

PUBLIC SPENDING AND THE POOR:

WHAT WE KNOW, WHAT WE NEED TO KNOW

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1. Introduction

Public spending should promote efficiency (by correcting for various market failures) and equity (by improving the distribution of economic welfare). This paper synthesizes the results of a World Bank research project concerned with the latter objective.¹ The project asked: Is the redistributive aim being met by current spending practices? What room is there for improvement?

The concern about the distributional outcomes of public spending stems from three sources:

(i) Dissatisfaction with distributional outcomes in the absence of intervention. Market failures—lack of access to credit, for example—may leave many households facing acute poverty. But even a well-functioning market economy can result in too much poverty and inequality according to prevailing social norms.

(ii) The lack of alternative policy instruments. In developed countries, the tax system provides an additional redistributive device to promote equity. In developing countries, where comprehensive income taxes are generally not a viable option, the tax system is much less useful in this task. Public spending's role in redistribution becomes that much more vital.

(iii) The need for fiscal restraint and the sharp tradeoffs this makes governments face. Governments play a key role in the provision of certain public services, which are increasingly seen to be of critical importance to developing countries, notably inputs to human capital development such as basic schooling and health care. Provision is expensive and so hard policy choices come to the fore. Information on distributional impacts—particularly the extent to which the poorest strata benefit—can help in making those choices. But getting the information can be expensive too.

This paper attempts to critically review and synthesize the project's implications for policy and research on public spending and poverty. It refers primarily to the project's main output—the book Public Spending and the Poor: Theory and Evidence (hereafter PSP), and the various chapters therein. A list of the

chapters and authors can be found at the beginning of the reference section. This paper focuses on three key questions: (i) What is the welfare objective? (ii) How are the benefits of public expenditures currently distributed? and (iii) How can that distribution be improved?

2. **What is the Welfare Objective?**

We must first define clearly the welfare objective against which outcomes are judged. The primary concern is with impacts of public spending on poverty. But, as is persuasively argued by Atkinson (PSP), even that may not be straightforward. Too often "...it is tacitly assumed that the sole objective of policy is the reduction of poverty, whereas the typical social security program in Western countries has a multiplicity of objectives. Even if the alleviation of poverty were the over-riding concern, the relative efficiency of different policies would depend on the precise way in which poverty is measured and on the "sharpness" with which the poverty objective is defined." (Atkinson, PSP)

The way poverty is measured—including the choice of the living standards indicator, the poverty cutoff point and the poverty index used to aggregate—is closely intertwined with the policy objective (see for example, Ravallion 1994). However, the delineation of objectives is not always so clear. At least three "dimensions" of poverty have been the focus of concern: (i) utility, (ii) income and (iii) capabilities. The first is associated with an important strand of the literature on modern public economics where the idea of "utility" is not only taken to be a representation of individual preferences, but also the basic objective of policy such that only individual preferences carry any weight. This is often termed "welfarism" following Sen (1979). The "income" dimension is sometimes interpreted as a money metric of the utility approach and sometimes as a distinct, nonwelfarist alternative. So, for example, in the former interpretation, leisure which matters to utility would be valued and added to income to obtain a measure of 'full' income. This can also be adjusted for differences in household characteristics and the prices faced. By contrast, policymakers

often (it seems) espouse explicitly nonwelfarist objectives. For example, raising income—narrowly defined as command over commodities, but typically ignoring leisure—is often viewed as an objective in its own right, such as by those who emphasize economic growth as the metric of development. Finally, the capabilities framework rejects both welfarist utility and certain nonwelfarist income-based approaches and argues instead that poverty is the lack of certain basic capabilities, such as avoiding hunger and illiteracy (Sen 1985).

Sen (in PSP) reminds us of the many dimensions to poverty and deprivation. He defines the welfare objective in terms of the adequacy of capabilities to do things rather than the adequacy of income. Posing the question in this way gives rise to a long series of further considerations. How are adequate capabilities—such as good health for an active life—generated? What is the role of public spending on health care, education and other services? Or is household income growth most efficient at raising health levels? In PSP, Pitt and others, Alderman and others, and Deolalikar empirically address some of these issues in the context of both health and education outcomes interpretable as indicators of specific capabilities.

Even if one takes a quite narrow view of the policy objective—namely to reduce income poverty—differences in conceptualizing and implementing the objective remain. For example, concerns about errors of targeting (leakage to the nonpoor and failure to reach all of the poor) often arise in this context and some argue that a policy's success should be judged by its ability to concentrate benefits on the poor (for example Cornia and Stewart, and Grosh in PSP). In the context of the policy they examine, Ravallion and Datt (PSP) are concerned with the same basic objective—maximizing the impact on income poverty for a given outlay—yet argue that a focus on errors of targeting in implementing that objective is misplaced: the policy which has the greatest impact on poverty is not necessarily the one with the lowest errors of targeting.

Focusing on a specific target group may reflect either the *direct* importance of the specific policy

objective or its *instrumental* importance for another end. Appleton and Collier (PSP) examine the case for allocating benefits by gender. They argue that such a case must rest on gender being a clear dimension of disadvantage or on the existence of positive externalities accruing to others as a result of targeting benefits to women. They also share with Sen and others the view that using a group identifier such as gender has the advantages of being easy to identify and hard to manipulate. However, such broad characteristics can be highly imperfect correlates of poverty, possibly allowing only a modest impact for a given outlay.² Appleton and Collier's study brings out well the reality that multiple objectives and constraints on instruments underlie our choice of policies.

A recurrent issue concerns the weight that should be given to the preferences of the poor. Should the welfare objective be denominated in terms of utility or income? Should we be concerned with how hard the poor must work? In short, should the adopted framework be welfarist or nonwelfarist when the main objective is poverty reduction? Kanbur, Keen and Tuomala in PSP illustrate the consequences of this decision for targeting and evaluation rules. For example, they show that if the policy objective is the minimization of an income-based poverty index and given labor supply responses, accepted rules-of-thumb based on the welfarist utility framework—namely that marginal tax rates on the poor should be low—are overturned. Under the alternative nonwelfarist policy goal, simulated optimal marginal tax rates tend to exceed 60 percent (given minimal revenue requirements). Consider, further, Sahn and Alderman's empirical study (PSP) of the effects of Sri Lanka's targeted food stamp scheme on labor supply. They find strong disincentive effects: men and women lower total hours worked as a result of the transfer. Is this a good or bad outcome? If one is judging this case within a welfarist context in which leisure is accorded a high weight, the policy may then be considered a success.³ However, from the point of view of the policymaker trying to achieve the greatest dent in income poverty for a given budget, such behavioral responses may be important costs of the scheme. The same impact may have been achieved at lower cost and so, the policy

judged a relative failure.

Consensus has clearly not been reached on these choices. Different authors have different views and the issues often revolve around normative considerations that may never be properly resolved. Past efforts by economists to capture all welfare objectives of policy in a single well-defined monetary measure have clearly been too ambitious. A more eclectic approach is justified, recognizing that there are multiple dimensions of wellbeing and that they cannot be easily aggregated. In some settings a single somewhat narrowly defined objective—such as reducing income poverty—may be entirely defensible, while in others it must be supplemented by other information. The message that underlying assumptions about welfare and poverty measurement influence the evaluation of public spending programs is one to keep firmly in mind. This speaks to the need for clarity about those assumptions, and a recognition of how sensitive policy conclusions can be to changes in those assumptions.

3. How are the Benefits of Public Spending Currently Distributed?

3.1 Measurement of benefits

The measurement and valuation of the benefits of publicly-provided goods has vexed economists for a long time. It can be very difficult to price such goods, since markets often do not exist for them and/or they are available at a cost that may not be related to their marginal valuations by consumers. As discussed by Cornes (in PSP), complications in valuation can be attributed primarily to the existence of two factors: (i) prices and other individual or household characteristics may vary across individuals so that a given total expenditure implies different standards of living for different individuals and the same quantity of a publicly-provided good can yield different welfare gains; (ii) there are quantity constraints, such that even if the correct prices were known and everywhere the same among identical individuals, it would be difficult to value benefits since individuals are forced to consume more or less than they would like. A simple example

of the first point is that a school is worth much more to a family with young children than to one without them. But there are many other examples. A supplementary feeding program will benefit a household in a region or period in which food prices are high more so than a household facing low food prices. The second factor is less obvious but may be just as important. When goods are supplied in fixed quantities by ration shops the available quantity is unlikely to equal the desired quantity, so the price paid may not reflect the true value to the consumer. The same can happen with public goods which are intrinsically lumpy—a road cannot be supplied only on the day of the week in which you happen to want to use it—it is there all the time.

Two general approaches to measurement can be identified. Neither is ultimately able to adequately resolve the twin difficulties of variable individual and household characteristics and quantity constraints. The first approach is found in benefit incidence studies and assumes that the value of the benefits of a public service to the individual equals the unit cost of providing the service. The second approach attempts to value benefits using various measures related to the notion of consumer surplus, in an attempt to arrive at behaviorally consistent measures. I discuss these in turn.

3.1.1 **Benefit incidence**

Benefit-incidence studies—several of which are included in PSP—typically proceed by ranking individuals (or more typically households) by some indicator of welfare (most commonly per capita household income or expenditures). In order to make valid distributional comparisons, it is clearly important that the welfare indicator be suitably normalized for cost-of-living differentials and household demographics. Next the unit costs of providing the public service are attributed across subgroups according to household utilization information. This exercise reveals how the government's outlay on the particular service varies across the relevant welfare indicator.⁴ Though this approach has its definite uses, it also has

drawbacks. These are becoming well recognized (see Selden and Wasylenko 1992) and many of them are discussed in detail throughout PSP. I shall now try to bring together the main points.

In evaluating the distribution of the benefits, individuals are ranked by an often imperfect welfare indicator. It may not adequately capture the true distribution of living standards due, for example, to measurement problems. But it may also be a misleading representation of the welfare distribution in the absence of government spending. The principal aim of incidence studies is to see how the initial "pre-intervention" position of individuals is altered as a result of public spending. Hence, an approximation of the pre-intervention position is required. This is typically estimated by a welfare indicator such as income or consumption which does not include the monetary value of the benefits secured from publicly-provided goods. This may be a poor approximation since the level and composition of public spending affects incomes and expenditures: individuals often spend their incomes in ways that reflect the level of provision of public goods and services. There may also be some shifting of benefits, such as if wealthier households reduce their transfers to poorer ones as a result of the latter benefiting from a public program, as Cox and Jimenez argue (PSP). Similarly, behavioral responses through time allocation can entail that income net of earnings from workfare employment generally underestimates income in the absence of access to such employment, as Ravallion and Datt emphasize (PSP). These are all instances of the general problem of specifying the counterfactual, to which I shall return.

Another limitation of this approach is that costs may be a poor proxy for individual benefits received. The cost represented by a nurse's administration of a polio and DPT vaccine cannot possibly reflect the value to a child of a lifetime free of polio, tetanus, pertussis and diphtheria. Moreover, social benefits are not captured. The impact of a mother's pre- and post-natal good health on a newborn's current and future health cannot be approximated well by the cost of a few pre- and post-natal visits. Unit costs may also be very hard to calculate exactly. For example, unit costs of inpatient hospital visits will differ widely according to the illness being treated. They will also be badly estimated if there is rent-seeking

including, for example, the funneling of benefits away from households. Finally, the approach assumes that publicly-provided services are homogeneous across all consumers. Yet, quality may vary enormously and imply higher benefits to certain households and lower ones to others.

With expanding access to improved and more detailed data sets, some of these problems are being tackled. Various papers in PSP demonstrate some of the corrections and innovations that can be made to improve the benefit-incidence approach. Many of the method's deficiencies have more to do with data inadequacies than with limitations intrinsic to the approach and are thus shared with other methodologies. For example, there is nothing in the traditional benefit-incidence methodology which prevents the incorporation of quality differentials. As elsewhere, the major impediment stems from the deficiencies of available data.

What policy conclusions can we draw from such exercises? Although the methodology is far from ideal, and so precise magnitudes may not be correct, it is generally assumed that the broad qualitative conclusions are indicative of reality. We still know rather little about how much difference behavioral responses can make to key policy conclusions. Nonetheless, even a crude but careful incidence study can be valuable to governments, who often have little or no awareness of the possible distributional implications of their policies, and to policymakers generally. The issue of how public spending benefits are distributed is an important one and incidence analysis appears to provide a useful first approximation. I shall attempt to summarize some of the results to have emerged later.

3.1.2 Behavioral approaches

As already noted, a general problem underlying evaluations of policy impacts, including public-spending changes, is the lack of the relevant counterfactual. Ideally, we would like to compare situations

with and without a spending policy change. What would have happened had the policy not been implemented or the public good not provided? But we are rarely able to observe such a baseline. Many facets of the economic behavior of beneficiaries and nonbeneficiaries alike—including labor supply, consumption, saving and investment decisions—may be affected by public policies. It is difficult to accurately trace responses and their full general-equilibrium effects. Yet these responses have potentially important implications for a policy's final impact. This issue comes up repeatedly in PSP, and a number of the included studies can be interpreted as attempts to resolve the problem by modelling behavioral responses.

Various estimation-based techniques have been developed that attempt to capture key behavioral responses. The general approach has consisted of trying to measure the program beneficiary's own valuation of the benefit received. The latter is deemed sufficient for—or at least relevant to—attributing benefits from public services. (Alternative nonwelfarist approaches [discussed earlier, and by Sen in PSP] tend to downplay the relevance of such subjectivist evaluations, though not dissimilar problems emerge in these approaches, as I discuss later.) The conventional welfarist measures allow for behavioral responses to price and income changes. They are generalizations of the old notion of consumer surplus—the monetary value of a change in welfare due to a change in prices. In the simplest version, this is measured by the area under the Marshallian demand curve. As such, it can be interpreted as the sum of incremental benefits from each additional consumption unit valued at marginal willingness-to-pay.

As is well-known, the fundamental problem with consumer surplus is that it ignores the income effects of price changes. This has led theorists and some practitioners to turn to the Hicksian measures derived from the compensated demand function along which utility is held constant. Provided one knows—or can infer—preferences, these new measures represent exact analogs to consumer surplus (see for example,

G. McKenzie 1983, King 1983, and Cornes 1992 and in PSP). Under certain identifying assumptions (discussed below), and provided demand functions satisfy the theoretical conditions of utility maximization, information about utility functions can be retrieved from observed demand behavior. This then enables the calculation of better welfare measures based on the monetary amount that would make beneficiaries as well off without the transfer as they are with it.

The same methods have also been used in attempting to make behaviorally consistent comparisons of wellbeing across individuals facing different circumstances. Prices and household characteristics, which are in general household specific, must be controlled for. This is required to make the empirical welfare measures interpersonally comparable. A number of measures, including the behaviorally consistent measures discussed above, aim to provide an exact money measure of an individual's welfare. For example, money-metric or "equivalent income" measures fix a population-wide reference price vector and household type as the basis for comparing welfare levels (Cornes, PSP; King 1983). The equivalent income is then the money income that would be required by each household to maintain its present standard of living at reference prices and reference household characteristics. It can be calculated to establish a ranking of households in the initial pre-policy position as well as to establish welfare level rankings following proposed or implemented changes in economic policy.

A special case of this idea is an equivalence scale, which gives the welfare equivalence between households at different compositions and sizes (Deaton and Muellbauer 1986, Browning 1992). Equivalence scales often incorporate both potential scale economies and social judgements about the needs of preferential groups such as the aged or children. When data are not available or there are problems of inferring unique scales from behavior (a general problem I will return to) a decision must be made on which equivalence scale to use. The choice can matter to policy. This message is strongly emphasized by Atkinson and by Jarvis and Micklewright (in PSP). The latter convincingly show that one's view of how well targeted to the poor the Hungarian family allowance scheme has been depends in part on the weights attached to

household size and composition in the welfare indicator. Indeed, they make a convincing case that the incidence of family allowances could be used to defend a wide gamut of policy reforms depending on the underlying assumption about the equivalence scale (also see Atkinson PSP, and van de Walle and others 1993, also in the context of Hungary).

The behaviorally consistent welfare measures have their limitations even within the confines of a purely welfarist approach. Unfortunately, these are particularly worrisome in the present context of public and publicly-provided private goods. Severe problems arise in identifying preferences from behavior for the purposes of calibrating utility-consistent welfare measures such as real income per equivalent adult, and equivalent and compensating variations. Conventional demand models do not capture effects on utility that are separable from the consumption of market goods; if the private benefits derived from children or from public goods do not alter marginal utilities derived from market goods then those benefits will not be evident in observed demands for market goods. In practice we identify the parameters of conditional preferences from demand models—conditional on certain nonmarket goods—while welfare is about unconditional preferences (Pollak 1991). No doubt, it will always be highly problematic to infer the utility derived from public goods (for which no markets exist and households are quantity constrained) by looking solely at demand for private market goods (Cornes PSP).

More recently, one strand of the subject has directly studied revealed demand for publicly-provided social services. In one approach, loosely referred to as "willingness-to-pay", demand functions for publicly-provided services are estimated to calculate service or facility specific price and income elasticities for diverse income and other subgroups (Gertler and others 1987; Gertler and van der Gaag 1990; Gertler and Glewwe 1989). The elasticities are then used to calculate behavioral welfare measures of the willingness-to-pay (the compensating variation) of different groups for a change in provision. To get around the obstacle of missing markets, the latter are proxied by measures of the full costs of public service usage

including fees, travel and waiting costs. Hence, an exploration of the nonprice allocative mechanisms that determine consumption is used to calculate willingness-to-pay for the nonmarketed good and for changes in its provision. Applications have analyzed the distributional consequences of introducing user fees and earmarking them for improvements in access and quality of facilities.⁵ The method is discussed by Selden and Wasylenko (PSP) and contrasted with a nonbehavioral approach.

Another strand of the literature has focused more on health and educational outcomes which implicitly have welfare significance. Although the practitioners of this approach (as represented by Pitt and others, Deolalikar, and Hammer and others in PSP) do not explicitly define capabilities as their objective function, one presumes that an empirical formulation of Sen's (1985) capabilities approach would in some ways resemble this one. The idea is to econometrically estimate a reduced form relationship (representing a potentially quite complex household model, usually encompassing both demand and production functions, preferences and budget constraints). This links a particular outcome (such as educational attainment or health status)—often as proxied by an indicator of that outcome (such as enrollment rates or infant mortality rates)—to a wide set of inputs including socioeconomic characteristics, incomes, prices, utilization of public services, availability of private services and other complementary public services and government spending.

The study by Deolalikar in PSP presents one example of this approach. It strives to isolate the marginal impact of provincial-level government expenditures on the health outcomes (and facility utilization) of different income groups controlling for a multitude of other factors and inputs that may influence that relationship. The method throws light on the incremental, or marginal, incidence of benefits. In other words, it can be used to examine how changes in government spending are distributed, but not how inframarginal spending is distributed across groups.

In the same spirit, econometric techniques have been used to control for behavioral responses and for simultaneity when attempting to assign causality to public expenditures. The study by Pitt, Rosenzweig

and Gibbons (PSP) is concerned with purging estimates of the impact of public services on social indicators of the repercussions of endogenous factors in their placement. The fact that public programs are often geographically located as a result of unobservables (whose effects are then difficult to sort out from those of the programs) has long put a damper on evaluations of the impact of public investments in infrastructure (see Binswanger and others 1993; Rosenzweig and Wolpin 1986). Pitt and others implement a methodology for dealing with the nonrandomness of program placement and demonstrate how important doing so is for estimating the kinds of reduced form relationships discussed above. Estimations of both the magnitude and direction of the impact on outcomes are found to be influenced. To give just one example, cross-sectional estimation, typically used in evaluation work, suggests that family planning facilities in Indonesia increase fertility. By contrast, the alternative estimation procedure that allows for program placement effects does not.

Despite their interesting methodological and empirical insights and contribution, studies such as those by Deolalikar and Pitt and others have somewhat unclear welfare and policy interpretations. They eschew a welfare framework that would allow a valuation of the benefits from an improved outcome or a public investment and a rule for judging them against other spending. For example, both a health outcome and an education outcome may be strongly influenced by public spending in the respective sectors. How do we decide relative tradeoffs between them?

The study by Alderman and others (PSP) adopts a similar approach to the issues but is couched within a potentially broader framework. The authors estimate the impact of both the quantity and quality of schooling on cognitive achievement outcomes in Pakistan. They then estimate the impact of cognitive achievements (and implicitly of public spending) on earnings. Next, gains in earnings can be linked up to estimates of the costs of schooling improvements and conclusions drawn about targeted public spending based on social rates of return. A utility function defined over earnings (or income) therefore underlies the analysis, supplying a method for aggregation of social costs and benefits. This provides a way in which to

value benefits from the publicly-provided inputs, something other studies have been unable to do. The methodology in this study could be further generalized to include multiple outcomes—cognitive achievements and discipline, for example—and the tradeoffs in concentrating public investments on either outcome also assessed. However, this approach is confined to measuring the income gains from public services; direct welfare gains (independent of income) are not identified.

All these methods are handicapped by measurement problems. Outcomes, in particular, are hard to measure accurately. Like the traditional benefit-incidence approach, the econometric approaches, including the Alderman and others study, are limited in their ability to capture the effects of externalities. They will therefore tend to underestimate impacts when positive external benefits exist. For example, the kinds of external benefits discussed at length by Appleton and Collier in the context of targeting women—the effects of maternal education on child health, for example—remain difficult to measure and account for in a systematic way. Finding ways in which to satisfactorily approximate the size and importance of externalities and account for them in measuring impacts of public spending is an important area for further empirical research.

The welfare-economic underpinnings of the various "partial" approaches to welfare measurement are not always clear. A key question concerns *aggregation* in the absence of an explicit evaluation function. What tradeoffs are admitted against the health outcome for example (Deolalikar in PSP)? Aggregation across sectors is one issue. Another pertains to the aggregation across individuals and the policy implications and operationalization of the measures. Take the case of willingness-to-pay approaches. Most applications tie fees to willingness-to-pay, but whose willingness-to-pay? If a flat fee is charged, there will often be distributional implications. For example, if willingness-to-pay for schools is an increasing function of income as one would expect, and a flat fee is introduced, wealthier students will need to be undercharged so as not to lose poorer ones. But, the policy will then transfer rents from poor to rich

households; there is no impact on poverty in utility space and inequality will increase. Differentiating fees across income levels can in principle get around such problems but they have their own disadvantages, a point I will return to. A further issue is that imperfect information and endogenous preferences may result in tensions between individual (based on estimated willingness-to-pay) and social objectives, and it is unclear how one would go about resolving such potential conflicts. The literature gives us little guidance on these issues.

So far, the above discussion has implicitly focused largely on utility, in the welfarist context. Things may not be much easier if we focus on capabilities instead. Like "utility", we do not typically observe "capabilities" as such, but rather certain "achievements"—for example, we directly observe illiteracy, not the capability of being literate—and behavioral assumptions are needed to close the gap (Anand and Ravallion 1993). However, there has been little work yet on the identification problem in capabilities-based empirical approaches or on how different capabilities should be aggregated. As utility-based conceptualizations come into question, marked differences may arise in the properties of more practical welfare measures. For example, for equivalence scales, Lanjouw and Ravallion (1994) show that scales calibrated by conventional utility-based demand approaches will have very different attributes to ones that rely on information about achievements of certain basic capabilities of individuals. The move toward broader concepts of "wellbeing" in the economic assessment of policy choices will need further empirical research to help inform those choices.

3.1.3 Incorporating behavioral responses in incidence studies

Behavioral approaches contain important lessons for benefit-incidence studies. All incidence studies are essentially comparisons of pre- and post-intervention distributions. The contribution of behavioral approaches in this context is to obtain a better measure of the distribution of welfare that would

have been observed without intervention—the counterfactual. By measuring benefits net of behavioral responses the approaches thus try to work out the real impact of policy. Economic analyses—such as some of those discussed above—often try to do this in the aggregate for some "representative household". The next step is to determine impacts at the household level and to assign those impacts correctly in the distribution of welfare. The studies by Cox and Jimenez, Sahn and Alderman, and Ravallion and Datt in PSP provide interesting empirical examples of such an approach (also see van de Walle and others 1994). They illustrate how econometrically estimated parameters and simulation techniques allow what are basically benefit-incidence studies to be modified so as to incorporate incentive effects and thereby attain a more precise estimation of the distribution of a policy's net benefits across households.

In order to assess the real impact of a public employment scheme on poverty, Ravallion and Datt argue that the foregone incomes of participants must be netted out of the distribution of transfer benefits. Their task is to estimate the cumulative distribution of incomes that would have existed had the workfare option not been available, and to then compare that distribution with the one observed with the policy. To begin, they econometrically model individual time allocation across all potential activities (including self and wage employment, leisure, domestic work, and unemployment). The results are next used to simulate time use and incomes in the absence of public employment and to draw conclusions about the intervention's net welfare outcome.

In the same spirit, Sahn and Alderman examine how labor supply disincentive effects of food-based income transfers result in a divergence between net public expenditure increments and net transfers to households. They proceed by modelling labor supply conditional on labor market participation. The resulting parameters are then used to simulate the counterfactual of what individuals' labor market effort, and hence incomes, would have been in the absence of the Sri Lankan food-stamp scheme.

Cox and Jimenez turn the issue on its head and look at how the behavioral responses of some key

*non*beneficiaries may also have bearing on a policy's net impact. Their concern is with the responsiveness of interhousehold charity to the introduction of public redistributive programs. Cox and Jimenez econometrically estimate the determinants of net transfers received in the absence of government intervention using household level data for the Philippines, and use the predicted parameters to simulate the likely private transfer response to the introduction of unemployment benefits, lump-sum transfers to those below the poverty line and retirement benefits.

As I have noted, simulation techniques are often used, here and elsewhere, to draw out behavioral implications from empirical models. It is worth noting that simulations may often require additional assumptions, which may in turn be important in drawing policy conclusions. To illustrate the point let us examine more closely the interesting findings of Cox and Jimenez. The unemployment insurance simulation—which indicates a dramatic displacement effect of 74 percent of private transfers—assumes that unemployed male household heads are provided with cash transfers equal to one-half their imputed earnings, *and* that this causes donors to treat these households as if their head is now employed. As the authors point out, the bulk (over 90%) of the displacement is driven by the shutting off of the "household head not employed" dummy variable in their econometric model. The state of being unemployed is a strong attractor of transfers independently of income.

The analysis provides us with an upper and lower bound estimate of private transfer displacement, and flags how critically the results depend on an assumption that is itself difficult to test. Given our limited knowledge of how donors view unemployed people receiving unemployment compensation, it is important to be aware of this assumption. It might be argued, for example, that it is equally plausible that donors continue to view the household head as unemployed even if he receives unemployment compensation from the government, since he is in fact still jobless and receiving only half of his normal earnings. Possibly donors will ultimately be looking at people's consumption—what the recipient household can afford relative

to what it is accustomed to. The interpretation of the (highly significant) positive coefficient on the unemployment dummy—controlling for income—in the regression model clearly matters to the policy conclusions. The dummy variable could be proxying for a fall in income connected with unemployment or it could indicate sensitivity of the donor to the increased risks faced by the unemployed or to the real drop in income since the previous period.

The lesson here is how crucial the interpretation of the empirical model can be to the policy implications. Underlying theoretical assumptions must be examined carefully, and one should probe sensitivity of simulation results to those assumptions.

More and better data and methods will yield added scope for incorporating behavioral responses into incidence assessments. This is to be welcomed in that it allows us to relax some of the assumptions of standard incidence analysis. However, this development can be a mixed blessing. As I have tried to illustrate above, new assumptions have to be made and these may, in and of themselves, largely determine the conclusions. More empirical work is needed to test those assumptions. An important but often neglected role for research is that of comparing policy applications under alternative sets of assumptions. For example, case studies comparing policy conclusions from simple nonbehavioral rule-of-thumb methods with more complex, theoretically correct ones, would be very useful. Selden and Wasylenko's contribution to PSP provides one example. There is also a need to understand *when* ignoring behavioral responses will matter most. Sensitivity analysis will help clarify the generality and applicability of findings. This also involves understanding underlying theoretical reasons. For example, it should be clear from past theory and evidence that poor people will be more responsive to price changes than rich people. Yet, in early discussions of the effects of cost recovery, a constant elasticity was assumed and likely curvature of the Slutsky matrix conveniently ignored. In sum, we should not automatically assume that more complicated models will produce better or fundamentally different policy advice. However, more research is needed to

determine whether they do or not.

3.1.4 Data and policy

Our knowledge about the poor in developing countries—their location, their sources of livelihood, their links to the economy—have greatly expanded with the availability of more and better quality household level data sets (Lipton and Ravallion 1994 review recent evidence). Yet it remains that methodologies, results and policy implications are in many ways molded by severe informational constraints. As I have pointed out in various instances, general data inadequacies add to the impediments of correctly measuring the distributional impacts of public spending. Let me elaborate here on a few additional data-related points to emerge from this research project.

We are ultimately interested in impacts on *individual* welfare. Since data is most often available at the household rather than at the individual level, assumptions must be made about the distribution of resources within the household. Common practice is to assume equitable repartition and rely on per capita (or some other equivalization) measures of individual consumptions. Most of the studies discussed here (implicitly or otherwise) make such an assumption. Yet, there is some evidence that the intrahousehold distribution of resources may not always be equal, and that public policy-induced changes in household consumption may not affect the welfare of each household member identically (see Haddad and Kanbur 1990 and 1993); Cornia and Stewart (PSP) discuss the implications of this for efforts to target food interventions. This measurement issue has vexed the question of whether women are "poorer", or in some sense deprived relative to men, as discussed by Appleton and Collier (PSP). Behavioral responses within households can also alter assessments of policy impacts at the household level; for example, in their study in PSP, Ravallion and Datt show how cross-gender effects in time allocation *within* the household have bearing on the net benefits from workfare.

Our understanding of certain dynamic issues in the incidence of public spending has also been greatly constrained by data limitations. The analysis of government program impact has been for the most part static. Yet, in developing countries (particularly in rural settings) and in transition economies, a key concern pertains to the variability in living standards to which the poor—in particular—are prone. The performance of public spending programs in providing effective safety nets that lower risk and income variability, protecting households from uninsurable risks and shocks for which insurance markets do not exist, is clearly of considerable importance. Evaluations based on a single cross-section may not be very informative about impacts on living standards. As shown in benefit incidence analyses for Indonesia and Malaysia's health and education sectors (respectively van de Walle, and Hammer and others in PSP), analysis of two cross-sections or more reveals how marginal changes in public expenditures are distributed ignoring all behavioral incentive effects. Panel data, which follow households over time, present a promising new avenue for combining determination of both dynamic and behavioral effects. As yet, few studies have applied this approach to examining the distributional performance of public programs over time. One exception uses a Hungarian panel to examine how well the social safety net performed both in protecting families from falling into poverty and in promoting the poor out of poverty during a period of the early transition (van de Walle and others 1994). The collection and setting up of panels are becoming more common, which will hopefully make the exploration of dynamic issues easier. This is a ripe area for future research.

Finally, economists doing research in this area have tended to focus exclusively on household decisionmaking, while taking government outlays as given and simply ignoring other factors—such as the macroeconomic, political economy and institutional environments. As shown by Pitt and others (PSP), an understanding of government budget allocation and program placement rules may be fundamental to coming to grips with public spending impacts. This will require that effort be invested in the collection of

new sorts of data, such as time series of the stock of spatially available infrastructure and of the "history" of government investments. Such new data needs to be accompanied by imaginative ways of getting at, and incorporating into measurement methodologies, the context within which households and governments make their decisions.

The overall macroeconomic environment clearly has bearing on the effectiveness and sustainability of specific poverty alleviation strategy and spending decisions. Public expenditure plans are made within the context of general policies and the state of the economy. For example, the capacity to tax is pertinent to public spending objectives and outcomes. A growing economy which is generating broad-based employment provides a very different context for discussing public spending decisions than one that is in recession. Governments also worry about the political consequences of their policies. Political economy considerations are critical to understanding motivations, constraints and outcomes of public spending policy. Details on institutional and service delivery capacity—of which there has also been a lack of consideration—are likewise relevant to explaining the distribution of public spending. Household survey data and government budgetary data throw little light on these relevant features. The above information will be important in determining how to improve incidence but also in assessing why benefits are distributed in the way that they are. For example, there may exist bounds to how progressive public spending benefits can be due to political economy, macroeconomic and institutional factors, which too often are ignored. Incorporating information on such constraints may provide us with more realistic benchmarks against which to judge distributional outcomes.

Assessing incidence and determining how best to improve distributional outcomes are the vital first steps. But, the follow-up—reform implementation—begs a further understanding of the political economy of reform: Why and when is reform undertaken? Why and when is it successful? Economists are often at a loss when such issues come to the fore, but they should make no mistake about their relevance.

3.2 *Results*

Provided one is aware of their deficiencies, much of the data and methods commonly used in practice can be useful and informative. The (few) studies that have attempted to compare results on incidence have found the methodologies broadly in agreement (Selden and Wasylenko discuss this issue in PSP). Still, the results should be taken as indicative of likely directions of benefit incidence, rather than precise magnitudes. Subject to the caveats discussed above, some reasonably clear patterns can be discerned from studies of the distribution of benefits from public spending in developing countries. They are briefly summarized here.⁶

3.2.1 **Lessons from benefit incidence studies**

Only a few benefit incidence studies have examined the totality of public spending (Selden and Wasylenko 1992, provide a review). Studies more commonly focus on one or two sectors as do the case studies in this book. I will follow suit here.

A distinction should always be made between the distribution of benefits in monetary amounts and that of benefits expressed as a percentage of the welfare indicator (typically per capita consumption or income). Investigations of the education, health, social transfers and nutrition sectors commonly find that in the aggregate subsidies are at least mildly "progressive" in that they are higher for the poor as a percentage of initial income or expenditure. In contrast, absolute benefit levels often increase with the welfare indicator; the poor get less in absolute amount than the rich, though inequality is still reduced. Finally, an implicit urban bias is common in that public spending amounts are often found to be higher in more urbanized areas.

However, study after study highlights the importance of looking at within-sector components. For example, in the education sector, benefit incidence analyses typically find that primary, and often secondary, schooling are pro-poor both in absolute levels and percentage terms. This is a consequence of the fact that in most developing countries poorer families (at least as measured on a per capita income basis) tend to have more and younger children, and that poorer children are more likely to attend school at the primary than at other education levels. Tertiary education, in contrast, is invariably pro-rich. The overall progressivity will often depend on the composition of education spending. For example, as only a small share of the education budget is devoted to university training in the economies of Eastern Europe, the overall distribution of education expenditures is pro-poor (Milanovic, PSP). In comparison, high university subsidies imply a flat overall distribution of education benefits for Malaysia, despite the unusually strong progressivity of both primary and secondary spending (Hammer and others, PSP). Generally, the more educationally advanced a country, and the more developed its private sector, the more public spending on higher education levels reach poor children.

These general patterns are supported by Selden and Wasylenko's investigation of the education sector in Peru, and the Hammer and others study of Malaysia (both in PSP). The former also find that spending levels are higher in urban areas and that, as beneficiaries of education subsidies, girls are deprived relative to boys. Milanovic finds that in the Eastern European economies too, the distribution of education benefits are progressive though decreasingly, so the higher the education level. Kindergarten benefits exhibit the best pro-poor targeting while university benefits are the least well targeted.

Health sector expenditures also vary in their incidence according to the level of service. In particular, primary health care centers dispensing preventive and curative care are usually more pro-poor than hospital services. Van de Walle (PSP) determines that although the health subsidy in Indonesia is progressive, an untargeted uniform lump-sum transfer would be more so. Hammer and others find that in Malaysia the poor garner a disproportionate amount of the subsidy on health care. This is attributed in

great part to the fact that wealthier households opt for the private sector for their medical care. In the Eastern European economies, total as well as specific health sector components are found to be equally distributed across individuals just prior to the transition. Milanovic argues that this results from the combination of free socialized medicine and the nonexistence of a private alternative at the time.

The story concerning general food subsidies is similar. Universal food subsidies tend to be quite progressive when expressed as a proportion of income, while absolute amounts tend to be lower for the poor (Cornia and Stewart, and Grosh in PSP). However, food schemes are heterogeneous and are more often targeted and implemented under a multitude of guises including food stamp and ration schemes, infant feeding, school meals, etc. Their incidence varies according to the food commodity (incidence will be more progressive for goods which the poor favor more than the rich) and the degree of targeting generally. Grosh shows that benefits are better concentrated on the poor under targeted schemes than under universal food subsidies in the Latin American programs she reviews. However, as I will be discussing shortly, targeting brings about its own costs, which should be netted out in determining the incidence of benefits. Cornia and Stewart also argue that there are important costs to excluding some of the target group, a common result of narrowly targeting food programs.

Social cash transfers, comprising of pensions, family allowances, sick pay, scholarships and other transfers, represent a significant source of income for households in the former communist economies of Eastern Europe and in most OECD economies. Although there are variations among the former, Milanovic (PSP) argues that, at the start of transition, the total cash transfer distribution there was more or less uniformly distributed across income groups. This reflects the fact that the most substantive of the transfers—pensions and family allowances—had opposing incidence patterns. Pensions showed a tendency to be prorich (Russia provides one exception), while family allowances were generally quite propoor (in percentage and absolute terms) for reasons not dissimilar to why primary education is propoor in

developing countries. However, Jarvis and Micklewright (PSP) caution that, at least with respect to Hungary in the pre-reform period (pre-1990), this result hinges on the equivalence scale used in ranking households in the pre-intervention state (also see van de Walle and others 1994).

Two studies in PSP explore incidence changes over time using the benefit incidence methodology for two points in time. To our knowledge no other studies have done this. A comparison of incidence at two or more dates enables a determination of how spending changes were distributed across different groups. It is sometimes argued that if the rich already gain from public services, marginal spending must per force reach the poor. Yet, additional scenarios can be ventured. For example, spending increases may be devoted to quality improvements for current beneficiaries. Political economy considerations may buttress this prospect. So, the issue provides an interesting empirical question. The results indicate that distributional improvements occurred for Indonesia's public health sector outlays (van de Walle, PSP) and for Malaysia's health and education expenditures (Hammer and others, PSP). In both countries, the poor's participation rates increased markedly over the period. The benefit incidence methodology is unable to fully account for the factors underlying incidence patterns. In the Indonesia case it is not clear to what degree government policy as opposed to income growth is responsible for increased equity in public expenditure incidence during the period; though both factors were undoubtedly instrumental. What is clear is that much of the distributional gain was captured by the urban poor. The Malaysia case study attempts to understand causality by supplementing the incidence analysis with regression analysis. Malaysia's policy of ethnic targeting is credited with the success in the education sector, while propoor improvements in the health sector are attributed to the private sector's increasing ability to attract wealthier households. The latter also appears to have been a factor in propoor changes in urban Indonesia.

3.2.2 Lessons from behavioral approaches

There is less to say here as the literature concerned with allowing for behavioral responses remains at an early stage and has yet to develop proven patterns in its empirical results. Heavy data requirements (such as on prices) and methodological pitfalls (simultaneity, endogeneity and self selection biases) have made progress slow. The research, which has focused on estimating the effects of price changes on behavior and welfare, has for the most part found that in the aggregate the demand for public services tends to be price inelastic. More importantly from an equity viewpoint however, the studies also find that elasticities vary across income groups and that the poor are invariably more price responsive (Gertler and van der Gaag 1990).

Attempts to measure the impact of public spending investments on outcomes (such as those by Pitt and others, Deolalikar, and Alderman and others in PSP), find that this can be a noisy relationship and one that is arduous to isolate. Deolalikar's results indicate that marginal changes in Indonesia's provincial health spending have a positive effect on children's utilization of facilities and on their health outcomes though both results apply to a greater degree for children of well-off households. This leads him to conclude that Indonesia's public health care services are poorly targeted. Alderman and others establish that girls and children in a poor region are relatively disadvantaged with respect to public schooling benefits in rural Pakistan. The situation could be improved with little cost to productivity by targeting schooling quantity and quality improvements to the disadvantaged groups. The Pitt and others investigation emphasizes the difficulties in econometrically establishing *ex post* the impact of public expenditures. Once the authors have controlled for fixed effects and the nonrandomness of program placement (again for Indonesia), with one or two exceptions, few programs are evidenced to have much direct impact on health and education outcome variables. The last study highlights some of the severe difficulties that make the estimation of public investment impacts so elusive.

3.2.3 **Lessons from incorporating behavioral responses in incidence studies**

The key lessons here are ones already evident from the behavioral approaches discussed above. Behavioral responses can be of consequence to conclusions about the distributional impacts of policy interventions. In a number of the empirical case studies included in this review, efforts at reproducing the relevant counterfactual have been used to inform policy evaluations. Accounting for foregone incomes in assessing the poverty impact of public employment schemes is found to be of importance in Ravallion and Datt's study in PSP; it estimates that foregone incomes in two villages participating in the Employment Guarantee Scheme (EGS) of India's Maharashtra state account for about one quarter of total wage earnings on the scheme. Labor market participation responses to the rice subsidy discussed by Alderman and Sahn have marked repercussions for the scheme's net transfer benefits. Sri Lanka's targeted food stamp scheme is estimated to have resulted in a fall in labor market participation of as much as 2.5 days per month for males and 2.9 days for females. Finally, the public provision of social security is estimated to result in substantial displacement of the private moral economy that exists between households in the Philippines (Cox and Jimenez, PSP).

4. **How Can the Distribution of Public Spending be Improved?**

A good benefit-incidence study can directly inform proposals for spending policy reforms aimed at improving the distribution of benefits. The preceding discussion has emphasized our still limited knowledge and continuing uncertainty about how to measure benefits and hence, judge the distributional impact of public spending. A number of areas where further investigation may pay off in this area were identified. Still, specific country case studies (including those specifically reviewed here) do contain some clear and consonant implications for improving the distribution of public expenditures. First, governments should invest and reallocate budgets towards basic services. The provision of such services often fails to attract

private sector interest and thus accords with the principle that governments should be responsible for valuable goods which would otherwise be underprovided. But, above all, services such as primary education and basic health care are found to be among the best ways to reach the poor. Of course, care should always be taken that marginal spending increases are not being squandered on better quality for existing services consumed by the better off. Among other categories of public spending—including food subsidy schemes, social security and cash transfers—there have been both successes and failures. Many programs which claim to reduce poverty don't.

The most commonly heard proposal for achieving a more propoor benefit distribution is "improved targeting." That will be the main focus of this section. As I will show, a number of the studies in PSP throw light on this policy issue, both at the level of methodology and in substantive policy conclusions. Reform proposals also often raise new issues, such as administrative feasibility and political economy considerations. In many developing economies, it is the middle classes who are currently the primary beneficiaries of public social spending. Many of the poor are left out, while the rich have alternatives—namely the private sector at home or abroad. Redirecting or 'targeting' spending towards the poor will hurt the middle classes who, in the worst case scenario, may no longer be able to afford the services. Households in this group are often the most vocal and politically important constituency for the government (Nelson 1992). This political economy reality has considerable bearing on final reform outcomes and is a key issue to which I will return.

4.1 Targeting: Issues and Options

Targeting is here defined as a deliberate attempt to shift the benefits of public expenditures to the poor by means which aim to screen them as the direct beneficiaries. This is by no means a universally accepted definition. The word is used to mean various things. Indeed, the research literature and policy

documents are littered with different uses. To give one example, it is not unusual to come across the word targeting being used synonymously with means (or income) testing. This is a rather restrictive use of the concept and fosters a narrow interpretation of the policy instruments at a policymaker's disposal. Although the aim is ultimately to reach those with unacceptably low living standards—often proxied by income—means-testing is only one of many methods by which to identify the poor.

Targeting has its critics. The anti-targeting view argues that finely targeted programs have usually failed in either fully covering the poor, or in avoiding leakage to the nonpoor. They are bad for morale and create dependency. They are not sustainable because they lack political support. "Programs for the poor are poor programs" is an often heard criticism. Furthermore, if governments effectively promote economic growth and invest in basic social services for all—through broad targeting of budgetary allocations—there should be no need for more finely targeted programs.

By contrast, for many, targeting is unquestionably the solution to the poverty problem. Why spread money around when, with targeting, gains to the poor come at lower cost? For some, the choice between "targeting" and "universal provision" is now viewed as one of ideology. One commentator writes:

An implicit objective of those who argue against targeting and in favor of universal welfare states is distributivist. This is not surprising as they are by and large socialists who subscribe to the common end of egalitarianism. (Lal 1994)

It is surprising to hear that "socialists" prefer that less of a given budget should go to the poor, and that "egalitarianism" entails equal benefits to all rather than larger benefits to poorer people. Views such as these suggest that there may be scope for greater conceptual clarity on this policy issue.

Without any attempt at targeting, a development path in which both participation in economic growth and access to basic social services is broad—including both poor and nonpoor—can be an effective route to improving the living standards of the poor (World Bank 1990, Lipton and Ravallion 1994). Yet, country experience (both developed and developing) also shows us that circumstances often require

supplementary, more finely targeted, public action. There are many examples. Undernourished children should not be made to wait for long-term solutions such as education and jobs if we can relieve their suffering now at modest cost—or even positive benefit—to long-term welfare. In the midst of an extended drought, broad based solutions may offer little to famine victims. An effective transfer program providing food for work, for example, can mean the difference between life and death, and also prevent damaging responses—such as asset sales—which inhibit long-term poverty reduction. And, even in the best of times, some among the elderly and the disabled, for instance, will require public assistance in order to meet their most basic needs. Without a concerted targeting effort some disadvantaged groups, such as girls, severely disadvantaged in terms of education in rural Pakistan (Alderman and others, PSP), may never catch up to men. The vast majority of societies would no doubt agree with these principles.

Policies which attempt to identify the poor and target benefits to them can serve important redistributive and safety net roles in a market economy (World Bank 1990, Lipton and Ravallion 1994). The risk is when targeted programs are seen as the main instrument for poverty reduction. While a well-designed scheme can provide an important *complement* to a longer term poverty reduction strategy founded on equitable growth and pro-poor broad targeting of public spending, it is an imperfect substitute. Decisions on targeted schemes must always be made contingent on the general economic and social sector policy environment. Moreover, in each specific case, the choice about whether and how finely to target should be decided on economic grounds, starting from the (political) value judgement that it is the economic value of targeting to the poor that matters most. The key questions for policy become: how much targeting is needed and, what form should it take?

4.2 *Choices and Tradeoffs*

In theory, targeting can lessen the social cost of reducing poverty. However, in practice, the ability

of a policy to concentrate benefits on the poor, and its impact on poverty, albeit often confused are not equivalent. The most perfectly targeted policy may not be the one with the greatest impact on poverty. Whether it is will depend on how costly it is to identify the poor and target benefits to them, as well as the size of the disincentive effects and participation costs incurred as a result of targeting. The benefits from better targeting can be large, but they can never be achieved costlessly. This point comes up repeatedly in PSP. Both Sen and Atkinson's contributions provide a detailed description and analysis of the costs associated with targeting benefits.

4.2.1 **The costs of targeting**

The costs of administering a program can rise substantially when discrimination between beneficiaries is required. There is a widespread perception that the more finely a scheme attempts to target, the higher the administrative costs it will have largely as a consequence of imperfect information (see Atkinson in PSP, and Besley and Kanbur 1993, for a theoretical exposition). There is some evidence for this view. For example, a comparison of means tested programs (in which recipients are screened by their level of income) and universal programs (in which access is open to all) in the U.S. found that administrative costs varied from 12 percent of total costs for the former to 2.5 percent for the latter (Kesselman 1982). However, Grosh (PSP) disputes this view. Based on her analysis of a large set of targeted and universal programs in Latin America, Grosh concludes that the administrative costs of targeting have tended to be overestimated. Indeed, her research suggests that they do not systematically vary in any significant way across the diverse targeting mechanisms examined: the costs of administering individual assessment techniques (generally assumed to be the highest) do not appear to vary much from that of less intensive methods such as geographic and self-targeting. Grosh finds the median administrative costs for these respective targeting mechanisms to be 9, 7, and 6 percent of total program costs.

Still, the debate is unlikely to end here. Grosh's definition of the administrative costs of targeting is somewhat narrow as it relates only to initial screening costs. Yet, once the target group has been identified, it is still necessary to incur costs associated with delivery of the benefit to that group to the exclusion of others. Her study also highlights the considerable difficulties faced in accurately and comparably quantifying administrative costs across programs. What can be said for sure is that administrative costs are likely to vary according to administrative and political contexts. Indeed, they could be prohibitive in areas where service delivery systems and institutional and infrastructural capacities are not sufficiently developed. This is an area where a lot more research is needed.

Targeted transfer schemes (like other public interventions) may also cause individuals to change their behavior. Such behavioral responses can intervene between a program's stated objectives and its actual outcomes. We have already seen how important behavioral responses can be in welfare measurement and benefit incidence. In the specific case of targeted interventions, behavioral responses can entail additional costs and benefits, which can have bearing on outcomes. Their magnitude will vary across schemes, and can also be influenced by design and implementation choices. A number of the empirical studies in PSP examine behavioral responses from diverse perspectives with relevance to assessments of the costs of targeting.

For example, the results of Cox and Jimenez suggest that the introduction of public transfer programs, such as unemployment insurance, often causes the well-off to cut back on their private transfers. They found evidence of that for the Philippines, and elsewhere found similar effects for Peru (Cox and Jimenez 1992). Sahn and Alderman explore the much heralded issue of the effects of a targeted subsidy on labor supply incentives (also see Atkinson, PSP). They estimate the food stamp scheme in Sri Lanka to have produced on average a 2 to 3 days monthly reduction in labor market participation, which translates into roughly 33 percent of the value of the subsidy benefits. Such behavioral responses may alter the distribution of the costs and benefits expected by policymakers.⁷ Public employment schemes are another

example. Participants must provide labor in exchange for a cash or food transfer. In so doing, they must forgo other work and the incomes they would have earned had the scheme not been available. This is a cost to participants that should be netted out in order to measure actual gains from the scheme. As we have seen, Ravallion and Datt find that earnings in two villages in the absence of the EGS would have been equal to around one quarter of that earned on the public works projects. As a result of these costs, and the additional nonwage costs, the scheme entails a net transfer of about half of its budget to the poor.

As always, one should be careful in drawing lessons for policy from all such empirical results. They do not imply that public intervention is unnecessary or that it should be discouraged. In general, displacement—such as of private transfers by public ones, or of private employment by public employment—will be *partial* (many recipients are still better off), and conclusions will also depend on differences in *coverage* such as of private versus public transfers. There may also be reasons to prefer government programs. For example, private transfers may not be able to deal with widespread crises where income shocks are covariate (such as in a recession or drought). Public transfers may also have important advantages over private transfers in terms of their reliability or insurance benefits. It also seems plausible that private transfers impose higher costs on recipients—accepting money from the government does not make the recipient beholden to the donor in the same way that accepting money from a relative, patron or friend does. Even if public transfers crowd out private transfers entirely (i.e., the recipient ends up with exactly the same amount of money), the recipient is likely to perceive herself as better-off for receiving the cash transfer from the government. Still other indirect benefits may tilt the balance in favor of the targeted intervention. Even a modest gain to the poor from the assets created through public works schemes (a good deal less than cost) would be sufficient to make this policy more cost effective than many poorly targeted alternatives.

One important, though often disregarded message here is that private behavior responds to public

intervention—whether targeted or untargeted. The problem may be more pronounced under targeted interventions—particularly due to adverse work incentives. Effective marginal tax rates of or exceeding 100 percent are not uncommon and lead to poverty traps. Potential recipients (for example, individuals above but close to the poverty line) will face an incentive to falsify their situation. Fortunately, design features can usually be found that can reduce such distortions. The second important message is that it is important to allow for behavioral responses both in assessing policy effectiveness, and in devising effective policy interventions.

There are other costs associated with participation. Atkinson (PSP) discusses the widespread phenomenon of low take-up—the nonclaiming of benefits by eligible parties. Lack of information about programs partly explains incomplete take-up. But additional reasons include the time costs, stigma and other costs perceived by potential beneficiaries. Again, a scheme's benefits should be calculated net of such costs (also see Besley 1990).

A further cost often associated with targeted programs is their perceived failure to achieve political support because they help but a fraction of the population, and one typically lacking political clout. Indeed, an incidence of public spending biased against the poor is professed to reflect the reality that governments "misbehave" precisely to please powerful elites and hold on to power (Birdsall and James 1993). It is also often argued that universally available public spending schemes are successful and sustainable due to the fact that a wide spectrum of the community maintain a stake in them—and perceive them as a nonstigmatizing right (Sen in PSP, Skocpol 1991). Some programs may require a socially and economically mixed group of participants for their success. For example, in the United States this argument has been invoked as grounds for not limiting public housing project units to the very neediest (New York Times 1993).

There are country examples for which these explanations are persuasive. Yet, some targeted

schemes—usually ones with important indirect benefits—are known to have achieved quite widespread support, well beyond direct participants. The popularity and sustainability of Maharashtra's EGS is often explained by the scheme's indirect benefits: well-off urban dwellers, whose taxes finance the EGS, support it because it helps stem rural migration to Bombay; the rural elite derive benefits from the assets built and the fact that the scheme keeps their labor force in the area through the lean seasons (Echeverri-Gent 1988); finally, in an environment prone to drought and other sources of severe vulnerability, the scheme's promise of a job in times of need provides a form of insurance or safety net, and hence achieves support from many rural inhabitants who do not participate in normal times (Ravallion 1991). Others argue, as Jarvis and Micklewright do in PSP that the historical evolution of policies is an important factor influencing attitudes both of the public and reformers and the political economy of targeted policies.

Clearly, the fact that a program is well targeted does not ensure that it is a cost-effective way to reduce poverty since the extra costs incurred by targeting and the political-economy responses may actually worsen the final distribution of living standards when compared to untargeted programs. There can be no *general* supposition in favor of targeting; the choice must be made on a case by case basis. How should that choice be made?

4.2.2 **Evaluating a targeted scheme**

In stylized form, the policy problem is as follows. The goal is to reduce poverty, but to do so in the most efficient way—"efficient" in that it would not be possible to have a greater impact on the living standards of the poor with the available resources. The impact on poverty depends on the benefits to the poor from the scheme less any costs they incur in participating. The resources include the budgetary cost, and in some cases they may also include certain costs incurred by the nonpoor and not properly accounted for in the budgetary cost. A convincing evaluation should compare a scheme's impact on poverty with the

impact that could have been achieved through realistic alternative uses of the same resources. It is sometimes unclear what the policy options are, but we can always compare a targeted policy's impact with that attainable through a universal (untargeted) handout of the same budget. Ravallion and Datt (PSP) discuss and illustrate the use of this approach, and variations on the approach, for assessing the targeting effectiveness of Maharashtra's EGS.

The appraisal of a targeted scheme's impact on poverty (compared to what could have been done otherwise) is not always easy. As I have emphasized, perhaps the greatest difficulty is in assessing the relevant counterfactual: what would happen without the scheme? I have already discussed the important efforts of Cox and Jimenez, Sahn and Alderman, and Ravallion and Datt (in PSP) on this front. Of these, only Ravallion and Datt use their estimation of the counterfactual to go the further step and see how the policy's actual poverty impact compares to that achievable through a hypothetical alternative use of the same budget. Their results are sobering. Once all the costs associated with the public works scheme have been weighed, the same outlay uniformly transferred to all households—rich and poor—appears to make no less of a dent on income poverty. The authors offer certain caveats and reasons for why they may have underestimated the benefits from the employment scheme—they have ignored externalities arising from the infrastructure the schemes build, for example. Either way, their results should give policymakers and advisers committed to reducing poverty reason to pause.

The studies under discussion here notwithstanding, there are in fact very few examples of good evaluations in the development context. This may be due in part to the high cost of properly evaluating such programs. But there also seems to be a systematic neglect of evaluation; only a tiny fraction of resources used go into seeing if they are properly used. In addition to expanding research efforts in the direction of incorporating behavioral responses into benefit incidence studies, we also need to introduce—*ex ante*—careful monitoring and experimental methods on a selective basis to better understand what works

and what doesn't.

In the meantime, there are ways to take a first stab at such assessments. One should begin by listing all the different social costs that a scheme is likely to entail: administration, costs of participation (such as foregone incomes through displaced labor or displaced transfers from rich patrons), and any indirect costs incurred by the nonpoor (such as the loss to previous beneficiaries from an untargeted scheme). Some of these costs may be weighted differently to others; for example, assessments often attach low or zero weight to small losses to the rich. Some will also be less important than others, depending on the specific circumstances faced (foregone incomes in a rural public works scheme will naturally be low during a drought, for example).

Next, one should take stock and make a judgement about whether these costs are high relative to the benefits to the poor. In general, benefits will be dispersed widely among the poor, and so there will be an issue of how gains at different levels should be weighted; the most widely accepted judgement is that gains to the poorest should receive highest weight (Atkinson discusses this issue in PSP). Some commonly used measuring rods do not do this (such as the mean monetary transfer, or the change in the number of the poor). Without imposing an explicit formula for aggregation, much can be learnt by forming a simple tabulation—a quick and dirty incidence of benefits table—of what the likely monetary gains will be for each broad subgroup of the poor—"ultra-poor", "poor", "near-poor". The ability to make clear quantitative assessments will vary greatly, depending on data availability. However, a reasonably well researched qualitative picture may often be informative.

One should also look closely at how benefits can be enhanced, and costs reduced, such as through more care in designing and implementing targeted schemes.

4.2.3 Design and implementation can help reduce targeting costs

A key lesson from experience and many of the studies under review, is that the costs and benefits from fine targeting depend critically on program design. Subsidizing a food staple heavily consumed by the rich, or setting the wage rate too high in a public works scheme, can really destroy targeting performance. Under ideal circumstances the policymaker would know incomes and distribute transfers to eliminate poverty accordingly. All of the poor and none of the nonpoor would be covered and the cost of bringing everyone to the poverty line would exactly equal the poverty gap. In practice, the most extreme form of targeting, means testing, is difficult and costly to do well in developing countries. Incomes are particularly hard to measure in poor agricultural settings where they are also often subject to extreme variability from one season to the next. Effective means testing would require collection of detailed and comprehensive information coupled with continual updating and verification. This is well beyond the capabilities of most administrative agencies. Reliance on local agents with intimate local knowledge has sometimes been found to work well, and sometimes to flounder in nepotism and corruption. Ravallion and Datt (PSP) provide evidence on the feeble connection between living standards and benefits received from the Integrated Rural Development Programme credit scheme in one Indian State—a supposedly means-tested program. Atkinson (in PSP) elaborates on the severe difficulties experienced with means testing even in industrialized countries.

Hence, we often search for identifying characteristics, or indicators, which are highly correlated with low incomes. In targeting on the basis of indicators—what Atkinson in his study terms categorical transfers—it will always be better to use correlates that are easily observed and difficult to manipulate. Employment or nutritional status are easier to manipulate than gender and old age, for example. Female headship is claimed to be highly correlated with low living standards in some countries. Yet, use of such an identifier has also been found to result in severe moral hazard problems conspiring against the formation of stable adult family relationships. Possible further impacts on children's emotional development may cause

the deleterious effects to go well beyond the misrepresentation of who heads the household (Appleton and Collier PSP). Such negative consequences of choosing an indicator should be carefully avoided.

Combining several indicators has often worked well to achieve a fairly high level of targeting without resorting to costly means testing. Atkinson (PSP) details the vast array of categorical conditions Western social security systems have used to fine tune the targeting of family benefits—family size, age and activity of children, work profile of parents and so forth. Appleton and Collier (PSP) argue for using gender in combination with other indicators. For example, Bangladesh's well respected Grameen Bank credit scheme screens on the basis of female gender, landlessness, and rural residence.

However, the correlation between popular indicators and poverty is often far from exact. It is important to be aware of the limits of much indicator targeting. Where research efforts have tried to gauge possible impacts on poverty, results call at best for qualified optimism (Ravallion 1993, Ravallion and Sen 1994, and Datt and Ravallion 1993). Geographical location and landlessness are two indicators which are typically associated with deprivation. Ravallion (1993) and Datt and Ravallion (1993) turn their attention to the evaluation of geographical targeting through redistributive public transfers to Indonesia's poorest regions and India's poorest states respectively. When the targeting instrument cannot be sharpened further (as in targeting more finely within the regions), the potential poverty impact of even an optimal, administratively costless, allocation of a set budget is found to be very small for both countries. In a similar vein, Ravallion and Sen (1993) simulate the effects of targeting transfers to the landless in Bangladesh with and without effects on productivity. The results indicate that due to the indicator's bluntness, too many nonpoor would benefit, while many of the poor would be excluded from such a scheme. Poverty would be alleviated but the maximum impact—even under seemingly ideal conditions—is likely to be small from such indicators.

In some cases, letting the poor select themselves both minimizes targeting costs and results in well

targeted benefit incidence. Self-targeting schemes are designed such that the poor, and only the poor wish to participate. They achieve this by imposing a cost of participation that only the poor are willing to incur, as for example, a work requirement in return for low wages. Only those who cannot command a better wage will turn up for the scheme. Another example is given by subsidies on lower quality (real or perceived) goods, which wealthier groups will tend to shun. Although the administrative costs of identifying the poor are avoided, the costs of participation should not be ignored as I have argued above. But there are ways to ensure they are minimized. A public employment scheme can reduce participation costs by being implemented in an area or time period particularly hard hit by unemployment. Inferior quality should not also mean unnutritional or indigestible.

In general, tacking on a targeted scheme to existing social welfare infrastructure can also minimize administrative costs. Many of the transfer programs reviewed by Grosh in PSP follow this principle. Public health clinics that the rich bypass can be used to provide additional benefits such as food stamps to those attending. School lunch and supplementary feeding programs in disadvantaged regions are another example. Attempts at targeting the poor through the public primary education or health care system will tend to be more effective when well developed private systems already serve the rich. This last point is brought out forcefully in the Malaysian health sector case where, while public sector reforms aimed towards investments in public goods and improvements in equity, the private sector grew both in quality and importance (Hammer and others PSP). Design can also improve political sustainability. For example by promising insurance to a wide set of people and by exploiting the external benefits to the nonpoor from reducing poverty as in the Maharashtra EGS situation discussed above.

Finally, some schemes successfully blend various design features, including reliance on a combination of targeting mechanisms, to enhance performance. For example, a food stamp program in Honduras bases eligibility on village of residence and being a child under age 5 or a pregnant/lactating woman (indicator targeting), and use of health services (self-targeting). The scheme piggybacks on existing

service delivery infrastructure (health posts) and provides an incentive for vulnerable groups to use primary health care. A number of additional interesting examples are presented by Atkinson (PSP) in the context of existing and past practice with respect to targeting family benefits in Western industrialized economies.

5. Conclusion

The case for government spending as a redistributive instrument will depend at least partly on what other instruments are available for this purpose. While developing countries tend to have quite limited opportunities for redistributive direct taxation, even when a country can implement an optimal nonlinear income tax, there can still be an important redistributive role for public spending (Boadway and Marchand 1995).

Public spending is a potentially powerful instrument for fighting poverty. How well does it perform in this capacity? How can it have greater impact on poverty? These are the broad questions with which this paper and the research project it reports on have been concerned.

We must first be clear on how performance is to be judged. Disparate assumptions about policy objectives are often at the root of disagreements and controversies in program assessments and recommendations. Agreeing on the relevance of the welfare objective is easier than reaching consensus on what precisely it should be—the gulf between welfarists and nonwelfarists and the camps within each paradigm may never be fully bridged. That need not derail assessments of public spending programs and efforts at reform. But it should alert us to the need for clarity in the underlying assumptions and attentiveness to how these may influence policy conclusions.

Evaluating a policy's impact requires assessing how different things would have been in its absence. However, the counterfactual of no intervention is tricky to quantify precisely. One approach—known as benefit incidence—ignores behavioral responses and second round effects, and simply

uses the cost of provision as a proxy for benefits received. Other methods focus entirely on the individual's valuation of the policy benefits allowing for responses to changes in the individual's budget set. Recent studies attempt to incorporate behavioral responses into incidence assessments. However, allowing for behavioral responses in policy analysis often requires that other assumptions be introduced. It would be premature at this time to assume that more complicated methodologies will necessarily result in better and/or essentially different policy advice.

The search for answers is also constrained by less than ideal data. In several areas known to be potentially critical to policy conclusions—such as dynamic issues in public spending incidence, and intrahousehold distribution—adequate data are only now starting to be collected. Economists have also tended to give scant attention to the macroeconomic, political economy and institutional environments. There is ample evidence that these influence spending decisions and outcomes.

Some reasonably robust conclusions have emerged from studies of public spending incidence, including some in PSP. Spending on *basic* services—notably primary and secondary education and basic health care—is found to reach the poor almost universally. The case for "broad targeting" by expanding the share of public spending on these services is well substantiated. Yet even here, care is required in monitoring that marginal investments are not lavished on increased quality for the better-off. Certain food subsidy and distribution schemes, social cash transfers (such as are common in the former Soviet Union countries and Eastern Europe), public employment schemes and other targeted transfer schemes have at times been quite pro-poor. However, many programs whose stated rationale is to reduce poverty, have instead been dismal and expensive failures. A popular reaction has been to clamor for reforms of public spending towards finer targeting of benefits to the poor.

Most public spending programs are to some degree "targeted." The key question is: what *degree* of targeting is optimal? Other things being equal, the more ways one discriminates between beneficiaries, the

greater the impact of targeting on poverty. However, other things are not equal. Fine targeting sometimes comes at a cost to the poor. Administrative costs may escalate, political support may vanish, and behavioral responses may create extra costs to targeted interventions. There is no simple answer to how much targeting is desirable, but there are some clear principles to guide choice, and some suggestive empirical evidence from past experience, including many of the studies reviewed here.

The optimal mix of targeted and universal programs in fighting poverty will depend on a number of factors, including the characteristics of the poor (who the poor are, how many there are, and why they are poor) and country specific circumstances (initial conditions, infrastructure development and administrative capabilities). When poverty is widespread and administrative capacities are low, broad targeting will be particularly desirable and results from incidence of public spending studies should help guide sectoral and intrasectoral allocations. In general, what is needed is a combination of universalism in certain categories of spending and finer targeting in others, such as in providing safety nets. Such a two-pronged approach is a sound starting point for policy design. In implementing it, one should, however, never confuse the ends and means of policy. Targeting should be seen as a potential instrument never as an objective in its own right.

Notes

1. The research done for the project was presented at a conference held in June 1992, then papers were revised for the book, Public Spending and the Poor: Theory and Evidence, edited by Dominique van de Walle and Kimberly Nead, to be published by The Johns Hopkins University Press.
2. For evaluations of the poverty impact of targeting correlates of poverty see Ravallion (1993), Ravallion and Sen (1994), and Datt and Ravallion (1993).
3. Note that from Alderman and Sahn's study, it is not clear how the released work time is allocated. One would have to first ascertain whether leisure has indeed increased. Whether the poor's leisure increases more so than the rich's would also be germane. Other issues arise. Parents may be devoting more time to their children, in which case there may also be important externalities to take account of.
4. The best known standard benefit incidence studies for developing countries are the early ones by Meerman (1979) for Malaysia and Selowsky (1979) for Colombia. Selden and Wasylenko (1992) review the literature.
5. For a review of results and a critique see Litvack and Bodart (1993).
6. A summary of incidence results for developed countries from existing studies is given in Selden and Wasylenko (1992).
7. Note that this is subject to the underlying welfare objective as discussed earlier.

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