What can the Fiscal impact of aid tell us about aid effectiveness[1]

Economics and Statistics Analysis Unit (ESAU)

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Overseas Develoment Institute
111 Westminster Bridge Road
London SE1 7JD
UK

Tel: +44 (0)20 7922 0300
Fax: +44 (0)20 7922 0399
rapid@odi.org.uk
www.odi.org.uk/esau

Aid Effectiveness, Growth and Public Expenditure

Most development economists believe that aid fosters economic growth, and thus poverty reduction. This belief is founded on repeated econometric studies on panel data sets which show that aid makes a positive contribution, after controlling for other non-policy factors. The question of whether good policies are required to make aid effective is controversial. Hansen and Tarp (2000), Lensink and White (2001) and Morrissey (2001) find that aid assists growth independently of policies, contradicting Burnside and Dollar (2000) who found that aid was only effective in interaction with policy.

There is much less clarity about *how* aid has been effective. A first step in unravelling this conundrum is to look at the budget, because most aid is provided to governments, and much of it is absorbed through the fiscal process. Fiscal impact analysis (McGillivray and Morrissey, 2001) seeks to establish the allocation of aid by broad economic categories and fiscal policy responses to it, both contemporaneous and lagged. It shows, for example, whether aid does more to increase recurrent expenditure or capital expenditure.

There is a great deal of empirical evidence showing that investment promotes growth, implying that aid which increases investment expenditure has a positive effect. However, Devarajan et al. (1996) found that capital expenditure, and expenditure on supposedly 'developmental' programmes (education, health and infrastructure), were negatively related to growth, and that only recurrent expenditure had a positive effect. They attribute their finding to the lack of economy, efficiency and effectiveness in public expenditure in many countries.

A second step is to enquire into the functional or sectoral allocation of aid-financed expenditure. Donors want their aid to 'build capacity' – whether in the form of physical assets, human capital, or know-how – which is directly or indirectly productive of higher incomes. Aid-financed recurrent expenditure on social and infrastructural services counts as capacity building because without it services of value to poor people would deteriorate. Most of their capacity-building impact comes through government action, because the bulk of aid is channelled through governments. Donors are concerned if, through 'fungibility', their aid finances expenditures are unrelated to longer-term growth and poverty reduction.

The scope for fungibility can be very great, especially where aid receipts are small relative to public expenditures. In practice, there are often rigidities in budget management (Fagernäs and Roberts, 2004), with the consequence that donors' sectoral preferences are in good part respected, for example in infrastructure and education (Feyzioglu et al., 1998 and Devarajan et al., 1999).

This raises the wider question of how developing country governments order their public expenditure. In theory governments should maximise the social welfare that they can buy with the resources they can mobilise. In practice, benefits are hard if not impossible to measure, inter-sectoral trade-offs cannot be established, and government action is circumscribed by politics and prior commitments. Public expenditure is thus often divided into 'mandatory' outlays made inescapable by earlier promises, and 'discretionary' expenditures available for allocation in the current time period in furtherance of policy goals.

Some evidence has been found that grant aid receipts are offset by reduced revenue receipts – which distributes the

[1] Based on Fagernäs and Roberts (2004)

benefit of aid to taxpayers (Clements et al., 2004). There is also some evidence for 'aid illusion' – i.e. increases in expenditure bigger than actual aid receipts, which widens the fiscal deficit, raising domestic and foreign borrowing (McGillivray and Morrissey, 2001). In the main, though, as this note will show, aid is ostensibly used to raise 'development' expenditure.

The focus of this paper is on the first step mentioned above, the fiscal impact of aid. It summarises recent research in ODI, and draws implications from it relevant to aid effectiveness. Some of these relate to developing countries' budget processes.

Measuring Fiscal Impact

A growing number of studies have sought to measure the impact of aid on fiscal aggregates in individual countries using time-series data. The approach is different from that of the cross-country studies from which most empirical conclusions about the uses and effectiveness of aid have been drawn. Cross-country studies average the responses they identify across countries; time-series studies identify behavioural patterns in individual countries, though they can usually not detect changes in behaviour through time.

Single-country time-series models encounter three problems:

- the variables they use for empirical estimation are all endogenous;
- there is usually inadequate consistent data to measure inter-sectoral (and a fortiori intra-sectoral) responses to aid, so that analyses are confined to examining the impact of external finance on the main fiscal aggregates - recurrent and capital expenditure, domestic revenue and domestic borrowing (and vice versa); and
- there are doubts about the accuracy of recipient countries' records of aid received (which often show sums considerably lower than donors' records of aid disbursed).

The endogeneity problem is tackled either by using instrumental variables, or by means of vector autoregression or vector error correction (VAR-VEC) techniques developed for assessing contemporaneous and lagged relationships between time series. The former can be difficult to estimate and highly sensitive to data quality. The advantage of the latter is that it treats the fiscal variables as endogenous and determined within the same system, without any prior assumptions about the nature of the inter-relationships.

Information on aid is usually drawn from recipient countries' budget records of receipts of grants and net foreign loans - even when budgets are not consolidated and omit major receipts and expenditures, such as direct payments to suppliers by donors, debt relief, and food and emergency assistance.

Some authors (Gupta et al., 2003; Clements et al., 2004) attach significance to differences between fiscal responses to (mostly bilateral) grants and foreign loans. However, this may be mostly due to accidents of institutional practice. Net foreign borrowing - heterogeneously composed of gross disbursements of aid, commercial and other market loans from various sources, provided on both concessional and non-concessional terms, net of amortisation adjusted for debt relief/default – is unlikely to be subject to a coherent overall plan unless received mainly from principled lenders such as the international financial institutions. Different government institutions may be responsible for debt management and for contracting new loans. Governments' ex ante information about the scope for net foreign borrowing may therefore be poor.

Foreign grants are more homogeneous and are centrally negotiated with donors, but their disbursements are not all recorded, and their utilisation may be decentralised and ad hoc.

These problems may explain why the existing literature (McGillivray and Morrissey, 2001), reveals no consistent pattern of expenditure and revenue responses to aid. In some countries (India, Costa Rica) the measured impact of aid on expenditure is negligible; in others (Pakistan, Côte d'Ivoire) it is significantly negative; and in yet others (Ghana) it is positive (Table 1).

Table 1: Summary of fiscal impact study results

Country	Effects of a unit of aid on (ratios):		
	Revenue	Government Investment	Government Consumption
India	0.0	0.0	0.0
Pakistan	-3.6	0.1	-2.4
Philippines	-0.1	0.02	0.02
Costa Rica	0.05	-0.02	0.07
Côte d'Ivoire	-0.92	-0.11	
Ghana	0.82	0.09	0.60

Sources: McGillivray and Morrissey (2001); Osei et al. (2003)

Fiscal effects of aid in three African countries

Research in the Overseas Development Institute has examined the fiscal effects of aid on three low-income and least developed, aid-dependent countries - Malawi, Uganda and Zambia. Each study covers approximately thirty years (from around 1970 to 2000).

The fiscal effects of aid were assessed from time-series data using a VAR or vector error correction (VEC) model. Fiscal response models assume that fiscal variables are jointly determined by the government, so budget outcomes are the result of fiscal behaviour.

Governments make estimates of budget year receipts and expenditures based on (imperfect) information about their past levels, and on external financiers' stated intentions. The way they estimate likely aid inflows

resembles a process of adaptive expectations, based on comparisons of commitments and actual disbursements. The effects of past values on current decisions are captured by a VAR model's analysis of lagged impacts.

Country Profiles

Of the three countries, Uganda is a success story, having achieved an average rate of economic growth of over 6% p.a. since the late 1980s, raising per capita income by nearly 4% p.a. and reducing the poverty headcount. The growth record of the other two countries has been much weaker, with per capita income stagnant or falling over the same period.

All three countries have experienced acute economic troubles – because of debt, drought and denial of transit through Mozambique in the case of Malawi, mismanagement and domestic conflict in the case of Uganda, and mismanagement and the decline of copper in the case of Zambia. They have pursued similar programmes of economic reform in the later 1980s and the 1990s. All three have received large aid inflows relative to GDP, including substantial balance-of-payments and budget support, particularly in the early 1990s. In the 1990s most aid and external loans have been provided on concessional terms, whereas in the 1970s commercial, non-concessional external loans were common. All three countries have also received aid for debt relief, but this form of aid does not feature directly in fiscal accounts. In each country, a fairly large gap has at times arisen between net external receipts recorded in the budget and official development assistance (ODA) disbursements. Some donor-financed expenditure is not recorded in the budget.

All three countries have had defective, imperfectly consolidated, budgetary processes, and have been subject to fiscal indiscipline. Relationships with the donors have not always been smooth; aid disbursements have been volatile, especially for Zambia and Malawi. However, in Uganda, public expenditure planning has recently become more disciplined, purposeful and effective, whereas fiscal indiscipline and haphazard expenditure planning persist in the other two countries.

Until recently, all three countries have practised dual budgeting - planning, executing and financing their development and recurrent budgets separately. This involves basing recurrent expenditure largely on domestic revenues, and development budgets largely on the availability of external resources. Although all three countries have merged their finance and planning ministries – more than ten years ago in the cases of Uganda and Zambia – the practice still persists. Dual budgeting reduces the scope for aid fungibility, except within the development budget. Development budgets, traditionally devoted mainly to capital expenditure, have, however, increasingly come to include recurrent expenditures on goods and services.

Main Findings on the Fiscal Effects of Aid

The empirically estimated effects of external inflows into the three countries on their fiscal aggregates are summarised in Table 2. The table shows separately the econometric results for grants and net foreign loans as recorded in recipient countries' budgets, and for ODA as reported by donors. It is reassuring that, in spite of discrepancies between governments' and donors' data, the effects are broadly similar in each country. The results describe the impact of aid over several years, and not just in the year of receipt.

Table 2: Summary of econometric results

		Impact of inflows on:			
		Development Budget	Recurrent Budget	Domestic Revenue	Domestic Borrowing
Malawi[a]	Grants	++	- -	+	- -
	Foreign Loans	+	?	+	- -
	ODA	++	- -	+	- -
Uganda[b]	Grants	++	+	+	..
	Foreign Loans	++	++	+	..
	ODA	++		+	..
Zambia[c]	Grants	++	+	- -	+
	Foreign Loans	+	+	- -	..
	ODA	++	+	- -	+

Symbols:
++ strongly positive **- - strongly negative** **+ moderately positive**
- moderately negative **? ambiguous** **.. insignificant**

Notes:
a) positive effects on domestic revenues are lagged; b) estimated effects on development and recurrent budgets are not robust, ODA effect estimated only for total expenditure; c) positive effect on recurrent budget in current year, in later years effect negative but insignificant.

Effects on expenditure

Malawi: Grants and ODA have had the long-run effect of increasing development budget expenditure - by an amount in excess of the volume of ODA received. This shows that the government's long-standing practice of allocating aid to the development budget has been effective. However, aggregate net aid receipts have also had the long-term effect of reducing recurrent budget expenditure, which has weakened the impact of aid on total expenditure. There is therefore, no evidence of 'aid illusion'.

Uganda: External grants and net loans have raised both development and recurrent budget expenditures - by more than recorded inflows over the longer run. However, total expenditure rose by less than (the larger volume of) donors' ODA disbursements.

Zambia: External financing has raised capital budget

expenditures: a one-period injection has had a positive and sustained impact exceeding the magnitude of the aid. It has had a short-lived positive impact on recurrent outlays, but may have reduced them in the longer term. Increases in total expenditure have not obviously been larger than aid increases.

Effects on macroeconomic stability

The country descriptions draw attention to the chronic macroeconomic management difficulties and instability in Malawi and Zambia, contrasting the experience of these countries with that of Uganda, where lasting stability was achieved in the course of 1990s. The econometric analysis identifies the contribution to these outcomes of the fiscal response to aid.

Malawi: Aid was a stabilising force, because it substituted for domestic borrowing and strengthened revenue mobilisation in the long run. Domestic revenues have behaved in the short term as if exogenous to the budgetary system, unaffected to any significant extent by expenditure and financing variables, including ODA. The macroeconomic effect of aid, in longer-term perspective, therefore seems to have been benign, in spite of institutional evidence of lax fiscal control.

Uganda: The impact of aid on the macroeconomic balance has been broadly neutral. Domestic borrowing neither rose nor fell, indicating that there was no explicit policy of using aid to achieve fiscal savings. But neither was aid the pretext for abandoning fiscal control. Its effect on revenue was positive, offsetting the large expenditure effect.

Zambia: Zambia's responses to aid inflows have prima facie been destabilising. Aid was not used to offset economic shocks. Its effect seems to have been to increase domestic borrowing and lower domestic revenue. Aid may nevertheless have helped to limit the extent of fiscal imbalances indirectly through debt and debt-service relief.

The estimated effects of aid on revenue – positive in Malawi and Uganda and negative in Zambia – may be either indirect (through the effect of aid in increasing GDP) or spurious (because both are influenced by an omitted variable such as GDP) and should be treated with caution.

There have therefore been various responses to aid in the three countries. The one fairly consistent reaction is the strong increase in development budget expenditure in response to aid injections – roughly equal to or even greater than the injections of recorded grants and ODA. The development budget response to foreign loans appears weaker, perhaps because of their heterogeneity and greater unpredictability.

Effects on Growth

The differences between the three countries' fiscal responses to aid, though real, are not sufficient to explain the differences in their rates of economic growth. All three countries have used aid to raise development or capital expenditure. The estimated effects on revenues and domestic borrowing are not a sure guide to the countries' actual fiscal stances, at least in the 1990s.

The explanation for growth rate differences is therefore likely to lie in the quality of the investment and expenditure financed by aid, its long-term economic benefits (for instance in terms of improved transport, education and health and private sector incentives), and the success of any aid-related micro-level policy reforms. The studies suggest that the clue to the aid-growth relationship lies in the articulation between development budget expenditures and the incentive structure for private enterprise development.

Uganda

Growth in the 1990s owes a great deal to the relative stability, transparency and predictability of the policy environment for investors and producers, created by the combination of growing economic stability and institutional and administrative attitudes supportive of the private sector. Uganda also greatly improved the quality and availability of transport, communications and power supply infrastructure, but these alone would have been insufficient.

Zambia

The economy declined because of contraction in the copper sector, and a failure to diversify caused by macroeconomic instability, policy uncertainties and investors' distrust of the business environment. The contribution of aid to capacity building was diffuse, excessively focused on fixed capital formation, unsustainable and not complemented by investment in the private sector. (The government has, however, agreed with the donors to increase the share of public expenditure for the social sectors, making their funding more stable).

Malawi

The growth momentum present in the 1960s and 1970s was broken in the two subsequent decades by inconsistent and ill-disciplined macroeconomic policies applied in response to a debt crisis, aggravated (at times) by conflict in Mozambique, drought, and by rent-seeking behaviour by the political class. Smallholder agriculture, the mainstay of the economy, failed to respond to (ill-conceived) policy reforms and institutional support. The development budget has been more pro-poor in the last decade, with an increasing focus on building capacity for long-run growth through education and health expenditure. But complementary investment in enterprise has been sparse.

The country cases show that the effect of aid on growth is not automatic; nor is it predictable from impacts on fiscal aggregates. Where associated with development success, aid has been a facilitating factor whose influence needs to be complemented by actions to maintain macroeconomic stability, to promote allocative and technical efficiency, and to encourage the expansion of enterprise. Development failure in countries which have received large aid inflows indicates the absence of these complementary actions. The studies underline the

ex ante indeterminacy and country-specificity of the aid-growth relationship.

Conclusions and Implications

Aid and growth

The studies on Malawi, Uganda and Zambia do not yield quantitative conclusions on aid effectiveness. This is precluded by the data and the empirical method used to analyse it. Large aid inflows in the 1990s were associated with rapid and sustained growth in Uganda, but not in Malawi and Zambia. The econometric analysis throws up no clear explanation in terms of fiscal impacts. The explanation offered, therefore, is that there were qualitative institutional differences in the implementation of structural reforms, macroeconomic management, relations with international financial institutions and donors, and investors' confidence. This leads to an important conclusion:

- The wider policy environment is highly relevant to aid effectiveness. The key to the relationship between aid and growth is usually to be found not in the fiscal response to aid, but in the effect of government policies (and other factors) on productive decisions in the private sector. Once confidence-inducing policies are in place, aid can be highly effective if it supports programmes of public expenditure which complement the growth processes occurring in the real economy.

Aid and public expenditure

The analysis has implications for the architecture of programmes of budget support. These programmes are predicated on the belief that recipients have (or will have) well-ordered budget preferences and priorities which reflect overarching budget strategy and long-range policy goals.

Fiscal impacts of aid in the three countries are more similar than the earlier studies summarised in Table 1. However, their differences - with regard to recurrent expenditure, revenue and borrowing - are sufficient to reinforce the conclusion that:

- Each country's reaction to aid inflow is to some extent sui generis. Predicting what it will be calls for perceptive policy and institutional analysis, as well as econometric evidence.

The empirical evidence confirms the reality of the separation of recurrent and development budgets which is identified in the institutional analysis of each of the three countries. The two budgets have been funded differently, and used for different purposes, with recurrent budgets being allocated broadly to statutory and entitlement payments, and development budgets to capital expenditure and other programmes agreed with external donors. Budget planning therefore displays a dichotomy between expenditures which have to be undertaken because of past commitments and those through which current policy objectives are pursued. This evidence points to a third conclusion:

- There are rigidities in public expenditure planning. For reasons of institutional practice, expenditures are not fully fungible, and are thus unlikely to be optimally composed for their intended purposes - except in the still rare cases, such as Uganda since the late 1990s, where there has been an effective move to programme-based, output-oriented, budgeting.

The omission of a proportion of aid disbursements from recipient countries' fiscal accounts means that their national budgets give an imperfect account of the full extent and purposes of their public expenditures. This should be of concern to the donors of budget support who wish to see the complete picture of the expenditure programmes they help to finance. The implication is that:

- More effort is required to reconcile donors' figures on aid disbursements and the corresponding budgetary receipt figures in recipient countries.

There is empirical evidence, moreover, for significant, sometimes persistent, but non-systematic inter-temporal effects in budget planning and execution. A one-period injection of external resources may raise expenditures in each of a succession of late time periods, or its effects may rapidly decay, or turn negative. This leads to the familiar proposition that:

- Aid-financed initiatives often create future claims on budget resources (e.g. for operation and maintenance) which, unless carefully planned, may be met imperfectly and in unpredictable ways.

There may also be other persistent effects, e.g. on revenues, which alter the fiscal balance outlook, but which are unpredictable in advance. This lends weight to the (now) conventional wisdom that:

- Medium-term budget frameworks and expenditure plans should be used to mitigate the effects on fiscal stability and on the quality of expenditure programmes of otherwise unforeseen inter-temporal influences.

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For more information contact:
John Roberts (j.roberts@odi.org.uk), Overseas Development Institute, 111 Westminster Bridge Road, London SE1 7JD, UK, Tel: +44 (0)20 7922 0300
or visit www.odi.org.uk/esau