

Appendixes

- A. Millennium Development Goals Report Card**
- B. The Role of Multilateral Development Banks: From Millennium Development Goals to Sustainable Development Goals**
- C. Data Sources**
- D. Methodology**

Goals and Targets from the Millennium Declaration

GOAL 1 ERADICATE EXTREME POVERTY AND HUNGER

- Target 1.A Halve, between 1990 and 2015, the proportion of people whose income is less than \$1.25 a day
- Target 1.B Achieve full and productive employment and decent work for all, including women and young people
- Target 1.C Halve, between 1990 and 2015, the proportion of people who suffer from hunger

GOAL 2 ACHIEVE UNIVERSAL PRIMARY EDUCATION

- Target 2.A Ensure that by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

GOAL 3 PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

- Target 3.A Eliminate gender disparity in primary and secondary education, preferably by 2005, and at all levels by 2015

GOAL 4 REDUCE CHILD MORTALITY

- Target 4.A Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

GOAL 5 IMPROVE MATERNAL HEALTH

- Target 5.A Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio
- Target 5.B Achieve by 2015 universal access to reproductive health

GOAL 6 COMBAT HIV/AIDS, MALARIA, AND OTHER DISEASES

- Target 6.A Have halted by 2015 and begun to reverse the spread of HIV/AIDS
- Target 6.B Achieve by 2010 universal access to treatment for HIV/AIDS for all those who need it
- Target 6.C Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

GOAL 7 ENSURE ENVIRONMENTAL SUSTAINABILITY

- Target 7.A Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources
- Target 7.B Reduce biodiversity loss, achieving by 2010 a significant reduction in the rate of loss
- Target 7.C Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation
- Target 7.D Have achieved a significant improvement by 2020 in the lives of at least 100 million slum dwellers

GOAL 8 DEVELOP A GLOBAL PARTNERSHIP FOR DEVELOPMENT

- Target 8.A Develop further an open, rule-based, predictable, nondiscriminatory trading and financial system (including a commitment to good governance, development, and poverty reduction, both nationally and internationally)
- Target 8.B Address the special needs of the least-developed countries (including tariff- and quota-free access for exports of the least-developed countries; enhanced debt relief for heavily indebted poor countries and cancellation of official bilateral debt; and more generous official development assistance for countries committed to reducing poverty)
- Target 8.C Address the special needs of landlocked developing countries and small island developing states (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the 22nd special session of the General Assembly)
- Target 8.D Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term
- Target 8.E In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries
- Target 8.F In cooperation with the private sector, make available the benefits of new technologies, especially information and communications

Millennium Development Goals Report Card

Since the Millennium Development Goals (MDGs) were articulated in the United Nations Millennium Declaration in 2000, substantial progress has been made, but a large unfinished agenda remains. The global target on poverty was met five years ahead of the 2015 deadline, and several other MDGs have been met or are likely to be met, such as gender parity in primary and secondary school enrollment. MDGs covering other areas like maternal mortality, however, are out of reach and will not be met this year, nor are they expected to be met globally in the near future. Progress has also been uneven across countries and regions (Sub-Saharan Africa is the only region that will not meet any of the targets by 2015) and socioeconomic boundaries.

In many developing countries, population growth has made it more difficult to achieve some goals and targets. Many targets are specified as proportions or rates, using the ratio of two numbers. The population, or a subgroup of the population, is often the denominator—so when the population grows, achieving a fall in the rate will require a correspondingly large fall in the numerator. If a target is mainly for specific age groups

(such as targets related to child malnutrition, primary completion, child mortality, and maternal mortality), the population growth within the age groups can make it more difficult to achieve the target. The growth in populations of school-age children and women of child-bearing age has been significant in the past quarter century, especially in Sub-Saharan Africa.

The MDGs have been instrumental in spurring a push for better data and enhanced monitoring. One important aspect of the MDGs has been their focus on measuring and monitoring progress; this focus has presented a clear challenge to improve the quality, frequency, and availability of relevant statistics. Much has been done to strengthen the national statistical systems where most data originate, but weaknesses remain in the coverage and quality of many indicators in the poorest countries, where resources are scarce and careful measurement of progress may matter the most. Based on the most recent data available, the MDG Report Card in this appendix presents a goal-by-goal analysis on the progress toward the MDGs, which is complemented by online progress charts at <http://data.worldbank.org/mdgs>.

Eradicate extreme poverty and hunger

Evaluated at \$1.25 a day in 2005 purchasing power parity (PPP), the world met the MDG target of halving the proportion of the population in extreme poverty five years ahead of the 2015 deadline (World Bank 2015). The proportion of people in the world living on less than \$1.25 a day fell from 36.4 percent in 1990 to 14.5 percent in 2011. Forecasts based on country-specific growth rates over the past 10 years indicate a fall in the global extreme poverty rate to 11.5 percent by 2015 (figure A.1), a drop of more than two-thirds from the baseline.

Progress toward reducing poverty across regions has been uneven. East Asia and the Pacific experienced the fastest rate of poverty reduction, slashing its share of people living on less than \$1.25 a day from 58.2 percent in 1990 to 7.9 percent in 2011 and reaching the target well ahead of the deadline. Europe and Central Asia, Latin America and the Caribbean, and the Middle East and North Africa all reached the target by 2010. South Asia achieved the target by 2011, following a strong acceleration after 2008. This reduction was mainly brought about by populous India, whose poverty trajectory strongly influenced the trend for the whole South Asian region. By contrast, Sub-Saharan Africa still lags behind and is not expected to meet the target by 2015.

Progress in reducing the absolute number of poor people was weaker, especially in regions and countries with rapid population growth. In Sub-Saharan Africa, the number of extremely poor people actually increased from 290 million in 1990 to 415 million in 2011, as a result of a very fast-growing population (figure A.2).

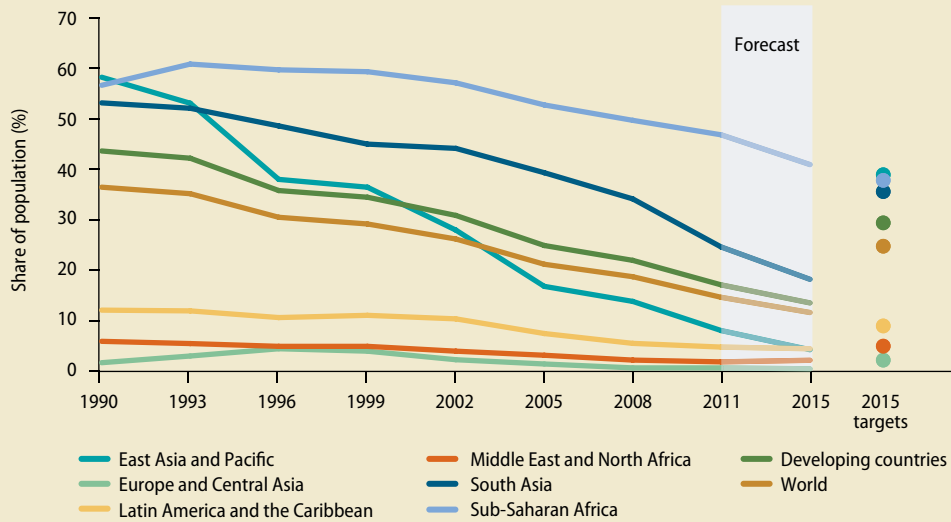
The global achievement of the MDG 1 poverty target was aided by the strong performance of China and India, the two countries in the world in 1990 with the highest population and also the largest number of extreme poor. China has been a driving force for poverty reduction worldwide as well as in its own region. China's extreme poverty rate declined

from 60.7 percent in 1990 to 6.3 percent in 2011. Still, it had 8.3 percent of the world's extreme poor in 2011, the world's third-largest share. India more than halved its extreme poverty rate, reducing it from 51.4 percent in 1990 to 24.7 percent in 2011. Still, it was home to nearly a third of the world's total of extremely poor people in 2011. While these countries have achieved the poverty target, their task of eradicating extreme poverty remains critical, especially when confounded by population growth.

Based on current trends, nearly half of the 145 developing countries have already achieved the poverty target of MDG 1. However, 27 countries are seriously off track, meaning that at the current pace of progress, they will not be able to halve their 1990 extreme poverty rates even by 2030. All but six of these 27 countries are in Sub-Saharan Africa (World Bank MDG Data Dashboard).¹

MDG 1 also aims to halve hunger and malnutrition rates by 2015. The prevalence of malnutrition among children under age five in developing countries has dropped substantially, falling from 25 percent in 1990 to 16 percent in 2014. However, developing countries as a whole may not be able to meet the target by 2015, nor will South Asia or Sub-Saharan Africa (figure A.3). In part, the target will be missed because of the significant growth in the under-five population in Sub-Saharan Africa, which grew nearly 75 percent between 1990 and 2014. In other developing regions, the under-five population either dropped considerably (East Asia and the Pacific, Europe and Central Asia, and Latin America and the Caribbean) or grew only moderately (Middle East and North Africa and South Asia). Sub-Saharan Africa is also the only developing region that has seen a steady upward trend in the number of underweight children under the age of five, from 27.5 million in 1990 to 31.4 million in 2014 (one-third of the developing world's underweight children under age five).

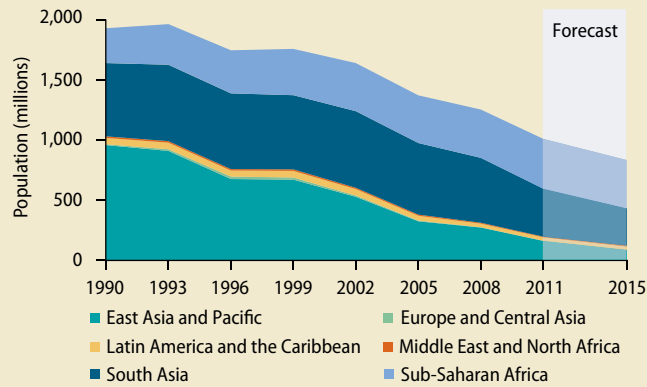
FIGURE A.1 Share of people living on less than \$1.25 a day, by region, 1990–2015



Source: World Bank PovcalNet (<http://iresearch.worldbank.org/PovcalNet>).

Note: Based on 2005 purchasing power parity.

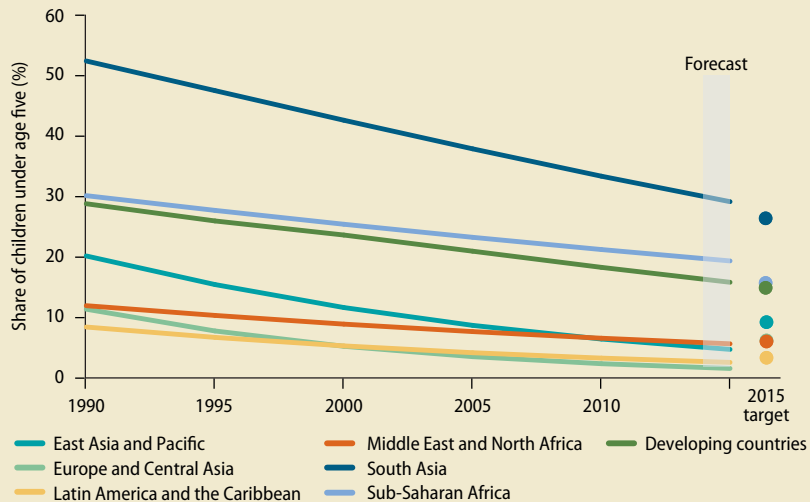
FIGURE A.2 Number of people living on less than \$1.25 a day, by region, 1990–2015



Source: World Bank PovcalNet (<http://iresearch.worldbank.org/PovcalNet>).

Note: Based on purchasing power parity.

FIGURE A.3 Percentage of children under five who are underweight, by region, 1990–2015



Source: UNICEF, WHO, and World Bank 2015.

Achieve universal primary education

MDG 2 focuses solely on the effort to ensure that all children, boys and girls alike, can complete a full course of primary education by 2015. This target is measured by the primary school completion rate—the proportion of children completing the last grade of primary education, regardless of age—and is not likely to be met by developing countries as a whole by 2015.

The primary completion rate in developing countries increased from about 79 percent in 1990 to 91 percent in 2013 (figure A.4). This is an impressive gain, especially when considering that the number of students in the last grade of primary education in developing countries grew from 88 million in 1990 to 103 million in 2013. This increase means that, during the past two decades or so, nearly 25 million more children were able to complete a full course of primary education. Even though the primary completion rate has remained at 91 percent since 2009 for developing countries, 1 million more children were added to the group of primary school graduates over the past five years.

Among the six developing regions, East Asia and the Pacific, Europe and Central Asia, and Latin America and the Caribbean have reached the target. However, the other regions are not expected to reach the target. The challenge faced by Sub-Saharan Africa is especially daunting: despite a substantial increase in the primary completion rate, from 54 percent in 1990 to 69 percent in 2013, it is still the lowest among all regions; in 2013 it was nearly 20 percentage points below the average rate for all developing countries. At the same time, Sub-Saharan Africa has the fastest-growing population of primary-school-age children among all regions, placing more pressure on its education system.

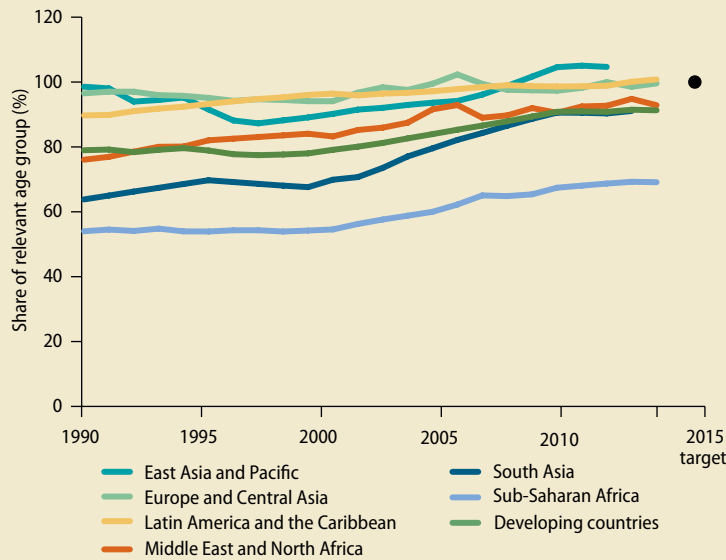
Regional averages often conceal variations in performance across countries. For example, although East Asia and the Pacific, Europe and Central Asia,

and Latin America and the Caribbean have achieved the MDG 2 target, 18 countries in these regions are seriously off track and are unlikely to achieve the target even by 2030. On the other hand, the target has been achieved in 9 countries in Sub-Saharan Africa, although the region as a whole has lagged (World Bank MDG Data Dashboard).

Variations are captured not only across countries but also within countries—between the rich and the poor and between urban and rural residents. Children in poor families and those living in rural areas are less likely to enroll or remain in school. In Senegal, for example, 73 percent of children from households whose incomes were in the richest quintile completed primary education in 2012, compared with 51 percent of children from the poorest quintile. While 83 percent of children in urban areas completed primary school, only 57 percent of children in rural areas did so (figure A.5). Ensuring equitable access to education is a key challenge in achieving universal primary education.

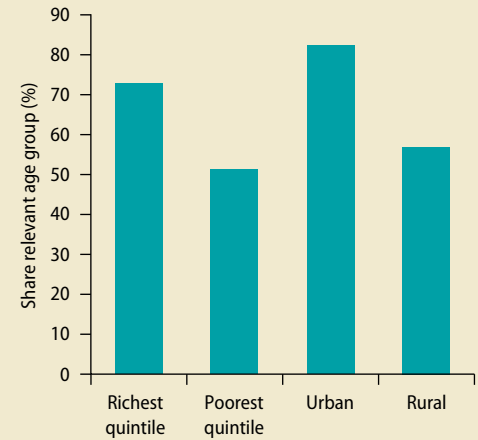
To complete a course of education, children need to enroll and stay in school. However, many children either never attend school, start school but attend intermittently, or drop out before completion. The number of primary-school-age children not attending school has been halved to 56 million since peaking in 1997. South Asia substantially reduced the number of primary-school-age children not in school, driven by significant progress in India. Sub-Saharan Africa decreased the number of out-of-school children by about 8 million between 1990 and 2013. But the population growth of primary-school-age children in the region—a 77 percent increase from 87 million to 153 million during the same period—made it all the more challenging for countries in the region to make a larger reduction. Consequently, about 60 percent of the developing world's out-of-school children live in Sub-Saharan Africa (figure A.6).

FIGURE A.4 Primary school completion rate, by region, 1990–2013



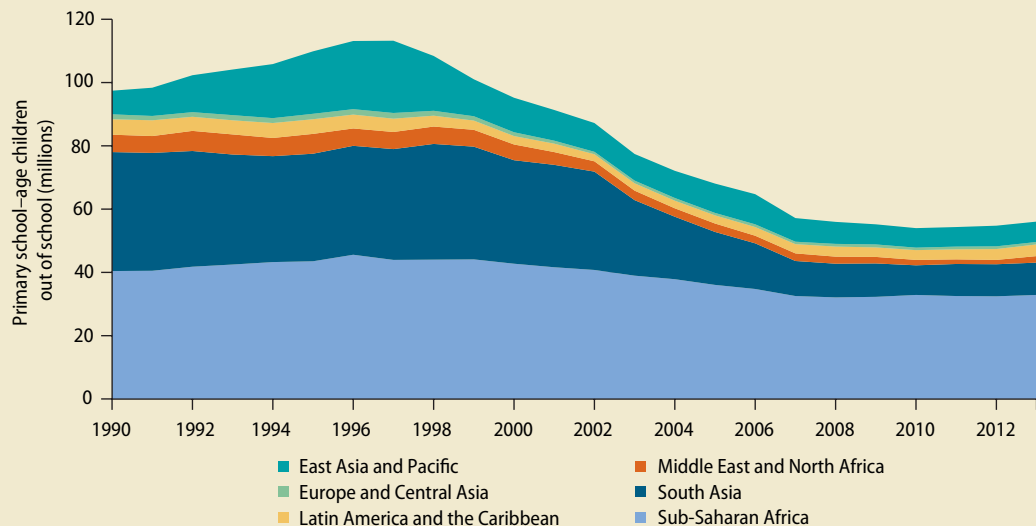
Source: United Nations Educational, Scientific and Cultural Organization Institute for Statistics.

FIGURE A.5 Primary completion rate by income quintile and residence, Senegal, 2012



Source: World Bank EdStats Database. World Bank calculations, based on Demographic and Health Surveys.

FIGURE A.6 Number of primary-school-age children out of school, by region, 1990–2013



Source: United Nations Educational, Scientific and Cultural Organization Institute for Statistics.

Promote gender equality and empower women

MDG 3 is aimed at promoting gender equality and empowering women by enhancing women's social, economic, and political participation. Expanding opportunities for girls and women in these areas benefits them directly as well as society as a whole.

The target associated with MDG 3 is to eliminate gender disparity at all levels of education by 2015. Developing countries as a whole are likely to reach gender parity in primary and secondary enrollment, defined as having a ratio of girls to boys in primary and secondary at 97–103 percent, according to UNESCO (2004). The ratio of girls to boys enrolled in primary and secondary schools increased from 83 percent in 1990 to 97 percent in 2013 (figure A.7). The ratio in tertiary education has increased even more, from 72 percent to 103 percent in the same period.

Nearly half of the 145 countries have achieved gender parity in primary and secondary enrollment. However, 25 countries are seriously off target. While 11 countries are in the Middle East and North Africa and Sub-Saharan Africa, 11 are in Europe and Central Asia and Latin America and the Caribbean, regions that have achieved gender parity on the whole (World Bank MDG Data Dashboard).

Across developing regions, there are substantial differences in progress. Besides economic and policy factors that influence gender parity in education (such as economic growth, investment in infrastructure and education, and more direct policy interventions), demography and the evolution of school-age populations in each region may also underlie some of the uneven progress. South Asia made the most remarkable progress among regions, closing the gender gap in primary and secondary enrollment by more than 30 percentage points between 1990 and 2013 to reach gender parity. In 1990, South Asia's ratio of girls to boys in school enrollment was only 68, 12 percentage points lower than in the Middle East and North Africa (the next lowest region). South Asia achieved parity even though the region added 47 million school-age boys and 41 million school-age girls in the period, pressuring school systems to educate more children. East Asia and the Pacific and Europe and Central Asia had already reached gender parity in primary and secondary school enrollment by 2013. These regions have experienced a decline in the

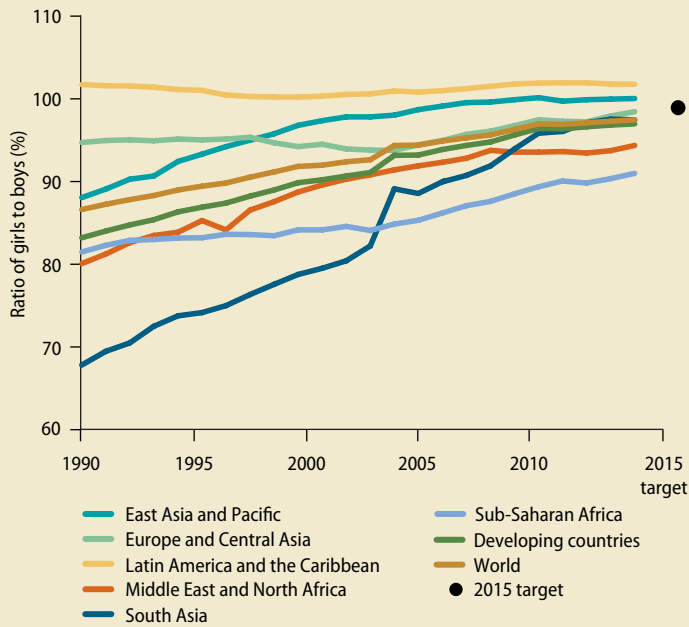
school-age population since the early 2000s, which may have enabled them to make more resources available for children. Sub-Saharan Africa and the Middle East and North Africa saw fast progress, but they continue to have the largest gender disparities in primary and secondary enrollment rates among all developing regions and are unlikely to meet the target of eliminating these disparities by 2015. The task has been more challenging for Sub-Saharan Africa because its school-education age population has grown steadily since 1990, imposing increased pressure on its educational systems.

While tremendous progress was made regarding gender parity in tertiary education (figure A.8), regional disparities are quite stark. Four of the six regions have achieved gender parity in tertiary education, including the Middle East and North Africa, which is struggling to achieve gender parity in primary and secondary education. South Asia has made accelerated progress since 2010 and is on track to reach gender parity in tertiary enrollment. As of 2013, however, the female-to-male tertiary enrollment ratio remained very low in Sub-Saharan Africa (73 percent).

Gender disparities in the labor market and in the political arena are also critical, and associated indicators are used for monitoring progress there as well. Women work long hours and contribute considerably to their families' economic well-being, but many engage in low-paying and less productive jobs. The share of women's paid employment in the nonagricultural sector is less than 20 percent in the Middle East and North Africa, having risen only marginally over the years. The share of women in wage employment is the highest in Europe and Central Asia, almost equal to men's at 45 percent (figure A.9).

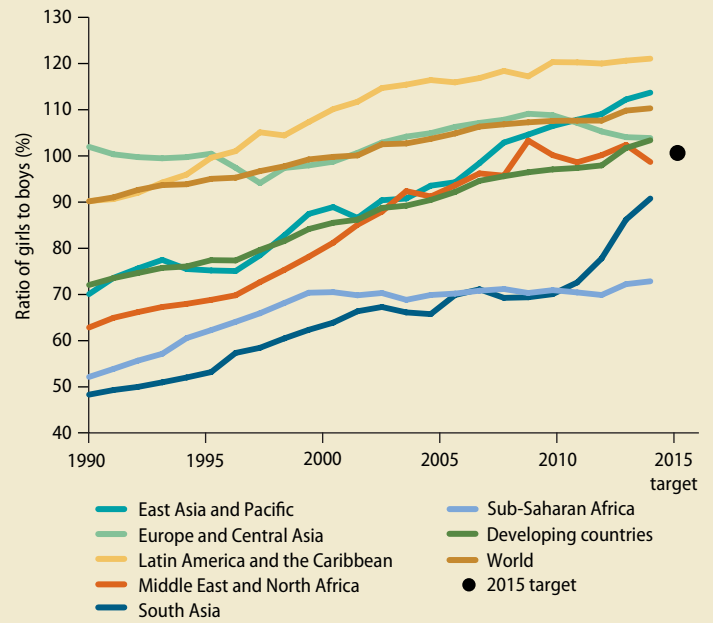
Women also lag men in participating in public life and decision making at the highest levels, as measured by the proportion of parliamentary seats held by women. As of 2014, Latin America and the Caribbean led developing-country regions, with 29 percent of the seats held by women, followed closely by Sub-Saharan Africa at 22 percent. Overall, women's presence has improved compared with 1990 levels. The biggest change has occurred in the Middle East and North Africa, where the proportion of seats held by women more than quadrupled between 1990 and 2014 (figure A.10).

FIGURE A.7 Ratio of girls to boys in primary and secondary education, by region, 1990–2013



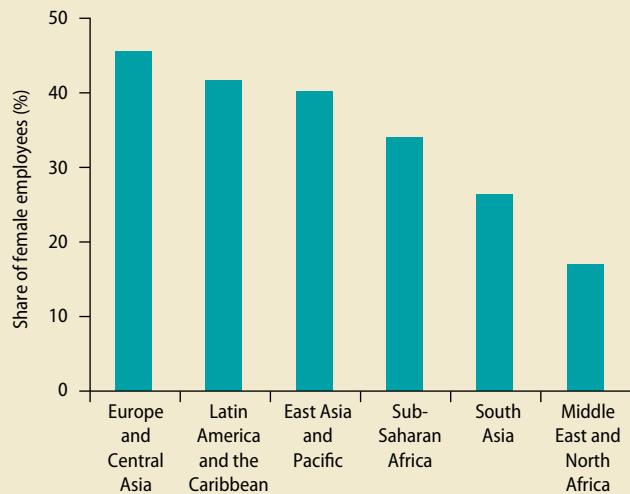
Source: United Nations Educational, Scientific and Cultural Organization Institute for Statistics.

FIGURE A.8 Ratio of girls to boys in tertiary education, by region, 1990–2013



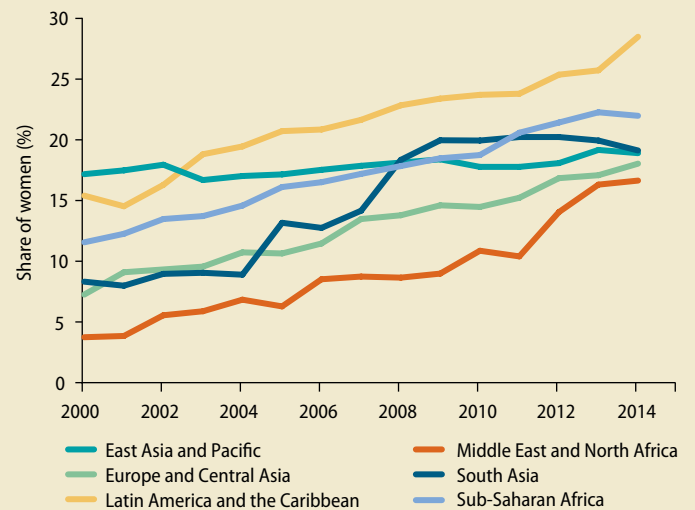
Source: United Nations Educational, Scientific and Cultural Organization Institute for Statistics.

FIGURE A.9 Share of women in wage employment in the nonagricultural sector, 2009–13



Source: International Labour Organization.
 Note: The percentage for each region is the median for the region's countries for the most recent year available between 2009 and 2013.

FIGURE A.10 Proportion of seats held by women in national parliaments, by region, 2000–14



Source: Inter-Parliamentary Union.

Reduce child mortality

In the past two decades, the number of children across the globe who die each year before their fifth birthday has been cut more than in half, falling from 13 million in 1990 to 6 million in 2015. At the end point of the MDGs, at least 16,000 fewer children die each day compared with 1990.

In 2015, the global average rate of child mortality declined to 43 deaths per 1,000 live births, about half its 1990 level of 91 deaths per 1,000 live births. Although a significant achievement, based on the current trend, the world as a whole fell short of the MDG 4 target of reducing the under-five mortality rate by two-thirds between 1990 and 2015. The average annual rate of decline of the global under-five mortality rate accelerated from 1.8 percent over 1990–2000 to 3.9 percent over 2005–15. If the more recent rate of decline had started in 1990, the target for MDG 4 would likely have been achieved by 2015. And if this recent rate of decline continues, the target will be achieved in 2026 (United Nations Inter-agency Group for Child Mortality Estimation 2015).

Sub-Saharan Africa and South Asia bear the highest child mortality rates, despite rapid improvements since 2000 (figure A.11). In Sub-Saharan Africa, the rate declined by more than half between 1990 and 2015 but still remained high at 83 deaths per 1,000 live births. At the same time, the number of under-five deaths declined by only 24 percent largely because of the large increase (nearly 76 percent) in the under-five population in the region.

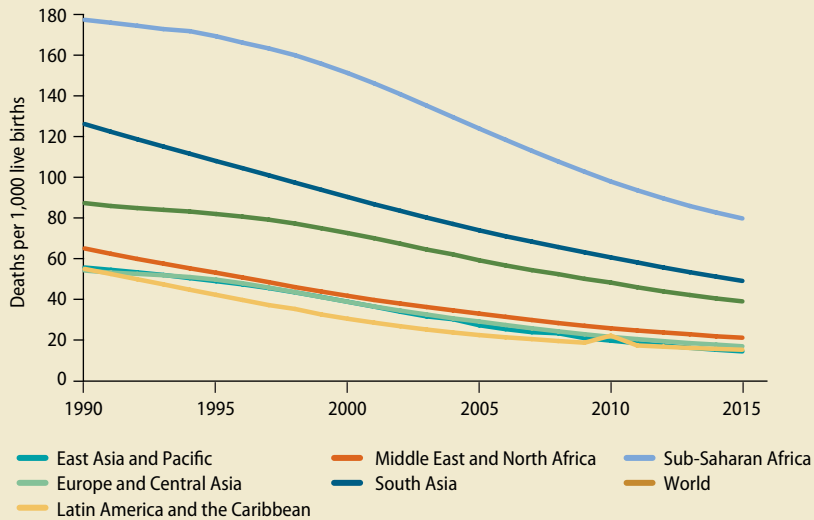
East Asia and the Pacific and Latin America and the Caribbean have achieved the MDG 4 target. Among the 145 countries evaluated, 57 have already met the child mortality target by 2015. Based on

recent trends, 35 countries are seriously off track, and more than one-third of these countries are in Sub-Saharan Africa (World Bank MDG Data Dashboard).

In 2015 around 4.3 million under-five deaths, or about 73 percent of all such deaths worldwide, occurred in 20 developing countries. Most of these countries are characterized by large populations, often with high birthrates. Many have substantially reduced mortality rates over the past two decades. Of these 20 countries, Bangladesh, Brazil, China, the Arab Republic of Egypt, Ethiopia, Indonesia, Malawi, Mozambique, Niger, Tanzania and Uganda achieved a two-thirds reduction in their under-five mortality rate by 2015. Had the mortality rates of 1990 prevailed in 2015, 4.2 million more children would have died in these 11 countries, and another 6.9 million would have died in the remaining 9 countries (figure A.12).

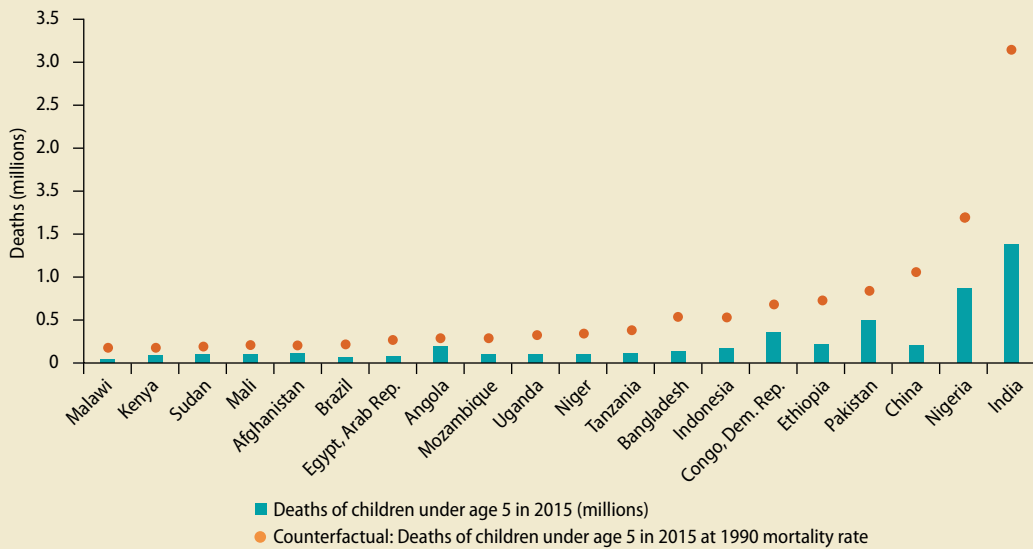
Urbanization is associated with lower levels of child mortality (World Bank 2013). Figure A.13 shows that child mortality rates tend to be lower in countries with a larger share of the population living in urban areas. These lower rates may be because urban residents tend to be more affluent or have better access to health facilities and more cost-effective interventions. In urban areas, women also tend to be better educated and have better access to contraceptive methods than their rural counterparts, which in turn contributes to lower fertility rates and better health for the mother and child (Müller et al. 2015). This is not always the case, however. Child mortality tends to be very high in countries where the majority of the urban population lives in slums.²

FIGURE A.11 Under-five mortality rate (per 1,000 live births), by region, 1990–2015



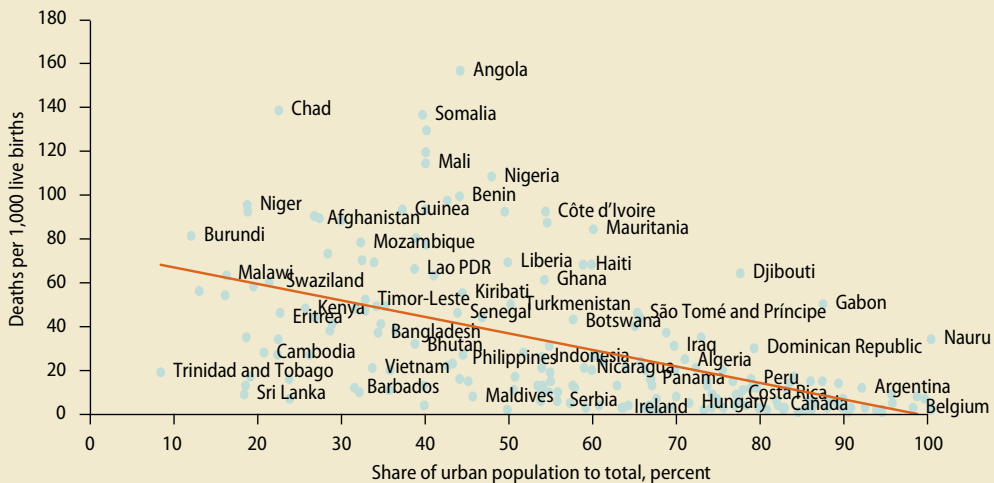
Source: United Nations Inter-agency Group for Child Mortality Estimation.

FIGURE A.12 Number of deaths of children under age five in 2015, selected countries



Source: World Bank calculations.

FIGURE A.13 Child mortality and urbanization, 2015



Source: World Development Indicators database.

Improve maternal health

Every day, around 800 young women lose their lives before, during, or after childbirth. Most of these deaths are avoidable (WHO 2014b). Maternal deaths are heavily concentrated in poor areas of the world. Globally, an estimated 289,000 women died from maternal causes in 2013, 99 percent of which occurred in developing countries. Sub-Saharan Africa experienced disproportionately high maternal deaths, accounting for 62 percent of the global total, followed by South Asia, which accounted for 24 percent.

The MDG 5 target calls for reducing the maternal mortality ratio (MMR) by 75 percent between 1990 and 2015, the highest percentage reduction among all MDG targets. The MMR is calculated based on the number of maternal deaths per 100,000 live births. During the period 1990–2013, the MMR came down substantially in developing countries as a whole, declining from 430 maternal deaths per 100,000 live births in 1990 to 230 maternal deaths in 2013 (figure A.14). Despite this very significant progress, most developing countries are not likely to achieve this MDG target. According to recent data, only 18 countries (12 percent) have already achieved or are likely to achieve the target (World Bank MDG Data Dashboard). The majority of developing countries (88 countries, 61 percent) are seriously off target.

Even though many countries are unlikely to achieve the target, most of these countries have experienced a large reduction in their MMR since 1990. A decline in the MMR itself, however, does not necessarily mean that the number of maternal deaths has declined. In Niger, for example, the MMR declined by 37 percent between 1990 and 2013, but the number of maternal deaths increased by 30 percent. Because the number of reproductive-age women (15–49 years) more than doubled between 1990 and 2013, and because the total fertility rate remained very high at 7.6 births per

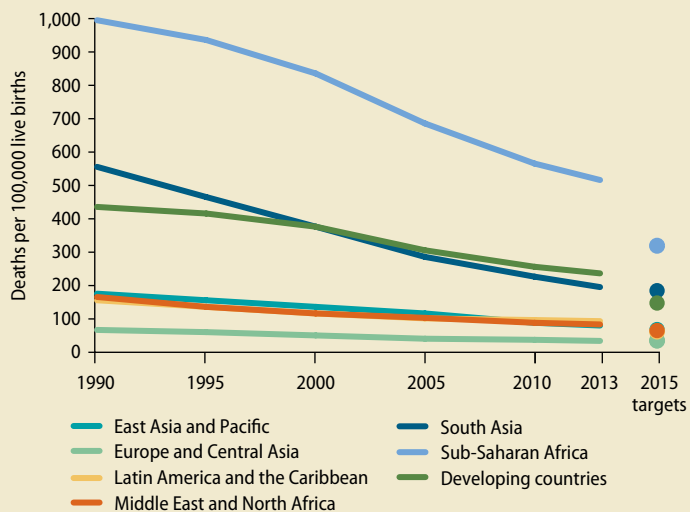
woman, the number of live births not only increased rapidly but also outpaced the decline of the MMR.

Improved maternal health care is found to be associated with lower maternal mortality. However, less than 50 percent of women in South Asia and Sub-Saharan Africa are able to meet the World Health Organization's recommendation of at least four prenatal care services during each pregnancy. Moreover, only half of all births in these two regions are assisted by skilled birth attendants such as doctors, nurses, and trained midwives (figure A.15).

Reducing maternal deaths requires a comprehensive approach to women's reproductive health services, particularly through better access to contraception. Women with more than four children tend to have an increased risk of maternal deaths (WHO 2013). A higher prevalence of contraceptive use can reduce the number of pregnancies, leading to a lower risk of maternal deaths. Moreover, contraceptive use can reduce the likelihood of unwanted pregnancies and therefore unsafe abortions, which are one of the main causes of maternal deaths. There is a negative correlation between the MMR and the contraceptive prevalence rate (CPR) (Ahmed and others 2012) (figure A.16). Most Sub-Saharan African countries have low CPRs and very high MMRs compared with other developing countries.

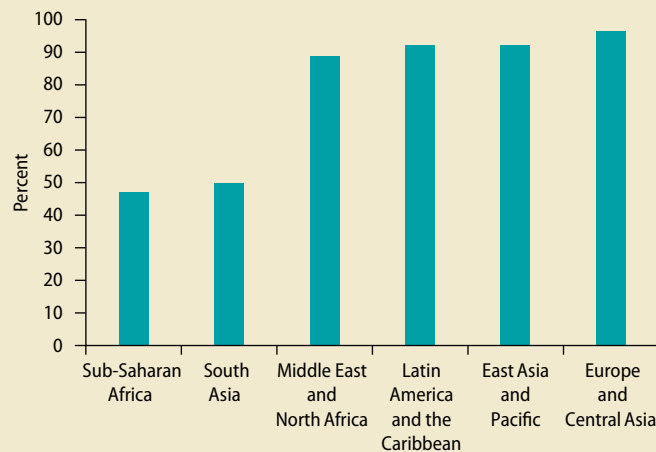
Lower fertility rates for adolescent women (ages 15–19 years) are also associated with lower maternal mortality ratios (Conde-Agudelo, Belizán, and Lambers 2005). Women who give birth at early ages are likely to bear more children and are at greater risk of death or serious complications from pregnancy. The adolescent fertility rate remained high in Sub-Saharan Africa, although it declined by about 26 percent between 1990 and 2014, from 140 to 103 per 1,000 adolescent women (figure A.17). In contrast, during the same period in South Asia, the adolescent fertility rate declined by two-thirds, from 103 to 35 per 1,000 adolescent women.

FIGURE A.14 Maternal mortality ratio, by region, 1990–2013



Source: United Nations Maternal Mortality Estimation Inter-agency Group, modeled estimates.

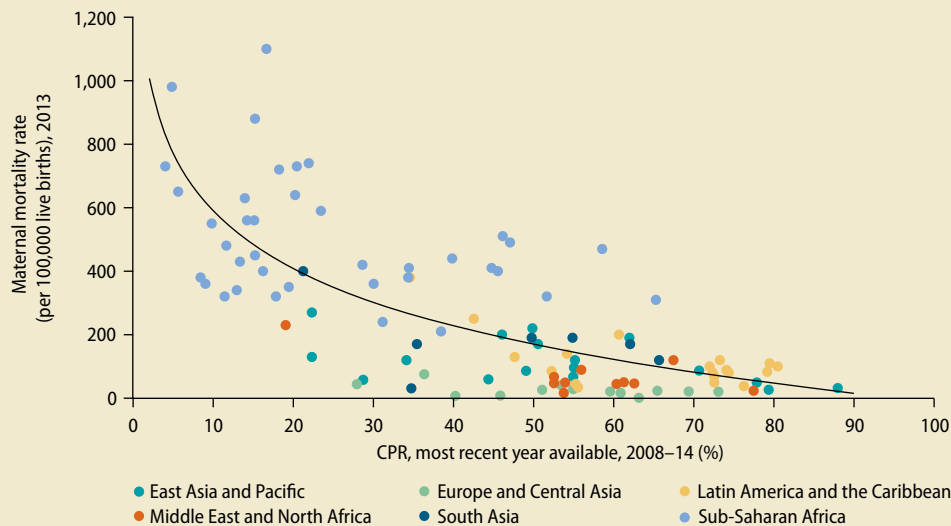
FIGURE A.15 Share of births attended by skilled health staff, by region



Source: United Nations Children's Fund and household surveys (including Demographic and Health Surveys and Multiple Indicator Cluster Surveys).

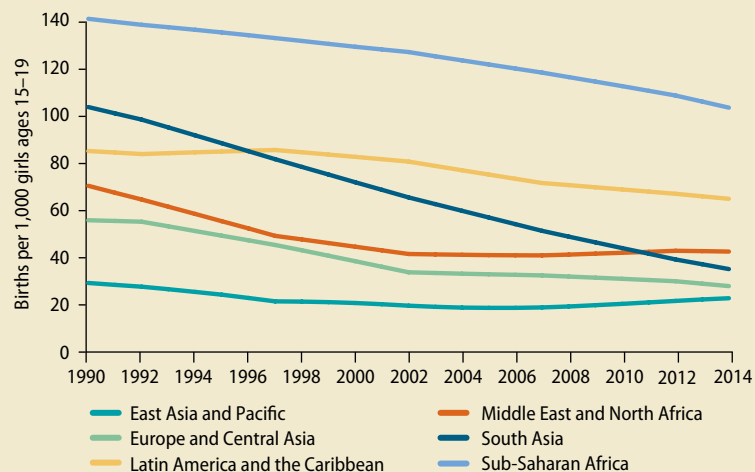
Note: The percentage for each region is the average for the region's countries for the most recent year available between 2008 and 2014.

FIGURE A.16 Comparison of contraceptive prevalence rate (CPR) and maternal mortality ratio (MMR), by region



Source: United Nations Maternal Mortality Estimation Inter-agency Group, United Nations Children's Fund, and household surveys (including Demographic and Health Surveys and Multiple Indicator Cluster Surveys).

FIGURE A.17 Adolescent fertility rate, by region, 1990–2014



Source: United Nations Population Division.

Combat HIV/AIDS, malaria, and other diseases

HIV/AIDS, malaria, and tuberculosis are among the world's deadliest infectious diseases. The targets of MDG 6 are to halt and begin to reverse the spread and incidence of these diseases by 2015. In Sub-Saharan Africa, the spread of HIV/AIDS brought to a standstill decades of steady increases in life expectancy: the region's average life expectancy at birth increased from 40 years in 1960 to 50 years in 1990 but stagnated in the 2000s. HIV/AIDS has also left millions of children orphaned. Tuberculosis killed 1.1 million people worldwide in 2013, most of them ages 15–45, and sickened millions more. Malaria has taken a large toll as well, being one of the leading causes of death among young children, and at the same time it has undermined the health of millions of adults at a high cost to their productivity.

Across the world, an estimated 37 million people were living with HIV/AIDS in 2014. The number of people newly infected with HIV is continuing to decline in most parts of the world: 2 million people contracted the disease in 2014, down 33 percent from 2001 and 13 percent from 2011. The spread of new HIV infections has slowed, in line with the target of halting and reversing the spread of HIV/AIDS by 2015. However, the proportion of adults living with HIV worldwide has stayed around 0.8 percent since 2000. Sub-Saharan Africa remains the center of the HIV/AIDS epidemic, with about 70 percent of the world's adults living with HIV. The HIV prevalence rate was 4.5 percent in Sub-Saharan Africa in 2014, compared with less than 1 percent in other regions that have data available.

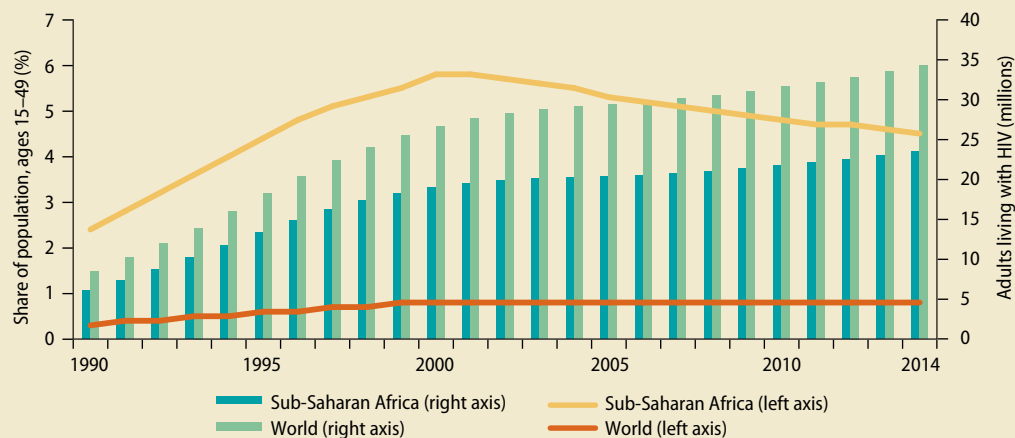
Despite the progress in stabilizing the proportion of adults living with HIV worldwide, continued population growth means that the absolute number of adults with HIV is increasing (figure A.18). Their number increased from 29 million in 2005 to 34 million in 2014 worldwide, and from 20 million to 24 million in Sub-Saharan Africa alone. This dynamic poses additional challenges to expanding coverage in access to antiretroviral drugs, which have dramatically improved the survival rates for those living with HIV. In 2015, 15 million people worldwide are receiving antiretroviral drugs. The percentage of people living with HIV who are not receiving antiretroviral therapies has fallen from 90 percent in 2006 to 60 percent in 2014 (UNAIDS 2015).

Slowing and reversing the HIV epidemic require changes in behaviors based on understanding the causes and transmission mechanisms of the disease, as well as on effective steps to avoid infection. Survey results show that wide knowledge gaps persist. Many young people appear to be ill-informed about HIV and engage in risky behaviors. Of the 10 countries with the highest HIV prevalence rates, 2013 survey participants in Namibia and Swaziland were the most informed, with more than 50 percent of the sampled men and women ages 15–24 able to list two ways to prevent HIV, as well as to reject three common misconceptions about HIV. In Kenya and Mozambique, men scored above 50 percent, but women fell short, while in Zimbabwe the opposite was the case. In the remaining five countries (Lesotho, Malawi, South Africa, Uganda, and Zambia), both men and women scored less than 50 percent.

In 2013, there were 9 million new tuberculosis cases in the world and 1.1 million deaths. However, the incidence and prevalence of tuberculosis, as well as the rate of deaths resulting from it, are falling: incidence fell 41 percent between 1990 and 2013, and the death rate fell 45 percent (WHO 2014a). Globally, the target of halting and reversing tuberculosis incidence by 2015 has been achieved. Despite population growth, the absolute numbers of tuberculosis cases and deaths have dropped because of the decline in the incidence and death rates (figure A.19).

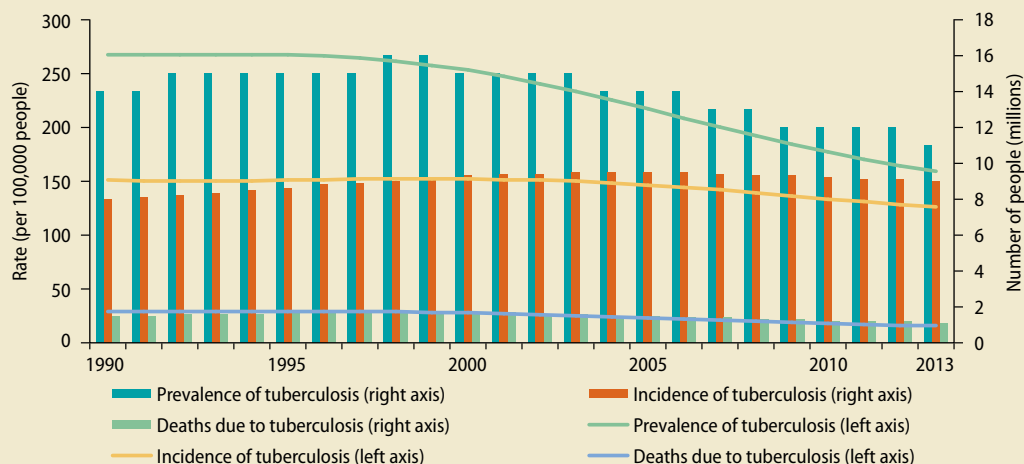
Globally, an estimated 214 million cases of malaria occurred in 2015, which led to 438,000 deaths. An estimated 3.2 billion people are at risk of being infected with malaria and developing the disease. Since 2000, there have been substantial reductions in both the number of malaria cases and deaths. It is evident that the target of halting and reversing the incidence of malaria has been met (WHO and UNICEF 2015). Country-level data suggest that there has been progress against malaria over time, although consistent data needed to monitor trends globally are limited. Malaria occurs in all regions, but the most lethal form of the malaria parasite is concentrated mainly in Sub-Saharan Africa. Insecticide-treated bed nets have proven an effective preventative, and their use by children in the region is growing (figure A.20). Better testing and the use of combination drug therapies are improving the effectiveness of treatment.

FIGURE A.18 Prevalence of HIV in adults and number of adults living with HIV, by region, 1990–2014



Sources: Joint United Nations Programme on HIV/AIDS and World Development Indicators Database.

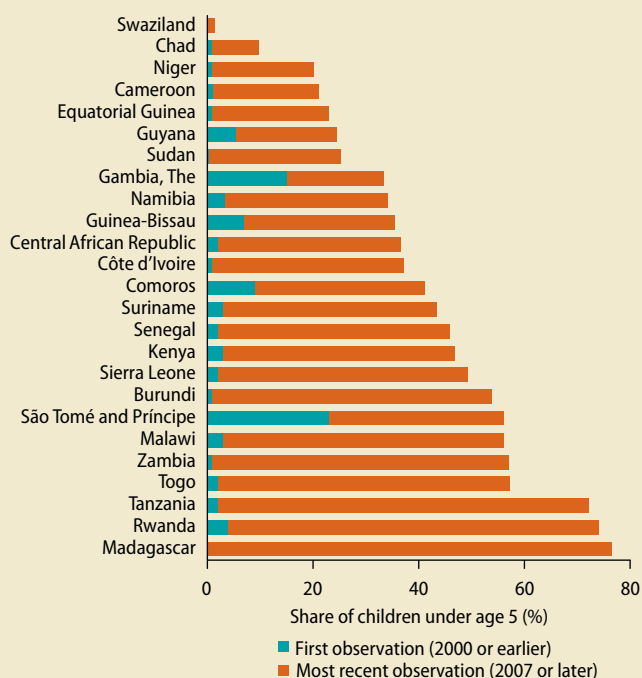
FIGURE A.19 Rate and numbers of tuberculosis prevalence, incidence, and death in the world, 1990–2013



Sources: World Health Organization and World Development Indicators Database.

Note: Incidence of tuberculosis is the estimated number of new pulmonary, smear-positive, and extrapulmonary tuberculosis cases. Incidence includes patients with HIV. Prevalence includes both new cases and those who contracted the disease in the past and are still surviving.

FIGURE A.20 Use of insecticide-treated bed nets, Sub-Saharan Africa



Source: Household surveys (including Demographic and Health Surveys, Malaria Indicators Surveys, and Multiple Indicator Cluster Surveys). Data are compiled by UNICEF.

Ensure environmental sustainability

MDG 7 seeks to promote environmental sustainability by focusing on several key targets: reversing the loss of natural resources, preserving biodiversity, increasing access to safe water and sanitation, and improving the living conditions of people in slums. The aim is to achieve these goals in a sustainable manner, whereby people's lives can improve without depleting natural and manmade capital stocks.

The loss of forests threatens the livelihood that poor people depend upon, destroys the habitat that harbors biodiversity, and eliminates an important carbon sink that helps moderate the climate. Net losses since 1990 have been substantial, especially in Latin American and the Caribbean and Sub-Saharan Africa. The losses have only been partly compensated by gains elsewhere, mainly in the East Asia and Pacific region and in high-income countries (figure A.21). The rate of deforestation has slowed over the past decade, but with current trends, zero net losses will not be reached for another two decades.

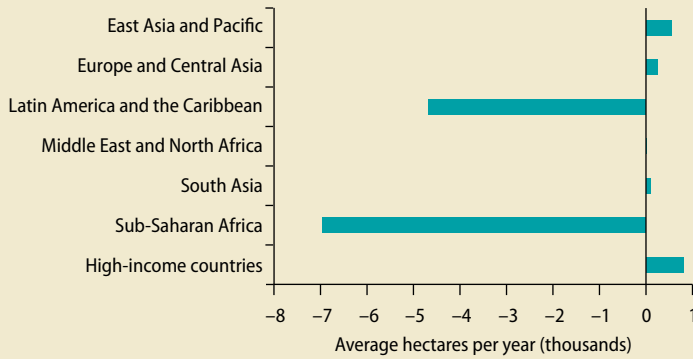
The protection of forests and other terrestrial and marine areas is essential to preserving plant and animal habitats, as well as the diversity of species.³ By 2012, more than 14 percent of the world's land and more than 12 percent of its oceans were protected, an improvement of 6 percentage points in both categories since 1990 (figure A.22).

Failure to limit greenhouse gas emissions leaves billions of people vulnerable to the adverse effects of climate change, with developing countries being hit hardest. Higher temperatures, changes in precipitation patterns, rising sea levels, and more frequent weather-related disasters pose risks for agriculture, food, and water supplies. Carbon dioxide emissions rose by about 60 percent between 1990 and 2013, reaching an unprecedented level of 36 billion metric tons. The average annual growth rate in emissions has slowed to 2.3 percent since 2010, slightly lower than the annual average growth rate of 3 percent during the 2001–11 period (figure A.23).

The water target of MDG 7 calls for halving the proportion of the population without access to improved water and sanitation sources by 2015. The share of people worldwide without access to an improved water source declined from 23.9 percent in 1990 to 9.0 percent in 2015, achieving the target ahead of time (figure A.24). The result is especially impressive given that world population grew from 5.3 billion to 7.3 billion during this period, creating more demand for improved water access. Not only was coverage extended to more than half of the 1.3 billion people without access in 1990, but a large portion of newly added population was also able to access improved water sources. By 2015, the absolute number of people without access to improved water sources worldwide dropped to 658 million people—a 48 percent reduction compared with 1990. Progress varies across regions, with Sub-Saharan Africa continuing to lag—about 32 percent of its population lacks access. East Asia and the Pacific managed to make impressive improvements, moving from a starting position of only 69 percent coverage in 1990 to 94 percent in 2015. The other regions have access rates of more than 92 percent.

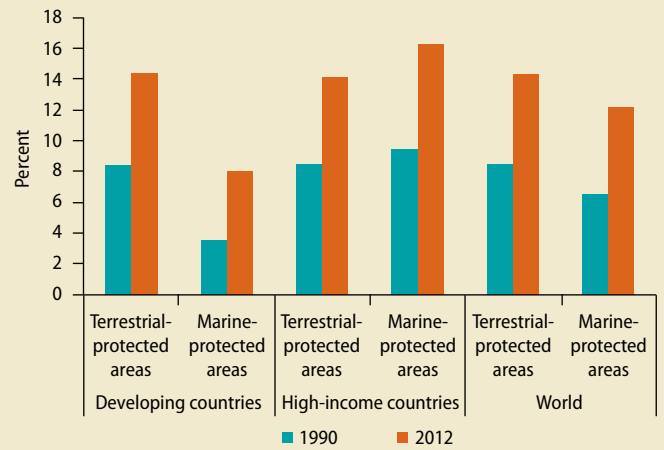
In 1990, only 53 percent of the world's population had access to improved sanitation facilities. By 2015, this proportion had risen to 68 percent, but this still leaves 2.4 billion people worldwide lacking access to improved sanitation facilities. For the world to meet the 2015 MDG target on sanitation, 76 percent of the population needs access to improved sanitation. This target was not met on time. Coverage is worse in rural areas, where 50 percent of the world population lacked access in 2015, compared with 18 percent in urban areas. This large disparity, especially in South Asia and Sub-Saharan Africa, is the main reason that the sanitation target was not met on time. Given the connections between sanitation and other MDGs, such as infant mortality, expanding access to sanitation remains a critical part of the development agenda.

FIGURE A.21 Change in forest area, by region, 1990–2012



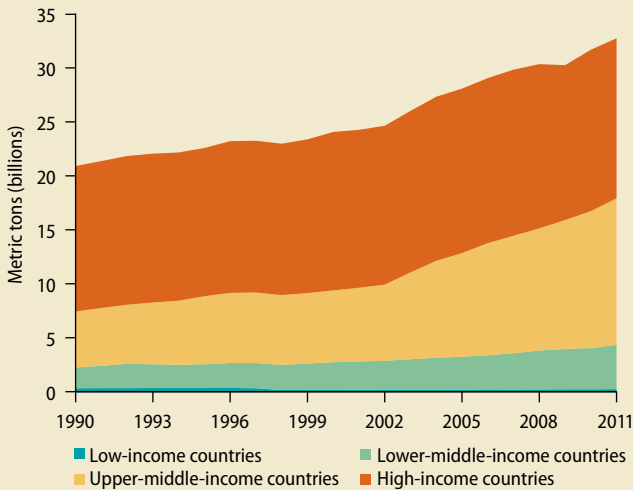
Sources: World Development Indicators Database and Food and Agriculture Organization.

FIGURE A.22 Territorial and marine protected areas, by country income group, 1990–2012



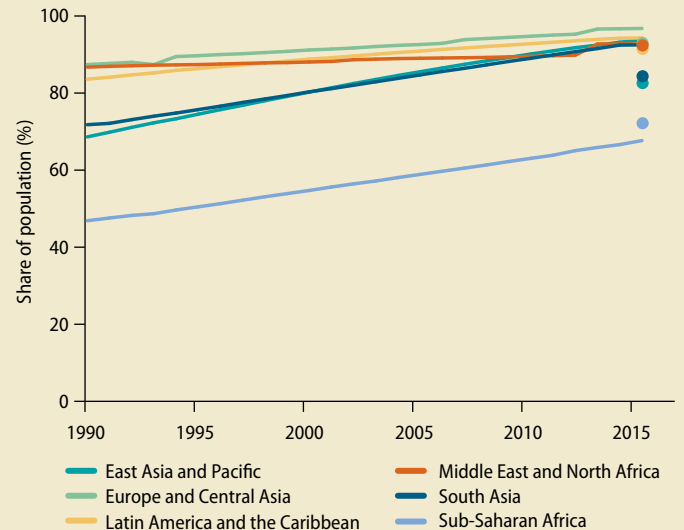
Source: World Development Indicators Database derived from UNEP and WCMC databases.

FIGURE A.23 Carbon dioxide emissions from fossil fuel, by country income group, 1990–2011



Sources: Carbon Dioxide Information Analysis Center and World Development Indicators Database.

FIGURE A.24 Access to an improved water source, by region, 1990–2015



Sources: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation and World Development Indicators Database.

Develop a global partnership for development

MDG 8 focuses on the need to create a global environment that is conducive to promoting development and eliminating poverty. Consequently, this goal highlights the need to establish a fairer multilateral trading and financial system, deal comprehensively with debt problems of developing countries, and address the special needs of low-income countries, including landlocked and small island developing states. The goal recognizes that building and sustaining a partnership is an ongoing process that does not stop on a given date or when a specific target is reached. Moreover, the goal highlights the need to support infrastructure development and to provide affordable access to new technologies and essential medicines.

Official development assistance (ODA) by the Development Assistance Committee (DAC) members of the Organisation for Economic Co-operation and Development (OECD) reached a high of \$135 billion in 2013, 6.1 percent higher than in 2012 in real terms. This increase came after two successive years of decreases in 2011 and 2012 in real terms (figure A.25). The rebound in 2013 happened because several members stepped up spending on foreign aid, despite continued budget pressures, and five new member countries joined the DAC: the Czech Republic, Iceland, Poland, the Slovak Republic, and Slovenia. The 0.7 percent target of ODA as a share of gross national income (GNI) was met and exceeded only by Denmark, Luxembourg, Norway, and Sweden, while the Netherlands fell below this target for the first time since 1974. On the other hand, the top five ODA contributors by volume were the United States, the United Kingdom, Germany, Japan, and France.

The debt burden of developing economies, measured as the proportion of external debt service to export receipts, fell to half its 2000 levels in 2013. This improvement is linked to greater external debt servicing capacity due to increased export earnings, better debt management, and enhanced debt restructuring, as well as to more favorable borrowing conditions on international capital markets in recent years. The poorest and most highly indebted countries have also benefited from extensive debt relief: 35 of the 39 countries eligible for the Heavily Indebted

Poor Country Initiative and the Multilateral Debt Relief Initiative have completed the process. The debt service to export ratio averaged 11 percent in 2013, half its 2000 level, but with wide disparity across regions (figure A.26). The ratio is likely to rise going forward because of the fragile global economic outlook, soft commodity prices, and projected 20 percent rise in developing countries' external debt service over the next two to three years, following the 33 percent increase in their combined external debt stock since 2010.

With the rapid development and adoption of mobile telephone services and the global expansion of the Internet, information and communication technologies are recognized as essential tools of development, contributing to global integration and enhancing public sector effectiveness, efficiency, and transparency. Further spreading the use of advanced technology for reducing disaster risk, managing communicable disease outbreaks, and addressing the impacts of climate change carries enormous promise.

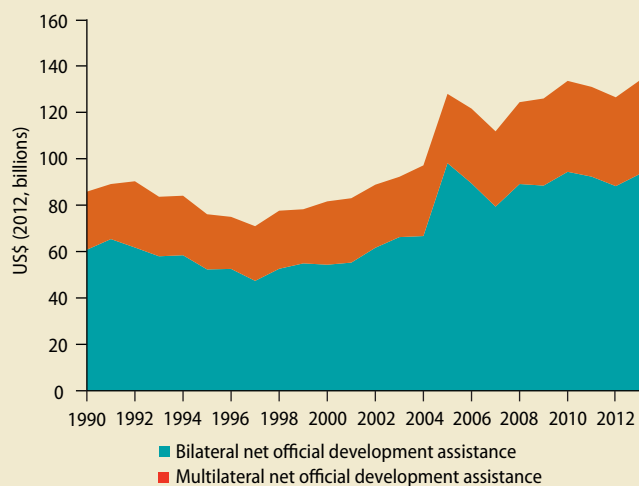
Global partnership also includes cooperation with the private sector, and making available the benefits of new technologies, especially information and communications. Mobile cellular subscriptions reached almost 7 billion worldwide in 2014. Developing countries' share of global mobile cellular subscriptions rose from 26 percent in 2000 to 75 percent in 2014. High-income economies had more than 1 mobile cellular subscription per person in 2014, with 123 subscriptions per 100 people, and upper-middle-income economies also reached 101 subscriptions per 100 people. For lower-middle-income economies, the number is 87, while low-income economies lagged with 57 subscriptions per 100 people in 2014 (figure A.27). In part, mobile cellular phones have replaced fixed-line telephone systems: the fixed telephone subscription rate in the world has been falling gradually, from 19 in 2005 to 15 subscriptions per 100 people in 2014.

Similarly, Internet use in developing countries appears to be increasing quickly. Internet use spread rapidly in high-income economies in the 1990s but was barely under way in developing-country regions. Since 2000, the number of Internet users per 100

people in developing countries has grown an average of 26 percent a year. The percentage of the population with Internet access more than doubled in South Asia between 2010 and 2014, with 17 percent of the population having access in 2014. However, large gaps still

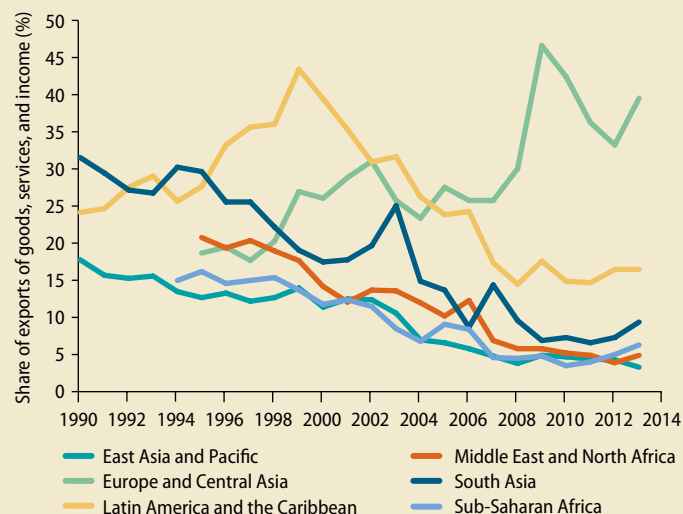
exist around the world. For example, the low-income countries of South Asia and Sub-Saharan Africa alone account for about half of the approximately 4 billion people who are not yet using the Internet (figure A.28).

FIGURE A.25 Official development assistance from Development Assistance Committee members, 1990–2013



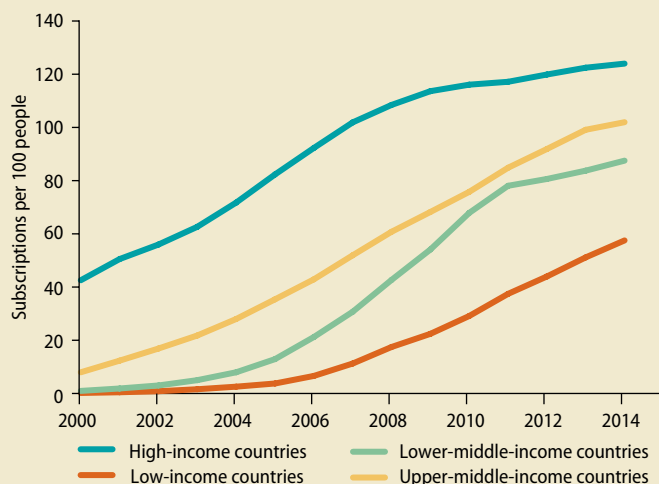
Sources: Organisation for Economic Co-operation and Development, StatExtracts.

FIGURE A.26 Total debt service, by region, 1990–2013



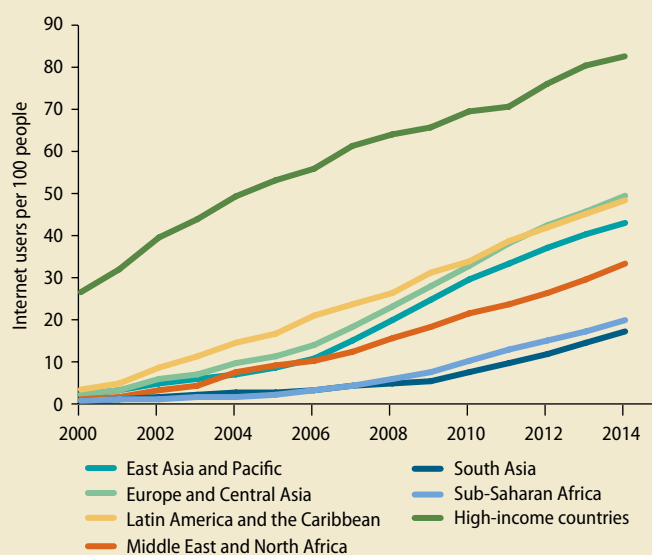
Source: World Development Indicators Database.

FIGURE A.27 Mobile cellular subscriptions, by income group, 2000–14



Sources: International Telecommunications Union and World Development Indicators Database.

FIGURE A.28 Internet users, by region, 2000–14



Sources: International Telecommunications Union and World Development Indicators Database.

Notes

1. MDG Dashboard is available at: <http://data.worldbank.org/mdgs>.
2. As in Angola, Central Africa Republic, Chad, Democratic Republic of Congo, Guinea-Bissau, Nigeria, Mali, Sierra Leone, and Somalia, for example.
3. Protected areas are defined as terrestrial, freshwater, or marine areas that are recognized, dedicated, and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. This definition includes, for example, national parks and nature reserves (United Nations Environmental Programme—World Conservation Monitoring Centre).

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The Role of Multilateral Development Banks: From Millennium Development Goals to Sustainable Development Goals

In reflecting on the role of policies and institutions needed to make progress toward development goals, it is useful to consider the contributions made by the multilateral development banks (MDBs). Development hinges on the efforts of multiple stakeholders at the country and global levels, including the engagement of the MDBs. This appendix conveys reflections from the World Bank Group, the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), and the Inter-American Development Bank (IDB) on their experiences with the Millennium Development Goals (MDGs), and describes lessons learned for the Sustainable Development Goals (SDGs). Each MDB section answers two questions:

- How has it been supporting progress toward the MDGs?
- What lessons can be drawn from its experience with the MDGs, in terms of what worked and what was less effective, for designing our future engagements on the SDGs?

The experience of the MDBs in supporting efforts toward the MDGs spans the globe and is highly contextual, based on specific

country circumstances. Still, several themes emerge that will be useful to inform efforts toward the SDGs. With so much of development driven by country-level stakeholders, ensuring that they retain full ownership is essential. Given the range of country circumstances, the approach to the MDGs needs to be country specific. Finally, implementation arrangements, including adequate policy focus and financing (the MDBs have made commitments of over \$400 billion for the period 2016–18) are key to progress. These lessons and others will facilitate the transformative progress envisioned by the SDGs.

The World Bank Group

The World Bank Group has worked closely with clients endeavoring to achieve the MDGs and, building on this experience, seeks to contribute strongly to the SDG agenda. Through numerous MDG-related engagements at the global and country levels, the World Bank Group has supported a broad range of client efforts. Based on continual assessment of this experience, the World Bank Group has implemented institutional and financial changes aimed at enhancing effectiveness and deepening engagement on the 2030 agenda.

Supporting progress toward the MDGs

Numerous findings emerge from the World Bank Group's extensive MDG-related activities, which will help shape the institution's engagement on the SDG agenda. The complexity of development and the wide range of stakeholders make attribution and identification of cause and effect difficult. Still, a review of the World Bank Group's strategies, partnerships, and institutional changes during the MDG period yields five key findings (World Bank 2015):

- The World Bank Group integrated the MDGs into its strategies at both at the corporate and the country levels.
- The analytical and advisory services provided by the World Bank Group contributed meaningfully to the evolution of development thinking in support of the MDGs.
- The country-based model was essential to ensure that the MDGs agreed upon at the global level are fully reflected in country development programs.
- Given that development is a collaborative effort, the World Bank Group has sought to work closely with other development partners and stakeholders in supporting the MDGs.
- More needs to be done to articulate a results chain than translates the World Bank Group's activities and approaches into contributions toward progress on the MDGs.

Integrating the MDGs into World Bank Group Strategies

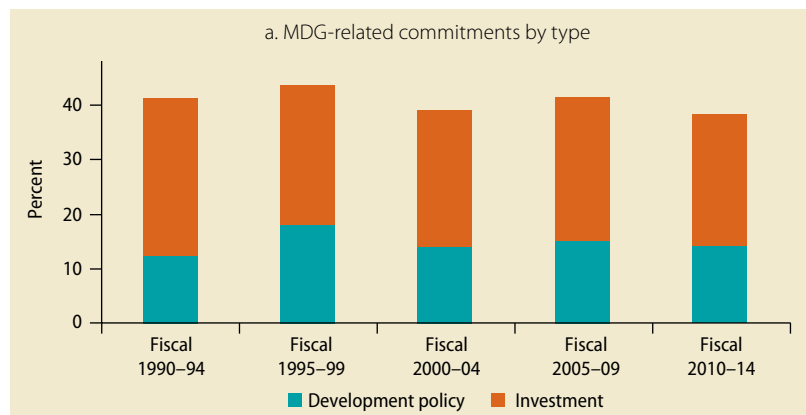
The World Bank integrated MDG-related initiatives into its core strategies, while increasing emphasis on institutions, governance, and global public goods. It formally endorsed the MDGs through the 2001 Strategic Framework Paper, emphasizing the importance of the results-based framework of the MDGs in helping to monitor development impact, as well as the role of the MDGs in facilitating enhanced donor coordination and engagement with country counterparts. In the course of the MDG period, the World

Bank Group boosted MDG-related activities, scaling up engagement on basic education, agriculture, and infrastructure, while focusing on results management and putting more resources into impact evaluations. In the process, the institution developed a selectivity framework that sought to channel its resources into areas where additional resources were urgently needed and could best make a difference, mindful that other entities may be better placed to support development efforts in various areas.

The share of World Bank Group lending for the MDGs has remained broadly stable at about 40 percent (figure B.1). This level reflects a prioritization of development objectives that was broadly consistent with the MDGs already in the 1990s, and with the expansion of total commitments, the World Bank Group continued to focus on MDG areas, especially the social sectors. The bulk of lending commitments were in the form of investment loans, rather than budget support. In many instances, the World Bank Group sought to implement multisectoral approaches, emphasizing public administration in many education and health projects, for example. In other cases, even if a multisectoral approach was not evident at the project level, the majority of countries with health and nutrition projects also had water and sanitation projects. More work is needed to ensure that multisectoral approaches deliver expected results.

Contributing to the knowledge base underpinning the MDGs

The World Bank Group's analytical work been a central part of the institution's engagement on development, influencing strategy and the results agenda. The share of analytical and advisory work related to the MDGs has grown steadily during the MDG period (figure B.2). The nonlending technical assistance component has risen particularly quickly. The production of impact evaluations also rose strongly during the MDG period, and more needs to be done to put good feedback loops in place to ensure adequate learning from these outputs.

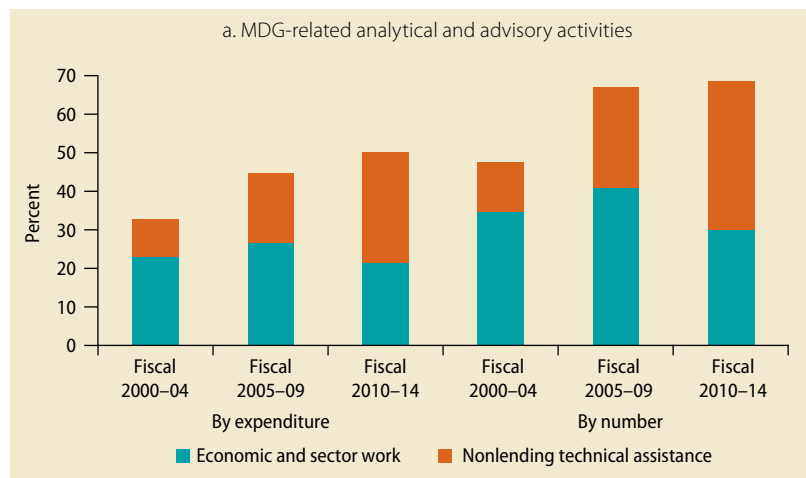
FIGURE B.1 MDG-related World Bank Group commitments and composition

Source: Business Warehouse, World Bank 2015.

Note: MDG-related commitments are determined using Operations Policy and Country Services classification, which maps the Bank's theme codes to specific MDGs.

b. Composition of MDG-related commitments
Percent

| | Fiscal 1990-2001 | Fiscal 2002-14 |
|--------------|------------------|----------------|
| MDG 1 | 9 | 7 |
| MDG 2 | 5 | 10 |
| MDG 3 | 7 | 11 |
| MDG 4 | 1 | 2 |
| MDG 5 | 1 | 1 |
| MDG 6 | 1 | 3 |
| MDG 7 | 31 | 27 |
| MDG 8 | 45 | 38 |
| Total | 100 | 100 |

FIGURE B.2 MDG-related analytical and advisory activities and composition

Source: Business Warehouse World Bank 2015.

Note: MDG-related analytical and advisory activities are determined using Operations Policy and Country Services classification, which maps the Bank's theme codes to specific MDGs.

b. Composition of MDG-related analytical and advisory activities
Percent

| | Fiscal 1990-2001 | Fiscal 2002-14 |
|--------------|------------------|----------------|
| MDG 1 | 2 | 10 |
| MDG 2 | 12 | 3 |
| MDG 3 | 14 | 8 |
| MDG 4 | 0 | 1 |
| MDG 5 | 0 | 1 |
| MDG 6 | 2 | 3 |
| MDG 7 | 22 | 23 |
| MDG 8 | 48 | 51 |
| Total | 100 | 100 |

The application of a combination of World Bank Group instruments at the country level can generate synergies for good results. In Bangladesh, the program of analytic work, policy-based lending (in support of policy and institutional reforms), investment lending, and capacity-building nonlending technical assistance played a meaningful role in achieving better social protection outcomes. Similarly, in Brazil, broad-based engagement helped the government target social policies, and then monitor results.

Supporting progress toward the MDGs through the country-based model

The country-based model has been at the center of the World Bank Group's engagement on the MDGs, but it can complicate integration of sector and corporate strategies. The 2002 Monterrey Consensus notes that "each country has primary responsibility for its own economic and social development" (UN 2002). This is essential for country ownership and underpins the World Bank Group's country-based model. To better deliver on

this approach, several key organizational changes were implemented during the MDG period, including extensive decentralization of staff to the field and matrix management.

MDG themes were reflected in country strategies. While the MDGs were not always explicitly noted, closer analysis of a cross-section of 40 country engagements shows that more than 80 percent of the strategic pillars underpinning the World Bank Group's country strategies were related to MDG themes (World Bank 2015). In some instances, the strategy focused explicitly on supporting efforts toward MDGs that the country was not expected to meet, for example in relation to education and gender equality in the Republic of Yemen. While the country-based model has proven effective, it could be strengthened further to ensure integration with sector and corporate strategies.

Building partnerships for achieving the MDGs

The complexity of development means that effective progress depends on partnerships and selectivity based on institutional comparative advantage. The global endorsement of the MDGs provided a platform to help align the efforts of the development community toward shared objectives. To support this improved alignment, the World Bank Group prepared a selectivity framework that emphasizes comparative advantage, strategic relevance, and expected benefits. It has also sought to deepen partnerships at numerous levels, although more could be done. Strong partnerships boosted trust-funded activities to complement various World Bank Group efforts toward the MDGs, centered on specific thematic areas. For example, the Education for All – Fast Track Initiative channeled funds into primary education, and enabled the World Bank Group to put its resources into other aspects of service delivery and connections between education and the labor market. In some cases, the funds managed and supervised by the World Bank Group far exceeded its own resources. For example, the Global Fund to Fight Aids, Tuberculosis and Malaria, disbursed about \$26.7 billion from

2002 to 2014, nearly five times the World Bank Group's related commitments during this period.

Articulating a results chain for the World Bank Group

While the World Bank Group has consistently sought to increase its results focus, including by supporting statistical capacity building in client countries, connecting specific interventions to MDG outcomes remains challenging. The focus on results is mainstreamed in the activities of the World Bank Group, as reflected in results-based country strategies and the deployment of new financing instruments, such as the Program for Results, which links financing to predetermined results in stages. In support of sound monitoring frameworks, the World Bank Group provided assistance for statistical capacity building in many client countries. Establishing a clear results chain from interventions to intermediate outcomes to results remains difficult, and more needs to be done to put in place effective feedback loops that sharpen the focus on specific MDG areas that may need additional attention at the country level.

Supporting progress toward the SDGs with learning from the MDGs

Translating the SDGs articulated at the global level into effective development programs at the country level is the central implementation challenge. It will be challenging for many governments and other stakeholders to bring the wide-ranging and integrated SDG agenda into effective development programs that also match country-level priorities. The World Bank Group will seek to support clients in this process, based on lessons learned from the MDG experience and recommendations from assessments (Schmaljohann, Prizzon, and Rogerson 2015; World Bank 2015). The institution will focus on its core strengths, including the provision of long-term country level engagements, integrated development solutions, a full menu of services (knowledge and financing), and platforms for cross-border initiatives (World Bank 2015).

The World Bank Group supports the integrated set of SDGs and will intensify efforts on four cross-cutting “prerequisites” that are essential enablers for the wider SDG agenda in many countries. These prerequisites include supporting countries to transition from fragility and conflict to development, to scale up infrastructure investment, to mitigate climate change, and to join the data revolution (World Bank 2015). Making gains in these cross-cutting areas generally hinges on working at the international level with a wide range of stakeholders. The World Bank Group will seek to contribute meaningfully on related initiatives.

The World Bank Group is implementing institutional and financing changes to boost effectiveness and impact. While still applying the country-based model, the World Bank Group seeks to support progress on the SDGs with better knowledge flows and integrated development solutions, as well as new operational instruments. Stretched and leveraged balance sheets are enabling greater financing volumes to clients. These efforts will also be essential to making progress toward the World Bank Group’s goals of eliminating extreme poverty and boosting shared prosperity.

African Development Bank

Progress toward MDG attainment

Despite a weak start, the pace of progress toward the attainment of the MDGs in Africa accelerated after 2003. The continent started from a relatively low base on virtually all MDGs, requiring large investments and much effort to catch up with comparator regions. Despite these efforts, progress has been slow in a number of countries. During the new SDG era, the AfDB’s overarching goal will remain poverty reduction, but the institution will also seek to ensure that growth is more inclusive. Inclusive growth will be underpinned by enhancing the capacity of Africans to sustainably manage and leverage their natural resources to drive their development efforts in a peaceful manner.

The AfDB supports progress toward the MDGs through country-level interventions that are directly aligned with the countries’ national development efforts. The analysis presented here is based on the AfDB’s 2014 Annual Report, its 2014 Development Effectiveness Review, and data from the 2014 MDG report jointly produced with the African Union, the United Nations Economic Commission for Africa, and the United Nations Development Programme, where it was found that Africa’s progress toward the achievement of MDGs has been mixed. The analysis found variations across countries and regions, with some countries making significant progress toward the targets while others have not. Table B.1 highlights the best-performing countries for selected targets and indicators.

AfDB’s engagements during the new SDG era

Africa has enjoyed high levels of average growth—above 5 percent—during the MDG era, but with wide variations at the country level. In 2015 and beyond, the prospects for Africa are significantly brighter than they were at the turn of the millennium. Its performance on MDGs has been muted, however, with the continent off track in achieving five of the eight MDGs by 2015. The new era of SDGs presents a unique opportunity for Africa to articulate its common priorities, opportunities, and challenges. African governments need to develop a strong vision for monitoring and accountability, with clear plans for financing and implementation of the strategies.

The AfDB remains a significant financier of infrastructure projects, with a cumulative contribution of \$45 billion from 1967 to 2014. In line with its Ten-Year Strategy (2013–22), and through its lending, technical expertise, and policy advocacy, the AfDB plans to support Africa’s development in five priority areas: infrastructure, regional integration, private sector development, skills and technology, and governance and accountability. The institution’s support will

TABLE B.1 Africa's recent MDG performance: Selected targets and indicators

| Goals | Targets and indicators | Best-performing countries ^a |
|---|---|---|
| Goal 1: Eradicate extreme poverty and hunger | Target 1A: Halve (between 1990 and 2015), the proportion of people whose income is less than \$1.25 a day per person. | Egypt, Arab Rep.; Gabon, Guinea; Morocco; Tunisia. |
| | Target 1B: Achieve full and productive employment and decent work for all, including women and young people. | Burkina Faso, Ethiopia, Togo, Zimbabwe. |
| | Target 1C: Halve (between 1990 and 2015) the proportion of people who suffer from hunger. | Algeria; Benin; Egypt, Arab Rep.; Ghana; Guinea-Bissau; Mali; South Africa; Tunisia. |
| Goal 2: Achieve universal primary education | Indicator 2.1: Increase net enrollment ratio in primary education by 1.5 percent annually. | Algeria; Egypt, Arab Rep.; Rwanda; São Tomé and Príncipe. |
| | Indicator 2.2: Proportion of pupils starting grade 1 who reach last grade of primary education. | Ghana, Morocco, Tanzania, Zambia. |
| Goal 3: Promote gender equality and empower women | Indicator 3.1: Ratio of girls to boys in primary, secondary and tertiary education. | The Gambia; Ghana; Mauritius; Rwanda; São Tomé and Príncipe. |
| | Indicator 3.2: Share of women in wage employment in the non-agricultural sector. | Botswana, Ethiopia, South Africa. |
| | Indicator 3.3: Proportion of seats held by women in national parliament. | Angola, Mozambique, Rwanda, Seychelles, South Africa. |
| Goal 4: Reduce child mortality by two-thirds | Indicators 4.1 and 4.2: Under-five mortality and infant (under-one) mortality rates. | Egypt, Arab Rep.; Ethiopia; Liberia; Libya; Malawi; Rwanda; Seychelles; Tanzania; Tunisia. |
| Goal 5: Improve maternal health | Target 5A: Reduce by three-quarters, the maternal mortality ratio between 1990 and 2015. | Equatorial Guinea; Egypt, Arab Rep.; Eritrea; Libya; Mauritius; Rwanda; São Tomé and Príncipe; Tunisia. |
| | Target 5B: Achieve by 2015 universal access to reproductive health. | Egypt, Arab Rep.; Ghana; Guinea-Bissau; Rwanda; South Africa; Swaziland. |
| Goal 6: Combat HIV/AIDS, malaria, and other diseases | Target 6A: To have halted by 2015 and begun to reverse the spread of HIV/AIDS and other diseases. | Côte d'Ivoire, Namibia, South Africa, Zimbabwe. |
| | Target 6B: Achieve by 2010 universal access to treatment of HIV/AIDS for all those who need it. | Botswana, Comoros, Namibia, Rwanda. |
| | Target 6C: To have halted by 2015 and begun to reverse the incidence of malaria and other major diseases. | Algeria; Cabo Verde; Egypt, Arab Rep.; Libya; Mauritius; São Tomé and Príncipe; Sudan; Tunisia. |
| Goal 7: Ensure environmental sustainability | Target 7A: Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources. | Egypt, Arab Rep.; Gabon; Morocco; Nigeria. |
| | Target 7C: Reduce by half the proportion of people without sustainable access to safe drinking water and basic sanitation, by 2015. | Algeria; Botswana; Egypt, Arab Rep.; Libya; Mali; Mauritius; Namibia; Rwanda; Swaziland. |
| Goal 8: Global partnership for development | Target 8F: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications technology. | Kenya, Libya, Rwanda, Seychelles, Sudan, Uganda, Zambia. |

Source: African Development Bank Group 2014 Annual Report.

a. Those countries that, with respect to each target/indicator, have made the greatest improvements from their initial conditions (not necessarily those that have reached the targets).

help to create the conditions in which Africans can identify and implement innovative solutions to their development challenges.

Infrastructure

Infrastructure remains the AfDB's highest priority, absorbing the lion's share of its resources. The AfDB invests heavily in transport infrastructure, helping to put in place the backbone highway network to link African countries to each other and the feeder roads that link businesses and households to markets and services. Over the past two years, the AfDB has built or rehabilitated over 6,000 kilometers of road and provided 32 million people with improved access to transport. Projects like the 175-kilometer road between Wacha and Maji in Ethiopia have dramatically reduced transportation costs for farmers, raising rural incomes. The AfDB is also investing in railways, airports, and port facilities. In the energy sector, it has funded over 1.3 gigawatts of new power-generation capacity, while providing 10 million people with electricity connections. The AfDB is also making substantial investments in renewable energy, such as Africa's largest wind power project in Lake Turkana in Kenya, and is helping African countries to access international climate funds and leverage private sector finance for clean energy projects. The AfDB's investments in water and sanitation have benefited more than 4 million people. To boost water security, the AfDB also has a strong focus on the management of water resources.

Regional integration

Under its new Strategy for Regional Integration 2014–23, the AfDB is prioritizing the development of regional infrastructure (along with the institutions required to manage it) and the promotion of industrialization and trade. In the past two years, it has built 680 kilometers of cross-border roads, together with improved border infrastructure. It has ongoing investments in cross-border power transmission lines, and is helping to link national power grids into more efficient regional power pools. Many AfDB regional

initiatives have an explicit focus on promoting peace and security, such as the support for the International Conference on the Great Lakes Region.

Private sector development

The AfDB also aims to build an environment in which African businesses can innovate and flourish. Its Private Sector Strategy 2013–17 focuses on improving Africa's business climate and promoting enterprise development. Through its budget support operations and technical assistance, the AfDB is helping African countries to modernize their business regulations and to make their tax systems more effective. Improved governance allows for more frequent use of public-private partnerships as an effective methodology to deliver critical infrastructure, with a good number of successful transactions recently completed, such as the Henri Konan Bédié Bridge in Abidjan, Côte d'Ivoire. The AfDB is also helping to create a sustainable market in microfinance for household enterprises and small businesses. Over the past two years, it has provided 17,900 microcredits and created 1.2 million jobs, of which 340,000 were for women. The AfDB's private sector window continues to provide finance so that African businesses can innovate and flourish throughout the continent.

Skills and technology

The AfDB is investing in the technical and vocational skills of young Africans to equip them for gainful employment and successful entrepreneurship. Its support has a strong focus on science and technology to promote more innovative, knowledge-based economies. Over the past two years, the AfDB has provided vocational training to 5,430 young people and constructed over 1,480 classrooms and educational support facilities. It is rapidly expanding its investments in this area with projects to transform systems of vocational training in the Democratic Republic of Congo, Mauritania, Morocco, Rwanda, Tanzania, and Zimbabwe. It is also supporting a network of centers of excellence in biomedical science to help address the skills gap.

Governance and accountability

The AfDB's new Governance Strategic Framework and Action Plan 2014–2018 sets out how it will help tackle Africa's governance deficits. Its main focus is on economic and financial governance. The AfDB is also helping to strengthen the business environment through improved regulation. For example, it helped Mozambique to establish a one-stop shop for business registration. In this way, the AfDB is investing in more inclusive and sustainable financial systems, supporting many African countries on budgeting and financial management, and helping them to raise revenues and to target their spending on development priorities, guided by the principles of transparency and accountability. In the Comoros, for example, the AfDB helped to strengthen the management of the energy sector, while supporting the work of anticorruption agencies. In Sierra Leone, it is supporting wide-ranging public financial management reforms, including improved governance of the energy and extractive sectors. The AfDB's projects are promoting innovations in governance, such as the use of e-governance and improved engagement with civil society and communities.

In addition to these five core priorities, during the new SDG era, the AfDB will also place special emphasis on issues related to fragility, food security, and women's economic empowerment.

Asian Development Bank

ADB's support to the MDGs

The ADB has been supporting the MDGs since their adoption in 2000. Successive corporate-level strategies, individual country partnership strategies, and lending and non-lending operations have helped integrate support for MDGs at both the strategic and the operational levels at the ADB, complementing efforts of its developing member countries toward progress and monitoring their achievement.

The ADB's Poverty Reduction Strategy of 1999 guides the bank's mandate on poverty

reduction (MDG 1) in the East Asia and Pacific region. Poverty reduction remained the ADB's key mission under its Long-Term Strategic Framework of 2001, which also emphasized inclusive social development, basic social services, gender empowerment, and environmental sustainability—priority areas in alignment with the MDGs. The ADB's Enhanced Poverty Reduction Strategy of 2004 and its Medium-Term Strategy II for 2006–08 continued to emphasize poverty reduction and progress on the MDGs.

The ADB's Strategy 2020, approved in 2008, delivered a vision of an East Asia and the Pacific free of poverty and underlined that progress on poverty reduction in the region was critical for meeting the MDGs (ADB 2008). The three key complementary agendas of Strategy 2020—inclusive economic growth, environmentally sustainable growth, and regional integration—are closely linked to MDG achievement. Strategy 2020 underlined the need for mobilization of resources and made the commitment that the ADB, in addition to providing financial and other assistance, would closely monitor and track the progress of its developing member countries on the MDGs. To that end, the ADB's corporate results framework, put in place in 2008, with successive periodic refinements, reports annually on progress made by the East Asia and the Pacific region on the achievement of the MDGs. A Midterm Review of Strategy 2020 completed in 2014 committed the ADB to expand support to sectors and areas of direct relevance to the MDGs (ADB 2014).

A country partnership strategy—the main articulation of ADB strategic directions and support at the country level—aligns ADB assistance with country priorities, the ADB's corporate strategic directions, and international development agreements (including on MDGs). Each strategy presents agreed priorities for the ADB's support that will help the country reduce poverty and achieve inclusive and sustainable economic growth. The strategy also provides for monitoring and reporting on progress toward the MDGs.

Pursuant to the country partnership strategies, the ADB provides lending and

nonlending support to developing member countries. A large part of its lending assistance supports development of sustainable infrastructure. In 2011–13, infrastructure projects—which contributes directly to MDG 1 by promoting inclusive economic growth, supporting reduction in poverty, and creating employment and other economic opportunities—accounted for \$24.8 billion, or 69 percent, of sovereign approvals. Support for agriculture and irrigation projects contributes to poverty reduction through its impact on farm productivity, food security, and mitigation of malnutrition. The volume of ADB-assisted education projects, which support progress on MDG 2, is projected to increase from 4 percent during 2011–13 to 6 percent during 2015–17. The ADB also plans to increase health sector operations to meet its target of 3–5 percent of annual approvals. Clean energy and sustainable transportation projects directly support MDG 7 by strengthening environmental sustainability and managing climate change by lowering carbon emissions. In 2014, the ADB already surpassed its 2016 targets to incorporate climate change in 45 percent of its operations and in 50 percent of its operations to support environmental sustainability. The ADB also assists with water supply and sanitation-related projects in urban and rural areas, which directly support MDG 7 by increasing the proportion of the population with access to safe drinking water and sanitation facilities.

In addition to direct support, infrastructure projects also indirectly support progress on other non-income MDGs. For example, ADB-supported transport projects, including rural roads, improve access to schools and hospitals across genders, necessary for progress on MDG 2 on universal primary education, MDG 3 on eliminating gender disparities in education, and MDGs 4 and 5 on reducing child mortality and improving maternal health. ADB-assisted water supply and sanitation projects also contribute to progress on the health-related MDGs (ADB 2015a). A number of examples of ADB support are presented in the ADB publication *Together We Deliver*.

To raise awareness about the MDGs in the region, support regular monitoring and progress, and develop the institutional capacity of developing member countries to achieve the MDGs, the ADB entered into a long-term partnership with the United Nations Development Programme and the United Nations Economic and Social Commission for Asia and the Pacific, which produces the regular series of regional MDG reports (UNESCAP, ADB, and UNDP 2015). The reports show that the region has made big gains in reducing poverty—as measured by the reduction in the number and share of people living on less than \$1.25 a day purchasing power parity—and has made good progress on other MDGs. Some MDGs have been achieved ahead of 2015, the target year: gender equality in education, reducing HIV prevalence, stopping the spread of tuberculosis, increasing forest cover, reducing consumption of ozone-depleting substances, and halving the proportion of people without access to safe drinking water.

Lessons from East Asia and the Pacific and the post-2015 agenda

The MDGs were effective in East Asia and the Pacific in influencing local priorities, shaping national budgets, and protecting social expenditures. Many countries in the region have adapted the goals to meet their specific needs. The MDGs have influenced national development planning frameworks in nine East Asia-Pacific countries including Bangladesh, Cambodia, India, Indonesia, the Lao People's Democratic Republic, Mongolia, Nepal, Timor-Leste, and Vanuatu (ADB, UNESCAP, and UNDP 2013). However, the articulation of the MDGs as stand-alone goals led to a fragmented approach to public policy and planning, monitoring, and assessing contributions toward achieving the goals. Moreover, some development challenges, like unplanned urbanization and the rising threat of climate change, were not considered when the MDGs were formulated. Data requirements that escalated with MDG monitoring were inadequately backed by resources. The

post-2015 development goals should recognize the importance of customization and that their inherent interdependence will require coordinated action across ministries, the importance of data for monitoring, the cross-cutting nature of infrastructure, and the key role of policy and knowledge support for sustainable development.

While strong economic dynamism has driven regional success in income poverty reduction, challenges remain on inclusion-related issues in the region and within developing member countries. High levels of hunger remain, fast-growing developing member countries continue to lose shocking numbers of children before their fifth birthday, and thousands of mothers die in childbirth. Striking disparities remain between and within subregions, countries, and even social groups in their progress toward the MDGs. For instance, South Asia as a whole is on track for just nine MDG indicators, but Sri Lanka is on track for 15 and generally outperforms the subregion. Within developing member countries, disparities between men and women, between social and ethnic groups, and between regions hold back large sections of the population from achieving the MDGs. Issues that remain important—and should therefore help define the Post-2015 Development Agenda—include inequality, lack of decent and productive jobs, continuing hunger and food insecurity, gender discrimination, limited achievements in health, low-quality education, heightened vulnerability and economic insecurity, rapid demographic change, unplanned urbanization, pressure on natural resources, exposure to disasters, and the rising threat of climate change.

The changing development finance landscape makes it clear that all sources of finance, public and private, need to be harnessed to achieve sustainable development. Growing domestic public resources in the region will continue to be the most important source of development finance. At the same time, international public flows—like official development assistance—are critical for low-income and fragile countries and a signal of the development community's commitment

to shared development agendas. The largest sums are increasingly in private hands, however, and are not directly programmable or available for development. While governments have the primary role in drawing in these funds, as well as in influencing the course of private activities on economies, societies, and the environment in line with sustainable development, they will need assistance to create a supportive environment to mobilize private investment.

While MDG monitoring in the region reveals improvement in the availability of data in recent years, it also highlights large data gaps that strain national capacities for producing, disseminating and using quality statistics for MDG monitoring. The post-2015 agenda will bring renewed demand for new indicators to measure other dimensions of environmental, economic and social progress. Resources will be needed to increase support for national statistical systems along with actions to promote open access and use of data.

ADB focus and preparedness for the Post-2015 Development Agenda

The ADB has taken early steps in readying for the proposed SDGs in line with priorities identified in its *Strategy 2020 Midterm Review*. The mid-term review of the ADB's corporate Strategy 2020 confirms alignment with the new SDGs to be finalized in September 2015 by United Nations member states, including ADB clients and shareholders (ADB 2014). The review concluded that Strategy 2020 remains valid in its broad strategic directions to address the development challenges of a transforming Asia and Pacific. It found that the ADB's 10 strategic priorities respond to the SDGs in a manner consistent with realities of country-level implementation. The 10 priorities are poverty reduction and inclusive economic growth, environment and climate change, regional cooperation and integration, infrastructure development, middle-income countries, private sector development and operations, knowledge solutions, financial resources and partnerships, delivering value

for money, and organizing to meet new challenges. The ADB has also initiated work on a new strategy to guide it over the longer term and that will reflect the SDGs once approved.

The ADB recognizes that the new global sustainable development agenda will need new thinking on financing and the capacity to tap all sources of funds. In its 2015 report *Making Money Work: Financing a Sustainable Future in Asia and Pacific*, ADB offers insights on the scale of the region's increased financing needs and the importance of harnessing all sources of finance, public and private (ADB 2015b). The report looks at both sides of making money work: shifting money toward investments in sustainable development, and boosting the ability of developing member countries to attract more money from a wider range of sources for such investments.

The ADB is enhancing its own capacity to provide finance for poverty eradication and sustainable development. The ADB Board of Governors recently approved a groundbreaking initiative to combine the lending operations of the bank's Asian Development Fund with its ordinary capital resources balance sheet. The merger will boost ADB's total annual lending and grant approvals to as high as \$20 billion—50 percent more than the current level. ADB assistance to poor countries will rise by up to 70 percent. Together with cofinancing, the ADB's annual assistance will reach as high as \$40 billion in coming years, up from \$23 billion in 2014. Poor countries currently eligible for development fund loans will continue to receive concessional loans from expanded ordinary capital resources on the same terms and conditions as current Asian Development Fund loans. The fund will be retained as a grant-only donor fund to provide assistance to eligible countries.

In addition to making more funds available, the ADB is also helping to strengthen the capacity of its developing member countries to draw in money toward sustainable development. The Asia Pacific Project Preparation Facility approved in November 2014 will help prepare a pipeline of “ready to finance” infrastructure investments and

place these with investors for public-private partnerships. The ADB is also assisting its developing member countries to access climate finance sources from funds such as the Global Environment Facility, Climate Investment Funds, and the Green Climate Fund for projects with sustainable development benefits.

In responding to the financing needs of the proposed SDGs, the ADB's priority will be to direct resources to human needs, infrastructure, and cross-border public goods. These categories are synergistically interlinked and together can strengthen sustainable development results. While infrastructure deficits are a continuing bottleneck affecting most MDGs, matters related to financing, implementation, accountability, and the role of partnerships are claiming center stage as developing member countries and their development partners explore the Post-2015 Development Agenda.

European Bank for Reconstruction and Development

With their focus on poverty reduction and social development, the MDGs have limited overlap with the EBRD's economic transition and private sector-focused mandate. Nevertheless, there are links between the EBRD's activities and the MDG targets in the areas of gender equality, water and sanitation, and environmental sustainability.

Gender equality (MDG 3)

With its commitment to gender equality through its Strategic Gender Initiative, approved in April 2013, the EBRD has contributed to the overarching gender equality goal, particularly with respect to the economic empowerment dimension of MDG 3, which is the EBRD's niche within gender equality. During the implementation of the initiative, the EBRD has contributed to an increase in the share of women in non-agricultural wage employment. Through the development of Equal Opportunities projects,

solutions have been designed to respond to the challenges of barriers for women in employment, especially in countries where labor force participation is low (such as Turkey) and even declining such as in Jordan and the Arab Republic of Egypt.

Of the 16 new projects signed in the past two years, 94 percent are in the initiative's target regions (Central Asia, the Middle East, and Turkey); 50 percent develop measures to improve women's access to finance; and 20 percent improve women's access to employment and skills. The remaining 30 percent are projects to provide solutions to improve women's access to services.

With respect to increasing access to resources, and finance in particular, three teams within the EBRD developed a new product called the "Women in Business Framework." Launched first in Turkey, and subsequently in the Western Balkans and Egypt (with Croatia, the Eastern Partnership, and Kazakhstan under development for 2015), the framework brings together three critical components to support women's access to finance: donor financing to partner banks for the provision of dedicated financing for women, including a first loss guarantee for women-led small and medium enterprises; technical assistance to support the partner banks to adjust their business models and delivery mechanisms and to develop new financial products for women; and an advisory services component targeting women entrepreneurs, who in turn will become the partner banks' potential client base. Overall, €460 million of credit lines are expected to be channeled through up to 40 partner banks in 16 EBRD countries of operation for on-lending to eligible women-led small and medium enterprises.

Water and sanitation (MDG 7)

The EBRD aims to achieve the sustainable delivery of essential services, notably in water and wastewater, public transport, urban roads and lighting, solid waste management, and district heating and energy efficiency, throughout its region. To reach this goal, the EBRD centers its operations on decentralization of decision making to the local level,

commercialization of services for affordability and effectiveness, and improvement of the environment.

From 2010 to 2014, the EBRD's Municipal and Environmental Infrastructure team invested in 177 projects worth a collective €2.9 billion. In 2013 and 2014, water and wastewater projects contributed to a reduction of a combined 166,000 tons of carbon dioxide (CO₂) equivalent. Over the same period, solid waste projects achieved a reduction of 197,000 tons of CO₂ equivalent.

Environmental sustainability (MDG 7)

The EBRD addresses the challenges of climate change and energy efficiency by integrating these issues into all of its operations as a core strategic component and competence. Through its work, it helps countries from Central Europe to Central Asia secure sustainable energy supplies, and it finances the efficient use of energy that will cut demand and imports, reduce pollution, and mitigate the effects of climate change. The focal point for these operations is the Sustainable Energy Initiative. Launched in May 2006, this initiative addresses the twin challenges of energy efficiency and climate change in the EBRD region—which is one of the most energy intensive in the world. The initiative is assisted by strong funding support from donor governments and the EBRD Shareholder Special Fund. Since 2006, the EBRD has invested €8.8 billion under the initiative through 464 projects in 29 countries with a total project value of €46.9 billion. The EBRD is now building on the initiative's success by expanding its remit to include not only energy but also water and material efficiency projects. As part of its policy dialogue activities, the Sustainable Energy Initiative also works with governments to support the development of strong institutional and regulatory frameworks that are the prerequisite to deliver sustainable resource investments.

The EBRD implements its environmental and sustainable development mandate by

- Incorporating environmental and social requirements into the appraisal and

implementation of all EBRD-funded projects based on EU standards and international best practice;

- Providing finance and technical assistance specifically aimed at environmental issues such as sustainable energy, climate change, environmental infrastructure, and nuclear safety;
- Promoting social inclusion through investment and other forms of support for microenterprises and by increasing access to community services such as water and public transport;
- Supporting projects that promote gender equality; and
- Encouraging public participation for pre-investment consultation and disclosure, together with maintaining regular strategic dialogue with civil society organizations.

The broader SDG agenda, to be agreed in 2015, is likely to broaden the scope of the EBRD's involvement in the global development agenda. Many of the headline goals, such as those involving infrastructure, agriculture, climate change, and access to energy, represent areas of work in which the EBRD has been engaged for years. In some cases, there is significant room for scaling up activities that can have real development impact. Given its unique mandate, the EBRD is eager to share lessons learned in how to approach and mobilize private sector finance. Together, MDBs can also forge joint initiatives in this regard, building upon their competitive advantages built from decades of regional experience.

Inter-American Development Bank

The conclusion of the MDG target period at the end of 2015 and the initiation of a new, more ambitious set of SDGs in 2016 will be a milestone for all nations, but in particular for Latin America and the Caribbean. The region has made significant social progress since the MDGs were established in 2000. The region has achieved several MDGs and several others are expected to be achieved by the end of 2015. Indicators of social development have

shown impressive results since the beginning of the millennium—including poverty, the size of the middle class, income inequality, education, child malnutrition, and maternal and infant mortality. While these achievements were facilitated by favorable terms of trade, the responsible management of domestic economic policies, and reforms of social policies over a two-decade period, commitment to the well-defined MDGs was an important determinant as well. Moving forward, the region now faces the double challenge of achieving the new SDGs while sustaining and deepening recent social achievements.

The Inter-American Development Bank made its own contribution to meeting the MDGs through technical assistance, operational tools, socioeconomic research, country strategies, dialogue with governments, and other instruments and activities. The IDB's Institutional Strategy closely mirrored the MDGs. In 2010 the Ninth General Increase in the Resources of the IDB established two overarching objectives: poverty and inequality reduction, and sustainable growth. The institutional strategy also placed a high priority on tracking results and promoting development effectiveness in all of the IDB's work. The IDB's Corporate Results Framework serves as the primary tool for monitoring and measuring the IDB's performance and the achievement of its strategic objectives. To assist the region in facing new challenges going forward, the IDB recently updated its Institutional Strategy, approved by the Board of Governors in 2015, again placing special emphasis on reduction of poverty and inequality and on sustained growth.

The Social Strategy for Equity and Productivity provides a set of detailed guidelines designed to assist countries in responding more effectively to the challenges of sustainability and inclusiveness. It focuses on increasing access to comprehensive child development services (essential nutrition, early stimulation, family education) for children from poor households in order to prevent developmental delays and prepare children for entry into the school system; increasing the quality, equity, and relevance

of education; equitably improving health outcomes; protecting households against risks; redistributing income effectively while fostering increases in labor productivity; enhancing labor market performance, as indicated by the capacity to create jobs with higher wages and social security coverage; building a new generation of social programs that foster equality of opportunities regardless of labor status, race, ethnicity or gender; and tackling cross-cutting gender and diversity issues.

Recognizing that governments alone cannot tackle the many remaining development challenges, the IDB has encouraged and participated in a number of public-private partnerships aimed at tapping resources from a variety of sources, including nonprofit groups, company foundations, donor-nation funds, and local governments. Emblematic of this new form of collaboration is the Meso-american Health Initiative, an innovative partnership designed to narrow the equity gaps in health experienced by population segments in extreme poverty. It was jointly created in 2010 by the Bill & Melinda Gates Foundation, the Instituto Carlos Slim de la Salud, the governments of Spain, Belize, El Salvador, Guatemala, Nicaragua, Honduras, Panama, and Costa Rica, the Mexican state of Chiapas, and the IDB. Its goal is to support regional governments' efforts in achieving the health-related MDGs through investments in interventions of proven effectiveness among the poorest 20 percent of the population, focusing on women and children under five years of age.

This partnership implements transformative solutions through extending the coverage, quality, and use of basic reproductive health services for mothers, newborns, and toddlers as well as by promoting maternal and child nutrition and vaccination. This collaboration has allowed the IDB to leverage valuable knowledge and experience from different partners to tackle the challenging issues of maternal and child health care service delivery in the region's most remote areas. Further, the partnership has allowed for the application of results-based financing mechanisms that use predetermined

performance indicators and independent measurement of achievements to help drive country performance.

Despite recent progress in reducing inequality, it remains high in Latin America and the Caribbean. The MDGs measure progress in terms of country-level averages; however, averages can mask steep differences within countries. For example, in Guatemala almost 50 percent of children are chronically malnourished, and the fraction of children who are malnourished is five times as high among children in the poorest income quintile as it is among children in the richest income quintile. As inequality continues to present significant challenges in the region, looking beyond averages is crucial to ensuring that no one is left behind.

To support these efforts, the IDB plans to support countries in building statistical capacity, including the ability to disaggregate data by such characteristics as subnational geography or gender. Along with other MDBs, the IDB has signed a memorandum of understanding with the United Nations to enhance collaboration in supporting the strengthening of country statistical capacity. The IDB is also working to support governments in the region in adopting evidence-based policies and in monitoring progress in meeting post-2015 development goals. Emphasis is being placed on four areas: strengthening the institutional capacity of national statistics offices; strengthening the quality of basic statistics (population and housing censuses, agricultural censuses, household surveys and administrative records); promoting the use of statistics in decision making and in the design and management of interventions by strengthening the end-users' data capabilities; and optimizing the use of modern technologies in production processes, access, and dissemination of statistical information.

The IDB also will help to close financing gaps by exploring ways to improve domestic resource mobilization, tap innovative sources of finance, and better leverage the private sector. Finally, as the leading source of development financing in the region, the IDB can utilize its strong relationships with diverse

stakeholders (such as ministries of finance, planning and development, and civil society organizations) to facilitate country and regional dialogues to translate the SDGs into targets and interventions at the country level.

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Data Sources

1. Shared prosperity data

TABLE C.1 Shared prosperity estimates by country based on the latest surveys available from the Global Database of Shared Prosperity

| Country | Period ^a | Type ^b | Annualized growth per capita ^{c,d} | | Mean consumption or income per capita ^e | | | | | PPP year |
|------------------------|---------------------|-------------------|---|----------------------|--|---------------------------------|---------------------------|---------------------------------|---------------------------------|----------|
| | | | Bottom 40 % | Total population (%) | Baseline | | Most recent year | | | |
| | | | | | Bottom 40% \$ a day (PPP) | Total population \$ a day (PPP) | Bottom 40% \$ a day (PPP) | Total population \$ a day (PPP) | Total population \$ a day (PPP) | |
| Albania | 2008–12 | C | -1.22 | -1.31 | 4.28 | 7.81 | 4.08 | 7.41 | 2011 | |
| Argentina ^e | 2007–12 | I | 6.43 | 3.13 | 5.62 | 18.16 | 7.67 | 21.19 | 2011 | |
| Armenia | 2008–13 | C | -1.49 | -1.05 | 3.40 | 6.28 | 3.15 | 5.95 | 2011 | |
| Australia | 2003–10 | I | 4.39 | 4.65 | — | — | — | — | 2011 | |
| Austria | 2007–12 | I | 0.37 | 0.39 | 27.78 | 52.68 | 28.31 | 53.73 | 2011 | |
| Bangladesh | 2005–10 | C | 1.73 | 1.37 | 0.83 | 1.59 | 0.91 | 1.70 | 2005 | |
| Belarus | 2006–11 | C | 9.13 | 8.14 | 6.51 | 11.65 | 10.08 | 17.23 | 2011 | |
| Belgium | 2007–12 | I | 1.14 | 0.44 | 25.79 | 46.88 | 27.29 | 47.92 | 2011 | |
| Bhutan | 2007–12 | C | 6.53 | 6.47 | 2.57 | 5.88 | 3.53 | 8.04 | 2011 | |
| Bolivia | 2007–12 | I | 10.10 | 4.29 | 2.29 | 9.82 | 3.70 | 12.12 | 2011 | |
| Brazil | 2007–12 | I | 6.93 | 4.54 | 3.45 | 13.99 | 4.82 | 17.46 | 2011 | |
| Bulgaria | 2008–13 | I | 1.29 | 1.37 | 6.77 | 14.70 | 7.22 | 15.73 | 2011 | |
| Cambodia | 2007–12 | C | 8.53 | 4.09 | 1.10 | 2.35 | 1.65 | 2.88 | 2005 | |
| Canada | 2004–10 | I | 2.14 | 1.93 | — | — | — | — | 2011 | |
| Chile | 2006–11 | I | 3.87 | 2.83 | 5.49 | 18.14 | 6.63 | 20.86 | 2011 | |
| China | 2005–10 | C | 7.23 | 7.86 | — | — | — | — | 2011 | |
| Colombia | 2008–12 | I | 5.99 | 3.59 | 2.79 | 11.57 | 3.52 | 13.32 | 2011 | |
| Congo, Dem. Rep. | 2004–12 | C | 7.81 | 7.20 | 0.33 | 0.89 | 0.58 | 1.50 | 2011 | |
| Congo, Rep. | 2005–11 | C | 7.22 | 4.29 | 1.00 | 2.96 | 1.52 | 3.81 | 2011 | |
| Costa Rica | 2010–13 | I | 1.33 | 3.15 | 6.62 | 20.34 | 6.88 | 22.32 | 2011 | |
| Croatia | 2004–10 | C | 1.59 | 0.25 | 11.67 | 21.85 | 12.83 | 22.18 | 2011 | |
| Cyprus | 2007–12 | I | -2.75 | -1.58 | 27.10 | 50.79 | 23.57 | 46.91 | 2011 | |
| Czech Republic | 2008–13 | I | 0.15 | 0.37 | 15.70 | 25.81 | 15.82 | 26.30 | 2011 | |
| Denmark | 2007–12 | I | -0.75 | 0.32 | 28.65 | 48.29 | 27.58 | 49.05 | 2011 | |
| Dominican Republic | 2007–12 | I | 1.79 | -0.20 | 3.83 | 11.93 | 4.19 | 11.82 | 2011 | |
| Ecuador | 2007–12 | I | 5.51 | 0.97 | 2.87 | 10.74 | 3.75 | 11.27 | 2011 | |
| El Salvador | 2007–12 | I | 0.21 | -1.49 | 3.60 | 9.89 | 3.64 | 9.17 | 2011 | |
| Estonia | 2008–13 | I | -2.10 | -1.24 | 12.84 | 24.56 | 11.55 | 23.07 | 2011 | |
| Ethiopia | 2004–10 | C | -1.45 | -0.09 | 1.51 | 2.69 | 1.38 | 2.68 | 2011 | |
| Finland | 2007–12 | I | 1.55 | 1.07 | 26.72 | 46.79 | 28.86 | 49.35 | 2011 | |
| France | 2007–12 | I | 0.19 | 0.39 | 26.58 | 51.51 | 26.83 | 52.53 | 2011 | |
| Georgia | 2008–13 | C | 2.91 | 2.63 | 2.12 | 5.34 | 2.45 | 6.08 | 2011 | |
| Germany | 2006–11 | I | 1.35 | 0.14 | 26.51 | 52.41 | 28.35 | 52.79 | 2011 | |
| Greece | 2007–12 | I | -10.02 | -8.40 | 16.32 | 34.68 | 9.63 | 22.36 | 2011 | |
| Guatemala | 2006–11 | I | -1.85 | -4.57 | 2.75 | 10.87 | 2.50 | 8.60 | 2011 | |
| Honduras | 2007–12 | I | -3.22 | -2.68 | 2.10 | 8.92 | 1.78 | 7.79 | 2011 | |
| Hungary | 2008–13 | I | -1.93 | -0.67 | 10.89 | 19.32 | 9.88 | 18.69 | 2011 | |
| Iceland | 2007–12 | I | -3.85 | -4.56 | 33.07 | 58.69 | 27.17 | 46.47 | 2011 | |
| India | 2004–11 | C | 3.20 | 3.70 | 1.46 | 2.81 | 1.82 | 3.63 | 2011 | |
| Indonesia | 2011–14 | C | 3.82 | 3.39 | 2.11 | 4.82 | 2.36 | 5.33 | 2011 | |
| Iran, Islamic Rep. | 2009–13 | C | 3.05 | -1.20 | 2.63 | 17.41 | 2.96 | 16.59 | 2011 | |
| Iraq | 2007–12 | C | 0.33 | 0.98 | — | — | — | — | 2011 | |
| Ireland | 2007–12 | I | -4.38 | -3.88 | 26.17 | 50.03 | 20.92 | 41.05 | 2011 | |
| Israel | 2005–10 | I | 1.88 | 2.46 | — | — | — | — | 2011 | |
| Italy | 2007–12 | I | -2.86 | -1.82 | 21.24 | 43.54 | 18.37 | 39.72 | 2011 | |
| Jordan | 2006–10 | C | 2.70 | 2.57 | 3.21 | 6.37 | 3.58 | 7.05 | 2005 | |
| Kazakhstan | 2009–13 | C | 8.92 | 7.56 | 5.06 | 8.96 | 7.13 | 11.99 | 2011 | |
| Kyrgyz Republic | 2008–12 | C | -0.13 | -2.35 | 3.33 | 6.62 | 3.31 | 6.02 | 2011 | |
| Lao PDR | 2007–12 | C | 1.25 | 1.96 | 0.98 | 1.98 | 1.04 | 2.18 | 2005 | |
| Latvia | 2008–13 | I | -3.04 | -4.33 | 9.69 | 22.38 | 8.31 | 17.94 | 2011 | |

(Table continues next page)

TABLE C.1 Shared prosperity estimates by country based on the latest surveys available from the Global Database of Shared Prosperity (continued)

| Country | Period ^a | Type ^b | Annualized growth per capita ^{c,d} | | Mean consumption or income per capita ^e | | | | PPP year |
|--------------------|---------------------|-------------------|---|----------------------|--|---------------------------------|---------------------------|---------------------------------|----------|
| | | | | | Baseline | | Most recent year | | |
| | | | Bottom 40 % | Total population (%) | Bottom 40% \$ a day (PPP) | Total population \$ a day (PPP) | Bottom 40% \$ a day (PPP) | Total population \$ a day (PPP) | |
| Lithuania | 2008–13 | I | -1.77 | -1.16 | 10.14 | 20.99 | 9.28 | 19.79 | 2011 |
| Luxembourg | 2007–12 | I | -2.67 | -0.54 | 38.29 | 72.80 | 33.44 | 70.85 | 2011 |
| Madagascar | 2005–10 | C | -4.49 | -3.52 | 0.78 | 1.74 | 0.62 | 1.45 | 2011 |
| Malawi | 2004–10 | C | -1.84 | 1.27 | 0.78 | 1.77 | 0.70 | 1.90 | 2011 |
| Mali | 2006–09 | C | 2.25 | -1.47 | 1.10 | 2.53 | 1.20 | 2.38 | 2011 |
| Mauritania | 2008–14 | C | 3.25 | 1.62 | 2.36 | 5.47 | 2.86 | 6.03 | 2011 |
| Mauritius | 2006–12 | C | 0.76 | 0.86 | 5.31 | 11.02 | 5.54 | 11.56 | 2011 |
| Mexico | 2008–12 | I | 1.15 | -0.22 | 3.39 | 11.27 | 3.54 | 11.17 | 2011 |
| Moldova | 2008–13 | C | 4.99 | 1.81 | 4.23 | 8.77 | 5.40 | 9.59 | 2011 |
| Montenegro | 2008–13 | C | -4.81 | -3.64 | 8.86 | 16.35 | 6.92 | 13.59 | 2011 |
| Nepal | 2003–10 | C | 7.47 | 4.08 | 1.21 | 2.97 | 2.00 | 3.91 | 2011 |
| Netherlands | 2007–12 | I | -0.01 | -0.99 | 28.06 | 51.72 | 28.05 | 49.21 | 2011 |
| Nigeria | 2003–09 | C | 0.12 | 1.12 | 0.93 | 2.33 | 0.94 | 2.49 | 2011 |
| Norway | 2007–12 | I | 3.17 | 2.39 | 33.37 | 58.45 | 39.00 | 65.77 | 2011 |
| Pakistan | 2004–10 | C | 3.76 | 2.69 | 1.82 | 3.40 | 2.27 | 3.99 | 2011 |
| Panama | 2008–12 | I | 4.14 | 3.63 | 4.58 | 17.18 | 5.39 | 19.82 | 2011 |
| Paraguay | 2007–12 | I | 7.21 | 5.20 | 3.39 | 11.75 | 4.80 | 15.15 | 2011 |
| Peru | 2007–12 | I | 8.57 | 3.99 | 3.06 | 11.19 | 4.62 | 13.61 | 2011 |
| Philippines | 2006–12 | C | 1.15 | 0.41 | 2.05 | 5.58 | 2.20 | 5.72 | 2011 |
| Poland | 2007–12 | C | 1.99 | 1.44 | 7.57 | 15.21 | 8.35 | 16.34 | 2011 |
| Portugal | 2007–12 | I | -1.99 | -2.14 | 12.89 | 27.97 | 11.65 | 25.11 | 2011 |
| Romania | 2008–13 | C | 0.58 | -0.28 | 4.81 | 8.89 | 4.95 | 8.76 | 2011 |
| Russian Federation | 2007–12 | C | 5.86 | 5.27 | 7.60 | 19.42 | 10.10 | 25.11 | 2011 |
| Rwanda | 2005–10 | C | 5.04 | 3.89 | 0.72 | 2.27 | 0.92 | 2.75 | 2011 |
| Senegal | 2005–11 | C | -0.23 | 0.31 | 1.31 | 3.10 | 1.29 | 3.16 | 2011 |
| Serbia | 2007–10 | C | -1.76 | -1.33 | 7.32 | 13.37 | 6.94 | 12.84 | 2011 |
| Slovak Republic | 2008–13 | I | 5.48 | 6.67 | 12.46 | 20.27 | 16.27 | 28.00 | 2011 |
| Slovenia | 2008–13 | I | -0.84 | -0.28 | 20.64 | 33.44 | 19.79 | 32.97 | 2011 |
| South Africa | 2006–11 | C | 4.09 | 4.38 | 1.73 | 9.50 | 2.12 | 11.78 | 2011 |
| Spain | 2007–12 | I | -1.32 | 0.00 | 17.14 | 36.25 | 16.04 | 36.25 | 2011 |
| Sri Lanka | 2006–12 | C | 2.21 | 1.66 | 2.96 | 6.80 | 3.37 | 7.51 | 2011 |
| Sweden | 2007–12 | I | 2.04 | 2.25 | 26.22 | 45.14 | 29.01 | 50.46 | 2011 |
| Switzerland | 2007–12 | I | 2.43 | 0.93 | 30.49 | 63.18 | 34.38 | 66.19 | 2011 |
| Tanzania | 2007–11 | C | 3.54 | 1.59 | 1.01 | 2.40 | 1.20 | 2.58 | 2011 |
| Thailand | 2008–12 | C | 4.78 | 3.95 | 5.15 | 12.45 | 6.21 | 14.54 | 2011 |
| Togo | 2006–11 | C | -2.17 | 0.95 | 0.99 | 2.50 | 0.89 | 2.63 | 2011 |
| Tunisia | 2005–10 | C | 3.45 | 2.63 | 3.72 | 8.44 | 4.40 | 9.61 | 2011 |
| Turkey | 2007–12 | C | 4.33 | 4.81 | 5.40 | 12.92 | 6.67 | 16.34 | 2011 |
| Uganda | 2009–12 | C | 3.90 | 2.95 | 1.23 | 3.14 | 1.39 | 3.43 | 2011 |
| Ukraine | 2008–13 | C | 3.47 | 2.27 | 6.81 | 11.60 | 8.08 | 12.97 | 2011 |
| United Kingdom | 2007–12 | I | -1.67 | -2.78 | 23.89 | 51.10 | 21.96 | 44.38 | 2011 |
| United States | 2007–13 | I | -0.16 | -0.43 | — | — | — | — | 2011 |
| Uruguay | 2007–12 | I | 7.87 | 4.33 | 6.00 | 18.63 | 8.75 | 23.03 | 2011 |
| Vietnam | 2004–10 | C | 6.22 | 7.81 | 2.13 | 5.03 | 3.07 | 7.89 | 2011 |

Source: Global Database of Shared Prosperity 2015.

Note: — = Not available.

a. Refers to the years in which the underlying household survey data were collected; in cases for which the data collection period bridged two calendar years, the year in which most of the data were collected is reported. The initial year refers to the nearest survey collected five years before the most recent survey available; only surveys collected between three and seven years before the most recent survey are considered. The final year refers to the most recent survey available between 2010 and 2014.

b. Denotes whether the data reported are based on consumption (C) or income (I) data. Capital letters indicate that grouped data were used.

c. Based on real mean per capita consumption or income measured at 2011 and 2005 purchasing power parity (PPP) using the PovcalNet (<http://iresearch.worldbank.org/PovcalNet>). For some countries, means are not reported because of grouped and/or confidential data.

d. The annualized growth rate is computed as $(\text{Mean in year 2}/\text{Mean in year 1})^{1/(\text{Year 2} - \text{Year 1})} - 1$.

e. Covers urban areas only.

2. Demographic and health surveys

Part II of this report draws extensively on the Demographic and Health Surveys (DHSs). These are nationally representative household surveys that provide data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition.

The analyses presented in this report use only the latest data available in the DHS program, which have survey-year ranges from 1985 to 2014. The DHS database included 88 countries as of May 2015.¹ For certain indicators, some countries may not be included. For the figures in chapter 4 that use the DHS data, a simple average was used to aggregate selected indicators by income level and by typology.

The DHS wealth index was used to illustrate the difference between the bottom 40 (B40) percent and the top 60 (T60) percent of the income distribution in a country. The wealth index, which measures a household's composite living standard, has five levels and is calculated using easy-to-collect data on a household's ownership of selected assets, such as televisions and bicycles; materials used for housing construction; and types of water access and sanitation facilities. To illustrate the demographic difference between the B40 and T60 percent, we combined the DHS's "lowest" and "second" levels as the B40 percent and its "middle," "fourth," and "highest" as the T60 percent.

To illustrate within-country demographic variance, the following indicators are used in each figure:

Figure 4.12 compares the total fertility rate in rural and urban areas. The values refer to the total fertility rate for the three years preceding the survey (DHS indicator: 20171000). Similarly, figure 4.20 uses the same fertility indicator but compares the rates for the B40 and T60 populations according to the DHS wealth index.

Figure 4.14 compares the infant mortality rate for the B40 and T60 of the same wealth index. Infant mortality rate (DHS indicator:

70254002) refers to the probability of dying before the first birthday in the period 1–60 months (and 1–120 months for background characteristics) preceding the survey per 1,000 live births.²

Figure 4.15 compares health facility access for the B40 and the T60 of the DHS wealth index. Live births delivered at health facilities (indicator: 77282000) denotes the percentage of live births in the three/five years preceding the survey delivered at a health facility.³

Figure 4.18 compares the share of teenagers who are mothers (DHS indicator: 29169000) for the B40 and the T60 of the DHS wealth index. This variable is defined as percentage of women ages 15–19 who are mothers or pregnant with their first child by selected background characteristics.

Figure 4.19 compares women's median age at first birth (DHS indicator: 55166000) for the B40 and the T60 of the wealth index. This variable refers to women between 25 and 49 years of age.

Figure 4.21 compares unmet needs for family planning (DHS indicator: 216236002) for women in the B40 and T60. This variable is defined as the percentage of women who do not want to become pregnant but are not using contraception following the DHS definition.⁴

Figure B4.5.1 shows the median age at first marriage for women in rural areas for selected countries (DHS indicator: 55166000). The age at first marriage is based on the responses provided by women ages 25 to 49 when interviewed.

Notes

1. Albania; Angola; Armenia; Azerbaijan; Bangladesh; Benin; Bolivia; Botswana; Brazil; Burkina Faso; Burundi; Cambodia; Cameroon; Cabo Verde; Central African Republic; Chad; Colombia; Comoros; Congo, Rep.; Congo, Dem. Rep.; Cote d'Ivoire; Dominican Republic; Ecuador; Egypt, Arab Rep.; El Salvador; Eritrea; Ethiopia; Gabon; Gambia, The;

Georgia; Ghana; Guatemala; Guinea; Guyana; Haiti; Honduras; India; Indonesia; Jamaica; Jordan; Kazakhstan; Kenya; Kyrgyz Republic; Lesotho; Liberia; Madagascar; Malawi; Maldives; Mali; Mauritania; Mexico; Moldova; Morocco; Mozambique; Namibia; Nepal; Nicaragua; Niger; Nigeria; Pakistan; Paraguay; Peru; Philippines; Romania; Rwanda; São Tomé and Príncipe; Senegal; Sierra Leone; South Africa; Sri Lanka; Sudan; Swaziland; Tajikistan; Tanzania; Thailand; Timor-Leste; Togo; Trinidad and Tobago; Tunisia; Turkey; Turkmenistan; Uganda; Ukraine; Uzbekistan; Vietnam; Yemen, Rep.; Zambia; Zimbabwe. DHS surveys are carried out only in

less-developed countries and/or countries receiving U.S. foreign aid. Further details on country coverage of DHS surveys are available at <http://dhsprogram.com/>.

2. The Gambia was not included because of lack of data.
3. Botswana, The Gambia, Mexico, Sri Lanka, Sudan, Thailand, Trinidad and Tobago, and Tunisia were not included because of lack of data.
4. Angola, Botswana, Cabo Verde, Ecuador, El Salvador, The Gambia, Georgia, Jamaica, Mexico, Romania, Sri Lanka, Sudan, Thailand, Trinidad and Tobago, and Tunisia were not included because of lack of data.

3. Demographic typology

Evidence shows that changes in age structure can affect GDP, with the exact impact depending on the nature of the change. Lee and Mason (2006), among others, have identified two “demographic dividends” associated with changes in the working-age population share in different stages of demographic transition. After an initial decline in mortality, countries tend to transition from high to low fertility. During this phase, the population share of children declines and the share of people of working age increases, while the share of elderly remains small. As a result, these countries potentially experience a boost to aggregate economic growth, a phenomenon referred to as the “first demographic dividend.” Subsequently, as the population share in working age continues to increase, countries are in a position to realize high rates of savings and investment, building up large stocks of human and physical capital. The contribution of this capital to production, which may be long term, is considered a “second demographic dividend.” The demographic dividends are potential economic outcomes associated with a country’s demographic context. The extent to which countries reap these dividends varies. The demographic typology in this report classifies countries on the basis of the economic implications of their demographic characteristics.

A few criteria are used to identify whether the potential for a first demographic dividend is in a country’s past, present, or future. The first criterion is whether the working-age share is likely to be rising or not during 2015–30—the time horizon for several development goals. This criterion differentiates two broad groups of countries.

The first broad group is made up of countries for which the working-age share is projected to decrease or stay unchanged during 2015–30; for this group of countries, the potential for the first demographic dividend has either already passed or is passing. To distinguish two subgroups within this broader

group, the fertility rate from 1985, 30 years ago, is used to identify how far along countries are in the final phase of demographic transition, which is characterized by low rates of both fertility and mortality. Thirty years describes the ballpark length of a generation from the birth of a parent to the birth of a child, although the exact length would vary by country and across time. Countries whose fertility rate in 1985 was below replacement are most likely to be the furthest along in their demographic transition, with the potential for a first demographic dividend being part of their past. These countries are classified as *post-dividend*. Countries whose fertility rate in 1985 was at or above replacement are likely to have entered the final phase of demographic transition more recently; they may still be reaping the first demographic dividend but are at the tail end of that window. These countries are classified as *late-dividend* countries.

The second broad group includes countries whose working-age population shares are growing. On the basis of the current total fertility rate, two subgroups are considered: those for which the window for the first demographic dividend was open recently and those for which it will open in the future. If a country’s total fertility is below four births per woman, then it is likely that the country has been progressing through the demographic transition model and will be experiencing rapid reductions in the population share of its youth. These are the *early-dividend* countries. Countries whose current fertility rates are four births per woman or higher are most likely at an earlier stage of demographic transition and have yet to experience most of the decline in the child population share that makes the first demographic dividend possible. These are the *pre-dividend* countries. It should be noted that the selection of the specific value of four births per woman as the cutoff is arbitrary and that the classification of some countries would change if a slightly different value had been selected.

These criteria—summarized in table C.2—are applied to 191 economies covered by both the United Nations World Population Prospect: The 2015 Revision (WPP) (UN 2015) and the World Development Indicators, to yield the typology illustrated in map 5.1 and listed below in table C.3. The population data for 1950–2013 are the historical estimates of the WPP. The population data from 2013 onward are from the WPP’s medium-fertility scenario. As noted in

box 4.1, population projections differ across alternative databases and WPP scenarios, so the typology of countries may vary slightly depending on the source of the projections because of possible differences in growth of the working-age populations in 2015–30. As also noted in box 4.1, however, substantial changes in working-age population growth across countries are unlikely because of the short time horizon.

TABLE C.2 Criteria for typology

| Growth of working-age population share, 2015–30 | Total fertility rate, 1985 | | Total fertility rate, 2015 | |
|---|----------------------------|---------------|----------------------------|--------------|
| | < 2.1 | ≥ 2.1 | < 4 | ≥ 4 |
| ≤ 0 | Post-dividend | Late-dividend | Early-dividend | Pre-dividend |
| > 0 | | | | |

Note: The working-age population is defined as the share of the population aged between 15 and 64 years. Total fertility rate is the average number of births per woman in her lifetime.

TABLE C.3 Economies by World Bank Group classification and demographic typology

| Name | World Bank Group income classification | Demographic type | Percent change in working-age population share, 2015–30 | Total fertility rate, 1985–90 | Total fertility rate, 2015–20 |
|------------------------|--|------------------|---|-------------------------------|-------------------------------|
| Afghanistan | LIC | Pre-dividend | 17.53 | 7.47 | 4.25 |
| Albania | UMC | Late-dividend | -10.69 | 3.15 | 1.78 |
| Algeria | UMC | Early-dividend | 0.99 | 5.3 | 2.62 |
| Angola | UMC | Pre-dividend | 6.56 | 7.25 | 5.79 |
| Antigua and Barbuda | HIC | Post-dividend | -2.78 | 2.07 | 2.03 |
| Argentina | HIC | Early-dividend | 1.13 | 3.05 | 2.27 |
| Armenia | LMC | Late-dividend | -8.09 | 2.58 | 1.51 |
| Aruba | HIC | Late-dividend | -8.13 | 2.3 | 1.62 |
| Australia | HIC | Post-dividend | -6.42 | 1.86 | 1.86 |
| Austria | HIC | Post-dividend | -9.17 | 1.45 | 1.53 |
| Azerbaijan | UMC | Late-dividend | -7.88 | 2.95 | 2.22 |
| Bahamas, The | HIC | Late-dividend | -6.78 | 2.65 | 1.83 |
| Bahrain | HIC | Early-dividend | 1.45 | 4.08 | 1.98 |
| Bangladesh | LMC | Early-dividend | 6.15 | 4.98 | 2.08 |
| Barbados | HIC | Post-dividend | -8.53 | 1.77 | 1.8 |
| Belarus | UMC | Post-dividend | -8.41 | 2 | 1.64 |
| Belgium | HIC | Post-dividend | -6.77 | 1.56 | 1.83 |
| Belize | UMC | Early-dividend | 4.65 | 4.7 | 2.46 |
| Benin | LIC | Pre-dividend | 7.60 | 6.88 | 4.5 |
| Bhutan | LMC | Early-dividend | 4.47 | 6.11 | 1.93 |
| Bolivia | LMC | Early-dividend | 4.99 | 5.09 | 2.83 |
| Bosnia and Herzegovina | UMC | Post-dividend | -9.86 | 1.91 | 1.23 |

(Table continues next page)

TABLE C.3 Economies by World Bank Group classification and demographic typology (continued)

| Name | World Bank Group income classification | Demographic type | Percent change in working-age population share, 2015–30 | Total fertility rate, 1985–90 | Total fertility rate, 2015–20 |
|--------------------------|--|------------------|---|-------------------------------|-------------------------------|
| Botswana | UMC | Early-dividend | 4.39 | 5.11 | 2.67 |
| Brazil | UMC | Late-dividend | -1.41 | 3.1 | 1.74 |
| Brunei Darussalam | HIC | Late-dividend | -3.21 | 3.72 | 1.82 |
| Bulgaria | UMC | Post-dividend | -4.91 | 1.95 | 1.6 |
| Burkina Faso | LIC | Pre-dividend | 8.18 | 7.07 | 5.23 |
| Burundi | LIC | Pre-dividend | 3.67 | 7.59 | 5.66 |
| Cabo Verde | LMC | Early-dividend | 4.30 | 5.63 | 2.19 |
| Cambodia | LIC | Early-dividend | 2.39 | 5.99 | 2.53 |
| Cameroon | LMC | Pre-dividend | 8.25 | 6.6 | 4.46 |
| Canada | HIC | Post-dividend | -10.27 | 1.62 | 1.56 |
| Central African Republic | LIC | Pre-dividend | 7.15 | 5.9 | 4.02 |
| Chad | LIC | Pre-dividend | 7.99 | 7.21 | 5.79 |
| Chile | HIC | Late-dividend | -4.98 | 2.6 | 1.73 |
| China | UMC | Late-dividend | -7.12 | 2.75 | 1.59 |
| Colombia | UMC | Late-dividend | -0.93 | 3.18 | 1.83 |
| Comoros | LIC | Pre-dividend | 6.34 | 6.7 | 4.23 |
| Congo, Dem. Rep. | LIC | Pre-dividend | 7.15 | 6.98 | 5.66 |
| Congo, Rep. | LMC | Pre-dividend | 6.23 | 5.55 | 4.64 |
| Costa Rica | UMC | Late-dividend | -2.89 | 3.31 | 1.76 |
| Côte d'Ivoire | LMC | Pre-dividend | 4.49 | 6.85 | 4.77 |
| Croatia | HIC | Post-dividend | -6.58 | 1.72 | 1.48 |
| Cuba | UMC | Post-dividend | -9.04 | 1.85 | 1.58 |
| Cyprus | HIC | Late-dividend | -5.01 | 2.43 | 1.42 |
| Czech Republic | HIC | Post-dividend | -5.85 | 1.9 | 1.54 |
| Denmark | HIC | Post-dividend | -5.12 | 1.54 | 1.76 |
| Djibouti | LMC | Early-dividend | 4.93 | 6.18 | 2.99 |
| Dominican Republic | UMC | Early-dividend | 2.71 | 3.65 | 2.38 |
| Ecuador | UMC | Early-dividend | 1.28 | 4 | 2.44 |
| Egypt, Arab Rep. | LMC | Early-dividend | 3.29 | 5.15 | 3.16 |
| El Salvador | LMC | Early-dividend | 2.51 | 4.17 | 1.87 |
| Equatorial Guinea | HIC | Pre-dividend | 1.32 | 5.89 | 4.52 |
| Eritrea | LIC | Pre-dividend | 12.43 | 6.51 | 4.02 |
| Estonia | HIC | Late-dividend | -5.97 | 2.2 | 1.66 |
| Ethiopia | LIC | Early-dividend | 12.05 | 7.37 | 3.99 |
| Fiji | UMC | Late-dividend | -0.28 | 3.47 | 2.48 |
| Finland | HIC | Post-dividend | -7.05 | 1.66 | 1.77 |
| France | HIC | Post-dividend | -5.44 | 1.81 | 1.99 |
| French Polynesia | HIC | Late-dividend | -5.51 | 3.64 | 1.99 |
| Gabon | UMC | Early-dividend | 7.18 | 5.58 | 3.68 |
| Gambia, The | LIC | Pre-dividend | 6.25 | 6.14 | 5.53 |
| Georgia | LMC | Late-dividend | -7.19 | 2.26 | 1.82 |
| Germany | HIC | Post-dividend | -10.74 | 1.43 | 1.44 |
| Ghana | LMC | Early-dividend | 6.42 | 5.88 | 3.95 |
| Greece | HIC | Post-dividend | -2.46 | 1.53 | 1.3 |
| Grenada | UMC | Early-dividend | 0.92 | 4.14 | 2.08 |
| Guam | HIC | Late-dividend | -4.48 | 3.14 | 2.32 |
| Guatemala | LMC | Early-dividend | 8.10 | 5.5 | 3.03 |

(Table continues next page)

TABLE C.3 Economies by World Bank Group classification and demographic typology (continued)

| Name | World Bank Group income classification | Demographic type | Percent change in working-age population share, 2015–30 | Total fertility rate, 1985–90 | Total fertility rate, 2015–20 |
|---------------------------|--|------------------|---|-------------------------------|-------------------------------|
| Guinea | LIC | Pre-dividend | 6.57 | 6.63 | 4.73 |
| Guinea-Bissau | LIC | Pre-dividend | 6.01 | 6.68 | 4.56 |
| Guyana | LMC | Late-dividend | -3.02 | 3.77 | 2.47 |
| Haiti | LIC | Early-dividend | 6.11 | 5.7 | 2.85 |
| Honduras | LMC | Early-dividend | 7.02 | 5.37 | 2.25 |
| Hong Kong SAR, China | HIC | Post-dividend | -17.53 | 1.36 | 1.3 |
| Hungary | HIC | Post-dividend | -4.48 | 1.86 | 1.4 |
| Iceland | HIC | Late-dividend | -6.25 | 2.12 | 1.9 |
| India | LMC | Early-dividend | 3.11 | 4.27 | 2.34 |
| Indonesia | LMC | Early-dividend | 1.40 | 3.4 | 2.36 |
| Iran, Islamic Rep. | UMC | Early-dividend | 1.48 | 5.62 | 1.62 |
| Iraq | UMC | Pre-dividend | 5.10 | 6.09 | 4.35 |
| Ireland | HIC | Late-dividend | -1.78 | 2.18 | 2 |
| Israel | HIC | Early-dividend | 0.27 | 3.07 | 2.93 |
| Italy | HIC | Post-dividend | -7.83 | 1.35 | 1.49 |
| Jamaica | UMC | Late-dividend | -3.36 | 3.1 | 1.99 |
| Japan | HIC | Post-dividend | -5.68 | 1.66 | 1.46 |
| Jordan | UMC | Early-dividend | 7.74 | 6.02 | 3.2 |
| Kazakhstan | UMC | Late-dividend | -2.03 | 3.03 | 2.53 |
| Kenya | LMC | Pre-dividend | 8.34 | 6.54 | 4.1 |
| Kiribati | LMC | Early-dividend | 2.21 | 4.8 | 3.58 |
| Korea, Dem. People's Rep. | LIC | Late-dividend | -1.47 | 2.36 | 1.94 |
| Korea, Rep. | HIC | Post-dividend | -13.45 | 1.6 | 1.33 |
| Kuwait | HIC | Late-dividend | -2.00 | 3.15 | 2.04 |
| Kyrgyz Republic | LMC | Late-dividend | -0.74 | 4.02 | 2.93 |
| Lao PDR | LMC | Early-dividend | 6.81 | 6.27 | 2.77 |
| Latvia | HIC | Late-dividend | -5.61 | 2.13 | 1.55 |
| Lebanon | UMC | Late-dividend | -1.84 | 3.23 | 1.71 |
| Lesotho | LMC | Early-dividend | 4.97 | 5.14 | 3.01 |
| Liberia | LIC | Pre-dividend | 7.82 | 6.72 | 4.47 |
| Libya | UMC | Early-dividend | 7.10 | 5.71 | 2.32 |
| Lithuania | HIC | Post-dividend | -7.62 | 2.06 | 1.63 |
| Luxembourg | HIC | Post-dividend | -6.68 | 1.47 | 1.61 |
| Macao SAR, China | HIC | Post-dividend | -16.77 | 1.94 | 1.34 |
| Macedonia, FYR | UMC | Late-dividend | -6.94 | 2.27 | 1.55 |
| Madagascar | LIC | Pre-dividend | 4.74 | 6.3 | 4.21 |
| Malawi | LIC | Pre-dividend | 9.24 | 7.3 | 4.88 |
| Malaysia | UMC | Late-dividend | -1.75 | 3.59 | 1.9 |
| Maldives | UMC | Early-dividend | 3.66 | 6.66 | 1.98 |
| Mali | LIC | Pre-dividend | 8.38 | 7.15 | 5.92 |
| Malta | HIC | Post-dividend | -7.59 | 2.01 | 1.49 |
| Mauritania | LMC | Pre-dividend | 5.82 | 6.09 | 4.39 |
| Mauritius | UMC | Late-dividend | -5.64 | 2.31 | 1.44 |
| Mexico | UMC | Early-dividend | 2.42 | 3.75 | 2.14 |
| Micronesia, Fed. Sts. | LMC | Early-dividend | 1.22 | 5.2 | 3.08 |
| Moldova | LMC | Late-dividend | -7.08 | 2.64 | 1.23 |
| Mongolia | UMC | Late-dividend | -1.48 | 4.84 | 2.54 |

(Table continues next page)

TABLE C.3 Economies by World Bank Group classification and demographic typology (continued)

| Name | World Bank Group income classification | Demographic type | Percent change in working-age population share, 2015–30 | Total fertility rate, 1985–90 | Total fertility rate, 2015–20 |
|-----------------------------------|--|------------------|---|-------------------------------|-------------------------------|
| Montenegro | UMC | Late-dividend | -4.46 | 2.11 | 1.65 |
| Morocco | LMC | Late-dividend | -0.95 | 4.45 | 2.38 |
| Mozambique | LIC | Pre-dividend | 7.28 | 6.33 | 5.12 |
| Myanmar | LMC | Early-dividend | 3.22 | 3.8 | 2.13 |
| Namibia | UMC | Early-dividend | 4.45 | 5.55 | 3.31 |
| Nepal | LIC | Early-dividend | 10.01 | 5.33 | 2.09 |
| Netherlands | HIC | Post-dividend | -8.89 | 1.55 | 1.77 |
| New Caledonia | HIC | Late-dividend | -2.95 | 3.03 | 2.04 |
| New Zealand | HIC | Post-dividend | -6.56 | 2.03 | 1.99 |
| Nicaragua | LMC | Early-dividend | 4.70 | 5 | 2.16 |
| Niger | LIC | Pre-dividend | 1.75 | 7.69 | 7.46 |
| Nigeria | LMC | Pre-dividend | 6.15 | 6.6 | 5.41 |
| Norway | HIC | Post-dividend | -5.43 | 1.8 | 1.81 |
| Oman | HIC | Late-dividend | -4.18 | 7.85 | 2.51 |
| Pakistan | LMC | Early-dividend | 5.51 | 6.3 | 3.38 |
| Panama | UMC | Early-dividend | 0.27 | 3.24 | 2.36 |
| Papua New Guinea | LMC | Early-dividend | 6.18 | 4.97 | 3.58 |
| Paraguay | UMC | Early-dividend | 2.65 | 4.77 | 2.45 |
| Peru | UMC | Early-dividend | 1.69 | 4.1 | 2.35 |
| Philippines | LMC | Early-dividend | 2.40 | 4.53 | 2.87 |
| Poland | HIC | Late-dividend | -8.38 | 2.16 | 1.33 |
| Portugal | HIC | Post-dividend | -5.92 | 1.62 | 1.24 |
| Puerto Rico | HIC | Late-dividend | -3.09 | 2.26 | 1.59 |
| Qatar | HIC | Late-dividend | -2.27 | 4.41 | 1.95 |
| Romania | UMC | Late-dividend | -3.79 | 2.22 | 1.53 |
| Russian Federation | HIC | Late-dividend | -8.60 | 2.12 | 1.72 |
| Rwanda | LIC | Early-dividend | 11.47 | 7.99 | 3.62 |
| Samoa | LMC | Early-dividend | 3.99 | 5.35 | 3.9 |
| Saudi Arabia | HIC | Early-dividend | 3.09 | 6.22 | 2.59 |
| Senegal | LMC | Pre-dividend | 7.23 | 6.88 | 4.83 |
| Serbia | UMC | Late-dividend | -4.38 | 2.23 | 1.59 |
| Seychelles | HIC | Late-dividend | -2.97 | 2.94 | 2.21 |
| Sierra Leone | LIC | Pre-dividend | 10.04 | 6.66 | 4.28 |
| Singapore | HIC | Post-dividend | -12.12 | 1.7 | 1.26 |
| Slovak Republic | HIC | Late-dividend | -8.71 | 2.15 | 1.44 |
| Slovenia | HIC | Post-dividend | -10.57 | 1.65 | 1.65 |
| Solomon Islands | LMC | Early-dividend | 9.87 | 6.13 | 3.76 |
| Somalia | LIC | Pre-dividend | 4.81 | 7.26 | 6.12 |
| South Africa | UMC | Early-dividend | 2.73 | 4 | 2.28 |
| South Sudan | LIC | Pre-dividend | 6.75 | 6.83 | 4.73 |
| Spain | HIC | Post-dividend | -6.41 | 1.46 | 1.38 |
| Sri Lanka | LMC | Late-dividend | -1.84 | 2.64 | 2.03 |
| St. Lucia | UMC | Late-dividend | -0.91 | 3.65 | 1.82 |
| St. Vincent and the Grenadines | UMC | Late-dividend | -1.32 | 3.1 | 1.9 |
| Sudan | LMC | Pre-dividend | 7.27 | 6.3 | 4.13 |
| Suriname | UMC | Early-dividend | 0.37 | 3.42 | 2.28 |

(Table continues next page)

TABLE C.3 Economies by World Bank Group classification and demographic typology (continued)

| Name | World Bank Group income classification | Demographic type | Percent change in working-age population share, 2015–30 | Total fertility rate, 1985–90 | Total fertility rate, 2015–20 |
|-----------------------|--|------------------|---|-------------------------------|-------------------------------|
| Swaziland | LMC | Early-dividend | 5.15 | 6.13 | 3.06 |
| Sweden | HIC | Post-dividend | -4.42 | 1.91 | 1.93 |
| Switzerland | HIC | Post-dividend | -8.81 | 1.55 | 1.57 |
| Syrian Arab Republic | LMC | Early-dividend | 11.32 | 5.87 | 2.77 |
| Tajikistan | LMC | Early-dividend | 0.33 | 5.41 | 3.32 |
| Tanzania | LIC | Pre-dividend | 6.70 | 6.36 | 4.92 |
| Thailand | UMC | Late-dividend | -7.29 | 2.3 | 1.46 |
| Timor-Leste | LMC | Pre-dividend | 7.27 | 5.21 | 5.33 |
| Togo | LIC | Pre-dividend | 7.63 | 6.62 | 4.35 |
| Tonga | UMC | Early-dividend | 7.86 | 4.74 | 3.58 |
| Trinidad and Tobago | HIC | Late-dividend | -2.76 | 2.75 | 1.73 |
| Tunisia | UMC | Late-dividend | -3.50 | 4 | 2.07 |
| Turkey | UMC | Early-dividend | 0.90 | 3.35 | 2.01 |
| Turkmenistan | UMC | Early-dividend | 1.49 | 4.55 | 2.22 |
| Uganda | LIC | Pre-dividend | 10.18 | 7.1 | 5.46 |
| Ukraine | LMC | Post-dividend | -7.37 | 1.9 | 1.56 |
| United Arab Emirates | HIC | Late-dividend | -4.19 | 4.83 | 1.73 |
| United Kingdom | HIC | Post-dividend | -5.18 | 1.84 | 1.91 |
| United States | HIC | Post-dividend | -7.77 | 1.91 | 1.9 |
| Uruguay | HIC | Late-dividend | -0.61 | 2.53 | 1.98 |
| Uzbekistan | LMC | Early-dividend | 1.46 | 4.4 | 2.33 |
| Vanuatu | LMC | Early-dividend | 4.95 | 5.04 | 3.22 |
| Venezuela, RB | HIC | Early-dividend | 0.78 | 3.65 | 2.28 |
| Vietnam | LMC | Late-dividend | -3.84 | 3.85 | 1.95 |
| Virgin Islands (U.S.) | HIC | Late-dividend | -10.79 | 3.02 | 2.18 |
| West Bank and Gaza | LMC | Early-dividend | 6.24 | 6.76 | 3.95 |
| Yemen, Rep. | LMC | Early-dividend | 10.13 | 8.8 | 3.79 |
| Zambia | LMC | Pre-dividend | 7.43 | 6.68 | 5.14 |
| Zimbabwe | LIC | Early-dividend | 10.51 | 5.66 | 3.65 |

Source: UN World Population Prospects (2015) and World Bank 2015.

Note: This table uses the World Bank Group income classification of July 2015. LIC = low-income countries. LMC = lower-middle-income countries. UMC = upper-middle-income countries. HIC = high-income countries.

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- World Bank. 2015. *Country and Lending Groups* (<http://data.worldbank.org/about/country-and-lending-groups>).

4. Data and econometric estimations

The basic association between demographic changes and growth is described by Bloom and Canning (2004) through an accounting identity:

$$\frac{Y}{N} = \frac{Y}{L} \cdot \frac{WAP}{N} \cdot \frac{L}{WAP} \quad (1)$$

where Y is income, N is total population, WAP is the working-age population, and L is the number of workers. Equation (1) shows that income per capita (Y/N) equals output per worker (Y/L) times the share of the working-age population (WAP/N) times the participation rate (L/WAP). The equation suggests that, everything else constant, an increase of the output per worker (Y/L), or an increase in the share of working-age population (WAP/N), or in the participation rate (L/WAP) is associated with higher GDP per capita. Taking the log of the variables in (1) and presenting the relation in terms of growth leads to:

$$g_y = g_z + g_w + g_l \quad (2)$$

where (g_y) is income per capita growth, (g_z) is productivity growth per worker, (g_w) is the growth of the share of working-age population, and (g_l) is the growth in labor force participation rate.

Assuming that productivity growth per worker is a function of X variables, such that $g_z = b f(X)$ and growth of labor force participation is constant, such that $g_l = a$, the following functional form is produced:

$$g_y = a + b f(X) + g_w + \varepsilon \quad (3)$$

where ε is the error term.

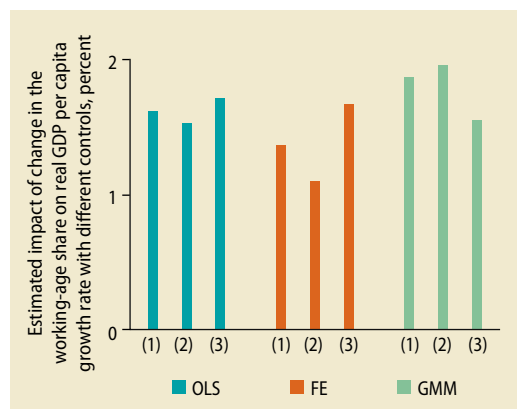
Equation (3) suggests that, keeping everything else constant, an increase in the share of working-age population leads to higher GDP per capita growth. The main issue behind this association is that, because (3) is derived from an accounting identity, a set of assumptions are necessary to suggest a causal relationship

between changes in the share of working-age population and growth.

Over a short- to medium-term horizon, it is reasonable to assume that the working-age population is given in absolute terms, and that it is a function of past and current fertility, mortality, and migration rates. However, the current fertility rate also affects g_w , by changing the size of the total population (N). Increasing life expectancy and migration also affect N . An issue in the estimation of (3) is that unobservable factors (omitted variables) that affect per capita income growth can simultaneously affect the share of working-age population, leading to an endogeneity issue. In addition, it might be that changes in per capita income lead to demographic changes instead, a reverse causality problem.

Several studies attempt to analyze the effect of demographic change on economic growth (Bloom and Canning 2004; Eastwood and Lipton 2011; IMF 2004; Kelly and Schmidt 2005, 2007). Overall, their findings converge on a positive association between GDP per capita growth and the share of working-age population. These studies adopted different approaches to address the potential endogeneity issues previously described. One such approach is to use the lag of the change of the share of working-age population ($g_{w(t-1)}$) as an instrument for g_w . The intuition is that current income per capita growth does not affect the growth rate of the share of working-age population in the past. Although it can be argued that this approach deals with reverse causality, it does not necessarily address the omitted variable problem.

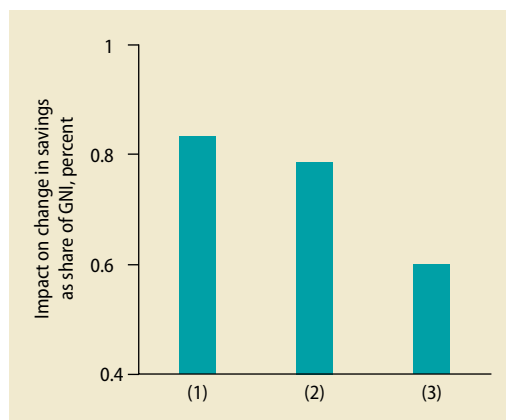
This report uses different approaches to deal with the problem of endogeneity. First, it shows the association between g_w and g_y by providing the results based on ordinary least squares estimation. Then, in order to deal with time-invariant unobservable factors that could simultaneously affect g_y and g_w , a panel fixed effects estimation is used. Finally, to deal

FIGURE C.4.1 Growth of the working-age share of the population can increase real GDP per capita

Source: World Bank calculations, based on data from Penn World Tables, UN 2015, World Development Indicators, Treisman 2007, and Barro and Lee 2010.

Note: All estimates, including Ordinary Least Squares (OLS), Panel with Fixed Effects (FE), and Generalized Method of Moments (GMM), are significant at the 5 percent level and include time fixed effect and regional fixed effect (World Bank regions). Data (unbalanced panel) cover 127 countries for 1950–2010, using five-year averages, and include 1,796 observations. Specifications (1), (2), and (3) differ according to the inclusion of specific covariates: (2) includes initial GDP per capita as a control to capture income convergence across countries; (3) includes initial per capita GDP, log of years of schooling, a set of geographical variables (such as latitude and a dummy identifying landlocked countries), and a set of institutional variables (such as dummy variables for countries that were not former colonies, former British colonies, and former French colonies). Additional covariates were tested (such as openness to trade) and results are robust. In the GMM specification (1), lags 2 to 8 of changes in the share of working-age population were used. In the GMM specifications (2) and (3), lags 2 to 8 of changes in the share of working-age population and the initial per capita GDP were used. Geographic and time variables were used as instruments. Results are also significant when reducing the number of instruments.

with other potential endogeneity issues related to omitted variables that could simultaneously affect g_y and g_w , a procedure was adopted similar to that in Rajan and Subramanian (2008). That paper uses a system-GMM estimation to identify a causal relationship between international aid and growth. Similar approaches were adopted to estimate the effect of change in the share of the working-age population on growth and savings. The results under different specifications suggest that an increase in the share of working-age population has a positive effect on GDP per capita growth. An increase of 1 percentage point in the working-age population share is estimated to boost per capita GDP by 1.1 to 2.0 percentage points, on average (figure C.4.1). Also, an increase of 1 percentage point in the share of working-age

FIGURE C.4.2 Growth of the working-age share of the population can increase savings as a share of Gross National Income

Source: World Bank calculations, based on data from Penn World Tables, UN 2015, World Development Indicators, and Treisman 2007.

Note: All estimates are significant at the 5 percent level and include time fixed effect and regional fixed effect (World Bank regions). Data (unbalanced panel) cover 173 countries for 1960–2010, using five-year averages, and include 1,107 observations. Specifications (1), (2), and (3) differ according to the inclusion of specific covariates: (2) includes initial per capita GDP as a control; (3) includes initial per capita GDP, a set of geographical variables (such as latitude and a dummy identifying landlocked countries), and a set of institutional variables (such as dummy variables for countries that were not former colonies, former British colonies, and former French colonies). Additional covariates were tested (such as openness to trade and years of schooling) and results are robust. In the GMM specification (1), lags 2 to 8 of the share of working-age population were used. In the GMM specifications (2) and (3), lags 2 to 8 of the share of working-age population and the initial per capita GDP was used. Geographic and time variables were used as instruments. Results are also significant when reducing the number of instruments.

population is associated with an increase of 0.6 to 0.8 percentage point on savings (figure C.4.2).¹

Note

1. Because of potential endogeneity issues described in this appendix, the econometric results should be interpreted cautiously. The analysis using panel fixed effects and system-GMM estimators aims to address these issues.

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TABLE C.5.2 IMF member countries as classified in the *World Economic Outlook, 2015*

| Advanced economy countries (35 countries) | | |
|---|---------------------------------------|--|
| Australia | France | Latvia |
| Austria | Germany | Lithuania |
| Belgium | Greece | Luxembourg |
| Canada | Iceland | Malta |
| Cyprus | Ireland | Netherlands |
| Czech Republic | Israel | New Zealand |
| Denmark | Italy | Norway |
| Estonia | Japan | Portugal |
| Finland | Korea, Republic of | San Marino |
| | | Singapore |
| | | Slovak Republic |
| | | Slovenia |
| | | Spain |
| | | Sweden |
| | | Switzerland |
| | | United Kingdom |
| | | United States |
| Emerging market and developing countries (153 countries)¹ | | |
| Emerging and Developing Europe (12 countries) | | Sub-Saharan Africa (45 countries) |
| Albania | FYR Macedonia | Angola ² |
| Bosnia and Herzegovina* | Montenegro** | Benin |
| Bulgaria | Poland | Botswana |
| Croatia | Romania | Burkina Faso² |
| Hungary | Serbia | Burundi*² |
| Kosovo* | Turkey | Cameroon |
| | | Cabo Verde** |
| | | Central African Republic*² |
| | | Chad*² |
| | | Comoros*² |
| | | Congo, Dem. Rep. of*² |
| | | Congo, Rep. of² |
| | | Côte d'Ivoire* |
| | | Equatorial Guinea** ² |
| | | Eritrea*² |
| | | Ethiopia |
| | | Gabon ² |
| | | Gambia, The* |
| | | Ghana |
| | | Guinea² |
| | | Guinea-Bissau*² |
| | | Kenya |
| | | Lesotho |
| | | Liberia* |
| | | Madagascar* |
| | | Malawi² |
| | | Mali*² |
| | | Mauritius** |
| | | Mozambique² |
| | | Namibia |
| | | Niger² |
| | | Nigeria² |
| | | Rwanda |
| | | São Tomé and Príncipe** |
| | | Senegal |
| | | Seychelles** |
| | | Sierra Leone*² |
| | | South Africa ² |
| | | South Sudan*² |
| | | Swaziland** |
| | | Tanzania |
| | | Togo* |
| | | Uganda |
| | | Zambia² |
| | | Zimbabwe*² |
| Emerging and Developing Asia (29 countries) | | Latin America and the Caribbean (32 countries) |
| Bangladesh | Myanmar* | Antigua and Barbuda** |
| Bhutan** | Nepal | Argentina |
| Brunei Darussalam**² | Palau** | Bahamas, The** |
| Cambodia | Papua New Guinea² | Barbados** |
| China | Philippines | Belize** |
| Fiji** | Samoa** | Bolivia² |
| India | Solomon Islands***² | Brazil |
| Indonesia | Sri Lanka | Chile ² |
| Kiribati*** | Thailand | Colombia |
| Lao People's Democratic Republic | Timor-Leste*** ² | Costa Rica |
| Malaysia | Tonga** | Dominica** |
| Maldives** | Tuvalu*** ² | Dominican Republic |
| Marshall Islands*** | Vanuatu** | Ecuador ² |
| Micronesia, Federated States of*** | Vietnam | El Salvador |
| Mongolia | | Grenada** |
| | | Guatemala |
| | | Guyana* ² |
| | | Haiti* |
| | | Honduras |
| | | Jamaica |
| | | Mexico |
| | | Nicaragua |
| | | Panama |
| | | Paraguay ² |
| | | Peru |
| | | St. Kitts and Nevis** |
| | | St. Lucia** |
| | | St. Vincent and the Grenadines** |
| | | Suriname** ² |
| | | Trinidad and Tobago** ² |
| | | Uruguay ² |
| | | Venezuela ² |
| Middle East, North Africa, Afghanistan, and Pakistan (23 countries) | | Commonwealth of Independent States (12 countries) |
| Afghanistan, Islamic Republic of² | Armenia | |
| Algeria ² | Azerbaijan ² | |
| Bahrain** ² | Belarus | |
| Djibouti** | Georgia ³ | |
| Egypt, Arab Rep. | Kazakhstan ² | |
| Iran, Islamic Republic of ² | Kyrgyz Republic | |
| Iraq* ² | Moldova | |
| Jordan | Russian Federation ² | |
| Kuwait ² | Tajikistan | |
| Lebanon* | Turkmenistan ² | |
| Libya* ² | Ukraine | |
| Mauritania² | Uzbekistan² | |
| Morocco | | |
| Oman ² | | |
| Pakistan | | |
| Qatar ² | | |
| Saudi Arabia ² | | |
| Somalia* | | |
| Sudan*² | | |
| Syrian Arab Republic* | | |
| Tunisia | | |
| United Arab Emirates ² | | |
| Yemen, Republic of*² | | |

Source: International Monetary Fund (IMF). 2015. *World Economic Outlook: Uneven Growth—Short and Long-term Factors*. April. Washington, D.C.

- 60 countries in bold typeface are low-income developing countries (LIDC) and 94 countries in regular typeface are emerging market countries (EMC). The LIDCs are countries eligible for the IMF's concessional financial assistance with a per capita gross national income (measured according to the World Bank's Atlas method) in 2011 of below twice the IDA's effective operational cut-off level, and Zimbabwe. The EMCs are the non-LIDC emerging market and developing countries. 34 countries, with an asterisk, are included in the World Bank's list of countries in fragile situations, as of July 2015. 36 emerging market and developing countries, with two asterisks, are countries with a population of less than 1.5 millions in 2013. The two latter country groupings are denoted as fragile states and small states, respectively.
- 56 emerging market and developing countries are fuel or primary commodity exporters.
- Georgia, which is not a member of the Commonwealth of Independent States, is included in this group for reasons of geography and similarities in economic structure.

Methodology

LINKAGE: A dynamic global CGE model for policy analysis

LINKAGE is a dynamic, multiregion computable general equilibrium model (CGE), initially designed for trade policy but later extended to address a wider range of policy areas. The main features of LINKAGE are described here, while a full description is provided in van der Mensbrugghe (2011, 2013). The current version of LINKAGE relies on the GTAP version 9, a global database for 2011.¹ The data include social accounting matrices and bilateral trade flows for 140 regions (countries or country aggregates) and 57 sectors. The version employed in this study includes the following regions: Brazil, China, India, Japan, Nigeria, the Russian Federation, Sri Lanka, and the United States; the European Union and the European Free Trade Association; pre-dividend countries in Sub-Saharan Africa; early-dividend countries in Latin America and the Caribbean, Europe and Central Asia, East Asia and Pacific, Middle East and North Africa, South Asia, and Sub-Saharan Africa; late-dividend countries in Latin America and the Caribbean, Europe and Central Asia, East Asia and Pacific, and the Middle East and North Africa; post-dividend countries in Europe and Central

Asia; and early-, late-, and post-dividend high-income countries. The sectors are disaggregated into agriculture, natural resources, low-skill manufacturing, low-skill services, high-skill manufacturing, and high-skill services.

The core specification of the model replicates a standard global dynamic CGE model.² Production is specified as a series of nested constant elasticity of substitution functions for the various inputs—unskilled and skilled labor, capital, land, natural resources (sector-specific), energy, and other material inputs. LINKAGE uses a vintage structure of production that allows for new vintages of capital to be more substitutable with other factors of production than old vintages. In the labor market, the unemployment rate is fixed and labor may migrate between rural and urban areas.

Demand by each domestic agent is specified at the so-called Armington level, that is, demand for a bundle of domestically produced and imported goods. Armington demand is aggregated across all agents and allocated at the national level between domestic production and imports by region of origin.

The standard scenario incorporates three closure rules. First, government expenditures

are held constant as a share of GDP and direct taxes adjust to cover revenue changes needed to keep government savings (the fiscal balance) at an exogenous level. The second closure rule determines the investment-savings balance. Households save a portion of their incomes, with the average propensity to save influenced by elderly and youth dependency rates, as well as GDP per capita growth rates. The savings function specification follows Loayza, Schmidt-Hebbel, and Servén (2000) with different coefficients for developed and developing countries. For China and Russia, we impose projections of investment or savings rates up to 2030 from World Bank regional reports. The third savings component, foreign savings (or current account deficit), is exogenous. Given this, and the above-stated rules for household and government savings, investment is savings-driven. The last closure determines the external balance: the real exchange rate adjusts to maintain the fixed foreign savings. We first generate the long-term baseline, then run a number of counterfactual scenarios. By comparing the two, we can isolate the impacts of various policy changes.

The GTAP database is benchmarked to 2011. In model runs, key macroeconomic aggregates from the World Bank's *Global Economic Prospects* (World Bank 2015) report are replicated up to 2017.³ Population growth is based on the medium fertility variant of the United Nation's 2012 population projections. Labor force growth follows the growth of the working-age population, defined here as the demographic cohort ages 15 to 64. The evolution of supply of skilled and unskilled workers is consistent with the constant educational trends scenario of the International Institute for Applied Systems Analysis, in which supply growth is faster for skilled workers than for unskilled workers. In each period, capital stocks are defined as the previous period's (depreciated) stocks plus investment. Up to 2017, productivity growth in the baseline is "calibrated" to achieve the growth rates for the baseline scenario (as in World Bank 2015); then we fix the productivity growth for 2018–30 at the 2017 rate.

These productivity growth rates remain fixed in the counterfactual scenarios.

Demographic change affects the economy through two channels: the labor force and savings. In the baseline scenario, all new labor market entrants find productive employment. It is a neoclassical growth model; hence, increases in the labor force translate into higher output. Savings respond to changes in the demographic structure of the population, with declines in youth and elderly dependency rates increasing savings (and investment).

In the scenario that is designed to permit a lower-bound assessment of the impact of demographic change, we assume that benefits (losses) that are attributable to changes in the size of the labor force and savings (hence investment) do not materialize. More specifically, in this scenario, total population in each region changes at the same rate as in the baseline, but the share of the working-age population in total population remains fixed at the 2015 level over 2016–30. This scenario is beneficial to late- and post-dividend countries since their working-age populations increase at a faster rate than in the baseline, leading to more rapid labor-force growth and higher savings rates. It is detrimental to pre- and early-dividend countries since their working-age population growth rates are slower than in the baseline, leading to slower labor-force growth and lower savings rates. In short, in this scenario we reverse the benefits of demographic change in pre- and early-dividend countries, while we eliminate losses from the demographic change in late- and post-dividend countries. This approach permits us to isolate the impacts of demographic change on growth and poverty reduction, already embodied in the baseline scenario.

GIDD: A global microsimulation model of poverty and shared prosperity

The analysis on the effect of these different scenarios on poverty and income distribution is done using the Global Income Distribution Dynamics (GIDD) model. The GIDD

combines a consistent set of price and volume changes from a global CGE model (in this case LINKAGE) with household surveys at the global level (Bussolo, de Hoyos, and Medvedev 2010). Developed by the World Bank's Development Prospects Group, the GIDD was inspired by previous efforts involving simulation exercises (Bourguignon and Bussolo 2012; Bourguignon and Pereira da Silva 2003; Davies 2009).

Counterfactual global and country-level income distributions are obtained by applying four changes to the initial distribution estimated from the household data. These include demographic changes (considering age structure and shifts in education); changes in sector of employment; changes in relative wages across skills and sectors; and growth in consumption per capita. Data on demographic changes are based on the population projections of the United Nations *World Population Prospect* and are consistent with those considered in LINKAGE. Data on the latter three pieces of information are based on the scenario analysis results from LINKAGE. Examples of earlier analyses using LINKAGE and GIDD include examinations of the effect of agriculture distortions in the global economy (Dessus, Herrera, and de Hoyos 2008), the effect of climate change on poverty and inequality (Bourguignon, Bussolo, and Pereira da Silva 2008), the effect of demographic change on Africa (Ahmed et al. 2014), and external and internal shocks in Africa (Devarajan et al. 2015).

For analyzing the impact of different demographic scenarios on poverty and income distribution, we employ a sample of 90 household surveys, covering approximately 90 percent of global population and global GDP. The GIDD model allows the analysis of macroeconomic shocks on poverty and sharing prosperity. Also, the richness of the microeconomic data can provide insights into regional and demographic characteristics of the most affected households, which can be useful for defining contingent policies.

In addition to incorporating the key changes in the variables derived from the

CGE scenarios, the GIDD methodology updates the household survey data for the end year of our simulation, 2030. This update is done by reweighting the population characterized by the most recent available household survey in GIDD using nonparametric cross-entropy methods, but keeping it consistent with the UN population projections. For the skill-unskilled breakdown, the GIDD defines as skilled anyone with more than nine years of education.

MAMS: A country-level CGE model for policy analysis

The Maquette for Millennium Development Goal Simulations (MAMS) is an economic simulation model designed for analyzing medium- and long-run development policies. It is a country-level CGE model made up of a set of simultaneous linear and nonlinear equations. The model is economywide, providing a comprehensive and consistent view of the economy, including linkages between production and the income it generates, households, the government (its budget and fiscal policies), and the balance of payments. The model is solved dynamically into the future, providing a view of the economy in every year for a given scenario.

It thus considers interactions between four groups of agents: producers, households, governments, and the nation in its dealings with the outside world. In each period, the different agents are subject to budgets and their constraints. For each agent, receipts and spending, the latter including savings and net borrowing, are equal by construction. Producers maximize profits; households maximize utility. The government follows rules specified by the analyst. For the nation, adjustments in the real exchange rate ensure that its external accounts are in balance. Wages, rents, and prices play a crucial role by clearing markets for factors, goods, and services. For commodities that are traded internationally (exported and/or imported), domestic prices are influenced by international price developments. Unless the country has a large share of the global market,

it assumed that international markets will demand and supply the exports and imports of the country at given world prices.

For MAMS analyses in this report, a new population module was developed. In this module, a detailed population scenario is generated on the basis of base-year population data by age (single-year-age-group) and gender, and projections for age- and gender-specific fertility, mortality, and migration rates. Over time, production growth is determined by growth in factor employment and changes in total factor productivity (TFP). Growth in capital stocks is endogenous while exogenous growth is imposed for labor and other factors. For capital, stock growth depends on investment and depreciation. For labor, stock growth is determined by the evolution of the population in labor-force age and an aggregate labor force participation rate which may change over time; the labor unemployment rate is endogenous, leading to a distinction between stock and employment levels. TFP growth is made up of two components: one that responds positively to growth in government capital stocks and one that is exogenous. MAMS includes a module in which poverty results are computed on the assumption that each household type in the model has a fixed log-normal consumption distribution (defined using the Gini coefficient).

In this report, MAMS is applied to Brazil, Ethiopia, Japan, and Niger. For this purpose, new databases were developed with base years between 2009 and 2013. Each database consists of a Social Accounting Matrix and various complementary data, primarily data on stocks (factors, debt, and population by single-year age group and gender), elasticities (in trade, production, and consumption), and projections for GDP, population, and other indicators. Given the interest of this report in forward-looking analysis, the analysis is based on simulation results starting from 2015. The end year for the simulations varies across the applications, ranging from 2030 to 2100. For more on MAMS, see Lofgren, Cicowiez, and Diaz-Bonilla (2013) and www.worldbank.org/mams.

Notes

1. The GTAP database was developed and is maintained by the Global Trade Analysis Program, based at Purdue University (www.gtap.org). The pre-release candidate 2 of version 9 database is used here.
2. Other well-known models in this class include the GTAP model (Hertel 1998) and CEPII's Mirage (Decreux and Valin 2007).
3. For China, we replicate the growth projections of World Bank (2014).

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The *Global Monitoring Report 2015/2016: Development Goals in an Era of Demographic Change* details the progress toward the global development goals and examines the impact of demographic change on achieving these goals.

Part I examines global development progress, the unfinished development agenda, and the policy opportunities ahead. The report assesses progress toward ending extreme poverty by 2030 and in promoting shared prosperity, and it outlines the measures necessary to scale up impact over the horizon of the Sustainable Development Goals.

The report unveils the new poverty line of \$1.90 a day and provides updated estimates for the number of people living in extreme poverty, which shows further declines. In 2015 the global poverty rate is forecast to decline to 9.6 percent of the world's population, the first time it has reached single digits. At the same time, the report makes the case that the depth of remaining poverty, the unevenness in shared prosperity, and the persistent disparities in non-income dimensions of development call for urgent action.

Part II analyzes how profound demographic shifts could alter the course of global development. Global demography is at a turning

point: the world's population is growing more slowly, while it is aging at an unprecedented rate. Within these broader global trends considerable diversity can be found across regions and countries. While the higher-income countries that drive global growth are rapidly aging, the lower-income countries comprising the centers of global poverty are much earlier in their demographic transition and continue to grapple with high fertility rates and rapid population growth.

Demographic changes bring both opportunity and risk; the report argues for demography-informed policy approaches to tilt demographic change in favor of achieving the development goals. With the right policies, demographic change can become one of the most consequential development opportunities of our time.

The *Global Monitoring Report 2015/2016* is written jointly by the World Bank Group and the International Monetary Fund, with substantive inputs from the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, and the Organisation for Economic Co-operation and Development.

