POVERTY AND EXCLUSION

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1. Introduction

About one-quarter of the Indian population is estimated to be living in poverty. This essay explores the role of state programs in reducing poverty and also illustrates some of the biases inherent in using household consumption data to arrive at poverty estimates. Available evidence on the distribution household consumption of and public spending leads me to two main conclusions. First, that some types of spending can substantially raise household consumption and reduce poverty. Second, that the benefits from public programs are spread unevenly, both across and within regions, and these benefits are not well captured by measures of household consumption typically used to estimate poverty. As a result, there is likely to be some mis-classifiction of poor and non-poor households and regional differences in poverty may be larger than current estimates suggest. It appears, ironically, that the poor in India are often excluded from the benefits of state redistribution. In this sense, poverty and exclusion go together and an accurate assessment of poverty requires an understanding of the nature of this exclusion.

Historically, two types of public programs have been important in redistributing national income; direct transfers to the poor and the expansion of public services. Poor relief first became sizable in England and Europe in the late 18th century while public education began somewhat later and expanded fastest in the United States([3]). For countries that started to industrialize in the post-war period direct transfers were relatively unimportant and the bulk of public welfare spending took the form of an expansion in education, health and physical infrastructure. This continues to be true in poor countries today: The provision of public goods and price subsidies on essential commodities are central components of policies aimed at reducing poverty. In addition, there has been a growing interest in schemes which transfer assets and provide credit for self-employment to families who are neglected by formal credit institutions.

I begin with an overview of state redistributive programs in India. I examine the spatial distribution of public spending and the extent to which such spending has been directed towards the poor. At the regional level, I find a close and positive association between per capita domestic product and the benefits from public goods, services and transfers. Within

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regions, there appears to be very little targeting of state subsidies towards the poor. The next section considers the implications of these findings for poverty measurement and is followed brief concluding remarks.

2. State Redistributive Programs

2.1. **Food Subsidies.** The Public Distribution System (PDS) was the first nationwide transfer program introduced after Indian Independence. It began during the First Five Year Plan in the early fifties and was based on the rationing schemes put in place by the British government during the war. The system functioned primary to provide food security in the presence of fluctuating agricultural output and entitled all households to specified quantities of food grains and essential commodities at subsidized prices. It was not explicitly targeted towards the poor until 1997, at which stage a wedge was created between the prices paid by households listed as being below the poverty line and the others, with the poor paying prices that were about half the cost of provision and household above the poverty line paying close to cost prices. In December 2000 the *Antodaya Anna Yojana* (AAY) was introduced and the poorest 15% below the poverty line were targeted for further subsidies. Those covered under the AAY pay 2 and 3 rupees per kilogram of wheat and rice respectively, and each household is currently entitled to a maximum of 35 kilograms per month of each of these.

There have been several studies of the PDS which document differences in take-up rates and coverage across regions and households. There are two principal sources of data on the distribution of food grains through the PDS. The Department of Food and Public Distribution publishes administrative data on the prices and quantities of each commodity distributed through the system. Household data on the consumption of these commodities can be had from the National Sample Surveys (NSS) which cover over a hundred thousand households across the country every five years and separately record the consumption of items from PDS and non-PDS sources. The last NSS round before the introduction of the targeted PDS schemes was in 1993-94. The data for that year show many of the poorer states had very low rates of PDS participation and food subsidies through the system were generally higher in urban than in rural India . Bihar and Orissa were the two poorest states in that year, whether measured by poverty head counts or the poverty gap ratio and less than 5% of the households in these states bought foodgrains from the PDS. By contrast, in each of the four southern states, poverty rates were much lower and over 80% of households bought subsidized rice and wheat. Within almost all states, the program was not targeted towards poor households in that the value of food subsidies were increasing in household expenditure over a wide range of expenditure levels in the bottom half of the expenditure distribution([6]).

The fifty-fifth round of the National Sample Survey in 1999-2000 allows an evaluation of the effectiveness of the Targeted PDS introduced in 1997. The survey records commodity-wise quantities and values which can be used to calculate prices paid by each household. The data show very little variation in either participation rates or prices paid across consumption quartiles. Participation rates rise slowly and prices paid fall slightly with expenditure. About one-third of surveyed households purchased some rice or wheat from the system and the corresponding figure was 30% for those in the bottom expenditure quartile. This positive relationship between participation and consumer expenditure at the national level could, in principle, arise from a dysfunctional PDS in some of the poorest states. This however is only part of the story because even within several states, participation is flat or rising in household expenditure. Most households paid prices that were a little above Rs 5 per kilogram (for both wheat and rice) which is fairly close to the issue prices for families below the poverty line. Administrative records on prices charged to those above and below the poverty line suggest that many states used funds from other sources to subsidize purchases by households above the poverty line.[1]

There has not been a major NSS round after the Antodaya scheme for the *ultra poor* began in 2000. In the relatively small sample surveyed in the annual consumption survey in 2004, only 1.6% of all households and 3% of the bottom expenditure quartile paid prices for wheat and rice that are stipulated under the scheme. Given the overall size of the scheme, its proper assessment requires much larger samples yet these numbers suggest that its impact is still fairly marginal.

The overall picture with regard to food subsidies is one of substantial regional variation in outreach and very little targeting towards the poor within regions. Anecdotal evidence suggests that targeting may have improved under the AAY. Consumption data from the 61st NSS round (the first large round since the introduction of the scheme) will allow a more careful evaluation of this scheme.

Public Goods. Transfers by the Indian state in the form of increased access to public goods have been sizable relative to other spending programs, although overall levels of provision are still very low by international comparison.

The earliest reasonably systematic evidence on village-level access to public goods for the Indian states is available from the 1961 Census. More than four-fifths of the Indian population at that time lived in villages, yet village-access to public goods in most of rural India was severely limited. A little over 40% of Indian villages had primary schools, though many of these were constructed and managed by religious and other social organizations.

[1]State-level issue prices are available in a Monthly Bulletin published by the Department of Food and Public Distribution.

Only 1% had high schools, less than 2% had health centres, 3% had electricity connections and 8% had post-offices.[2]

In the first half of the seventies public good provision appeared, quite suddenly, in political speeches and policy documents. The Minimum Needs Plan introduced guidelines for rural access to clean water, schools and health facilities, electricity and roads. Within this broad agenda, states differed in their priorities and in the rates at which they increased overall provision. Primary schools mushroomed in all states and by 1991, over three-quarters of villages in most states had a local school. High schools expanded more gradually, but steadily throughout the 1961-2001 period. Rural electrification was most rapid in states with commercial agriculture (in Haryana and Punjab, coverage went from less than 10% of villages in 1961 to 100% by 1981) and piped water became widespread in the northern hill districts of Himachal Pradesh and what is now the state of Uttaranchal. Rural roads were relatively neglected until the 1990s, but expanded rapidly after that and by 2001 more than half of all Indian villages could be approached by a paved road. In contrast to the above changes, publicly funded health facilities have remained largely unavailable to the rural population. Primary Health Centres (the smallest facility with a trained doctor) were available in only 3% of Indian villages in 2001 and no state, other than Kerala, had coverage of more than 10%. The number of Primary Health Sub-centres (which house a trained nurse and provide immunizations) did increase substantially in South India and the 2001 census indicates that these has spread to about a third of all villages in the southern states.

The above discussion is not meant to suggest that the goods provided were of high or reliable quality- evidence on leaking school buildings, absent teachers and doctors, dry taps and irregular power supply is now plentiful. The new facilities did however represent substantial expenditures, mostly by the state, that in some cases at least, reached those without wealth or political power. These investments also appear to have influenced social outcomes. Infant mortality rates now are roughly half of what they were in 1971. The gap in literacy between males and females and urban and rural areas have both been shrinking (at an increasing rate) and school attendance rates reported by the most recent census for Scheduled Castes and Scheduled Tribes are very similar to those for the rest of the population. States such as Rajasthan and Andhra Pradesh that invested in education jumped from the bottom of the distribution of state literacy rates to the middle over the past thirty years. Even with large reporting errors and grossly inflated attendance rates, the trends in these outcomes are unmistakable.

An examination of the spatial distribution of public goods in 2001 shows that richer states had much better access, especially to those facilities that were relatively scarce at

[2]The figures on village amenities published in each census year are based on administrative records maintained by each state. In 1961, some states reported no data for certain facilities and most states reported nothing for several districts. So as not to overestimate access, the above computations include only districts which report positive numbers of amenities. To the extent that the missing values represent zeros, actual access is likely to have been even lower that these numbers suggest.

the national level. This relationship is often blurred by the case of Kerala which, over the past century at least, has consistently had the greatest access to educational and health facilities accompanied by an unremarkable economic performance. If we ignore Kerala, we find a positive and surprisingly systematic relationship between the the availability of social and physical infrastructure and state domestic product per capita. A single standard deviation change in per capita state domestic product is accompanied by a one-third increase in the proportion of villages with high schools and a 40% increase in village access to piped water and bus services.[3][4] In this descriptive sense, much of the variation in public good access between say, Bihar, Rajasthan and Punjab (represented the bottom, middle and top of the range of state domestic product) is "explained"by differences in incomes. These patterns are important for assessments on regional poverty differences as discussed in the next section.

Have these differences in public good access been important for recent reductions in poverty? Deaton and Dreze ([2]) present state level poverty estimates for poverty head counts and the poverty gap ratio based on the NSS consumption data. The surveys in 1987-88 and in 1999-2000 are closest to the census years of 1991 and 2001. Matched in this manner, we see that changes in the availability of some public goods over the 1991-2001 period are highly correlated with declines in measured poverty. In fact, once we control for the expansion of public goods, changes per capita state domestic product seem to have very little to do with changes in poverty. These numbers, though rough and preliminary suggest the absence of large *trickle-down* effects that did not operate through improved infrastructure.

Other Programs. There are a large number of other programs aimed at poverty reduction that have been introduced since the 1970s. Some of these, such as the Integrated Rural Development Program (IRDP) started in 1978, were designed to encourage self-employment among the poor by providing them assets, often in the form of livestock. The IRDP, together with other self-employment schemes that were subsequently introduced, have come together under the banner of the *Swarnajayanti Gram Swarozgar Yojana* (SGSY).[5] A major focus of the SGSY has been the promotion of small credit groups, known as *Self-Help Groups*. Non-government organizations are funded and encouraged to promote the formation of these groups and nationalized banks are directed to provide them credit for self-employment activities. Other programs include subsidized house construction under the *Indira Awas Yojana* and schemes which provide state funds to the unemployed for work on village infrastructure (the *Jawahar Rozgar Yojana* and more recently, the National Rural Employment Programme).

[3]In 2001, on average, 15% of a states' villages had high schools, 4% had senior secondary schools, about half had piped water and bus services.

[4]The state domestic product figures are for the 1999-2000 financial year and are taken from the Economic Survey, 2006.

[5]Chapter 3.2 of the Tenth Five Year Plan ([4]) summarizes budgetary allocations and institutional details of current poverty alleviation programs.

Budgetary allocations to these programs are sizable and have been rising. Little however is known about the composition of recipients and therefore on the extent to which these programs have been successful in reaching the poor. The limited evidence available suggests little or no targeting towards the poor. The 55th round of the NSS in 1999-2000 questions respondents on assistance received by them under the IRDP. About 5% of respondent households had received such assistance during the five years prior to the survey and, remarkably, we observe no difference in this proportion across household expenditure deciles.

Public sponsored micro-finance seems to have had better success in reaching the poor although destitute households do not appear to participate in the self-help groups that are now significant actors in rural credit markets ([5]). The success of these institutions relative to other government subsidies probably owes much to the fact that a sizable fraction of public funds are routed through energetic and competent non-government organizations and state funds complement those given by external donor agencies who also independently monitor this sector.

3. Implications for Poverty Measurement

Poverty estimates for India are based on the value of monthly per capita consumption expenditure obtained from the consumption surveys described above. Official poverty lines are defined in terms of a threshold level of monthly per capita consumption expenditure that was linked to food adequacy in the early seventies. Since then, poverty lines are updated based on changes in the general price level and, since prices vary across states and urban and rural areas, so do poverty lines.

How might benefits from public programs reflected in poverty estimates? Direct income transfers are likely to be reflected quite well in household consumption expenditure because they do not directly influence relative prices. Food subsidies are a different matter. Households with the same consumption expenditure would have different levels of real consumption based on whether or not they were receiving food subsidies through the PDS. This has implications for estimating regional differences in poverty and for the listing of poor households within regions. Households in states with a well-managed public distribution system would, on average, pay lower average prices for food. If we adjust the state-level poverty line to incorporate this lower average price level, we are more likely to mis-classify poor households as non-poor if they do not have access to state subsidies. So, paradoxically, errors in household listings could be larger in areas with higher coverage if the subsidies in question are not well-targeted.

One possible solution would be to create a set of price indices based on actual prices paid by households. We could estimate prices for each good as a function of household characteristics (state of residence, land possessed, household demographics and any other

relevant characteristics) and then construct household-specific price indices as functions of these predicted prices. The real consumption expenditure for a household would then be obtained by deflating observed expenditure by the index appropriate to that household. This procedure would, for example, use different price indices within regions for groups that are favored by the state and those that are not. Poverty measures could then be based on the deflated consumption data obtained in this manner.

The procedure described above would work quite well for commodities and services which are consumed in well-defined units of reasonably uniform quality. In such cases consumption survey data reports both values and quantities consumed and the implicit prices are easy to interpret. Unfortunately, this is not the case with expenditures on education, health, transport and many other expenditure categories for which consumption units are not standard and surveys record only total expenditures. In such cases, useful adjustments to consumption data cannot be done without information on the types of services to which each household has access. In this sense, it is relatively difficult to arrive at accurate measures of real household consumption when there is variable access to public goods.

4. Conclusions

This essay has outlined the major types of interventions used by the Indian state to alleviate poverty. The public spending programs described are found to vary enormously in their coverage and average effectiveness across states and have, in general, performed badly in terms of targeting poor households. The previous section considered some implications of these findings for the measurement of poverty differences across regions and for the proper identification of poor households. Of these, I believe that the mis-classification of poor households is by far, the more serious issue. Most consumers of poverty data are aware that differences in governance and the availability of public goods across the Indian states must be kept in mind when comparing differences in private consumption. In contrast, Indian policy makers are increasingly restricting the availability of public benefits to households they place *below the poverty line*. Inaccurate lists of such households can compound the targeting problems that have historically plagued poverty-alleviation efforts. A careful characterization of the poor needs much more attention than it has so far received.

References

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