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Aid allocation rules

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ABSTRACT

This paper studies an aid allocation rule used by major development agencies, and investigates optimal allocations when recipients are neoclassical economies undergoing transition dynamics. When recipients face aid absorption constraints, allocations that favor poorer recipients are not always optimal, contrary to what is assumed in assessments of donor performance. The most quantitatively significant factors that determine the optimal sensitivity to recipient characteristics are the generosity of the aid budget and the extent of absorption constraints. In neoclassical recipients, aid can only accelerate growth where there is already growth, so the optimal rule places little weight on growth and optimality is largely a matter of balancing recipient need against absorption constraints.

1. Introduction

In 2013 donors spent $135bn on overseas development assistance. A significant fraction of this global aid budget was divided amongst recipients by an allocation rule.

The precise formula varies across donors, but fundamentally these rules apply weights to two recipient characteristics: their need for assistance and their ability to use aid effectively. Income per capita typically serves as a proxy for the former while the latter is captured by some subjective index, such as the World Bank's Country Performance Rating. The weights in these rules determine how aid allocations respond to variation in these characteristics across recipients.

The importance of the weights in these rules is clear; their basis is not. This paper asks how these weights should be chosen when the donor's objective is the maximization of total recipient welfare, and recipients are modeled as neoclassical economies undergoing transition dynamics that face constraints upon the quantity of aid they can use effectively.

Since the "McNamara revolution" almost half a century ago, donors have been urged to concentrate their resources on the poorest recipients (Easterly, 2007). Empirical analysis of donor aid allocation practices always assumes that greater responsiveness to recipient need is desirable. Many indices for comparing donor performance have been constructed including Easterly and Pfutze (2008), Knack et al., (2011) and Roodman (2011) – and all reward more pro-poor allocation.[1] This paper demonstrates that in the presence of absorption constraints that are consistent with existing estimates, and for realistic levels of donor generosity, the optimal weight upon recipient income could be less negative than in existing donor rules, or even positive, directing aid *away* from where it is most needed. This occurs, even when the optimal weight is placed upon recipient absorptive capacity, to avoid too much aid being directed at economies that are unable to absorb it effectively.

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[1] Knack et al. (2011) follow Dollar and Levin (2006) and construct a selectivity index from the (negative) elasticity of donor allocations to recipient income per capita. Easterly and Pfutze (2008) use donors' percentile rank according to share of aid going to low income countries. Roodman (2011) adjusts each donor's aid according to its recipients' poverty (income per capita); the poorer the recipient, the greater the weight.

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The most quantitatively significant determinants of the optimal sensitivity to recipient income turn out to be the size of the overall aid budget relative to recipient incomes, the extent of income inequality amongst recipients, and the level and form of the aid absorption constraint. The curvature of the recipient household's utility function, which influences the impact upon total welfare of redistributing consumption across recipients, is relatively unimportant in the presence of absorption constraints.

The paper then investigates the importance of aid-funded growth for optimal aid allocation. Although donors target a range of development outcomes, the dominant criterion of aid effectiveness in the economics literature is its effect on output growth. The most influential approach to aid allocation (Collier and Dollar, 2002) emphasizes growth: the donors' objective is to maximize poverty reduction via growth and no weight is given to aid-funded consumption. Collier and Dollar use an estimated empirical relationship between aid and growth to derive an allocation rule that achieves this objective.

In contrast, in this paper donors seek to maximize recipient welfare rather than growth. The division of aid between consumption and investment is decided by utility-maximizing households in recipient economies, giving a prominent role to the welfare gained via aid-funded consumption. In this setting, the objective of allocating aid where it is most able to stimulate output growth is overturned: maximizing welfare can entail allocating aid where it is *least* able to stimulate growth. Put simply, donors may have a greater impact upon welfare by raising consumption in slow-growing recipients than by accelerating growth in recipients that would be growing in any case.

Consistent with this intuition, when aid recipients are neoclassical economies undergoing transition, little is gained by the ability to target aid where it will fund growth. The paper will compare a standard aid allocation rule to a rule augmented with a term that captures the scope for aid-funded growth in each recipient. The optimal responsiveness to recipient growth potential is low and the improvement in recipient welfare achieved, compared to the unaugmented rule, is negligible. This conclusion is reached from experiments in which the impact of aid on growth is roughly consistent with empirical estimates, based on the work of Clemens et al. (2012), and in which there is substantial variation in the marginal product of capital across recipients.

This seemingly paradoxical result is a corollary of what has been called “Bauer's paradox” (Temple, 2010): if the conditions for aid to accelerate development are in place, then development will already be taking place.[2] In the neoclassical growth model this paradox prevails because aid does not influence the level or growth rate of steady-state output and will only accelerate output growth when given to economies that are undergoing transition dynamics (Obstfeld, 1999). Whilst few would claim the simple neoclassical model adequately captures the growth process in developing economies, the idea that aid can only be expected to cause growth in economies that are already growing may apply more generally. It is implicit in the idea that aid only causes growth in recipients with ‘good policies’, if good polices are identified as those conducive to growth.

The findings in this paper differ from previous work because the approach taken is forward-looking and dynamic. Earlier theoretical work on optimal aid allocation rules, such as Behrman and Sah (1984) and Dudley and Montmarquette (1976), was essentially static. The influential papers by Collier and Dollar (2002, 2004) advanced the field but are not based on a structural economic model that permits welfare-based allocation, and have also been criticized for only looking one period ahead and taking no account of each recipient's longer-term development prospects (Wood, 2008).

It is worth emphasizing that a dynamic setting, with forward-looking investment decisions, allows a much richer approach to the aid allocation problem. It might be thought that donors should simply equate the marginal benefit of aid across countries at each date, but this intuition is based on a one-period setting, and does not apply straightforwardly to growing economies with budget constraints and optimizing investment decisions. In one version of the dynamic problem, donors with a utilitarian objective function would transfer capital across countries at time zero, as in Kemp et al. (1990). In this paper, as in Carter et al. (2013), absorption constraints rule out such transfers. The principles of optimal aid allocation are not obvious in this setting, and intuitions based on one-period models may be unreliable.

The neoclassical growth model is stylized, but may be used to develop ideas about aid allocation that apply more generally. It is also consistent with recent work which emphasizes the benefits of cash transfers to private households. Hanlon et al. (2010) argue that transfers direct to households would be more beneficial than traditional government-to-government aid. Cash transfers are an increasingly popular tool of development policy, and are now estimated to reach one billion people in the developing world (DFID, 2011), although as yet primarily in middle income countries. The Indian government recently announced an ambitious Direct Benefit Transfer scheme to replace multiple welfare programs with cash transfers to households. Given these developments, it is natural to explore the consequences of relaxing household budget constraints, in a context where transfers can be wholly or partially invested, as in the Ramsey model.

The deterministic nature of the model studied here means it is best seen as addressing a donor's medium-run allocation problem; aid also has the potential to insure recipients against adverse economic shocks (Pallage et al., 2006). And although the analysis could be seen as applying to the allocation of development funds to countries that lack access to international capital markets, the consideration of an open capital account would be an interesting extension, where there could still be a role for aid in our framework, to finance consumption.[3]

[2] Bauer (1971), pp. 97–98, paraphrased.

[3] Its relevance is suggested by the empirical findings of Caselli and Feyrer (2007), who estimate returns to capital directly and show that returns are broadly comparable in a sample of 53 countries. Note, however, that their sample is dominated by rich countries and middle-income countries; only 7 of the 53 countries are in sub-Saharan Africa.