How does aid affect the quality of public expenditure? What we know and what we do not know

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Abstract

The paper explores the effects of aid on the quality of public expenditure in highly-aided countries. Critical issues are the macroeconomic impact, the activity choice, input mix and input price. The paper uses available data but also identified important information gaps; it also provides new theory, some formal, to explain why existing modalities may be very seriously sub-optimal.
1. Introduction

In many of the poorest countries, aid finances a high proportion of public expenditure. While this is sometimes thought an unhealthy manifestation of ‘aid dependence’, it may also be an appropriate response to the small revenue base and limited delivery of basic services in these economies. If the situation is normal and healthy, then we need to ask how aid influences the quality of public expenditure. Indeed, the case against high aid flows often appears to rest on some (usually unspecified) suboptimality in donor or recipient behaviour, so that well-intentioned aid causes macroeconomic damage. If we can find better ways to manage aid inflows, the optimal level of inflows is likely to rise.

This paper surveys the current state of knowledge about the impact of aid on the quality of public expenditure. Existing work in this area has focused some issues while leaving others scanty. In particular, there is extensive literature on the effects of aid on public policy, on the macroeconomy, on sectoral allocation, and on the budgetary process. But there is very little on the effects of aid on the activities undertaken within each sector, the inputs used, or the prices paid for them. This is in a sense bizarre because the effects on the forms of public expenditure are very obvious. In the capital cities of highly aided counties, the presence of expatriate technical assistants and expensive vehicles is obvious to the naked eye; no one seriously doubts that these forms of expenditure are associated with high aid levels. Similarly, the effects of aid on local salaries are evident; in any highly aided country, jobs on donor projects and in donor agencies are better paid than equivalent (and often much more important) jobs in government ministries. Finally, the enthusiasm of donors for certain activities such as the funding of semi-autonomous agencies is well known.

Definitions

Before proceeding, it is important to say something about the definitions of aid, quality, and public expenditure. In talking of aid, I use the standard definition of Official Development Assistance. This includes official transfers and concessional loans from governments and multilateral organisations, whether provided direct to recipient governments, provided to NGOs, or otherwise spent on the purpose of promoting development in recipient countries. It does not include military assistance. This distinction is admittedly somewhat arbitrary, since the total picture of relations between donors and recipients includes military assistance, and in some cases military assistance maybe an important part of the promotion of stability in recipient countries.

It can in fact be argued that it has been a strategic error for donors to separate military from non-military spending in their negotiations with recipient countries, since the achievement of increased security at lower cost would be an extremely valuable objective in many of the poorest recipient countries, and in many cases the international externalities are such as to make external diplomatic intervention potentially helpful. Even countries that have performed well in poverty reduction, such as Uganda, may hit a plateau unless security issues are successfully resolved.
‘Quality’ is here defined in the broad sense to refer to the effectiveness of expenditure in reducing poverty. Thus, public expenditure’s quality is increased if, for any given level of public expenditure, its impact on the reduction of poverty is enhanced. Aid thus influences poverty by influencing the quantity and quality of public expenditure; there are admittedly other channels of influence, such as the direct influence of aid on policy, which are not handled in this paper. The appropriate meaning of ‘poverty’ is of course subject to debate, and in some cases there may be significant differences of view between recipients and donors about what constitutes poverty, even when both parties agree that poverty should be reduced. However, for the purposes of this paper the general definition survives.

In highly aided countries, the volume of aid makes a significant difference to the level of total government expenditure; if the impact of public expenditure has diminishing returns, then an increase in aid will be accompanied by a fall in the marginal impact of aid on poverty even if aid is optimally used. This is not a reduction in quality in the sense of this paper, but may look like it.

Public expenditure as defined in this paper does not correspond exactly to any standardly measured quantity. The expenditures incurred on overseas development assistance may or may not pass through recipient government expenditure; they are, however, intended to promote economic development in the recipient country and are provided by public entities. ‘Public expenditure’ as defined in this paper, therefore, includes both the national government’s expenditure and any ODA committed to the country but not included in the national government’s expenditure. It is this resource envelope as a whole whose allocation is of interest for the reduction of poverty.

Much of the discussion of this paper refers to the ‘project modality’ of aid. Projects share the following characteristics. First, the sector of intervention, the activities undertaken, and the inputs used are largely determined at the time when the intervention is designed. Secondly, the donors are involved in the design of the intervention and the recipient is not certain that the same volume of resources would be available for a different intervention. In the most extreme case, the aid may be available only for the specific intervention; even in less extreme cases, the prospects of getting agreement for an alternative use for the same resources are not certain. In contrast, budget support allows a wide range of activities to be undertaken and inputs to be used, and (in principle) also allows freedom to move resources across sectors.

**Structure**

Section 2 sets out the theoretical considerations. Rather than developing a specific theoretical model, I discuss the nature of donors and recipients as agents. These are so complex that no one formal model could capture them all, but a realistic appraisal of aid needs to take them into account. Section 3 then describes existing aid modalities. Section 4 then discusses how these modalities influence macroeconomic stance and policy, and section 5 discusses the microeconomic aspects. Section 6 concludes with some thoughts on the reform of aid in the light of the discussion.
2. Aid as social interaction between complex agents

Aid as an interaction between imperfect altruists

Much normative work on aid suggests that the donors are altruists interested in the welfare of the recipient country or the world as a whole, and that the recipient government has an imperfectly altruistic social welfare function or that its decisions represent internal bargaining among different groups. (For an analysis of the difference between inequalitarian and bargaining models for policy towards households, see Mackinnon (1998)). The positive analysis of aid, however, has to consider a more complex set of possibilities on the donor side as well.

Donors as imperfect altruists

I assume throughout this paper that donors are interested in the welfare of the recipient country’s population, but that they also have other interests and are not perfectly informed. The following aspects complicate donors’ actions:

- donors are interested in the welfare of their own countries’ populations as well as those of the recipient country’s population
- Donor agencies have interests of their own as bureaucracies
- Donors face difficulties in monitoring the use of resources in the recipient countries
- Donors may not agree with each other or with the recipient about the actions which will best promote the welfare of the recipient country’s population

Recipients as imperfect altruists

There are several reasons why the recipient government may also depart from the model of the well-informed and altruistic recipient. These can broadly be summarised as:

- Externalities between different countries; military expenditure may offer a good example, since one country’s expenditure may enhance its security at the expense of its neighbours
- The state represents particular constituencies among whom the poor may not be well represented.
- The bureaucracy may have its own interests distinct from those of the population
- There may be myopia in public spending decisions from the political business cycle
- The recipient may not agree with donors about the actions that will promote welfare among its population

Differences of view between donors and recipients are often rather patronisingly referred to as capacity constraints, on the assumption that the donors are better informed than recipients. If things were this simple, then the recipient could in principle simply buy in the relevant expertise, or defer to the donors’ views. A difference of opinion is unlike this, in that neither party to the disagreement sees good reason to defer to the opinions of
the other. There is no obvious way to model intellectual disagreement within an optimising framework, and hence its consequences have been inadequately explored.

The features of donors and recipient identified above provide good reasons for strategic manipulation. But there is more: not only do both sides not optimise recipient social welfare, they do not optimise at all.

**Aid as an interaction between incoherent agents**

From Arrow’s theorem, we know that there are difficulties in principle in making any composite social body act like a rational maximising individual. There are in fact reasons why neither donors nor recipients will not act entirely coherently and why the process of aid may actually disrupt the coherence of recipient government decisions.

**Donors as incoherent agents**

Donor agencies face major problems of monitoring and a need to demonstrate results. A simple model of donor political economy shows how domestic political accountability may influence the objective function of the donor agency.

One particular aspect of this problem turns out to be particularly important. Assume that the donor country’s population has the following utility function:

$$u_{d_{pop}} = a_1 \ln C_d(A) + a_2 \ln C_r(A) + a_3 \ln A$$

(see Margolis (1982) for the implausibility of behaviour based on a utility function where only the consumption of the two parties are equalised)

and that the donor agency has a different utility function such that

$$u_{dag} = b_1 \ln C_d(A) + b_2 \ln C_r(A) + b_3 \ln A$$

where $b_1 < a_1$, $b_2 > a_2$, $b_3 > a_3$ and $C_d$ – the consumption of the donor population - is falling in $A$ and $C_r$ – the consumption of the recipient population - is increasing in $A$ - the level of aid.

Thus the donor agency is both more altruistic and more interested in the aid budget than the population. Let the size of $A$ be decided by the population, but the form of expenditure be determined by the donor agency. In this case, it will be clear that at the point where the population reaches its optimal allocation, the agency would prefer more aid to occur. It can induce higher aid if it can increase the marginal effectiveness of aid. Hence the donor agency will not only directly maximise the recipient country’s welfare; it will also seek to maximise the marginal benefit of aid to the recipient country’s population, in order to increase the amount of aid given, and its actions will reflect a trade-off between these two objectives if they conflict. I show below that in a strategic
context with several donors, this can make an important and plausible difference to the actions of the donor agencies.

Some bilateral donors also fragment their own aid programmes, across sectors or across inputs type. In the USA, funds were in the past voted separately for programmes such as AIDS, food aid or population, and in Germany technical assistance and other forms of assistance are supplied by different organisations. When budgets are fragmented in this way, the ‘cocktail’ of aid offered to any particular recipient is not likely to be optimal for the recipient, because there is no mechanism to shift funds between purposes.

*Recipients as incoherent agents*

Coherence in public expenditure is difficult to achieve. Much recent practice in public expenditure management is aimed at making governments behave as rational, maximising agents. Left to its own devices, a government has to solve the problem of managing expenditure claims across sectors and between regions and the centre. Best practice is considered to go something like this: the finance ministry sets sectoral budget ceilings within an overall envelope, and sectoral ministries present proposals for expenditure within them. As a result, of these proposals, the finance ministry or the cabinet may revise the sectoral ceilings. Recent budgetary reforms imply explicit statement of programmes, activities, outputs and inputs, based on unit costs: a presentation of multi-year projections: and coordination at the sectoral rather than ministerial level.

This process is subject to strategic manipulation, because finance ministries cannot be fully informed about the activities of the sectors. Sectors may overstate the difficulty of cutting some favoured but low-return expenditure and instead threaten to cut something that obviously has high returns at the margin. They may also present cost estimates based on ‘best practice technology that is in fact inappropriately expensive for the country’s situation. They may also simply bang the table and shout. Nevertheless, the budgetary process described above offers a structure in which real progress can be made in improving expenditure allocations.

The important thing to stress is the difficulty of this process. Some incoherence is absolutely normal, and we therefore have to ask about the effects of aid on coherence.

*The added difficulty of dealing with project aid*

Even if the government were itself a unitary, optimising agent, the problem set by project aid is enormously complex. Rather than examining the marginal returns to expenditure in different areas, the optimising government has to compare the returns to an offered projects to returns in alternative areas multiplied by the probability that the donor could be persuaded to move their funds in this direction (since the fact that this probability is less than one is one of the defining features of project aid). With many donors and many projects, this becomes an intractably hard problem.
Two extremes would be simple, but not necessarily optimal. First, the government might accept all projects with positive net benefits, and then spend the government’s own revenue to fill in the gaps (even then, an intertemporal problem if spending now may substitute for grant aid in the future). This may not be a bad description of what many countries do. It is likely to be particularly costly where donors insist on the government accepting responsibility for some complementary inputs either formally, as with counterpart funds, or informally. The larger aid is, the more incoherent the resultant allocation is likely to be.

Secondly, the government might impose a spending programme and accept no project outside it. This has been in principle the approach adopted by some recipient countries, but it is not yet clear whether any country has been able to follow it in practice, and what its effects on overall aid levels are.

This approach is made somewhat easier to follow if the recipient government argues that there is a binding macroeconomic constraint on the total level of aid. In this case the finance ministry can justify its imposition of sectoral ceilings on the grounds that additional expenditure in one sector will cause reductions in expenditure in another sector. Even then, the problems caused by project aid may well defeat the objective of budgetary coherence.

*Project aid and intra-governmental relations*

Now put these two issues together. Governments find it difficult to solve the public expenditure problem coherently. And the modality of project aid makes the public expenditure problem complex to solve. But now something else happens: project aid undermines the processes which government has to undertake in order to make its own decisions coherent. The point is that there is now no way to design the budgetary process that is likely to produce coherent outcomes.

The budget process whereby each sector is assigned a single ceiling can work if aid is available flexibly, but cannot work if some aid is tied to specific projects. If each sector is assigned a single ceiling for its total expenditure, it has no incentive to accept any donor projects, because the donor project will come at the expense of more flexible funds. In order to encourage sectors to accept projects, it is necessary to make them partially additional to other funds. For instance, one possibility is to give each sector a separate ceiling for projects as well as a ceiling for flexible funds. The sector is then encouraged to negotiate projects up to, but not beyond, its ceiling. Even this arrangement will work only if the donors are prepared to shift their projects from sectors with excess project funds to those with a shortage. In practice, donors may resist these reallocations.

Another complication is the credibility of the ceiling. Sectors typically submit project proposals to a central committee of the finance ministry during the fiscal year. Ministries may therefore attempt to secure projects to precommit some funds in advance of the allocation of sectoral ceilings, if they believe this will tend to increase their allocation. Once again, the combination of these pressures with donor fragmentation and the
imposition of complementary costs on the recipient can cause serious budgetary distortions.

While finance ministry officials vividly appreciate these problems, sectoral officials will often have a different perspective. It is in the sector’s interest for donor funds to be flexible within the sector, but difficult to transfer outside it. Even less flexibility on the use of funds within the sector might be welcome if this affects the marginal efficiency of spending on the sector. For instance, a sector may collude with a donor to support a non-priority project if they foresee that resources for priority expenditures will not be reduced as a result of the project’s approval. In one country, a proposal for high-cost secondary schools, which was not included in the education sector programme, was enthusiastically proposed by one donor and this generated a complex bargaining process between the education sector and the finance ministry.

Very much the same arguments apply to relations between the centre and local government. For instance, India’s government is implementing a fiscal incentive scheme under which states will be rewarded for returning to fiscal discipline. Donors are interested in supporting states in their reform programmes. The challenge is to find a way of providing this support without weakening the incentive coming from the centre. In this particular case, the donors understand this and are working with the Indian government to ensure that aid is not used as a way to escape fiscal discipline. But in other cases, donors may provide support to local governments without agreement of the centre.

Accountability and incentives

Government officials find themselves accountable to donors as well as to public sector managers and politicians. This can influence decisions, especially if the information and expectations of donors differ from those of national authorities. On occasion, real or alleged donor conditionality is actually used by advocates of a particular policy within government to increase the chance of the policy’s acceptance. Labour market effects compound the effects of formal accountability to donors, influencing both incentives and aspirations. Prospects of employment by donor agencies can be a powerful incentive to make a good impression, and government staff paid much less than a colleague on an international salary may feel they are unjustly treated, even if the salary they receive is high relative to opportunities in their own country.

Accountability to multiple authorities can end up being less rigorous than accountability to any single authority, if the two authorities do not have full information about each other. Project managers may become expert at telling both authorities that their actions are constrained by the other authority. Although there has been a major improvement in the publication of formal conditionalities imposed by the IFIs on recipient governments, the process which generates these conditionalities is inevitably largely private. This is not necessarily bad; some beneficial reforms have been sustained partly because national officials privately encouraged the IFIs to impose conditionalities that protected the reforms. But the opacity provided by multiple authorities can also play into the hands of the corrupt or misguided.
Does incoherence matter?

The above discussion has shown not only that we should expect some incoherence in the decisions of donors and recipient governments, but also that aid in the project modality may well undermine the coherence that recipient governments (or at least their finance ministries) are trying to achieve. But given that the recipient government is only assumed to be an imperfect altruist, it is reasonable to ask whether this incoherence matters.

It is conceivable that uncoordinated spending decisions would produce outcomes that did in fact maximise welfare in the recipient country. Thus if every donor separately puts its money into the best use, the overall allocation could be optimal even though no single agent controls it. But without a formal proof, there are a number of conditions that would have to be met:

- information-sharing either between donors or at least between donors and recipient
- information about prices in the recipient country, so that inputs are chosen to minimise costs.
- perfect altruism on the part of donors
- no externalities between projects, or externalities internalised for instance by shadow pricing
- no disagreement between donors about what constitutes social welfare

These conditions are in practice very strong, particularly as regards public expenditure which is assumed to be required precisely because some of these conditions are not met. For these reasons the general presumption should be that the incoherence generated by aid modalities does matter. How much it matters depends on the empirical evidence examined below.

3. What forms does aid take?

The size of on- and off-budget aid

Although references to ‘off-budget expenditure’ abound in the literature and even in some donor conditionalities, the term is often not precisely defined. The distinction between off-and on-budget aid has several aspects. First, aid may be included in the budget presented to Parliament and/or in other public documents such as the Public Investment Programme (though coverage may vary between these documents). Secondly, aid flows may be included in the actual data later presented in the appropriation accounts. These often differ strongly from the budget, particularly on the development side; this is usually assumed to be due to underspending, but may also reflect the lack of reliable information available to Ministries of Finance about actual expenditures on donor projects. Thirdly, money may flow through the government’s accounts. In this case, actual spending should be accurately measured by the recipient government. Finally, the spending decisions about aid may be integrated into the budgetary process. Very often,
this is not really the case; project commitments are made on a case-by-case basis reviewed at intervals during the year, and the budgetary process takes them as a given.

Some categories of aid are generally off-budget in all four senses. These include:

- Head office expenses including costs of visits to the recipient country
- Local office expenses
- Support to semi-autonomous national bodies (often including central banks, and sometimes revenue authorities which deduct their expenditure before remitting taxes to government) including publicly guaranteed debt to parastatals (though these may be included in the PIP)
- Most support to NGOs and civil society groups (though these are sometimes included in the PIP and in the government accounts)

Debt relief is a special category. It can be treated (on a stock or flow basis?) as part of aid, but may be represented in government accounts by a reduction in expenditures on debt rather than as a receipt.

In principle, on-and off-budget aid can be assessed by comparing fiscal receipts of aid in the GFS system with aid flows in the DAC system. A perfect comparison is not possible, but the following comparisons are of some interest.

Data on international aid comes from a number of different systems, including reports from donors collated by the OECD in the International Development Statistics database, and reports by governments collated by the IMF in the International Financial Statistics and the Government Finance Statistics databases. The DAC system gives data on total grant flows to the recipient country. These include both grants in cash and aid in kind, and are collected from all donors except private NGOs. The International Finance Statistics database gives data on grants received, on the 1986 GFS methodology, which excludes aid in kind and will often, though not necessarily always, exclude ‘extra-budgetary’ project accounts. This measure seems to be closest to the definition of ‘on-budget’ as ‘flowing through the government’s accounts’. Both sources exclude debt relief from the definition of grants. Table 1 presents the relation between the two flows in those low-income countries for which data is available.
### Table 1 Grants flowing through government’s accounts as % of:

<table>
<thead>
<tr>
<th></th>
<th>total grants disbursed</th>
<th>grants disbursed excluding freestanding technical cooperation and food aid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhutan</td>
<td>103.7</td>
<td>91.3</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>55.0</td>
<td>57.7</td>
</tr>
<tr>
<td>Burundi</td>
<td>45.3</td>
<td>36.9</td>
</tr>
<tr>
<td>Chad</td>
<td>63.0</td>
<td>50.8</td>
</tr>
<tr>
<td>Congo, Dem. Rep.</td>
<td>151.9</td>
<td></td>
</tr>
<tr>
<td>Congo, Rep.</td>
<td>0.9</td>
<td>7.3</td>
</tr>
<tr>
<td>Cote d’Ivoire</td>
<td>18.7</td>
<td>14.1</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>44.1</td>
<td>32.6</td>
</tr>
<tr>
<td>Georgia</td>
<td>26.1</td>
<td>24.6</td>
</tr>
<tr>
<td>Ghana</td>
<td>11.9</td>
<td>20.3</td>
</tr>
<tr>
<td>Guinea</td>
<td>38.9</td>
<td>109.0</td>
</tr>
<tr>
<td>Haiti</td>
<td>17.3</td>
<td>16.7</td>
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<tr>
<td>India</td>
<td>31.8</td>
<td>29.8</td>
</tr>
<tr>
<td>Kenya</td>
<td>25.7</td>
<td>24.9</td>
</tr>
<tr>
<td>Lesotho</td>
<td>57.3</td>
<td>42.5</td>
</tr>
<tr>
<td>Madagascar</td>
<td>21.4</td>
<td>28.9</td>
</tr>
<tr>
<td>Mali</td>
<td>43.0</td>
<td>49.2</td>
</tr>
<tr>
<td>Mongolia</td>
<td>4.9</td>
<td>9.1</td>
</tr>
<tr>
<td>Myanmar</td>
<td>116.4</td>
<td>99.5</td>
</tr>
<tr>
<td>Nepal</td>
<td>37.9</td>
<td>32.1</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>26.5</td>
<td>14.1</td>
</tr>
<tr>
<td>Pakistan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>73.1</td>
<td>46.0</td>
</tr>
<tr>
<td>Rwanda</td>
<td>68.9</td>
<td>40.6</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>12.3</td>
<td>17.4</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>4.1</td>
<td>4.5</td>
</tr>
<tr>
<td>Tanzania</td>
<td>20.5</td>
<td>21.4</td>
</tr>
<tr>
<td>Togo</td>
<td>24.1</td>
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</tr>
<tr>
<td>Uganda</td>
<td>65.9</td>
<td>57.2</td>
</tr>
<tr>
<td>Vietnam</td>
<td>47.7</td>
<td>33.4</td>
</tr>
<tr>
<td>Yemen, Rep.</td>
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</tr>
<tr>
<td>Zambia</td>
<td>0.9</td>
<td>65.6</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>15.9</td>
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</tbody>
</table>

Sources: DAC geographical distribution of aid flows, 2002 CD: and IFS database.

In most countries, a substantial proportion of grants do not appear to be captured in the government’s accounts, even after food and freestanding technical cooperation are excluded. The differences are large, and persist across several years (so different accounting years are not the issue). Admittedly, aid projects may be well integrated into the government’s planning process and included in the PIP even when the money does
not flow through government accounts. Equally, money flowing through government’s accounts may go to projects that the government neither identified nor designed but merely passively accepted. Nonetheless, the relatively low share of grants flowing through the government’s accounts suggests how difficult it may be for governments to keep track of the overall allocation of expenditures, still more of actual disbursements. Further work at a case-study level is needed to see how much aid is included in public investment programmes or budget documents though not captured in the GFS system.

In the case of loans, it is likely that a much higher proportion is on-budget, because the public sector should usually register a financial inflow when it incurs a liability (though this need not be the case for publicly guaranteed loans).

**Sector and modality**

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<tbody>
<tr>
<td>Sector-specific</td>
<td>55.9</td>
<td>52.4</td>
<td>65.0</td>
<td>61.1</td>
<td>71.4</td>
<td>70.6</td>
<td>70.6</td>
<td>71.6</td>
<td>63.8</td>
<td>57.0</td>
<td>59.3</td>
<td>63.6</td>
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<td>of which:</td>
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<tr>
<td>social</td>
<td>16.7</td>
<td>14.0</td>
<td>19.6</td>
<td>19.8</td>
<td>28.3</td>
<td>29.8</td>
<td>26.6</td>
<td>31.2</td>
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<td>26.8</td>
</tr>
<tr>
<td>productive</td>
<td>14.0</td>
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<td>19.0</td>
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Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Creditor Reporting System, DAC website

Table 2 shows the pattern of aid commitments by type, from the DAC credit reporting system. The categories are defined to be mutually exclusive, although this is not always clear since (for instance) food aid or aid to NGOs might be allocated to particular sectors. Most aid remains sector-specific. The share of sector-specific aid has not been falling systematically over time, nor has the share of general programme aid been rising. Emergency assistance shows some increase over time. There has been a very major shift towards social sectors.

The idea of sectoral programmes developed in the early 1990s as a way of achieving better integration of donor activities with government priorities. An influential paper by Harrold (1995) set out the idea. SIPs at the time were presented as a new way for the World Bank to do business, but they have now mostly evolved into sector-wide approaches that cover both recurrent and development budgets, with the government playing the leading role.
SWAPs are designed to achieve the integration of all resources in a common strategy and ultimately aid pooling. However, most aid to SWAPs continues to use the project modality. For the 30 programmes tracked by SPA, over the period 1997-2002, 75% of assistance promised came through projects, 11% through NGOs, 6% as common basket and 8% as budget support. Only the last two modalities represent the ideal, and the time-series data shows no sign that their share is increasing. However, some particular programmes have shown better signs of evolution; in the case of the Ghana health programme, pooling arrangements started with ‘one donor and minimal funding’ and had since reached 40% of the programme resources (Fozzard and Foster 2000). A question that arises is whether a SWAP can in practice achieve its objectives while most of the resources remain provided through projects.

Some countries in sub-Saharan Africa have recently achieved much higher shares of budget support. Early indications are that this is producing a change in patterns of input mix and a more focused approach to resource management.

**Directions and methods of influence**

The theoretical analysis above suggests that donors have two main sets of concerns: the overall portfolio of public expenditure in the recipient country, and the marginal impact of their own expenditure. Both these sets of concerns may relate to the following issues:

- The view that some form of public expenditure is underfunded, either at a sectoral or intra-sectoral level (social sector spending, basic services, ‘pro-poor’ spending are typical candidates), perhaps because the poor have weak political voice
- The view that some form of public expenditure is overfunded (military expenditure, general administration) either because the government has the wrong priorities or because of international externalities (military spending, population control, some disease control, some agricultural research)
- The view that some spending is less effective than it could be
- Fiduciary concerns that the money is not spent as it is meant to be
- Concerns relating to the donor’s self-interest (tied aid, patent protection)
- Macroeconomic concerns, perhaps relating to the government’s manipulation of the political business cycle

Where they have these concerns, donors have a wide range of instruments they can use and some unintended consequences of their actions:

- Donors may spend their own money on something (a sector, or an individual project) that they think the government is not spending enough on. Sometimes, this can be reconciled with government’s sectoral ceilings by reclassifying a project in a different sector.
- Donors may provide inputs that require complementary expenditure which the government is formally (as with counterpart funds) or informally expected to pick up.
• Donors may change the relative prices for certain goods. Surprisingly, this standard method of influencing individuals and households’ behaviour has been little discussed in the aid literature, perhaps because governments are thought to be less price-responsive than other economic agents.
• Donors may impose conditions for the share of a given sector in public expenditure or in GDP. This is sometimes imposed as a condition of sectoral support (in which case there is a risk of overall inconsistency) or as part of the macroeconomic programme.
• Donors may discuss the pattern of public expenditure as a whole with the government.
• Donors may discuss specific policy problems, based on more or less rigorous and country-specific research.
• Donors may try to change the process generating expenditure allocations. Donors have, for instance, promoted participatory planning, negotiations with disaffected social groups, sectoral strategy development, parliamentary budget institutions, and auditors, and offered technical assistance to the budgetary and sectoral planning process; though they have also on occasion undermined these same institutions.
• Donors may increase the costs in a sector they support, leading to an increase in allocations without an improvement in delivery.

It is fair to say that every one of these interventions can have unpredictable consequences and, if pursued in a fragmented way, can cause distortions.

**Conditions and monitoring**

Even budget and sector support typically comes with some form of conditionality. These are of five main kinds:

- Policy conditionalities (often used as a main justification for SAL operations)
- Process conditionalities (e.g. the existence of a PRSP with popular participation, regular sectoral review for sector support)
- Conditionalities on the form of spending (e.g. sectoral allocations)
- Conditions to control fiduciary risk, especially on procurement, and financial tracking (e.g. cheap IT solutions). Admittedly difficult and being thought about at the moment.
- Outcome or output conditionalities. For instance, EU budget support is released according to the achievement of targets for outcome and output indicators.

There is some attempt to pool different conditionalities across donors. For instance, some donors of budget support include adherence to an IMF programme as a condition, on the assumption that this will ensure sound macroeconomic management. However, the pooling is by no means complete even within those donors who provide budget support; for instance, the European Union is developing a system of output and outcome monitoring that may be additional to conditionalities imposed in other programmes (though the EU makes some effort to relate its targets to those in existing sector
programmes). One catch here is that it can be difficult for a country to keep track of all the commitments undertaken in different budget support agreements.

The joint monitoring of inputs, outputs and outcomes by donors and government is not controversial. More problematic is the attempt to use targets for monitoring indicators as performance criteria, making future disbursements by donors conditional on countries fulfilling specific targets. The EU has adopted this approach. I discuss this below in section 6.

4. The impact of aid on public expenditure: macroeconomic management and policy

The effects of aid on the quality of public expenditure would be even more significant if, rather than financing extra expenditure, aid substituted for locally financed expenditure. If, on the other hand, aid does finance extra expenditure, then the macroeconomic effects of the increased size of the public sector become important.

Aid and the overall size of government

Does aid increase public expenditures?

What is the impact of aid on public expenditure? Both Devarajan et al. (1999) and Feyzioglu et al. (1998) give estimates. Both sets of authors infer (without explicitly testing) that reason why the coefficients are below one is because governments use part of aid for tax relief. This is a substantive and important behavioural claim, and might tend to discourage aid (for instance, if the pattern of tax relief induced is less pro-poor than the expenditure which aid aims to support). But it may be merely an artefact of the data. Both sets of authors use DAC data for total aid and IFS/GFS data for government expenditures. However, we have seen above that the IFS data show much lower grant receipts for governments than the DAC data show for donor grant disbursements. This suggests that governments may not in fact receive all the money that DAC donors report they give. In this case, it is no surprise that the coefficient is less than one; governments don’t get all the money, so they can hardly be expected to spend it. Interestingly, when Feyzioglu et al. use estimates of concessional loans from World Bank data rather than DAC data, they find higher coefficients (0.89 and 0.63). Loans are more likely to be on-budget than grants, since they exist only if some publicly guaranteed agency knowingly accepts an obligation.

The balance of the evidence, then, is that most aid does increase measured public expenditure when government receive it. When they do not, it does not increase measured expenditure by the recipient government, although it does increase total public expenditure in the sense defined in this paper.
Is increased public expenditure desirable?

There are a number of macroeconomic concerns that have been raised about prevailing aid levels in some of the poorest countries: Some observers even adopt terminology designed to imply that current account deficits must be unhealthy, such as the simply incorrect habit of some IMF economists of referring to any current account deficit as a ‘disequilibrium’. The main concerns are as follows (for more extensive discussion, see Mackinnon et al. (2002)).

- **excess public sector deficits cause inflation:** there is no evidence or theoretical reason that this is the case for externally funded deficits unless there were strong expectational effects that the deficit would lead to future money creation.
- **excess deficits cause inflation of nontraded goods prices.** However, in some economies this may be positively desirable, for instance encouraging the use of imported inputs on crops produced for the domestic market in economies which have very low levels of agricultural input use. The negative effects on export incentives may be outweighed by interventions on the supply side, since in most of the poorest countries exports are depressed by non-price factors.
- **aid causes excessive indebtedness.** However, so long as the real interest rate is below the growth rate of the economy – which should be true for highly concessional loans – then permanently higher levels of indebtedness are consistent with higher permanent levels of net transfers (new inflows minus amortisation and interest) on debt.
- **aid may encourage unsustainable levels of public expenditure.** This is a serious concern, but argues for more stable and predictable aid flows rather than a reduction.
- **aid encourages wasteful expenditures that have little benefit.** This may well be true for the project modality, but need not be true for budget support. In some countries, the best episodes of social sector reform have come precisely when increased volumes of budget support became available, because it is much easier to achieve pro-poor reallocations by freezing other expenditures than by cutting them.
- **aid can drive up the costs of public sector service delivery and construction.** This is a serious concern, and does appear to have some force.
- **aid can draw resources out of the private sector into the public sector.** In some African countries most tertiary graduates are employed in the public sector (see Bennell et al. 2002). This is also a serious concern.

The two most serious concerns thus reflect the effects of aid on domestic demand. One response to this, however, is to target the ‘domestic deficit’ i.e. public expenditure on locally produced goods and services minus revenue, rather than the overall deficit. If at the margin, any expenditure on imports can be identified that reduces rather than increasing recurrent costs, then first-best policy must involve accepting all available funds. Arguments against increased aid are therefore only convincing if they are based on some second-best argument that questions that recipient countries’ ability to manage the inflows macroeconomically. (The arguments also assume that any employment-creation benefits are outweighed by the distortions such as Dutch disease; for some forms of
expenditure such as labour-intensive public works, the employment effects may be very important for poverty-reduction).

The empirical evidence suggests that some such second-best considerations may hold, but that they only come to dominate at very high aid levels (see the survey by Hansen and Tarp (2000)).

A thought experiment may illustrate this argument. Imagine that political union were to come about tomorrow between a low-income country with collapsed health services and a life expectancy of 45 and a high-income country, of equal population size, with excellent health services and a life expectancy of 80. Under a democratic political system, there would be very heavy pressure to redistribute resources at least to prevent people dying from the most easily preventable and treatable diseases. It is very hard to believe that the excessive level of transfers either would or should be used as an argument against this course of action. The thought experiment suggests strongly that any convincing reasons against high resource transfers are based on political economy considerations rather than economic fundamentals. (Nor is the case completely fanciful; a union of the Koreas might be almost as dramatic).

However, the macroeconomic concerns do raise a problem for public expenditure management. The advantages of budget support are less clear in this context, because projects may be more import-intensive and hence have smaller macroeconomic effects. However, projects are often construction-intensive and some of the most dramatic increases in costs may occur in overheated construction sectors. The first-best approach remains flexibility of funding, with macroeconomic concerns managed by examining the effects of public expenditure as a whole.

Where governments are underspending on some critical imports, an alternative approach for donors is to subsidise these imports. Typically, governments will account for the imports at the subsidised price, so this allows an increase in levels of assistance without any increase in the public or current account deficits, and without macroeconomic damage. Medical drugs are a good example in some countries. The potentially enormous preventive and curative health needs of the poorest countries could be usefully supported in this way. Vaccines are already provided free in many cases and not accounted for; however, free provision may lead to inefficient management, whereas subsidised inputs are still subject to the usual budgetary discipline.

Does aid destabilize public expenditure?

There have been a number of studies of the relative volatility of aid and domestic revenue; Collier (1998) finds that aid is less volatile than domestic revenue, while Bulir and Hamann (2001) and Lensinck and Morrissey (2000) find the opposite. This literature is of relevance for the treatment of aid in macroeconomic accounts. However, for assessing the quality of aid management, the main question is the covariance of aid with domestic economic activity and domestic revenue. Here the evidence appears to be much clearer; aid is strongly procyclical and therefore tends to magnify the effects of domestic
economic cycles. How much damage this does is not absolutely clear, but it is very likely to do some harm to the quality of public expenditure.

**Aid and the policy environment**

If aid changes the policy environment, it may improve the effectiveness of public expenditure even without changing its composition. The effects of aid on public policy have been studied both econometrically and by case studies (see Devarajan et al. 2001). Case study evidence suggests that aid can be helpful in buying time for the benefits of policy reform to take hold; however, it can also buy time for governments with poor policies to avoid reform, and is it found to be ineffective in inducing policy change when this depends primarily on conditionality rather than persuasion.

A problem with this consensus is that it is difficult for the donor has to make a judgement about the depth of the country’s commitment to reform *ex ante*. At the individual level, the sincerity of expressed support for reform may be compromised where large monetary inflows are at stake. At the governmental level, it may be hard to predict whether the advocates of the desired reform will prevail. For this reason, some authors advocate *ex post* conditionality, where countries are rewarded after making reforms. In any case the cross-country evidence is inconclusive; aid does not in general appear to have a very major impact on policies in either direction, but may have been important in some particular cases.

5. **Aid and the microeconomics of public expenditure**

**Inter-sectoral allocation**

The influence of donors on the pattern of public expenditure has largely been discussed under the heading of ‘fungibility’. This framework is restrictive in two senses. First, it has been tested specifically for sectoral allocation rather than for other forms of donor concern, simply because the data do not exist at a lower level. However, theory suggests that support to smaller activities are less likely to be fungible, because it is easier for a single donor to spend more than the government would have otherwise spent on a small activity than on a whole sector. Secondly, and more fundamentally, the motivation for studies of fungibility is not quite clear. Fungibility is a concern for those cases where donors are trying to increase overall expenditures in the areas they are supporting. But as the lists above show, this focuses attention on only one donor concern (underspending in a particular areas) and only a limited subset of mechanisms for addressing it. An alternative motivation is that donors (as surmised above) are more interested in the marginal returns to their own expenditures than in the overall pattern of expenditure.

The diversity of possible donor mechanisms and concerns also raises some econometric concerns. Econometric estimates across the whole of aid are likely to be aggregating across cases where donors are trying to increase the allocations of particular sectors by spending money on them and those where they are not. It is not feasible to disaggregate the sample between these cases. Hence the finding of partial fungibility might well reflect
zero or negative fungibility when donors are trying to prevent fungibility, combined with complete fungibility in the cases where they are not worried about fungibility.

It might appear that donors simply must be attempting to increase the shares of a sector if they are giving resources to it. This is wrong; there are at least three other realistic cases where resources are given to resources within a sector without donors being particularly concerned about overall allocations to that sector. First, donors may give resources to particular sectors because they are restricted in the inputs they can provide and some sectors are particularly suited to the inputs they can provide; food aid for public works or technical assistance to tertiary education programmes are examples, though probably not optimal. Secondly, donors may give resources to particular projects because it is the project, not the sector as such, that interest them; I discuss this case further below, because it is important and realistic. Thirdly, donors are often more concerned about overspending on military expenditures or administration than about specific sectoral underspending. Most donors giving a primary school would be much more upset if they thought they were indirectly funding cruise missiles than if they thought they were indirectly funding primary health clinics. The standard fungibility framework does not allow for any of these three cases.

The restrictiveness of the fungibility approach is shown most clearly in the most theoretically specified studies. For instance, Feyzioglu et al. (1998) estimate a demand system for public expenditure with cross-equation restrictions. These restrictions imply that aid can be divided into two components: non-fungible aid, which must stay in the particular sector, and fungible aid, which has (by assumption) exactly the same effect as increases in public sector revenue. The results imply that an increase in aid increases military expenditure, and the coefficient is highly significant (their table 7). However, when they use unrestricted OLS, the coefficients from aid in other sectors in military expenditures are not significant (though they are quite high). While Feyzioglu et al. test their cross-restrictions as a block they do not test the specific restriction on the coefficient for military expenditure on its own. Feyzioglu et al.’s results would in fact be somewhat disturbing, but because the specific restriction is not tested, it appears very possible that the positive coefficient is the result of a positive relation between military expenditure and other government revenue (which would be wholly unsurprising), combined with the cross-equation restriction they have imposed, rather than of a direct relation between aid and military expenditure.¹

A few authors have tested a more flexible approach where the sectoral pattern of the effects of aid is left open. Collier and Hoeffler (2002) find that aid does not increase military expenditure.

At this stage, therefore, there is little reliable evidence on the impact of aid on the sectoral patterns of expenditure.

¹ A related technical issue is whether it is most appropriate to measures fungibility from gross foreign assistance or foreign assistance net of repayments. The gross measure appears to be more theoretically appealing.
Aid and activity choice

How and why donors influence intra-sectoral allocations

The theoretical discussion above sheds light on two motivations for the project modality within a sector. First, a small development project is less likely to be fungible than broader support to a broader sector. For instance, a donor might be particularly keen on one activity such as forestry, and correctly foresee that government would not be likely to spend a significant amount on it without intervention. It can then be reasonably confident that its spending on a project on forestry is not fungible. It is much harder to be confident of this in the case of larger sectors such as primary education. Fungibility matters, as we have seen, for donors who are concerned mainly about the marginal impact of their spending.

Secondly, spending at the sectoral level commands more consensus than specific projects at the sub-sectoral level. Everyone thinks most countries need to spend something on primary education, but not everyone thinks pre-school childhood development should be supported. Everyone thinks most countries need a public health system, but not everyone thinks that they should support bednets. The theory discussed above suggests that donors, in the absence of cooperation, will tend to overfund idiosyncratic rather than consensus expenditures. Their best chance of doing this is with small focused projects. (The examples of forestry early childhood development, and bednets have the merit of being reasonably sensible; there are many much less defensible cases).

The consequence is often a wild proliferation of initiatives supported by donors, in a context where core activities are clearly underfunded.

However, as with sectoral allocation, donors may influence the pattern of spending within the sector in ways other than project support. Indeed the development of sectoral programmes is designed to persuade donors to renounce the influence they exert through the project modality and replace it by sector-level dialogue.

Theory: a model of aid, information-pooling and the prisoner’s dilemma

In some cases, simply information pooling may solve the problem. Where donors have the same preferences, Halonen (2003) identifies three factors that are needed to generate a coordination failure: lumpy projects, incomplete information about other donors’ budgets, and simultaneous decisions. In other cases, there is a deeper problem in the form of a prisoner’s dilemma, which pooled information will not solve. Externalities arise because donor spending affects not only the objective function of the donor but other donors’ objectives functions as well. It turns out that the effect may be to lead to underfunding of those items that donors agree about, and overfunding of each donor’s idiosyncratic schemes.

2 Though the promotion of early childhood development in countries that are struggling to finance primary education is of doubtful responsibility.
A simple model will make this clear. Consider the case where there are two donors i=1,2, and three public goods on which donors want to spend, \( x_j \) where \( j = 1,2,3 \). Each donor i gives an amount of each commodity \( x_{ij} \) where donors are indexed by i and goods by j. They each have the same amount of money \( y \), to spend. Prices are normalized to 1 so the budget constraint is given by

\[ x_{i1} + x_{i2} + x_{i3} = y \quad (i=1,2) \]

Utility is logarithmic. Only the first donor cares about commodity 1 and only the second cares about good 3, the ‘idiosyncratic’ good, but they both care about the second commodity, the ‘consensus’ good: so utility is given by

\[
u_1 = \ln x_1 + \ln x_2
\]
\[
u_2 = \ln x_2 + \ln x_3
\]

where \( x_j \) is the total supply of the public good, given by \( x_{1j} + x_{2j} \).

Both donors decide what to spend in light of what they foresee other will spend, so there is a Nash equilibrium where strategies are simultaneous expenditure decisions. The first order conditions then imply that the same amount is spent on all three goods:

\[ 1/x_1 = 1/x_2 \quad \text{and} \quad 1/x_2 = 1/x_3 \quad \text{so} \quad x_1 = x_2 = x_3 = 2y/3. \]

However, this is inefficient, because spending on \( x_2 \) will increases the welfare of the other party whereas spending on \( x_1 \) or \( x_3 \) does not. Consider an increase in spending on \( x_2 \), financed by an equal reduction in the spending on \( x_1 \) and \( x_3 \), so that \( dx_2 = -2dx_1 = -2dx_3 \). We get

\[
du_1 = 1/x_2 \, dx_2 + 1/x_1 \, dx_1 = (1/x_2 - 1/2x_1)dx_2 = (1/2x_2)dx_2 \quad > 0
\]
\[
du_2 = 1/x_2 \, dx_2 + 1/x_3 \, dx_3 = (1/x_2 - 1/2x_3)dx_2 = (1/2x_2)dx_2 \quad > 0
\]

So whichever donor’s view of the optimal pattern of public expenditure is accepted, the shift of funds towards the supply of the public good that they both support is an improvement. The Nash equilibrium was Pareto-inefficient; the ‘consensus’ public good was neglected to finance the donors’ idiosyncratic priorities. There would also be a Pareto improvement for a wide range of utility functions intermediate between the two extremes represented by the donors.

The sub-optimality would not be removed by introducing many donors, because it rests on the fact that spending on \( x_2 \) generates a positive externality in terms of other donors’ objective functions, whereas spending on \( x_1 \) and \( x_3 \) does not.

The utility functions in this case can be interpreted as the donors’ view of public welfare in the recipient country. So the result shows that non-coordinated expenditure decisions may lead the donor community donors to underspend on the forms of public expenditure about which about which they agree – whichever donor’s view is taken of the best forms
of spending. This does not arise from self-interest, since both donors are altruists in that they wish the recipient country well, but from the failure to cooperate.

Consider, however, a further issue. Donors have (as argued above) to justify what they are doing in terms of the marginal efficiency of their expenditures. In this case they may be content with the non-cooperative solution, because moving towards the cooperative solutions will not necessarily increase the marginal impact of their funds relative to the non-cooperative solution.

To see this we need to derive the cooperative solution. There is a locus of cooperative solutions, depending on the bargaining strength of the two parties. The symmetric bargaining solution is then found simply by maximizing \((u_1 + u_2)\) and is given by \(x_1=x_3=x_2/2 = y/2\).

For both cooperative and noncooperative solutions, the concept of the ‘marginal impact of expenditure’ will depend on whether expenditure is increased symmetrically by both parties or by a single party in isolation. For symmetric increases in expenditure, we can simply examine the reduced form solutions given above, and differentiate with respect to \(y\). The marginal impact of a matched increase in expenditure on utility is then given by \(du_1/dy = du_2/dy = 2/y\) for both cooperative and non-cooperative allocations. Cooperation makes no difference to the marginal returns to expenditure.

Where expenditure volumes are asymmetric, things look more complex. We have to solve first for the case where allocations are non-cooperative. Examination of the first-order conditions shows that as long as there is an interior solution such that both donors are contributing something to the ‘consensus’ good, then the non-cooperative solution retains the same form where \(x_1=x_3=x_2\). Outcomes are symmetric, even though expenditure is asymmetric. This will continue to hold up to the point where one donor is spending twice as much as the other. The cooperative case will depend on how we model the bargaining interaction. Using the standard Nash bargaining solution, this will depend on how we specify the threat point. If the threat point is specified (again, standardly) as the noncooperative solution, then – again as long as we are at an interior solution – the threat point is also characterized by \(x_1=x_3=x_2\). Because the threat points are symmetric in the sense that utility is the same for both parties, the Nash bargaining solution will also be symmetric and will be characterized by \(x_1=x_3=x_2/2\). Hence the same result goes through; within the region of the interior solution, moving from noncooperative to cooperative equilibria does not increase the marginal utility of expenditure to the donor.

This result suggests that agents who are concerned to demonstrate the marginal impact of their expenditures have much weaker incentives to move to cooperative solutions than agents who are assessed on the basis of overall outcomes. It also suggests that countries who manage to encourage donors to move to cooperative solutions may not be rewarded by greater resource flows, since although outcomes improve, the marginal return to expenditure does not rise. Both these arguments suggest reasons why the suboptimal non-cooperative equilibrium may persist.
A related effect is the incentive for donor agencies, and individual staff within them, to demonstrate their advantage over other agencies by innovation. Hence recipient governments find themselves bombarded by a plethora of proposed initiatives, not all of which are clearly distinct. One international agency reportedly used to require its officers to come up with two new initiatives every year.

Evidence

Researching the effects of aid on intra-sectoral allocations is not easy, both because hypotheses are difficult to specify in testable form and because data are not easily available. The following three kinds of hypothesis are in principle possible to test.

First, one could test for the impact of aid on the pattern of activity by standardly defined subsector e.g. primary, secondary and tertiary education. The discussion above suggests two competing hypotheses. First, it is observably the case that donors argue that primary education is more pro-poor than secondary and tertiary education and should therefore receive more funds; many governments are more sceptical about this. Hence increased flows of aid into a sector may be associated with an increase in the share of primary education. However, the second point is that activities in the tertiary sector are more likely to be idiosyncratic than those in the primary sector, and the inputs related to tertiary education (for instance, teaching personnel) may also be easier for donors to supply than those in primary. Hence the actual impact of aid on the primary-secondary-tertiary balance is unpredictable, and may also differ according to whether a SWAP is in place.

Secondly, one could test for the incoherence that may be generated by donor preferences. This is very difficult to give econometric meaning to, and the best approach appears to be case study work. Anecdotes, however, abound in the literature: for instance, there are many cases where multiple approaches to agricultural extension coexist in the same country, all underperforming because underfunded.

Thirdly, the overfunding of idiosyncratic activities could be tested directly. This requires data both on the pattern of expenditure and on the preferences of different donors and government staff. It may be possible to show that there are some activities on which there is generally agreed to be too little spent within the overall envelope, but no-one is willing to fund.

Data constraints

Unfortunately, the data constraints in this area are considerable. For instance, the coverage of donor projects within the development budget varies across country. The GFS database gives very limited information on activities within sectors, and even when some detail is available as with primary/secondary/tertiary education, definitional issues may cause problems. These constraints are important not only for research but also for policy.
Input mix and price

As with activity choice, international data on input mix for public expenditure is frustratingly scarce. For instance, the GFS system treats much of the capital budget simply as ‘additions to fixed assets’. Some insight is available from the DAC data on technical cooperation and food aid. Technical cooperation, in the DAC data, should exclude any assistance that is attached to specific projects, and refers only to freestanding technical cooperation.

Table 3: Food aid and freestanding technical cooperation as % of total grants

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In some countries, more detailed data has been developed within the Public Investment Programme or by detailed research within the sector. For instance Picazo (2002) found that 24% of donor assistance to the Malawian health sector was technical assistance and 10% was training. But these data are hard to come by.

Again, the shortage of data has policy consequences. For instance, with some exceptions, Public Expenditure Reviews are much less detailed on donor projects than on other government expenditures. This represents a missed opportunity and often gives the unfortunate impression that the authors of the PER are critical of the government but not the donors.

**Theory**

There are a number of reasons why donor involvement may change the pattern of input mix:

- management time is costly, and the costs are higher for donor agencies than for the government. To economise on management time, donor projects prefer spending on a few lumpy inputs than on many small ones.
- producer interest in the donor country (as with tied aid)
- donors may have business practices that were developed in a context of relative resource abundance in their own country
- macroeconomic concerns might lead to a different pattern of input use if aid is thought more temporary than public revenue
- prestige items may be purchased on donor projects if there is weaker public accountability in the recipient country for the use of these funds than there is for other government expenditure
- some human resources may be imposed by the donor in order to ensure accountability
- there may be collusion between expatriates and local staff in not questioning each other’s rewards. This can be seen as a form of gift exchange (see Akerlof for the prevalence of this form of behaviour in labour markets).

There are also several reasons why donor projects may lead to inflated input prices:

- some aid is tied, and for some inputs the market is very thin
- the incentive to cut costs may not function for the same reasons that prestige items may be bought
- donor projects may not internalise the externalities involved in bidding up construction and skilled labour costs, where an optimising government would internalise them.

There is no doubt that donor projects tend to pay higher salaries than prevailing public sector pay scales. This produces a potentially serious disincentive for the most skilled people to work in the public sector. Donors, moreover, are sometimes constrained by their international practices from setting salaries in their local offices that accurately reflect local scarcity.
Human resources

Probably the most controversial of all inputs is expatriate technical assistance. This forms a significant proportion of all donor spending; as table 3 shows. T/A may be thought of as an input into production or as a way of increasing the efficiency with which other inputs are used. However, its importance in aid makes the efficiency of its use a critical question, and the original papers on SIPs (Harrold et al. 1995) gave the reduction of T/A as one of the objectives of the introduction of a SIP.

To give a sense of the strength of feeling about the motivations and quality of technical assistance in some recipient countries, an internationally famous Indian novelist has observed: “In the Development racket, the rules are pretty simple. If a Government invites you to write an EIA for a big dam project and you point out a problem (say, you quibble about the amount of water available in a river or, God forbid, you suggest that the human costs are perhaps too high) then you’re history. You’re an OOWC. An Out Of Work Consultant. And oops! There goes your Range Rover. There goes your holiday in Tuscany. There goes your children’s private boarding school. There’s good money to be made in poverty. Plus Perks.” (Roy 1999). Recipient country policymakers also sometimes express similar feelings. In Ghana, Tsikata (2001) reports that one policymaker described T/A as ‘excessively paid consultants from the countries funding that same technical assistance with little or no appreciation for the political and institutional dynamics’.

Some consultants in recipient countries (Mkandawire (1998)) argue that the local consultant’s role in consultancy contracts is sometimes demeaning and that genuine intellectual debate within the society gets crowded out by it. More support may therefore be needed for forums where local intellectuals can act as providers of ideas, not merely as providers of information to fit into imported conceptual schemes.

T/A exhibits all the features of distorted input mix discussed above. It also relates to the bias towards innovation. The development industry is fecund in specialities such as gender, environment, budget reform and social protection; each of these industries generates a demand for consultants trained in the new methods. The case for addressing each of these issues is clearly justified; but the case for spending significant amount of money on separate specialists in each area is not so clear. In one country, a gender consultant was assigned to settle the question whether the phrase ‘people’, ‘men and women’, or ‘people especially women’ was an appropriate way of raising the profile of gender issues in the country’s agricultural strategy. There must be better uses for the money.

In the case of training, technical assistance and prestige vehicles, there is sometimes a tacit collusion between donors and officials on projects. This is not outright corruption, but rather legalized gift-exchange using other people’s money. Neither side has an adequate incentive to reduce costs, and neither side faces effective accountability from an informed Parliament, because the project modality makes financing opaque.
For these reasons, it seems preferable to allow government to decide how much T/A they need, unless there are very specific reasons. Two possible reasons are the need to introduce new ideas and the need to augment accountability.

In some cases government do not appreciate their own need for advice. T/A has admittedly played a very important role as an input into initially weak, but reforming, governments. However, such T/A is likely to be ineffective unless there is someone in the government structure who appreciates it. Aid specifically for T/A may then help to strengthen the hand of the reformers within government, who may not be able to command the resources to purchase his support within the government envelope. Typically, such T/A should be in policy areas rather than purely technical ones; there is no reason why a government should not appreciate its own need for medical consultants or engineers, but there is a reason why it might not appreciate their need for advice on policy questions. (This is not to say, as is often said, that T/A should be in advisory rather than line positions; in the hectic world of policymaking in low-income contexts, the line between these two often becomes very blurred anyway and advisors who insist on never accepting line responsibilities become an active nuisance). Even then, the donor has to have good reason to believe that its own views are more informed than those of the recipient government for this form of assistance to make sense.

In cases where such T/A is appropriate, it will sometimes make sense to accompany this by targeted subsidy of the undervalued human resources within government. Targeted pay supplements can play an essential role in the early stages of economic reform. It is no good saying that there should be comprehensive pay reform instead; without the basic macroeconomic reforms that are needed, pay reform is impossible and the government may not appreciate who its most valuable servants are. This form of intervention played an important part in Uganda’s macroeconomic reform, for instance.

Secondly, technical assistance can be used to support accountability. This is clearly second or third--best; it would be best either to use the recipient’s own structures or to augment them by formal audit.

*Project vehicles and construction*

The use of project vehicles as prestige items is so notorious that in some African countries the term ‘Pajero culture’ has become a synonym for public extravagance. Construction is an area particularly characterised by collusion between local project managers and donors, and scrutiny of unit costs for construction projects is inadequate at all levels of government. Support to construction also plays into the bargaining strategy of sectoral ministries vis-à-vis the finance ministry, by effectively precommitting the use of public resources (similar effects in private investment have long been theoretically noted). Where the bargaining ploy fails, the consequence is underused or deteriorating public structures.

An area of particular importance is primary school classrooms. Current enthusiasm for universal primary education needs to be tempered with an awareness of the huge costs of
classrooms and a vigorous exploration of low-cost alternatives such as tents. Donor pressure has sometimes played into the hands of big spenders in this sector, with less benefit for children’s learning than was intended.

6. Lines of research for the processes generating aid

Much research has been conducted on budgetary processes (see Foster (2001)). Two difficulties in this area are, first, that it is not always easy for researchers to distinguish accounts of how the system should work from how it actually does work: and, secondly, that our understanding of returns to different forms of public expenditure still does not offer a best-practice consensus that would enable the outcomes to be satisfactorily assessed. This section sketches some further lines of research on process suggested by the discussion of aid modalities.

How is donor staff assessed?

Many of these effects are best measured indirectly, by examining the decisions these agencies take under the categories discussed in the remainder of this paper. But direct evidence could be sought on the appraisal of donor staff and standard criteria used in project appraisals such as the OED appraisals at the World Bank.

How are intersectoral allocations reached?

The development of hard budget constraints for the sectors is of considerable interest, because of the incentives it provides to manage resources within the sector efficiently. Evidence on the progress of MTEFs (to be studied in a forthcoming WB project) is potentially relevant here.

Core questions include
- how the finance ministry arrives at the overall allocation;
- how the donors appraise the allocation within the country (is the sectoral allocation included in the CPIA);
- what methods donors use to achieve desired reallocations
- whether donors will allow their funds to be shifted across sectors according to the overall sectoral allocation of government.

Each of these questions could be examined within a country case study, with donor and government interviews and examination of donor agreements.

How are activities chosen within each sector?

Examining expenditure decisions themselves for coherence is harder. There may be particular examples of incoherence which can be identified by the government. One could therefore ask the sectoral planners to come up with the single project in the sector they least like, and explore the reasons why; and discuss with the relevant donor how the
The incoherence that may be generated by projects is also a central question. This can be partially addressed by examining the processes of sectoral allocation and project identification. By asking government and donors, it should be possible to ascertain within a country case study:

- Is there a coherent and costed sectoral strategy? (both in the sense of an official document, and in the sense that the sectoral planners have a clear idea where they are trying to go).
- Does the strategy cover both capital and recurrent costs?
- Are new projects developed from items in the strategy?
- Are donors willing to redirect funds from a project they propose to one the government prefers?
- Do governments find that donors do not fund their priorities? What activities are underfunded as a result?
- Is coherence with the sectoral strategy a criterion for donors in designing and appraising projects?
- In the absence of a costed sectoral strategy, how do donors and government assess the consistence of their proposals with the overall resource envelope and priorities?
- If the strategy has been costed but is in excess of the existing resources, how are priorities determined for the use of existing resources?

In particular, it is important to assess how far SWAPs are delivering improvements in these dimensions.

7. Some policy implications

Research

There is a shortage of good international data on government expenditure. The GFS system is currently too highly aggregated to give good information on the questions addressed in this paper. This difficulty also afflicts many standard exercises such as the Public Expenditure Review. Nor is there any easily accessible inventory even of different countries’ budget documents, some of which do contain illuminating material. Hence improved data collection is a major priority for further research in the field.

Policy

The movement from projects to budget support has been accompanied by clear improvements in the pattern of public expenditure in some countries that have undertaken this transition. It is not possible to say that donors should assist all countries to move in this direction, since there maybe governments whose expenditures would exhibit highly undesirable properties under budget support. What can be said, with confidence, is that...
the project modality of aid has very considerable efficiency costs, and that there are sound theoretical reasons why this is the case. Moreover, the movement towards budget support opens up the possibility of a holistic dialogue about the whole shape of public expenditure, in which donors and government accept a shared responsibility for the overall pattern of spending. For highly aided counties, it is high time to accept that budget support accompanied by extensive discussion of anti-poverty strategy as a whole is the first-best approach and that alternatives should be embraced only with reluctance. Where macroeconomic concerns generate a binding constraint on the level of aid, targeted subsidy of worthwhile inputs such as drugs may be an appropriate supplement. The project modality of assistance should cease to be the default option for international aid.
References

A.Bulir, A.J.Hamann, (2001) How volatile and unpredictable are aid flows, ands what are the policy implications ? IMF working paper WP/01/167


Mkanadawire, (1998) T., Notes on consultancy and research in Africa, Centre for Development Research 98.13, Copenhagen

Roy, A. (1999), The cost of living, Flamingo