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# The Odds of Achieving the MDGs

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*Three questions are frequently raised about the attainment of the Millennium Development Goals (MDGs). Where do developing countries stand? What factors affect their rate of progress? Can lagging countries achieve these goals in the few years remaining until 2015? This paper examines these questions and takes a closer look at the variation in the rate of progress among developing countries. We argue that answers from the available data are surprisingly positive. In particular, three-quarters of developing countries are on target or close to being on target for all of the MDGs. Among the countries that are falling short, the average gap for the top half is about 10 percent. For those that are on target, or close to it, solid economic growth, policies, and institutions have been the key factors in their success. With improved policies and stronger growth, many countries that are close to being on target could achieve these targets by 2015 or soon after. JEL codes: F55, O19, O43*

One puzzle about the Millennium Development Goals (MDGs) befuddles greatly. Why has the overall progress toward the MDGs been so varied when the economic performance of developing countries has been observed to be markedly better for the more than 15 years since the mid-1990s? Until the recent economic crisis, the external environment was favorable: trade was expanding, export prices were buoyant, and both foreign aid and debt relief were increasing. Moreover, for a remarkably broad range of developing countries, economic growth was accelerating because of better policies and institutions. This situation was encouraging because it was true not only for large, middle-income countries, such as China and India, but also for poor countries in sub-Saharan Africa.<sup>1</sup> Because of improved policies and institutions, the recent crisis was different for low-income countries, which did relatively well. There was no widespread failure in domestic policy, growth remained positive, and the poor were protected by increased

The World Bank Research Observer

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doi:10.1093/wbro/lks005 Advance Access publication July 26, 2012 27:143–184

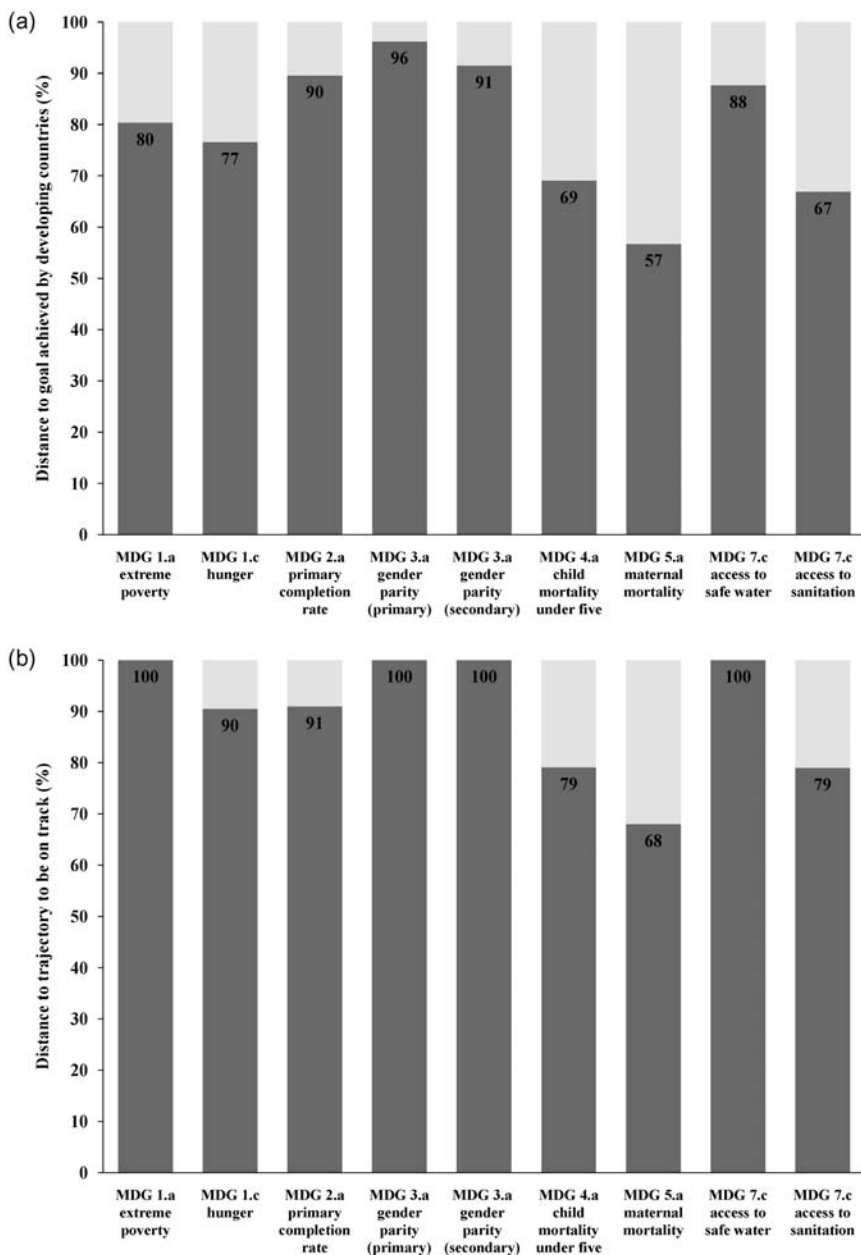
spending on social safety nets.<sup>2</sup> Therefore, the following question begs answers: Where did all of the economic progress go, and what did it buy for the MDGs?

The answers to the above questions lie beyond the global numbers themselves. Solving this puzzle provides some answers to three key questions that are frequently raised about the MDGs: (1) Where do developing countries stand? (2) What factors affect the rate of progress of developing countries? and (3) Will lagging countries achieve the goals in the few years remaining until 2015? This paper examines these questions and several related issues. In the process, we argue that answers from available information are surprisingly helpful and hopeful.

The global numbers tell a familiar story in two ways.<sup>3</sup> In terms of the remaining distance toward the 2015 targets (figure 1a), the latest information confirms that progress remains strong on the reduction of both extreme poverty and hunger, access to safe drinking water, and gender parity in primary and secondary education. In terms of the distance to the trajectory required to be on target (figure 1b), according to current trends (or historical growth rates), the developing world is on track to reach the global target of reducing extreme poverty and the proportion of people without safe drinking water by half by 2015.<sup>4</sup> Rapid growth in China, East Asia, and the Pacific Region has already cut extreme poverty by half. Developing countries will likely achieve the MDGs for gender parity in primary and secondary education as well as in access to safe drinking water, and they will be close to reducing hunger and to the primary education completion rate. However, by either yardstick, the distance to the goals or the distance to being on track, progress continues to lag in health-related development outcomes, such as reductions in child mortality and maternal mortality and access to sanitation. New data and methodologies indicate much more progress than previously thought in reducing maternal mortality, but this MDG continues to have the greatest lag (Hogan et al. 2010). Considering current trends, the world is likely to miss these three targets by 2015. Moreover, low-income countries, particularly fragile states and those in sub-Saharan Africa, lag behind because of a combination of low starting points and difficult circumstances (Easterly 2009, Clemens et al. 2007, World Bank and IMF 2010).

Behind these aggregate numbers, however, there is wide variation in performance across indicators, countries, and groups of countries that requires further analysis. Bourguignon et al. (2010), Leo and Barmer (2010), and ODI (2010) showed that progress has been more heterogeneous than shown by the aggregate figures. Although the MDGs were conceived as global targets to spur development efforts and support poor countries, it is necessary to measure and describe progress at the country or other level to understand the reasons for both the advances and the remaining gaps.<sup>5</sup> As a prelude to the analysis in the paper and although there are variations and complications, a key point is the fundamental distinction between growth and development, which has a clear resonance in the

**Figure 1.** Current Global Distance to the MDGs



a. Distance of latest indicators to 2015 goals

b. Distance to the trajectory to be on track to achieve the goals by 2015

*Note:* Distance to goal achieved in this graph is a weighted average of the latest indicators, using population weights in 2009.

*Source:* Authors' calculations based on data from the World Development Indicators database.

main findings of the study. Improving developing outcomes will require not only increases in GDP per capita but also system-wide changes in policy and institutions to bring about more inclusive growth or broad-based development in order to improve the living conditions, opportunities, and quality of life of all individuals, groups, and nations in the world. Separating the aggregates provides further support for this point. Indeed, global and regional summaries typically amass data for countries of dissimilar development and types—fragile, low-income, and middle-income countries. For example, the Europe and Central Asia region covers middle-income countries, such as Albania and Bulgaria, and low-income countries, such as Tajikistan and Uzbekistan. Among the developing countries in Sub-Saharan Africa, some are middle-income countries (such as Mauritius and South Africa). Some lower-middle-income countries (such as Angola and the Democratic Republic of Congo) are resource rich, but their levels of development may be closer to those of low-income countries.

To illuminate these issues and untangle the aggregate numbers, we use the three basic questions raised above to examine individual country performance and to structure the paper. Section II investigates where individual countries stand and presents our MDG performance measurement and assessment. We introduce a simple but reasonable approach to measure and categorize MDG progress and to assess the likelihood of developing countries reaching the MDG goals. Our approach characterizes MDG progress by country performance in terms of countries that are on track to achieve the targets and by the distance or “closeness” of lagging countries to being on track to achieve the targets. Section III examines factors that affect the progress of countries. We examine the importance of different typologies in the variations in progress toward reaching the MDG targets by 2015. Examples of such factors are initial income and policy-institutional conditions, subsequent growth and policy-institutional achievement, the poorest of the developing countries versus the other countries, and the level of fragility (broadly following [Collier and O’Connell 2006](#)). Section IV attempts to determine whether lagging countries are likely to achieve their goals in the few years remaining before 2015. This question is not easy to answer, but we attempt to identify some answers within the limitations of the data. The final section summarizes our key findings and provides valuable insights for future research and policy changes.

## Where Do Countries Stand with Respect to Attaining the MDGs?

### *The Definition of MDG Performance*

The MDGs are typically defined in terms of the number or percentage of people (e.g., reducing the number of poor people by one-half or achieving 100 percent

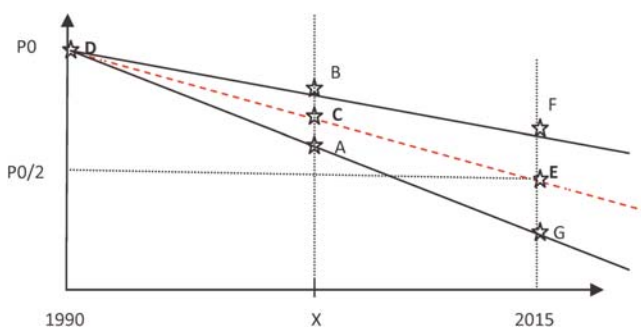
access to primary education). Although data are collected on a country basis, the influence of each country on the global average depends on the size of its population. When large countries, such as China and India, are doing well, as in the MDG related to the reduction of poverty, their progress will be reflected in the global average, which will also hide the progress (or lack of progress) in smaller countries. To examine how poor countries are doing, data are presented in terms of progress in individual countries. This approach does not replace the standard approach (e.g., figure 1), but it provides additional information.

To examine country progress, we distinguish countries that are on target and countries that are off-target or lagging. We further differentiate lagging countries that are “close” to being on target from those that are “far” from being on track, forming three broad categories of performance.<sup>6</sup> Although there are alternative ways to describe progress, these three broad categories are intuitively appealing, and further refinement is likely to diminish the number of observations for each group because of data constraints (see below).

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**Illustration 1** How We Measure MDG Performance

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For example, a 50 percent reduction in poverty.

Source: Authors' description.

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MDG performance in this paper is measured by deviations of the latest data from the trajectory required to reach the MDGs (similar to the idea in figure 1b but applied to individual countries). Different starting points imply a unique trajectory for each country to reach a specific MDG. Hence, comparing the slope or growth rate of the country's actual historical path with the required path (to meet the MDGs on time) is a good way to assess progress. The reference year for measuring progress is officially set as 1990. For each country and MDG indicator, we calculate the linear annualized rate of improvement required to reach the indicator's 2015 goal from the reference year. The illustration above shows how we measure MDG performance for a 50 percent reduction in extreme poverty.

A country is classified as on target if the latest actual or observed MDG performance, point A, meets or exceeds a point, such as C, that is suggested by the correct trajectory or trend to meet the goals by 2015. A country's annual rate of progress or slope between the reference year and the latest data implies an achievement path that will land the country at point G by 2015, which is more than enough to reduce poverty by 50 percent, as point E shows. An example is China. Since 1990, China has reduced its poverty rate by more than 70 percent, far above the 2015 target of reducing poverty. A country is considered off-target or lagging if its latest MDG performance, such as point B, falls short of this path. An example is Mali, where, instead of decreasing, the poverty rate increased by more than 25 percent from 1989 to 2006. Segment BC uses the country's most recent data to measure and illustrate its gap to becoming on target by 2015.

Within the off-target group, we consider two ways to further separate those countries that are close from those that are far from the target. In the main approach of the paper, the group's average distance to be on target for each MDG serves as a convenient or natural cut-off point to divide the lagging countries into two subgroups: off-target and above average and off-target and below average. We argue that lagging countries in the top half of the off-target and above average category are indeed "close to the target," whereas lagging countries in the bottom half of the off-target and below average category are "far from the target." The computed mean gaps are more conservative than the cut-off points used in [Leo and Barmeier \(2010\)](#), which defines lagging countries as close to target if their trajectory is within 50 percent of the required progress to reach the goals, earning half of a full score. In our methodology, we do not use an arbitrary cutoff point of 50 percent. Moreover, the mean gaps are all less than 50 percent across the MDGs, and they provide data-specific cutoff points to split the off-target countries.

Because mean gaps may conceivably be affected by outliers or spurious factors not addressed by the data, we also employ two absolute levels of closeness as alternatives: countries that are within 10 and 20 percent of becoming on target.

Detailed historical data on MDG performance are required to calculate the achievement path for each country to meet each of the MDGs. Unfortunately, such data are not available in many countries for 1990, although estimates for recent years tend to be more complete. If no country data are available for 1990, we use the closest available information in the late 1980s or early 1990s as substitutes for the starting point and then calculate the rate of progress required from that point to meet the MDG. This approach may be inaccurate if the data for the available starting point are significantly different from the level of MDG performance in 1990 or the sample period does not capture the latest progress. The latter is a particularly important issue now because data generally are yet not available for 2009, the year of the recent global economic crisis. In addition, for countries without at least two data points, progress cannot be measured even if

data are available for a recent year. Nevertheless, the approach allows us to include more countries than if we relied only on data from 1990 and 2008.

We restrict our attention to six MDGs and nine development targets with explicit and quantifiable 2015 goals (United Nations 2008). The following are the selected development targets:

- MDG 1.a: reduce by one-half, between 1990 and 2015, the proportion of people whose income is less than \$1.25 a day (poverty headcount ratio at \$1.25 a day, PPP, percent of the population).
- MDG 1c: reduce by one-half, between 1990 and 2015, the proportion of people who suffer from hunger (malnutrition prevalence, weight for age, percent of children under 5).
- MDG 2.a: ensure that by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling (primary completion rate, total, percent).
- MDG 3.a: eliminate gender disparity in primary and secondary education, preferably by 2005, and at all levels of education no later than 2015 (ratio of females to males in primary and secondary enrollment).
- MDG 4.a: reduce by two-thirds, between 1990 and 2015, the under-five mortality rate (mortality rate, under five, per 1,000).
- MDG 5.a: reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio (maternal mortality ratio, per 100,000 live births).
- MDG 7.c: reduce by one-half, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation (improved water source and sanitation facilities, percent of population without access).

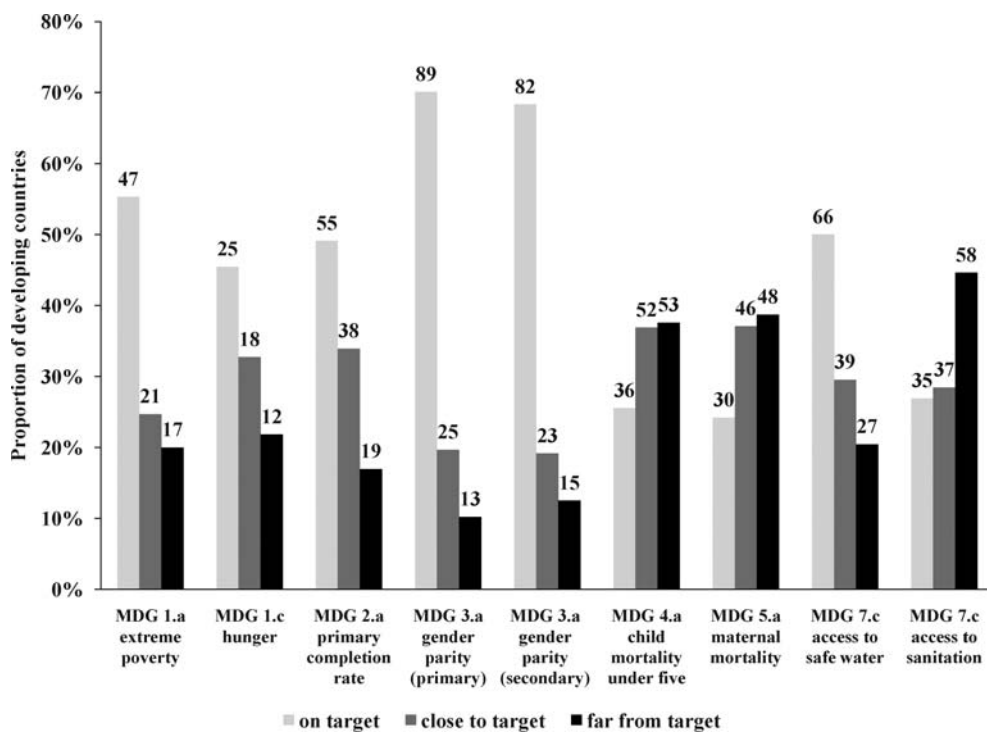
In what follows, we take a close look at MDG performance in developing countries with a particular focus on those countries facing larger gaps in terms of MDG achievement.

### *Variation in country performance*

Appendix table S1.1 (supplemental appendix available at <http://wber.oxfordjournals.org/>) summarizes the location of each developing country with respect to each of the six MDGs, according to the definition of performance above and where data are available. Figure 2 shows the distribution of countries according to the three groups: countries that are on target, close to the target, and far from the target for each MDG.

Although more developing countries are off-track than on track to achieve the targets, about three-quarters of developing countries are, on average, on target or close to being on target because of more than a decade of better policy and growth, as will be shown later in the paper. Of the three groups, about 45 percent of countries are now on target across the MDGs, and roughly another 30 percent

**Figure 2.** The Pattern of Country Performance by MDG



Distribution of countries by level of progress toward MDGs

*Note:* The number above each bar is the number of countries. A country is “close to the target” if its distance to getting on target (that is, its gap of trajectory) is smaller than the average gap of all lagging countries. Otherwise, it is “far from the target” (that is, its distance is greater than the average gap).

*Source:* Authors’ calculations based on data from the World Development Indicators database.

are close to being on target. Countries that are far from being on target constitute the smallest group, at about 25 percent. Nevertheless, this group represents a significant percentage and concern.

For gender parity in primary education, 89 of the countries (or 70 percent) are on target, and another 25 (20 percent) are close to being on target. Regarding gender parity in secondary education, 82 of the countries (68 percent) are already on track, whereas 23 countries (19 percent) are close. For access to safe drinking water, 66 (50 percent) are on target, and another 39 countries (30 percent) are getting close to being on target. The primary completion rate in developing countries also shows encouraging signs: 55 countries (49 percent) are now on target, whereas 38 countries (34 percent) are close. With regard to reducing extreme poverty, 47 countries (55 percent) are on track, and another 21 (25 percent) are close.



In the next subsection, we argue that countries that are close to being on target are actually “close.” Hence, if we take the performance of the first two groups to signify substantial progress, the picture from the variation in country performance is hopeful and not at all grim. For instance, the share of countries that are on target or close to being on target is very high for several MDGs—about 90 percent for gender parity in primary and secondary education and roughly 80 percent for the primary education completion rate, extreme poverty, access to safe drinking water, and reduction in hunger.

Progress is mixed or poor for access to sanitation, maternal mortality, and child mortality. Fewer countries are on track for these MDGs: 30 countries (or 24 percent) for maternal mortality, 35 countries (27 percent) for sanitation, and 36 countries (25 percent) for child mortality. In contrast, relatively more countries are far from being on target for these health-related indicators, ranging from 48 to 58 countries (about 37 to 45 percent). A silver lining that somewhat counterbalances the negative pattern that comes from the middle group (close to being on target). The number of countries in this category is substantial, ranging from 37 to 55 countries (about 29 to 38 percent).

Many middle-income countries are on target across the MDG indicators (table S1.1). In addition to being on target on several indicators, a number of these countries showed great achievement by having no single MDG classified as far from target. Examples include Albania, Armenia, Brazil, Chile, Ecuador, Egypt, Honduras, Lithuania, Iran, Macedonia, Malaysia, Nicaragua, and Sri Lanka. Of the large countries, China is on target for all MDGs except sanitation (which is close to being on target); India is on track on four indicators and close on another three; and Indonesia is on target or close to being on target for all MDGs, but information is lacking on its poverty rate (reference year, 1990). In the next section, we examine the role of initial incomes on MDG progress.

Like many middle-income countries, several low-income countries are doing well, but the pattern is not defined. Table 1 lists these countries by MDG, confirming that progress in many African and poor countries was strong.

### *Distance to being on Target among Lagging Countries*

Although the variation among lagging countries is large, the average gap is not. Lagging countries are, on average, only 23 percent away from being on track to achieve all of the MDGs (table 2). They are especially close to the targets for gender parity in primary education (average gap of 7 percent), gender parity in secondary education (16 percent gap), reduction of hunger (19 percent gap), primary education completion (20 percent gap), and, to some extent, under-five mortality (23 percent gap). However, for each target, there are countries where progress has been scant or limited. For example, although the global goal will be

**Table 1.** Low-Income Countries that are Achieving the MDGs

<i>Selected Millennium Development Goal</i>	<i>Low-income countries that have achieved the goal</i>	<i>Low-income countries that are on track to achieve the goal</i>
<b>Poverty</b>	<ul style="list-style-type: none"> <li>· Cambodia</li> <li>· Kenya</li> <li>· Mauritania</li> </ul>	<ul style="list-style-type: none"> <li>· Central African Republic</li> <li>· Ethiopia</li> <li>· Ghana</li> </ul>
<b>Universal primary education</b>	<ul style="list-style-type: none"> <li>· Myanmar</li> <li>· Tajikistan</li> <li>· Tanzania</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>
<b>Gender parity in primary education</b>	<ul style="list-style-type: none"> <li>· Bangladesh</li> <li>· Gambia, The</li> <li>· Ghana</li> <li>· Haiti</li> <li>· Kenya</li> <li>· Kyrgyz Republic</li> <li>· Madagascar</li> <li>· Malawi</li> <li>· Mauritania</li> <li>· Myanmar</li> <li>· Rwanda</li> <li>· Tanzania</li> <li>· Uganda</li> <li>· Zambia</li> <li>· Zimbabwe</li> </ul>	<ul style="list-style-type: none"> <li>· Benin</li> <li>· Burkina Faso</li> <li>· Burundi</li> <li>· Cambodia</li> <li>· Comoros</li> <li>· Ethiopia</li> <li>· Guinea</li> <li>· Nepal</li> <li>· Sierra Leone</li> <li>· Solomon Islands</li> <li>· Togo</li> </ul>
<b>Gender parity in secondary education</b>	<ul style="list-style-type: none"> <li>· Bangladesh</li> <li>· Kyrgyz Republic</li> <li>· Myanmar</li> </ul>	<ul style="list-style-type: none"> <li>· Gambia, The</li> <li>· Malawi</li> <li>· Mauritania</li> <li>· Nepal</li> <li>· Rwanda</li> </ul>
<b>Under-five mortality rate</b>	<ul style="list-style-type: none"> <li>None</li> </ul>	<ul style="list-style-type: none"> <li>· Bangladesh</li> <li>· Eritrea</li> <li>· Lao PDR</li> <li>· Madagascar</li> <li>· Nepal</li> </ul>
<b>Access to safe drinking water</b>	<ul style="list-style-type: none"> <li>· Afghanistan</li> <li>· Burkina Faso</li> <li>· Comoros</li> <li>· Gambia, The</li> <li>· Ghana</li> <li>· Korea, Democratic People's Republic of</li> <li>· Kyrgyz Republic</li> <li>· Malawi</li> <li>· Nepal</li> </ul>	<ul style="list-style-type: none"> <li>· Benin</li> <li>· Cambodia</li> <li>· Guinea</li> <li>· Uganda</li> </ul>
<b>Access to sanitation</b>	<ul style="list-style-type: none"> <li>· Lao PDR</li> <li>· Myanmar</li> <li>· Tajikistan</li> </ul>	<ul style="list-style-type: none"> <li>· Rwanda</li> </ul>

*Note:* List of low-income countries is based on fiscal year 2011 World Bank classification; see table A1.13 in World Bank and IMF (2011a).

*Source:* Authors' calculation based on World Development Indicators database (as of March 2011).

**Table 2.** Average Gaps of Lagging Countries to Getting on Target

	<i>Average distance to getting on target (gaps, %)</i>		
	<i>All off target countries</i>	<i>Countries that are</i>	
		<i>close to the target</i>	<i>far from the target</i>
<b>MDG 1.a Extreme poverty</b>	39 (96)	17	67
<b>MDG 1.c Hunger</b>	19 (60)	9	35
<b>MDG 2.a Primary education completion</b>	20 (96)	9	40
<b>MDG 3.a Gender parity in primary education</b>	7 (22)	4	14
<b>MDG 3.a Gender parity in secondary education</b>	16 (52)	8	29
<b>MDG 4.a Child mortality under five</b>	23 (59)	8	38
<b>MDG 5.a Maternal mortality</b>	32 (80)	11	51
<b>MDG 7.c Access to safe drinking water</b>	25 (76)	14	41
<b>MDG 7.c Access to sanitation</b>	27 (50)	16	34
<b>Simple average</b>	23	11	39

*Note:* A country is “close to the target” if its distance to getting on target (that is, its gap of trajectory) is smaller than the average gap of all lagging countries. Otherwise, it is “far from the target” (that is, its distance is greater than the average gap). Figures in parentheses indicate the range of variation (Maximum value – Minimum value) of countries off target, by MDG. Averages and numbers of countries cover only those with data and that may vary by MDG.

*Source:* Authors’ calculations based on data from the World Development Indicators database.

reached by 2015, several countries are far from reducing their extreme poverty by one-half.

The mean gaps of lagging countries are relatively larger for indicators such as access to safe drinking water, access to sanitation, maternal mortality, and reduction of extreme poverty. Nevertheless, these mean gaps are all noticeably less than 50 percent: access to safe drinking water, 25 percent; access to sanitation, 27 percent; maternal mortality, 32 percent; and reduction of extreme poverty, 39 percent.

More important, among countries that are off-track, the top half are, on average, only about 11 percent away from being on target. The mean distance of this subgroup is only 4–9 percent for gender parity in primary and secondary education, child mortality, primary education completion, and reduction of hunger. Indeed, countries that are close to the target need to increase primary education completion by only 9.2 percent (or 1.5 percent per year), on average, to be on track to reach the 2015 target.

Table 3 provides the proportion of countries within 10 percent or 20 percent of being on target. From another perspective, table 4 lists countries that are within 10 percent of being on target by MDG. In other words, this table shows that many lagging countries are already within striking distance of being on target. Although more arbitrary, these alternative and absolute levels of closeness are less

**Table 3.** Developing Countries that are within 10–20 Percent of being on Target

	<i>Distribution of lagging countries</i>			
	<i>Gap ≤ 10 percent</i>		<i>Gap ≤ 20 percent</i>	
	<i>Number of countries</i>	<i>Proportion of countries (%)</i>	<i>Number of countries</i>	<i>Proportion of countries (%)</i>
<b>MDG 1.a Extreme poverty</b>	9	24	13	34
<b>MDG 1.c Hunger</b>	10	33	18	60
<b>MDG 2.a Primary education completion</b>	23	40	39	68
<b>MDG 3.a Gender parity in primary education</b>	28	74	36	95
<b>MDG 3.a Gender parity in secondary education</b>	16	42	23	61
<b>MDG 4.a Child mortality under five</b>	33	31	48	46
<b>MDG 5.a Maternal mortality</b>	20	21	37	39
<b>MDG 7.c Access to safe drinking water</b>	10	15	32	48
<b>MDG 7.c Access to sanitation</b>	6	6	25	26
<b>Simple average</b>	17	32	30	53

*Source:* Authors' calculations based on data from the World Development Indicators database.

affected by outliers relative to mean gaps. By these measures, the closeness of lagging countries to being on target is also confirmed. One-third of off-target countries have, on average, a gap of 10 percent or less from being on target across the MDGs. Countries such as Bangladesh (reduction in extreme poverty, hunger, and maternal mortality), Indonesia (reduction in hunger, child and maternal mortality, access to safe drinking water), and Mali (gender parity in primary education and access to safe drinking water) are in this category. It is encouraging that more than half of these countries have a gap of 20 percent or less. Of the countries that are within 20 percent of target, the best results are for gender parity in primary education, primary education completion, gender parity in secondary education, and reduction of hunger. The worst results are for access to sanitation, reduction of extreme poverty, and reduction of maternal mortality, with access to safe drinking water and under-five mortality in the middle.

### *Country Patterns versus the Global Picture*

The reference unit matters in a number of ways. Simple country averages that give equal importance to each country qualify the global story, which uses weighted averages that give more importance (i.e., a statistical bias) to countries with large populations. This can work in both directions:

**Table 4.** List of Lagging Countries that are within 10 Percent of being on Target

<i>MDG 1.a Extreme poverty</i>	<i>MDG 1.c Hunger</i>	<i>MDG 2.a Primary education completion</i>	<i>MDG 3.a Gender parity in primary education</i>	<i>MDG 3.a Gender parity in secondary education</i>	<i>MDG 4.a Child mortality under five</i>	<i>MDG 5.a Maternal mortality</i>	<i>MDG 7.c Access to safe drinking water</i>	<i>MDG 7.c Access to sanitation</i>
Bangladesh	Bangladesh	Bhutan	Belize	Bulgaria	Algeria	Algeria	Azerbaijan	Botswana
Burkina Faso	Bolivia	Cambodia	Cape Verde	Congo, Rep.	Antigua and Barbuda	Bangladesh	Colombia	Brazil
El Salvador	Egypt, Arab Rep.	Comoros	Chile	Georgia	Argentina	Brazil	Eritrea	Dominican Republic
Guinea	Indonesia	Cuba	Congo, Dem. Rep.	Grenada	Belarus	Cambodia	Haiti	Morocco
India	Jordan	El Salvador	Congo, Rep.	Guatemala	Bhutan	Cape Verde	Indonesia	Peru
Lao PDR	Kenya	Gambia, The	Djibouti	Macedonia, FYR	Cape Verde	Dominican Republic	Iran, Islamic Rep.	Turkey
Lesotho	Nigeria	Ghana	El Salvador	Madagascar	Colombia	Egypt, Arab Rep.	Kiribati	
Philippines	Pakistan	Guatemala	Grenada	Morocco	Dominican Republic	Ethiopia	Mali	
Uganda	Rwanda Zambia	Honduras Iraq Jamaica Kyrgyz Republic Lebanon Lithuania Macedonia, FYR Mauritius Moldova Morocco	Guatemala Guinea-Bissau Jamaica Lao PDR Lebanon Maldives Mali Mozambique Nigeria Paraguay	Pakistan Russian Federation Senegal Solomon Islands Sudan Swaziland Vanuatu Zimbabwe	Ecuador Ethiopia Guatemala Honduras Indonesia Kazakhstan Kiribati Kyrgyz Republic Liberia Libya	Haiti India Indonesia Lao PDR Mongolia Morocco Nepal Peru Rwanda Syrian Arab Republic Tunisia	Myanmar Venezuela, RB	
		Nepal	South Africa		Malawi			

Continued

**Table 4.** *Continued*

<i>MDG 1.a Extreme poverty</i>	<i>MDG 1.c Hunger</i>	<i>MDG 2.a Primary education completion</i>	<i>MDG 3.a Gender parity in primary education</i>	<i>MDG 3.a Gender parity in secondary education</i>	<i>MDG 4.a Child mortality under five</i>	<i>MDG 5.a Maternal mortality</i>	<i>MDG 7.c Access to safe drinking water</i>	<i>MDG 7.c Access to sanitation</i>
		Philippines	St. Vincent and the Grenadines		Moldova	Yemen, Rep.		
		South Africa	Sudan		Montenegro			
		Tanzania	Suriname		Niger			
		Turkey	Swaziland		Paraguay			
			Tajikistan		Russian Federation			
			Tonga		Samoa			
			Uruguay		Sri Lanka			
			Vanuatu		St. Vincent and the Grenadines			
			Venezuela, RB		Suriname			
					Syrian Arab Republic			
					Tajikistan			
					Turkmenistan			
					Uzbekistan			
					Yemen, Rep.			

*Source:* Authors' calculations based on data from the World Development Indicators database.

Country variation in performance generally softens the gloomier global picture. As shown earlier (figure 1, table 2), the average gap of lagging countries, especially in the top half, is small across the MDGs. Moreover, the percentage of countries that are on track or close to be on track is high when they are combined (75 percent). The statistics are remarkable, revealing progress that is much more varied and much more hopeful than the recent pessimism about achieving the MDGs. That pessimism was likely colored by the gaps at the global level, the difficult circumstances of poor countries, the potentially negative impact of the recent global crisis, and the lack of available data to assess outcomes. For example, although only 27 percent of low-income countries are on track to achieve or have achieved the target of reducing extreme poverty, almost 90 percent of these countries are in the top half of the lagging group and, therefore, have the goal of reducing extreme poverty within their reach. Similarly, about 40 percent of low-income countries are close to the primary education completion goal, although only 7 percent of the countries in this income group are on target.

That said, there are serious concerns arising from country variation. Although the proportion of countries that are in the bottom half of the off-target countries is lower (25 percent) than the other groups, these countries are disproportionately far from the targets, especially for the reduction of extreme poverty (67 percent on average) and maternal mortality (51 percent). This disproportionately higher distance for the bottom half of the off-target countries marks all MDGs except gender parity in primary education (table 2), pointing to the rather uneven distribution that affects MDG indicators. The range of variation is considerably large among off-target countries. For the reduction of extreme poverty and primary education completion, the gap between the countries that are closest to and farthest from being on target is 96 percent, a fact that clearly illustrates the variation in performance. This is the case for El Salvador and Uzbekistan for extreme poverty reduction and for Bhutan and Djibouti for primary completion rates. Clearly, the benefits of growth (if any) and, more important, of broad-based development are not reaching this last group of countries.

Looking at specific MDGs, the progress in reducing world poverty and meeting that goal is essentially the result of rapid advances by China and India, with the absolute number of poor people decreasing rapidly in China (although the absolute number of poor will still be large because of the size of the population). Despite the progress on extreme poverty, the average shortfall of lagging countries, at 39 percent, remains the largest among the MDGs. Among lagging countries in the bottom half, extreme poverty also has an average distance to being on target at a very serious, if not alarming, 67 percent. These observations underscore the importance of inclusive or development-based growth that raises everyone's quality of life and standard of living versus simple growth that raises only the average income. Take a related measurement called poverty gap at \$1.25 a day,

which is the mean shortfall from the poverty line (counting the nonpoor as having zero shortfall) expressed as a percentage of the poverty line; it reflects the depth of poverty and its incidence. From 2006 to 2010, China had a poverty gap of 3.2 percent; India, 7.5 percent. Thus, the poor in these countries were already close to the international poverty line for extreme poverty, and growth would easily bring them across the threshold. For many countries in sub-Saharan Africa, however, the poverty gaps are high—for example, Madagascar’s poverty gap is 43.3 percent; Zambia, 37 percent; Central African Republic, 31.3 percent; Malawi, 32.3 percent; and Tanzania, 28.1 percent (data are from the World Development Indicators). These African countries would need not only higher growth but also broad-based development to lift many individuals out of extreme poverty.

Regarding under-five mortality, the average distance to being on target is only 23 percent for lagging countries, somewhat less daunting than the global distance derived from the population of all under-five children. Moreover, the top half of lagging countries is only 8 percent from being on target. However, the distance of the countries far from the target is high, at 38 percent on average.

Although the progress of maternal mortality, an outcome-oriented goal, lags the most at the global level, there are hopeful signs at the country level. The average distance to being on target of the top half of lagging countries is only 11 percent. However, the average gap for all lagging countries is still disturbingly high, at 32 percent, second only to extreme poverty. The gap of the bottom half of lagging countries, at an alarming 51 percent, is the second highest.

The patterns at the aggregate and country levels generally support one another in the progress toward some of the more output-oriented goals—improving the primary education completion rate, reducing hunger, achieving gender parity in primary and secondary education, and providing access to safe drinking water. The lack of progress in sanitation is somewhat similar.

MDGs provide powerful benchmarks for measuring progress on key development outcomes, and one immediate impact is the effort to increase developing countries’ statistical capacity to generate the related indicators. Although much progress has been made, there are still gaps within the existing indicators (see Appendix table S1.2). The above analysis demonstrates that these efforts need to extend to other outcome indicators across countries (such as learning outcomes in education versus completion rates) and to variation within countries (urban versus rural, attainment by income group) in order to better gauge how progress is distributed.

## What Factors Affect the Rate of Progress?

Why are some countries on target, whereas others are not? Of the lagging countries, why are some close to target and others far away? The development factors



or driving forces often cited as the keys to attaining MDG-related development outcomes include economic growth as well as sound policies and institutions that are fundamental to effective service delivery to the poor. (see, for example, [World Bank 2004](#)). Although frequently cited and conceptually appealing as part of a natural working hypothesis, it is difficult to provide empirical documentation of their impact on achieving the MDGs. We pursue this approach further by examining whether the initial conditions of these factors or subsequent growth, policy and institutions improve the odds of reaching the goals. The analysis examines these elements in two ways: (1) using *prima facie* evidence from graphical associations and patterns, which point to these elements' likely association with the diverse progress of countries; and (2) in the next section, providing some simple statistical correlations and links in an attempt to answer the question of whether lagging countries can meet the MDGs by 2015.

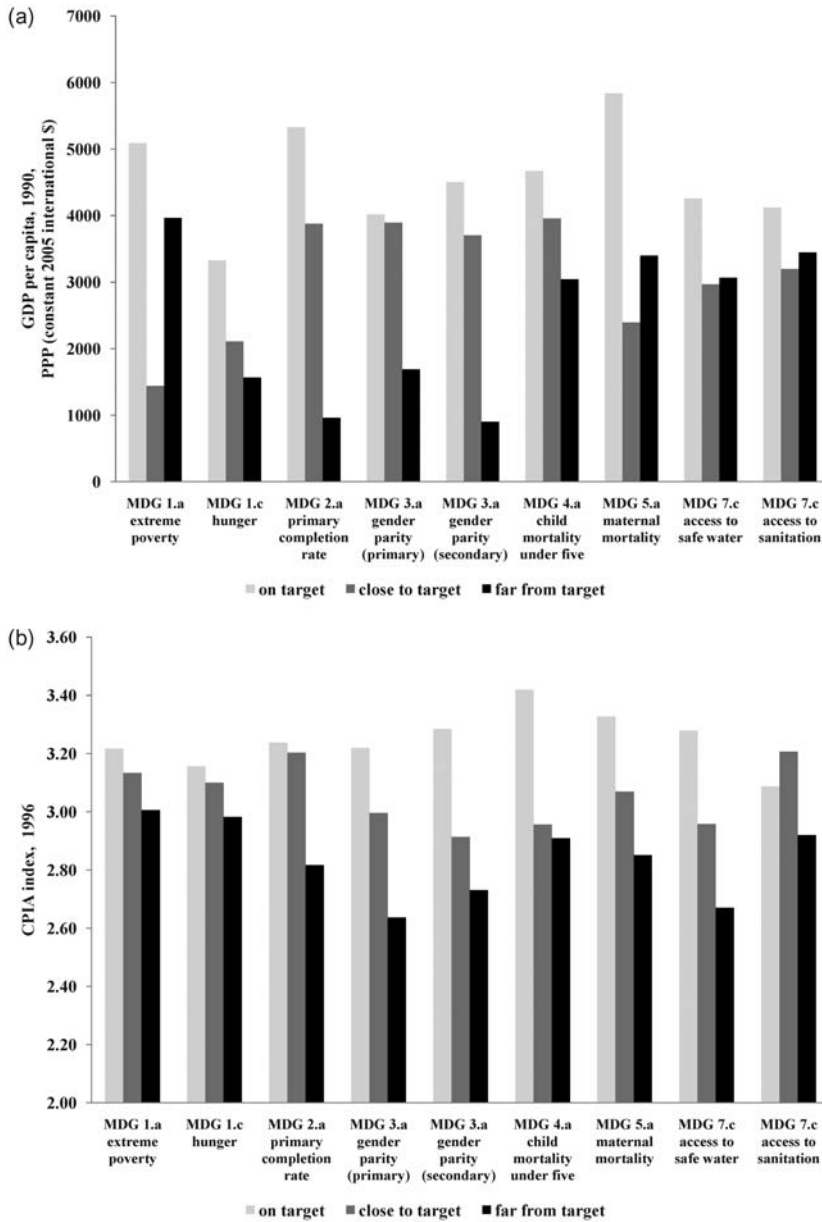
### *Initial Conditions*

Initial conditions count in MDG performance. In most cases, countries that are doing better (those that are on or close to the target) exhibited favorable starting conditions around 1990 (the reference year). A higher per capita GDP in 1990 is generally associated with better MDG performance (figure 3a).

Although there is no perfect indicator of the overall quality of policy and institutions in developing countries, the World Bank's annual Country Policy and Institutional Assessment (CPIA) provides a broadly consistent framework for assessing country performance on 16 items grouped in four clusters: economic management, structural policies, policies for social inclusion and equity, and public sector management and institutions. The score is from one (low) to six (high) for each policy, which covers a wide range of economic and noneconomic issues, such as macroeconomic and fiscal policy, debt policy, trade, human development policy in education and health, gender equality, social protection, environmental policy, budgetary and financial management, and corruption in the public sector.<sup>7</sup> The index focuses on policies and institutional arrangements, the key elements that are within the country's control, rather than on actual outcomes (such as growth rates) that are influenced by elements outside of the country's control. Using the 1996 CPIA, the earliest available index with comparable scales and criteria,<sup>8</sup> suggests that countries that begin with good policy and institutions tend to do better in the MDGs (figure 3b). There are clearly other measures of policy and institutions, governance, and government effectiveness. We consider state capacity and fragility in this graphical section as well as other measures when we examine their statistical associations with MDG performance.<sup>9</sup>

Starting points—inherited initial conditions—explain why middle-income countries generally do better than low-income countries. Having grown earlier,

**Figure 3.** MDG Performance and Initial Income and Institution Conditions



a. MDG performance and initial income conditions

b. MDG performance and initial institutional conditions

*Note:* A country is “close to the target” if its distance to getting on target (that is, its gap of trajectory) is smaller than the average gap of all lagging countries. Otherwise, it is “far from the target” (that is, its distance is greater than the average gap).

*Source:* Authors’ calculations based on data from the World Development Indicators database.

they also tend to have implemented earlier a better set of policies and institutions. The link between the two factors is apparent in the following way—higher income brings greater resources to bear on a country’s development problems while better policy and institutions ensure that those resources are allocated and used effectively to achieve better development outcomes. Hence, the initial levels of income and institutional capacity for good policy matter. However, there are variations. For extreme poverty and gender parity in primary education, countries with the fastest progress are those that experienced medium poverty and female-to-male primary enrollment ratios in the 1990s. The latter results draw attention to the challenges of poverty reduction in the proportionate way that MDGs are defined at low-income and middle-income levels. For poor countries, the distance to the goal is long; for middle-income countries, halving existing low poverty rates is difficult.

### *Growth and Policy*

Although starting points (given their inherited nature) do not say much about what countries can or should do, they need not predetermine outcomes. The good news is that economic growth and policy performance after the initial year appear to count significantly, if not more than the starting points. The growth of income and the quality of that growth to elevate development—as manifested by the recent state of policies and institutions (2009)—appear to jointly move with MDG performance (table 5). Countries that are on target or close to being on target tend to have faster growth and better level of policies and institutions than countries that are far from the target. To help interpret the CPIA scores in table 5, a small variation in the overall score, such as a 0.1 increase, implies a significant improvement in development policy and institutions that is defined by construction (see also the next section for further discussion). Indeed, over time,

**Table 5.** Growth and CPIA Scores Are Higher in Countries that are on Track or Close to being on Track

*Average values across MDGs (weighted by the number of countries in each MDG category)*

	<i>On target</i>	<i>Close to the target</i>	<i>Far from the target</i>
<b>Average GDP per capita growth (1990-2009)</b>	2.4	1.8	1.2
<b>Country Policy and Institutional Assessment Index (2009)</b>	3.7	3.5	3.3

*Note:* The pairwise correlation between average GDP per capita growth and the CPIA index is 0.32 (significant at 0.01 level). GDP per capita, purchasing power parity constant 2005 international dollars. A country is “close to the target” if its distance to getting on target (that is, its gap of trajectory) is smaller than the average gap of all lagging countries. Otherwise, it is “far from the target” (that is, its distance is greater than the average gap).

*Source:* Authors’ calculations based on data from the World Development Indicators database.

good policies and institutions are expected to lead to stronger future growth and better development outcomes such as poverty reduction, notwithstanding possible yearly fluctuations caused by external factors (World Bank 2007).

### *Low State Capacity or Government Failure*

State capacity, fragility, or government failures, as the opposite of sound policy and institutions, are relevant. A state's ability to raise revenue, allocate and spend the revenue, and deliver critical public services to all of its citizens are important factors in the progress of MDGs. Besley and Persson (2011) recently developed a state capacity index. Figure 4a shows that progress is more pronounced at higher levels of state capacity.

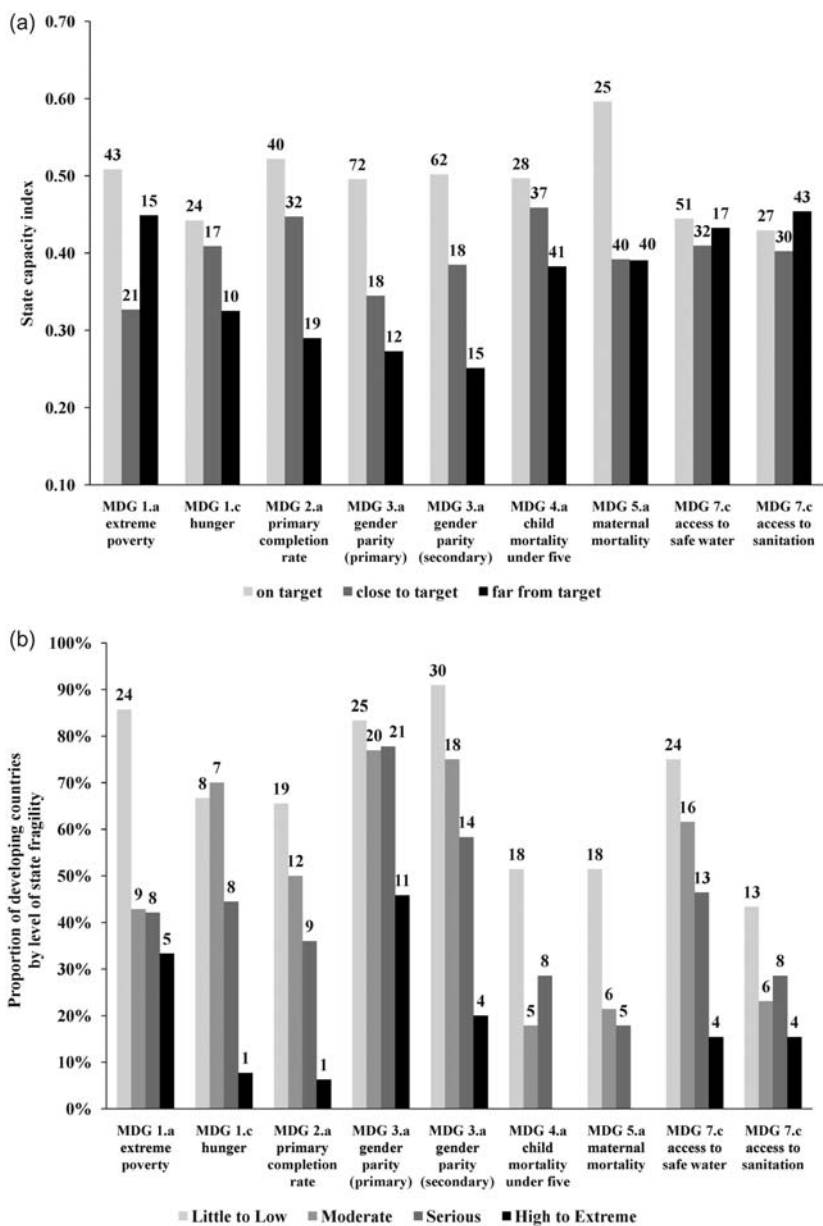
Government failures, as reflected by the frequency and severity of conflicts, disastrous policy and institutional environments, and growth collapses, are also significant factors. Recent studies (World Bank and IMF 2010, Hartgen and Klasen 2010, Arbache et al. 2008) have drawn attention to the disproportionately negative effects of these factors on MDG performance and on human development indicators, such as child mortality, women's life expectancy, and education for girls. In broad terms, the data show that the proportion of on-target countries tends to rise with declining state fragility (figure 4b). In the graph, fragility is the index from the Center for Global Policy, which ranges from 0 (no fragility) to 25 (high fragility), divided into four categories ranging from little to extreme fragility (Marshall and Cole 2010).

All of these factors—especially state capacity, fragility, the initial conditions and subsequent growth, policy, and institutions—indicate why the MDGs are such significant challenges for the world's 79 poorest countries serviced by the World Bank's International Development Association (IDA) (figure 4c). IDA countries had a threshold per capita gross national income of \$1,165 for fiscal year 2011, with average per capita growth and recent institutional performances that are well below average. Half of the IDA countries are in sub-Saharan Africa.<sup>10</sup>

## Will Lagging Countries Achieve the Goals?

This question is not easy to answer because of the limitations of statistical analysis and tests on MDG performance. We briefly review the issues, selectively drawing findings from other studies. Because of the constraints, we resort to using simple approaches, such as pairwise correlations, to obtain some indication of the statistical strength of associations suggested by the graphs above. However, to identify answers to the broad question, we also attempt to examine countries' probability of falling into one of the three categories of success previously described in the second section, on target, close to target, or far from target, using a

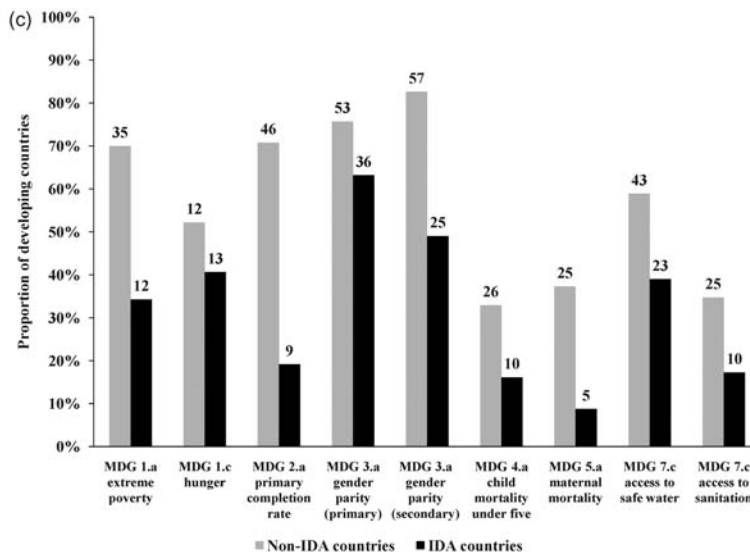
**Figure 4.** MDG Performance, State Capacity and Fragility



Continued.

set of development drivers defined below. This approach is limited by the descriptions of the MDG data and the set of factors employed. Hence, the results may not generalize and are preliminary and suggestive.

Figure 4. Continued



a. MDG performance and state capacity

b. Countries on target to achieve the MDGs by level of state fragility

c. MDG performance in IDA countries: countries on target

Note: Figures above or beside each bar indicate the number of countries

Source: Authors' calculations based on data from the World Development Indicators database, Besley and Persson 2011 and Marshall and Cole 2010.

### Difficulty of International Comparison

Noting that development outcomes such as the reduction of both extreme poverty and child mortality are often not measured with high frequency, the first caveat is the quality of the available data. Information about MDG progress is even more restrictive than the underlying indicators. By definition, MDGs are concerned with the variation of the underlying indicators from the reference year (1990) to the latest year with the available data, which are then compared with the required change to reach the targets by 2015 (see the second section). Where data are available, there is essentially only one point of observation for each country and MDG, with no time series to improve estimation.<sup>11</sup> In low-income countries, the capacity to conduct household surveys and collect other relevant data is also weak. Appendix table S1.2 reports the status of data availability by MDG, income level, and region for this study.

Second, specific factors are suggested by recent micro studies and impact evaluations to be strongly relevant for MDGs, particularly those affecting human

development. These factors tend to be complex and wide ranging and to have great specificity of policy in their respective areas. Factors that affect child health issues, for example, may not be relevant for others. Evidence from 172 micro data sets from Demographic and Health Surveys for more than 70 countries in [Günther and Fink \(2010\)](#) found that child mortality and the incidence of diarrhea benefit considerably from access to certain facilities (such as a latrine, flush toilet, pump, well, spring, and piped water), while controlling for mother's education and age and other fixed effects, such as electricity and indications of household assets and wealth (such as radio, refrigeration, bikes, and urban location). The findings from more than 70 impact evaluations of projects (World Bank and IMF 2011) indicate that, in addition to the effectiveness of service delivery and supply factors, demand factors as well as the accountability and incentives of service providers and clients are significant in improving health and education outcomes. A key lesson suggests that policy interventions should go beyond supply-side improvements, budget allocation, or input provision. The list of policies is not only wide ranging but also context specific. Examples include addressing uptake issues of health or education services by households, facility-based care and services, community-based interventions and support, such as training and group sessions, cost sharing of services, cash transfer programs to target poor people, information to change behavior and increase accountability, and pay-for-performance programs targeting specific health or education workers. These findings are consistent with those in [Devarajan and Reinikka \(2004\)](#) and [World Bank \(2004\)](#).

The scope of policy interventions suggested by micro studies contrasts with more clearly defined reform measures and variables that are available for traditional macroeconomic, fiscal, or trade policy. To obtain international comparisons of aggregate MDG indicators, authors have utilized broad or multidimensional indices, such as proxies and summaries of the range of policy interventions, the quality of policy and institutions, corruption levels, the degree of country fragility, and the level of state capacity. For example, [Wagstaff and Claeson \(2004\)](#) used the CPIA for policy and institutions to better explain the effects of public health spending on health-related MDGs. In an earlier study, [Filmer et al. \(2000\)](#) concluded that the links between public spending and health results are weak if poorly functioning facilities, demand-side factors, and other factors in the chain are not considered. [Rajkumar and Swaroop \(2008\)](#) found that corruption and bureaucratic quality mattered significantly in terms of the effects of public health spending on different health outcomes. [Baldacci et al. \(2008\)](#) found that public spending and health outcomes appear stronger if the analysis accounts for governance. For water and sanitation, however, it is not sufficient to include the central government's spending on infrastructure; the more relevant indicator is the capital spending of local governments or the local public entities in urban

centers that are responsible for providing water and sanitation. However, 84 percent of the 884 million people who lacked access to safe water in 2010 were in rural areas. Hence, public spending for water wells and storage tanks is important. Furthermore, private income levels and spending on food clearly affect poverty, nutrition, hunger, and various health and education indicators.

Other issues exist. The direction of the impact between broad development outcomes and broad development drivers and institutional factors is likely to go both ways, and the drivers are likely to be correlated. Unlike per capita income, policy and institutional variables are generally not comparable or available over time. To account for the many factors that are not readily measurable or available, studies have employed various fixed effects models to reflect varying initial conditions. However, these fixed effects tend to be specific to certain MDGs. For a survey of additional literature and issues, see [Lay \(2010\)](#) and [Lofgren \(2011\)](#).

Overall, comprehensive micro data sets, such as those in [Günther and Fink \(2010\)](#) for child mortality, would be ideal for investigating the determinants of the evolution of the other MDGs. Each MDG would likely require a separate set of micro data and a separate study. As additional impact evaluations are undertaken, additional lessons may be generalized from case studies of different MDG areas. These approaches, however, are outside the scope of this paper. Moreover, it seems important that specific policy interventions in particular context and circumstances add up to system-wide improvement in policy and institutions conducive to inclusive growth and sustainable development. [Acemoglu and Robinson \(2012\)](#) argued that policy and institutions in the broadest sense matter; inclusive political and economic institutions explain a large part of nations' long-term economic prosperity and successful development outcomes. There are, of course, many ways to measure policy and institutions for the empirical analysis of MDGs, which we consider in the next section.

In view of the constraints involved in a cross-country analysis of aggregate MDG performance, we employ simple approaches or methodologies that focus on certain aspects of the study. First, we establish the strength of correlations among the broad factors. Next, we limit further analysis to probability functions of the different categories of MDG performance through the multinomial logit model (versus using the underlying indicators). For comparability across MDGs in the probability functions, we use a common set of potentially independent variables. This analysis is not a substitute for in-depth studies of each underlying MDG indicator or its associated development outcomes.

### *Simple Correlations*

Are the MDGs and the broad development factors suggested by the graphs correlated statistically? For the MDGs, we examine the underlying indicators in terms



of their levels. The list of development factors, which is not meant to be exhaustive, includes economic growth, income levels and alternative measures of policy and institutions. The lack of a perfect indicator for policy and institutions means that several alternative definitions and possibilities are available. For our purpose, we examine more than a dozen policy and institution-related variables covering a wide range of issues, such as conflict, corruption, state capacity, violence and political rights, and the CPIA. Table 6 presents the list of institutional variables as well as their pairwise correlations. One observation stands out immediately: there is a high number of significant associations and observed correct signs, which suggests some consistency among the different measurements of policies and institutions, making these measures substitutes for one another. Because these measures of policy and institutions are highly correlated despite some differences in their definition and measurement, it is difficult to include more than one of them in the same empirical relationship without encountering the statistical problem of multicollinearity.

Table 7 shows the pairwise correlations between the levels of the MDG indicators and the various factors in the list. Almost all of the correlation coefficients have the right sign of association, and the number of coefficients that are significant at 10 percent level or better practically fill the matrix. Thus, the results provide broad empirical support for the intuitive argument of the graphs: if growth, income level, and various policies and institutions continue to improve in developing countries, the underlying indicator of each MDG will likely also improve. The direction of effects almost certainly goes both ways. These observations are likely the minimum one can safely identify about the associations examined.<sup>12</sup>

Among the list of factors, the level of income (GDP per capita) and the state fragility index from Marshall and Cole generally have the highest correlation values across the board. It is interesting to note that it is the level of income, which is a positive effect and reflection of economic growth, rather than growth itself, that has a higher correlation value. Relatively high correlation can also be found in factors such as the indexes of prosperity and state capacity in Besley and Persson (2011), the World Bank's CPIA (for both 1996 and 2009), the control of corruption, government effectiveness, rule of law and regulatory quality from Kaufmann et al. (2009), good governance in Knack and Kugler (2002), and the functioning of government of the Economist Intelligence Unit (2007). In the case of the CPIA, one of its major components relates to a country's economic management, which was likely to be more affected by the global economic crisis in 2009 than other indicators. However, its correlation coefficients (in tables 6 and 7) appear stable and comparable to a pre-crisis CPIA index in 2006. Besley and Persson's state capacity is relatively new and is a component of their Prosperity Index. It is defined as the government's ability to levy an income tax (i.e., a share of income to

**Table 6.** Pairwise Correlations Between Institutional Variables

	CPIA 2009	CPIA 2006	Prosperity index	Peace- fulness	State capacity	State fragility index	Manage- ment perfor- mance	Functioning of gover- nment (EIU)	Functioning of government (Freedom House)	Good gover- nance	Voice and account- ability	Political stability -no violence-	Govern- ment effectiv- eness	Regula- tory quality	Control of Rule corrup- tion
<b>CPIA 2009</b>	1.00														
<b>CPIA 2006</b>	0.96	1.00													
<b>Prosperity index (Besley and Persson 2011)</b>	0.37	0.38	1.00												
<b>Peacefulness (Besley and Persson 2011)</b>			0.75	1.00											
<b>State capacity (Besley and Persson 2011)</b>	0.28	0.30	0.68		1.00										
<b>State fragility index (Marshall and Cole 2010)</b>	-0.63	-0.64	-0.69	-0.36	-0.34	1.00									
<b>Management performance (Bertelsmann Transformation Index 2006)</b>	0.77	0.80	0.33	0.22		-0.59	1.00								
<b>Functioning of government (Economist Intelligence Unit 2007)</b>	0.62	0.66	0.26			-0.61	0.74	1.00							
<b>Functioning of government (Freedom House)</b>	0.50	0.54	0.20			-0.47	0.85	0.73	1.00						
<b>Good governance (Knack and Kugler 2002)</b>	0.45	0.47	0.29			-0.52	0.40	0.50	0.37	1.00					

<b>Voice and accountability</b> (Kaufmann et al. 2009)	0.46	0.49	0.24	0.21		-0.55	0.87	0.75	0.92	0.31	1.00					
<b>Political stability -no violence-</b> (Kaufmann et al. 2009)	0.35	0.33	0.56	0.44	0.24	-0.64	0.62	0.52	0.53	0.32	0.59	1.00				
<b>Government effectiveness</b> (Kaufmann et al. 2009)	0.79	0.80	0.47		0.31	-0.71	0.82	0.71	0.65	0.57	0.65	0.60	1.00			
<b>Regulatory quality</b> (Kaufmann et al. 2009)	0.79	0.83	0.38	0.17	0.23	-0.63	0.84	0.66	0.66	0.45	0.71	0.51	0.88	1.00		
<b>Rule of law</b> (Kaufmann et al. 2009)	0.61	0.60	0.43	0.21	0.24	-0.66	0.79	0.69	0.68	0.47	0.71	0.76	0.85	0.77	1.00	
<b>Control of corruption</b> (Kaufmann et al. 2009)	0.60	0.64	0.45	0.23	0.26	-0.65	0.75	0.63	0.67	0.52	0.67	0.67	0.86	0.76	0.86	1.00

Note: All presented correlations are significant at 10% level or better.

Source: Authors' calculations.

**Table 7.** Pairwise Correlations of MDG Indicators in Levels and Various Development Factors (c.2009)

	Poverty	Malnutrition prevalence	Primary completion rate	Ratio of girls to boys in primary education	Ratio of girls to boys in secondary education	Under 5 mortality	Maternal mortality	People without access to safe water	People without access to sanitation facilities
<b>Average growth in GDP per capita (1990-2009), 2005 \$PPP</b>	-0.22		0.26	0.15	0.22	-0.25	-0.21	-0.21	-0.24
<b>GDP per capita 2009, 2005 \$PPP</b>	-0.73	-0.66	0.58	0.34	0.49	-0.64	-0.62	-0.59	-0.67
<b>CPIA 2009</b>	-0.41	-0.43	0.39	0.33	0.41	-0.44	-0.48	-0.41	-0.43
<b>CPIA 2006</b>	-0.43	-0.42	0.38	0.36	0.43	-0.45	-0.50	-0.43	-0.42
<b>Prosperity index (Besley and Persson 2011)</b>	-0.54	-0.65	0.46	0.44	0.54	-0.59	-0.58	-0.53	-0.49
<b>Peacefulness (Besley and Persson 2011)</b>		-0.32			0.17			-0.17	
<b>State capacity (Besley and Persson 2011)</b>	-0.42	-0.48	0.47	0.42	0.40	-0.47	-0.46	-0.33	-0.38
<b>State fragility index (Marshall and Cole 2010)</b>	0.74	0.72	-0.60	-0.49	-0.70	0.80	0.76	0.72	0.66
<b>Management performance (Bertelsmann Transformation Index 2006)</b>	-0.26	-0.31	0.26	0.30	0.38	-0.26	-0.25	-0.30	-0.18
<b>Functioning of government (Economist Intelligence Unit 2007)</b>	-0.35	-0.21	0.38	0.37	0.51	-0.43	-0.41	-0.36	-0.22
<b>Functioning of government (Freedom House)</b>	-0.23	-0.23	0.26	0.21	0.34	-0.26	-0.19	-0.27	

<b>Good governance (Knack and Kugler 2002)</b>	-0.39	-0.26	0.33	0.33	0.38	-0.49	-0.50	-0.33	-0.34
<b>Voice and accountability (Kaufmann et al. 2009)</b>	-0.28	-0.30	0.33	0.25	0.39	-0.32	-0.25	-0.34	-0.15
<b>Political stability -no violence- (Kaufmann et al. 2009)</b>	-0.26	-0.32	0.36	0.36	0.43	-0.38	-0.37	-0.34	-0.23
<b>Government effectiveness (Kaufmann et al. 2009)</b>	-0.51	-0.43	0.49	0.43	0.55	-0.55	-0.51	-0.54	-0.46
<b>Regulatory quality (Kaufmann et al. 2009)</b>	-0.43	-0.41	0.32	0.32	0.39	-0.42	-0.43	-0.44	-0.32
<b>Rule of law (Kaufmann et al. 2009)</b>	-0.36	-0.33	0.43	0.43	0.50	-0.50	-0.48	-0.49	-0.35
<b>Control of corruption (Kaufmann et al. 2009)</b>	-0.38	-0.38	0.37	0.35	0.42	-0.46	-0.43	-0.45	-0.32

*Note:* All presented correlations are significant at 10% level or better.

*Source:* Authors' calculations.

generate government revenue to cover government expenditures), interpreted as the fiscal constraint to choose levels of redistributive transfers and provisions of public goods and services. This index and the various indicators of governance clearly influence the effective delivery of public services emphasized by the various micro studies.

### *Likelihood of Success*

Beyond broad correlations, is it possible to make statements about the effect of these factors on the MDG gaps? We limit the investigation to the probability of MDG success using previously defined MDG performance categories and probability functions, such as the multinomial logit model. The results are clearly dependent on how MDG progress is described in this study and how the MDG targets are established in the first place (versus more general development outcomes) and may therefore not generalize to other ways of describing or explaining success and development outcomes, more in-depth analysis of each underlying MDG indicator, or other approaches. Nonetheless, by using categorical or discrete values of MDG performance, we hope to minimize the two-way interactions between the dependent and independent variables. We also use a common format and set of initial conditions to avoid overly fine tuning the relationship.

The multinomial logit model is intuitive and well suited for assessing the likelihood of a country falling into one of the three defined categories (on target = 1; close to target = 2; and far from target = 3), linking performance to the various development drivers. This type of model is typically employed to model individual discrete choices, such as the occupational choice of households in micro simulations or the demand for modes of transportation. [Go and Quijada \(2011\)](#) discuss various methodological issues associated with this approach.<sup>13</sup> Our baseline representation takes the following form:

$$MDG\ performance = f\{GDP\ per\ capita,\ policy\ and\ institutions,\ initial\ conditions\},$$

where the initial conditions include the GDP per capita and the level of MDG indicators circa 1990. We estimate 17 different specifications for each of the nine MDG targets under analysis. The reference category is “far from target.” Models 1 to 16 differ in the variable for policy and institutions, which is combined pairwise with the level of income in each nonlinear regression. Model 17 considers only initial conditions and GDP per capita growth between 1990 and 2009 as independent variables. Unlike income level in the other models, economic growth is a change variable, which is generally easier to assess and project in the few years remaining until 2015.<sup>14</sup>

Table 8 summarizes the main findings. We notice a high degree of significance for many of the development drivers. GDP per capita in combination with one of

**Table 8.** Multinomial Logit Estimates: Likelihood of MDG Success as Explained by Level of Development and Institutions

	MDG 1.a <i>extreme poverty</i>		MDG 1.c <i>hunger</i>		MDG 2.a <i>primary completion rate</i>		MDG 3.a <i>gender parity (primary)</i>		MDG 3.a <i>gender parity (secondary)</i>		MDG 4.a <i>child mortality under five</i>		MDG 5.a <i>maternal mortality</i>		MDG 7.c <i>access to safe water</i>		MDG 7.c <i>access to sanitation</i>	
	<i>Close to target</i>	<i>On Target</i>	<i>Close to target</i>	<i>On Target</i>	<i>Close to target</i>	<i>On Target</i>	<i>Close to target</i>	<i>On Target</i>	<i>Close to target</i>	<i>On Target</i>	<i>Close to target</i>	<i>On Target</i>	<i>Close to target</i>	<i>On Target</i>	<i>Close to target</i>	<i>On Target</i>	<i>Close to target</i>	<i>On Target</i>
1		+	+	+	+	+			+	+	+	+	+		+	+	+	+
	+	+	+	+			+	+										
2		+	+	+	+	+			+	+	+	+			+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
3		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		+	+	+	+	+	+	+	+	+			-				-	-
4		+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
		+	+	+	+	+	+	+	+	+	-	-	-	-			-	-
5	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
		+	+	+					+				+				-	-
6					+	+	+	+	+	+	+				+		+	+
	-	-	-	-	-	-	-	-	-	-	-						-	

Continued

Table 8. Continued

	MDG 1.a extreme poverty		MDG 1.c hunger		MDG 2.a primary completion rate		MDG 3.a gender parity (primary)		MDG 3.a gender parity (secondary)		MDG 4.a child mortality under five		MDG 5.a maternal mortality		MDG 7.c access to safe water		MDG 7.c access to sanitation	
	Close				Close				Close				Close					
	Close to target	On Target	Close to target	On Target	Close to target	On Target	Close to target	On Target	Close to target	On Target	Close to target	On Target	Close to target	On Target	Close to target	On Target	Close to target	On Target
7	GDP per capita 2009 (thousands, 2005 \$PPP)	+	+	+	+	+		+	+	+					+	+	+	+
	Management performance (Bertelsmann Transformation Index 2006)	+		+	+			+									+	
8	GDP per capita 2009 (thousands, 2005 \$PPP)		+	+		+	+			+	+	+	+		+	+	+	+
	Functioning of government (Economist Intelligence Unit 2007)	+	+	+	+	+	+				+				-	+	+	
9	GDP per capita 2009 (thousands, 2005 \$PPP)		+	+	+	+	+			+	+	+	+	+	+	+	+	+
	Functioning of government (Freedom House)	+		+	+													-
10	GDP per capita 2009 (thousands, 2005 \$PPP)		+	+	+	+	+			+	+	+	+	+	+	+	+	+
	Good governance (Knack and Kugler 2002)	+				-	-					+						
11	GDP per capita 2009 (thousands, 2005 \$PPP)	+	+	+	+	+	+			+	+	+	+	+	+	+	+	+
	Voice and accountability (Kaufmann et al. 2009)	+		+		+	+								-			-





the policy and institutional variables seems to be significantly related to better MDG performance. Economic growth by itself appears to be a good factor (model 17), because it is correlated with the other variables, such as income level and policy and institutions. Although growth may be affected by favorable external shocks, the ability of countries to benefit from favorable events will likely improve with better policy and institutions.

The level of income is generally important across specifications and development goals. However, in two cases, gender parity in primary education and reduction in maternal mortality, GDP per capita seems less important. In the case of gender parity in primary education, this finding may not be surprising given that most countries are already on target to reach this goal by 2015 (figures 1 and 2). In the case of maternal mortality, there may be several factors at work. As a system-based outcome, it may require many improvements in the health system, including incentives and the accountability of all players, as the micro studies suggested. As the MDG with the slowest global progress, it also has the largest gaps, which can be closed only partially by higher income. In any case, higher levels of income, as well as economic growth in the last model, are significantly and positively associated with the likelihood of a country being “close to target” versus “far from target” in almost three-fifths of our model specifications.

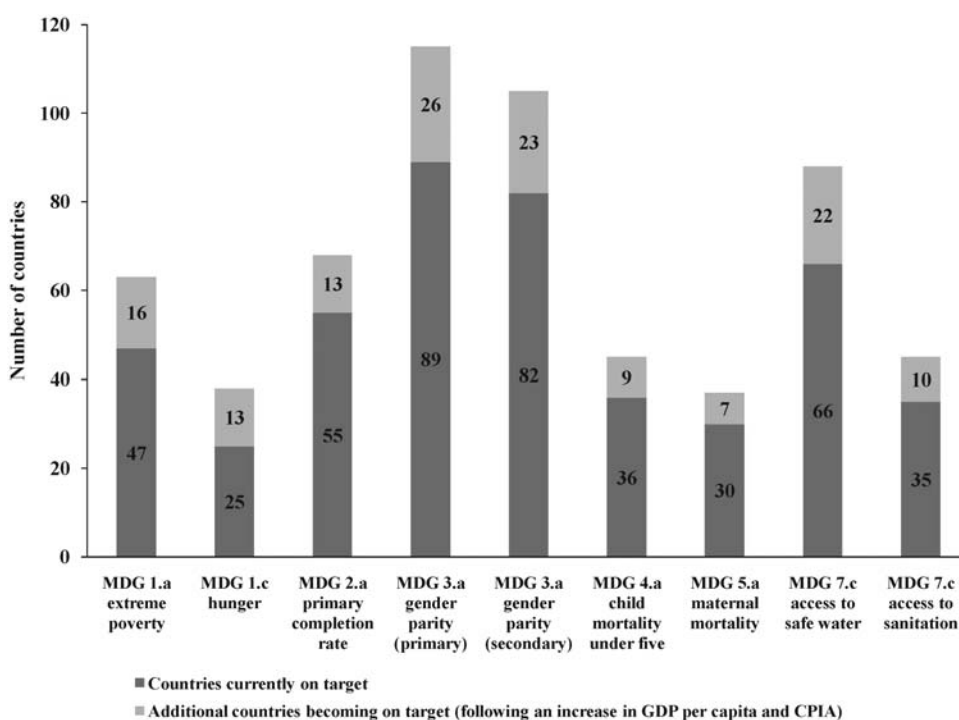
The linkages between MDG achievement and better policy and institutional frameworks also appear strong, although the results are more varied. The lack of a single ideal institutional indicator at the aggregate level is a plausible reason for the varied findings. Each version of the institutional variable may not capture all of the specific policy interventions considered important in micro data and case studies, particularly when considering child and maternal mortality. Some of the institutional variables may be correlated with the level of income. Hence, their coefficients do not always register with the expected signs (see, for example, access to safe water and sanitation). Similarly, for the income variable, we do not find significant linkages for gender parity in primary education and maternal mortality, and the reasons are likely the same. Nevertheless, it is important to highlight that most of the policy and institutional variables in our specifications are significantly and positively linked to income- and education-related MDGs, such as reduction in extreme poverty, hunger, and cross-gender completion of primary school. Within the limitations of the variables and methodology, the clear winners, in terms of being more consistently significant across MDG performance, are the pre-crisis CPIA (year 2006) and the state fragility index. Both variables are significantly linked to better MDG performance for at least seven of the goals under analysis, including health-related development targets. It is not surprising to find that the CPIA index is significantly correlated with health-related MDGs given that its components include policies for human development, social inclusion and equity. In examining the marginal effects of growth and CPIA, [Go and](#)

Quijada (2011) confirmed that growth has a significant effect on the progress of MDGs, whereas good policies and institutions are especially crucial for system- and outcome-based MDGs, such as the reduction of child and maternal mortality.

Finally, we turn to the question of whether higher income and better policy and institutions will improve the likelihood of better MDG results among lagging countries. As an illustration, we take model 2, which is as good as any in table 8. We consider a quarter standard-deviation increase in GDP per capita and in the quality of policy and institutional assessments for the period from 2009 to 2015.<sup>15</sup>

The results from this simulation show that higher income and better policy and institutions can jump-start lagging countries (figure 5). Many more developing countries can get on track, particularly for those MDGs with the greatest lag. A quarter-standard-deviation rise in both per capita income and the CPIA would mean that as many as 26 more developing countries can get on track for the

**Figure 5.** The Number of Countries Becoming on Track with Higher Income and Better Policy and Institutions



Note: The results are for a quarter standard-deviation increase in GDP per capita and CPIA index in model 2.  
Source: Authors' calculations.

MDGs—an average increase of 31 percent in the number of on-track countries. This forecast is based on a greater than 50-percent probability of each country getting on target. Statistically, the probability of lagging countries can only reach 100 percent as an upper (asymptotic) limit, but a 95-percent confidence interval of a 50-percent increase will generally cover that upper limit. The percentage increase in the number of countries getting on track generally increases most for targets such as reduction of hunger (52 percent), reduction of extreme poverty (34 percent) and access to safe drinking water (33 percent). For the other MDGs (primary education completion, gender equality in primary and secondary education, and reduction in both child and maternal mortality), the increase in the number of countries is above 20 percent, which is still substantial. Individual countries that are good candidates to get on track are those that are currently very close—that is, within 10 percent of being on track (table 3).

How achievable or feasible are these gains? Recent history suggests they may be attainable or close to attainable, but prospects look uncertain or less likely given a weak global economy since the Great Recession of 2008–09. Achieving a quarter-standard-deviation gain in income level means that per capita GDP growth in developing countries will need to increase by 3 percent per year from 2009 to 2015, 1.6 times its historical rate of 1.9 percent a year. That kind of growth performance was achieved by developing countries, including those in the two lagging groups, during the boom period from 2003 to 2007 (table 9). However, world economic and trade conditions have since become much less favorable.<sup>16</sup> In addition, aid flows from donor countries may decline as a result of weaker fiscal conditions in those countries.<sup>17</sup>

Because serious warnings are now attached to growth prospects and aid flows, reforming policy and institutions becomes both important and necessary to ensure that domestic revenues and efforts can offset the risks of such prospects and flows shrinking when they need to expand to help the developing countries either meet or come close to their MDGs. Such reforms are likely to help these countries to avoid growth collapses or government failures because fragility has a negative impact on the progress of MDGs (figure 4b, model 6 in table 8, and [World Bank and IMF 2010](#).) In the illustration above, a quarter-standard-deviation gain in the CPIA is about a 0.1 improvement in the overall CPIA score and represents a significant policy improvement for a country; it is half of the difference between the CPIA for on-target countries and for countries close to the target (see table 5). From 2006 to 2009, 55 countries (43 percent of developing countries for which scores are available) experienced an improvement of 0.1 points or better. These countries include Georgia, Nigeria, Djibouti, and Peru. For better results in the MDGs, additional policy improvements will continue to be needed. In this regard, a 0.2- or 0.3-point increase in the CPIA represents a substantial policy shift or regime change, which is rare for any country in a given

**Table 9.** Recent Growth Performance in Developing Countries

Growth periods	Growth of per capita GDP of developing countries under alternative MDG performance			
	Years covered	on target	close to the target	far from the target
<b>I. Reference period</b>	<b>1990–2009</b>	2.42	1.77	1.22
<b>II. Recent growth accelerations</b>				
<b>Modern trend-break</b>	<b>1995–2007</b>	3.46	2.61	2.01
<b>New millennium</b>	<b>2000–2007</b>	3.97	2.90	2.25
<b>Boom years</b>	<b>2003–2007</b>	4.82	3.65	3.07
<b>III. Recent global economic crisis</b>				
<b>Crisis years</b>	<b>2008–2009</b>	1.48	1.79	1.48
<b>Peak crisis</b>	<b>2009</b>	-1.09	0.28	0.65

Source: Authors' calculations based on data from the World Development Indicators database.

year but conceivable and likely over time. Because policy reforms take time to be designed and implemented and to bear fruit, they should be undertaken as soon as possible.

Two final caveats need to be noted. First, MDG performance in lagging countries close to being on target will need to accelerate soon for them to reach their MDG targets by 2015. This mathematical constraint is reflected in the following way. If these countries simply continue on their historical growth rates, however decent, the gap will widen by 2015 (segment FE versus BC in illustration 1). With only a few years left for developing countries to meet the MDGs by 2015, depending on how recent the data are for each country, the problem of actually meeting the MDGs will become crucial.

The second caveat concerns missing observations that may affect the robustness of the results. Such missing observations seem unlikely, however, on the basis of indirect evidence. The “missing countries” by MDG are generally not the “basket cases” with respect to the two explanatory factors in the models used—growth and policy; nor are they the exceptional cases (i.e., the averages tend to the middle). Hence, missing observations are unlikely to tilt the results in either direction (see [Go and Quijada \(2011\)](#) for more details).

## Final Remarks

In this paper, we show that three-quarters of developing countries are on target or close to being on target for all of the MDGs, which is unexpectedly encouraging. Moreover, among the countries that are falling short, the average gap for the top half is about 10 percent. For those that are on target, or close to it, solid economic growth, policies, and institutions have been the key factors in their success. Improving developing outcomes further will require not only increases in

GDP per capita but also system-wide improvements in policy and institutions that bring inclusive growth or broad-based development in order to improve the living conditions, opportunities, and quality of life of all individuals, groups, and nations in the world. Although there are variations and complications, this vital distinction between growth and development has a clear resonance in the main findings of the study. With some simplification, growth (which brings more money and resources) tends to improve the more output-oriented goals such as primary completion rate, access to drinking water, and gender equality in terms of ratios of girls to boys in primary and secondary schools. However, the more outcome-oriented goals in the health sector such as maternal and child mortality tend to require system-wide improvement in the quality of policies and institutions. This is also especially true for the 25 percent of developing countries that are lagging the most across the MDGs, where the remaining gaps are disproportionately high. The same distinction between growth and its quality also partly explains two opposing results in the income-based measure of poverty—that rapid growth in many developing countries has ensured that the goal on extreme poverty will be scaled at the global level; however, the gaps in lagging countries are still the largest among the MDGs.

By examining country-level figures rather than global figures, recent historical data indicate that developing countries are clearly doing better. Lagging countries, on average, are very close to their MDG targets, and their odds of getting on track can improve dramatically with stronger growth and sounder policy and institutions (i.e., development that benefits also the most vulnerable and truly needy people and that undoes unfavorable conditions that limit their quality of life). The implications are clear. With 2015 less than a few years away, stronger growth in developing countries must be stimulated to a higher plane strategically and quickly, a rapid—but sustainable in the long run—way of moving more countries toward the MDGs and preventing them from subsequently slipping. This goal will not be easy, however, if global economic and trade conditions continue to be unfavorable and donor support continues to deteriorate. This situation is unfortunate because growth was accelerating before 2008, and progress on the MDGs was evident in many countries.

As developing countries face a less friendly global economy and a dangerous period of increasing economic vulnerability, the challenge will be to continue improving policy and institutions to maintain progress and to avoid both growth collapses and government failures, which tend to have very negative effects on the MDGs. Further improvement in policy and institutions is especially necessary not only because of the short time left to 2015 but also because of the more difficult challenges in both the MDGs and countries that are lagging the most. Improved policies and institutions are crucial to improve not only the income aspect of growth but also its quality and effects on the poor. For countries close to the

target and where growth has already taken place, further gains in development outcomes will also require further improvements in policy and institutions. Even the middle-income countries on track to attain the MDGs are home to indigenous and socially excluded groups that are still very poor and often well behind in many development outcomes (World Bank and IMF 2011).

How to bring about stronger (i.e., true development-based economic) growth and what constitutes “good” policies and institutions in developing countries are complex issues that cover a wide range of areas, problems, and concerns. These issues are not limited to economic areas such as macroeconomic and fiscal policy, debt policy, and trade but include broader issues such as human development policy in education and health, gender equality, social protection, environmental policy, budgetary and financial management, and corruption in the public sector. Policy-based interventions should be not only broad and wide-ranging in order to foster sustained development but, as micro studies have shown, also appropriately specific to needy groups as well as local circumstances and problems. Although these complex issues are clearly beyond the scope of this work, we hope that this paper has provided further insights to the central challenges of development.

## Notes

\*The World Bank. This paper is revised from the background analysis conducted for the *Global Monitoring Report 2011*, a joint undertaking of the World Bank and the IMF. This paper benefited from several suggestions and comments, and the authors would like to particularly thank the following people: Emmanuel Jimenez, three anonymous referees, Shantayanan Devarajan, Ann Harrison, Aart C. Kraay, Brad McDonald, Catherine Patillo, Ritva S. Reinikka, Luis Serven, William Shaw, Hans Timmer, and Lucio Vinas de Souza. The views expressed are those of the authors and do not necessarily reflect those of the World Bank or its affiliated organizations. A supplemental appendix to this article is available at <http://wber.oxfordjournals.org/>.

1. This observation has been widely documented. For Africa, see [Arbache, Go, and Page \(2008\)](#) and [Ndulu \(2008\)](#).

2. World Bank and IMF (2010) discussed the impact of the recent global economic crisis on the MDGs.

3. For more details, see [World Bank \(2011\)](#) and [United Nations \(2008\)](#).

4. Data used in this paper were those available during the drafting of World Bank and IMF (2011). More recent data and trends compiled in [World Bank and IMF \(2012\)](#) indicate that the goals for poverty and safe drinking water would have been reached in 2010.

5. [Fukuda-Parr and Greenstein \(2010\)](#) state that development goals are not “hard-planning targets” but rather guidelines “meant to encourage countries to strive for accelerated progress.” Their approach consists of comparing rates of change in development indicators before and after 2001, the year the United Nations outlined its strategy for achieving the MDGs, assuming that progress should be measured against the moment MDGs were adopted. Moreover, measuring broad development outcomes through specific indicators is never precise, so the variation in MDG performance is partly the result of indicator or measurement issues. However, we do not examine these issues here. For discussion of some of the issues in measuring broad development outcomes through the Millennium Development Goals, see box 1.2 of [World Bank \(2011\)](#).

6. In what follows, the terms “on target” and “on track” are used interchangeably.
7. The scores are available in the World Development Indicators database.
8. An earlier version of the CPIA goes back to the 1970s but uses a different scale and criteria. For example, the assessment of governance issues was not included in the earlier CPIA.
9. We also looked at several dimensions of trade—export sophistication and shipping connectivity, commodity versus noncommodity exporters as well as landlocked versus other countries. These associations are presented in detail in World Bank and IMF (2011). Export sophistication and shipping connectivity are likely to be correlated with a country’s level of development, growth performance, infrastructure, and policies and institutions for trade, private sector development, and doing business.
10. The average GDP per capita growth in IDA countries (1990–2009) is 1.36, one point below the average growth in non-IDA countries (2.38). The CPIA index in 2009 was, on average, 3.26 in IDA countries versus 3.69 in non-IDA countries. Fragile or conflict-affected countries (one or more years, 2006–09) exhibit average per capita GDP growth (1990–2009) close to 1.03 percent and a CPIA index of 3.00 in 2009. However, nonfragile states have grown, in per capita terms, at an average rate of 2.27 percent since 1990. The CPIA index for these countries was 3.68 in 2009.
11. The underlying indicators about development outcomes (like reduction in poverty) are also measured infrequently. For example, countries normally conduct household surveys of incomes and expenditures, the basis for measuring poverty, every three or five years, and in some cases, even ten years.
12. We also conducted pairwise correlations between the variation of the MDG-related indicators and the same list of factors. Although there were many good correlations (significant at the 10 percent level and correct signs), there were now more gaps in the matrix (for insignificant values or incorrect signs). This finding suggests that there are likely more factors that are associated with the variation of MDGs than could be accounted for by simple pairwise correlations, again confirming the general conclusions of various micro studies.
13. [Go and Quijada \(2011\)](#) discuss statistical issues relating to the estimation method, dependent variable, the independence of irrelevant alternatives, endogeneity and reverse causality, and multinomial versus ordered logit estimation.
14. We do not include variations of institutional variables in specification 17 because of the lack of time-series data going back to 1990. When such data are available, methodological inconsistency across periods is the major drawback.
15. For an alternative version, see [Go and Quijada \(2011\)](#), where growth, rather than income levels, is used as a development driver. The results are generally the same.
16. See [World Bank \(2012\)](#), for example, for a recent global outlook. World Bank and IMF (2010) also noted that developing countries generally did better than high-income countries from 2008 to 2009 and discussed the various reasons. However, developing countries are generally more vulnerable to an unfavorable outturn than they were in 2007. Although developing countries’ fiscal positions and growth prospects are healthier than those of developed countries, they have generally less fiscal space (i.e., breadth, depth, and quality of economic resources) and weaker conditions than in 2007.
17. [Dang, Knack, and Rogers \(2009\)](#) found that aid flows from 1977 to 2007 fell by 20–25 percent on average from donor countries with banking crises, beyond any income-related effects.

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