Rethinking Aid

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This article reviews the recent debate on the role of aid in providing finance, in transmitting knowledge, and in changing policies in recipient countries. It argues that where economic reforms are recent—as in much of Africa—donors can play an important signaling role. This potential remains untapped because aid allocations have largely been based on political considerations. Donors fear "aid dependency" and have therefore pushed for the substitution of domestic taxation for aid. The cost of taxation may instead justify the use of aid for tax relief, particularly where the cost of taxation is likely to decline with development.

For much of the past 50 years development aid was seen as simultaneously fulfilling two roles: first, financing projects in poor countries that lacked access to world capital markets and, second, raising the returns to such investment through the donor's role in project selection and design. But since the early 1980s the role of aid has become less clear, partly because these two traditional roles have come to be questioned. The growing integration of many developing countries with global financial markets has made the provision of finance seem less relevant, while the fungibility critique has made donors' efforts in project selection seem an exercise in self-delusion. The rationale for aid became further blurred when structural adjustment lending introduced a third role: the attempt to use aid to buy policy reform in developing countries.

The past few years have seen a radical critique of aid. This recent debate has addressed all three aspects of aid—its role in providing finance, transmitting knowledge, and changing policies in recipient countries. The most influential recent critique of aid is the World Bank's *Assessing Aid* report (World Bank 1998). The argument in that report is based on two propositions. First, aid can be effective in

raising growth—but only in a good policy environment. Second, aid cannot buy such an environment.

There has also been a revival of interest in two other functions of aid: the provision of insurance through compensatory schemes and the use of aid as a commitment and signaling device. Where economic reforms are recent—as in much of Africa—risk assessments are slow to adjust, so for a time the private response to reform may be weak. In these circumstances aid can play an important signaling role. Because the allocation of aid has been dominated by political considerations, this potential remains unexploited.

This article reviews the debate on the roles and effectiveness of aid. First it considers the role of aid in providing finance. Current evidence suggests that aid is effective in raising economic growth only in good policy environments. The article then considers the effectiveness of aid in securing such an environment through ex ante conditionality. There is now overwhelming evidence that such conditionality does not work. The paper argues that donors should switch to ex post conditionality (selectivity). Donors are concerned about the possibility of "aid dependency." They have therefore pushed for the substitution of domestic taxation for aid. I suggest that the cost of taxation may be atypically (and temporarily) high in very poor countries. This might justify the opposite substitution—that is, the use of aid for tax relief. Finally, the article considers the argument that the transfer of knowledge to developing countries should be tied to the provision of finance. It argues that there is no need for such "bundling" but that there is a strong case for clearly separating these two functions.

Aid as Finance

If the role of aid is to provide finance (rather than to change policies) then aid would be effective if it stimulated economic growth, taking policies as given. Much of the recent debate on aid has focused on the first of the two *Assessing Aid* propositions: that aid cannot be effective in a poor policy environment. This proposition is, of course, intuitively appealing. There is now empirical support from two types of evidence. First, micro evidence indicates that the returns to aid-supported projects are affected by macroeconomic policies. In the early 1980s accumulating anecdotal evidence of this nature was an important argument in favor of adjustment lending: it was thought that if project returns were low because of the policy environment then donors should focus on improving policies rather than on project design. There is now more systematic evidence—notably that of Isham and Kaufmann (1999), who analyzed World Bank–supported projects and found that macroeconomic policies had a significant effect on their returns.

The second type of evidence comes from growth regressions and relies on macroeconomic data. Burnside and Dollar (2000) included both aid and an aid-policy interaction term in a growth regression and found that aid alone was not significant but that the interaction term was. The Burnside and Dollar paper has attracted much attention since it first appeared as a working paper in 1997. The econometric basis

for the conclusion that aid works, but only in a good policy environment, has been attacked in a number of papers (for example, Hansen and Tarp 1999; Lensink and Morrissey 1999; and Lensink and White 1999).[1] But in the published version of their paper Burnside and Dollar use extensive sensitivity analysis to test the robustness of their result.

A particular interesting critique of the Burnside and Dollar thesis is that of Guillaumont and Chauvet (1999). Their hypothesis is that the effectiveness of aid (in terms of growth) depends not only on the quality of the policy environment but also on the country's "structural vulnerability." They measure vulnerability as a weighted average of the instability of agricultural value added (as a proxy for climate shocks), the instability of the income terms of trade, the trend value of the terms of trade, and initial population. Adding this vulnerability variable (and its interaction with aid) to the Burnside and Dollar (2000) growth regression, Guillaumont and Chauvet find that the aid-policy interaction term is no longer significant—while the aid-vulnerability interaction term is significant. On this basis they conclude that aid effectiveness does not increase with the quality of the recipient country's policies but rather with its vulnerability.

How should this result be interpreted? Consider first the trend in the terms of trade. In the absence of aid, a secular decline in the terms of trade might well induce an increase in savings: agents would accumulate assets in order to smooth consumption over time. (Note that at a later stage the effect on the savings rate would be negative: agents would maintain consumption levels by drawing down the assets they had accumulated initially.) However, if aid were available to compensate for the terms of trade loss then agents would have less incentive for such intertemporal substitution. To that extent the effect of aid on the savings rate (and hence on the growth rate) might well be negative, at least initially. The trend in the terms of trade component of the vulnerability therefore provides no clear explanation for the aid-vulnerability interaction term.

Now consider the two instability measures. Guillaumont and Chauvet (p. 8) argue "that aid has to allow countries to overcome their vulnerability, to face shocks in better conditions, or at least to (partially) compensate for their effects." This suggests that in shock-prone economies aid could fulfill two roles, addressing either the ex post or the ex ante effects of volatility on growth. Aid could provide insurance, offsetting the effects of negative shocks once they occurred (ex post), through compensatory finance. An example is the European Union's Stabex program. Alternatively, aid could assist countries ex ante, not in response to actual shocks but in response to an assessment that the country was facing uncertainty.

This distinction between the ex ante and ex post effects of volatility has long been prominent in theoretical work on trade shocks (see Bevan, Collier, and Gunning 1991 and Collier and Gunning 1999c) but only very recently has it begun to be tested. Dehn (2000) constructs an uncertainty measure as the GARCH (generalized autoregressive conditional heteroscedasticity) conditional variance of one-step-ahead forecast errors, regressing first differences in the price series on their own lag, a second lag in levels, and a time trend. Essentially this purges the series of both level

and differences information so that the residual can be considered as a measure of the uncertainty faced by an agent who uses all available information. Dehn defines trade shocks as the actual occurrence of a "large" forecast error (using 2.5 percent cutoff points). Adding both variables—the ex ante measure of uncertainty and the ex post measure of shocks—to a canonical growth regression, he finds (for a sample of 56 countries in 1970–93) that positive shocks do not have a significant growth effect, that large negative price changes lower the growth rate significantly, and, most interestingly, that uncertainty in itself does not affect growth. Hence what reduces growth is not vulnerability in the ex ante sense—the prospect of volatile world prices—but the actual realization of negative shocks.[2]

This does not invalidate the Guillaumont-Chauvet result, but it does suggest a refinement of their policy conclusion that the allocation of aid across countries should be based not only on the quality of policies but also on countries' vulnerability. Recall that their vulnerability variable aggregates over quite different effects. Aid is not likely to be more effective in economies exposed to commodity price uncertainty, simply because such uncertainty in itself does not reduce growth. But negative shocks do matter for growth, and this suggests the need to reassess the insurance role of aid. The function of aid in shock-prone economies would be to relax borrowing constraints for countries that had experienced negative shocks.

Existing schemes such as Stabex provide compensatory finance to governments rather than to private producers. They thereby unintentionally reinforce (through Dutch disease effects) rather than dampen negative shocks for producers. When compensation for negative shocks is paid to governments, producers may lose twice: once directly through the reduction in producer prices and once indirectly because the government's spending of the compensatory finance would drive up the relative prices of nontradables, thereby reinforcing the terms of trade loss suffered by the producers of the commodity affected by the shock. Aid would be more effective if it were directed at private producers, enabling them to buy put options. (Collier and others 1999 propose a redesign of Stabex along these lines.) But until recently donors have shied away from such a use of aid, believing that producers of commodities with volatile prices (such as coffee or sugar) should be encouraged to abandon these activities rather than supported through risk sharing.

With this qualification, aid can be effective when it takes the form of compensatory finance (ex post) for countries subject to negative trade shocks. In the more general case aid effectiveness appears to require a good policy environment. That is, of course, the rationale for the use of conditionality in adjustment lending—to effect policy reform in recipient countries.

Conditionality

In the early 1980s structural adjustment lending extended conditionality from projects to a wide range of government policies. This has led to theoretical work that calls into question the power of donors to change policies through conditionality, to

empirical research on the effectiveness of conditionality, and to proposals to reform conditionality. I consider these three developments in turn.

The Limited Power of Donors

The effectiveness of ex ante conditionality has long been questioned. One line of criticism in the theoretical literature stresses that if adjustment finance is temporary then conditionality can be effective in changing policies at best only temporarily. It may well be possible to use aid to "buy" policy reforms from unwilling client governments, but those reforms will not be sustained if aid is temporary.

For example, a government that prefers protection over free trade may well be induced by the offer of aid to liberalize its trade policy, but it would then have an incentive to reverse that reform once the aid runs out (see Rodrik 1989; Collier and Gunning 1992; and Killick 1998). The government's announcement that its trade reform was permanent would be recognized as "time inconsistent" and hence be considered incredible. This would explain both why policy changes undertaken at the insistence of donors have often been short-lived and why the response of private agents to the announcement of adjustment policies has often been weak. To explain why policy reversals frequently occur even in repeated donor-recipient interactions, it is usually argued that a donor threat to punish policy reversals by denying future access to adjustment lending is not credible given the incentives for donor staff to continue lending (see, for example, Killick 1998). Arguments for ex post conditionality are often inspired by models in which time inconsistency generates policy reversals.

Time inconsistency is, of course, not the only reason for the failure of conditionality. A good example from the political economy literature is provided by Adam and O'Connell (1999). In their two-period model private agents make investment decisions at the beginning of the first period, after the government has announced its tax and transfer policies.[3] Agents can invest in two activities, one of which is taxed. The government collects the revenue from this (distortionary) tax, receives aid from donors, pays for exogenous government expenditure, and uses any remaining revenue for transfers to a favored group. It chooses the tax rate and the amount of transfers so as to maximize the welfare of this group.

The size of this favored group is critical. If it represents a small portion of the population, then it is optimal for the government to engage in transfer payments. If, however, the government is "sufficiently representative" (in the sense that the favored group exceeds a critical portion of the population), then it will be benign. Despite being interested only in the welfare of its clients, the government will make no transfers to them and will set the tax rate at the minimum needed to finance the part of exogenous spending not financed by aid.[4]

The effect of (unconditional) aid differs radically in these two types of economies. In the first case (where the government has been captured by a small rent-seeking elite) any increase in aid will be used entirely for transfer payments. In the second case a (small) increase in aid will not induce any transfers: transfers will remain constant at zero and aid will be used exclusively for tax relief. To the extent that poverty is con-

centrated in countries with narrowly based governments, this model illustrates what is sometimes described as the problem of selectivity: aid (to the government) is ineffective in the very economies where the depth of poverty makes it seem most desirable.

This simple model shows both how aid affects growth and why aid effectiveness depends on the policy regime. In the economy with a sufficiently representative government, the quality of the policy environment is high in the specific sense that the government chooses to make minimal use (given the level of expenditure) of distortionary taxation. In this economy aid raises growth by inducing a reduction in the tax rate and thereby an increase in investment in the high-return (taxed) activity. Conversely, in the nonrepresentative (or more accurately, not sufficiently representative) economy aid affects growth only by raising transfers to the favored group, which then increases its saving to smooth consumption between the two periods.

When aid is unconditional, the recipient government is, of course, free to choose the tax rate that is optimal given its objective of maximizing the welfare of the favored group. Under conditionality, however, the tax rate and the amount of aid are simultaneously determined in bargaining between the donor and the recipient where the donor will be concerned by the effect of distortionary taxation, through its effect on investment, on consumption in the second period. If the government is not sufficiently representative, there are "gains from aid": conditionality can make both parties better off. (For the recipient government this is so because without conditionality it would have received no aid at all since the donor would have realized that aid would have been wasted on transfers, without reducing tax rates.) Adam and O'Connell show that whether conditionality is needed to achieve gains from aid or, more narrowly, Pareto efficiency, depends on the size of the government sector (as measured by the amount of exogenous government expenditure) and on the size of the group favored by transfers.

This second version of the model (in which aid is conditional) illustrates the function of conditionality but not its possible failure through policy reversals. While the model distinguishes two periods it is essentially static: policy decisions are made once and for all at the beginning of the first period. Hence a problem of time inconsistency cannot arise.

Evidence on the Effectiveness of Conditionality

Policy reversals are, however, a central concern in the empirical literature. Recall that the second proposition in the *Assessing Aid* report was that aid cannot buy policy reform. Empirical evidence on this proposition is largely in the form of case studies, although there have been many econometric attempts, notably that of Burnside and Dollar (2000). In assessing this evidence it should be noted that for conditionality to be effective, it is necessary but not sufficient that the recipient government change its policies in a way deemed desirable by the donor.

This may be seen by noting that when a donor tries to buy policy reforms through conditionality there are four conceivable outcomes (Gunning 2000):

- The reforms are not adopted, so conditionality has obviously failed.
- The reforms are adopted but this would also have happened without aid.
- The reforms are adopted and would not have been adopted in the counter-factual case (if no aid had been offered), but the effect is only temporary: the reforms are ultimately reversed (the outcome predicted by time inconsistency models).
- The reforms are adopted and sustained, which would not have occurred without aid.

Clearly, conditionality is truly effective only in the last case. It achieves nothing in the first and the second case (although only in the first case is this obviously so) while in the third case it is only temporarily effective. Regression analysis runs into an obvious limitation here: it can establish whether aid flows are accompanied by policy reforms, and it may be able to establish whether reforms are reversed. But it cannot convincingly distinguish between situations where aid was instrumental or only incidental to policy reforms. Regression evidence of a link between aid and policy quality at best shows that a necessary condition for effective conditionality is satisfied. Case studies go some way toward overcoming this problem by using in-depth, country-specific information to construct a credible counterfactual. However, here too there is a methodological problem: donors have an incentive to exaggerate their influence over policy changes while the government has the opposite bias. Hence case studies may be biased in either direction, depending on which policy accounts they rely on.

Most econometric studies in this area focus on whether donor finance is effective at changing policies in recipient countries. Dollar and Svensson (2000) focus instead on the effects of the donor's preparation and supervision activities. Using data from the World Bank's Operations Evaluation Department (OED), they attempt to explain a program's success or failure (as assessed ex post by OED) by the donor's efforts. There turns out to be no such relationship: the authors "find no evidence that any of the variables under the World Bank's control affect the probability of success of an adjustment loan" (p. 4).[5] These variables are measures of staff input, not of the aid provided. The authors, as they point out, therefore do not test the proposition that aid can buy policy change. What they do test is whether the donor's activities that complement finance—the design of a set of conditions, the technical assistance provided, and the staff efforts to twist the government's arm—determine success or failure. While the evidence is only for the World Bank, it seems unlikely that other donors would have been more effective.

The case study evidence is growing rapidly; see, for example, the country studies in the external evaluation of the International Monetary Fund's (IMF's) Enhanced Structural Adjustment Facility (Botchwey and others 1998), the studies in Killick (1998), the World Bank study of aid in Africa (Devarajan, Dollar, and Holmgren 2000), and the recent evaluation of Swedish program aid (White 1999). All this evidence strongly suggests that conditionality is not effective. For example, the Devarajan, Dollar and Holmgren study of aid and policy reform in 15 African countries finds that while all of them got large amounts of program aid, only 3 (Mali, Ghana and Uganda) reformed successfully.

Many governments simply do not adopt the reforms favored by donors (the first possible outcome suggested above). For example, in the final phase of the Kaunda regime in Zambia, the government reached an agreement with the IMF on a program "designed to create a diversified and market-oriented economy" (internal IMF document, as cited in Botchwey and others 1998, p. 95). The government had no intention of creating such an economy. Indeed, price controls were formally abolished but continued to be enforced, and efforts to accord a larger role to the private sector were resisted effectively (Botchwey and others 1998). More recently again in Zambia, the government long resisted donor pressure to privatize copper mines. There are also many examples of aid, far from inducing reforms, actually postponing them. (Devarajan, Dollar, and Holmgren 2000 document this for the Democratic Republic of Congo, Kenya, Nigeria, and Tanzania.)

There is also evidence of reforms being adopted but not because of donor pressure (the second possible outcome suggested above). In Vietnam donors made an important contribution by informing the policy debate but were apparently virtually powerless to force through reforms against the wishes of the authorities. As van Donge and White (1999, p. 33) stress: "The pace and direction of reform is determined by Vietnamese politics."

The literature also documents many cases where reforms were "owned" by the government, so donor pressure was not essential. At one extreme reforms were even undertaken without donor involvement, as was the case in the early phases of liberalization in Burkina Faso, Eritrea, Mozambique, Uganda, and Vietnam. In Uganda key reforms (abolishing price controls, liberalizing the foreign exchange market, privatization) were all undertaken on government initiative. While donors, understandably, like to take credit for the success of reforms in Uganda, there have been very few cases of substantial disagreement on policy issues between donors and the government (Ddumba-Ssentamu and Dijkstra 1999, pp. 91–92). Kasekende and Atingi-Ego (1999) argue convincingly that Uganda's successes cannot be attributed to donor pressure.

This is not to say that the involvement of donors in these countries was not important or helpful; it often was. But the contribution of donors was to help build the case for reform through policy dialogue rather than to buy reform with aid. In addition, donor support eased the implementation of reform programs (Devarajan, Dollar, and Holmgren 2000).

The third possible outcome, involving policy reversals, has been especially common in Africa. "Program interruptions" (in most cases involving policy reversals) were the main concern in the IMF's internal evaluation of its Extended Structural Adjustment Facility (IMF 1997). A well-known case is the liberalization of maize marketing in Kenya, a reform that was repeatedly undertaken, with each attempt ending in a policy reversal. Oyejide, Ndulu, and Gunning (1999) document that trade liberalizations have been reversed in 7 of 10 African countries, in many cases (including Kenya) more than once.

In the fourth possible outcome conditionality is effective in the sense that donor pressure was essential and the reform was sustained. This case seems fairly rare. In an exhaustive evaluation of Swedish program aid one of the few examples

is the liberalization of Mozambique's cashew market—a reform that donors effected despite strong government objections (White 1999; Gunning 2000).

Responses to the Evidence on the Failure of Conditionality

The central idea of structural adjustment lending is that aid can buy policy reform. Having committed huge resources to this idea for two decades, one would expect donors to be shocked by the accumulating evidence that conditionality has failed. Instead that message seems to be accepted with remarkably little dissent. The extent of the recent change in thinking on aid can be measured by looking at the rationale Rodrik (1996) gave five years ago for (multilateral) lending. Rodrik saw the exercise of conditionality as a key rationale for aid. Donor confidence in this role for aid appears to have evaporated in a very short period.

If donors accept the evidence that ex ante conditionality does not work, they can either redesign the aid contract to improve it or switch to ex post conditionality. The ex ante approach weakens ownership, the ex post approach reinforces it. Much of the theoretical literature is concerned with establishing the feasibility of an effective, incentive-compatible aid contract. But the problem with ex ante conditionality goes beyond feasibility: one may well question its desirability. If donors are to succeed in achieving objectives that are not (fully) shared by the government,[6] they inevitably will undermine the government's accountability. In the limit conditionality is effective in the same way as colonialism and hence suffers from the same objection. Stiglitz (1998, pp. 10–11) eloquently describes the debilitating effect of ex ante conditionality:

> Rather than learning how to reason and develop analytical capabilities, the process of imposing conditionality undermines both the incentives to acquire those capacities and confidence in the ability to use them. Rather than involving larger segments of the population in a process of discussing change—thereby changing their ways of thinking—it reinforces traditional hierarchical relationships. Rather than empowering those who could serve as catalysts for change within these societies, it demonstrates their impotence. Rather than promoting the kind of open dialogue that is central to democracy, it argues at best that such dialogue is unnecessary, at worst that it is counterproductive.

In summary, ex ante conditionality has proven ineffective. It may well be feasible to make it more effective; however, this would reinforce the undesirable effects stressed by Stiglitz. The alternative is ex post conditionality.

Selectivity

If aid effectiveness depends crucially on the quality of the policy environment and donors are powerless to change policies with aid, then all they can do is improve efficiency through selectivity in the allocation of aid. Donors would treat policy

regimes as exogenous and would bias the allocation of aid in favor of countries with good policy environments.

The *Assessing Aid* report does not shy away from this logical implication. Some bilateral donors, notably the Dutch, are rapidly moving in this direction. The World Bank itself seems much more reticent. As so often happens in debates on development, there is a wide gap between the world of ideas and reality.

It should be noted that while selectivity can be defended even if policy remains exogenous, its beneficial effect may be reinforced through an incentive effect. This would be the case if governments recognized a donor's new allocation rule and adopted economic reforms partly on the expectation that they would be rewarded with aid (Collier and others 1997).[7] The policy would then become endogenous.

Alesina and Dollar (2000) show that the allocation of bilateral aid is driven by political and strategic considerations, such as colonial ties and United Nations (UN) voting records. By contrast, recipients' economic policies and political institutions are relatively unimportant determinants of aid flows. The authors find, for example, that "a non-democratic former colony gets about twice as much aid as a democratic non-colony" (p. 21).

The importance of noneconomic objectives is quite striking. For example, the Alesina-Dollar results indicate that donors reward openness: open economies (on the Sachs and Warner 1995 index) get twice as much aid as closed ones. But this effect is swamped by variables measuring colonial ties and UN voting records (which are not correlated with openness). When allocations are based on the policies adopted by recipient governments, the relationship is often perverse: aid tapers off in successful economies (Botchwey and others 1998; Collier and Gunning 1999b; Devarajan, Dollar, and Holmgren 2000). This appears to be based on donors' mistaken perception that the return to aid in such economies is low because they already attract private investment.

Selectivity can be seen as the most radical form of ex post conditionality because it treats the policy regime as exogenous and hence abandons all pretense that aid can buy policy change.[8] The selectivity proposal has encountered (at least) three objections.[9]

The first is that selectivity will leave poor people living under governments with bad policies to fend for themselves—that is, without aid. This objection is hard to understand: aid to such governments is unlikely to benefit the poor anyway, and it may well harm them by financing bad policies. (Recall that Devarajan, Dollar, and Holmgren 2000 find that aid often maintains bad policies.) Conversely, selectivity does not rule out that aid is channeled directly to poor people rather than to their governments.

The second objection is that countries with good policies do not need aid. This is simply false. The evidence on risk ratings indicates that reputations die quite slowly. Hence domestic savings may remain low for some time in good policy environments, reflecting uncertainty as to whether the new policy regime will be sustained. There may therefore be a phase in which a country has already undertaken wide-ranging reforms but has not yet attracted substantial private capital. Also, in poor countries the cost of taxation is typically quite high. Encouraging countries

with good policies to substitute domestic taxation for aid (a favorite proposal of critics of "aid dependency") may therefore be quite damaging.[10] I return to this point in the next section.

The most serious objection to selectivity in aid allocations is that it may encounter the same problems as ex ante conditionality—namely, if it leads to donor-recipient bargaining over the quality of the policy environment. Selectivity ties a country's aid allocation to an assessment of its policies. Some aspects of a "good policy environment" can be defined unambiguously in objective terms, but in many cases an element of judgment is inevitable. The donor's judgment may, of course, be challenged by the recipient government. In that case the government and the donor would return to the sort of bargaining that now characterizes ex ante conditionality. Selectivity would then conflict with ownership in the sense that donors would try to impose their judgment on the relative importance of various aspects of the policy regime. In the limit there would simply be no scope for ownership: aid would be allocated to countries that had adopted a list of donor-favored policies. This objection is the main reason for favoring outcomes over policies as the basis for ex post conditionality.

There is an active debate on whether conditionality should be based on outcomes or on policies adopted by the recipient government, as has been the rule in structural adjustment programs. Practical people tend to favor policy-based conditionality, largely because of the long lags between policy decisions and their results—say, in terms of poverty alleviation. Incentive effects would be weak if governments could not expect to be rewarded (or punished) quickly for their actions. Rewards might actually be reaped only by a successor government.

The theoretical literature puts more emphasis on outcomes. Azam and Laffont (1998) develop a principal-agent model in which the principals (the rich in the North) try to induce the rich in the South to raise poor people's consumption, which the donors value altruistically. In their model an optimal contract may make aid conditional both on policies and on outcomes, the latter because of incentive effects.[11]

An obvious objection to outcomes-based conditionality is that government has imperfect control over outcomes. In particular, outcomes might reflect exogenous shocks—which might lead a passive government to receive less aid simply because the country experienced a negative shock. Collier and others (1997) suggest correcting for this by regression analysis. They introduce in a growth regression a number of determinants outside government control—such as terms of trade shocks and landlockedness. Using such a regression, an aid allocation based on growth would correct observed growth rates for the estimated effect of the nonpolicy determinants. For example, a country that experienced a negative trade shock in the period under review would have its growth rate adjusted upward by adding to the observed rate the shortfall resulting from the shock, using the estimated coefficient.

This correction may suffer from omitted variable bias if policies are not included and if policies are correlated with some other growth determinants.[12] If the regression does include policy variables then the adjusted growth rate (on which the aid allocation would be based) would be equal to the part of the growth rate not

explained by the nonpolicy variables—that is, it would equal the error term plus a weighted sum of the policy variables with the estimated regression coefficients as weights. In this sense the difference between policy and outcomes-based aid allocations would be illusory. In the outcomes-based approach, aid would actually be allocated on the basis of the policies the government had adopted.

There are, however, two important differences, one economic and the other political. The economic point is that the policy-based approach rewards policy choices on the basis of their average effect in the sample used for the regression. The outcomes-based approach would include the error term in the measure of success. Whenever a government had been able to realize higher returns to particular policies than the sample average, that would be picked up in the error term and hence be rewarded. The outcomes-based approach would therefore encourage the government to make its own decisions about the relative importance of reforms, giving, say, more weight to trade reform and less to fiscal rectitude if that seemed appropriate in the specific circumstances of that country. The political point is that an outcomes-based allocation promotes accountability by signaling that donors have no involvement in policy choices, being interested only in results.

Finally, under selectivity aid could serve both a signaling and a restraint role. Signaling would occur once it was recognized that aid allocations were tied to success. Private agents would then be able to economize on monitoring by observing aid allocations instead. Similarly, the government could use donors as an agency of restraint: if the aid allocation rule was credible, the government could resist pressures for policy reversals by pointing out that such reversals would lead to a loss of aid. This would help lock in policies.

Aid or Taxation?

Research on aid effectiveness has brought into sharp focus the relationship between aid and taxation in recipient countries. Where donors have little control over the composition of government spending (because of the fungibility of project lending and the limited effectiveness of conditionality in program aid), aid increases government spending and reduces taxation.[13]

That a recipient government responds to aid with such a combination is, of course, rational. Domestic taxation has both political and economic costs (in the absence of lump-sum taxation). It is therefore optimal for the recipient government to increase government expenditure and to reduce taxation until in the new equilibrium with aid the marginal costs of taxation is again equated (but now at a lower level) to the marginal benefits of government expenditure (see, for example, Collier 1999). Advocates of the "aid dependency" position argue, however, that increases in government expenditure should be accompanied by increased taxation and reduced aid. There is no rationale for this view in static donor-client models as long as the marginal benefits of government expenditure are decreasing and the marginal costs of taxation are increasing.

The real issue appears to be dynamic: how will the cost of taxation change in the process of development, and what does that imply for aid policies? Taxation involves two types of costs: the cost of collection (the cost of the administrative machinery needed to generate revenue) and the welfare loss imposed on the economy if lump-sum taxation is not feasible so that taxation reduces private agents' income, not only directly but also indirectly by giving them incentives to change their decisions.

First consider the welfare cost of distortionary taxation. This is likely to fall over time, as the country develops. This may be illustrated with a very simple two-period model. Private agents inherit a capital stock k and decide in the first period, after the government has announced the tax rate, t, how much of their first-period income $f(k)$ to save (i). Agents will choose the optimal level of investment so as to maximize the present value of utility in the two periods:

$$W = u(c_1) + u(c_2) \beta ,$$

where β is the discount factor, $c_1 = f(k) - i$ is consumption in the first period, and $c_2 = (1-t)f(k+i)$ in the second period.[14] The first-order condition is:

$$u'(c_1) = \beta u'(c_2)(1-t)f'(k+i) ,$$

where primes denote derivatives. This condition simply equates the opportunity cost of investment (the utility of the consumption forgone in the current period) to its marginal benefit (the discounted utility of the increase in future consumption as a result of investment, taking into account that future output will be taxed). This condition implicitly defines the optimal level of investment as a function of the tax rate and the initial level of the capital stock. I assume that increases in the tax rate reduce investment.[15] The effect of a change in the tax rate on the welfare (W) of private agents is given by:

$$\frac{dW}{dt} = -\beta u'(c_2^*)f(k+i^*)$$

because the tax base is $f(k+i)$. Taking into account that the direct effect of an increase in the tax rate on tax revenue $T = tf(k+i)$ will be partly offset by the induced fall in investment:[16]

$$\frac{dT}{dt} f(k + i^*) + t f'(k + i^*) \frac{f i^*}{ft} .$$

Hence the effect on welfare of an increase in tax revenue is given by:

$$\frac{dW}{dt} = -\beta u'(c_2^*)/ 1 + t \frac{f i^*}{ft} f'(k+i^*)/ f(k+i^*) ,$$

which indicates that increased taxation reduces welfare.

How will this cost of taxation change if the economy develops? A more developed economy will enter the first period with a larger capital stock. This will be

reflected in a higher level of investment and higher consumption in both periods. The increase in c_2^* will, of course, reduce the marginal utility of consumption. This lowers the cost of taxation: the utility loss due to a given reduction in consumption as a result of taxation is lower at higher levels of income. However, the denominator (which measures the elasticity of tax revenue with respect to the tax rate) will also be affected. In this one-sector model the elasticity will (for iso-elastic utility and production functions) decrease, and this would tend to increase the cost of taxation. But for plausible parameter values the first effect (the declining marginal utility of consumption) dominates, so that the cost of taxation falls as the economy grows. Also, in reality economic growth will involve the development of new activities, so that increased revenue is not only achieved by raising tax rates but also by developing new tax handles. This increases the elasticity of tax revenue with respect to tax rates, thereby reinforcing the fall in the cost of taxation.

Hence growth alone may well reduce the cost of taxation, even without any changes in the ways taxes are collected: there is no need to appeal to a fall in collection costs.

In static models of aid and taxation the rationale for aid is that it raises public expenditure and reduces the cost of taxation. The dynamic argument that I have sketched reinforces this: if the cost of taxation falls with development then this justifies concentrating aid on countries in the early phases of growth. Ironically, donors have in recent years tended to move in the opposite direction, insisting on tapering off aid to recently stabilized economies (Botchwey and others 1998; Collier and Gunning 1999b). This donor obsession with domestic resource mobilization (substituting taxation for aid) may well be misguided.

Now consider the second type of cost of taxation, that associated with tax collection itself rather than with the induced distortion. It might be argued that the collection cost will fall over time as the tax authorities gain experience. Azam, Devarajan, and O'Connell (1999) model this as a learning-by-doing process by assuming that the marginal cost of tax collection is a decreasing function of the revenue collected in the past. A government that chooses to increase taxes will thereby give its tax inspectors the opportunity to learn to become more efficient, thereby reducing future collection costs. Clearly, donors would have to take such a learning process into account when deciding on their aid programs. If they offered aid today, they might undermine the learning process by inducing a reduction in taxation effort. As Azam, Devarajan, and O'Connell show, this might lead to an equilibrium outcome with high aid and low tax collection efficiency. Aid would have the usual short-run benefits, but it would undermine institutional development by depriving the government of cost-reducing tax collection experience.

Whether the main effect of high taxes is indeed such a beneficial learning process is doubtful. While learning-by-doing can obviously play an important role in lowering tax collection costs, it is not clear why higher tax rates would stimulate this process. What agents would learn might not be efficient tax collection but efficient bribery and tax evasion.

These issues must be resolved empirically. Sadly, there is very little evidence on the cost of taxation in poor countries.

A Knowledge Bank?

Donors, notably the World Bank, have often argued that aid is an important vehicle for the transfer of knowledge, both in project and program design—that is, that knowledge is best transferred by tying it to aid or, in the jargon, by "bundling" finance and expertise (Gilbert, Powell, and Vines 1999). Bundling is necessary, the argument goes, because recipient governments will not accept advice if it is not accompanied by finance. There are three objections to this position.[17]

First, it is not supported by the evidence. In structural adjustment lending advice is, of course, bundled with finance. I have already noted the Dollar and Svensson (2000) finding that the use of Bank resources—in terms of staff input for the preparation and supervision of adjustment loans—has no effect on the success or failure of adjustment programs. While knowledge transfer is not the same as staff efforts on preparation and supervision, the two should be highly correlated. Hence, whatever bundling does, it cannot be said to ensure that knowledge is transferred in a form that contributes to program success.

Second, bundling is equivalent to the tying of aid and has the same disadvantage: the recipient government cannot choose between suppliers. Donors differ, of course, in the expertise on which they can draw when giving technical advice (if knowledge was truly a public good then no need would be perceived to bundle finance and expertise) and there is no guarantee that any particular donor knows best. More important, tying undermines the recipient government's accountability. When a government is not encouraged to develop its own position on the pros and cons of, say, a particular method of privatization but relies instead on force-fed donor advice, it can more easily deny responsibility for a subsequent failure.

Third, if donors accept the case for selectivity, it would be inconsistent to maintain bundling. The case for selectivity is that finance does not succeed in changing policies. There is no evidence that bundling improves this record. But there is evidence that knowledge transfer alone can build the case for reform. Indeed, the highest payoff to technical advice on program design appears to come in the prelending phase (World Bank 1998; White 1999). Devarajan, Dollar, and Holmgren (2000) find that in two of the three successful reformers in their African sample, Ghana and Uganda, the role of aid was largely to provide ideas in the pre-reform stage, rather than to provide finance. Indeed, both countries appear atypical for having received little financial aid in their pre-reform phases.[18]

Unbundling seems particularly pertinent for program lending. If ownership is to be encouraged by letting governments free in designing their programs then evidently they should be left free in deciding what information they require and from whom that information is to be obtained. Governments would then hire technical expertise themselves, either from consultancy firms or from donor agencies. Clearly, this would radically change current donor practices.

Donors can transmit knowledge not only to recipient governments but also to private agents, including foreign investors. Here the case for a donor role is much stronger. There is now a class of poor countries where, as a result of recent economic reforms, the policy environment can be considered adequate. However, since the reforms are recent, the private financial sector still has outdated information on these economies. Because many of these economies are small, particularly in Africa, the private sector has little incentive to incur the high costs of acquiring the information needed for accurate risk assessments. As a result many newly reformed poor countries are rated as more risky than is justified on the basis of fundamentals. They therefore fail to attract investment despite the far-reaching reforms they have adopted in the past decade.[19] This is important because these newly reformed countries are critically short of private investment. In this context the rationale for a donor role is the underinvestment by private agents in information about the government's type (see Rodrik 1996).[20]

In this view the "knowledge bank" would focus not on transmitting knowledge to but knowledge about developing countries. As before, the question rises whether this calls for bundling. Some have argued that signaling by a donor agency is credible only when the agency has some of its own money at stake.[21] I am not convinced by this argument. In the case of bundling, investors might perceive the signal as noisy if they suspected that the donor's lending to the country would bias its reporting. It would then be difficult to distinguish between genuine positive news based on the donor's superior information and positive news that reflected the donor's wishful thinking. Far from bundling the two functions, one would therefore want to separate them quite clearly. This might provide a basis for a division of labor between donor agencies—for example, between the World Bank lending for long-run growth in stabilized economies and the IMF limiting itself to signaling.

But it should be noted that the noisiness of the signal provided by donor involvement in an economy is largely the result of current aid allocation practices. When these change in the direction of selectivity, the problem will be solved automatically: donor involvement will be limited to good policy environments and so will in itself be informative to private agents.

Conclusion

The recent debate on aid effectiveness has focused on three functions of aid: providing finance, transmitting knowledge, and changing policies in recipient countries. In reviewing this debate, I have stressed the ineffectiveness of aid in the third of these roles and the desirability of separating the other two roles more clearly.

Whether aid is effective in raising growth rates through the provision of finance has come to be questioned. Evidence from growth regressions suggests that aid is effective—but only in good policy environments. The econometric dispute surrounding this finding has not yet been resolved. However, the importance of the policy environment also emerges from microeconomic evidence on the returns to projects. Evidence on the effect of negative trade shocks on growth suggests an insurance role for aid.

There is now overwhelming evidence that aid is not effective in bring about policy reform. I have argued that rather than redesigning the aid contract to make ex ante conditionality more effective, donors should switch to ex post conditionality (selectivity). Under selectivity the allocation of aid is tied to success. This would enable donors to play an important signaling role in transmitting information on government policies and outcomes to private agents. Because aid allocations have been dominated by political considerations, the potential of such a signaling role has remain largely untapped. Where economic reforms are recent—as in much of Africa—signaling can play an important role.

I have suggested that the cost of taxation is likely to be atypically high in poor economies. Donor efforts to promote tax efforts in these economies may be misguided. The high cost of taxation and the likelihood that it will decline with growth may justify the use of aid for tax relief.

I have also argued that the transfer of knowledge to developing countries need not be bundled with the provision of aid. Indeed, the two functions should be separated if the case for selectivity is accepted.

Notes

1. Hansen and Tarp (1999) show that, controlling for investment and human capital, aid is not effective in raising growth. This test seems unreasonably severe: one would expect aid to affect growth partly, perhaps largely, through those two variables.

2. The finding that by itself uncertainty does not affect growth appears quite robust. Dehn (2000) shows that it holds for nine definitions of uncertainty and across different periods.

3. Adam and O'Connell (1999) abstract from credibility problems. In their model private agents do not doubt whether the government will maintain its policies in the second period—that is, once private agents have committed themselves through irreversible investment decisions. There is therefore no issue of time inconsistency in this model.

4. The intuition for this difference is that in the second case members of the favoured group lose more as taxpayers than they gain in transfers since transfers have to be shared by a relatively large number of people.

5. There is, however, evidence that causality runs in the opposite direction. The evidence suggests that once a program appears likely to fail, the Bank allocates more resources to supervision in an attempt to salvage it.

6. If the two parties are in full agreement on objectives, there is no need for conditionality.

7. An anonymous referee of Burnside and Dollar (2000) points out that this is similar to the Lucas critique: if the aid allocation rule were to change, then past evidence on the effect of aid on policies would no longer be relevant. I am indebted to David Dollar for this point.

8. Recall that when the aid allocation rule is clear, there may well be an incentive effect so that aid does promote policy change. However, selectivity does not rely on this effect.

9. This section draws on Gunning (2000).

10. See Collier and Gunning (1999b). Collier (1999) presents an excellent critique of the concept of "aid dependency."

11. The model is static, so the issue of the lag between government actions and outcomes-based aid does not arise.

12. Guillaumont and Chauvet (1999) consider a particular case—namely, if policies are endogenous. They advocate correcting the outcome measure not only for the direct effect of,

say, a negative shock on the growth rate, but also for its indirect effect, through an induced policy change. This proposal treats observed policy responses as inevitable, as if the government had no choice. I prefer to err in the opposite direction.

13. While this is plausible, it need not be true. For example, recall that if the government is insufficiently representative in the Adam-O'Connell model, aid has no effect on taxation: it is used entirely for transfers to the government's supporters. However, this case is extreme. In general aid will at least in part be used for tax relief.

14. The functions u and f are assumed to be strictly concave.

15. For a utility function with a constant degree of relative risk aversion, R, this will be the case for $R < 1$.

16. Assume that the net effect is positive—that is, that the economy is on the increasing part of the Laffer curve.

17. Note that the first and third objection are specific to program lending; the second objection applies to both program and project lending.

18. This provides support for the position argued in *Assessing Aid* that aid to countries not yet committed to reform should take the form of ideas rather than money. The third country, Mali, did receive considerable aid in the pre-reform stage, but this appears to have played little role in the adoption of reforms. Côte d'Ivoire, now often classified as a successful reformer, had a long period of half-hearted reforms (Botchwey and others 1998).

19. See Haque, Nelson, and Mathieson (2000) on the determinants of risk ratings, Jaspersen, Aylward, and Kox (2000) on the relationship between risk ratings and private investment, and Collier and Gunning (1999b) on the case for a donor role in signaling.

20. The case for the IMF to adopt such a signaling role in poststabilization economies is argued in Botchwey and others (1998) and in Collier and Gunning (1999b).

21. This was the position of the IMF's board in response to the recommendation by an external evaluation (Botchwey and others 1998) that the IMF adopt a signaling role (based on limited monitoring) in poststabilization economies.

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