Intrahousehold Inequality
and the Theory
of Targeting

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Haddad and Kanbur begin to forge the link
between the two literatures, so they can address
issues policymakers face around the world.
After a brief reprise of the key features of the
two literatures, they indicate how the presence of

intrahousehold inequality and allocation mecha-
nisms could affect the standard analysis of
targeting theory. They conclude with a list of
policy questions for further research, including
the following:

• How are conventional rules for indicator
targeting modified by different household
allocation mechanisms?

• How far wrong can one go in targeting by
simply assuming that intrahousehold inequality
does not exist, when in fact it does?

• What sort of intrahousehold information
should be collected to best aid targeting?

• How do the "bargaining" versus the "com-
mon preference" views of the household influ-
ence our evaluation of alternative transfer
programs?

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1.   INTRODUCTION

The two literatures on targeting and on intrahousehold inequality have developed rapidly over the past 15 years, but largely independently of each other. The literature on targeting goes back at least as far as Akerlof (1978), and has concerned itself with the design of tax and transfer programs for poverty alleviation in the presence of limited information on who the poor are. The origins of the literature on intrahousehold inequality are referred to in Sen (1984). This literature arose out of a dissatisfaction with "unitary" models of the household, especially in explaining observed inequality in consumption and achievements of different household members, even after making an allowance for relevant differences among them.

While the two academic literatures have indeed been mostly innocent of each other, the significance of intrahousehold inequality and allocation for targeting has not escaped the notice of policymakers. In developed countries, the debate on whether child benefit should be paid to the mother at a welfare office, or to the father's paycheck through a tax exemption, has essentially been about the perceived allocation, and reallocation, of intrahousehold resources. Similarly, the discussion in developing countries about knock on effects of supplementary feeding programs for children, and

for pregnant and lactating women, is essentially one about whether or not extra calories at the feeding station means fewer calories received by the individual at home.

The object of this paper is to begin the task of forging a link between the two analytical literatures on targeting and on intrahousehold inequality, so that they are better able to address issues faced in this area by policymakers in developed and developing countries. After a brief reprise of the key features of the two literatures in Sections 2 and 3, Sections 4 and 5 will indicate how the presence of intrahousehold inequality and allocation mechanisms could affect the standard analysis of targeting theory. Section 6 concludes with a list of topics for further research.

2. INTRAHOUSEHOLD ALLOCATION AND INEQUALITY

Are similar individuals treated dissimilarly in the allocation of consumption within a household? The answer from the empirical literature is that this possibility has to be taken seriously. Sen (1984) summarizes a number of studies on outcome variables which argue that girls within households are discriminated relative to boys. Harriss (1986) presents at least some evidence of calorie intake inequality. Haddad and Kanbur (1990a) shcw that standard measures of inequality in calorie adequacy would be understated by 30 to 40 percent if intrahousehold inequality was ignored.

But is the above sufficient evidence that similar individuals are being treated dissimilarly? If individuals differ in their

productivities, then extra calories may well be called for as an income generation device for the household as a whole (Pitt, Rosenzweig, and Hassan 1990). Even a household that was egalitarian in terms of its welfare function might allocate calories unequally. While there are some tests of the degree of inequality aversion displayed by a household welfare function, as revealed by consumption allocation and other outcomes (Behrman and Deolalikar 1989), a major debate in the literature is on whether such a "common preference" model is valid. An alternative is a view of the outcomes as being determined by intrahousehold bargaining. The empirical implications of this for demand theory are laid out by McElroy (1990), who makes clear that the difference between the common preference and bargaining approaches can be traced to the fact that, in the latter, changes in the external environment can alter the "threat points" and lead to reallocations that are different from those predicted by the household welfare maximizing model.

Haddad and Kanbur (1990b) have considered the predictions of the bargaining model on intrahousehold inequality as the household gets better off. They find that the net effect depends on a subtle interaction between changes in the gains from cooperation and in the threat points. Under certain conditions, intrahousehold inequality can first increase and then decrease, thus tracing out a "Kuznets curve." Haddad and Kanbur (1990c) find empirical evidence for such a relationship for data from the Philippines. Thomas (1990) and Altonji, Hayashi, and Kotlikoff (1990) are among the authors who find

evidence that is not supportive of the common preference model. As we shall see, this finding is of some significance for targeting of poverty alleviation programs.

3. THE PRINCIPLES OF TARGETING

Besley and Kanbur (1988) have considered the principles of targeting that underlie the literature emanating from Akerlof (1978). The theory of targeting concerns itself with the design of transfer mechanisms for alleviating poverty. Given a pre-intervention distribution of income and a poverty line, an ideal solution might be characterized as being one where sufficient income is transferred to the poor to bring them just up to the poverty line. There are, however, at least two problems with the ideal solution. First, since transfers fall one-to-one with income, it entails an effective marginal tax rate on the poor of 100 percent. This is bound to have incentive effects—Kanbur, Keen, and Tuomala (1991) give a quantitative feel for the consequences. Second, it requires that the policymaker has quite detailed information on individuals, making it possible to exclude those above the poverty line, and to tailor the magnitude of the transfer quite finely to those below the poverty line. Such detailed information, and the administrative ability to use it, is simply not present in most developing countries, and, in certain contexts, in developed countries as well.

In view of this second problem, Besley and Kanbur (1988) characterize two types of targeting mechanisms—indicator targeting

and self-targeting. Indicator targeting relies on making the transfer contingent not on income or consumption, but some easily observable characteristic, such as sex, age, landholding, region of residence, etc. Akerlof (1978) referred to this as "tagging." As he shows, this extra information is bound to be useful. Kanbur (1987) and Kanbur and Keen (1989) derive optimal rules for contingent transfers, while Ravallion (1989) quantifies the gain from using this information. Haddad and Kanbur (1991a) develop the theory of "upper-limit indicator targeting," where an upper cutoff of an observable variable, such as age, is used to determine eligibility in transfer programs (e.g., supplementary feeding).

Self-targeting mechanisms rely on an announced scheme that permits unlimited participation, but is designed in such a way that only members of the target group find it worthwhile to participate. Thus, costly administrative screening and verification of indicators, etc., is not necessary—the incentives to participate are themselves the screen. Such "self-screening" or "self-selection" has been analyzed in the recent theoretical literature on imperfect information (e.g., Hoff and Stiglitz 1990), but the mechanisms themselves were well known, for example, to those who designed the Indian famine codes in the 19th century (Drèze 1988).

The basic idea is to impose a cost of participation that varies directly with pre-intervention income. The best known illustration of such a scheme is the Employment Guarantee Scheme (EGS) in the state of Maharashtra in India (Ravallion 1991). This scheme, and others, rely

on offering unlimited employment, but at a wage low enough to attract
only those with low pre-intervention incomes. Ravallion (1989)
presents a theoretical analysis of such schemes, while Ravallion
(1991) surveys some of the empirical evidence, concluding that such
schemes do, indeed, act as effective targeting devices. But
Ravallion's analysis, and most of the other literature on self-
targeting schemes, ignores the effect that they can have on
intrahousehold allocation, as we shall see in Section 5.

4. INDICATOR TARGETING AND INTRAHOUSEHOLD ALLOCATION

The simple analysis of indicator targeting, as conducted, for
example, in Kanbur (1987), is in terms of lump sum transfers to
individuals with different values of an indicator variable (e.g.,
region or landholding). All individuals with the same indicator value
are treated identically, since, *ex hypothesi*, there is no other
information to differentiate between them. On this assumption, Kanbur
(1987) derives leakage minimizing rules based on statistical
information derived, for example, from sample surveys. Individual
incentive effects are ignored in the simple analysis. Kanbur and Keen
(1990) show how the rules are modified when labor supply is elastic,
so that incentive effects matter and the intervention itself changes
the distribution of pre-intervention income.

Consider now the assumptions underlying indicator targeting in
light of the literature on intrahousehold allocation. Suppose the
indicator variable is such that not all members of the household have

the same indicator value, e.g., when a program screens by age or by gender. The assumption of lump sum transfers to individuals is then seen to be making an assumption about the nature of intrahousehold allocation. Is it that the individual who receives the transfer gets to keep it? How might we rationalize this? Certainly not in terms of a "common preference" model of the household, one of whose implications is that all household resources are first aggregated into a common pool and then reallocated, so that the marginal recipient of the transfer will, in the final analysis, only benefit partially. Such an argument is valid even if individual-level incentive effects are taken into account. This is an incentive effect of a different sort, to do with reallocations among groupings of individuals who have different values of the indicator variable being used.

Suppose now that the indicator variable is such that, by definition, all members of a household must have the same value, e.g., region of residence or crop/tenure group. What does the assumption of equal lump sum transfer now mean? It means that every member of the household receives the same transfer. But how is this effected? The slightest reflection on design and implementation issues will reveal that this assumption cannot possibly be maintained in terms of administrators actually ensuring an equal transfer to each member of a household. And, in any case, there is the issue of intrahousehold reallocation after the equal transfers take place. If the transfer in practice is effected through the head of household, say, then the

assumption of equal transfer to all members of the household implies a model of intrahousehold allocation which may or may not be justified.

In any event, what is clear is that the analysis of indicator targeting cannot proceed without a well articulated view of how a household allocates resources to its members. As Haddad and Kanbur (1991a) show, whether or not intrahousehold reallocations take place—and their exact nature—can make a big difference to who ends up benefitting from a program that relies on indicators to target transfers.

5. SELF-TARGETING MECHANISMS AND INTRAHOUSEHOLD BARGAINING

Haddad and Kanbur (1990b) present a simple model of intrahousehold bargaining whose object is to relate the gains from cooperation, and the outside options, to agricultural production possibilities. In that model, there are two individuals, each with access to a production function that produces output as the result of two task inputs. There is comparative advantage in the tasks, so it pays to cooperate and specialize in tasks. But how are the gains from cooperation to be divided? Suppose that the fallback option for each individual is identified with the outcome of working alone. The individual with absolute advantage thus has a better fallback option and, if we interpret this as a threat point of a Nash bargain, he will get the higher share of the cooperative output. There is, therefore, intrahousehold inequality.

Haddad and Kanbur (1990b,c) trace out the implications of this model as productivity of the two individuals increases so that the household as a whole is better off. But what does this model imply for the effectiveness of self-targeting mechanisms, such as the Employment Guarantee Scheme? Haddad and Kanbur (1991b) present a simple analysis which is nevertheless illuminating.

Consider the case where total cooperative output is given by x and the allocation of each individual is x_1 and x_2. Let the threat points be S_1 and S_2, defined by output when the two individuals work on their own. Suppose that $S_1 : S_2$, so that, under the axioms of Nash bargaining, $x_1 > x_2$. Now, suppose that the government introduces a scheme that guarantees an income of W. How will this affect intrahousehold inequality, and, in particular, the well-being of the less well off individual? For $W \leq S_2$, of course, there is no effect whatsoever. But when $W > S_2$, W becomes the threat point of individual 2. Under the usual outcome of Nash bargaining, therefore, if $W < x_2$, then an increase in W will increase x_2 and decrease x_1, _even though the guarantee is not taken up_. As W increases to S_1, both threat points become equal and there is perfect equality. For $W > \frac{1}{2}x$, both individuals will move to the guarantee scheme. What is remarkable is that, even before this point, the scheme has a long reach—it equalizes intrahousehold allocation by altering outside options.

Of course, the credibility of the guarantee is at the heart of the matter, and this brings the issue back to some of the policy debates on employment rationing of employment guarantee schemes

(Ravallion 1990). With rationing, the guarantee is not credible, and will not have its full effect on intrahousehold allocation. The analysis of interactions between intrahousehold allocation and self-targeting schemes thus stands out as a potentially fruitful topic for theoretical and empirical research. A start is made in this direction in Haddad and Kanbur (1991b).

6. FURTHER RESEARCH

We hope that the juxtaposition of the two literatures that is attempted here will serve to increase the interaction between them. Such cross-fertilization has already begun, but a host of interesting theoretical, empirical, and policy questions suggest themselves. Among these: How are conventional rules for indicator targeting modified with different intrahousehold allocation mechanisms? How far wrong can one go in targeting by simply assuming that intrahousehold inequality does not exist, when, in fact, it does? What sort of intrahousehold information should be collected to best aid targeting? How do the "bargaining" versus "common preference" views of the household influence our evaluation of alternative transfer programs? In particular, what is the quantitative significance of the "long reach" of guarantee and self-targeting mechanisms, through their effect on bargaining threat points, even when no household member actually participates in the scheme?

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