

Poverty Estimates: How Great Is the Debate?

The Great Indian Poverty Debate

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The Great Indian Poverty Debate edited by Angus Deaton and Valerie Kozel, brings together a number of papers concerning the debate on the trend of poverty in India since the market-oriented economic liberalisation which began in 1991. The majority of the papers included in the volume were first presented at a workshop organised by India's Planning Commission and the World Bank, and subsequently published in this journal. The debate on Indian poverty estimates has garnered worldwide interest, both because of the importance of India's poverty estimates to determining the extent and trend of poverty in the world as a whole and because the methodological issues which have arisen in the debate are laden with implications for other countries.¹ The lengthy and variegated volume, containing contributions from many distinguished scholars from within the country and around the world, provides a remarkable testament to India's perhaps uniquely strong tradition of economic and statistical research related to poverty and to, in many respects, the impressive sophistication and reach of the country's official statistical apparatus. On the other hand, it stands as shocking evidence of the extent of confusion that has been sewn in every quarter, including the most exalted, by lack of clarity over basic concepts, in particular concerning who is to be identified as poor and for what reasons.

The Great Indian Poverty Debate provides a thorough survey of the major issues that have been raised in the recent debate on Indian consumption poverty

estimates, with some notable exceptions which will be mentioned below. In doing so, it provides a signal service to scholars, officials and citizens who have not previously been initiated into this recondite debate, as well as to those whose professional obligations require them better to understand it. It can be heartily recommended to any reader from this point of view, and there is at present no substitute. Among the important issues that are addressed in the volume, and which have been central to the debate, are the appropriate manner in which to resolve conflicts (concerning in particular estimated household consumption levels) between the national accounts data and National Sample Survey data, the appropriate choice of recall period in surveys concerning household consumption, the appropriate choice of initial poverty line, and the appropriate means for adjusting that poverty line to take note of variations in purchasing power over space and over time (so as to maintain its substantive invariance).

Amartya Sen pointed out many years ago that the task of poverty assessment can be decomposed into two components, respectively of identification (determining who is to be deemed poor and to what extent) and aggregation (forming a composite judgment concerning the extent of poverty in the society). It is self evident that the criteria employed in identifying the poor must, at an appropriate level of abstraction, be applied uniformly across persons in order for comparisons between persons (whether they live in the same place and time or in different places and times) to have meaning. Happily, this unexceptionable principle appears to have been accepted as such by influential parties to the present debate (especially the members of the Planning Commission's 1993 Expert Group on Estimation of Proportion and Number of Poor).² Unfortunately, there is less agreement on the criteria uniformly to be applied. Much of the recent debate can be understood as

concerning *which* criteria ought to be applied to identify the poor. Differences concerning the approach to aggregation have not figured centrally in the recent controversies.

The task of identification can in turn be seen as consisting of two component parts, each of which has been the subject of much controversy in the recent Indian debate, as highlighted in the volume. These involve respectively the choice of the conceptual criteria and of the empirical criteria for identification. For example, in the assessment of income or consumption poverty the identification criteria typically consist of the delineation of a poverty line (or lines) and of a particular method of empirically estimating the income or consumption of individuals to be compared to the invariant poverty line (or lines). The conceptual and empirical criteria entering into *each* of these tasks have been the subject of independent controversies. The most important of these controversies may be summarised as follows.

Delineation of Poverty Line

The official poverty line employed in India (defined by the Planning Commission's 1979 'Task Force on Projections of Minimum Needs and Effective Consumption Demand') has been based on the consumer expenditure of the particular section of the surveyed all-India population in that time period which consumed foods possessing a calorie content equivalent to a selected calorific norm (2,400 kcal per day in rural areas and 2,100 kcal per day in urban areas). The calorific norms were weighted averages based on the prevailing age-sex-occupational structure of the rural and urban populations projected forward to 1982-83 and calorie allowances previously identified for each of these age-sex-occupational groups.³ Allowances for non-food expenditures of the rural and urban sub-populations were thus provided implicitly in this method.

The 1993 expert group endorsed this approach to the construction of national rural and urban poverty lines, while recommending procedures for the construction of retrospective state-specific poverty lines that could be deemed equivalent to these national poverty lines in the base year (1973-74), and for the updating of these state-specific poverty lines over time (through the use of state-specific price indices based on the Consumer Price Index for Agricultural Labourers for the rural poverty line, and on a weighted average of the Consumer Price Index for Industrial Workers and of the Consumer Price Index for non-Manual Employees for the urban poverty line). As a reason for its endorsement of the existing approach the expert group argued that “some degree of arbitrariness is inherent in the choice of any base year” and stated that since “much systematic work has already been done with the base year 1973-74, the group is in favour of continuing it as a base year for estimating the poverty line”.

How satisfactory is this approach, which has been widely accepted (inter alia by many of the contributors to the volume)?

In particular, does this approach specify a set of poverty lines which are simultaneously meaningful and invariant over time and space in an appropriate sense?

If one does not take a reverential attitude to the prior official efforts, as has widely been done, numerous questions immediately arise. Some of these are of a garden variety (although no less important for that) and apply to conventional efforts to estimate consumption or income poverty anywhere in the world. Others are more specific to the Indian case. Putting aside the garden-variety concerns (involving such mundane matters as the methods used to determine the requirements of individuals in each sector) let us focus on a problem at the heart of the current debate, which is astonishingly almost wholly neglected in the Deaton and Kozel volume. This problem has been the focus of many of the recent critically minded interventions in this debate, such as by Palmer-Jones and Sen, U Patnaik and S Subramanian (building inter alia, on earlier work by Meenakshi and Vishwanathan, Mehta and Venkatraman, Nayyar, Panda, and Rath and Suryanarayana; all cited in Subramanian).

The poverty line chosen in earlier official efforts was chosen on the ground that in a particular base year (1973-74) it possessed a specific relation to the *actual achievements* of human beings as conceived in a particular way (namely, in terms of calorific adequacy, as judged by the Planning Commission’s Task Force). It is important to note that the Task Force did not take the view that “any choice is more or less arbitrary” (as claimed for instance in the contribution to the volume by Deaton and Tarozzi, p 400) but rather went to very considerable pains to provide a rationalisable basis for the poverty lines selected. The appropriateness of the calorific standard for human achievement ought certainly to be debated, and has been. Indeed, it will be sceptically examined below. However, that it provides one such standard is evident, and that it was identified by Indian planners as being of some importance is a matter of historical record. Let us now contrast the following two approaches to the setting of a poverty line: (1) Apply as the poverty line in a specific time period, t , the consumer expenditure of the particular section of the surveyed

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population in that same time period which consumed foods possessing a calorie content equivalent to a selected calorific norm. Refer to the resulting poverty line as $z(t)$. (2) Apply as the poverty line in a specific time period, t , a previously identified poverty line, $z(0)$, updated (if necessary) in accordance with a specified price index, I_t . Refer to the resulting poverty line as $z'(t)$, where $z'(t) = z(0)I_t$.

The first approach maintains a substantive human achievement interpretation for the poverty line in each period of time, t , by construction. The second approach relies on a retrospective human achievement interpretation for the poverty line, although it can be claimed that this interpretation maintains relevance if it is believed that the price index maintains real purchasing power appropriately. U Patnaik's description of the first approach to poverty assessment as the "direct approach" and to the second approach as the "indirect approach" is thus appropriate.

These two approaches to the setting of a poverty line necessarily coincide in the base year (1973-74) as in that year there is no need to update the poverty line (i.e., $I_t = 1$ by definition). What of subsequent years? If the price index, I_t , is constructed so as to take on a specific value (namely, as $I_t = z(t)/z(0)$) then the equivalence can be guaranteed, but it cannot otherwise. Thus, poverty lines constructed in accordance with the two methods may diverge, perhaps substantially. This is exactly what has happened in India. The official poverty lines that have been applied correspond to the indirect approach. However, poverty lines constructed in accordance with the direct approach are much higher than those constructed through the official indirect approach, and have become increasingly so over time. Since the very motivation for the choice of the original poverty line, $z(0)$ – which plays a crucial role even in the indirect approach – is the substantive human achievement interpretation that it possesses, it is difficult to dismiss this non-equivalence as being of no importance.

The impossibility of applying the original human achievement interpretation to the poverty lines constructed according to the indirect method appears to present a serious embarrassment. The basic problem with the indirect approach to poverty assessment is that the seemingly inoffensive concept of fixing the base year in which the poverty line is defined and subsequently "updating" it masks the fact that it cannot be known what the appropriate

price index to apply in the updating exercise is without first ensuring that the poverty line for the more recent year possesses the substantive interpretation that it is meant to have.

Can a case nevertheless be presented for the use of the indirect method? It has been pointed out (in particular by Subramanian (2005)) that the rate of increase of the all-India wholesale price of cereals has been generally higher than has the rate of increase of the rural poverty line been updated according to the officially prescribed method. However, this consideration is not decisive, even in relation to nutritional achievements alone, since calorie intake (the achievement of focal concern for earlier policy-makers) can be achieved in diverse ways. It has been pointed out (by Meenakshi and Viswanathan in the volume under review, *inter alia*) that in the recent period "the contribution of milk, edible oils and processed foods to total calories has increased", even among poorer persons. On the other hand, total calorie intake at the official poverty line (constructed according to the indirect method) has decreased. Mehta and Venkatraman report that (at least between 1973-74 and 1993-94 and very possibly subsequently) although the share of expenditure attributable to edible oils, vegetables, meats, fish, eggs, etc., increased substantially, due to increases in the prices of these products real consumption appears to have increased negligibly. The picture is, however, rather complicated. Sen (2005) notes contrarily that "the per capita consumption of fats in the country has increased by more than 50 per cent between 1972-73 and 1999-2000 and this growth has accelerated in recent years".

Nutritional Equivalence?

It cannot be assumed in the absence of careful study (which does not appear as yet to have taken place) that the decrease in the quantity of calories consumed by poorer persons is exactly nutritionally compensated by an improvement in the diversity and attendant quality of diet. Such judgments of nutritional equivalence require the application of appropriate expertise and – however desirable they would be if systematically undertaken – appear rather ad hoc, since they have not figured in the past narrowly food-energy-centric approach of Indian planners. The point is not that calorie adequacy is a sufficient means of generating nutritional adequacy (which it

surely is not) but rather that nutritional adequacy cannot be judged without a comprehensive approach, which must moreover be applied consistently over time in order to generate poverty estimates that sustain meaningful comparisons.

Although cheap sources of calories are certainly available in India today, sufficient for the official poverty lines to suffice to achieve the previously established calorific norms (as noted by Sen (2005)) this observation is neither here nor there, since the official poverty lines presupposed a particular diversified food consumption pattern (that of the section of the population with food energy intake corresponding to the calorie norms in the base year). Wholly inductive approaches to establishing the food consumption pattern to be presupposed and to be subjected to scalar multiplication in order to achieve the calorie norms take the *actual* consumption pattern of some section of the population as decisive. The official approach to the construction of poverty lines in India has been of this type, as have been those proposed by recent contributors to the debate such as Lancaster and Ray (2005) and Sen (2005). Such wholly inductive approaches are ultimately conceptually unsatisfactory for a range of reasons.

The food consumption pattern of any specific section of the population may reflect economic duress as well as tastes or prices. Further, changes in the focal population's food consumption pattern can result from increases or decreases in real income as well as from temporal variations in tastes or prices severely complicating the interpretation of poverty lines constructed at different times with reference to the "same" focal population (as pointed out by defenders of the prevailing indirect approach to the setting of the Indian poverty lines).⁴ If no non-inductive criterion whatever is applied to judge the appropriateness of the consumption pattern assumed to be required to attain the nutritional (or non-nutritional) norms, then there is simply no way to avoid these difficulties. Hence, the direct approach to the establishment of the poverty line in India is rather unsatisfactory, as is the indirect approach, and those who privilege the former as providing the "correct" estimates of poverty in India should also be questioned. The exercise of poverty assessment ultimately involves evaluative judgments, although these must be appropriately informed by empirical facts. To mechanically privilege the latter over the

former – as is systematically done in the wholly inductive approach to poverty line construction – is however, to court disaster. A more justifiable approach must synthesise evaluative judgments and empirical evidence concerning preferences and opportunities carefully.

The crisis of interpretation is compounded by the widespread recognition that in many areas of the country there has been an increasing need to purchase on the market commodities which had previously been available free of charge through access to (now increasingly depleted) common property resources, such as firewood. The possibility that poorer Indians are now better off cannot and should not be discounted, but neither can it be assumed! The absence of an unchanging yardstick makes nonsense of the exercise of measurement. A systematic approach to the monitoring of poverty across space and time must aim at applying a yardstick which possesses an invariant meaning, although it may be applied in a manner which is appropriately contextually sensitive. If such a meaning today exists for the official Indian poverty line, it is difficult to say what it is.

It is evident that to speak of the “updating” or the “correction” of the official poverty line so as to account for “errors” in it, as is frequently done in the contributions to the volume and in the debate more generally, while simultaneously endorsing the indirect approach, is to be contradictory and obscurantist. The concepts of error or correction can only be made intelligible if there is a prior conception of what it is for the exercise to be error free. The direct method of poverty assessment as it has been understood in the recent Indian debate possesses, as we have noted, its own serious difficulties. However, we shall argue below that a different and more comprehensive version of the method would prove attractive and justifiable.

Adjustments

An issue that has been of central concern in the recent debate and is given substantial attention in the volume is that of whether estimates of household per capita consumption deriving from the national sample survey should be “corrected” to take account of the fact that estimates of average

private consumption deriving from the national accounts data are substantially higher. The contributions to the volume quite rightly dismiss this suggestion. As painstakingly argued by diverse contributors, there are a range of reasons that national accounts data are unlikely to provide an appropriate guide to the level of consumption of poorer persons in India. Much of the growth in national accounts-based consumption estimates in recent years appears to be driven by forms of consumption that are disproportionately undertaken by relatively well-off persons. Additionally, much of what is classified as consumption in the national accounts is not consumption at all in the sense that the concept is defined in the NSS, and (crucially) in relation to which the official poverty line was originally established. It would thus be quite inappropriate to use national accounts-based consumption estimates in poverty assessment. To do so would amount to measuring the height of persons with their platform shoes and top hats on, and concluding that they have grown. The point is not merely that there is little reason to believe that the mean

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private consumption of households near or below the poverty line is not systematically understated by surveys (although that is true). It is rather that the yardstick used to assess poverty is one arrived at on the basis of survey-based estimates of consumption rather than national accounts-based estimates.

It is not necessary for us to repeat here the diverse arguments that have been ably presented in this regard, in this volume and elsewhere. It is interesting to note that the 1993 expert group already clearly affirmed in 1993 that the procedure, that had been undertaken in the past by the Planning Commission, of “adjusting” the “frequency distribution derived from the NSS for the discrepancy between the NSS and the national accounts-based estimates put out by CSO of the aggregate consumption expenditure” was not acceptable and that “it is better to rely exclusively on the NSS for estimating the poverty ratio”.⁵ This resounding declaration has been conveniently ignored by the enthusiasts of such adjustments, who appear keen to demonstrate a more rapid reduction in the number of the poor in India than reason and evidence would sustain.

Recall Period

The confusion sewn by the change of recall period in the 55th round (1999-2000) of the NSS for select commodities – from the traditional 30-day period to either a 365-day period (for low-frequency expenditure items such as durables, footwear, clothing, education and institutional medical expenses) or for both a seven-day and a 30-day recall period (for high-frequency expenditure items such as food, paan and tobacco) – has been the cause of an enormous amount of spilled ink. The various, sometimes ingenious, adjustments that have been proposed to achieve comparability between the resulting consumption estimates and those deriving from previous rounds (such as those suggested by Deaton and Dreze, Himanshu and Sen, Tarozzi, and Sundaram and Tendulkar) are well surveyed in the papers included in the volume. The premises underlying the different adjustments that have been made (well-described in the introduction by Deaton and Kozel) are numerous, and their respective plausibility is not straightforward to assess.

It is interesting to note that this controversy highlights the great importance of concerns which presently preoccupy

metropolitan economists under the heading of “behavioural economics”. The recent Indian experience demonstrates that it cannot be assumed that individual respondents will give an internally consistent picture of their consumption over distinct time periods, nor that their self-reports concerning consumption will be monotonically distorted in the sense that a shorter recall period (or conversely, a longer one) will always entail a more accurate report. It cannot also be assumed that “independence of irrelevant alternatives” will be maintained and that the asking of questions side-by-side will not “contaminate” the answers to any one of the questions asked. Deaton and Kozel report the work of the “working group on non-sampling errors” which found that when seven-day estimates, 30-day estimates, and a “gold standard” based on daily visits accompanied by direct measurement were compared in a randomised trial, the seven-day estimates were on average 23 per cent higher than the 30-day estimates, but that the 30-day estimates were “for many important commodities” more accurate than the seven-day estimates (p 9). This evidence certainly generates cause for concern, although it has at most indirect relevance to the case in which different recall periods are applied side-by-side in a single questionnaire. At the heart of the present confusions is the reality that respondents do not behave like fully “rational” automatons. Rather, their responses suggest dispositions among the surveyed toward cognitive, interpretative or communicative approximations or distortions. There can be no purely theoretical way of correcting for these approximations or distortions. Any such corrections must proceed on the basis of careful empirical observations.

It is important to note once again that the 1993 expert group established its original poverty lines on the basis of the “traditional” 30-day recall period. Any change to the recall period employed therefore risks not only incomparability of the consumption estimates generated in different years, but – as has not been perhaps adequately observed – incompatibility between the resulting consumption estimates and the conceptual basis of the previously established poverty lines.

Conclusions

The development of a more credible system for the monitoring of consumption poverty than currently exists in India should

begin with clearer conceptual foundations for the poverty line, while fully recognising the importance of non-income information in the assessment of the profile of well-being and deprivation in India. The aim should be to develop an underlying conceptual foundation for the poverty line which can permit it to possess a meaningful interpretation that is invariant across space and time (while allowing for appropriate contextual variation). The starting point for this exercise must be the recognition that consumption (or income) poverty is the failure to possess elementary capabilities as a direct result of inadequate command over resources. The poverty line must thus be conceived as that level of money corresponding to command over the resources that would ordinarily suffice for a person to possess the most salient consumption-dependent elementary capabilities. Following Amartya Sen, we may think of such non-deprivation as a concept that is “absolute in the space of capabilities and relative in the space of commodities”. For instance, the possession of sufficient command over resources to achieve the elementary capability of adequate nourishment may be deemed to require command over wheat in Punjab and over rice in Kerala, if we choose to defer to some degree to cultural differences. Differences in relative prices, biological requirements, environmental circumstances and other pertinent conditions may also, as feasible and appropriate, be permitted to play a role in the identification of the commodities that best promote the focal capabilities. This approach is based on a view of the appropriate poverty line (and its variation over time and space) as being non-arbitrary, and rather connected to the requirements of avoiding real deprivations.

The consumption-dependent elementary capabilities that ought to be included in the underlying conceptual foundation may be viewed more or less expansively depending on the judgments of the evaluators and the outcome of preceding public consultations and deliberations. The elementary capability of being adequately nourished is sure to be among those that enter this conceptual foundation. Other capabilities, such as the ability to be adequately sheltered from the elements, or the ability to appear in public without shame may be the subject of greater controversy, and attention to these can be deferred or limited if that is thought appropriate. Multiple poverty lines can be


constructed if it is desired, to reflect more and less expansive conceptions of the relevant elementary capabilities.

The practical translation of a capability-based perspective into poverty lines will require a careful consultative and deliberative process, drawing on evaluative judgments and on empirical information. The poverty lines thus established ought to be revisited from time to time in each state in accordance with the first principles already established, so as to maintain an invariant ultimate interpretation. The resulting poverty lines will, by construction, incorporate appropriate forms of contextual variation while possessing a meaningful and common substantive interpretation (in terms of the costs of achieving the real requirements of human beings). This approach is, in principle, no different from that which was already undertaken by the Planning Commission in the construction of a poverty line for the base year of 1973-74, with the exceptions that it is conceptually more comprehensive (since the approach need not focus – as the Planning Commission has exceedingly narrowly done – on food energy requirements alone) and that it demands more consistent application (since it requires direct and ongoing assessment of whether the poverty lines that are applied correspond to the cost of achieving the specified elementary human capabilities, and does not confine this exercise to the “base year”). A periodic comprehensive assessment of the costs of achieving a consistent set of basic human requirements in each state (or smaller area) and year is what is required.

An approach of this type has been proposed for the international context, in which there is at present a similar crisis of interpretation of existing poverty estimates [see e.g., Pogge and Reddy 2006; Reddy and Pogge forthcoming and Reddy, Visaria and Asali 2006]. It would be fitting that India, which has played a pioneering role in the development of past methodologies of poverty assessment for the developing world, should play a similar role in the development of a capability-based approach to poverty assessment.

It is noteworthy that the 1993 expert group called for the periodic publication of a “State of Poverty” report employing standardised concepts and highlighting “as far as possible, the conditions of the bottom 30 per cent of the population in the country and the nature and magnitude of changes in their conditions over time and

across states” (para 5.4, p 44).⁶ They did not go the further step, which they ought to have done, of recognising that the assessments of consumption poverty in such a report could only be meaningful if they were produced on the basis of a periodic reevaluation of the real costs for the populations concerned of attaining a well-defined level of elementary capability achievement. Such assessments must of course be complemented by an appropriate examination of the non-income achievements (or non-achievements) of the groups and individuals concerned as these may be significantly determined by factors other than income.⁷

Subramanian (2005) quite rightly notes in relation to the current confusion concerning poverty estimates for India that we are now precisely in the situation that the poet William Empson wished to avoid when he said that “you don’t want madhouse and the whole thing there”. Empson also noted that “it seems unpleasantly refined to put things off till someone knows”. The development of more credible estimates of poverty in India than now exist cannot be a substitute for other forms of action, but it is necessary to guide them. It is an activity that deserves some priority. 

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Notes

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- 1 On the important role played by the extent and trend of poverty in India in determining the extent and trend of poverty in the world, see for instance Reddy and Minoiu (2006).
- 2 See, e.g., paragraphs 3.18 and 4.7 of the committee’s report.
- 3 As noted by the 1993 Expert Committee and the 1979 Task Force, there is of course a prior history of official and academic work on the definition of a poverty line – most notably by a Working Group of eminent social scientists formed by the Planning Commission in 1962, and by Bardhan, Dandekar and Rath and Rudra.
- 4 Indeed, the “population” will not generally be the same in any sense other than the most formal.
- 5 See recommendation 9, p 37.
- 6 This recommendation, which has not been implemented, echoes that of the eminent British economist A B Atkinson who called for Britain to produce at regular intervals an “official poverty report” so as to increase

the public salience of poverty estimates. See Atkinson (1996).

- 7 See, e.g., Swaminathan (1995).

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