Central Statistical Agency and ICF International, 2012: 267).

The combined effect of improving under-five and adult mortality rates has brought about considerable improvements in the life expectancy at birth. For the period 1995-2000, the United Nations estimate the Ethiopian life expectancy at 50.8 years for both sexes combined and at 63.3 years for both sexes combined for the period 2010-2015. Therefore, Ethiopia has gained more than 12 years of life expectancy for both sexes combined in a period of 15 years and much of this progress is attributable to the sharp decrease of under 5 mortality (United Nations Population Division, 2013).

Positive health outcomes like reduced mortality and increased life expectancy are connected to a demographic dividend in an indirect way. Reduced infant and child mortality rates often leads families to reduce the number of children they have, because more children survive until adolescence and adult hood. Such positive outcomes in health have been linked directly to bold and aggressive health policies and programs. One of these programs has been the Health Extension Program (HEP).

Box 2: The Health Extension Program

The civil war that raged in Ethiopia during the military rule from 1974 to 1991 destroyed the health services delivery systems. During that time, the health indicators were poor and what remained of the health system was plagued by shortages of skilled doctors and health workers, pharmaceuticals, and health services facilities. To remedy this situation, the Government introduced in 1977 a 20-year health development program. Its goals were to deliver better health services to the population and to improve basic health indicators (Banteyerga, 2011: 46). Moreover, the Government designed in 2003 a community-based health program, which was called the Health Extension Program (HEP). The HEP became operational on the ground in 2004-2005 (Olson and Piller, 2013: 456-457).

The HEP was fully integrated within the health system and the purpose of the program was to achieve universal coverage of primary health care. The program was first aimed at agrarian communities but subsequently tailored and scaled up into the pastoral and urban communities (Workie and Ramana, 2013). Today, the HEP involves more than 35,000 Health Extension Workers (HEWs), who have been deployed throughout Ethiopia, first in the rural areas and later toward the pastoral and urban populations. The program uses only female health extension workers (HEWs), who are 10th grade high school graduates. The HEWs are not only recruited from the community but also with active participation from the community.

The 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 specific goal is to reduce rates of maternal and child morbidity and mortality. The family health component includes the provision of family planning information and services at the community level, through household visits. The health posts that had been built in the rural villages are also being used by the HEWs (Teller and Hailemariam,

2011: 291).However, the HEWs have been sometimes overburden with requests to conduct additional activities from external donors (Banteyerga, 2011: 48).

Despite considerable achievements, the HEP program needs also to address several major challenges. First, the program needs to improve the quality of the services it offers. Second, the HEP must enhance the skills and performance of the HEWs, in particular with respect to maternal health. Third, the HEP needs to find a sustainable carrying structure for the work of the HEWs. Finally, the program also experiences some logistical hurdles. The extended use of voluntary community workers is hard to sustain without some material compensation and/or career advancement (Banteyerga, 2011: 48).

Gender and Women's Empowerment

Improvements in girls' access to education, female labor force participation, and political participation contribute to an enabling environment for a demographic dividend. Girls' education delays onset of childbearing and allows women the opportunity to contribute to economic growth. Educated girls have higher earning potential (Bloom, Canning, and Chan, 2006). They also may more likely to participate in politics.

Gender equity in education has improved significantly in Ethiopia over the past 15 years, supported by the Education Sector Development Program. Ethiopia has achieved near perfect gender parity in net education enrolment at the primary level, despite regional variations (Zerihun, Kibret, and Wakiaga, 2015).Literacy rates for women have doubled over the past 15 years. However, as mentioned, large regional disparities continue to exist in the opportunities available to school-age girls. In Addis Ababa, 38 percent of women surveyed in the 2014 Mini-DHS had completed primary school or above. However, in Somali region, only 1.8% of women had obtained the same level of education (this is actually less than the proportion of women in Somali region completing primary school or above in 2000, although migration could play a role).

Ethiopia has also made progress to increase female labor force participation, and this has been made possible through the provision of low-cost child care. Female labor force participation has also been encouraged in public work programs. In addition, the Government has piloted other interventions to foster women's participation into the labor force such as incentives to businesses to hire women, business management training and follow-up support, and the extension of credit for female entrepreneurs (World Bank 2007: 124).These policy interventions have helped to 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 7.7 percent of seats being held by women in 2000 to current rates of 27.8 percent, a three-fold increase (World Bank, Gender Indicator Database accessed on April 27, 2015). However, it is noted that although women's political participation has increased there is a still a leadership gap at the ministerial and executive level in Ethiopia (Asfaw and Okumo, 2014).

Demographic Changes

The window of opportunity to capture a demographic dividend opens when, as a result of a sharp decline in fertility, the young dependent population shrinks in relation to the working age population. Ethiopia has experienced a rapid decrease in fertility levels in recent years, a decline

that has been more rapid than in most sub-Saharan countries. Major contributing factors to the fertility decline include strong expansion of health services, including family planning, to rural areas; increased use of contraceptives; reductions in child marriage; and rapid improvements in education levels for women (see Box XX: "What triggered the Fertility Decline in Ethiopia?").The change in fertility levels will also have far-reaching implications for the age structure of Ethiopia. This is a rather unique situation in the continent as, so far, most other countries in SSA have experienced only a slow decrease of high fertility levels.

The Decline of Fertility

In 1990, the total fertility rate (TFR) of Ethiopia was estimated at 7.2 children per woman. A TFR of 7.2 represents the average number of children Ethiopian women had at the time, assuming that they would experience during their lifetime the fertility conditions that were observed around 1990 (United Nations Population Division 2013). As illustrated by the results of the 2000, 2005, and 2011 EDHS as well as the data of the 2014 Mini EDHS, the TFR for Ethiopia have since decreased dramatically (see Table XX;these figures refer to the three years preceding the surveys).In 2014, it was estimated at 4.1 children per woman.In just 14 years, the TFR has decreased by 30 percent for Ethiopia as a whole. The decrease has been equally rapid in urban and rural areas, each area experiencing a decline of fertility of about one third. In 2014, the TFR in urban areas was half the TFR in rural areas.

Table 2: Total Fertility Rates in Ethiopia, from the 2000, 2005, and 2011 EDHS, and the 2014 Mini EDHS, for the three years preceding the surveys

Year of survey	Total Population	Urban Population	Rural Population
2000	5.9	3.3	6.4
2005	5.4	2.4	6.0
2011	4.8	2.6	5.5
2014	4.1	2.2	4.5

Sources: Ethiopia Central Statistical Agency, 2001: 37; Ethiopia Central Statistical Agency and ORC Macro, 2006: 47; Ethiopia Central Statistical Agency and ICF Macro, 2012: 70; and Ethiopia Central Statistical Agency, 2014: 28.

However, there are significant regional differences in Ethiopian fertility levels. According to the 2014 Mini EDHS, the regions of Afar, Benishangul-Gumuz, Gambela, and Somali still have TFRs that are higher than 5 children per women. On the contrary, the capital Addis Ababa had in 2014 a TFR of 1.7, which is below replacement level. Finally, in 2014 the lowest wealth quintile had a TFR of 5.6; more than double the TFR of the highest quintile, which was 2.4 children per woman(Ethiopia Central Statistical Agency, 2014: 29).

A major explanation for the decreasing fertility in Ethiopia has been the rapid increase of the use of modern contraception, as shown in Table XX. In 14 years, the contraceptive prevalence rate, defined by the number of married women using a modern contraceptive method, has increased more than six-fold nationally, which translates into an increase of nearly 2.5 percentage points per

year. This is a remarkable achievement, which can be compared to the successes obtained by successful family programs in Asia (see also Olson and Piller, 2013). Family planning uptake has been even more dramatic in rural areas, a 12-fold increase. This may be caused by new, adaptive behavior to population pressure in those areas but it could also be argued that the Health Extension Workers (HEWs) program has made a difference (see Box XX: "The Health Extension Program").

Table 3: Contraceptive Prevalence Rates in Ethiopia among Currently Married Women, from the 2000, 2005, and 2011 EDHS and the 2014 Mini DHS, Modern Methods (percent)

Year of survey	Total Population	Urban Population	Rural Population
2000	6.3	28.3	3.3
2005	13.9	42.2	10.6
2011	27.3	49.5	22.5
2014	40.4	56.3	37.9

Sources: Ethiopia Central Statistical Agency, 2001: 53 & 55; Ethiopia Central Statistical Agency and ORC Macro, 2006: 62 & 63; Ethiopia Central Statistical Agency and ICF Macro, 2012: 96 & 98; and Ethiopia Central Statistical Agency, 2014: 35 & 37.

Besides the rapid increase in CPR, the other proximate determinants of fertility, i.e., the biological and behavioral variables that affect fertility, do not appear to have played a major role in the decrease of fertility, with the possible exception of induced abortion (Singh et al., 2010).With respect to marriage, which is one of the key proximate determinants of fertility, almost 60 percent of Ethiopian women age 20-24 were married or in union in 2014.At that time, less than 1 percent of Ethiopian women age 45-49 had never been married, which indicates that marriage is nearly universal. The proportion of women who have never married has not changed much in Ethiopia during the past 15 years (Ethiopia Central Statistical Agency, 2014: 25).The number of induced abortions in Ethiopia has been estimated at 382,000 in 2008, and the abortion ratio was 13 per 100 live births. In Addis Ababa, the abortion rate was 49 per 1,000 women, twice the national level (Singh et al., 2010: 16).Given the limited research on this topic and the fact that Ethiopia just liberalized its abortion policy in 2005, it is unknown how rates of induced abortion may have changed in Ethiopia over this 14 year period.

Major socioeconomic and cultural forces are likely driving decreasing fertility levels in Ethiopia. Many theories have been designed that attempt to account for changes in fertility outcomes in various settings and stages of development. They are summarized in Box XX:"What triggered the Fertility Decline in Ethiopia?" In the case of Ethiopia, the review of the different explanations of fertility decline tends to point in the direction of multiple, concomitant causes.

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, the demographic pressure on the highlands has led to a worsening of the living conditions as well as scarce economic opportunities(World Bank, 2007).As a result, Ethiopian couples have 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 Caldwell provided abroad 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 destabilize traditional production regimes, which 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 transfers between generations (Caldwell, 1982). This may indeed have occurred in parts of Ethiopia. Traditional production models, especially on the highlands, had been destabilized. More Ethiopian children, especially girls, went to school, more Ethiopians gained paid employment, and more Ethiopians migrated to the cities.

However, in addition to the adaptive responses to changing economic conditions, it seems that demographic changes in Ethiopia, which are exemplified by the rapid uptake of modern contraception, have been triggered also by changes in cultural forces and attitudes. In this respect, theories of ideational changes, which are akin to theories pertaining to the diffusion of ideas, have been proposed to explain the decline in fertility in societies opening up to new ideas and attitudes, even though their socioeconomic advancements would remain rather modest (Freedman, 1979;Cleland and Wilson, 1987). According to this interpretation, new ideas and attitudes and minimal changes in daily life, such as token signs of modernization or Westernization, would be sufficient to bring about the onset of fertility decline (i.e., a reduction in fertility of at least 10 percent).At work in these ideational changes, one should not discount the influence of the media and communication technologies as well as perhaps the new cultural norms brought by returning migrants and role of the Ethiopian diaspora.

In addition, new gender roles also explain part of the demographic changes in Ethiopia. Ethiopian women not only attend school in larger numbers, but they also seek and work outside the home more and thus participate more in the labor market and the economy. Female schooling also impacts fertility levels and it has been established that even non-educated women benefit from educated women (positive externality of education; see World Bank, 2007: 83).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 family planning programs put into place by the Government of Ethiopia. The Health Extension Program, which was launched in 2003, has deployed more than 35,000 health agents throughout the country and this has helped popularize new attitudes as well as new norms. In 2005, the GOE had also modified the penal code, broadening the indications under which abortion is permitted. This had been followed in 2006 by the publication by the Ethiopia Federal Ministry of Health of technical and procedural guidelines for the provision of safe abortion services (Singh et al., 2010: 16).

To conclude, it appears that both socioeconomic factors and cultural dimensions have played their part in the rapid decline of fertility in Ethiopia. However, in additional to socioeconomic conditions, ideational changes probably explain to a very large extent the dramatic behavioral changes that have taken place in the country during the past 15 years.

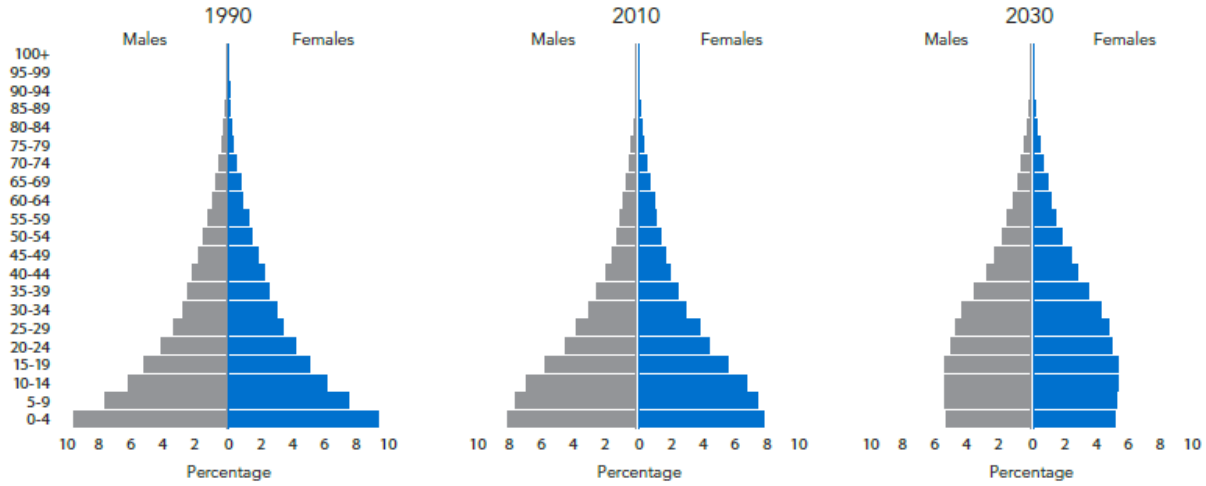
Although the survival revolution, especially for the children below age 5, will contribute to the population growth simply because more people will survive, better survival prospects for children should also have a mitigating effect on population growth because with more children surviving, parents will in principle want to have fewer children.

Fertility decline is an important precursor of a demographic dividend because this 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.

Changes in the Age structure

As a result of the changes in the levels of mortality and especially fertility, the age structure of the Ethiopian population has begun to shift from a traditional, wide-base population pyramid to a transitional pyramid, which is becoming narrower at the bottom (Megquier and Belohlav, 2014: 2; see also Figure XX). Given the rapid pace of the fertility transition in Ethiopia, we have used here the Low variant of the 2012 UN population projections (United Nations Population Division, 2013).

Figure 1: Population Pyramids for Ethiopia in 1990, 2005, and 2030 (projection)



Source: Megquier, Shelley and Belohlav, Kate. (2014). *Ethiopia's Key: Young People and the Demographic Dividend*. Policy Brief. Washington, DC: Population Reference Bureau (PRB).

In the 1990s, the population pyramid of Ethiopia was still large at the base, reflecting the large number of youth linked to the high levels of fertility in the country at the time (7.2 children per woman on average; see United Nations Population Division, 2013). As a result, there was a large number of children with respect to the working age population.

In 2010, because fertility had started to decline, the population pyramid had become narrower at the base: the total fertility rate (TFR) was then 4.8 children per woman (United Nations Population Division, 2013). Step by step, the working age population was gaining more weight as compared to the number of children.

By 2030, it is assumed that the base of the population pyramid will narrow further and become more rectangular, reflecting still further decreases in the levels of fertility (in 2030, the TFR is expected to be 2.5 children per woman on average, as projected by the UN Population Division, Low variant; see United Nations Population Division, 2013).

These changes in the age structure are important, because less youth means a relatively larger working or active population. Moreover, the number of dependents (defined as those below age 15 and above age 65[1]) declines with respect to the number of adults (people between 15 and 64). This shift in the age structure translates into more available resources to build the human capital (education and health) for the younger cohorts or generations. Indeed, the transformation of the Ethiopian age structure may soon enable the country to capture the benefits of a demographic dividend, provided continuation of policies and investments in education, health, and job creation. On the policy front, it will be crucial to address the needs of youth, who are the workers of tomorrow(Megquier and Belohlav, 2014: 2).

Economic Performance

To prepare and to harness the benefits of a demographic dividend in Ethiopia, the economy must have the capacity to absorb the large number of workers who will be entering working age over the next several decades. Indeed, the goals of the GTP include fast-paced economic growth, industrialization, and extensive infrastructure development. However, in many ways Ethiopia is still transitioning from an economy built on subsistence agriculture to one that is more modern and largely knowledge-based. Therefore, to reap a demographic dividend, the Ethiopian economy should fully become one driven by the strength of an educated population, connected to the global marketplace, and characterized by diversity, flexibility, and the ability to withstand shocks.

This section will stress the importance of job growth in order for Ethiopia to achieve a demographic dividend, outline strengths and weaknesses of different economic policy frameworks and summarize the economic performance accompanying each policy framework. Sector-specific growth will be examined, particularly the growing importance of the service sector. As the economy has changed, rates of poverty and inequality have also shifted.

Productive Employment for Ethiopia's Working-Age Population

As Ethiopia's age structure changes and the working-age population grows in relation to the population of young dependents, productive employment opportunities will need to be made available for those in the workforce. Ethiopia is currently experiencing an economic boom in the service sector and an ongoing expansion of urban centers in major regional states. The expansion of rural education has, among other factors, impacted the rural-urban demographic balance, due to the fact that once rural youth are educated they seek livelihood alternatives to farming and often migrate to urban centers where broader employment options may be available. According to the Ethiopian labor force survey of 2012/13, the urban population is on the rise and accounts today for 18.3 percent of the total population.

[1]Sometimes, the young dependents are defined as those aged 0 to 19 and the working population is defined as those between age 20 and 64.

Among the total employed population, the urban economy employed 11 percent of the working labor force in 2005, which increased to 15 percent of the working labor force in 2013. In 2013, approximately 48 percent of the total employed persons work on skilled agriculture, forestry and fishery activities. About 33.7 percent of the total employed persons work on elementary occupations.

Over the past decade, unemployment has been a largely urban phenomenon in Ethiopia. The nationwide unemployment rate as of 2013 was 4.5 percent. The unemployment rate during the same period for male and female labor force was 2.7 percent, and 6.5 percent, respectively. The unemployment rate in urban areas was 16.5 percent – 10.5 percent for male labor force and 23 percent for female labor force. This contrasts to the 2 percent unemployment rate in the rural area [CSA, 2013 Labor Force Survey, 2014]. However, the rural economy is believed to have disguised unemployment and underemployment due to the fact that labor per land ratio is high. As pressure for land resources increases in rural areas, families are forced to work on smaller and increasingly fragmented plots of land.

A key determining factor whether Ethiopia will be able to fully benefit from its efforts to reduce mortality and fertility will be ensuring economic opportunities are available for the growing working-age population. Capturing a demographic dividend hinges on the formulation and implementation of conducive economic policies and vigorous job-growth. It is therefore necessary to carefully assess economic performance in Ethiopia over the last 15 years and to glean lessons learned from the past for Ethiopia's ongoing development.

A Transitioning Economy

As of 2013/14, the volume of the Ethiopian economy stood at 1.047 trillion Birr or 55 billion US Dollars at current market prices (MoFED, National Income Accounts, 2014). This translates into a per capita income of 12,046 birr or 631.5 USD per annum. The official figures from MoFED further show that the economy measured by gross domestic product has been expanding at an average rate of 10.5 percent per annum for the last decade.[2] With annual population growth of 2.7 percent, this rate is translated into an average growth rate of 7.8 percent in per capita GDP. Comparing the performance of the Ethiopian economy with its peers in sub-Saharan Africa shows that its growth has been impressive. Ethiopia has been the fastest growing economy in Africa for the past ten years, according to the AfDB numbers (AfDB, 2014). Similarly, Ethiopia was the twelfth fastest growing economy in the world in 2012. Although its recent economic growth performance has been noticeable, the Ethiopian economy still faces a number of challenges, namely lack of absorptive capacity (resulting in unemployment) and slow growth in the private sector.

Until recently, the Ethiopian economy has been mainly a subsistence agrarian economy. Prior to 2005, agriculture and related activities accounted for more than 40 percent of the gross domestic product (GDP) and more than 80 percent of employment (MoFED, National Income Accounts; CSA Annual Statistical Abstracts). In addition, although the economy has changed significantly over the last 15 years, 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 (World Bank. 2013). Over 90 percent of the export earnings still come from agriculture and related activities including coffee, pulses and oil seeds (World Bank, 2013).During

[2]The International Monetary Fund (IMF) doubted the official figure of the 11 percent growth during PASDEP. IMF estimates put the growth rate at an average of 7 to 8 percent [IMF, 2011].

the 1990-2005 period, the majority of economic policy frameworks and consequentially development efforts focused largely on agricultural and rural development. Growth performances were modest: real GDP expanded at modest average rates of 4.3 percent during 1992-2000 and 5.9 percent during 2001-2005 (see Figure 1)

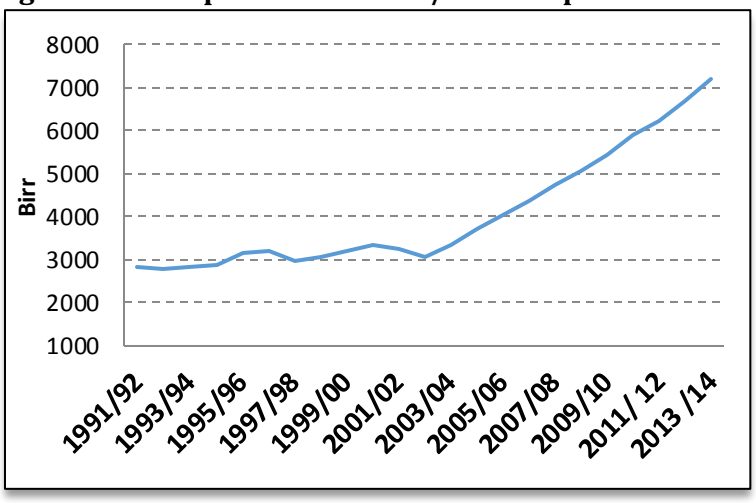
Under the *Plan for Accelerated and Sustained Development to End Poverty (PASDEP),* which covers the period 2005-2010/11, the Ethiopian government shifted its focus from rural development and began to invest a massive amount in urban centers. Expansion of educational opportunity to rural areas continued during this period, partly as an effort to increase labor productivity, reduce fertility, and smooth rural-urban migration. The Plan 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 (MoFED, 2006).

With the advent of PASDEP and the urban infrastructure development that accompanied it, the Ethiopian economy experienced a significant leap forward. In terms of the structure of the economy, at beginning of the PASDEP in 2005/06, agriculture had the largest share in the GDP accounting for 50.5 percent (MoFED, National Income Account, various issues). But, its share in the volume of the economy had been overtaken by the service sector by the end of PASDEP in 2010. The boom in the service sector was mainly driven by public investments in infrastructure and urban development. A World Bank study showed that Ethiopia ranked the third highest in public investment and the sixth lowest in private investment in the world in2011 (World Bank, 2013). Trade, hotels and restaurants, and real estate activities dominated the high growth in the service sector (MoFED, National Income Accounts, various issues). This structural shift from agriculture to the services sector occurred in the face of less vibrant industrial sector which had then only a share of 10 percent in the GDP. In particular, the share of the manufacturing sector in the GDP had been stagnant.

Laying the Building Blocks for a Diverse, Vibrant Economy

The high demand and the high hope created during the five years of PASDEP informed the Growth and Transformation Plan (GTP) that was launched since 2010/11. The lack of growth in the industrial sector under PASDEP, particularly in manufacturing, led to greater emphasis on industrialization under the GTP. Efforts following the policy shift resulted in a modest increase in the share of the industrial sector in the GDP spearheaded by the construction subsector. The share of the industrial sector in the GDP stood at 14 percent in 2013/14. Both the manufacturing and construction subsectors had an equal share of 4 percent in the GDP by the end of the PASDEP period in 2009/10.

Figure 2: Per capita GDP at 2010/11 basic prices

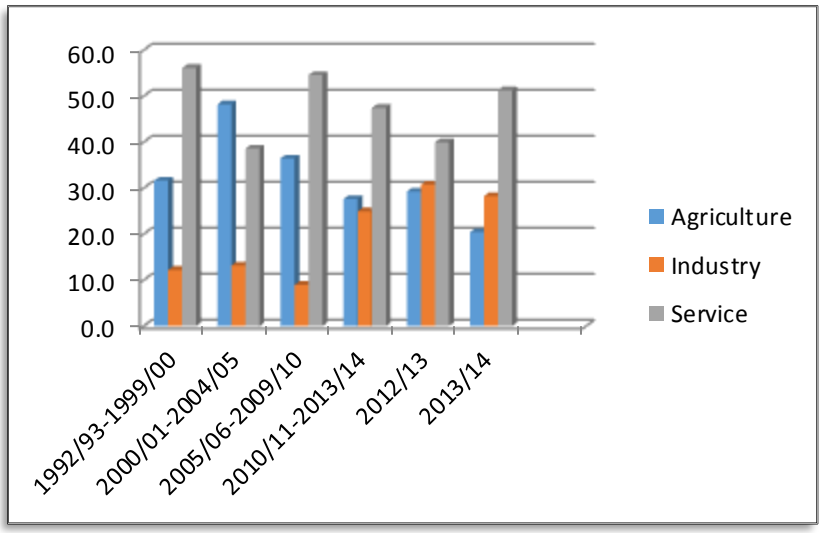


Sources: MoFED, National Income Accounts

The upsurge in the economy which began in 2005 has continued during the period of GTP. This growth was largely driven by demand which in turn was stimulated by heavy investment in the infrastructure by the public sector (EEA, 2014; World Bank, 2013). Measured in terms of 2011 purchasing power, Ethiopia's per capita income increased from $724 in 2005 to $1,218 in 2013.The high growth over the last decade helped almost double per capita GDP at 2010/11 constant prices between 2004/05 and 2013/14

A more interesting phenomenon emerges when one looks at the dynamics of each sector in the growth of the economy. 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 the GDP during PASDEP was in general led by the services sector. The first four years of the GTP period observed a situation where the share of the agriculture in the GDP growth declined, that of the service sector remained to be stable and robust, while that of the industrial sector has increased. In particular, the share of the industrial sector in the total growth witnessed a significant increase from 9 percent during the period of PASDEP to 25 percent over the first four years of the GTP (see Figure 2).

Figure 3: Share of Different Sectors in the GDP Growth



Source: Authors' calculations using data from MoFED

According to figures of the national income accounts of Ethiopia, the service sector had a leading role in spurring the economy as it grew at an average rate of 12.5 percent per annum for the last decade. About 5.5 percentage points of the 10.5 percent growth in real GDP during the period of 2005/06-2013/14 was accounted for the service sector. The most vibrant sub-sectors within the service sector during the period were wholesale and retail trade, and real estate, renting and business activities. Net output in the crop-dominated agriculture sector grew at an average rate of 7.6 percent during the same period accounting for 3.4 percentage points (about 33 percent) of the 10.5 percent growth in GDP. Net output in the industrial sector expanded relatively faster than previous years. It grew at a rate of 15 percent per annum.[3]

The expansion in the construction sub-sector 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. On the other hand, the manufacturing sub-sector followed the construction sub-sector in terms of its growth dynamics as its share in the GDP growth increased from 2.8 percent during PASDEP to 4.8 percent during GTP.

Before 2010/11 gross domestic savings was low, resulting in expanding dependency on foreign resources (MoFED, National Income Accounts).An important development since 2010 under the GTP is the significant increase in the saving rate. Rate of gross domestic saving increased from 5.5 percent in the last year of PASDEP to 22.5 percent in 2013/14 (MoFED, National Income Accounts). This figure is by far greater than the end of period GTP target of 17 percent. The increase in saving rate is largely due to the government's saving mobilization efforts in the form of the Great Renaissance Bond (to fund the Renaissance Dam), the urban residential housing scheme, increasing number of micro-finance institutions in rural areas, and the increase in average income.

[3] Figures in this paragraph are authors'' calculations using data from MoFED.

Poverty and inequality

The Ethiopian government has designed several policies and strategies to reduce poverty and eliminate hunger and meet the Millennium Development Goals (MGDs) by 2015. Reducing the proportion of people living below the poverty line to about 22.2 percent for total poverty and to about 21.2 percent in the case of food poverty have been set as important targets by the government (MoFED, 2010). A recent report indicates that the head count poverty in Ethiopia has declined to 27.8 percent in 2011/12 (MoFED, 2013). The poverty rate is slightly higher for rural areas (30.4percent) as compared to urban areas (25.7 percent). Despite a growing population, Ethiopia has managed to reduce the number of people living in poverty from 27.5 million in 2004/5 to 23 million in 2011/12. On the average, over the last decade Ethiopia has been reducing poverty by 2.3 percent annually, which is quite high compared to 0.5 percent for Africa, excluding North Africa (MoFED and UN, 2012). With this performance, the country is well positioned to meet the target of reducing head count poverty by half by 2015.

The introduction of the Ethiopian PSNP in food insecure rural districts of Ethiopia has been instrumental in the 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. Direct unconditional transfers are given to food-insecure elders, disabled persons, and orphans. The World Bank (2015) study has clearly shown that the direct transfer has reduced the national poverty level by about two percentage points.

The recent decline in poverty may be attributed to a number of factors including achievement in implementing the Productive Safety Net Program (PSNP). Furthermore, efforts to improve emergency preparedness and responses through the implementation of a disaster risk management approach have enabled the country to respond to droughts and build household and community resilience to climate induced shocks. Production and marketing interventions in the agriculture sector have also helped to improve production and yields in the agricultural sector. 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, 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 an equitable distribution of income across various socioeconomic groups. There have not been major changes to income inequality in Ethiopia over the last 15 years. Inequality in rural areas has remained constant and urban inequality rose until 2005 and then fell again. Inequality in urban areas remains higher than in rural areas. One explanation for reductions in income inequality in urban areas after spiking in 2005 was the change in urban development policy under PASDEP. Urban-focused development activities were carried out in the country. They included urban infrastructural development (road, private 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.

Box 4: Highlighting some of Ethiopia's Policy Frameworks*

Year	Name	Description
1993	National Population Policy (NPP)	Introduced population specific interventions and sought to address demographic issues.
2001	Sustainable development and poverty reduction strategy paper (SDPRP)	nurturing smallholder peasant agriculture to be a pillar for eliminating food aid dependency, reducing poverty and boosting faster economic growth
2003	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.
2005	Plan for Accelerated and Sustained Development to End Poverty (PASDEP)	Included investment in urban centers, efforts to curb youth unemployment, and efforts to ensure smooth rural-urban migration.
2010	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' enrolment and retention.
2010	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.
2010	Growth and Transformation Plan (GTP)	Included a focus on the industrial sector, particularly manufacturing, heavy public sector investments in infrastructure, and public savings schemes.

*In 2015, the Government of Ethiopia is working on the development of the next generation of development programs for the health, education, and economic sectors.

Capturing the Demographic Dividend

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

In order to better understand the conditions under which Ethiopia might benefit from a demographic dividend, the DemDiv model was applied to the Ethiopian context. Results from the DemDiv model are presented in this section, including the potential added GDP that a demographic dividend could provide. Then this section explores strategies to build on past successful policy interventions and to consolidate and expand ongoing development efforts.

Modeling the Demographic Dividend

Since the demographic dividend theory was conceptualized in the late 1990s and early 2000s, some efforts have been put to bear to analyze not only what would be required to obtain a demographic dividend but also to measure what specific results could be anticipated from a demographic dividend in the area of socioeconomic development. In order to better understand the conditions under which Ethiopia might benefit from a demographic dividend, the DemDiv model was applied to the Ethiopian context. Results from the DemDiv model can be used to better understand the necessary investments in order for a demographic dividend to be achieved and the potential added GDP that such a dividend could provide.

Box 5: Modeling Future Development Outcomes and *DemDiv* Model

The Futures Group through the USAID-sponsored Health Policy Project (HPP) has developed a cross-national, customizable dynamic model of the demographic dividend, the *DemDiv*. *DemDiv* 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 multi-sector policies required to achieve those benefits. The model, which can be applied in any country, allows users to design multiple scenarios to show how the combined power of policy investments in family planning, education, and the economy can generate a demographic dividend not possible by single-sector interventions. It is a model that projects demographic changes and economic changes with equations to estimate employment and investments, along with an estimation of gross domestic product (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.

The *DemDiv* model has two main parts: a demographic component and an economic component. The main outputs of the demographic model are: population by age and sex, dependency ratios, infant and under-five mortality, fertility rates, and life expectancy at birth. The main outputs of the economic model are: labor force by age and sex, employment, investments, gross domestic product (GDP) per capita, and GDP growth rate.

The *DemDiv* model is first applied to the specific context of the country where it is being used, feeding the model with the most recent economic, health, and socioeconomic data to reflect the current situation. Then, the model develops realistic scenarios, namely alternative strategies for health, education, family planning, and the economy, with the view of maximizing the benefits of the demographic transition. Thereafter, the model helps to outline realistic programs and policy initiatives,

The DemDiv model is composed of a *demographic sub-model* and an *economic sub-model* (see Box XX). The model structure reflects the nature of the demographic dividend as an economic opportunity created by demographic changes.

Threedifferent 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.

- Scenario 1: This *base scenario* assumes slow progress in the expansion of family planning use, educational attainment and economic reforms. In this scenario, Ethiopia attains just 30 percent of the education and economic goalposts of benchmark countries. Rather than increasing at current rates, in this scenario FP use increases only gradually at approximately 0.5 percentage points per year.
- Scenario 2: This scenario assumes an *economic emphasis* in which Ethiopia achieves improvements in labor market flexibility, ICT use, financial market efficiency, public institutions and imports, roughly equivalent to the current average for Stage 2 or Stage 3 countries in the Global Competitiveness Report (see Table X). In this scenario, education and FP are held constant as per the base scenario.
- Scenario 3: This scenario combines *intense* investments in family planning with high education levels and economic improvements. This scenario assumes that by 2050, contraceptive prevalence rate will increase to 68.5%. It also assumes that expected years of schooling for a female Ethiopian will increase from 7.6 years in 2010 to 11.74 years in 2050 and that selected Global Competitiveness Indicators will improve significantly.

To develop these scenarios, benchmark indicators were used and certain assumptions were made. Education indicators are from a benchmark country for education (Botswana), family planning indicators are based on Ethiopia's established targets for family planning, and aspirational targets for economic policy variables are set based on those of more economically developed and competitive countries. The economic inputs include selected variables from the Global Competitiveness report that are directly connected to job creation, economic growth, and thus the ability of a country to realize a demographic dividend. The Global Competitiveness indicators used include indices for Public Institutions, Imports as a percent of GDP, Labor Market Flexibility, and Information Communication Technology Use. Economic inputs in Scenario 2 and Scenario 3 are set at one stage higher than what Ethiopia is currently accomplishing.

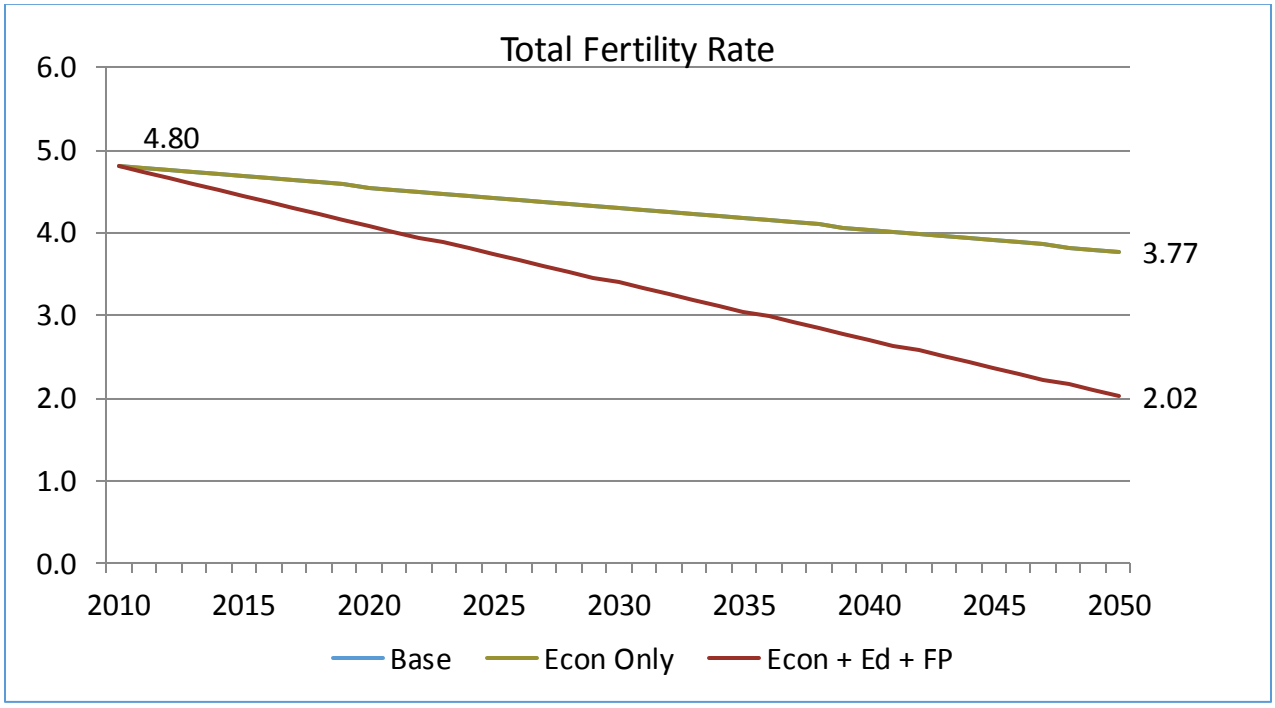
Assumptions are built into the three scenarios. The combined economic, education, and family planning scenario that includes intensified investments in education assumes that the expected average number of years a female will be in school in 2050 will increase to 11.74 years. The Scenario 1 target is set at 1/3 of that increase between 2010 and 2050. Similar remarks apply to the other variables. For the family planning inputs, three proximate determinants of fertility are used. Under Scenario 3, 68.5 percent of women are using modern contraceptive methods. For the other scenarios we assumed an annual increase in the CPR of 0.5%. Traditional CPR is held constant at 1.3%. The rate of CPR increase in Scenario 1 and 2 is actually less than the current pace of CPR increase in Ethiopia.

Results

Based on the inputs described above, the DemDiv model calculates certain outputs for each scenario. Results from the DemDiv model can be used to better understand how a demographic dividend might be achieved in Ethiopia and the potential added GDP that such a dividend could provide.

Figure 4 illustrates the projected changes to the average number of children each Ethiopian woman may have by 2050, based on the different investment scenarios. Under the base and economic only scenarios, the TFR falls from 4.8 children per woman in 2010 to 3.77 children per woman in 2050. A slight decline in TFR of this nature would not have significant impact on Ethiopia's age structure nor would it open the window of opportunity for a demographic dividend. Scenario 3, however, with strong investments in economic growth, education, and family planning scenario, predicts a TFR of just over 2 by 2050 (i.e., around replacement level).

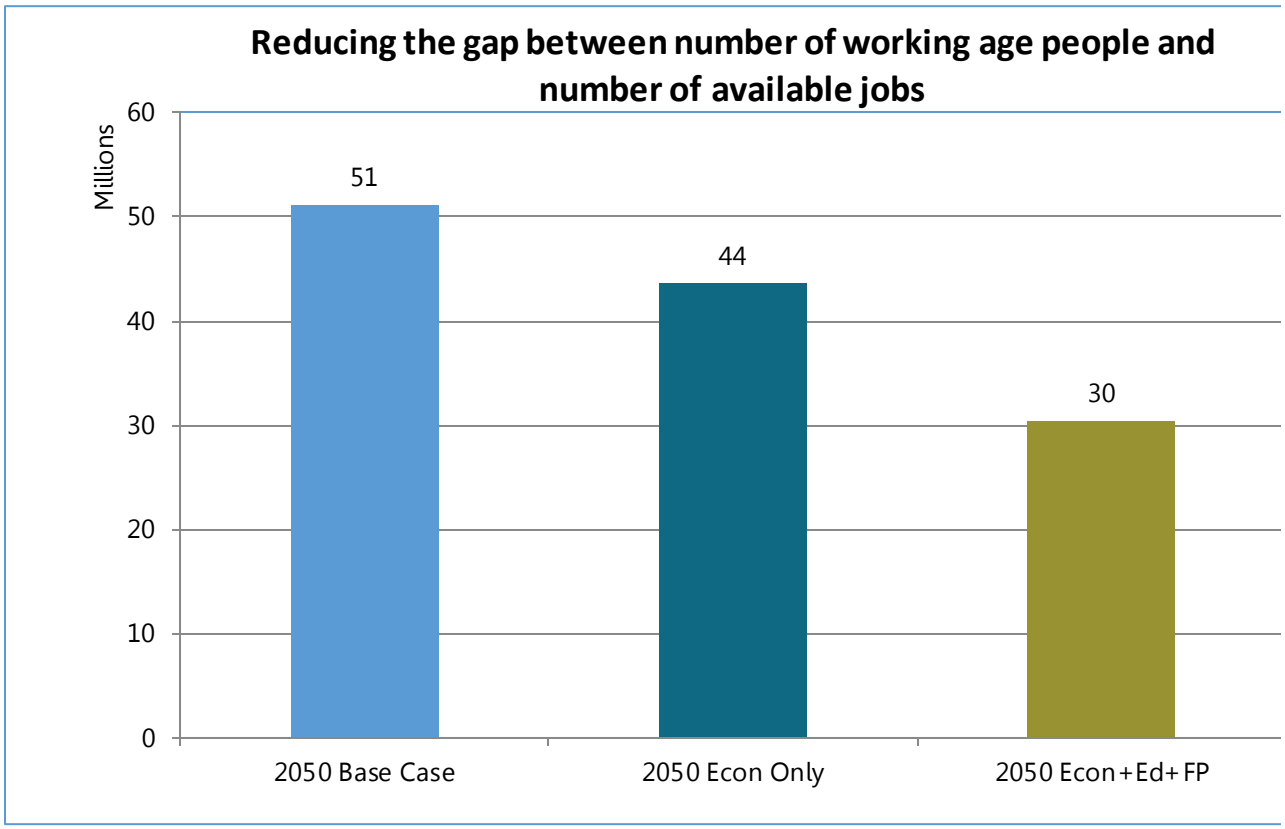
Figure 4: **Ethiopia 2050: Total Fertility Rate based on DemDiv modeling**



Source: Futures Group, Upcoming publication, used with permission from Scott Moreland

The employment gap represents the number of people of working age who are not active in the labor force. Meeting employment needs is a critical function of economic development. Combined and accelerated investments in FP, education and economic reforms also produce the smallest employment gap as seen in Figure XX. Minimizing the employment gap is a key factor in whether the demographic dividend will be successfully achieved.

Figure 5: Ethiopia 2050 : Combined investments can reduce Employment Gap



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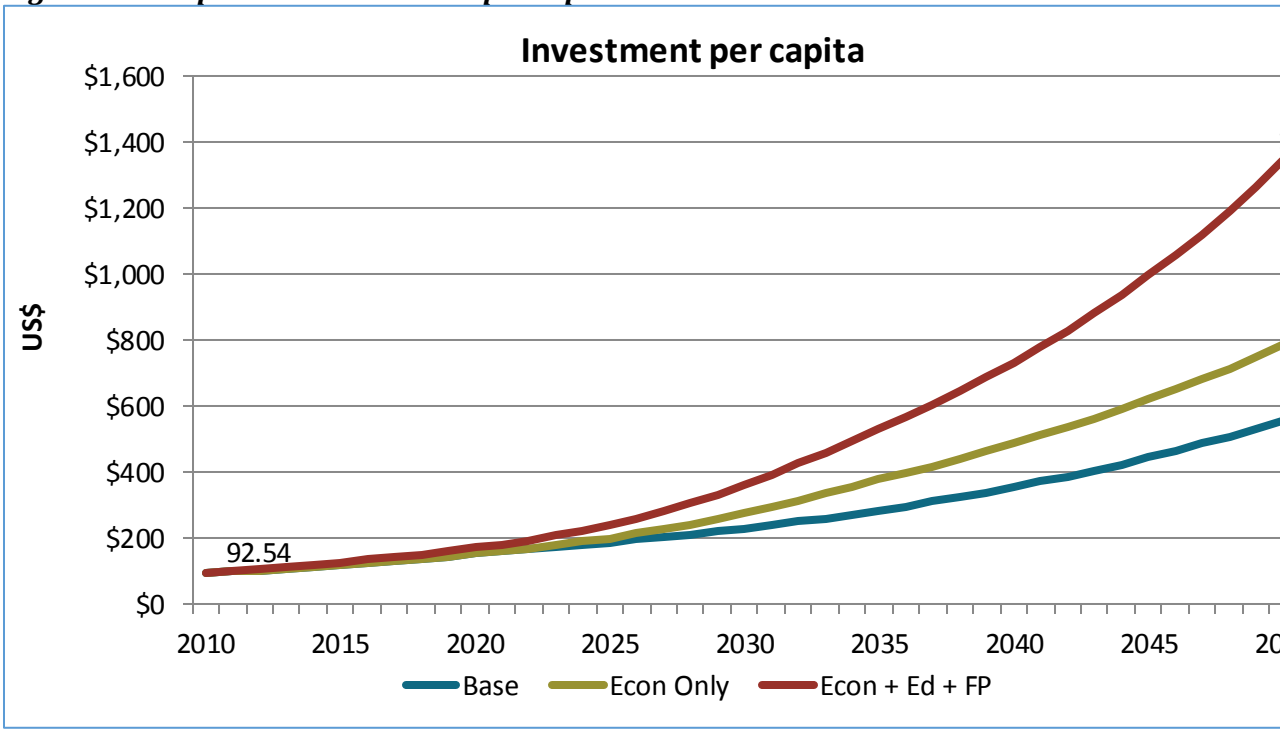
An important mechanism for achieving the demographic dividend is the change in investment per capita. This is because increased investments are an important driver of economic growth. In the model, strategies to improve financial markets, as well as changes in the age structure of the population, influence savings and hence investment. Lower dependency ratios free up resources that might otherwise go to consumption and can now go to savings which finance investment. We can see the predicted impact of demographic changes in Ethiopia on per capita investment in Figure XX. Under the economic emphasis scenario, per capita investment increases by the end of the projection period to $785, more than $200 higher than the base scenario. Adding education and family planning to the scenario increases per capita investment by another 30% to $1342.

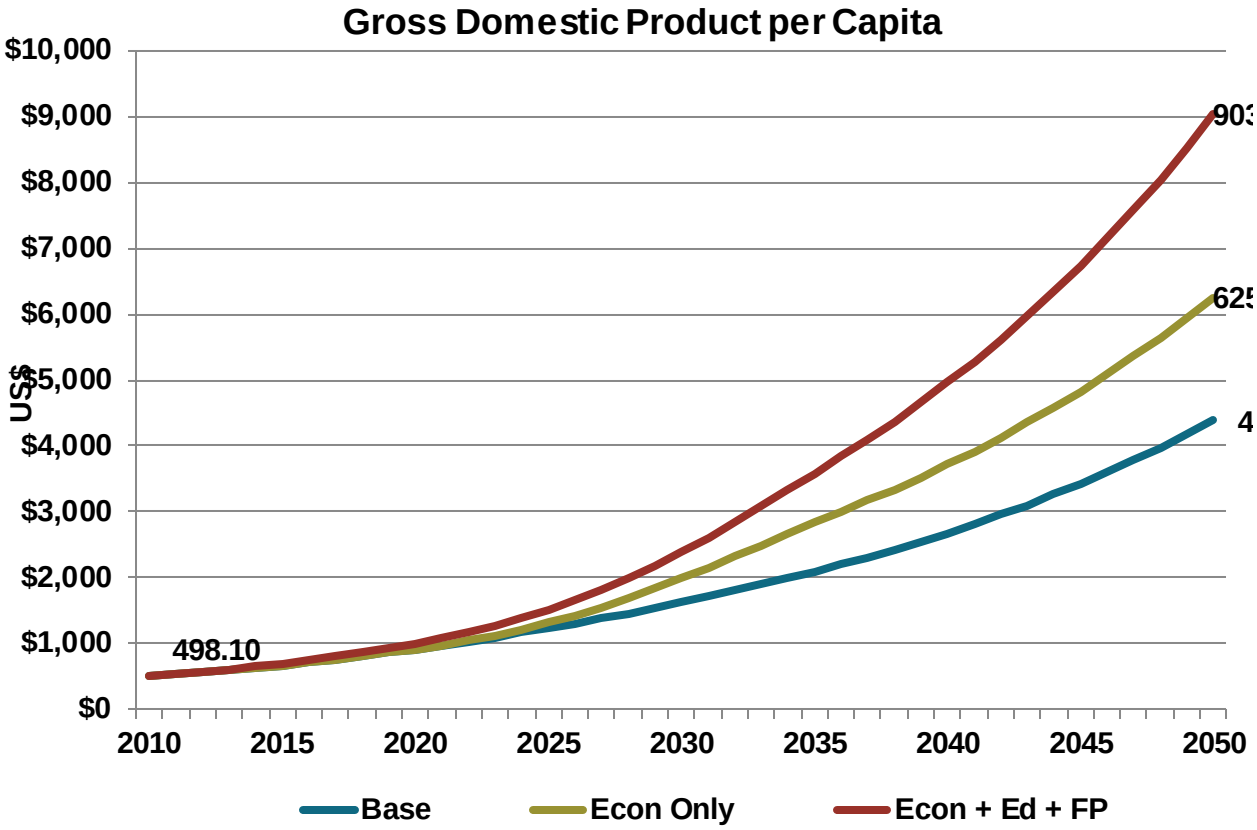
Figure 6: Ethiopia 2050: Investment per capita under three DemDiv scenarios



Source: Futures Group, Upcoming publication, used with permission from Scott Moreland

The demographic dividend is evident in the three scenarios of Ethiopia's possible GDP per capita by 2050. Minimal investments in FP, education and economic reforms as per the base scenario elevate GDP per person from $498 to $4,386. Investing solely in economic reforms produces a nearly ten-fold increase in GDP per person over 2010 levels, while economic reforms and investments and education result in a nearly thirteen-fold increase in income. However, the combined scenario results in an even larger increase in GDP per capita which reaches $9,030 by 2050. Hence, the importance of harnessing the synergies between various interventions.

Figure 7: Ethiopia 2050: DemDiv projections for GDP Per Capita under three scenarios



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

Continued progress in increasing family planning use is critical to continue Ethiopia's demographic transition, a necessary, but not sufficient, condition for achieving the demographic dividend. Also, increased investments in education, especially for girls, can encourage healthy behavior, including increased uptake of family planning and can 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 over 11 years by 2050; and
- Eliminate the gender gap in education, increase women's participation in the formal labor force, and 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 communication technology. 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 the family planning and education strategies can help Ethiopia reap a demographic dividend with:

- GDP per capita that can increase more than 18 times by 2050; and
- Significantly reduce the gap between the over 15 population and those employed.

Strengthening the Enabling Policies

This section examines the future opportunities that will present for Ethiopia as well as the efforts that will be needed to consolidate and expand ongoing development efforts. It looks specifically at three major challenges, namely the continuation of improvements of the social policies, the acceleration of the demographic transition, and the economic policies that will be needed to foster growth.

1. Improving Social Indicators

Despite the impressive progress Ethiopia has accomplished in the past 15 years to improve education, health, and gender equity, much remains to be done. Improvements in this area are the conditions to improve the skills and the health of the future workers, those indeed 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.

On the education front, the country will need to pursue its ongoing efforts, especially those geared at the 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. There are still too many young people receiving either no education, not enough education, or low quality education. Moreover, not all regions have experienced similar improvements in education levels. As an example of the need to further develop educational opportunities at the regional level and address boys' as well as girls' educational needs, only 2.7 percent of men in the Amhara region had completed secondary school or above in 2000. By 2011, only marginal improvements had been made in that region and 4.5 percent of men had completed secondary school or above (DHS 2000 and DHS 2010). Therefore, secondary and tertiary education levels need much more attention.

On the health front, the Government of Ethiopia will need to pursue its so far successful policies and programs. The Health Extension Programs (HEP) has been a sea change in the country, and has helped decrease levels of infant and child mortality, increase life expectancy at birth, and decrease fertility. Still, there is a long way forward. Infant and child mortality rates remain high, and life expectancy at birth could be considerably improved. In addition to consolidating the ongoing health programs, more attention should be devoted to the quality of health services, the effectiveness of health interventions, and last but not least the 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 will not only help to reach better education and health outcomes, but will also have profound impacts on the participation of women into the labor force. Indeed, greater female participation in the economy is a key engine that is needed to capture the potential benefits of a demographic dividend.

2. Accelerating Demographic Changes

One of the key policy questions for the future of Ethiopia is whether it will be possible to accelerate the demographic and particularly the fertility transition. Progress in recent years has been remarkable. The main future challenge for Ethiopia will be to avoid a slowingdown of the decrease of fertility and advance voluntary family planning until fertility reaches about replacement level.

Two factors will need to be addressed. First, desired fertility appears to remain high in Ethiopia as documented by the series of Ethiopia Demographic and Fertility Surveys (EDHS).In the module on fertility preferences of the 2011 EDHS, Ethiopian women reported they desired a family size of 4.3 children (which is slightly above the TFR of 4.1 reported in the 2014 Mini DHS), whilst men preferred having 4.8 children. In the last ten years, women's ideal family size has declined by one child, from 5.3 children in 2000 to 4.5 children in 2005 and 4.3 children in 2011. In fact, it was estimated in 2011 that the TFR was 60 percent higher than it would be if unwanted births were avoided (Ethiopia Central Statistical Agency and ICF International, 2012: 81-91).

Second, the family planning (FP) unmet need for limiting appear to be increasing less rapidly than the FP unmet need for spacing, as shown in Table XX. Unmet need is defined as "the proportion of women not using contraception who either want to cease further childbearing (unmet need for limiting) or who want to postpone the next birth at least two more years (unmet need for spacing)" (World Bank, 2010).A closer look at Table XX indicates that the total demand for family planning increased, but the demand for spacing increased by 8 points between 2000 and 2011, whereas the demand for limiting increased only by 2 points over the same period. A similar trend is observed for family planning use: an increase of 8 points for limiting and of 12 points for spacing. Between 2000 and 2011, the additional demand for family planning had been created essentially for birth spacing.

Unless addressed adequately, this phenomenon could portend a possible slowing down of the rapid uptake of family planning in Ethiopia, implying perhaps a leveling off of the CPR and consequently of the total fertility rate. Another indication of a possible slowing down of the decline of fertility could be that the desire to stop childbearing altogether increased from 32 percent in 2000 to 42 percent in 2005, but then *declined* to 37 percent in 2011. This means that in 2011, 37 percent of currently married women age 15-49 and 29 percent of men wanted no more children or were sterilized (Ethiopia Central Statistical Agency and ICF International, 2012: 81-91).

Table 4: Family Planning Unmet Need, Use, and Demand for Spacing and for Limiting in Ethiopia, from the 2000, 2005, and 2011 EDHS (percent)

Date of EDHS/Mini DHS	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
Family Planning Use			
• Spacing	3.7	6.7	16.4
• Limiting	4.3	8.0	12.2
• Total	8.1	14.7	28.6
Family Planning Demand			
• Spacing	24.6	26.2	32.9
• Limiting	20.0	24.6	22.1
• Total	44.6	50.8	54.9
FP Demand Satisfied	18.1	29.0	52.1

Sources: Ethiopia Central Statistical Agency, 2001: 91; Ethiopia Central Statistical Agency and ORC Macro, 2006: 96; and Ethiopia Central Statistical Agency and ICF Macro, 2012: 101.

What appears to be needed at this juncture is to increase the desire to limit births and create a process by which Ethiopian couples would reach a total demand for family planning of about 70 to 80 percent, of which at least 60 to 70 percent would opt for birth limiting.

A series of key recommendations for expanding family planning programs have been formulated already in previous reports (see *inter alia* Olson and Piller, 2013: 457-458). Those which were spelled out in 2007 and that encompassed issues of supply, access, and quality of family planning are still valid (World Bank, 2007: 150-151). Let list them again, as follows:

- On the supply-side, offer long-term active contraceptive methods within the current contraceptive method mix and expand family planning services to remote rural areas;
- On the demand-side, increase information, education, and communication and behavior change communication program to foster contraceptive use;
- Improve health infrastructure and enlist private sector and NGOs in improving access to FP;
- Initiate long-term planning for financing of contraceptives;
- Use the current focus on HIV/AIDS to improve the package of reproductive health services;
- Improve the quality of FP services, in particular with respect to human resources constraints and staff attitudes; and
- Strengthen the monitoring and evaluation system.

To be sure, the FP program has matured since the World Bank study was published 8 years ago and several of these recommendations have been addressed. In particular, the supply of FP services had

been considerably expanded. What needs more attention still are the financing and the logistics aspects, especially as the country underwent a far-reaching administrative decentralization.

3. Fostering Economic Growth

The Ethiopian economy grew fast during the last decade. The high growth episode was dominated by the public sector and essentially led by the service sector. The trend that has been observed since the period of PASDEP was not reversed in the early years of GTP. For instance two-third of the growth in GDP in the year 2011/12 was explained by public investment while the balance on-third was driven by private consumption (World Bank, 2013). The shift from the policy that resulted in the fast growth during the period of 2005/06 to 2009/10 (PASDEP) to the current policy (GTP) was motivated by the need for sustainability, namely a move from demand-driven to addressing supply-side bottlenecks. This will require the active participation of the private sector. In the years to come, capital accumulation will need to give way for deepening quality and institutions will need to be capable of handling a changing economy.

High growth rates in Ethiopia are, at least partially, due to the fact that Ethiopia starting from a low starting point and poorer countries tend to grow very quickly when growth begins. The growth has been largely based on agriculture, which employs a lot of people and can spread wealth around relatively evenly. Also, as with other commodity producers, Ethiopia has benefited greatly from demand growth elsewhere especially the Middle East and China.

Given the seemingly untimely overtake of the service sector without the development of even basic manufacturing industries, the policy shift towards more vibrant productive sectors – in particular to the manufacturing sector – is rational. Consolidating previous efforts in the area of infrastructural development is also positive. After all, a vibrant private sector presupposes good infrastructure, among other things. 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 small holder agriculture. If one defines the private sector in a broad sense, it accounts for 96 percent of employment. However, when one excludes the agriculture, the private sector accounts for about 25 percent of employment (PSD Hub, 2010). The agriculture sector still accounts for 42 percent of the GDP and about 90 percent of the critically needed export earnings. Given the high-variation of agro-ecological zones in Ethiopia, there is a potential 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.

Another policy challenge that Ethiopia will need to consider is the quality of growth. Sustainable growth is based on knowledge and skills. Ethiopia's natural resources cannot be exploited for the sole purpose of growth but must be sustainably managed so that future generations can also benefit. 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. In the absence of enough jobs in the modern sector to absorb the rural migrant, unemployment would become a more threatening challenge. An even more serious long-term consequence of failing to creating jobs to youth is a deteriorating status of human capital. This has been already felt as the country is currently witnessing early dropout from schools and the associated rampant exodus of youth seeking better opportunities abroad. Thus, Ethiopia needs to

focus on increasing private sector participation in more productive sectors such as the manufacturing industry and commercial agriculture which have the potential of employing the youth. Focuses on the labor market, and in particular on the quality dimension, are deemed to be 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 on high-tech industries, fairer competition policies, and reforming service deliveries 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 take advantage of the demographic dividend.

Conclusions

During the past decades, Ethiopia has undergone rapid demographic changes as well as remarkable progress in the social sectors. The country has also achieved significant improvements of its economic performances. School enrollment at all levels has increased considerably, particularly for the Ethiopian girls. On the health front, 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 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 attaining its demographic window of opportunity, which would thereafter enable the country to benefit from a demographic dividend. Modeling the forthcoming demographic dividend shows that substantial economic gains can be obtained with the right set of policies and, especially, by the synergy between these interventions. Policies that provide incentive to invest and save, that encourage trade and 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 communication systems will also contribute to create a supportive environment for economic growth. Appropriate economic policies that promote growth will improve the gross domestic product per person. However, the future gains will become much more impressive should these economic and other supportive policies be combined with additional and improved investments in education, health, and family planning. Therefore, 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 family planning.

It should be stressed that underlying all these major development efforts is the Ethiopian population itself. The future success of Ethiopia's growth and transformation will rely on the type and quality of human capital 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, skill-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-life-time opportunity of the demographic dividend for the benefit of Ethiopia's transformation.

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