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**AID, INVESTMENT AND GROWTH:  
WHAT PROSPECTS IN THE 1990S?**

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AID, INVESTMENT AND GROWTH:  
WHAT PROSPECTS IN THE 1990s?

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*A net transfer of resources of about 9 percent of GDP on average will be required to achieve sustained growth during the 1990s*

(World Bank, 1989: 176)

*The apparent inability of development aid over more than twenty years to provide a net increment to overall growth in the Third World must give the donor community a grave cause for concern*

(Mosley et al., 1987: 636)

I INTRODUCTION

The opening quotation gives the optimistic view that more aid can lead to higher growth. If developing countries are to achieve the increase in incomes necessary to eradicate global poverty in the opening decades of the twenty first century, then higher levels of aid are necessary (and, perhaps it may seem to some, sufficient). But, as the second quote shows, academics can be rather more sanguine. Aid has they argue, at best, no impact on growth - if not a harmful one. Higher aid is therefore not the answer to solving the problem of development.

It is true that we do not have good evidence that aid is beneficial for growth. However, as argued in Part II, neither do we have good evidence that aid is not beneficial. If we are to properly understand the aid-growth relationship we need to look in more detail at the channels through which the link is supposed to operate. Part III does this for the case of aid's impact on investment. The fact that aid appears to lead to higher investment - which it does - does not, of course, necessarily mean that more aid results in higher growth. What also matters is the productivity of aid-financed investment. Both theory and evidence on this important issue, reviewed in

Part IV, are scanty. Given this lack of data, we some discuss some important potential sources of aid inefficiency. The conclusions that emerge from this analysis affect both research and practice.

## II THE AID-GROWTH RELATIONSHIP

Empirical analysis of the impact of aid on growth has typically regressed real growth of income on aid inflows (perhaps aggregated with other capital inflows, or perhaps disaggregated into types of aid, e.g. grant or non-grant), usually with some additional regressors included (e.g. change in TOT, domestic savings rate and various dummies).<sup>1</sup> Such equations are misspecified in three respects: (i) omitted variable bias; (ii) single equation estimation of simultaneous relationships; and (iii) parameter instability.<sup>2</sup>

First, we have only an imperfect understanding of the growth process. But it is not difficult to make a long list of variables that have at one time or other had growth regressed upon them (military expenditure, instability of export earnings, policy orientation and various social indicators, to name but a few), many of which have been found to have a "significant" impact on growth. To the extent that aid is correlated with any of these omitted variables (as in many cases it is, e.g. military expenditure) then the equation is subject to a specification error that will cause the estimate of the aid coefficient to be biased.

But, secondly, it is not sufficient simply to include some of the more important omitted factors. Consider, for example literacy, which is included in the model of Mosley et al. (1987). Its inclusion holds literacy constant whilst analysing aid's impact on growth. Yet increasing literacy may be one of the channels through which aid affects growth. This effect

will not be captured by including literacy in the equation, since a single equation is being used to estimate what is, in fact, a simultaneous system.

This brings us to the third problem, which is perhaps the most serious of all. What are the channels through which aid may affect growth? During the 1960s it may have been the case that aid was used for investment in infrastructure. But since that time aid has expanded into the social sector, there has been increased use of technical assistance and aid explicitly tied to policy reforms intended (after a period of restructuring) to facilitate growth. All these things may well contribute to growth - but both the extent and the period over which it occurs will be very different in each case. It would be foolhardy to claim that a textile factory, a feeder road, a primary health clinic and a student pursuing a masters degree are all going to have the same return, and what is more, within the same time-frame. Yet this is precisely what is claimed by studies that regress aid on growth. Few such studies have tried to incorporate the lags that will occur between aid-financed activities and their eventual impact on growth. But such efforts are, anyhow, futile, since the required lag structure will change as the sectoral composition of aid changes. We would therefore expect that the aid coefficient in an aid-growth regression would be unstable (in both cross-section and time series studies) - as indeed has been found on the occasions when structural stability has been tested (e.g. White 1992b).

In summary, whilst studies of aid and growth do not tell us that aid has increased growth, neither do they tell us that it has not done so. There are too many problems inherent in the methodology being employed for us to put any reliance on the results of this literature one way or the other. We would be far better advised to analyse aid's impact by examining the various links in the chain running from aid to growth more

carefully. What may be called the old approach to aid's macroeconomic impact - which was largely based on regression analysis - needs to be replaced by a new macroeconomics of aid, which builds on firmer theoretical foundations. In fact, there are already two distinct strands to this new macroeconomics - the fiscal response literature and "aid as Dutch disease". Both of these will be mentioned below, but we turn our attention now to one of the most important links in the aid-growth relationship: that between aid and investment.

### III AID AND INVESTMENT

The link between aid and growth in the two gap model was seen to run through the increase in investment. Therefore some studies have regressed investment on aid - some results are summarised in Table 1. No studies have found a negative relationship, and only one reports an insignificant result. The suggestion is that aid does indeed play a significant part in increasing investment.

But these analyses share many of the faults for which the aid-growth studies were criticised above. Whilst omitted variable bias may not be so serious, single equation estimation of potentially simultaneous systems remains a problem. So does the possibility of misspecification on account of inappropriate pooling of data or aggregation. Levy (1988: 1784) tests whether his data may be pooled to estimate an investment equation for sub-Saharan Africa, and finds that it cannot. One reason for this parameter instability across countries may well be differences in the relative importance of public and private investment, since the mechanism through which aid affects these two components of investment will be very different.

In order to understand how aid does affect investment we should begin by developing a firm theoretical basis. The



Table 1 The impact of aid on aggregate investment from selected studies

	Sample	Aid		Other inflows	
		Current	Lagged	Current	Lagged
Areskoug (1969)	na	0.40	-	-	-
Chenery et al. (nd)	na	0.11	-	-	-
Massell et al. (1972)	109 observations from 11 Latin American countries, 1955-66	0.36 (1.27)	0.38 (1.39)	0.54 (6.88)	0.42 (3.03)
Chauduri (1978)	India time series data	3.15 (3.08)	-	-	-
Levy (1987)	46 low income countries, using two period averages, 1968-73 & 1974-80	0.83 (3.40)	-	-	-
Levy (1988)	28 SSA countries, using two period averages, 1968-73 & 1974-82	1.19 (3.43)	-	-	-

Note:

results for Areskoug and Chenery et al. taken from Papanek (1972)

- denotes variable not included in regression

figures in parentheses are t-statistics for null hypothesis that coefficient is zero

relationship between aid and public investment hinges around the issue of fungibility on the one hand and possible feedback mechanisms (either static or dynamic) on the other. Aid's impact on private investment will be mostly indirect (though some aid is channelled to the private sector through credit schemes) - these indirect effects taking the form of either crowding out or in. Private investment may also be affected by a variety of feedback mechanisms. The remainder of this part of the paper considers these issues in more detail, and examines what evidence we have to date.

The impact of aid on government investment will, in the first instance, be a function on fungibility. Whilst much (though not all) aid may be nominally tied to investment projects it does not lead to a one-for-one increase in government investment. It does not if the recipient is free to exploit fungibility - that is, it would have used its own resources for that investment project even in the absence of aid, so the aid inflow means that these resources are freed up to spend on something else (government buildings, higher civil service wages, military expenditure etc.). At best aid is, in an economic sense, really funding the most marginal investment project - and not that to which the funds are nominally attached - and, at worst, the aid is financing developing country governments' passion for consuming "bads" rather than "goods". Programme aid may also be fungible if higher aid leads to a reduction in revenue raised from taxes and borrowing.

This fungibility argument must be circumscribed in three ways. First, if aid is a large share of government revenue the room for manoeuvre on the part of the recipient is considerably less.<sup>3</sup> This argument has even stronger force if recipients are obliged to contribute their own funds to a project - indeed, in at least one documented case, the donor moved from full to partial cost project finance precisely to exert

influence over the government's use of its own revenues.<sup>4</sup> In the mid-eighties the Kenyan treasury proposed cutting the number of externally-financed development projects from 150 to only 80, partly to regain control over domestic revenues (Clark, 1986).

Second, there is considerable evidence that many governments will not spend on the projects in which donors are interested in the absence of donor finance - having a preference for prestige projects and conspicuous consumption. The evidence for this comes from (i) the high share of their own resources many countries devote to, for example, military and diplomatic expenditures, (ii) the (ab)use of oil revenues by oil producing developing countries, notably Nigeria; and (iii) the failure to turn the massive increase in capital inflows in the years preceding the debt crisis into an improved growth performance.

Third, as Cassen et al. (1986) point out, donor inputs to a project to which its name is nominally tied may improve the quality of the project compared to how it would have been in the absence of donor involvement.

Estimates of how fungibility may divert aid away from investment have been obtained for a number of countries from the fiscal response model due to Heller (1975); such estimates are summarised in Table 2. The model used to produce these estimates supposes that government maximises an objective loss function - containing government investment, taxes, borrowing and government developmental and non-developmental recurrent expenditures - subject to budget constraints, which separately include grant and loan aid. Whilst Heller's study found that grant aid in particular is not used to increase investment, the two more recent studies present a more optimistic picture - indeed, grants appear to pull other resources (notably taxes) into investment. All studies agree that loans appear to play

Table 2 The impact of aid on government investment from selected studies

	Loans	Grants	Bilateral	Multilateral
Heller (1975)				
Full sample, official flows	0.53	0.64	-	-
Full sample, total flows	0.76	0.33	-	-
Anglophone, official flows	0.41	0.09	-	-
Anglophone, total flows	0.63	0.31	0.34	0.32
Gang and Khan (1991)				
India, 1961-84	1.03 (0.41)	1.79 (0.52)	1.55 (0.19)	0.63 (0.25)
McGillivray and Papadopoulos (1991)				
Greece, 1962-80	0.62 (0.44)	3.64 (0.74)	-	-

Note: Heller's full sample comprised eleven African countries, for various years over the period 1960-70  
 - denotes calculated in study  
 figures in parentheses are standard errors

a significant role in increasing government investment - there may be some fungibility, but it is not so great as to argue that aid is not playing a useful role in supporting government capital expenditure.

However, these studies have a number of problems.<sup>5</sup> First, the studies present only a partial interpretation of their results - concentrating their discussion on the apparent impact of aid through the coefficients in the budget constraints. But since the other variables in this constraint are not constant in the face of the aid inflow, these parameters do not tell us the total impact that the inflow is having on the variable of interest. In the case of the Gang and Khan study, analysis of the reduced forms suggests that aid in fact has had no impact on government investment.

Second, the fiscal response model supposes a number of target equations for the different choice variables: these targets including in some cases the lagged value of the actual variable. That is, there are implicit dynamics in the model that all the above mentioned studies ignore. These implicit feedback effects have been incorporated in Forster's (1992) application of the model to Papua New Guinea, and he finds that they can be substantial - the long run effect of aid on government investment is about one third higher than that obtained if the model's dynamics are ignored.

The models not only fail to analyse the feedback contained in the models themselves, they also fail to consider the possibility of feedback through the various economic variables included in the model. For example, the lag of income appears in some of the target equations, but no consideration is given to the possibility that income may increase as a result of the aid inflow.<sup>6</sup> Mosley, Hudson and Horrell (1987) combined the Heller model with a Harrod-Domar equation, but did not recognise that the model implied a link between income and

growth of income which were treated as separate independent variables.<sup>7</sup>

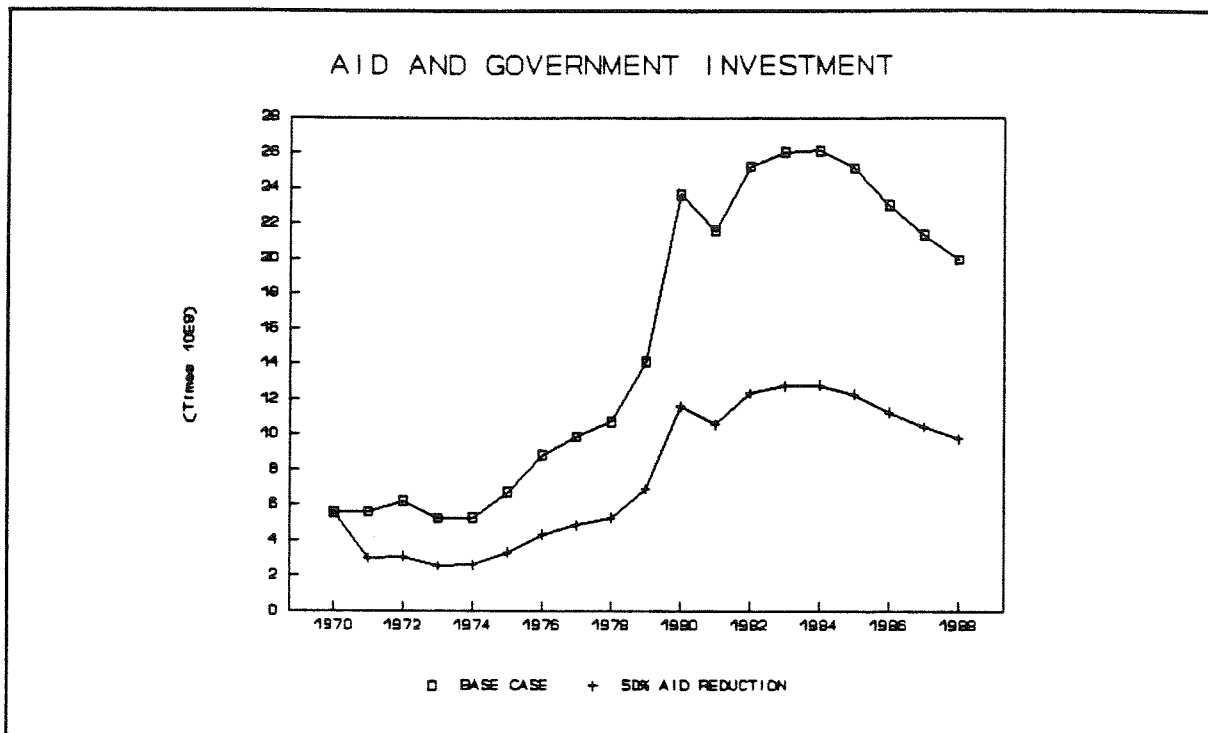
What, then, are the potential various feedback mechanisms that need to be explored? There may, as shown in the fiscal response literature, be a diversion of aid funds into non-developmental activities or to reduce taxes and borrowing. However, the components of government expenditure (both consumption and investment) may well, in turn, depend on taxes (that is government expenditure is to some extent "supply driven"). Therefore if aid directly increases government expenditure this will (through the national accounting identity) increase income and thus taxes. The effect on taxes will feedback into a "second round" of impacts on government expenditure patterns, including further increases in government investment. White (1992c) shows how such economic feedback effects may, in principle, more than offset any fungibility; but, in practice, the strength of these effects depends on the size of the consumption multiplier, which depends both on the propensities to import and the existence of spare capacity. If the economy is supply constrained, the increase in domestic demand will fuel inflation to the possible detriment of both public and private investment.<sup>8</sup>

Private investment may be further linked to public investment (and thus to aid) through a number of channels. First, there may a direct complementarity between the two types of capital formation. Some projects stimulate private investment through their demand for inputs. Others have a stimulating effect via facilitating investment that would not otherwise have been profitable but become so with improved access or services. Second, there may be crowding out via credit rationing or the real interest rate. As shown in White and McGillivray (1992), this effect depends on aid's impact on government savings. If aid relaxes the fiscal deficit it will cheapen the cost of credit (or the quantity constraint) so that

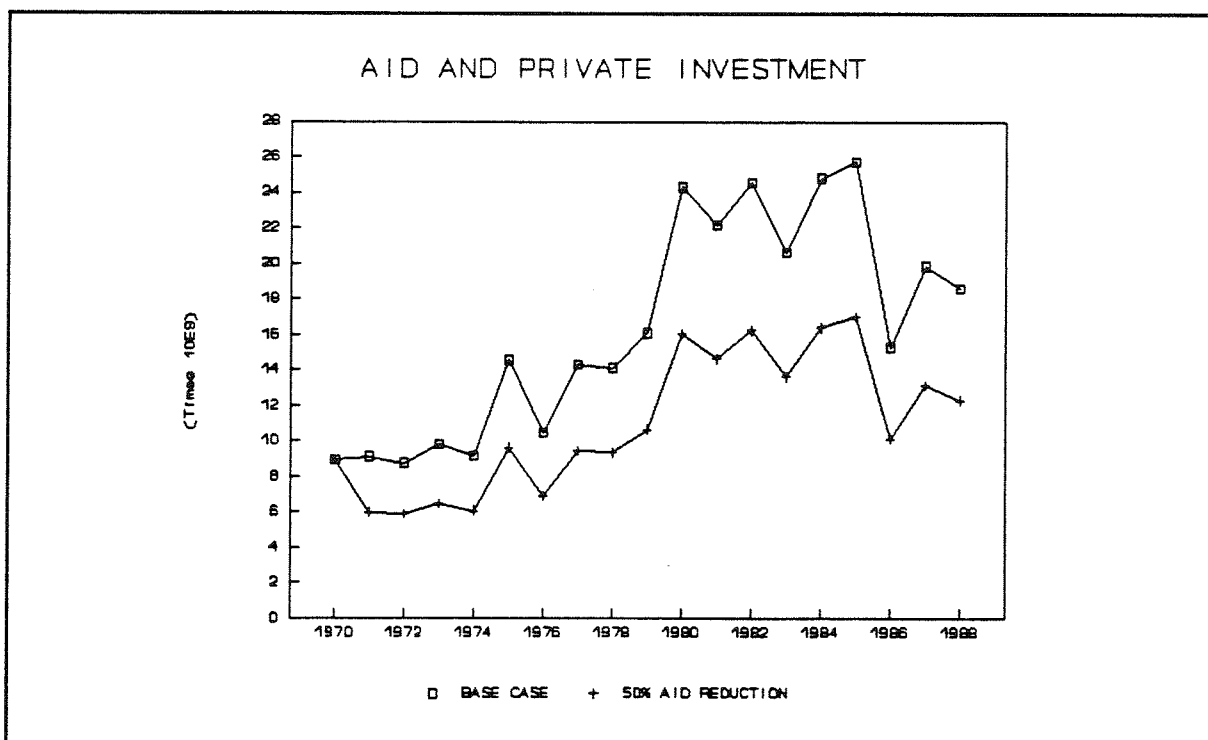
private investment may rise. Third, empirical studies find that changes in output are typically one of the main determinants of private investment in developing countries (see Serven and Solimano, 1992) - this is the accelerator principle. Thus aid may initiate a "virtuous circle" with the initial aid-financed investment (and hence growth) stimulating private investment which then fuels growth. Fourth, aid may discourage investment in tradable goods' production if, as suggested by the "aid as Dutch disease" literature, it induces an appreciation of the real exchange rate.

Based on the above discussion, aid may have little effect on investment, a mixed effect (increasing public but reducing private) or strong beneficial effects on both. Which of these actually occurs can only be determined by reference to the experience of aid recipients. A model incorporating many of these effects was estimated for the case of Sri Lanka for the period 1972-88 (White, 1992d).

The main findings of the Sri Lankan study were, firstly, that both categories of aid have a direct positive impact on government investment. Through this channel they also increase private investment, since there is strong complementarity (crowding in) between public and private investment. There is no crowding out via the real interest rate because, even though private investment is sensitive to this rate the latter is unaffected by the government's fiscal position. The order of magnitude of these various effects may be gauged from Figures 1 and 2. These graph the base case in which the exogenous variables, including the two aid flows, are given their actual values. Each figure also shows what the level of investment would have been if aid had been halved: private investment would only have been two-thirds of its actual level, and government investment less than half. The reductions in investment that result from a cut in aid are well in excess of the loss in aid.



**Figure 1** The Impact of a Fifty Percent Reduction in Aid on Government Investment



**Figure 2** The Impact of a Fifty Percent Reduction in Aid on Private Investment



The evidence therefore strongly supports the view that aid has played an important role in financing Sri Lanka's investment boom, thus establishing an important link between aid and growth. But it is only a link. The next step in the argument is whether or not this investment leads to higher growth. Part 4 takes up this issue.

#### IV THE EFFICIENCY OF AID-FINANCED INVESTMENT

Keith Griffin (1970) not only argued that aid would displace savings, but also that more aid would lower the incremental output capital ratio ( $k$ ) since the aid-financed investment was less efficient than the domestically-financed investment it replaced.<sup>9</sup> Griffin advanced the following reasons why such an inverse relationship between the IOCR and aid might be expected:

- donor preference for "monumental" projects which reflects the political motivations for aid-giving;
- a donor bias against funding directly-productive activities in favour of infrastructure; and
- administrative preference for large projects.

Unfortunately, Griffin presented no data in support of these arguments, and his observation that "almost no research has been done on the relationship between  $k$  and  $A$ " is nearly as true today as it was then. The evidence we have comes from Voivodas (1973), who found a negative relationship between aid and the IOCR, though not sufficiently so to render aid's impact on growth negative (it was insignificant). By contrast, Rana (1987) reported that, for a sample of Asian countries, aid was associated with more productive investment.

Even if there were to be more such studies, it is unlikely that they would be at all conclusive. Once again, there are

problems in aggregating across countries and across sectors, and a range of other determinants of the IOCR to be considered. Regional or country-specific analysis of sectoral IOCRs may yield useful results - but there are no such analyses.<sup>10</sup>

In the face of this lack of good evidence we should look in more detail at the validity of the arguments advanced for low aid efficiency. Griffin's first two arguments may have had some basis at the time he was writing, but much less so today. There are good reasons to think (mentioned above) that it is recipient governments, not donors, who favour non-developmental monument-building. Second, the 1970s saw a shift of donor spending away from economic infrastructure to a range of directly-productive activities. The reason Griffin gave - that donors do not support public ownership of such activities - has been circumvented by the creation of mechanism to channel funds to the private sector (Development Finance Corporations, DFCs), a greater accommodation of donors to recipient government intervention and, most recently, a desire on the part of recipients themselves not to intervene.

The third problem that Griffin highlights - in general, a preference for quantity over quality - on the other hand, remains with us to this day.<sup>11</sup> There are pressures right through the aid system for rapid disbursement. Such pressures operate from the largest agencies - some writers have explained the growth of structural adjustment lending as a result for a need to send money into developing countries to meet debt repayment obligations - to loan officers working in rural projects.<sup>12</sup> The pressure for rapid disbursement create a number of pressures that mitigate against the quality of aid. Two such are to favour large projects over small ones and a preference for projects that are quick-to-implement.<sup>13</sup>

One of the earliest documented examples of the failure of large scale projects is the East African Groundnuts Scheme in

colonial Tanganyika in which 3 million acres were cleared and infrastructure constructed for the production of groundnuts. The Scheme was eventually stopped with practically nothing to show for itself, very largely for reasons of a purely agricultural nature (even though only inadequate study of the area was made there was sufficient information to tell that they were unsuitable for groundnuts because of insufficient rainfall, high clay content in the soil and the prevalence of rosette disease - see Coulson (1981) for a more detailed account). Such failures of state schemes did not prevent the Colonial Administration from compelling peasants to adopt techniques (e.g. terracing and tie-ridging) that were unsound given the ecological conditions. Similar problems re-emerged in the settlement schemes under the ujamaa programme in independent Tanzania - most noticeably Operation Rufiji which moved peasants out of one of the country's most prosperous farming areas on ill-founded technical grounds.

Like the Groundnuts Scheme, many more recent projects have run foul of a poor understanding of the ecological conditions and environmental consequences of project implementation. The last decade is littered with examples of such projects - such as transmigration in Indonesia and various hydropower schemes in Brazil and India (most recently those on the Narmada River) - because more informed activist groups have highlighted them. But we can only suppose that such inappropriate design has always been a feature of some projects.

Environmental considerations are not the only reasons why aid, particularly in large projects, has sometimes been ineffective - there are also human ones. These human aspects revolve round the failure to consult project "beneficiaries" about the plans involving their future:<sup>14</sup> a practice perhaps at its most brutal when the "beneficiaries" of urban improvement learn of the project when they awake to find the bulldozers at their door (an example cited in Ayres, 1984).

The importance of beneficiary participation has been stressed for some time and is, at least in principle, recognised by donors. Useful academic perspectives on the costs of non-participation come from the small, but growing, literature which may be called "anthropological perspectives on aid ineffectiveness".<sup>15</sup> Perhaps the most striking aspect of this literature is the documentation of "beneficiary" resistance to and sabotage of development projects.

It is disturbing, but perhaps not so surprising, that 60,000 people should join a protest against the World Bank-supported Sardar Sarovar dam, when the benefits of such projects are not usually received by those that bear the cost of displacement<sup>16</sup>. At first sight more surprising are demonstrations and strikes against projects by those meant to directly benefit from the project - as happened, for example, in the Tondo Foreshore Development Project in the Philippines. The attitude of many supposed project beneficiaries subjected to development by an outside agency is perhaps well summed up by the comments of a village chief in Lesotho on the sabotage of a village woodlot: "Development has many enemies here" (quoted in Ferguson, 1990: 247).

The conclusions from the anthropological perspective concern beneficiary participation in all stages of the project cycle - though this is far from unproblematic - not least because of the complex interaction of participatory structures with the state at local and national levels. (And the currently fashionable notion of "empowerment" is, I believe, rather too vague to take us very far in the direction of policy recommendations that donor agencies can implement). Research has a role to play in a more systematic analysis of successful project implementation. But participation is not the only area where academics can assist aid policy: there are macroeconomic considerations also.

In 1960 there were 88,000 miles of motorable road in Zaire, by 1985 there were only 12,000 (Davidson, 1992). Whilst this is an extreme example, the deterioration of the capital stock is a widespread phenomenon in developing countries, notably in sub-Saharan Africa. Scarce resources are not available to prevent irreparable depreciation of assets or very low rates of capital utilisation. Aid can exacerbate this situation by tying what resources there are to new investments. Doriye and Wuyts (1992) demonstrate this argument empirically for the case of Tanzania. Aid involved a

strategy [which was] extremely wasteful in resource use. This is because it was based on capacity creation without regard to the availability of resources to operate it

(Doriye and Wuyts, 1992: 29)

It is only with the expansion of untied import-support aid under the Economic Recovery Programme in the latter half of the 1980s that any relationship has been discernible between aid and output growth.

Doriye and Wuyts further show that the Tanzanian government resorted to inflationary deficit financing to meet their local cost commitments. Ineffective aid will also be inflationary since it increases domestic demand without increasing supply. This was the case for the aid-boom in Sri Lanka following the election of the new UNP government in 1977, where nearly half of project aid was channelled into a single project (the Accelerated Mahaweli Development Project - see Levy (1987), and White and Wignaraja (1992) for a formal analysis of how the inflationary impact of aid was translated into a real exchange rate appreciation).

Whilst this Part has concentrated on some main potential sources of aid inefficiency, it should be borne in mind that the most comprehensive review of the evidence summarises its findings as "this report finds that most aid does indeed 'work'" (Cassen *et al.*, 1986: 11). We are not seeking to

reverse this conclusion but to identify outstanding issues of concern for policy and research.

## V CONCLUSIONS

Some academics have claimed that there is no relationship to be found between aid and growth. But the techniques they have used to examine this relationship have not, and most likely cannot, be relied upon to give reliable results. The results are certainly not sufficiently sound to be used for any radical policy conclusions, like the reduction or even abolition of development aid. From an economic perspective, we would be far wiser to study the mechanisms by which aid can affect (and damage) growth. This conclusion alone provides a research agenda that will carry us into the next century.

This paper contributes to such a research strategy by analysing the link between aid and investment on both theoretical and empirical levels. To understand this link we must separate out aid's impact on public and private investment - the effect on both can be positive, partly because of the complementarities flowing from the former to the latter. The balance of evidence available thus far suggests that aid does indeed increase investment. But whilst this may be a necessary condition for aid to also increase growth it is by no means sufficient. It must also be the case that aid-financed investment be productive.

Much of this investment does indeed appear to be productive. But some is not. Research can play an important role here in exploring the reasons for this - two are touched on here, lack of beneficiary participation and the problem of drawing resources away from the maintenance and/or operation of the existing capital stock. Academics should not think that

donors are unaware of these and other problems in aid management - in some areas they appear to be ahead of the academic community. But there are still lessons to be learnt and propagated<sup>17</sup>, and these are tasks that should occupy us all if the promise of quote that opened this paper is to become a reality.





## NOTES

1. For reviews of such studies see Riddell (1987), Michalopoulos et al. (1989) and White (1992a).
2. The argument of this Part of the paper is given in more detail in White (1992a and 1992d).
3. A formal demonstration of how this restricts fungibility is given in White (1992a).
4. The example is Morton's (1975) account on British aid to Malawi.
5. Some of which are beyond the scope of the current paper, see White (1992e) and Forster (1992).
6. This is the same criticism as has been made of Griffin's argument that aid will displace savings (see Grinols and Bhagwati, 1976, and White, 1992d).
7. Nor did they estimate a model that bore much relationship to their theoretical exposition.
8. The inclusion of a supply constraint in the economic feedback into the fiscal response area would create a link with the other part of the new macroeconomics aid (i.e., aid as Dutch disease). No paper has yet made this link explicit, but that by Collier and Gunning (1992) comes close to so doing.
9. The combination of reduced domestic savings and the lower productivity of aid-financed investment led Griffin to argue that aid may actually reduce growth.
10. The paper by Norton et al. (1992) purporting to show that aid has enhanced agricultural productivity in sub-Saharan Africa and Asia does not fill this gap for a number of reasons. The most important is that they regress the level of agricultural output on, *inter alia*, all ODA. Even if only aid to agriculture had been used, the aid variable may contribute to higher output by, for example, providing capital, generating new agricultural employment or opening up new land rather than increasing productivity.
11. In suggesting that aid policy would benefit from an emphasis on quality rather than quantity I am echoing the words of John White (1974).
12. See Mosley and Dahal's (1985) account of the Small Farmers Development Programme in Nepal.

13. The collection of case studies in Madeley (1991) describes the failure of many projects to reach the poor - the cause of these failures is in cases linked to the pressures mentioned here.
14. As Moser (1987) points out, projects are identified as "belonging" to the donor. For example, in Lesotho there is a British Village Water Supply Project!
15. Space precludes anything but a brief mention of this literature. Early work is to be found in the collection edited by Cernea (1985) and more recent studies are those by Ferguson (1990) and Porter et al. (1991). A related development is the use of participant observation in policy and project evaluation - see Salmen (1987). Official donors are not the only ones that systematically impose "solutions" on beneficiaries - see Harrell-Bond's (1986) discussion of emergency relief in the Sudan.
16. This example is from Adams and Solomon (1985), who discuss further examples of protest against dam projects.
17. It does seem that many of the mistakes of the past might well be about to be repeated in Eastern Europe and the CIS.

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