The Poverty Line: Getting It Wrong Again

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There has been an upsurge of public discussion on a number of inter-related issues revolving around official assessments of poverty, the linking of welfare entitlements to poverty status, the reasonableness of officially stipulated money-metric poverty lines, the relative virtues of universalisation and targeting of welfare benefits, and the fiscal sustainability of increased public spending in the cause of poverty redress. The present essay offers a very brief evaluation of the methodology of poverty identification advanced by an Expert Group of the Planning Commission in 1993, and undertakes more elaborately what is essentially a critical assessment of the 2009 Tendulkar Committee’s approach to specification of the poverty line.

1 Background

India’s poverty line has been in the news once more, following on an affidavit filed by the Planning Commission in response to certain clarifications sought by the Supreme Court. The Court’s reservation about the adequacy, at today’s prices, of the Tendulkar Committee’s rural and urban poverty lines for 2004-05 at 2004-05 prices has been sought to be addressed in the affidavit by simply “updating” the 2004-05 poverty lines to 2011 via the Consumer Price Index of Agricultural Labourers for the rural areas of the country, and the Consumer Price Index of Industrial Workers for the urban areas. This is the procedure by which the rural and urban poverty lines of, respectively, Rs 26 per person per day and Rs 32 per person per day have been arrived at. Additionally, and citing the Tendulkar Committee Report, the Planning Commission affidavit upholds the adequacy of these poverty lines. Paragraph 5 of the affidavit states: “The recommended poverty lines ensure the adequacy of actual private expenditure per capita near the poverty lines on food, education and health and the actual calories consumed are close to the revised calorie intake norm for urban areas and higher than the norm in rural areas”.

In the wake of the public outcry against these poverty norms, and in particular the opposition to linking welfare (especially food) entitlements to poverty caps derived from the headcount ratios of the population living below the rural and urban poverty lines stated above, it has been clarified by the Planning Commission that these lines will not be employed to cap entitlements. One hopes the clarification is seriously and sincerely intended. If it is, then at least one incentive for understating poverty through understated poverty lines would be eliminated. (It is instructive, in this regard, to recall that even the Tendulkar Committee’s estimates were assessed as being too high for one specific welfare intervention on behalf of the poor, as reflected in the prime minister’s expressed reservation, in 2010, over the Supreme Court’s directive on free distribution of foodgrains to the poor: in his reckoning, it was unrealistic to expect that foodgrains could be delivered free to as many as 37% of the Indian population – which, precisely, is the Tendulkar Committee’s estimate of the national headcount ratio of poverty in 2004-05.)

If the declared determination to disassociate welfare entitlements from poverty caps should afford a reprieve to the overriding concern of confining poverty estimates to “manageable” magnitudes and trends, then this could pave the way for a somewhat more relaxed and rational consideration of the principles by which a money-metric poverty line might be derived. An important guiding principle in this regard is the elementary requirement of an unvarying poverty standard to be employed in poverty comparisons across space or over time. “Resourcist” approaches to specifying a money-metric poverty line have generally tended to identify this unvarying poverty standard in some given level of “real income” (that is, income corrected only for variations in price levels), or in some given basket of commodities (to be valued at the prices that are relevant for the context under examination). “Capability-based” approaches, on the other hand, seek invariance of the poverty standard in some identified set of absolute capabilities, seen as being reflected in the achievement of a set of corresponding functionings, such as, for example, freedom from hunger, illiteracy and ill-health: the poverty line is then the total cost of achieving these functionings.

Viewing poverty as a capability deprivation is compatible with drawing a money-metric poverty line which is not unique across individuals or contexts/environments. Specifically, personal heterogeneities can be reflected in variations across individuals in the ability to convert resources into functionings: disabled individuals or lactating mothers, for example, would typically require more resources than others...
to achieve some given combination of “minimally satisfactory” functionings. Similarly, variations across contexts and environments could also call forth variable resources to address the requirements of a given set of functionings: people living in cold climates would require more clothing than those living in temperate climates to be adequately protected, for instance, just as people exposed to the risk of gastrointestinal infection may require more nutritional input than others to achieve a given level of nutritional adequacy. This is the basis for Amartya Sen’s (1983) well-known observation to the effect that poverty postulated in an absolute sense in the space of functionings is compatible with relative, or variable, real incomes or commodity bundles or resources in general that are required to achieve these functionings. The reader is referred to Sanjay Reddy (2004) for a lucid explication of the principles underlying the capability-based approach to specifying a money-metric poverty line, and of the conceptual soundness of seeking invariance of the poverty standard in the space of functionings rather than in that of real incomes or commodity bundles.

Official approaches to the specification of a poverty line for India have unfortunately not been inspired by any easily discernible conceptual clarity underlying the identification exercise. In particular, it is hard to confer any meaningful interpretation of the official poverty lines – whether we speak of the lines derived from a methodology advanced by a 1993 Expert Group appointed by the Planning Commission or of the lines implied by the methodology advanced by the recent Tendulkar Committee – as actually constituting the amount of income that would be required in order to achieve a set of basic pre-specified human functionings needed for escaping the condition of deprivation.

In this brief critique, I shall concentrate on aspects of the Tendulkar Committee’s Report, which has served as the basis for the controversial poverty lines mentioned in the Planning Commission’s affidavit. As a preliminary, I present a very short discussion of the 1993 Expert Group’s methodology, the perceived inadequacies of which, presumably, led to the setting up of the Tendulkar Committee.

2 The 1993 Methodology

The Expert Group appointed by the Planning Commission endorsed, in a Report submitted in 1993, a methodology that had earlier been advanced by a task force in 1979. The approach consisted in deriving a “poverty line consumption bundle” as the one revealed by National Sample Survey data on the distribution of both consumption expenditure and calorie intake across expenditure size-classes, as corresponding to that level of expenditure at which a pre-determined calorific norm (2,400 kilocalories per person per day for the rural areas of the country and 2,100 kilocalories for the urban areas) was observed to be achieved in 1973-74. The poverty line in other years was, effectively, taken to be simply the expenditure level yielded by the “reference year (1973-74)” commodity bundle valued at current prices.

It is, naturally, difficult to comprehend why 1973-74 – or, indeed, any other particular year – should be accorded the privileged status of a “reference year” by (implicitly) imbuing the pattern of consumption expenditure that obtained in that year with some special normative significance. As it happens, if we employ the 1973-74 poverty line consumption bundle as the unvarying standard for poverty comparisons, and proceed to obtain the poverty lines in subsequent years by simply revaluing the reference year commodity bundles at current prices, then we obtain a pleasing trend of declining headcount ratios over the period 1973-74 to 2004-05.

Elementary demand theory – see Subramanian (2005) – suggests that, under plausible conditions relating to the relative rates of price increases in food and non-food items, changes in preferences in favour of non-food, and the dwindling free availability of common property resources (such as fuel for firewood), the declining poverty trend mentioned earlier must be an inbuilt and logically inevitable feature of the Planning Commission methodology – as, indeed, would be a drift over time of actual calorific intake at the poverty line from the original calorific norm one started out with. (For important critiques of the Planning Commission methodology, the reader is also referred to Ray and Lancaster (2005) and Patnaik (2007).)

Indeed, it can be shown that if we were to progressively move the reference year forward from 1973-74 (to 1977-78, 1983, 1987-88, 1993-94, 1998-99, and 2004-05, which are the years for which official consumption expenditure surveys are available), then while the declining trend obtained from treating 1973-74 as the reference year is preserved, the magnitudes of the poverty rate keep increasing. One can go further and ask: if any one year may be treated as a reference year, what is the logical bar on treating each year as a reference year?

Utsa Patnaik (2007) resorted to just such a procedure, and presented, on the basis of this approach, an increasing trend in India’s rural poverty!

As Sanjay Reddy (2007) points out, none of these wholly inductive approaches to determining the poverty line has anything to commend it. It is, of course, possible to advance the case for a normative poverty line commodity bundle which is not based entirely on any particular year’s pattern of consumption expenditure – but then it is still not clear why one must also demand invariance of that bundle over time or across space.Conceptually, it would appear – and this takes us back to the discussion in the introductory section of this essay – that what is dictated is invariance of the poverty standard in the functionings space. Briefly, the possibility of initiating appropriate anti-poverty policy on the basis of approaches to poverty identification such as those subsumed in the 1993 Expert Group’s methodology is poorly served by the unreliable diagnostics – in relation to magnitudes and trends of a substantively meaningful conception of poverty – yielded by these approaches. Much was therefore expected of the Expert Group to Review the Methodology for Estimation of Poverty which was appointed in December 2005, under the Chairmanship of Suresh Tendulkar. The Report of the Tendulkar Committee was submitted in November 2009 (Planning Commission 2009). It is this Report that will be the principal concern of the rest of this essay.

3 Some Aspects of the Tendulkar Committee’s Report

The present discussion of the 2009 Expert Group’s recommendations will be confined to the identification aspect of the
methodology. That is, the innovations relating to price indices employed to express the poverty lines at “constant prices”, both across space and over time, will not be taken up for discussion. Similarly, I will not discuss here the recommendations made in respect of the appropriate recall period to be selected in employing the National Sample Survey Office’s (NSSO) consumption expenditure estimates. These issues, properly speaking, do not fall within the purview of the basic principles that (should) govern the specification of a money-metric poverty line.

If one takes the identification issue to constitute the heart of the problem ofconceptualising money-metric poverty, then it is hard to escape the conclusion that the 2009 Expert Group’s recommendation in this regard is quite disappointing. This is the more so when one considers the principal motivation for the group’s work, as it has been set out in the Report itself (Planning Commission 2009: 1): “There has been a growing concern on the official estimates of poverty released by the Planning Commission. The official poverty estimates have been severely criticised on various counts. In view of this, the Planning Commission set up an Expert Group …to examine the issue and suggest a new poverty line and estimates.” To continue with the 1993 Expert Group’s poverty lines would have been a plainly unsustainable prescription, so it is not surprising that the 2009 Group advocates a different set of rural and urban poverty lines. What, however, is regrettable is the failure – as I see it – of the 2009 Group to come up with an alternative methodology that lends itself to cogent, convincing, and logically argued justification. It is difficult not to see this exercise as a wasted opportunity.

It is noteworthy that the 2009 Expert Group, like its 1993 predecessor, perceives comparability of poverty estimates across space and over time as residing in the requirement of an invariant “poverty line” commodity bundle. The 2009 Group parts company from the old one in the matter of the precise commodity bundle that is to be treated as invariant across poverty comparisons. In the 2009 exercise, the commodity bundle identified is the one pertaining to the year 2004-05, the latest year (at the time) for which the NSSO’s quinquennial consumption expenditure survey (61st Round) was available. The bundle is identified as the one corresponding to a consumption expenditure level, in urban India, of Rs 578.8 per person per month at current (2004-05) prices. This consumption expenditure level, in turn, simply happens to be the 2004-05 urban poverty line that would be dictated by the 1993 Expert Group’s methodology – it is, that is, the “updated” version of the per capita monthly expenditure level, for urban India, at which the urban nutritional norm of 2,100 kilocalories per person per day was realised in 1973-74. It is therefore puzzling to find the following observation in the Report (Planning Commission 2009: 7-8): “…a conscious decision was taken by the Expert Group to move away from anchoring the PL [poverty line] in [a] calorie norm as in the past…”. One can only interpret this to mean that while the urban poverty line of Rs 578.8 per person per month which the Expert Group plumped for happens to be the updated value of the observed expenditure level in 1973-74 corresponding to the nutritional norm of 2,100 kilocalories per person per day, this fact in itself apparently had nothing to do with the 2009 Group’s choice; but then what fact did actually dictate the Group’s choice remains something of a mystery.

**Poverty Line Basket**

The choice in question is sought to be explained in the Expert Group’s Report (Planning Commission 2009: 1) in terms, inter alia, of “…an inescapable element of arbitrariness in specifying the numerical nominal level of [the] PLB [Poverty Line Basket]”, and of what might be dictated “…in the interest of continuity…”. Indeed, there is some considerable vagueness in the rationalisation resorted to, and one suspects the reason for this resides in some divergence between the Expert Group’s theory and its practice. In theory, the Group has apparently been guided by the belief that it is some normative commodity basket that ought to yield the poverty line, whereas in practice it is actually a pre-determined poverty line that has been employed to generate the commodity basket in question. This confusion is suggested by the cumbersome semantics of the Report’s assertion (Planning Commission 2009: 1) that “[u]nderlying the [the] consumption poverty line is the reference poverty line basket (RPLB) of household goods and services consumed by those households at the borderline separating the poor from the non-poor”. A simpler expression for the phrase “borderline separating the poor from the non-poor” is, presumably, that old-fashioned term “poverty line”. It follows then that the just-cited assertion in the Report can be rephrased to read: “Underlying the consumption poverty line is the reference poverty line basket...consumed by those households at the poverty line.” This approach seems to require that we need a normative commodity bundle to determine the poverty line in order to determine the normative commodity bundle to...

Such circularities were surely avoidable. If they have not, in fact, been avoided, it is perhaps because of the Expert Group’s anxiety to specify some poverty line that could be judged to be plausible from some independent (unspecified) considerations, and then come up with an empirically corresponding commodity bundle, one that would be invariant across space and over time, and would allow for its context-specific valuation at context-specific prices as a means of generating context-specific poverty lines. This stratagem, in turn, may well have been dictated by the anxiety to advance an estimate of poverty which escapes both the charge of being unrealistically low and the sin of being demoralisingly high. The objective, presumably, was to discover the virtue of a golden mean between the somewhat credulity-straining niggardliness of the official (1993 Expert Group) poverty line and the disturbingly anarchic generosity of the Rs 20 per person per day poverty line of the National Commission for Enterprises in the Unorganised Sector. The most pressing rationale for the method adopted by the 2009 Expert Group appears to have been – ironically – a desire to avoid controversy.

At the official Planning Commission poverty lines endorsed by the 1993 Expert Group, the rural headcount ratio in 2004-05 was 28.3%, while the corresponding urban headcount ratio was 25.7%. As the Report of the 2009 Expert Group puts it (Planning Commission 2009: 1): “…[the
urban headcount ratio) is generally accepted as being less controversial than its rural counterpart at 28.3%... [which] has been heavily criticised as being too low.”

Again, on page 6 of the Report, we have:

…the latest available official estimate of rural poverty ratio of 28.3% for 2004-05 is widely perceived to be too low ...while the corresponding urban proportion of 25.7%...is less controversial in terms of the broad order of magnitude of extent of urban poverty. [Arising from this,...] ...the PLB was taken to be [the] MRP [Mixed Recall Period] equivalent of [the] PCTE [per capita total expenditure] corresponding to 25.7% of the urban BPL (below poverty line) population...As urban living standard is generally regarded as better than and preferable to its rural counterpart, the Expert Group recommends that the purchasing power represented by the MRP-equivalent PCTE underlying [the] all-India urban HCR [headcount ratio] of 25.7% be taken as the new reference PLB for measuring poverty and made available to both the rural and the urban population in all the states after correcting for urban-rural price differentials as well as urban and rural state-relative-to-all-India price differentials.

Briefly, the commodity composition of the urban poverty line of Rs 578.8 in 2004-05 (the so-called PLB) is revalued at rural prices to yield a corresponding rural poverty line (which turns out to be Rs 446.7 per person per month at 2004-05 prices); similarly, the PLB is valued at state-level rural and urban prices respectively, to yield state-level rural and urban poverty lines for 2004-05, which is the new reference year. Inter-temporally, poverty lines in any year are to be derived by revaluing the 2004-05 PLB at current prices. This brings us back to a point made earlier: while the Report is careful to distance itself from the charge of anchoring its poverty line in a calorie norm, one wishes it had been equally careful to amplify on the issue of what its poverty line actually is anchored in. As far as one can tell, the choice of poverty line has been predominantly determined by a view of what constitutes a plausible headcount ratio. This is a very hard act to follow for those of us who have been brought up to believe that one infers the headcount ratio from a normative poverty line, and not the poverty line from the less unacceptable of two headcount ratios, which are distinguished

only by the fact that they happen to be the latest available estimates thrown up by an earlier faulty methodology.

Indeed, under the latter approach, one might choose as the reference year any year – for example 1993-94 – in which the official estimate of the urban headcount ratio (32.6%) was more “plausible” than that of the rural headcount ratio (37.2%). The problems associated with choice of the reference year are here on all fours with those attending the 1993 Expert Group’s approach. Thus, it is not immediately clear why it is a virtue that the “PLB” “...incorporates the latest available data on observed pattern of consumer behaviour in 2004-05” (Planning Commission 2009: 7): this may afford some comfort if we are comparing 2004-05 poverty estimates with 2009-10 numbers, but by the same token, there may be a case for employing 1993-94 as the reference year if we are comparing 1987-88 poverty estimates with those for 1993-94. Yet another case that has been advanced in favour of the new poverty line (Planning Commission 2009: 8) is that “...the revised minimum calorie norm for

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India recommended by Food and Agriculture Organisation (FAO) is currently around 1,800 calories per capita per day which is very close to the average calorie intake of those near the new poverty lines in urban areas (1,776 calories per capita) and higher than the revised FAO norm (1,999 calories per capita) in rural areas in the 61st round of NSS.” But, surely, this is a purely fortuitous outcome, and one fails to see the significance of these sorts of circumstantial detail. On the other hand, if the choice of the poverty line had indeed been influenced by congruence with a nutritional norm, then we would be back in the world of the 1993 Expert Group! Also apparently counting in favour of the 2009 Group’s choice of poverty line is that it “…happens to be close to, but less than, the 2005 PPP $1.25 per day poverty norm used by the World Bank in its latest world poverty estimates” (p 8, op cit). Whether or not this is good advertisement for the poverty line is at least debatable: it must be noted that the World Bank’s global poverty estimates are by no means widely perceived as being acceptable, and are, indeed, severely discredited in certain quarters (the reader is referred to the particularly important work, in this context, of Reddy and Pogge 2010).

4 On the Adequacy of the Poverty Lines

The 2009 Expert Group is also of the view that “external validation checks” carried out by it suggest that the actual expenditures incurred on nutritional, educational, and health outcomes at the prescribed poverty line expenditure levels in 2004-05 are adequate to cover normative levels stipulated by the Expert Group in this regard. In the matter of normative food expenditure, the Expert Group specifies this level by reading off the level of food expenditure, from the cumulative density function (cdf) of expenditure on food, corresponding to the proportion of the population under nutritional stress (interpreted as the simple average, obtained from National Family Health Survey-I data for 2005-06, of the headcount ratio of under-5 underweight children, the headcount ratio of women in the age group 15-49 with low body mass index, and the headcount ratio of men in the age group 15-49 with low body mass index).

Assuming, for a moment, some merit to this method of estimating the normative food expenditure level, at least one difficulty with such a “validation check” is represented in Figure 1. We have three (hypothetical) cumulative density functions (cdfs) for food expenditure, where expenditure is represented in “real”, i.e., “constant prices” terms. The cdf labelled 1 refers to the reference year, the cdf labelled 0 refers to a year preceding the reference year, and the cdf labelled 2 refers to a year succeeding the reference year. Suppose H is the headcount ratio of those under nutritional stress in the reference year. From cdf 1 we can see that the expenditure level corresponding to the headcount ratio H is X<sub>1</sub>.

Effectively, the Expert Group employs X<sub>1</sub> as the normative level of adequacy for food expenditure. Suppose also that X<sub>0</sub> is the observed level of expenditure on food at the poverty line in each of the years 0, 1 and 2. Additionally, suppose that H<sub>0</sub> and H<sub>2</sub> are the proportions of the nutritionally deprived populations in years 0 and 2 respectively. Then Figure 1 suggests that the normative levels of food expenditure in years 0 and 2 should be, respectively, X<sub>0</sub> (> X<sub>1</sub>) and X<sub>2</sub> (> X<sub>1</sub>). The actual food expenditure is adequate to cover the normative requirement in year 1, but not in years 0 and 2. How, in other words, can we tell a priori that just because the poverty line expenditure on food is adequate for a certain “normative” food expenditure level in the reference year, this will also hold for all other years?

The normative level of expenditure on education is taken to be given “…by the expenditure required at state-specific median cost (derived from the 61st round employment-unemployment survey) for sending all school-going (in 5-15 year age-group) children in the household at the present to school…” (Planning Commission 2009: 9). The normative level of expenditure on health is taken to be given by the expected value of expenditure on treatment/hospitalisation, itself the product of the probability of the onset of illness requiring treatment/hospitalisation (taken to be represented by the incidence of treatment/hospitalisation) and the median cost of treatment/hospitalisation. A couple of remarks are in order. Why is the median cost a normative cost? Costs are likely to rise when treatment/hospitalisation tends towards greater completeness/comprehensiveness: the median cost in a poor economy is scarcely likely to be reflective of the cost that would be incurred in order to finance a reasonably comprehensive course of treatment or hospitalisation. Second, the proportional incidence of treatment/hospitalisation is unlikely to be the probability of the onset of illness requiring treatment/hospitalisation: the true incidence of illness requiring treatment will, in an environment of poor affordability, typically be larger than the incidence of illness actually treated. There is therefore good reason to believe that these “normative” expenditure levels on education and health are underestimates.

Indeed, a simple back-of-the-envelope exercise should provide a rather more robust “external validation” (or failure of validation) than is afforded by the convoluted tests proposed by the Expert Group. The 2009 Expert Group’s urban poverty line for Tamil Nadu in 2004-05 is reported to be nearly Rs 560 per person per month, or (without allowing for economies of scale), Rs 2,240 for a household of four members per month. To suggest that such a household would not, in 2004-05, have been in poverty strikes the present author (as a resident of Tamil Nadu’s capital city) as being optimistic in a grimly determined way. In 2004-05, a modest tea-shop single-dish meal (such as a plate of lemon rice) would have cost Rs 10. Allowing two meals a day to keep out hunger, a household of four would require Rs 80 per day to spend on food. Let us cut this requirement down to Rs 60 per day to take (exaggeratedly unreal) account of the fact that home-cooked food is cheaper. This works out to Rs 1,800 per month (30 days). A
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