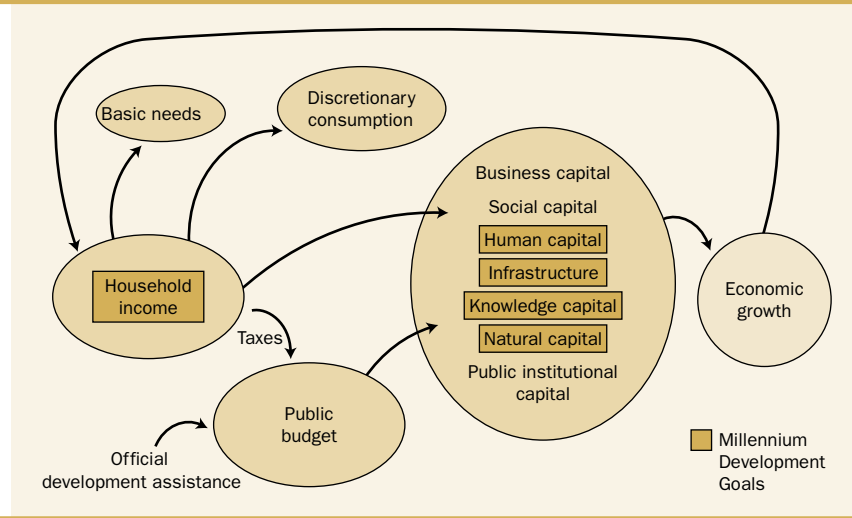


Why the world is falling short of the Goals

Long-term poverty reduction requires sustained economic growth, which in turn depends on technological advance and capital accumulation. The Millennium Development Goals play two roles in the growth process. First, the Goals are ends in themselves, in that reduced hunger, gender equality, improved health and education, and broader access to safe water and sanitation are direct goals of society. Second, the Goals are also “capital inputs” to economic growth and further development. A healthier worker is a more productive worker, as is a better educated worker. Improved water and sanitation infrastructure raises output per capita through various channels, such as reduced illness. So, many of the Goals are a part of capital accumulation, defined broadly, as well as desirable in their own right. In this chapter we outline the basic processes underlying economic development and progress toward the Goals, some major reasons why progress often falls short, and priorities for public action to address these shortfalls.

The links between capital accumulation, economic growth, and the Millennium Development Goals are captured in figure 3.1. The Goals for hunger and disease are part of the “human capital” box. The Goals for water and sanitation and slum dwellers are part of the “infrastructure” box. The Goal for technological innovation and diffusion are part of the “knowledge capital” box. And the Goal for income poverty is part of the “household income” box. Because meeting the Goals for hunger, education, gender equality, and health is vital for overall economic growth and development, it is a mistake to talk simply about the level of economic growth needed to achieve the Goals in a country. It is more helpful, particularly for the poorest countries caught in a poverty trap, to think about the kinds of investments that will achieve the many Goals and thus also support overall economic growth. Some important investments in human capital and infrastructure are not covered by the Goals

Figure 3.1
Capital accumulation,
economic growth,
and the MDGs



but are crucial for achieving the Goals and for spurring economic growth (box 3.1).

Various forms of capital contribute to the accumulation of other forms of capital. Human capital in the form of good health, for instance, also contributes to human capital in the form of education and skills. Water and sanitation infrastructure contributes directly to good health. Natural capital has similar feedback effects. Fish stocks, soil nutrients, and clean air all contribute to good health.

All the forms of capital are required to support long-term economic growth. Capital grows as a product of investment, with investment coming from private household savings or from public investments drawn from government revenue, savings from abroad, and other sources of income (foreign assistance, borrowing). When the process of capital accumulation breaks down, economic growth and poverty reduction break down.

Four reasons for shortfalls in achieving the Goals

There is no one-size-fits-all explanation for failure or success in achieving the Goals. Each region and each Goal requires a careful analysis. We can, however, identify four overarching reasons why the Goals are not being achieved. Sometimes the problem is poor governance, marked by corruption, poor economic policy choices, and denial of human rights. Sometimes the problem is a poverty trap, with local and national economies too poor to make the needed investments. Sometimes progress is made in one part of the country but not in others, so that sizable pockets of poverty persist. Even when overall governance is adequate, there are often areas of specific policy neglect that can have a monumental effect on their citizens' well-being. Sometimes these factors occur together, making individual problems all the more challenging to resolve.

Box 3.1
Essential inputs
for reaching
the Goals

Although the Millennium Development Goals were created to measure and provide targets for the most vital aspects of development, some areas important for development—and for achieving the Goals—are not included in the formal Goals framework. Energy services, sexual and reproductive health, and transport services are each vital to enabling and facilitating the achievement of the Goals.

Energy services

Improved energy services—including modern cooking fuels, access to electricity, and motive power—are necessary for meeting almost all the Goals. They can reduce child mortality rates and improve maternal health by lowering indoor air pollution. They can reduce the time and transport burden of women and young girls by reducing the need to collect biomass. And they can lessen the pressure on fragile ecosystems. Electricity is critical for providing basic social services, including health and education, and for powering machines that support income-generating opportunities, such as food processing, apparel production, and light manufacturing.

The UN Millennium Project proposes that countries adopt the following specific targets for energy services to help achieve the Goals by 2015:

- Reduce the number of people without effective access to modern cooking fuels by 50 percent and make improved cook-stoves widely available.
- Provide access to electricity for all schools, health facilities, and other key community facilities.
- Ensure access to motive power in each community.
- Provide access to electricity and modern energy services for all urban and peri-urban poor.

Sexual and reproductive health

Parts of comprehensive programs for sexual and reproductive health are included in the framework of the Goals (under Goals 4, 5, and 6). Yet sexual and reproductive health services are also essential for reducing extreme poverty and hunger, ensuring educational opportunities and gender equality, and attaining environmental sustainability (see box 5.5). These services affect the allocation of resources within the family, the prospects for household savings, the household choices about education and health investments, the exercise of the right to choose the number, timing, and spacing of one's children, and the capacities for women's social and economic participation and other practical life decisions.

At the macro-level these services affect population dynamics. A demographic transition to lower fertility and mortality (including that from HIV/AIDS) creates an opportunity to escape poverty traps and to accelerate economic and social development, a “demographic bonus” that can be realized through appropriate policies, governance, and investment. The UN Millennium Project calls for sexual and reproductive health issues to be included in national, regional, and international poverty reduction efforts.

Transport services

Transport services, such as road, rail, shipping, and air, are required to provide effective access to social services, such as emergency obstetric care, and to reduce the household transport burden and time poverty, especially of women and young girls. In addition to expanding transport infrastructure, countries need to invest in improving access to low-cost means of transport. Transport services also make many direct contributions to economic growth. They reduce the cost of agricultural inputs and raise producer prices for

Box 3.1
Essential inputs
for reaching
the Goals
(continued)

market produce. They facilitate the creation of export-based manufacturing and service industries, including tourism. And they increase market reach for the local private sector by lowering transport costs. Improved transport infrastructure is essential for promoting private sector development and trade, as argued by the World Bank's recent *World Development Report 2005* (World Bank 2004d and UNCTAD 2004).

Governance failures

Economic development stalls when governments do not uphold the rule of law, pursue sound economic policy, make appropriate public investments, manage a public administration, protect basic human rights, and support civil society organizations—including those representing poor people—in national decisionmaking.

The rule of law involves security in private property and tenure rights, safety from violence and physical abuse, honesty and transparency in government functions, and predictability of government behavior according to law. Too many countries fail to achieve these basic standards, sometimes due to authoritarian rulers who use violence and corruption to hold on to power—but often because upholding the rule of law requires institutions for government accountability, and those institutions are missing.

Political and social rights should ensure equality before the law and fairness in society across groups. These rights must be substantive and not merely formal. The poor must have a meaningful say in the decisions that affect their lives. Women and girls must be assured freedom from violence and from legal, economic, and social discrimination. In many places, access to public goods and services is restricted for certain groups. Minority groups, for their language, religion, or race, suffer discrimination at the hands of more powerful groups.

Sound economic policies involve a rational balance of responsibilities between the private sector and the public sector to secure sustained and widespread economic progress. The private sector is the engine of growth in production. The public sector establishes the framework and enabling environment for growth by setting sound macroeconomic policies and providing such public goods as infrastructure, healthcare and education, and support for science and technology.

Public investments are crucial for a “private-based” market economy. Every successful economy relies heavily on public spending in critical areas including health, education, infrastructure (electricity grid, roads, seaports), environmental management (national parks and protected reserves, water and sanitation), information and communications, scientific research, and land for affordable housing.

Accountable and efficient public administration requires transparency and administrators who are qualified, motivated, and adequately paid. It also requires efficient management systems, to disburse and track large investments,

and monitoring and evaluation systems. Many poor countries without adequate resources for decent salaries—or the checks on political abuse that provide the incentives for performance and the ability to weed out the inept and corrupt—are unable to afford an effective public sector, so they end up suffering from large-scale inefficiencies and wasted resources.

Strong civil society engagement and participation are crucial to effective governance because they bring important actors to the fore, ensure the relevance of public investments, lead to decisions that best address the people's needs as they perceive them, and serve as watchdogs for the development and implementation of government policies.

Achieving the Goals requires that all these areas of governance be properly addressed. There is no excuse for any country, no matter how poor, to abuse its citizens, deny them the equal protection of the law, or leave them victims of corruption, mismanagement, and economic irrationality. Some improvements in governance do not cost much money, if any, and some actually save money (by cutting corruption or granting land tenure, for example). Some improvements in economic outcomes are thus available at low cost, and such opportunities must not be squandered. We describe the strategies for investing in governance in chapters 6 and 7.

Poverty traps

A second reason why many countries are not making progress on the Goals is that they are too poor to make progress and stuck in a poverty trap. To understand why countries get stuck in such a trap, it is useful to think of economic development as climbing a ladder of development. It is important that countries have strategies for moving up the ladder—that is, for achieving long-term growth. All countries face very specific challenges and thus need to tailor their national strategies to local conditions. But there are general principles of development for countries to follow as they move up the ladder.

The ladder of economic development. At the bottom of the ladder are the poorest countries, which for the most part have similar profiles.

- Most of the population lives in rural areas. Rural poverty is high, and the productivity of rural smallholder farmers is very low. The rural population is increasing rapidly, with some of the population moving to cities in search of jobs. Infrastructure is very poor, with shortages of roads, electricity, water, and sanitation. Women and girls bear much of the brunt of the poverty, with heavy labor in farming and in collecting fuelwood and water. Children are “economic assets” on the farm, and many of them, especially girls, do not attend school because they are home performing household work.
- Most of the urban population operates in the informal economy, without security of tenure and without formal employment. Cities are strongly

divided into pockets of affluence with good public services, solid infrastructure, and high-quality housing—and large squatter settlements with precarious property rights and a lack of public services. Roads, electricity, and ports tend to be congested and poorly maintained. Power failures are rampant. Foreign direct investment tends to be scarce and hard to attract. Employment is heavily informal, in services and small workshops, and in domestic food processing. Exports tend to be mostly primary commodities, subject to price volatility and long-term declines in prices.

- The population is afflicted by low human capital. Life expectancy is less than 50 years (as opposed to 80 years in high-income countries), and child mortality is 100 per 1,000 live births or higher. A significant proportion of children, especially girls, do not finish primary school. Fertility rates are high, particularly among poor people, and there is a considerable unmet demand for family planning and modern contraception. Infectious diseases are rife. Depending on climate, malaria may be year round or seasonal. TB afflicts densely populated slums. HIV/AIDS is uncontrolled among vulnerable groups (migrant laborers, truck drivers, commercial sex workers, injecting drug users) and has perhaps spread to more of the population.

In these circumstances, it is possible to envision what a successful development strategy would entail. First, it would target a rise in rural productivity, a Green Revolution to raise food output. This would accomplish several important objectives and trigger a structural change in the economy. It would enable farmers to feed their families. It would provide low-cost food for the rest of the economy. It would accelerate the transition to commercial agriculture and to urbanization (as fewer households are engaged in food production). The urbanization and movement of human resources into nonagricultural productive sectors would diversify the economy and the export base.

Almost every successful development experience has been based on a Green Revolution at an early stage. This Green Revolution could be made environmentally sustainable through thoughtful investments at the farm and village level, in soil health, water harvesting, improved seed varieties, feeder roads from farms to trunk roads, electrification, improved water sources, sanitation, and modern cooking fuels to replace fuelwood.

Second, and simultaneously, the strategy would help cities foster internationally competitive industries and services, while meeting the basic needs of all urban residents. Industrial parks, export processing zones, special economic zones, science parks, and the like would be developed as locations for internationally competitive urban industries, both in manufacturing and in services. Port services, electricity, transport services, and roads would be upgraded to support private industry. Slum dwellers would be given security of tenure, and perhaps negotiated options for relocation on a voluntary basis. Increased

investments in solid waste disposal, clean air, and wastewater treatment would improve urban environmental health.

The strategy must aim to diversify the country's exports away from dependence on primary commodities toward manufactures and services. Countries with diversified exports have experienced superior growth, especially since dependence on primary commodity exports exposes the economy to volatility and long-term price decline of commodities. This transition toward diversified exports requires special attention for landlocked countries and inland economies, which face high transport costs, as well as for very small countries, which lack the scale to diversify into many sectors.

Third, these changes would be supported by massive investments in nutrition, healthcare, education, and family planning. Human capital would rise over time. The adult labor force would become literate and healthy. Infectious diseases would be brought under control through targeted disease control programs delivered through a strong health system.

Fourth, these investments in human capital and rural and urban productivity would be supported by three more overarching areas of investment. Public management systems would be upgraded, through training and retention of skilled managers and greatly expanded use of information technology. Extensive capacity building at the local level would permit effective decentralization of public investments, down to the city, town, and village. Scientific capacity would be expanded through investments in the major universities, national laboratories, and national science advisory units. And cross-border investments with neighboring countries would improve linkages in roads, electricity, environmental management, rails, and telecommunications.

History shows that investments in each of these areas can be scaled up very rapidly, in the course of a few years. Food production could double or even triple in Africa in a decade, if policymakers and donors invest in a Twenty-first Century African Green Revolution. Urban labor-intensive sectors such as garments can develop very rapidly, as Bangladesh has shown. Healthcare investments can lead to dramatic reductions in child mortality rates in just a few years. Fertility rates can fall sharply in a decade if there is a coordinated national effort to improve access to reproductive health services, including voluntary family planning. In short, a massive scaling up of both public and private investments is possible.

Why poverty traps happen. Many reasonably well governed countries are too poor to make the investments to climb the first steps of the ladder. They lack the fiscal resources to invest in infrastructure, social services, and even the public administration necessary to improve governance. Without roads, transport, soil nutrients, electricity, safe cooking fuels, clinics, and schools, the populations are chronically hungry, disease-burdened, and unable to save. Without adequate public sector salaries and information technologies, public management is chronically weak.

These countries cannot attract private investment flows or retain their skilled workers. And dozens of heavily indebted poor and middle-income countries are forced by creditor governments to spend large parts of their limited tax receipts on debt service, undermining their ability to finance investments in human capital and infrastructure. In a pointless and debilitating churning of resources, the creditors provide development assistance with one hand and then withdraw it in debt servicing with the other.

Under these severe resource constraints, countries are facing a crushing array of problems:

- *Low saving rates.* Poor households use all their income to stay alive, and so cannot save for the future. With low domestic saving there are limited possibilities for indigenous private investment. The few who can afford to save often have no access to formal banking.
- *Low tax revenues.* Governments lack the budgetary resources for public investments and public administrations using qualified managers and modern information systems.
- *Low foreign investment.* Foreign investors stay away from economies without basic infrastructure—those with costly and unreliable roads, ports, communication systems, and electricity.
- *Violent conflict.* Resource scarcity can often fuel latent tensions among competing groups.
- *Brain drain.* Skilled workers leave the country because of low salaries and little hope for the future.
- *Unwanted or ill-timed births and rapid population growth.* Impoverished people living in rural areas have the highest fertility rates and the largest families. Rapid population growth and shrinking farm sizes make rural poverty worse. Poor people (in rural and urban areas) have less access to information and services to space or limit their pregnancies in accord with their preferences.
- *Environmental degradation.* People in poverty lack the means to invest in the environment and the political power to limit damage to local resources, resulting in soil nutrient depletion, deforestation, overfishing, and other environmental damage. These degraded conditions undermine rural incomes and contribute to poor health and rural-urban migration, leading to new settlement in environmentally fragile periurban areas.
- *Low innovation.* Poor countries with limited education systems cannot afford to invest in science and technology, hindering their chances of reaching the sustained growth enjoyed by knowledge-based and innovation-based economies.

One of the many problems of being extremely poor is that almost all of a country's income must be devoted to current income rather than saving. Each household has to spend its income on food, clothing, shelter, and other basic needs, with little or nothing left over to save for the future. When income is

very low, so too is the saving rate. With a low saving rate, the amount of capital per person declines, and this leads to economic decline and even more poverty (figure 3.2). The finding that saving rates are low in impoverished countries and rise with per capita income is well established (Sachs and others 2004). The situation with low savings is even worse than it looks, however, because the national income accounts data almost surely, and substantially, overestimate the true saving rate of the poorest countries. To a significant extent, these countries are living off their natural capital but counting resource depletion as income.

Many countries have been cutting down their rainforests to make room for new farmland and to provide fuelwood and timber. Farmers have been depleting the soils of nutrients by growing crops without fertilizers. But the deforestation and loss of soil nutrients are not counted as a loss of capital. Countries depleting their mineral reserves are counted as earning income rather than converting one form of capital, mineral deposits, to another, financial assets. Sooner or later these forms of resource depletion will have to come to an end. The productive capital stock in these countries is falling even faster than suspected once we take into account, even imperfectly, the decline of several forms of natural capital.

There is no readily accepted methodology for correcting measured savings rates for resource depletion effects. Figure 3.3 uses the World Bank's valiant but very preliminary attempt, and adds a calculation for soil nutrient depletion. The figure shows measured rates of national saving, augmented by spending on education (which is counted as consumption in national accounts but which should count as investment in human capital) and reduced according to estimates of the economic costs of deforestation, energy depletion, mineral depletion, and soil nutrient depletion. This corrected saving rate shows that measured saving rates may be seriously overestimating true saving rates in the economy. Those rates might be as low as 1 percent for tropical Sub-Saharan Africa.

We can now see the essence of the poverty trap. The poorest countries save too little to achieve economic growth, and aid is too low to compensate for the low domestic saving rates. Detailed data on actual saving, investment, aid, and growth rates differ greatly by region and by income level (table 3.1).

Figure 3.2
The classic
poverty trap

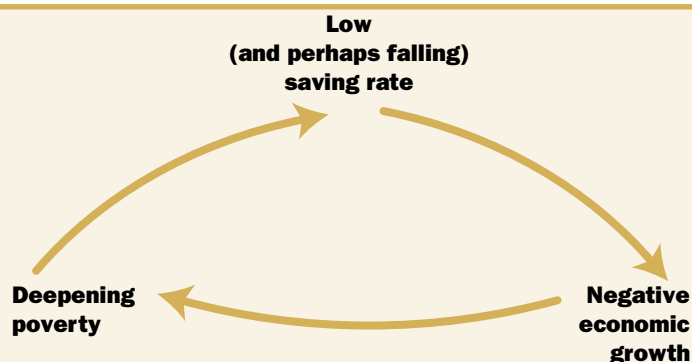


Figure 3.3
Saving rates, by
developing region
Share of GNI (%)

Note: Adjusted saving is equal to gross national saving plus education expenditure and minus energy depletion, mineral depletion, and net forest depletion. "Tropical Sub-Saharan Africa" refers to a 33-country sample defined in Sachs and others (2004).

a. We use nutrient depletion indicators and fertilizer prices to calculate tropical Sub-Saharan Africa's soil depletion to be around 2% of GDP, which would reduce adjusted saving to 1.5%.

Source: World Bank 2003a. Soil nutrient depletion for 1999 Sub-Saharan Africa from Henao and Baanante (1999) and Stoorvogel, Smaling, and Janssen (1993). GDP data from World Bank (2003a); prices from African Agricultural Market Information Network (2004).

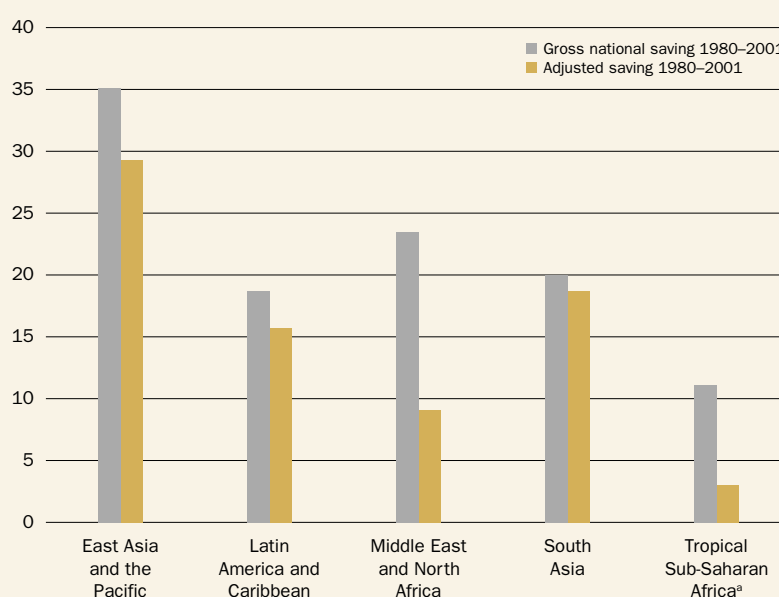


Table 3.1
Economic growth
predicted from
domestic saving,
population growth,
and capital
depreciation

By developing region
and by income level,
1980-2000 (%)

Note: Does not include high-income countries, countries of the former Soviet Union, or countries with populations below 1 million in 1980. All categories are annual averages across countries and years, weighted by population.

a. The measured consumption of fixed capital divided by the assumed capital-output ratio of 3.

b. Calculated by: $(\text{domestic saving} / 3) - (\text{growth in population} + \text{rate of depreciation})$.

c. Where 1980 data are not available, nearest available year is used to calculate the average growth rate.

Source: World Bank 2004c.

	Gross domestic saving as share of gross national income	Growth in population	Estimated rate of depreciation ^a	Annual growth in output per capita	
				Predicted ^b	Actual ^c
Central Asia	15.5	1.2	4.4	-0.4	-3.2
East Asia and Pacific	34.0	1.4	3.0	6.9	6.7
Eastern Europe	24.5	0.4	3.7	4.0	-1.2
Latin America and the Caribbean	20.1	1.8	3.3	1.6	0.4
Middle East and North Africa	19.2	2.6	3.1	0.7	1.0
South Asia	17.8	2.0	2.9	1.1	3.3
Sub-Saharan Africa	10.9	2.7	3.1	-2.2	-0.7
Least Developed Countries	6.7	2.5	2.8	-3.1	0.3
Non-LDC low-income countries	20.2	2.1	2.8	1.9	2.9
Lower-middle-income countries	31.4	1.5	3.2	5.8	5.5
Upper-middle-income countries	23.7	2.0	3.5	2.4	0.7

The Least Developed Countries show the lowest saving rate, just 6.7 percent of GNP. This very low level would result in a sharply negative growth rate of per capita income if not offset in part by official development assistance equal to around

11.2 percent of GNP. With that offset, investment rates in the Least Developed Countries averaged around 16.5 percent of GNP. From a simple growth-accounting framework, this investment rate is not enough to achieve significant economic growth. A model described in Sachs and others (2004) suggests that with a population growth rate of 2.5 percent a year during 1980–2000, an estimated depreciation rate of 2.8 percent a year, and an assumed fixed capital-output ratio of 3, the “predicted” growth rate of per capita income in the Least Developed Countries is 0.2 percent ($16.5\%/3 - 2.5\% - 2.8\% = 0.2\%$), exactly the average growth rate during the period. As we move up the income scale, the saving rate rises, and the population growth rate declines. The result is that predicted economic growth also increases with countries at higher per capita incomes.

Many Least Developed Countries, especially in Sub-Saharan Africa, are therefore stuck with low or negative growth because their saving rates are too low to offset population growth and depreciation (box 3.2). The result of low

Box 3.2
The poverty-
demography trap

The link between extreme poverty and high fertility is strong for several interconnected reasons:

- Infant mortality rates are high when there are inadequate health services, so high fertility provides “insurance” for a surviving child.
- Children are often perceived as economic assets who provide supplementary labor for the household, especially in rural areas.
- Poor and illiterate women have few job opportunities away from the farm, and so place a low value on the opportunity (time) costs of raising children.
- Poor families in poor communities are less likely to be aware of changes in mortality and in employment opportunities for the educated and thus miss signals of the benefits of investing in child quality rather than quantity.
- Women are frequently unaware of their reproductive rights (including the right to plan their families) and lack access to reproductive health information, services, and facilities, leading to high rates of unmet demand for contraception in low-income countries and among poorer members of all developing countries.
- Poor households lack the income to purchase contraceptives and family planning services.
- Governments lack the resources to provide extensive access to reproductive health services and counseling.

Because of these multiple channels linking poverty and high fertility, an effective voluntary approach to reducing fertility rates should focus on several policy fronts:

- Investing in child survival to give parents the confidence to have fewer children.
- Investing in rural infrastructure (water, cooking fuels, roads) so that children can go to school rather than spend their days collecting water and fuelwood.
- Empowering women with skills, literacy, numeracy, and economic rights to engage in off-farm employment.
- Empowering women to gain access to family planning services and modern forms of contraception, including eliminating information gaps and provider biases (based on wealth, ethnicity, or age) that restrict use.
- Making contraceptive services available free to low-income households.
- Investing in comprehensive sexual and reproductive health services as part of scaling up public health facilities and services.

saving rates—unless offset by foreign assistance or foreign investments—is a chronic decline in capital per person and a consequent chronic decline in income per capita.

Breaking out of the poverty trap. The key to overcoming the poverty trap is to raise the economy's capital stock—in infrastructure, human capital, and public administration—to the point where the downward spiral ends and self-sustaining economic growth takes over. This requires a “big push” of basic investments between now and 2015 in key infrastructure (roads, electricity, ports, water and sanitation, accessible land for affordable housing, environmental management), human capital (nutrition, disease control, education), and public administration. This process is helped by a voluntary reduction in fertility, which promotes greater investments in the health, nutrition, and education of each child. We thus strongly support programs that promote sexual and reproductive health and rights, including voluntary family planning.

Critical to overall success in economic growth and poverty reduction, these investments help countries meet the Goals, freeing them from the poverty trap and their dependence on aid. Some countries, such as India, can probably graduate from foreign assistance by 2015. In more difficult circumstances, such as Ethiopia, graduating from aid will take longer (chapter 17).

In an important recent policy initiative, the U.S. government established a set of transparent indicators to identify 17 poor but reasonably well governed countries that qualify for funding from its new Millennium Challenge Account. The list of countries includes Bolivia, Ghana, Mali, and Mozambique. Despite significant efforts and real progress, these countries, and many like them, pass the governance test but still fail to make adequate progress toward the Goals. The reasons are clear. They lack the basic infrastructure, human capital, and public administration—the foundations for economic development.

The Goals create a solid framework for identifying investments that need to be made. They point to practical targets of public investment—water, sanitation, slum upgrading, education, health, environmental management, and basic infrastructure—that reduce income poverty and gender inequalities, improve human capital, and protect the environment. By achieving the Goals, poor countries will establish an adequate base of infrastructure and human capital that will enable them to escape from the poverty trap.

Geographical conditions make poverty traps more likely. Some countries and regions are more vulnerable than others to falling into a poverty trap. While a history of violence or colonial rule or poor governance can leave any country bereft of basic infrastructure and human capital, physical geography plays special havoc with certain regions (box 3.3). Some regions need more basic infrastructure than others simply to compensate for a difficult physical environment. Here are some of the barriers that must be offset by investments:

Box 3.3 Geographical obstacles and economic growth

Source: Calculated from
World Bank 2004c;
PRS Group 2003;
CIESIN 2002; Kiszewski
and others 2004.

Difficult geography can make it more likely for countries to fall into a poverty trap—requiring increased investments in infrastructure to reduce transport costs or curb tropical diseases. We construct indexes to estimate each country's risks from adverse agronomic conditions, adverse transport conditions due to location, and malaria ecology (see table 3.2). Using these indexes, the regressions reported in the table demonstrate the importance of geographical factors in economic growth.

Risk index regressions

Independent variable	I	II
	Growth 1980–2000 (n = 76, r ² = 0.56)	Growth 1980–2000 (n = 56, r ² = 0.52)
Income (log of per capita GDP in 1980 PPP US\$)	–1.27* (–5.01)	–1.26* (–3.46)
Governance, 1982 (International Country Risk Guide)	–3.18* (–3.57)	–3.61* (–2.96)
Agriculture risk (irrigation, subhumid, fertilizer)	–3.57* (–3.09)	–3.96* (–2.56)
Transport risk (coastal, low density, elevation, roads 1990)	–3.93* (–3.68)	–4.42* (–3.35)
Malaria ecology	–2.19* (–2.16)	–2.02** (–1.73)

* Significant at the 95 percent level.

** Significant at the 90 percent level.

Note: Regression II excludes high-income countries. Dependent variable is real average annual per capita GDP growth, 1980–2000. All variables except per capita GDP are a 0–1 index, where higher values indicate higher risk. Regressions include a constant that is not reported. Former Soviet countries and countries with populations below 1 million in 1980 are excluded.

Each index is constructed on a scale of 0 to 1, with 1 the maximum risk. To study the effects on economic growth from 1980 to 2000, the underlying indicators for each index use values for 1980. The regressions control for the initial level of income (since conventional economic theory expects that, all else equal, poor countries grow faster) and for the quality of governance in each country, using a similar 0–1 index (where a higher value indicates poor governance) constructed from a commonly used International Country Risk Guide governance rating for the beginning of the period.

The regression results show that the three geographical risks (agriculture, transport, and malaria) are significantly linked to lower economic growth per capita, even when controlling for initial income levels and governance quality (both of which are also significant). Indeed, the results show that countries with highest risk in either the agriculture index or the transport index grew more slowly (by almost four percentage points a year!) than the countries with lowest risk, even when controlling for governance quality. Similarly, countries with ecologies most conducive to endemic malaria tended to grow two percentage points more slowly than countries with ecologies that do not support malaria.

These results illustrate the important relationship between economic growth and geographical factors affecting agriculture, transport costs, and disease ecology. Countries suffering from these geographic vulnerabilities will need targeted investments in infrastructure, agriculture, and health to minimize the risks of falling into a poverty trap or to start the climb out of it.

Adverse transport conditions:

- Landlocked economies.
- Small island economies far from major markets.
- Inland populations far from coasts and navigable rivers.
- Populations living in mountains.
- Long distances from major world markets.
- Very low population densities.

Adverse agroclimatic conditions:

- Low and highly variable rainfall.
- Lack of suitable conditions for irrigation.
- Nutrient-poor and nutrient-depleted soils.
- Vulnerability to pests and other postharvest losses.
- Susceptibility to the effects of climate change.

Adverse health conditions:

- High ecological vulnerability to malaria and other tropical diseases.
- High AIDS prevalence.

Other adverse conditions:

- Lack of domestic energy resources (fossil fuels, geothermal or hydro-power potential).
- Small internal market and lack of regional integration.
- Vulnerability to natural hazards (tropical storms, earthquakes, volcanoes).
- Artificial borders that cut across cultural and ethnic groups.
- Proximity to countries in conflict (box 3.4).

Sub-Saharan Africa is especially burdened by poor geographical endowments (table 3.2 and map 3.1). Africa has the highest agriculture risk (tied with South Asia), the highest transport risk, and by far the highest malaria risk. Africa is also uniquely vulnerable to drought conditions. High vulnerability as of 1980 was inversely correlated with economic growth during 1980–2000 (see box 3.3). A recent major statistical analysis of economic growth corroborates the importance of geographical variables.¹

Africa's vulnerability is very high but not insurmountable. Indeed, our message is that geographical vulnerabilities can and need to be offset by targeted investments in infrastructure, agriculture, and health. Countries far from markets can be brought closer by adequate investments in roads and railways. Countries with nutrient-depleted soils and inadequate rainfall can be helped by special programs for soil nutrient replenishment and water control (such as irrigation and water harvesting). Countries suffering from malaria and other endemic diseases can battle these diseases with appropriate programs of disease prevention and control. Yet such investments are costly—too costly for the poorest countries to bear on their own—and so require much greater help from the donor countries.²

Box 3.4 The poverty- conflict nexus

Source: Humphreys and Varshney 2004; Fearon and Laitin 2003; Miguel, Satyanath, and Sergenti 2004; Homer-Dixon 1994; Reno 1995.

In the 1990s up to a quarter of all countries were affected by conflicts and more than a billion people were living in conflict-afflicted countries. Importantly, the statistical relationships between poverty and violent conflict are very strong. They have been found to be robust to variation over time and to variation in the definition of what constitutes a civil war. A country with a civil war within its borders typically has only one-third the per capita income of a country with similar characteristics but at peace. Poor countries are also more likely to experience new conflicts. A country with a per capita income of \$500 is about twice as likely to have a major conflict within five years as a country with an income of about \$4,000 per capita (see figure).

Similar trends hold for a broader class of internal conflicts defined as “internal intermediate armed conflicts” or “internal wars.” The poorest countries have the highest risks of new conflict and there is a systematic decline in risk as incomes grow.

Independent of income levels, low economic growth rates are associated with higher risks of new conflict. An important recent study by Miguel, Satyanath, and Sergenti (2004) also shows that a negative growth shock of five percentage points increases the risk of civil war by 50 percent in the following year—and that economic conditions are likely the most important determinants of civil conflict in Sub-Saharan Africa.

While there is a broad consensus among researchers on the strong bidirectional links between poverty and conflict, there is disagreement about why the relationship holds. Perhaps most obviously, the relationship arises because violent conflict destroys wealth. It results in the destruction of physical and human capital, massive dissavings, and interruptions of economic activity. But research indicates clearly that the relationship is due not simply to conflicts resulting in income losses—although this certainly occurs—but also to the fact that poverty makes countries more vulnerable to conflict. In aiming to identify the specific channels of mutual causality, the following reasons figure prominently:

- *Poor state capacity.* Poor countries are more likely to have weak states, so they are vulnerable to forcible takeover and attack by armed groups. They are also less able to resolve local disputes peaceably and more vulnerable to manipulation and control by third parties. This reduces their freedom to react to threats of conflict and makes them more prone to the spread of predatory forms of financing and asset stripping, leading in turn to greater levels of frustration toward the government in power.
- *Scarcity and inequality.* While poverty affects state capacity, it also affects the incentives of citizens to engage in violence. Scarcity, including that of environmental resources, can lead to migrations that result in conflicts between identity groups over resources. Without productive alternatives, youths, especially, may turn to violence out of frustration or for material gain. Such behavior is especially likely to occur not just when countries are poor but when there is also inequality between segments of society—when pockets of poverty persist within national economies.
- *Demography and social structures.* Poorer countries are more likely to have demographic regimens marked by high fertility and high mortality, resulting in high child-to-adult ratios. Such demographic profiles are also associated with greater conflict risks. Indeed since 1945 almost every instance of massive one-sided violence (genocide or politicide) has occurred in countries with more than a two-to-one child-adult ratio.

Other risk factors include a highly unequal distribution of wealth—especially when this wealth is unevenly distributed across political groups, such as regional, ethnic, or religious groups—dependence on high-value natural resource exports (particularly

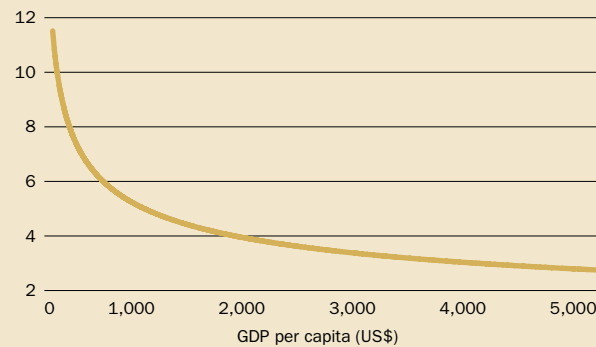
Box 3.4
The poverty-
conflict nexus
(continued)

diamonds, drugs, and oil), sudden and sharp political or economic transitions, weak and instable political regimes and institutions, and political tensions drawn from historical ethnic tensions and identity clashes. In many instances conflicts have also been initiated or exacerbated through external involvement, including governments and corporations.

Rising national incomes reduce the risk of civil war

Predicted probability of observing a new conflict within five years (%)

Note: Estimated probabilities are derived from the relationship between GDP per capita (constant 1985 US\$) and civil war onset. The figure denotes only average relationships identified across countries and over time and does not imply that for any income levels conflict risks are the same in all places.



Pockets of poverty

The next step up the ladder of economic development occurs when countries have made the transition from subsistence agriculture to commercial agriculture and from commodity exports to urban-based exports, with a large proportion of the population living in urban areas. Most of Southeast Asia achieved that level of development a generation ago. Yet most economies have considerable variation in household incomes, so even middle-income countries may have large numbers of extremely poor households, especially large countries with sophisticated market structures with considerable regional and ethnic diversity. Economic development often leaves some parts of an economy, or some groups in society, far behind. This occurs both in lagging regions and in cities, where a growing proportion of the poor live in slums. In many countries there are cities within cities—a dual reality of haves and have-nots in close proximity. In many cases, geographical disadvantages (distance from markets) are worsened by the political disempowerment of minority groups.

The major policy implication for middle-income countries is to ensure that critical investments—in infrastructure, human capital, and public administration—get channeled to lagging regions, including slums, and to social groups excluded from the political process and economic benefits. Some notable lagging regions include:

- Western China, burdened by great distance from the eastern coast.
- Southern Mexico, burdened by tropical diseases, agronomic risks, great distances from the U.S. market, and political marginalization of the indigenous peasant populations.

Table 3.2
Agriculture risk, transport risk, and malaria risk, by region

Note: Indexes range from 0 to 1, with a higher value indicating higher risk. Country averages are weighted by population.

a. Averages indexes for share of cropland under irrigation in 1980, fertilizer use per capita in 1980, and share of population living in subhumid ecological zones.

b. Averages indexes for share of population living near the coast, share of population living in low-density areas, share of population living above 800 meters elevation, and paved roads per capita in 1990 (earliest available data).

c. A 0–1 index for malaria ecology.

d. Averages agriculture risk, transport risk, and malaria risk.

Source: Calculated from World Bank 2004c; CIESIN 2002; Kiszewski and others 2004.

Region	Agriculture risk ^a	Transport risk ^b	Malaria risk ^c	Human vulnerability index ^d
Central Asia	0.31	0.41	0.00	0.24
East Asia and the Pacific	0.68	0.27	0.04	0.33
Europe	0.38	0.27	0.00	0.22
Latin America and the Caribbean	0.76	0.36	0.03	0.39
Middle East and North Africa	0.71	0.36	0.02	0.36
North America	0.51	0.23	0.00	0.25
South Asia	0.86	0.26	0.02	0.38
Sub-Saharan Africa	0.86	0.52	0.42	0.60

Map 3.1
Human vulnerability index, 1980
1 = highest risk

Source: Calculated from World Bank 2004c, CIESIN 2002, and Kiszewski and others 2004.



Less than 0.15
 0.15–0.30
 0.30–0.45
 0.45–0.60
 0.60–1.00
 No data

- Northeastern Brazil, burdened by vulnerability to drought and a long history of heavily concentrated land ownership.
- The Gangetic states in India, burdened by low-productivity agriculture, long distances to coastal trade, and a large landless population.

Concurrently, to continue climbing the ladder of economic development, middle-income countries need to focus critically on building an improved business environment that will deepen integration with the world economy in a widening range of manufactures and services. They also need a growing capacity in science and technology, to make the transition from a pure technology importer to a country that can innovate and commercialize technology on its own.

The Republic of Korea and Taiwan (China) are key examples of economies that made the transition from technology importer to technology innovator and exporter in the past couple of decades. The investment strategies of middle-income countries need to focus on sophisticated infrastructure (such as state-of-the-art container ports and intermodal transport systems) and on innovation systems comprising national laboratories, research universities, and public-private R&D partnerships.

Areas of specific policy neglect

A fourth reason why some Goals are not being met is simply that policymakers are unaware of the challenges, unaware of what to do, or neglectful of core public issues. Environmental policy is often grossly neglected because of politically weak environment ministries, even weaker law enforcement, and considerable deficiencies in information and in the capacity to act on that information. Few governments currently have the capacity to assess the deep links between ecosystem services (hydrology, biodiversity, natural hazard reduction) and poverty reduction. The environment is much too often taken as given, or taken for granted, or regarded as a resource to be exploited in the short term. This approach is now failing around the world, as population densities increase and human impacts on the environment increase markedly. Environmental sustainability must become a centerpiece of public investments.

Also common are gender biases in public investment and social and economic policies, maternal health, and sexual and reproductive health. Adolescents are also widely underserved for life skills, nutrition information, education and employment opportunities, and sexual and reproductive health information and services. Throughout the developing world and even in middle-income countries, maternal mortality ratios remain appallingly high. High maternal mortality and morbidity have a specific major remedy: access to emergency obstetric care. Despite its life-saving potential, there has been a pervasive underinvestment in this service and in the health systems to deliver it. For a long time, high maternal mortality was addressed through skilled birth attendants, an approach that has not proved sufficient. Yet investments in

the capacity of local hospitals to perform Cesarean sections, for example, can have huge benefits in saving the lives of women in prolonged labor.

More generally, policymakers and civil society must take the opportunity to identify the key areas of public policy and public investment that have been left behind in countries falling short of the Goals. All regions and policy areas will need to be part of any national strategy to achieve the Goals.

Private and public investments to meet the MDGs

The public and the private sectors both have a role in almost every form of investment needed for the Goals. In some areas the private sector is predominant—as for business growth, generating employment, raising incomes, and raising productivity. In others the government is predominant—as for governance and a regulatory framework to foster the private sector. In still others there is a mix of responsibilities—as for human capital, infrastructure, science and technology, and environmental sustainability. Public and private investments, when well designed, tend to be complementary, not rivals or substitutes. It is therefore a huge mistake to be dogmatic about public versus private investments. Both are needed.

The limits to private investment

A common assessment for countries stuck in extreme poverty is that they simply need more private investment (including foreign capital inflows) to stimulate market growth. Too simplistic, this view mischaracterizes the challenges of promoting private investment in low-income countries. Private investment in general, and foreign investment in particular, require that certain threshold conditions be met. When infrastructure and human capital are inadequate, potential investors will stay away completely. One of the roles of the public sector is to ensure that infrastructure is adequate to push the economy across the threshold, so that private investors can earn at least the minimum return they need to invest.

The key variables of interest to private investors include:

- Adequate infrastructure (roads, ports, electricity, water).
- Physical safety, including peace and security.
- Reliable sites for operations, such as industrial zones close to seaports and airports.
- The rule of law for predictable contracts and relations between business and government.
- A healthy and skilled labor force.
- A safe and accommodating location for expatriate managers and their families.
- Favorable tax treatment.

The key reason that foreign direct investment (FDI) can rarely “lead” the development of impoverished countries is that these preconditions are not met. A chicken-and-egg problem arises: growth depends on private investment, and

especially on FDI (since it brings technology along with capital), but private investment depends on a sound infrastructure and adequate human capital, both of which depend on an adequate level of national saving. Here is where aid-financed infrastructure development and human capital investments can make a vast difference in promoting investment, particularly FDI.

It is no accident that a mere 12 countries account for nearly 85 percent of non-oil FDI in the developing world (table 3.3). These are countries with especially favorable coastal locations, large domestic markets or proximity to large markets, and reasonably salubrious climatic and agronomic conditions. On the other side, the Sub-Saharan countries receive only 4.3 percent of the world's FDI flows and the Least Developed Countries only 2.5 percent.

In addition to the business environment, we believe that favorable tax treatment is important to attract the “early mover” investors to a newly emerging market. There has been a long debate about the role of taxes in attracting FDI, a debate that in our view has been widely misunderstood. It is true that tax breaks, by themselves, will not be decisive. Without adequate infrastructure, property rights, human capital, and physical safety, a tax holiday will not make much difference. Yet this does not mean that the tax system is unimportant or that tax holidays and other promotional instruments can be ignored. Once the other preconditions are met, tax rates become a pivotal concern of major foreign investors. This is why the IMF–World Bank advice over the years to avoid tax concessions and other promotional tools has been in error.

A recent study powerfully makes the point that it is precisely in the low-income countries competing for export-oriented FDI (as for apparel, electronics

Table 3.3
Concentration
of non-oil FDI
among developing
countries, 2002

Note: Oil-producing countries are counted as those with yearly crude oil production of more than \$100 per capita and where manufactured exports account for less than 50 percent of total exports. Excludes countries receiving less than 1 percent of global FDI.

Source: World Bank 2004c and U.S. Department of Energy 2002.

	FDI received as share of FDI to non-oil producing developing countries (%)
China	36.8
Brazil	12.4
Mexico	10.9
Czech Republic	7.0
Poland	3.1
Slovak Republic	3.0
Malaysia	2.4
India	2.3
Peru	1.8
Colombia	1.5
Chile	1.3
Viet Nam	1.0
Total	83.5
<i>For comparison</i>	
All Least Developed Countries	2.5
All Sub-Saharan Africa	4.3

assembly, and other highly mobile international sectors) where taxes have a huge effect:

The results confirm and strengthen conclusions drawn from earlier research, that taxes do influence the real operations of MNCs [multi-national companies], not simply where they attempt to shift profits or financial assets. The particular tax elasticities reported here suggest that in the circumstances where the greatest responsiveness occurs (non-OECD countries with open trade policies and firms that produce for export markets), the elasticity can be as high as 3. In such circumstances, FDI-promotion programs based on tax holidays, government provision of key infrastructure such as land, designation of convenient industrial parks, and the like, can make a very big difference (Mutti 2003, p. 68).

Natural resource-based FDI. Resource-based FDI, such as that for oil and gas deposits, happens under very different circumstances. The ability to attract FDI depends much less on good governance and taxation than on the resource. Indeed, oil companies have proved repeatedly that they will operate in the worst conditions, even war zones, and pay bribes or other suspect payments, to gain concessions over resource deposits. Perhaps it is for this reason among others that resource-based FDI has proved to be a double-edged sword. It can provide critical revenues to the state for undertaking broad-based investments in infrastructure, human capital, natural capital, and public capital. Too often, however, it has resulted in plunder and corruption, rather than development, a phenomenon known as the “natural resource curse.”

Turning natural resource-based FDI into economic development is thus a major challenge in selected parts of the low-income world, notably in West Africa today, with its large reserves of offshore oil and gas. Such investments should be guided by the following considerations:

- Transparency in bidding and concessions.
- Transparency in use of the resulting revenues.
- Use of a sufficient part of the oil and gas for the development of the domestic energy infrastructure.
- An overall public investment plan to explain how the natural resource rents will be invested on behalf of broad-based development.

Remittances. When economies are not highly productive, workers naturally try to migrate to other countries, especially to rich ones. Impoverished countries thus benefit from remittances sent home by migrant workers. These remittances can increase household income and saving, especially if they can be channeled through a formal financial system, as is now beginning to happen in some countries in Latin America and Asia. But global migration from the poorest countries to wealthier countries remains limited, so most countries in poverty traps receive only limited benefits from remittances.

Remittances are also a double-edged sword. Much international migration is by high-skilled workers, such as doctors and scientists, who have more opportunities to cross borders, since the rich countries have made it easier for them to obtain visas and work. The result is a brain drain—and sharply rising costs of providing skilled services in the low-income countries. In other words, migration often depletes a country's knowledge capital and public capital. Doctors in parts of Africa, for example, command salaries of \$25,000 or above, often nearly 100 times the average per capita income, because they have alternative work opportunities in the high-income economies.

This outmigration of skilled workers such as doctors and nurses requires two kinds of responses:

- Higher public sector salaries in low-income countries, with donor support, to compete with world markets.
- New kinds of skilled workers, such as community health workers with one or two years of (likely postsecondary) training, who can provide some services without being subject to the same intensity of brain drain (see Joint Learning Initiative 2004).

The need for public investment

Without public-led investments in infrastructure and human capital, the private sector simply stays away. But this pattern, observed repeatedly in modern economic history, begs an important question. Why not let the private sector simply take the lead in infrastructure, health, and education if those investments are indeed so important as preconditions for other kinds of private investment? There are four kinds of answers, with the circumstances determining their relative significance.

First, many of the key preconditions for growth—such as roads, infectious disease control, and education—are public goods, meaning in shorthand that the social returns to providing them are much higher than the private returns. Such investments are characterized by increasing returns to scale, network externalities, and other kinds of positive spillovers, so that the private supply of such investments is far below the social optimum. So, even if the savings are available in the economy, it is better to mobilize it through public spending rather than private spending. Thus, even when roads can be financed through tolls, it is often highly advantageous to foster free access rather than toll-based access. Similarly, the social returns to immunization are higher than the private returns, so that mass immunization based on public financing is more desirable than private financing with limited public uptake of immunization services.

Second, even though these infrastructure and human capital investments are preconditions for long-term growth, the private rate of return on these investments is very low. In some countries, there simply are few or no investments that currently meet the international market test. Building roads and railways in impoverished landlocked countries such as Chad, Mongolia, or

Tajikistan may be necessary for long-term growth, but the returns on those investments are very low. In this case, foreign aid rather than private capital is essential to break the deadlock.

Third, some of the key investments—such as public health and primary education—are merit goods, meaning that universal access to such goods is a goal in itself. The Millennium Development Goals identify several such merit goods: primary education, maternal and child survival, control of infectious diseases, access to safe drinking water and sanitation.

Fourth, an impoverished country may well be a serious credit risk, even when the return to the investment is relatively high. Enforcing international claims is very difficult, and many of the world's poorest countries are already swamped with unpaid and unpayable foreign debts. In this case, domestic savings may be unavailable and foreign private savings uninterested in entering the economy.

In general, we stress that there is an important distinction between public financing of capital and direct public provision of capital services. The public sector may pay for the capital (whether roads, or schools, or clinics) but arrange for it to be provided by private companies or choose to organize public delivery itself. Either way, the public sector has the lead in arranging financing and in the regulatory structure, but it may try to foster private provision. This is the essence of public-private partnerships, in which the public sector provides some or all of the financing for a project or program, and the private sector provides the services on a contractual basis. The key question is whether the private provider is likely to be a more efficient provider, taking into account the complicated contracting costs in which the public sector pays but the private sector delivers the service. There is no single answer to that question. The answer varies by sector and by country.

Aid to help break out of the poverty trap

The primary responsibility for development lies with countries themselves. As an indispensable condition for defeating poverty, each country must recommit to pursuing the national institutions and policies conducive to dynamic and sustainable economic growth. But many low-income countries, including many fairly well governed ones, cannot afford the public investments in basic infrastructure, human capital, and public administration that are foundations for private sector growth and economic development. Many Least Developed Countries, especially in Sub-Saharan Africa, are stuck with low or negative growth. Why? Because their saving rates are too low to offset population growth and depreciation, and they are unable to attract the needed investments from abroad.

The core idea of official development assistance, therefore, is to push the elements of the capital stock—infrastructure, human capital, public administration and so forth as in figure 3.1—above the threshold needed for self-sustaining economic growth. ODA should not be a safety net (except for

Box 3.5
Large-scale aid
works—when
done properly

Criticisms of aid come in many forms. Some critics charge that aid is inherently flawed because it strengthens governments, often corrupt governments, at the expense of the private sector. This is the famous argument of the late British economist Peter Bauer. Some charge that aid is not needed, since private saving and investment can and should be the backbone of economic growth. Some have taken the middle ground that aid works when it is channeled to well governed countries. This is the conclusion of the highly influential study by Burnside and Dollar (2000).

Our view, explained in the text, is that aid is most useful if channeled to the countries that truly need it (mainly those stuck in a poverty trap) and channeled to the right sectors (mainly infrastructure and human capital). It works best when delivered to well governed countries. And aid used to support public investment complements private saving and investment, rather than competing with private capital.

Many negative conclusions about the link between aid and economic growth have come from cross-country regressions of economic growth on aid volumes (and other variables). The volume of aid is often found to be statistically insignificant as a determinant of economic growth, leading some authors to conclude that “aid is ineffective” in promoting economic growth. An important weakness in such studies is that they tend to examine the links of growth to overall volumes of aid without paying attention to how the aid is actually delivered. Specifically, much aid comes in the form of technical assistance (for consultants from the donor country), administrative costs of running bilateral and multilateral agencies, and emergency food aid. It is not really surprising that such aid is not correlated with economic growth in the recipient country. Food aid, especially, is given in the midst of deep crises. So a regression of economic growth on food aid would tend to prove (erroneously) that aid causes output to decline, instead of the correct conclusion that an output decline (caused by drought, for example) causes emergency aid to rise!

In an important new study, Clemens, Radelet, and Bhavnani (2004) correct for this typical shortcoming by considering only aid volumes that effectively support investments and services on the ground in the recipient country, taking out emergency aid, technical assistance, and other kinds of aid that do not translate into growth-promoting investments and services. They find that aid, when measured properly, contributes significantly to economic growth. This suggests that aid is effective, if it is well targeted and administered as direct support for country-level investments. Of course, a minimum adequacy of governance is required for a country to be able to channel aid into investments.

Aid can and must be disbursed in ways that align the incentives of donors and recipients to support positive development outcomes. As this report argues, elements of a successful disbursement strategy include aid in the form of budget support for national poverty reduction strategies based on the Millennium Development Goals. While there have been real problems with the way that aid has been distributed in the past, governments in rich and poor countries alike are learning from their mistakes to design more effective ways of delivering financial assistance to those who need it most.

In sum, foreign aid can play a hugely positive part in growth and poverty reduction when properly targeted and administered toward vital infrastructure and human capital. This finding is underlined by the recent experience of Mozambique, Tanzania, and Uganda, which all experienced substantial social sector improvements financed largely through development assistance. Mozambique is a particular success story over the past decade, having averaged real per capita economic growth rates of 5 percent while receiving aid ranging from 20 percent to 60 percent of GNP every year since 1993.

humanitarian relief). It is an investment in economic development to help countries begin climbing the ladder of self-sustaining economic development. The MDG-based investment program described in the following chapters is fundamentally an investment program for self-sustaining growth, not a program for increased dependence on welfare handouts.

Any aid strategy must confront many complexities, and the effects of aid on economic growth have been debated. When poorly designed or used for purposes other than real development—such as when it has been used to support foreign policy clients of developed countries—aid can create perverse incentives in recipient countries that are unhelpful for development.³ But recent studies indicate that when aid is properly measured (that is, subtracting things counted as aid but which actually do not reach the recipient country in a form available for investments), evidence suggests that it greatly benefits economic growth (Clemens, Radelet, and Bhavnani 2004) (box 3.5). In addition, studies have shown that aid is especially effective in developing countries with good fiscal, monetary, and trade policies—and less effective if policies are poor (Burnside and Dollar 2000). The evidence is thus quite compelling: foreign aid with good policies in the recipient country helps to create economic growth, if the aid is delivered so that it becomes investment “on the ground.”

To be adequate for a country in a poverty trap development assistance needs to support proper investments at a level sufficient to get capital accumulation ahead of population growth and depreciation. A big push of aid-supported investment that puts the country on a path of increased savings and self-propelling growth is far more efficient than low quantities of aid that do not change the fundamental growth potential of the economy. The key insight is that it will be much cheaper for the donors to frontload their aid over 2005–15 to raise each low-income country to the point of self-sustaining growth as rapidly as possible—rather than to continue to dribble out aid in small measures for several decades. If aid—even well targeted aid—is so small that the country’s infrastructure and human capital are persistently insufficient, growth will never take off in a self-sustaining manner, and aid will remain a handout rather than a solution to the poverty trap.