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Absorptive Capacity: How Much Is Too Much?

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The MCA is designed to provide large sums of money to a relatively small number of countries. By its third year, the MCA may have a budget of $5 billion (if approved by Congress) and will be operating in perhaps 20 to 25 countries. The size of the MCA raises a question: can the recipient countries use funds of this magnitude effectively?[1] The answer depends on several factors, including the number of countries chosen, the amount of aid currently received by each country, how the new aid is delivered, and other characteristics specific to each recipient.

Although the MCA will be significant in size, it will not be particularly large relative to current global aid flows (about 9 percent of the current world total of $58 billion), so at a global level absorption might not be a problem. However, in some recipient countries the magnitude of new

This chapter draws heavily on Clemens and Radelet (2003).

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1. Other recent papers that touch on this topic in the context of the MCA include Smith (2002) and Birdsall (2002).

funding could be very large. To get a feel for the magnitudes involved, assume that 20 countries ultimately qualify from the pool of 87 countries with per capita incomes less than $1,435—the group of countries the administration has proposed would be eligible in the second year of the MCA. These countries received capital flows (aid plus other capital) averaging $384 million in 2000, equivalent to about 12 percent of their GNP, or $44 per capita. As a starting point, allocating $5 billion per year in additional funds to these 20 countries implies an average increment of $250 million per year per recipient, equivalent to about a two-thirds increase in capital flows over the $384 million average.

Broad averages, however, can be deceiving, since there is enormous variety in these 87 countries. In 2000, aid flows in these countries ranged from $18 million (Comoros) to $1.7 billion (Vietnam and Indonesia); from less than 1 percent of GNP (India and Nigeria) to 75 percent of GNP (São Tomé and Príncipe); and from less than $2 per capita (India and Nigeria) to $236 per capita (São Tomé and Príncipe). In some countries this aid was used effectively, in others much was wasted. Larger numbers, however, do not necessarily imply wasted aid. Mozambique received aid equivalent to 23 percent of GNP in 2000 (or about $50 per capita). Between 1990 and 1994 (during the rebuilding immediately after the civil war) it received aid flows approaching 60 percent of GDP. Whether or not Mozambique can effectively absorb more assistance is an open question, but its strong economic performance since the early 1990s suggests that it was able to put a large amount of aid to good use.

These numbers suggest that the potential for absorptive capacity issues to arise within the MCA depends to a large extent on how the funds are allocated. Current global aid flows are strongly biased toward small countries, irrespective of their policy performance and ability to use aid effectively. Donors prefer to spread their money across as many countries as possible, even though a reallocation of aid based on need and results would lead to a much greater reduction in global poverty from current aid flows than is currently the case (Collier and Dollar 2002). To the extent that the MCA follows this pattern, absorptive capacity problems are more likely in some countries, especially the smaller ones. If instead the US government allocates funds for best use among the qualifying countries based on results, it is more likely that a large share of the funds would go to larger countries such as Bangladesh and India (if they ultimately qualify). We strongly advocate moving toward a results-based approach with more funds going to larger countries where appropriate. To do so, the MCA will require a strong monitoring and evaluation capability, as discussed in chapter 5.

A different way to look at the potential size of the MCA flows is to examine closely a group of countries that might be selected by the administration for the program. Table 7.1 provides an illustrative list of 20 low-income countries that could qualify for the MCA. This list includes most

Table 7.1 Aid receipts for possible MCA countries

	Total aid from all donors before MCA[a]				Total aid from all donors including MCA		
	Total (millions of dollars)	**Percent of GNI**	**Per capita**	**Hypothetical MCA aid[b]** (millions of dollars)	**Total** (millions of dollars)	**Percent of GNI**	**Per capita**
Albania	268	9.0	79.7	130	398	13.4	118.6
Armenia	231	11.7	61.1	113	344	17.4	90.9
Azerbaijan	132	3.3	16.7	64	197	5.0	24.9
Bangladesh	1,184	2.7	9.3	577	1,762	4.0	13.9
Bolivia	639	8.2	80.3	311	950	12.3	119.4
Gambia, The	40	9.7	32.8	19	59	14.4	48.8
Ghana	646	9.3	35.0	315	961	13.9	52.0
Guyana	136	20.8	180.8	66	202	31.0	268.9
Honduras	420	9.1	68.8	204	624	13.6	102.4
India	1,645	0.4	1.6	802	2,448	0.6	2.5
Kyrgyz Republic	340	15.2	71.3	165	505	22.7	106.1
Madagascar	477	13.0	32.6	232	709	19.4	48.5
Malawi	435	22.4	44.0	212	647	33.3	65.5
Moldova	93	5.1	21.8	45	139	7.6	32.4
Mongolia	219	23.2	93.2	107	326	34.6	138.6
Mozambique	904	27.4	53.2	440	1,344	40.8	79.2
Nicaragua	644	35.1	133.9	314	958	52.2	199.2
Senegal	509	11.0	56.4	248	757	16.3	83.8
Sri Lanka	377	2.5	20.0	183	560	3.7	29.8
Tanzania	911	12.3	28.3	444	1,355	18.3	42.2
Total	10,256			5,000	15,256		
Average	512	12.6	56.0	250	762	18.7	83.4

a. Average 1996–2000.
b. Prorated share of $5 billion in MCA funds based on shares of current aid flows.

Source: For current aid from all donors, GNI, and population: World Bank, *World Development Indicators 2002.*

of the countries that qualify from the list in table 3.6 plus several others that could potentially qualify within the first several years. For simplicity, this analysis omits the group of 28 countries with per capita incomes between $1,435 and $2,975, which the administration has proposed would be eligible in the third year of the MCA. The 20 countries in table 7.1 received aid flows averaging 12.6 percent of GNI during 1996–2000, or $56 per capita, as shown in columns 2 and 3. Columns 4 and 5 show the size of their aid flows under the assumption that each country receives an annual share of the $5 billion of MCA funds equal to their share of the 1996–2000 average official development assistance (ODA) to these countries. For example, since Bangladesh received 12 percent of the $10.3 billion in ODA to these 20 countries in the late 1990s, it would receive 12 percent of the $5 billion in annual MCA funds. This is obviously a crude estimate, since MCA allocations (presumably) will not be determined this way, but it shows some rough magnitudes. It mirrors the current allocation of aid flows, so continues the bias toward small countries noted earlier. In this case, aid receipts will vary from 0.6 percent of GNI in India to 52 percent of GNI in Nicaragua. In five of the 20 countries, total aid flows including MCA receipts would be greater than 30 percent of GNI. At the same time, 10 of the countries would receive aid flows of less than 15 percent of GNI. Bear in mind that these amounts would be received in three years, after the MCA budget ramps up to the full $5 billion in 2006. Smaller amounts would be provided in the first two years, giving some preliminary opportunity to evaluate potential absorption problems.

In some of the MCA countries, then, total aid flows will be quite large relative to GNI after the addition of full MCA funding. In countries that already receive huge amounts of aid the administration could decide to provide very little or even no additional assistance, even though the country qualifies for the MCA. Thus certain candidates will require careful attention, including Malawi, Mongolia, Mozambique, and Nicaragua. Can these countries effectively absorb flows of this magnitude? Is there a danger that this much aid might be too much for some countries? These questions are addressed below.

From one important perspective, this argument seems hard to believe, since there are huge unmet needs in all the countries that potentially qualify for the MCA. In the 87 countries with per capita incomes less than $1,435, annual incomes average $460 per person (or $1.26 per person per day), life expectancy is a mere 56 years, 1 of 15 infants dies before his/her first birthday, and many people do not have access to clean water. In several of these countries, the HIV/AIDS pandemic is spreading rapidly, threatening to wipe out large segments of the population. Not only are their needs enormous, the MCA countries are also the best performing of the low-income countries, since to qualify they have demonstrated a commitment to ruling justly, investing in their people, and establishing economic freedom. The MCA is based on the view that the countries chosen

will be the most capable of all the low-income countries to use aid effectively to meet urgent social needs and establish the foundation for long-term growth.

The Absorptive Capacity Question

Why might some recipients have difficulty effectively absorbing significant new aid flows? First, large amounts of aid can make macroeconomic management more difficult. The government of Uganda, for example, recently expressed concerns about the impact of large aid flows on its macroeconomy, both in terms of its size of aid and the sectoral composition imposed by the donors. Large aid flows could cause exchange rates to appreciate in real terms (either through a nominal appreciation of the exchange rate or through inflation in the prices of domestic goods), which in turn could encourage imports and undermine the incentives to export.[2] The magnitude of this effect depends critically on the extent to which aid is spent on imports versus domestic nontraded goods. The more that aid finances imports (e.g., purchasing essential drugs or foreign technical assistance), the less the macroeconomic impact; the more it is spent on locally produced goods (e.g., bricks, road construction workers), the greater the inflationary and other macroeconomic impacts. In addition, large aid flows can act as a substitute for government revenues and undermine the government's incentives to build a strong, sustainable tax base. Similarly, at a broader level, aid can reduce the incentives for higher saving. Analyses of the impact of aid on taxes and saving are mixed, with some studies suggesting a notable negative impact and most suggesting a small or negligible effect.[3]

These problems cannot be completely avoided with aid flows the size of the MCA but can be minimized through concerted and disciplined management of the exchange rate, foreign exchange reserves, and the monetary base, coupled with microeconomic changes that remove obstacles that impair export competitiveness (e.g., streamlining the customs clearance process). In addition, budgetary targets—both in terms of revenue collection and in terms of strengthening budget processes (e.g., by improving accounting and auditing)—can help avoid a decline in tax revenues. Given the huge needs in these countries, the potential macroeconomic impacts of large aid inflows call for strong monitoring and wise

2. The effect is known in economic literature as the Dutch Disease. This outcome is much more than a theoretical possibility: large oil inflows (which in many ways are similar to large aid flows) had exactly this effect in Nigeria between 1973 and 1986, and ultimately nearly destroyed the agricultural sector. Some analysts suggest that large aid flows to Ghana had this effect it the 1980s (Younger 1992). For a broader discussion see Heller and Gupta (2002).

3. See, for example, White (1994), Devarajan, Rajkumar, and Swaroop (1999), Reichel (1995), and McGillivray and Ahmed (1994).

management, not a curtailing of flows, as long as aid-financed activities are meeting their specified goals.

Second, some critics of aid suggest that large aid flows undermine government institutions in recipient countries, thereby stunting growth and development.[4] Aid can weaken institutions by drawing away talented staff to work on aid projects. It can undercut government budgeting and accounting practices by keeping large amounts of public-sector funds off the budget. It can undermine political accountability and legitimacy by giving the donors (rather than the government) the largest say in how aid funds (and complementary public funds) are used, and making the government more responsive to donors than to the general population. Large aid flows, if not used carefully, can exacerbate corruption by tempting government officials to skim funds for themselves.[5] Aid can also keep corrupt leaders in power and allow them to maintain deleterious development policies, as US assistance did for many years with Mobutu Sese Seko in Zaire and other leaders.

Other analysts argue that aid can strengthen institutions through technical assistance, transfer of ideas and technology, and supporting reforms that strengthen public-sector capacity.[6] (However, the record on technical assistance is far from encouraging.)[7] It is likely that the outcome will depend on the circumstances in the particular country: in highly corrupt governments with weak institutions, large aid flows can make the situation worse, while in countries where governments are more committed to fighting corruption and pursuing a sound development strategy, aid flows potentially could strengthen institutions. Strong oversight of aid flows by government entities, donors, and civil society groups can help mitigate problems with institutional weaknesses, poor governance, and corruption associated with aid flows.

Third, large amounts of aid can overwhelm even a well-intentioned government's capacity to use funds effectively. This problem is what most aid practitioners have in mind when they discuss absorptive capacity. In essence, aid flows can create high demand for a resource that is both in short supply and necessary for the effective delivery of services. The scarce resource could be a senior decision maker's time, talented administrative staff, buildings (e.g., schools), trucks, physicians, warehouses, or port capacity. For example, a program aimed at delivering essential medicines could run into problems if enough warehouses are not available to store the medicines properly, if there are too few roads to deliver the prod-

4. Seminally, Bauer (1971); more recently, Azam, Devarajan, and O'Connell (1999).

5. Stephen Knack (2000) finds a negative relationship between the size of aid flows and the quality of governance. Also see Alesina and Weder (2000).

6. For a discussion, see Lancaster and Wangwe (2000).

7. See Berg (2002).

ucts, or if there are insufficient medical personnel to make sure the right people receive the medicines. These bottlenecks can be acute in countries with fragile institutions, poor infrastructure, and weak human capital. Large amounts of aid can create these bottlenecks by placing demands on scarce resources. At the same time, well-targeted aid can relieve these bottlenecks. If there are too few refrigerated warehouses for essential drugs, aid flows can help build new ones, at least to some extent. If there are too few public health specialists to oversee drug therapy, aid can finance programs to train new specialists. Some constraints can be relieved quickly, while others will take more time, and of course aid cannot relieve all bottlenecks. Strong monitoring and evaluation of aid flows, with specified benchmarks taken seriously by both donors and recipients, can help identify when resource constraints are making additional flows less effective, and how aid might help relieve some of those constraints.

Fourth, donor practices lie at the root of and exacerbate many absorptive capacity problems. Many developing countries work with dozens of donors, each with its own preferences, procedures, monitoring requirements, and other demands. Aid missions make huge demands on policymakers—especially the most talented ones. It is not unusual for recipient countries to host hundreds, and sometimes over a thousand, aid missions a year, thus creating bottlenecks that reduce aid effectiveness. Donor priorities can change, sometimes quickly, and donors impatiently expect host-government priorities to change in step. Donor earmarking of funds forces money into certain activities, even if alternatives have higher rates of return. Moreover, slow start-up and disbursement problems often can be traced to cumbersome donor rules and procedures. What is perceived as an absorptive capacity problem—the inability of aid flows to make a measurable impact on development projects—can in fact be the direct result of huge, conflicting demands put on recipients by donors themselves.[8] Changes on the part of donors aimed at simplifying procedures and harmonizing basic practices would help relieve absorption problems and make aid flows more effective in enhancing growth and fighting poverty, as discussed in chapter 5. This, of course, is easier said than done.

Reactions of Other Donors

Whatever the potential impacts of large new aid flows from the MCA, they could be offset or exacerbated by the reactions of other donors. Will other donors follow the United States and provide even more assistance to MCA countries, judging them to be the most worthy recipients of new aid (or in a bid to retain influence in those countries)? This response would make absorptive capacity problems more likely. Or will they de-

8. We are grateful to Ruth Levine for emphasizing this point.

crease their assistance to MCA countries and shift it to other countries, believing that MCA countries will have sufficient foreign assistance? For example, if a $300 million increase in US aid to a particular country led other donors to decrease their collective aid commitments to that country by $100 million, the net increase in usable aid for the recipient would be only $200 million. As a result, large inflows of US aid would have a less-than-anticipated impact, either in terms of absorptive capacity or in terms of stimulating growth and development.

It is not possible to predict the reaction of other bilateral donors ex ante. Experience provides little guidance, since there are few (if any) examples of large *unilateral* increases in development aid to the poorest countries. In most historical cases of a large increase in US aid to a particular country, there is a corresponding large increase in other donors' aid, as in post-conflict reconstruction cases or after a natural disaster. In such cases, donors are simultaneously responding to an event in the recipient country rather than reacting to a unilateral action by another donor. Figure 7.1 shows all the cases of a five-year increase in US aid exceeding 10 percent of the recipient's GNI since 1960. The top half of the figure shows cases associated with a recent conflict (or countries that were part of the former Soviet Union). This figure shows a positive relationship between the corresponding five-year changes in other OECD donors' aid, implying that a sharp increase in US bilateral assistance was accompanied by increases in aid from other donors in these countries. The bottom half shows those cases not associated with recent conflict. In these countries, there is a very slight negative association, implying some weak tendency for massive increases in US aid to "crowd out" other donors, but the tendency is not strong and is not statistically significant.

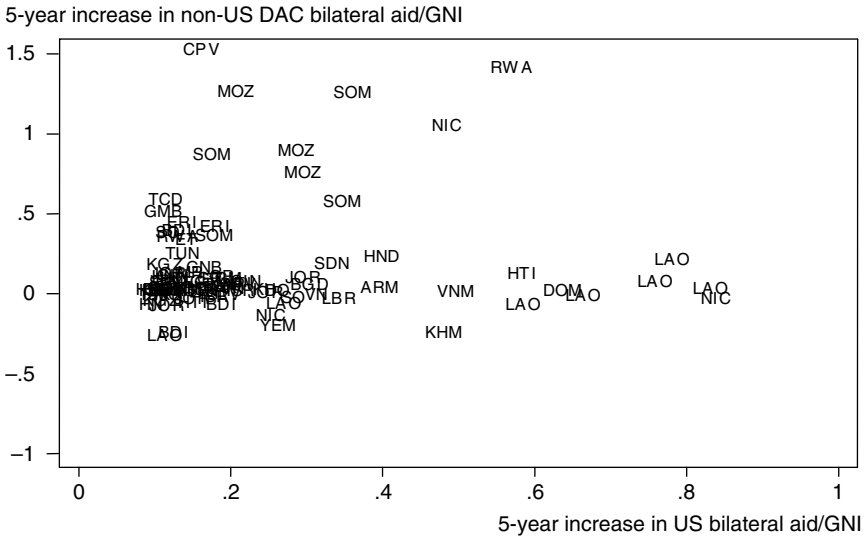
It is unlikely that other donors will increase further their own commitments to MCA countries in response to new US funding. It is much more plausible that over time other donors will reduce their assistance to MCA countries in response to huge new US commitments and funnel some of their aid to other countries, in effect spreading the funding from MCA recipients to other countries. In some MCA countries this reaction might ameliorate potential absorptive capacity problems, while in others it will reduce the possible economic and social benefits from MCA funding (while providing new opportunities in the non-MCA countries that receive the reallocated funding). Still, the potential for absorptive capacity problems remains. We now take a closer look at the levels of aid flows at which these problems might appear.

Estimating "Saturation Points"

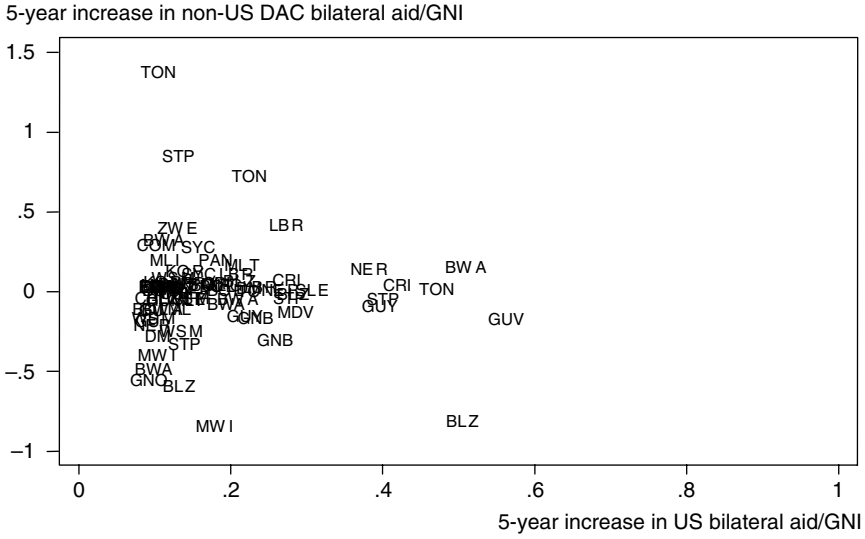
Measuring the overall impact of aid is difficult. For example, suppose infant mortality is used as the key measure of "development impact."

Figure 7.1 Relationship between large increases in US aid and other bilateral aid

Recipient states currently or recently involved in war or formerly part of the Soviet Union



States not recently involved in conflict



Note: These data include cases in which US bilateral aid increased by more than 10 percent of recipient GNI over 5 years or less, and show the change in aid from other bilateral donors over the same period.

Aid-financed programs are one of many factors that affect infant mortality, including weather, harvest size, education of the mother, water quality, access to medicines, and so on. Tracing the specific impact of any one of these factors on infant mortality is a challenge. Moreover, different kinds of aid-financed projects can have direct or indirect impacts: comparing the impact of a vaccination campaign with that of a technical assistance program for the ministry of finance would be comparing apples and oranges. At some level, however, most observers agree that aid has been unsuccessful if—after receiving years of large aid flows—a country's residents have the same or a lower standard of living. Researchers studying aid effectiveness have therefore focused on searching for a positive relationship between aid flows and real increases in GDP per capita.

Table 7.2 shows the results from several studies on the relationship between aid receipts and economic growth. These studies are not meant to be representative of the entire literature on aid and growth, in which some studies find no relationship at all between aid and growth. Rather, these are the studies that find a positive relationship and test whether the relationship is nonlinear—that the effect of aid on growth could be different at different levels of aid. These cross-country studies all find diminishing returns to aid: for each incremental dollar of aid provided, the positive relationship between aid and growth becomes smaller. Implicit in these relationships is the idea that returns diminish until at some point the impact of an additional dollar of aid is zero. However, most of these studies do not systematically examine this "saturation point" at which the incremental impact of aid falls to zero.[9]

For most of these studies, the implied saturation point of aid ranges between 15 and 45 percent of GDP. This is a wide range within which to work. The specific results in each study differ depending on the countries in the sample and the specification of the regression (especially the choice of other independent variables). Moreover, estimating a saturation point was not the objective of any of these studies. As a result, these estimates should be seen as broadly indicative at best. They should not be interpreted as being precise and cannot guide policy for any specific country. But they provide an estimate of the level of aid flows at which the marginal impact of aid on growth reaches zero, at least according to the results of these studies.

If there is such a saturation point, it should vary by country, depending on the quality of the country's institutions and development policies, the way in which aid is delivered (e.g., program aid versus project aid), the degree of harmonization across aid donors, the requirements imposed by donors, the precise activities that aid is financing, and the strength and depth of the nongovernmental organizations (NGOs) that may receive

9. Three studies mention the issue: Collier and Hoeffler (2002), and Lensink and White (1999a, 1999b).

Table 7.2 Summary of academic research on the nonlinear relationship between aid and growth

Reference	Sample	Partial specification[a]	Coefficient on aid	Coefficient on aid squared	Implied saturation point[b]
Collier and Dollar (2002)	1974–97, 100 countries, 4-year periods, GDP in PPP	G = XB + 0.185 (Aid × Policy) – 0.036 (Aid^2)	n.a.	– 0.036	33.7[c]
Dalgaard, Hansen, and Tarp (2002)	1974–93, 54 countries, 4-year periods.	G = XB + 1.071 (Aid) – 0.099 (Aid^2)	1.818	– 0.063	14.4
Hadjimichael et al. (1995)	1986–92, 31 Sub-Saharan Africa countries, 1-year periods	G = XB + 0.098 (Aid) – 0.002 (Aid^2), Time-Series Cross-Section	0.098	– 0.002	24.5
Hansen (2001)	1974–93, 54 countries, 4-year periods	G = XB + 0.314 (Aid) – 0.008 (Aid^2)	0.314	– 0.008	19.6
		G = XB + 0.280 (Aid) – 0.008 (Aid^2)	0.280	– 0.008	17.5
Lensink and White (1999a)	1975–92, three 5-year periods and one 3-year period, 111 countries, nominal GDP	G = XB + 0.1736 (Aid) – 0.00175 (Aid^2)	0.1736	– 0.00175	49.6
Lensink and White (1999b)	1975–92, three 5-year periods and one 3-year period, 111 countries, nominal GDP	G = XB + 0.1639 (Aid) – 0.002 (Aid^2)	0.1639	– 0.002	41.0
Durbarry, Gemmell, and Greenaway (1998)	1970–93, 58 countries, 4-year periods, aid/GDP>40 percent omitted	OLS	0.176	– 0.00196	44.8
		OLS, regional dummies	0.105	– 0.00128	41.0
		GLS	0.0939	– 0.00116	40.6
		GLS, regional dummies	0.101	– 0.00123	41.0
Hansen and Tarp (2000)	1974–93, 56 countries, 4-year periods	G = XB + 0.166 (Aid) – 0.004 (Aid × Policy) – 0.003 (Aid^2)	0.166	– 0.003	26.8[d]
		G = XB + 0.165 (Aid) – 0.004 (Aid^2)	0.165	– 0.004	22.8

n.a. = nonapplicable
OLS = ordinary least squares
GLS = generalized least squares
a. This column shows the part of the specification and estimated parameters most germane to aid. Each study includes a different set of covariates, which are not shown here.
b. Level of aid/GDP at which aid has a zero impact on growth.
c. Assumes average CPIA score for the 20 countries shown in table 7.1. Resulting zero-point multiplied by 3.76, the average ratio of PPP GDP to nominal GDP for the 20 countries shown in table 7.1 during 1995–99, since Collier and Dollar measure aid as a fraction of PPP GDP and others in the table do not.
d. Assumes average policy score for the countries shown in table 7.1 during the early 1990s given in the dataset used by Hansen and Tarp, omitting those countries for which there is no policy score reported in their data. Note that Hansen and Tarp's interaction term between aid and policy, after inclusion of a term representing the square of their policy measure and using a different policy variable than Collier and Dollar, is not statistically significant from zero.

some aid. At best, these studies control for the quality of some policies and institutions and not the other factors, leading to the variations in results. Two of the studies in the table examined the interaction between policies and aid, and by extension policies and the saturation point. In the Collier-Dollar paper, the policy index is based on the World Bank's Country Policy and Institutional Assessment (CPIA) rating, which ranks a country's policies and institutions on a scale of 1 to 6. To illustrate, in a country with a low score of 2, the Collier-Dollar analysis suggests an aid saturation point of about 19 percent of GDP. For a country with a high score of 4.5, the saturation point would be 43 percent of GDP. For the 20 possible MCA candidate countries listed in table 7.1, the implied (unweighted) average saturation point would be 34 percent of GDP.[10]

Of course, evidence on saturation points only provides the broadest guidance for upper bounds of allocations from MCA funds. It would make no sense for donors to provide so much aid that a country reaches its saturation point, where the rate of return on additional aid is zero. But how much is too much? Here a more precise definition for absorptive capacity is needed. A country reaches its absorptive capacity for foreign assistance when the marginal rate of return on additional aid falls to a minimum acceptable level. The marginal rate of return can be measured against any specified foreign aid objective, such as economic growth, poverty reduction, literacy rates, or infant mortality rates. For simplicity, this discussion focuses on the rate of return with respect to economic growth.

What should be the minimum acceptable level of the rate of return? This, of course, is a matter of judgment. One possibility, as suggested by Collier and Dollar, is to allocate aid across countries until the marginal rate of return is equal across countries. In the context of the MCA, this allocation rule would suggest that the rate of return would be equal across MCA countries and between MCA countries and non-MCA countries. In other words, aid should be allocated to a particular MCA country up until the point at which the aid would achieve equal or greater results in another country. In addition, aid should be allocated to countries within the

10. The original study measures GDP in purchasing power parity (PPP) terms rather than at official exchange rates. In PPP terms, the turning points for CPIA scores of 2 and 4.5 would be 5 percent and 11.25 percent of GDP, respectively. For the 20 countries in table 7.1 the PPP turning point would be 8.79 percent of GDP. Since the average ratio of GDP in PPP terms to nominal GDP for the 20 countries in table 7.1 in the late 1990s was 3.76, the implied saturation points at official exchange rates for these three groups of countries would be 19 percent, 42 percent, and 34 percent of GDP, respectively.

The other major study that allows aid effectiveness to vary with policy is by Hansen and Tarp (2000). Their work uses the Burnside-Dollar index of fiscal, monetary, and trade policy, and their estimate of the coefficient on the interaction term between aid and policy is not statistically significant from zero. Their results are not strictly comparable with those of Collier and Dollar, however, since they employ a different sample and include a term representing the square of the policy measure. Thus table 7.2 also reports their results from a specification without policy, which nevertheless gives a similar result.

MCA up to the point that the aid would achieve equal or greater results in countries not included in the MCA. To the extent that at least one major objective of the US government's foreign assistance program is to maximize economic growth and poverty reduction, it would not make sense to continue to allocate aid to MCA countries to the point that rates of return are very low and that aid could achieve stronger results in another country.

In practice, of course, it is very difficult to measure rates of return on foreign assistance programs across countries with the precision suggested by this allocation rule. However, if the administration is serious about making US foreign assistance more effective, it must make a strong effort to measure results in a way that at least approximates rates of return to understand which programs are working and where, both in MCA and other countries. Absorptive capacity problems manifest themselves through higher costs and weaker results for new projects and programs relative to stated goals and objectives. This, in turn, points to the importance of monitoring and evaluation programs in ensuring that aid funds are used as productively as possible, as discussed in chapter 5. When results are persistently weak, the US government should redirect MCA funds to other activities within the recipient country, or to other countries.

How Many Countries?

There are clear trade-offs between the number of countries that qualify for the MCA and aid effectiveness. On one hand, splitting the MCA's $5 billion among fewer countries could reduce its impact, since this would tend to increase the amount received by each country, and there are diminishing returns to aid received by a given country. In the extreme, providing all MCA funds to one or two countries obviously would be less than optimal, as those countries would be drowning in aid while other worthy recipients would do without. Reducing the number of recipient countries also means that fewer people around the world reap the benefits of the MCA. On the other hand, splitting the MCA among too many countries could also decrease its impact, since looser criteria for inclusion in the MCA would mean that countries with progressively poorer policy environments would be included, in effect taking money away from better-policy countries.

Since Collier and Dollar (2002) quantified each of these tendencies, as shown in table 7.2, we can begin—very tentatively—to quantify this trade-off. Note, however, that the exercise that follows should not be interpreted as an estimate of the optimal number of MCA countries per se, since it uses a model that was not designed specifically for the task and estimates the quality of policies with CPIA scores rather than the MCA selection criteria. Nevertheless, it provides a useful ballpark estimate of the

optimal number of countries for a hypothetical increase of $5 billion in aid flows.

Figures 7.2 and 7.3 show just such a hypothetical experiment. In the top graph in figure 7.2, we start by taking the two countries with GNI per capita below $1,435 in 2001 that had the highest average policy and institution ratings (CPIA) in the late 1990s.[11] The Collier-Dollar estimates are used to predict the population-weighted average impact on growth of giving *the entire* $5 billion to those two countries. In this experiment, each country receives the same relative fraction of the new $5 billion as it now currently receives of all aid flows. (Again, for analytical purposes, this allocation rule simply mirrors current practices, even if these are suboptimal.) We then progressively add the country from the below-$1,435 group (black dots) with the next-highest CPIA score, dividing the aid flows in the same proportional way. As new countries are added, we move to the right on the graph. The horizontal axis thus represents the number of countries included as recipients of the additional aid. The dark dots above each point on the horizontal axis show the population-weighted average growth effects for the whole group of recipients from the new aid, over and above the growth effect of the level of aid they were receiving in the year 2000. The light dots represent the same for a group consisting of all countries with a 2001 GNI per capita below $2,975.[12] Both China and India are omitted from this exercise, since their size dramatically affects the population-weighted average growth effect of new aid on the whole group. Since both countries are very large and have relatively high CPIA scores, neither presents any absorptive capacity problem by the Collier-Dollar measure. Removing them from the analysis, therefore, only renders more conservative our conclusions on absorptive capacity in the *rest* of the countries.[13]

For example, the dark dot above point 20 on the horizontal axis shows the population-weighted effect on growth—over and above the growth effect of existing aid—from dividing $5 billion among the top 20 countries, by CPIA score, that had GNI per capita less than $1,435 in 2001. The Collier-Dollar model suggests that this population-weighted average effect among those 20 countries would be a 0.14 percent real per capita per

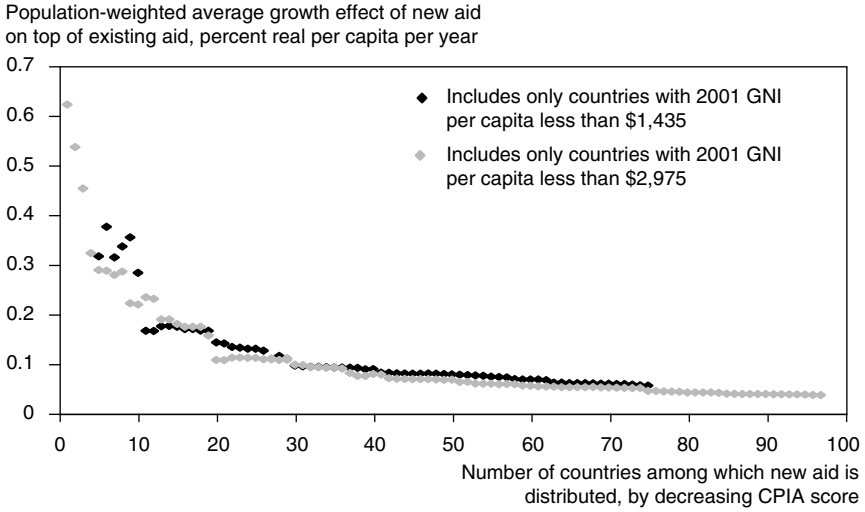
11. The identities of the countries are masked since the CPIA index is proprietary.

12. It must be kept in mind that the general trends represented by these curves are much more important than the dots representing individual countries. The coefficients that Collier and Dollar used in the simulation were calculated across many different countries and are only intended to capture broad trends rather than predict the precise growth response of any given country.

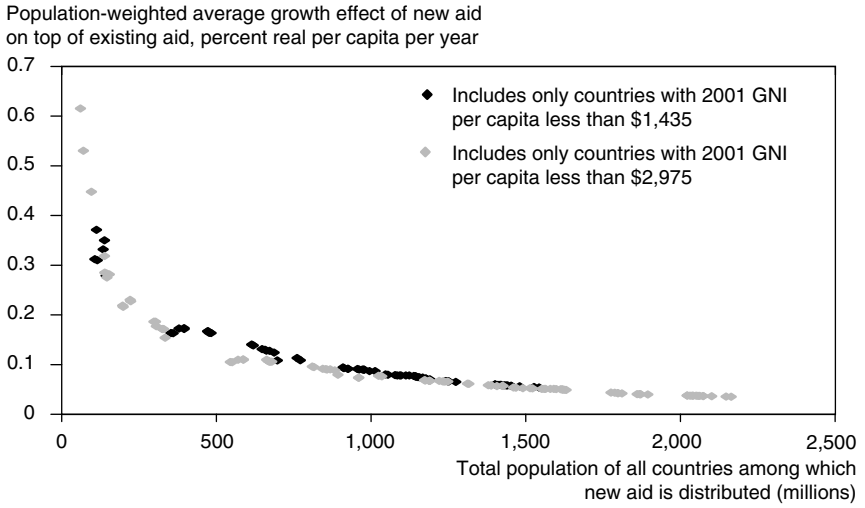
13. Also omitted are countries for which the Penn World Tables, the authoritative source for internationally comparable GDP/capita measures used by Collier and Dollar, do not report any recent figures. These countries are the Maldives, Samoa, Bosnia and Herzegovina, Kiribati, Vanuatu, Tonga, Micronesia, the Marshall Islands, the Solomon Islands, and Suriname.

Figure 7.2 Trade-off of including more countries

Growth effect by number of countries[a]



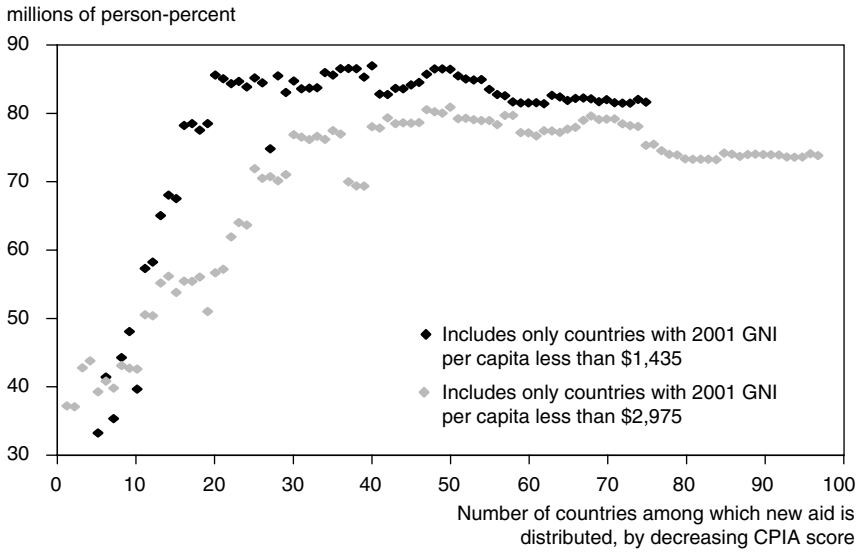
Growth effect by population[b]



a. Starting from the country with the highest CPIA score (policies and institutions) in each group, countries are added left to right. The y-axis shows population-weighted average growth effect for the whole recipient group, in real per capita percent per year, of an additional $5 billion in aid.
b. Identical to (a) except that the x-axis now shows the cumulative population of the entire recipient group.

Note: Increasing the number of aid recipients involves a trade-off. The benefit is that each "good policy" recipient is less likely to receive an unmanageably large amount of aid, and that a greater number of people are reached by the new aid. The cost is that the included recipients will represent to a lesser and lesser degree the "best policy" countries. For methodology, see text.

Figure 7.3 Estimating the optimal number of aid recipients



Note: The figure is derived from the bottom graph in figure 7.2, and shows the product of the population size times the growth rate, or equivalently, the area of the largest rectangle that could fit under the curve in that figure. Measured in "person-percent," it provides a rough indication of how much growth is being experienced by how many people as a result of the $5 billion in new aid flows. If the goal is to create the most growth for the most people, 40 countries would be included from the group with GNI per capita below $1,435 in 2001 and 50 countries would be selected from the below-$2,975 group.

Source: See text. Country identities are masked to preserve the proprietary nature of the World Bank's CPIA index.

year of additional growth. The light dot above point 20 on the horizontal axis shows that, for the pool of 20 countries with 2001 GNI per capita below $2,975, the growth effect would be 0.10 percent.

The bottom graph in figure 7.2 shows the same estimates as the top graph, but the horizontal axis now shows the cumulative population of the group of countries receiving the new aid. Each dot still represents the addition of one more country to the candidate group, and the countries are still laid out from left to right in order of decreasing CPIA score. This curve makes very explicit the fundamental trade-off of choosing the number of recipients of new aid. By moving to the left on the horizontal axis, (1) countries with better institutions and policies receive the aid money, and (2) each country gets a larger slice of the pie. By moving to the right on the horizontal axis, more people around the world benefit from the aid, even though each experiences less income growth.

One could use many criteria to choose the optimal point on the bottom graph in figure 7.2—that is, to choose the optimal number of countries

that should qualify for new aid funds. Perhaps the most straightforward is to find the point at which the most people experience the most additional growth. One would not simply choose the point with the highest growth rate. Given a choice between 0.5 percent growth for 1 million people and 0.4 percent growth for 10 million, one would clearly prefer the latter. Similarly, suppose that a group of countries comprising 500 million people experiences 0.2 percent more real per capita growth per year with current aid efforts than it would without aid. By this straightforward criterion, if aid were doubled, one would be indifferent between doubling the number of people (so 1 billion people experience 0.2 percent growth) and doubling the aid-generated growth for the original population (so 500 million people experience 0.4 percent growth).

If this were the goal, where is the optimal point on the curve in the bottom graph in figure 7.2? One would want to find the point where the population size times the growth rate reaches its maximum. That is, one would want to maximize the number of "person-percent" of growth associated with the new aid funds. In geometric terms, one wants to find the point where the largest rectangle possible can be fit underneath the curve against the two axes.

Figure 7.3 shows precisely this number. The vertical axis shows the area of the largest rectangle that fits under the curve in the bottom graph of figure 7.2 (i.e., the product of the population times the growth rate). The horizontal axis shows the number of countries that receive the new aid. If the goal is for the most people to experience the most growth, then at least 20, and as many as 40, countries with per capita incomes below $1,435 could be included as new aid recipients. If the pool of eligible countries expands to include all countries with incomes below $2,975, at least 30, and as many as 50, countries should be included as aid recipients.

If the goal is to ensure that aid goes only to countries that can use it well, then this exercise makes two things clear. First, it is not necessary to restrict the new aid to a very small number of countries: as many as 30 countries or more from the low-income group could receive aid without undermining aid effectiveness. Second, it is not necessary to expand eligibility to the per capita countries (with income between $1,435 and $2,975 GNI per capita) in order to find sufficient countries that can use aid well.

Of course, the results of this simulation are merely suggestive, since the data used by Collier and Dollar are inherently imprecise and their coefficients subject to an interval of confidence (like all statistical results). They also use World Bank CPIA scores to rank countries rather than the MCA criteria. Moreover, the data look at past experience of all aid recipients, not the actual future MCA recipients. The allocation rule used here—that each country receives new money in proportion to its current relative share of all aid—is subject to question as well. This exercise is merely suggestive of broad trends and is intended to illustrate a way to think about the trade-offs involved rather than to suggest a precise rule for the MCA.

Nevertheless, the broad point of the exercise is that 30 or even 40 of the poorest countries could receive new aid without important drops in the average impact of aid on their growth. It appears true that expanding the number of MCA recipients into the 20s or 30s would probably result in lower impacts on each country's growth, as aid is extended to slightly less favorable policy environments and each country receives a smaller share of the MCA. Conversely, limiting the program to just a few countries (e.g., under 10) would mean a lower aggregate population-weighted growth increment, which is maximized when the number of countries reaches about 20 to 30. Essentially, until this number of countries is reached, the effect of increasing the total population of the pool of countries covered swamps the reduction in the per-country increment for covered countries—if the goal is the most growth for the most people. Even such a broad membership in the MCA club could allow positive net growth impacts for each participant and would allow those benefits to be much more widely shared than they would be in a more restricted set of recipients.

Summary and Conclusions

Putting the pieces of this analysis together, how should one think about absorptive capacity in the MCA? First, absorptive capacity could be a problem in some MCA countries, but probably not a major one in many countries. Even after receiving substantial MCA assistance, many candidate countries will be receiving net aid flows of 15 percent of GDP or less. Based on current aid allocation patterns, after receiving MCA funds the recipient countries would be receiving total aid averaging about 18.7 percent of GDP, not a radically high level and well below estimated saturation points. Although not automatic, it should not be difficult for these countries to absorb additional aid flows effectively (since they start with lower amounts of aid and relatively strong policy and institutional environments) so long as interventions are well designed and carefully implemented. This will be especially true if the MCA moves away from the current small-country bias in foreign aid programs and allocates funds strictly based on need and results in the qualifying countries.

Second, for the MCA countries that already receive large amounts of aid, it is possible that additional aid still can achieve strong results, but it is also possible that the effectiveness of additional aid will begin to taper off, and that those funds would be more effective if used elsewhere. The broad trends on aid effectiveness and saturation points examined here are not sufficient to judge whether a particular country is approaching unacceptably low rates of return from new aid. Strong monitoring and evaluation mechanisms and the flexibility and willingness to redirect aid flows are the most important tools in assessing absorptive capacity issues. The first two years of the MCA provide an excellent opportunity to put strong

evaluation mechanisms in place before the MCA is fully funded. If absorptive capacity problems do emerge in some countries, the administration could choose to:

- reallocate some of the funding to other MCA countries;
- enlarge the number of MCA countries by adjusting eligibility requirements, so long as there is confidence that the additional countries could use the aid effectively;
- provide funds to the best of the non-MCA countries where aid might be effective, albeit using different delivery mechanisms from those used for the MCA; or
- reallocate funds to other important programs such as fighting HIV/AIDS.

Third, MCA funds can be used to relieve constraints identified by evaluations and increase aid effectiveness. Improving results may be a matter of redirecting funds rather than abandoning the activity. For example, if enough trucks are not available to deliver fertilizers, MCA funds can help solve the problem by buying more trucks. Of course, solving capacity constraints is rarely this easy, as many constraints are harder and take longer to alleviate—such as training new doctors and nurses—but the same principle applies.

Fourth, how the US government delivers MCA assistance will make a big difference. Heavy bureaucracy and onerous reporting requirements will lead to slow implementation, high costs, and low rates of return. The MCA can avoid much of this bureaucracy by making recipient countries responsible both for writing proposals that reflect their priorities and for implementing funded activities, as discussed in chapter 4. In addition, focusing MCA funds on broad budget or program support rather than on a large number of smaller projects will help. Program aid requires less bureaucratic effort on the part of both donors and recipients, and affords the recipients much more flexibility to redirect funds if capacity constraints become a problem in one activity.